

Predation

An Ecological Disaster

Big Picture Two

**Researched, compiled and edited by
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Predation Action Group**

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www.thepredationactiongroup.co.uk

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Big Picture Two Introduction

Some More Unwelcome Truths About Predation

Q: Why has predation become a burning issue after millions of years of a seemingly balanced ecology?

A. We have always had predators but **in the last 50 years** the predator/prey relationship has become unbalanced for the following reasons:

Signal crayfish: A growing impact since the **mid-70s onwards** when they were mistakenly introduced by the Government as a food source and escaped to the wild. Predation by signal crayfish has grown exponentially since their ill-advised introduction, and the fact that they prey on eggs and fry means that they are making a natural recovery of predated waterways impossible. **Environment Agency Permit and landowners permission required to trap.**

Mink: A growing impact **from the mid-60s onwards** following escapes from mink farms and illegal releases by animal rights' activists. Prey includes fish, birds and mammal life. **Illegal 'immigrants' and not protected.**

Goosanders: A growing population in England and Wales **since 1970**. We now have 12,000+ of these still-water and river predators overwintering in Great Britain. **Protected status.**

Cormorants: A growing menace **since the mid-80s** during which period their overwintering numbers have increased from circa 3,000 to 30,000+. **Protected status.**

Otters: **A rebirth from 1970 onwards** on the basis of their protection under European and British law and releases by the Otter Trust and the Vincent Trust. Prey includes fish, bird and mammal life, **Protected status.** The impact on the predator/prey balance means that predators are now driven to extremes of predation which would not have been necessary when there was enough prey to go round.

Q: What is the Predation Action Group (PAG)?

The PAG was formed circa ten years ago at the behest of the late John Wilson MBE, Tony Gibson, Danny Fairbrass, Mike Heylin OBE and their supporters to address the problems predation was seen to be causing on still-waters and waterways. The organisation is non-profit making and meets on a regular basis. All the work is voluntary. The current members of the committee are Chairman, Tony Gibson; Vice Chairman, Derek Stritton; Secretary Mike Heylin OBE; Treasurer Miles Carter. Committee members are Bev Clifford, Chris Burt, Chris Currie, Merv Pennell, Tim Small, Mark Holmes, and Tim Paisley. The PAG meets four times each year to review the predation situation and to promote initiatives to combat the spread of predation.

Q: What has the PAG achieved in the ten years of its life?

The PAG is a member of the Angling Trust and meets regularly with the AT hierarchy to lobby for greater control of all predators, and an easing of the protection of those predators which we feel no longer warrant legal protection. To support our stance that we are over-predated, and the predators over-protected, we have published the following:

The Big Picture: a 2011 116-page document spelling out the impact of predation which was sent to all media outlets and all universities where research into predation would be of benefit to our cause.

The Predation Action Group Fact Sheet: Some Uncomfortable Truths About Predation: a 2018 16-page document spelling out in brief the increasing damage from predators and encouraging anglers to send a copy to their MPs, demanding action. Again the document was sent to all media outlets and universities, and was made available to the public.

A Predation Film: the acclaimed 15-minute film was professionally produced by TV film-maker David Hatter (responsible for all Ian Chillcott's and numerous other TV films) with a view to taking the predation issue to a wider audience. It was also sent to universities and media outlets with the Fact Sheet and made available and to the angling public via extensive media advertising.

Big Picture Two: We have produced the document you have before you to expand on the points strongly made in Big Picture One, the predation film, and the Fact Sheet.

Q: What are the PAG's future plans, and why does it need funds if it is a non profit making organisation?

Publishing documents and films is expensive, hence the need for funds so we can keep making our presence, and our lobbying, felt in high places. The authorities are clearly in denial over the need for great protection from predators. In fact notwithstanding the fact that anglers have paid over £400 million in licence money since 1995 the EA still appears to be in denial over the significance of angling, and the impact of predation on our waterways!

No one said it would be easy, and lobbying for change can be discouraging. The members of the PAG work voluntarily, are committed, and determined, but they do need your support to effect change. You can help via financial support, and by reporting all incidences of predation you encounter.

Predation: An Ecological Disaster

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Throughout the publication there may be some duplication of pictures and comments; this is in an effort to make each section stand alone as a reference point.

Foreword: Angling and Waterways in extremis

This is the Predation Action Group's third publication focusing on the controversial subject of predation. It follows on from 'The Big Picture: An Ecological Disaster', published in 2013, and our 'Fact Sheet: Some Unwelcome Truths About Predation' published in 2017. We have also funded the professional production and publication of our predation film, 'Predation: an Ecological Disaster'.

The board of the PAG, and its advisers, consist entirely of angler/naturalists who fish rivers and lakes. We fish waterways that are affected by predation, and are only too well aware that predation impacts on the ecology as a whole. Most anglers are not just anglers, but nature lovers, too. Some would claim that there is conflict between angling and the RSPB, but what we have in common is a love of the countryside, and a need to protect the objects of our passions – fish and birds – from predators. The RSPB fences reserves to protect ground-nesting birds: anglers, fish farmers and landowners fence fisheries to protect fish. The by-product of fencing lakes is that we actually create nature reserves which protect small mammals, water birds, ground-nesting birds and fish from predation. The fact that some of the fish predators are birds appears to be an area of conflict, but the RSPB admits it exercises lethal control over some bird species, when there is no other way of protecting more valued species whose future is jeopardised. As a countryman I know full well that the sky is no longer full of skylarks, and that the only place I will hear the familiar cry of lapwings (peewits) is in a fenced RSPB reserve. I have been a member of the RSPB for over 20 years and one of the by-products of my long spells by the water is bird photography.

Looking back our original Big Picture publication was a tad naïve, and understated. Ten years ago, when our research of predation started, game anglers appeared to be in complete denial that predation was impacting on salmon and brown trout. The stance defied logic because waterway predators eat fish, and game fish are – well, fish. On-going research since Big Picture One was published has made it abundantly clear that our concern over the impact of predation on salmon rivers was justified, and is not a new phenomenon. The Salmon Advisory Committee was established by the government in 1986, and MAFF published its finding ten years later. MAFF (now Defra)

felt there was a case to be examined and answered back then: that case has got stronger and stronger in the intervening years to the point that there is a growing anxiety being expressed over the impact of cormorants, goosanders and otters on our waterways, including our salmon rivers. That concern was highlighted in a government publication as long ago as 1996!

Our main predators, cormorants, goosanders and otters, are protected by European law and the Wildlife and Countryside Act. In theory a licence can be obtained from Natural England to control all three: in practice it has been made clear to us that while limited licence control is possible for cormorants and goosanders, such a licence is unlikely to be issued for otters. CEO of angling's own principal body the Angling Trust, Mark Lloyd, makes that clear in his/their predation summary in this publication. In fact the protection of otters is so *carte blanche* that they are actually better protected than humans. The only recourse a fishery owner has to restrain them is to fence them out, thereby passing the problem on to other fishery owners who cannot fence their waters.

The countryside is governed by Defra, the Environment Agency, and Natural England, all of whom appear to pay lip service to their published list of duties, a theme we pursue in more detail later. The EA seemingly champions otters above all other creatures, including fish, a lead followed by Natural England: according to their 'job descriptions' that does not appear to be the brief of either organisation.



At the same time these bodies claim that they are the champions of biodiversity, which is a total contradiction.

For reasons that go back to the formation of the Angling Trust angling is the poor relation in the ecological world. Here is an example. Notwithstanding the available derogation we are told that under no circumstances will a licence be issued for the lethal restraint of a single otter, partly on the grounds of the existing law, and certainly on the grounds of public opinion. On the other hand our countryside and angling governing bodies are fully aware of a legal decision taken in in 2015 when it was ruled, on appeal, that NE acted unlawfully when they denied a gamekeeper a licence to control buzzards to protect his livelihood. The ruling included these two points:

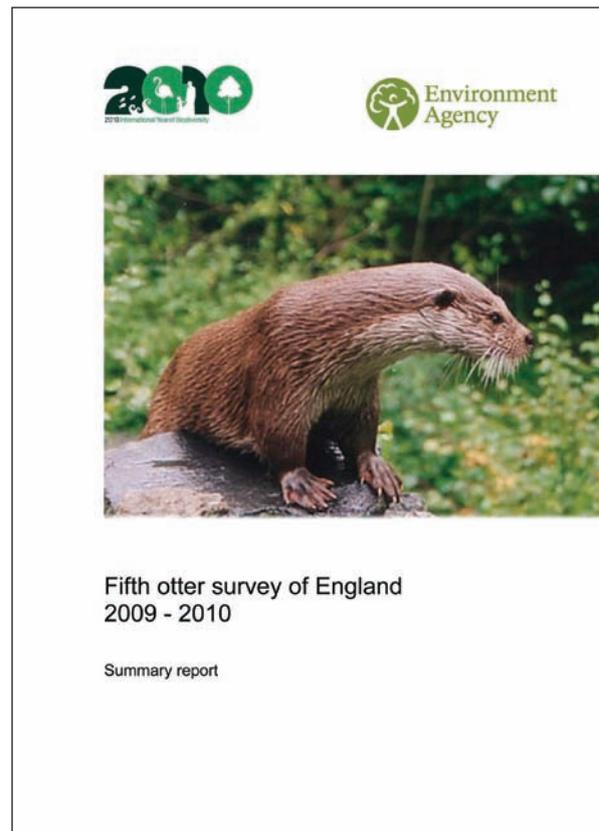
‘Granting a licence for a gamekeeper whose livelihood is threatened and who has tried every non-lethal measure to stop buzzards killing his game birds is no different to a farmer being granted a licence to stop ravens killing his lambs in the uplands. It is right that wild birds should enjoy protection and illegal killing be condemned, but in extremis the flexibility in the law designed to maintain a balance should be observed.’

The Judge criticised Natural England, making it clear that public opinion should not be taken into consideration in the application of the law, and added that the decision had been made according to an undisclosed policy which went beyond NE and DEFRA’s power in law.

Angling is *in extremis*, and public opinion is holding back progress towards the meaningful control of predators.

We are led to believe that if there was an application for lethal control of an otter damaging a fish farmer’s or fishery owner’s livelihood then Natural England would be nervous of refusing that application on the grounds that they could not risk another judicial review. Taking that the NGO ruling ‘that all wild birds should enjoy protection and illegal killing be condemned, but in *extremis* etc.’ can be applied to ‘all wild creatures’ then the NGO ruling appears to be entirely relevant to the situation angling finds itself in with otter predation. But angling can’t afford to pursue a course which might lead to a judicial review, both in principle and in practice. Why in practice? Because there are no funds available for such a course of action to be pursued.

All coarse and game fish are being predated. The biggest impact is on salmon fisheries, specialist river fisheries, and carp fisheries. In the Fifth Otter Survey 2010 the EA talks down about specialist fish, always refers to carp as ‘non-native’, and ignores the implications of otter predation of salmon and brown trout. Of the predators having the biggest impact on our waterways goosanders and signal crayfish are non-native. Mink were allowed into this country by the



The Fifth Otter Survey published by the Environment Agency. The references to fish, fishing and fisheries were under-researched and ill-informed.

Government, and were released, or escaped. Signal crayfish were introduced by the Government. And yet EA is regularly dismissive of carp fishing on the ‘non-native’ basis. Carp and specialist angling are the highest angling income sources for EA licence sales, tackle and bait sales, the rural economy, and the economy as a whole. Salmon fishing is important to both the rural economy and the tourist trade. Non-native? Carp have been with us for at least 500 years, and there is some evidence that they have been with us since before the Bronze Age.

What follows is an attempt to put the over-predation of our waterways, and ecology, into perspective. The Predation Action Group works tirelessly, and voluntarily, because we feel there is a burning injustice to the angling community in the unnecessary protection of cormorants and goosanders, and the *carte blanche* protection of otters. All three species are firmly enough established for the protection laws to be reviewed, and eased. Salmon and the future of salmon fishing in particular are at risk from the over-predation of our waterways. You can fence still-water fisheries: you can’t fence rivers.

If there is some repetition and cross-referencing in the features that follow it is in an effort to make each one stand alone as a reference point.

The Predation Action Group, March 2019.

The Predation Action Group's Film Commentary

Introduction – Predation: An Ecological Disaster

Since the end of the last Ice Age when both man and wildlife re-colonised the British Isles, our relationship with the natural world has been a complex and interdependent one. What at first glance may appear to be a wild and natural landscape has in fact been shaped, directly or indirectly, by the activities of man: by the animals we've chosen to domesticate, the crops we've chosen to plant, and the places we've chosen to live, use for sustenance, power and recreation. Nowhere are subtle changes to this ecological balancing act more keenly felt than in our lakes and rivers. For generations anglers in the UK have been at the forefront of environmental campaigns. With an estimated four million active anglers in this country their continued waterside presence provides a vital sentinel role. But there is a growing sense of alarm amongst some of the nation's most avid water watchers. They believe that hidden below the surface and out of view of the general public the freshwater food chain is tilting dangerously out of balance.

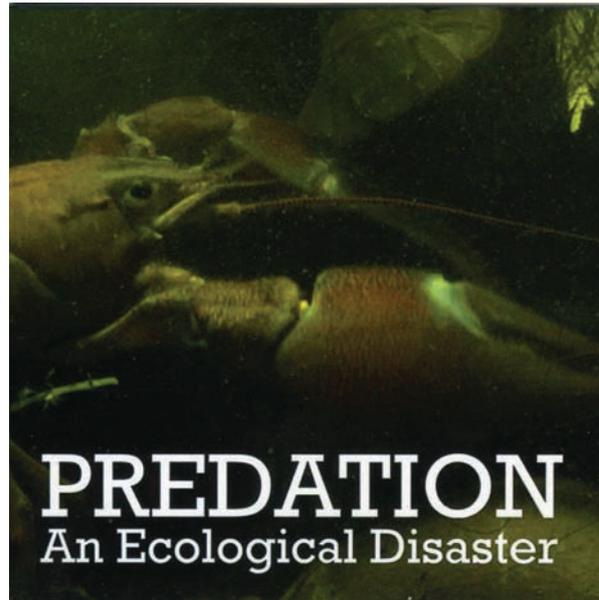
The reasons are varied and complex, but what is undeniable is that we ignore them at our peril.

Firstly, water pollution, particularly rain-water run-off from agricultural land, continues to be a significant problem. Then there's the abstraction of water by water companies, often from some of our most delicate river systems. And thirdly there are the long-term implications of climate change.

But it's the interaction of predators at both ends of the food chain which has caused one of the most visibly apparent changes over a disturbingly short period of time.



The destructive and uncontrollable signal crayfish, present in our waterways since the 1980s following an ill-advised 'food source' introduction by the government.



The PAG's acclaimed predation film, filmed, produced and commented by TV professional David Hatter.

The Signal Crayfish

This is the signal crayfish introduced from North America by the British Government for export to the lucrative Scandinavian food market, but they soon escaped from commercial fisheries and began to decimate the native crayfish population through disease and over-competition. Once common in English and Welsh rivers the white-clawed crayfish is now classified as 'endangered' and at the risk of global extinction.



Burrowing up to two metres into river banks signal crayfish cause erosion and collapse. They increase sediment pollution, flood risk, and affect livestock safety as well as threatening the habitat of endangered riverside species such as Britain's water vole. But their impact is far greater than that. . .

These voracious predators feed on a variety of plants, fish, frogs, invertebrates and fish eggs. Their effect on resident fish stocks, already under pressure from other factors, can be devastating, for without eggs the future population of any species is effectively being wiped out. Their high reproductive rate and lifespan of up to 20 years, combined with the ability to cover several hundred metres overland in one night, have all contributed to their rapid spread and catastrophic effect.

Cormorants

The impact of signal crayfish has been compounded by what in normal circumstances could be seen as a success story. Although perceived as seabirds cormorants have always been found inland in Britain, but numbers have been controlled since medieval times. In the 19th century some species had all but disappeared in many parts of Europe. However, since the 1980s there has been a dramatic increase

in all cormorant populations, with best estimates for European numbers being around half a million (500,000), and continuing to increase in many countries.

The most recent estimates in the UK suggest that there are approximately 9,000 breeding pairs, of which about 1600 pairs nest inland. However when offspring and over-wintering birds are taken into account this figure rises to a population of up to 30,000 in autumn and winter months. This rise in numbers is due to a number of factors including far greater protection, the banning of many pesticides, and the increased number of man-made waters, such as flooded gravel pits, reservoirs and recreational fisheries.

So what impact do cormorants have? Well, as with many predators, cormorants endeavour to catch the necessary quantity of food with the minimum amount of effort. Estimates suggest that an adult bird consumes half to a kilo-and-a-half of fish per day (½-1½ kilos), but because they often gather in large numbers they can reduce the number of mature fish below the level required to maintain a viable, self-sustaining population. For species such a salmon, already under critical pressure, the effect of a large colony of cormorants on young salmon (known as



Cormorants: their numbers have increased from around 2,000 in the 1980s to an estimated over-wintering figure of 30,000+.

PREDATION | PROBLEM WORSENS

50,000 AND COUNTING!

Packs of cormorants herding fish

BY BEN FISK
REPORTER
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Fisheries Minister Richard Benyon to a major cormorant roost, after the MP announced last year that he is prepared to make "bold decisions" in altering procedures for controlling such species.

Match angler Mark Perkins has seen cormorants behaving unusually several times at Attenborough Gravel Pits, near Nottingham.

"I recently watched 21 birds land in a corner of Windsurfers Lake and spread out in a staggered line so many yards apart from each other. They dived and surfaced in a synchronised fashion for three quarters of the lake, then they all turned right together and went for 200 yards, then they turned again.

"They were obviously working together, chasing shoals of fish. It was unbelievable," he said.

The Angling Trust's chief executive, Mark Lloyd, said that the sheer number of sightings recorded at the site demonstrates not only the large number of birds on rivers and lakes, but also 'the strength of feeling about their impact in the angling community'.

"It would be great if we could get to 100,000 sightings by the end of March. Anyone who wants to help us cut the red tape stopping fishery managers protecting our stocks should get online and record any birds they see feeding, flying, swimming or roosting on inland waters. We can only do this work with the support of our members - it's only 50p a week, a small price to pay for professional campaigns and lobbying to protect fish and fishing," he said.

The Angling Trust's Cormorant Watch programme reached a milestone this week with its 50,000th bird logged.

It coincided with worrying new evidence of cormorants working together to herd fish at one Midlands venue and strengthens the Trust's call to change how the species is controlled.

The organisation is in the process of holding several meetings with Natural England and the RSPB, and is undertaking major research to produce detailed case studies of the damage caused by fish-eating birds.

It is also arranging a visit for

smolt) gathering to migrate to sea, represents a significant threat to the existence of salmon stocks, as discussed at length elsewhere in this document.

A study made in the Foyle catchment showed that over the course of a six-week smolt run the predatory cormorant population would be responsible for removing 130,000 salmon smolt, and over 90,000 brown trout from the area. This level of predation represents the removal of almost half the population of migrating smolt, and some studies suggest the figure is as high as two thirds.



Goosanders: a non-native saw-billed duck that has been present in these islands since circa 1870 and whose numbers have increased dramatically in Great Britain in recent years, with an estimated 12,000+ now over-wintering here. Their preferred diet is claimed to salmon parr and smolt.

Goosanders

In an increasing number of rivers and still-waters the goosander is also giving cause for concern. First seen in the UK in the 1870s the numbers of over-wintering goosanders is now estimated at around 12,000 (an RSPB assessment) and a preference for salmon parr, and their impact on already-declining salmon populations is alarming many observers and conservationists.

Otters

Perhaps no other creature represents the dilemma faced by conservationists than the otter. Once widespread across the UK by the 70s there were concerns that the otter population in England could completely disappear. As with the cormorants a key factor to their demise was the use of pesticides which, as they make their way up the food chain, hit the apex predator hardest. During the 80s and 90s over 160 otters were released into the wild and today there is a thriving population thought to number several thousand. It is an indication of just how resilient and prolific they are that once certain toxic pesticides were banned the descendants of those released otters are thought to form only a tiny percentage of the overall otter population.

Otters are opportunistic feeders and although 75-95% of their diet is usually fish they also eat amphibians, crayfish, small mammals and often – surprisingly to many people – birds, which during the nesting period of late spring can represent up to 50% of an otter's diet. Indeed ground-nesting birds are particularly vulnerable and it's interesting to note that an increasing number of RSPB reserves are being fenced to exclude predators to protect now-rare bird species which are themselves under threat.

But a key aspect to otters' feeding habit has turned what is a fabulous ecological success story into a growing concern for the nation's anglers. Their



The Otter: a dramatic increase in numbers in the last 40 years. Their predation of rivers, still-waters, bird-life and small mammals is a cause for growing concern.

marked preference for live prey means that no matter how large the creature they predate on may be, once they have had their fill, rather than return to it later the prey will be discarded for other predators to finish off and the otter will use its considerable hunting skills to catch again and feed on fresh prey. In a flourishing river with plenty of small fish their impact would be negligible and their presence a blessing, but in a river whose fish population is already suppressed by other factors it's a very different story. The sight of large game and coarse fish which have fallen victim to otter predation and partly eaten alive is becoming increasingly common. With some specimens valued in tens of thousands of pounds the economic impact of these losses for fisheries can be enormous. In 2011 it was estimated that in Yorkshire alone the cost of replacing carp weighing over 10lb that had been lost due to otter predation was over two and three quarter million pounds (£2¾million), and the impact of predation on our salmon rivers is inestimable.

Many fishery owners and fish farmers, in an effort to protect their livelihood, have been forced to erect protective fencing. For an individual or small business this can be hugely expensive, and it is also disruptive to nature and other large animals and mammals that look on lakes as watering holes. Ultimately how we choose to protect our wildlife is a subjective decision, and this gets to the heart of a difficult, complicated and often highly political balancing act.

Right now many in the angling world feel that things have reached crisis point. Without healthy and financially sustainable rivers, lakes, fisheries and fish farms there is a real fear that the long term future of recreational angling, the tourist industry, and the rural economy is under threat.

So why should anyone be bothered?

Well, in England and Wales alone around four million anglers spend around £3billion every year in pursuit of their leisure pastime providing employment for thousands of people ranging from biologists to river bailiffs, tackle and bait manufacturers, tour guides and so on. In certain rural areas trout and salmon fishing is vital to the local community and the rural economy.

Whatever one's views on recreational angling its historic and current contribution to the economy, and the conservation of a varied and thriving ecosystem, is immeasurable. But fish stocks are facing unsustainable pressure at both ends of the food chain and the statistics make for sobering reading.

Nearly 75% of our river systems are failing to reach good ecological status, and many of these are failing because of poor fish populations. (Source: Angling Trust)

In 2015 all of England's principal salmon rivers were assessed as being 'at risk'. (Source: Environment Agency)

That same year the EA released around two and a



Salmon, carp and barbel all showing clear signs of typical otter predation.

half million (2,500,000) reared fish into our freshwater systems. However it is estimated that overwintering cormorants and goosanders alone consume 6-12 million fish during the winter months, these figures taking no account of the impact of predation by kingfishers, herons, otters and mink.

And as we've already seen signal crayfish make any sort of natural recovery of our waterways near-impossible.

In fact Environment Agency studies reveal that the numbers of fry in British rivers are at their lowest-ever level. Meanwhile the World Wildlife Fund estimates that a quarter of England's river are at risk of running dry, with devastating consequences for wildlife and the rural and tourist economies.

It would be easy to dismiss this as the blinkered moaning of a self-interested group of people who are obsessed with catching fish at the expense of all



else, but the overwhelming majority of the millions of people who go fishing cherish the fragile and complex ecosystem in which they choose to spend so much time. They are passionate about protecting our varied British wildlife. And spending so much time by the water's edge means that they are often the first to see the tell-tale signs of alarm.

And while anglers do not profess to have all the answers they are keenly aware that to do nothing is not an option, and puts at risk not only many thousands of jobs, but the rural and tourist economies, and the whole balance of nature. The word 'biodiversity' that is bandied about in practise means favouring certain species while putting others at risk.

The BBC team were worried about the avocet chicks they had up there as otters will take birds if they can
Hugh Miles, film-maker

Breeding pairs of avocets have been hit by otters in and around Norfolk's River Wensum system.

Now otters put rare birds on the menu

© Fears mount for breeding avocets
Steve Phillips Pictures Editor
steve.phillips@bbc.com

The UK's growing otter population is not only working its way through our freshwater fish stocks, but is now affecting the breeding habits of our birds, too.

Angling Times can reveal that the RSPB's own 'poster boy', the avocet, is having its breeding disrupted by the ever increasing numbers of otters in and around Norfolk's Wensum river system, leading experts to fear for other wildlife as the predatory mammal's numbers grow.

Having been an acute problem for the river's fish population for many years, the mass and subsequently unchecked reintroduction of otters across the UK is devastating fish stocks around the country. This latest revelation, combined with the statement by Fisheries Minister Richard Beran reported in last week's AT that otter numbers need to be regulated, adds further weight to calls for this apex predator's numbers to be checked.

Founder of Norfolk's Pentchope nature reserve, the home of BBC's Springwatch, Bill Mallon spoke to AT about the issue.

"Otters have always been around this area, but never in these numbers. There are now so many that they're having a hugely disruptive impact on the breeding avocets we have at the Buxton Conservation Trust, of which I'm a trustee.

"This year the birds tried at least three times to breed, as a result the numbers that did were down by around two thirds. It's got to the point where we'll have to erect low-level electric fences to keep the otters away and protect the birds.

"We're also seeing the otters take water birds and pheasants, as well as eating the rare white-clawed crayfish," he added.

Fisheries, Angler and Springwatch contributor Hugh Miles has also seen first hand the damage that the otter is doing in the area. "When I was up at Pentchope earlier in the year with Springwatch, the problem was evident. The BBC team were worried about the avocet chicks they had up there as otters will take birds if they can.

"I also did some underwater filming on the Wensum for the programme. Two thirds of the chicks and hatched in there had some form of otter damage."

Miller Heylin, chairman of the Angling Trust, spoke to AT about the problem, stating: "When you put an apex predator into an environment with no controls, this is what happens. It's bad for fish, it's bad for birds and other wildlife, as this case highlights, and it will ultimately be bad for otters as their numbers get further out of control.

"The so-called anglers' calls to have otter numbers controlled are listened to, the better, and the trust welcomes Richard Beran's recent comments on the subject."

The rare avocet is the symbol for the RSPB.

During the nesting season the predation of bird-life by otters and mink is well documented.

THE CARP SOCIETY – SUPPORTING THE WORK OF THE PREDATION ACTION GROUP

The support the Carp Society gives to the PAG is tangible. Tim Paisley is the Society President, Derek Stritton the Society Chairman, and treasurer Miles Carter is the Society's Fishery Manager. In addition the PAG's HQ is now based at the Society-owned Horseshoe Lake in the magnificent Society HQ and is able to draw on the efforts of Society Administrator Sabrina Widdows when needed.

Fishery Manager Miles Carter is one of the handful of NE-approved trained trappers available for call-out for an otter in a fenced fishery. Should such an emergency arise he can be reached on 07787 576727

The Society was formed in 1981 and one of its earliest objectives was to support carp anglers in the political arena, which it has achieved with varying degrees of success throughout its near-40 year history. That it is now able to do so via affiliation to the Predation Action Group – and make a handsome



donation to the PAG's coffers each year – is the latest demonstration of its political agenda. We are affiliated to, and supportive of, The Angling Trust.

Our HQ is based on the magnificent Horseshoe Lake near Lechlade in Gloucestershire (where we hold our Junior Fish-ins), and our second water, Farriers, also in the Cotswold National Park, is now considered to be one of the leading carp waters in England, having produced home-bred commons to 50lb+.

We are active socially and politically, and you can support our efforts for an annual subscription of just £25. We can't really do ourselves justice in the space available so it you wish to know more about our activities and the benefits of membership then please visit our website.

The Carp Society, Horseshoe Lake, Burford Road, Lechlade, Gloucestershire, GL7 3QQ.
info@thecarpsociety.com

www.thecarpsociety.com

Environment Agency Assessment of Angling

Our nations' fisheries

Quotes from a 98-page document

Introduction extract

'Our fish stocks can tell us a lot about the state of our environment. Monitoring fish stocks can help us see where pressures are impacting on our rivers. The fish populations of England and Wales, together with the fisheries they support, are of enormous environmental, social and economic value. Fish contribute substantially to the economy of both countries with four million anglers spending around £3billion per year.'

Economic value of fisheries

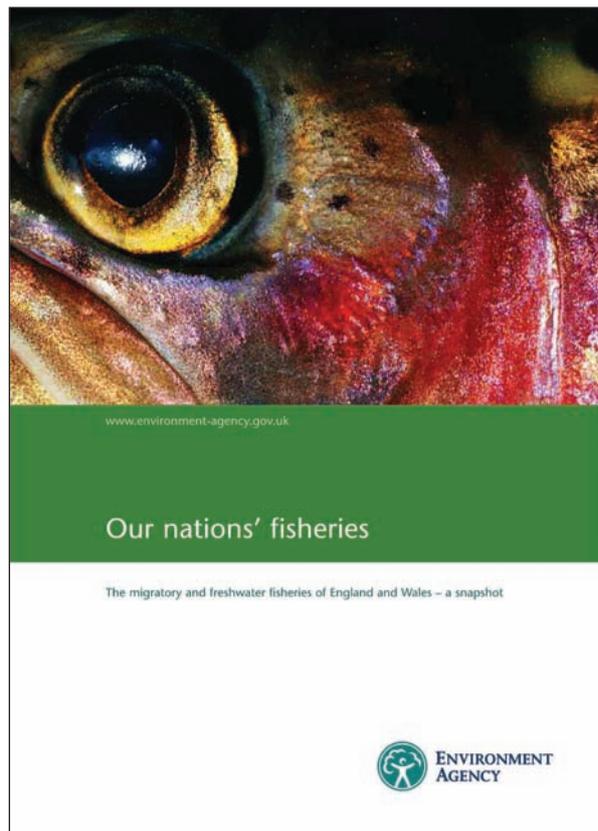
Coarse fish

An EA study carried out in 2001 estimated the total capital value of the inland recreational fisheries of England and Wales at £3billion. (Capital value is the price for which fishing tickets are bought and sold on the open market.) Coarse fisheries were reported to be worth £2.3billion (75% of the total value of all fisheries). The value of stillwater coarse fisheries amounted to more than £1.5billion, with river and canal fisheries valued at £0.75billion. The survey also indicated that annual expenditure by coarse anglers (on fishing permits, tackle, travel, accommodation and other costs directly associated with their fishing outings) amounted to almost £2billion.

Trout and Grayling

In England river fisheries were valued at £180million and stillwater fisheries at £380million. In Wales, where stillwater fisheries are far fewer, the values were £48million and £15million respectively. The same study also estimated the annual expenditure by the 800,000* salmon and trout anglers at £545million.

**There are around 30,000 Salmon and Migratory Sea Trout licence holders.*



In a report commissioned by the British Trout Association it has been estimated that trout angling employs over 700 people.

Salmon and sea trout

Salmon and sea trout fisheries are of significant economic value, particularly in rural areas. The estimated value for salmon rod fisheries in England Wales has been assessed at £128million. The annual spend by game anglers on their pursuit is estimated at £545million.

ANGLING SOCIO-ECONOMICS

A digest of information, prepared by Dr Bruno Broughton

Prepared by: Dr Bruno Broughton, Chief Executive, Angling Trades Association
Latest update: 20th January 2013

In the UK

- The 'Public Attitudes to Angling' research commissioned by the Environment Agency in 2001 (and reported in 2002) revealed that there were some 3.8 million freshwater anglers in the UK (or 9% of the adult population). A further 8% were 'very' or 'quite' interested in angling.
- The Drew Report into sea angling in 2003 (reported in 2004) found that some 1.1 million people fished in the sea. Thus, the total UK angling (all types) constituency was said to be approximately 5 million people. The economic worth of sea angling was said to be £1.1 billion, of which £538 million was spent directly by sea anglers.
- The EA's 'Public Attitudes to Angling' research was repeated in 2005 and 2009. Both studies produced roughly the same results as the 2001 work. The 2009 research – published in 2010 – reported that 9% of the population (4.2 million people) had been fishing in the last year, and in the 12-16 age band, 22% had fished in the last two years. 13% of the population over 12 had fished in freshwater or the sea in the preceding two years (6.1 million people), with 3.5 million of them fishing in fresh water. 12% of the population (5.6 million) were non-anglers interested in going fishing, split 2:1 between those who had never fished before and lapsed anglers.
- In 2012 the UK research organisation 'Substance' reported a figure of 4 million people who had fished in the last two years (report titled 'Fishing For Life').
- In the UK bait sales alone across all three disciplines total at least £100 million annually. In 2005-6, Defra calculated that the value of fish obtained commercially and stocked annually into inland waters in England & Wales was £30 million p.a., two thirds of which were coarse fish.
- The total worth of all forms of angling in the UK has never been accurately measured, but the oft-quoted figure of *in excess of £3 billion per annum* is the best guesstimate.; the Substance report figure is 3.5 billion. This is the direct spend on tackle, bait, travel, food, clothing, permits, etc. It does NOT take into account the indirect benefits e.g. to people's health, to the environment.
- The economic activity associated with angling is of particular benefit to incoming tourism in rural areas, a fact discussed in the 2001 report prepared for the National Assembly For Wales by Nautilus Consultants. This revealed that sea sport fishing in Wales alone generated expenditure of £28 million per annum – much of it in tourism - for species that, commercially, are worth just £3 million.
- In 2005 the Salmon & Trout Association calculated that the average sum spent by an angler to catch a single Scottish salmon was approximately £500, whereas the same salmon was worth just £20 to a commercial fisherman (2004 figures).
- In a study of the River Spey in Scotland (2004), it was discovered that the fishery is worth £11.8 million and supported 367 jobs. Freshwater fishing (coarse and game) in Scotland brought £113 million annually to the Scottish economy.
- A 2009 study commissioned by the Scottish Government reported that sea angling in Scotland supported nearly 3,200 full-time jobs and was worth over £140 million to the Scottish economy.
- A research report in 2008 revealed that recreational angling was also important to the Northern Ireland economy, bringing in £22.5 million and supporting 778 full-time equivalent jobs. There were some 30,000 resident anglers in Northern Ireland, each of whom spent an

average of £1,313/year on the sport.

- Anglers' purchases of rod licences for freshwater fishing in England and Wales raised almost £25 million in 2010-11 for the Environment Agency.

Europe

- In a study by *Tackle Trade World* magazine, reported in its December 2007 issue, 2,000 tackle companies from 42 European countries were consulted. The survey revealed that there were some 56 million anglers in Europe, from a total population of 803 million (or 6.9%). These figures do not distinguish between fishing for sport or for food, but they do only cover fishing with rod and line.
- The report *Economic Value of Recreational Fisheries in the Nordic Countries*, commissioned by the Nordic Council of Ministers, shows that in Finland a total commercial catch of 48 million kg of fish in 1998 was worth FIM 320 million whereas the same catch taken recreationally was worth 1,220 FIM million.
- In early 2008 the Swedish Fisheries Board reported that the socio-economic value of sport fishing was about 106 million euros whereas commercial fishing was responsible for just 8 million euros. There are about one million recreational anglers, three-quarters of whom use hand-held gear only, supporting some 1,300 related businesses, many small and in rural locations. This compares with just 1,000 commercial fishermen.
- The European Anglers' Alliance estimated that, in 2012, there were about 8-10 million recreational sea anglers in Europe, spending at least 25 million of their sport.

USA

In the USA, some there are almost 60 million anglers, of which about 46 million fish in any particular year ('Sportfishing In America 2011' report), of which 33 million are aged 16 and older. This represents an 11% increase in participation over the previous five years.

Worldwide

- In 2004 it was calculated that recreational fishing is practised by as much as 11.5% of the world's population! In a comprehensive survey reported in the November 2011 issue of *Tackle Trade World*, there were reported to be as many as 447 million anglers worldwide. Their spending at retail level is \$18.6 billion, and the sport adds \$91 billion to the global economy. It was calculated that there are about 100,000 tackle shops.
- In the 2012 report by the World Bank (*'Hidden Harvest – the global contribution of capture*

fisheries') it was revealed that the estimated annual global expenditure by approximately 220 million recreational anglers was about \$190 billion (€153 billion).

Tackle Sales & Employment

UK

- The latest UK research conducted into the number of jobs and job equivalents was undertaken for the Angling Trades Association in 2011 (and reported in 2012). This revealed that there were 2,472 tackle outlets, turning over an average of more than £218,000, with total UK angling sales comprising £541 million, ex-VAT. The figures took no account of sales by non-specialist, high street retailers. 46% of outlets relied on less than 100 customers per week.
- Mail-order-only firms accounted for less than 10% of total sales, but this figure rose to 44% if internet sales by retailers with shops were added. The research showed that there were some 14,745 full-time employees in the UK angling industry and 5,440 part-time employees. If other forms of angling-related employment are taken into account, the figure rises to about 37,000 jobs ('Fishing For Life' report).
- The ATA survey found that the annual value of tackle imports, at almost £56 million, was almost double the value of exports (£28.5 million).

Europe

- 2006 research findings discovered that European sales of tackle alone amounted to €3.8billion (3,787 million), equivalent to about \$5.39 billion US). The largest annual turnover was in the UK. The number of retail outlets in Europe was calculated to be 46,000, of which 43,000 could be described as fishing tackle shops. The number of people employed in the retail & supply chain across Europe was calculated at 145,773.

USA

- In the 'Sportfishing In America 2011' report, it is recorded that angling economic activity supports 828,000 jobs, and annual expenditure on fishing tackle alone was calculated at \$15.5 US billion. The total economic impact of angling was calculated at \$115 billion. Each angler spends an average of 17 days fishing and \$1.261 per annum on the sport.
-

How Important is Angling?

Economic Value of Fishing and Fisheries

Environment Agency Assessment of Angling: Our nations' fisheries (published in 2004, based on a survey carried out in 2001) www.environment-agency.gov.uk

Quotes from a 98-page document:
Introduction extract: 'Our fish stocks can tell us a lot about the state of our environment. Monitoring fish stocks can help us see where pressures are impacting on our rivers. The fish populations of England and Wales, together with the fisheries they support, are of enormous environmental, social and economic value. **Fish contribute substantially to the economy of both countries with four million anglers spending around £3billion per year.**'

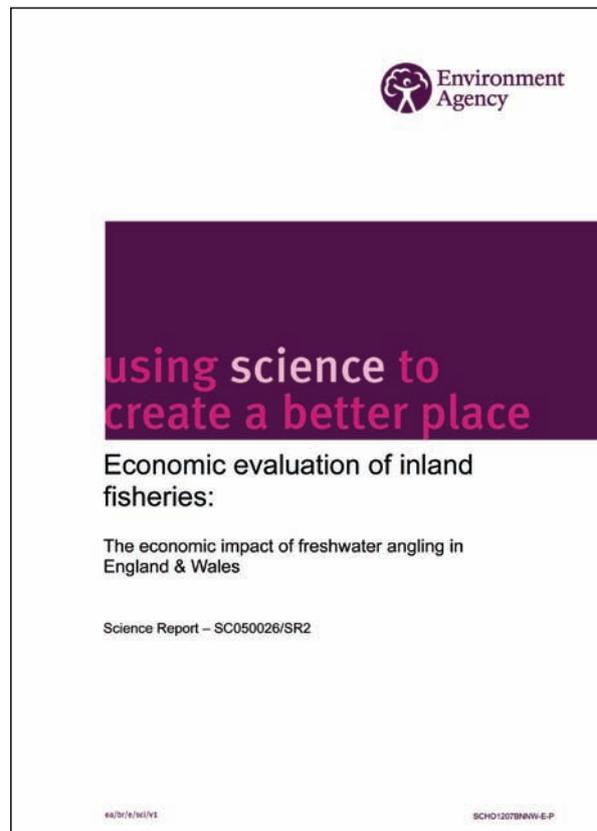
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*As there are only around 30,000 salmon licences sold this is either a typo or includes tourism. (Salmon



licences are for migratory fish, Still water trout anglers only need a coarse rod licence, hence the wide variation in the numbers.)

In a report commissioned by the British Trout Association it has been estimated that trout angling employs over 700 people.

Salmon and sea trout fisheries are of significant economic value, particularly in rural areas. The estimated value for salmon rod fisheries in England Wales has been assessed at £128million. The annual spend by game anglers on their pursuit is estimated at £545million.

From ANGLING SOCIO-ECONOMICS
A digest of information, prepared by Dr Bruno Broughton,
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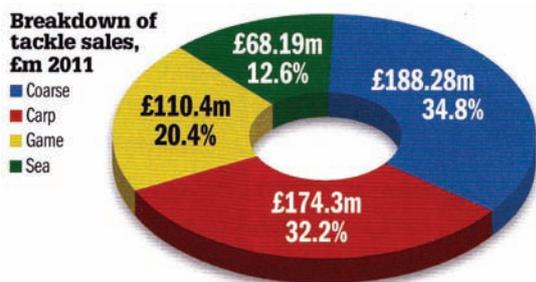
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Tackle and Bait Sales

A 2012 survey by **Tackle & Guns** revealed that UK angling and bait sales are worth £541 million.



Coarse and carp fishing contributes roughly two thirds of the sales income from tackle and bait sales, roughly £360m+.

Game-fishing sales represent around 20% of the market, roughly £110m. Subsequent surveys suggest that the overall spend figure has remained the same, although the totals show some variation from discipline to discipline.

Fishing Licence Income

Rod licence sales have realised in excess of £400million for the Environment Agency since 1995, averaging over £18m per year. Salmon licence sales represent roughly 5% of total licence sales. The income for the sale of licences for Coarse and Non Migratory trout licences rose from £11,171,448 in 1995 to a peak of £24,116,924 in 2010/11. The number of licences purchased each year averaged circa 1,100,000 throughout this period. The actual number of licence purchasers is hard to ascertain because over a near-20 year period many carp and specialist anglers purchased two licences to enable them to fish three or four rods. Three rods can now be fished under one licence. Two licences are still required to fish four rods.

Total number of rod licences sold in 2013/14 was 1,244,594, raising an income of £21.59 million. We are told that 126,952 anglers purchased two licences that year, making a total of 253,904 'doubled up' licences, almost 20% of the licences purchased. Private surveys indicate that a not insignificant number of carp anglers don't buy two licences, either because they can't fish more than two rods on their waters, or because they don't want to fish more than two rods. It is reasonable to suggest that 250,000 anglers who fish for carp is now a conservative estimate.

(These historical figures will have changed following the introduction of the 3-rod licence, for which comparative sales figures aren't currently available to us.)

Rod Licence Income 1995-2017

Year	Number	Income	Salmon	Income
1995/96	1,000,646	£11,171,448	N/A	N/A
1996/97	1,171,914	£12,252,989	N/A	N/A
1997/98	1,196,417	£13,386,885	N/A	N/A
1998/99	1,143,883	£12,955,984	N/A	N/A
1999/00	1,136,228	£14,320,773	N/A	N/A
2000/01	1,085,446	£14,419,060	N/A	N/A
2001/02	1,143,430	£14,868,720	N/A	N/A
2002/03	1,180,061	£16,009,823	N/A	N/A
2003/04	1,261,972	£18,004,606	29,936	N/A
2004/05	1,235,989	£18,593,000	32,768	N/A
2005/06	1,296,843	£20,292,629	34,062	N/A
2006/07	1,281,537	£20,504,768	31,606	N/A
2007/08	1,358,964	£21,662,806	32,254	N/A
2008/09	1,342,359	£22,834,340	31,787	N/A
2009/10	1,352,670	£23,896,662	30,750	£1,195,436
2010/11	1,368,141	£24,116,924	28,823	£1,217,103
2011/12	1,370,465	£23,794,151	29,612	£1,236,972
2012/13	1,244,594	£21,590,289	26,984	£1,172,628
2013/14	1,244,594	£21,590,289	26,984	£1,172,628
2014/15	1,210,306	£21,146,884	25,840	£1,139,403
2015/16	1,210,201	£21,083,273	25,176	£1,102,603
2016/17	961,714	£21,227,738		

Predators and Protection

How Serious is Predation?

The March of the Predators

'There is a recurring theme in this burgeoning predation scenario, and that is in the timing, as follows:

Signal crayfish: a growing threat from the mid-70s onwards following their 'ill-advised' introduction as a food source by the Government. The damage they are doing to our waterways is inestimable, and possibly irreversible.

Mink: a growing threat from mid-60s onwards following escapes from mink farms and illegal releases by activists.

Goosanders: a growing population in England and Wales since 1970. We now have 12,000 of these predators overwintering in Great Britain (**RSPB figure**), mainly on the western side of the mainland. 'Its love of salmon and trout has brought it into conflict with fishermen.' **RSPB quote.**

Cormorants: a growing threat since the increasing incursion of *phalacrocorax carbo sinensis* (the Chinese cormorant) since the mid-80s. There are of the order of 30,000 cormorants over-wintering in Great Britain (**Angling Trust**).

Otters: a rebirth from 1970 onwards, with the otter releases of the 1990s, and beyond, accelerating the spread of otters and their impact on the ecology

Predators and their degree of protection

Cormorants protected under European law and Wildlife and Countryside Act 1981: limited control subject to licence.

Goosanders protected under European law and the Wildlife and Countryside Act 1981: limited control subject to licence.

Otters fully protected under European law and the Wildlife and Countryside Act 1981: limited Class Licence available to trap and remove from fenced fisheries for immediate release outside the fishery.

Mink no protection.

Signal crayfish: a special licence and special nets required to net and compulsorily kill them.

Predators degree of 'at risk' under the IUCN* Red List of Endangered Species

***International Union for Conservation of Nature & Natural Resources**

IUCN Categories:

Least Concern; Near Threatened; Vulnerable; Endangered; Critically Endangered; Extinct in Wild.

Lutra lutra, the Otter: Near threatened, which means does not qualify for Critically Endangered or Vulnerable but is close to qualifying for a threatened category.

Mergus Merganser, the Goosander: Least concern; population increasing.

Phalacrocorax Carbo, the Great Cormorant (there is no differentiation between *carbo carbo* and *carbo sinensis* in the IUCN list): Least concern, population increasing.

Protected Fish Prey

Salmo salar, the Atlantic Salmon: Protected and of 'Least concern', but not reclassified since 1996, since which time stocks have been further depleted. Data required.

Anguilla Anguilla, the European eel: Protected and critically endangered; population declining.

Signal Crayfish

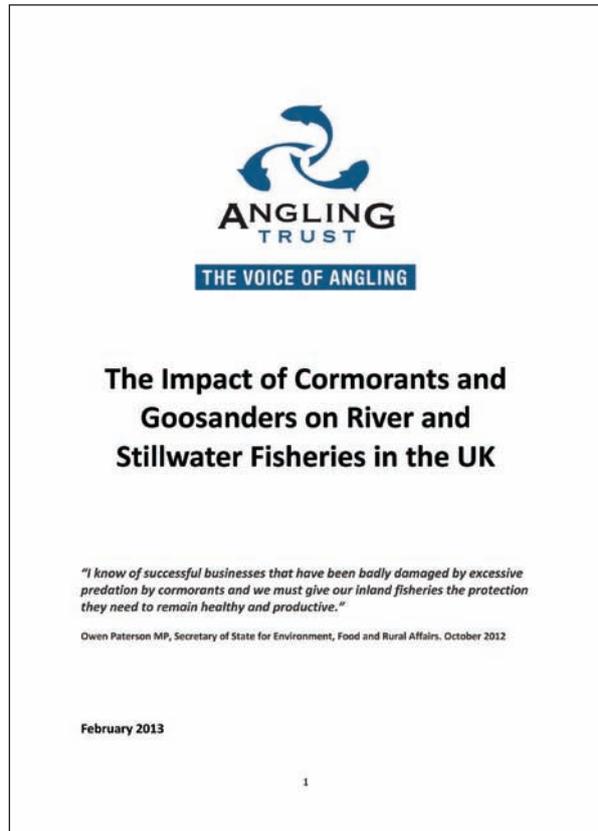
'An armour plated alien invader is eating its way through wildlife in Britain's waterways. A voracious predator, it will eat almost anything it finds, including our native white crayfish, plants, invertebrates, snails, small fish and fish eggs. A handful of escaping signal crayfish has now grown into an aquatic army numbering millions, which has infiltrated river systems and many stillwaters, from Cornwall to Scotland.' **Paul Eccleston, 2008.**

Cormorants and Goosanders/Mergansers

We are told that we have of the order of 30,000 cormorants (Angling Trust figure) and 12,000 goosanders (RSPB figure) overwintering on our waterways. Each of these predatory birds requires a minimum of 1lb of fish per day to sustain them. We are told cormorants and goosanders prey on fish up to 12-14" in length. 'The goosander's love of salmon and trout has brought it into conflict with fishermen.' RSPB quote.

Quote from 'The Impact of Cormorants and Goosanders on river and Stillwater Fisheries in the UK', a booklet published by the Angling Trust, Feb 2013.

Quote: 'Cormorant numbers have increased since protection for these birds was introduced in 1981 via the European Birds Directive and following the banning of DDT. Numbers of over-wintering inland birds, which traditionally were around 2,000 in the sixties and seventies, rose dramatically to 14,554 in 1987/8, and to a peak of 30,188 in the winter of 2003/4 – a doubling of numbers in 6 years and a staggering 15-fold increase in just over 20 years. The number of recorded colonies and breeding pairs increased dramatically through the 1990s, as shown in the British Trust for Ornithology's survey data.'



A Sincere Thank You to our Generous Supporters.



We would like to express our appreciation to the following supporters whose contribution over the years has helped the PAG to function, has assisted greatly in our fund-raising, and has helped us achieve our objectives in bringing the deteriorating predation situation to the attention of the authorities at home and in Europe. Their support is greatly appreciated.

Big Carp Magazine	Carpworld	The Carp Society
CMCS (Countryside Management Consultancy Services)		PB Products
Urban Baits	Pallatrax	Mainline Baits
Gardner Tackle	Navitas	AJS Fisheries
Deception Angling	Fortis Eyewear	Angling Projects
Fox International	Rigmarole	Trakker
Robertson's Tackle	The Tackle Box	Ridge Monkey
The British Trout Association	Aqua Products	Mike Willmott
Gary Bayes and Nashbait	Wychwood	Thomas Duncan-Dunlop

www.ThePredationActionGroup.co.uk

‘The Conservationist’s Dilemma’

‘The conservationist’s dilemma’ is an occasional blog published on-line by Martin Harper, RSPB Conservation Director. Historically there is said to be a clash between bird lovers and anglers. What we have in common is a love of the countryside, a love of nature, and an ecology being ravaged by predators.

This section covering and emphasising the RSPB’s realistic attitude to predators is included to emphasise that predation is not simply an angling problem. In angling circles we have heard comments to the effect of ‘let’s not hide behind birds’. Highlighting the full spectrum of predation and its impact is not ‘hiding behind birds’. The balance of the ecology is under threat from over-protected predators, and the only answer appears to be to fence nature in, and fence the predators out, a syndrome we will look at in more detail covering the fencing phenomenon. The RSPB realistically accepts that there are times when control may need to go further than simply fencing off the countryside.

‘The conservationist’s dilemma: an update on the science and practice of predators on wild birds’, by Martin Harper, RSPB Conservation Director, April 2016.

‘We have invested considerable research into the role of predators. This has included a review of the evidence of the impacts of predation on wild birds which concluded that...

...generalist ground predators, such as foxes, can sometimes reduce the population levels of their prey, and that this is a growing worry if we are to conserve populations of threatened ground-nesting birds, for example lapwings.’

‘We have also subsequently developed and installed predator-exclusion fences at suitable sites to help protect nesting waders against foxes (and also badgers at some sites).’

The conservationist’s dilemma: an update on the science, policy and practice of the impact of predators on wild birds by Martin Harper, RSPB Conservation Director, 20th June 2016

‘...it is worth remembering that non-lethal approaches, although not realistic in some circumstances, can be very effective. We now have fences at 28 reserves protecting breeding waders over 874 ha. At sites with anti-predator fences lapwing productivity has been consistently above that necessary to population maintenance, even though at some sites only a proportion of the suitable habitat is protected by the fence.’

Vertebrate control by RSPB for conservation reasons

Species	Reserves	Total killed in 2012/13	Reason
Fox	26	273	Protect ground-nesting birds
Carrion/hooded crow	4	153	Ditto
Magpie	1	1	Ditto
Fallow deer	3	201	*Restore woodland
Muntjac deer	2	17	Ditto
Red deer	6	278	Ditto
Roe deer	4	287	Ditto
Sika deer	1	346	Restore heathland
Goat	1	3	Restore woodland
Large gulls (adults)	1	7	Protect nesting terns
Large gulls (eggs)	5	23	Ditto

*To restore/prevent damage to woodland.

'Deciding to use lethal control is something we never take lightly.'

Our approach means that we seek evidence of a problem, check whether there is a non-lethal solution, make sure that the killing of predators would be legal, effective, and not harm their own conservation status.'

'I have included tables below which show the lethal vertebrate control undertaken on our reserves (which now number 210 sites covering more than 150,000 hectares).'

'We now have fences at 28 reserves protecting breeding waders over 874 ha.'

'We continue to wrestle with the conservationist's dilemma, but are guided by the needs of threatened species, science and our policy.'

The conservationist's dilemma: an update on the science, policy and practice of the impact of predators on wild birds by Martin Harper, RSPB Conservation Director, 4th September 2017

'...it is worth remembering that non-lethal approaches, although not realistic in some circumstances, can be very effective. We now have fences at 28 reserves protecting breeding waders over 874 ha. At sites with anti-predator fences lapwing productivity has been consistently above that necessary to population maintenance, even though at some sites only a proportion of the suitable habitat is protected by the fence. But non-lethal methods, whilst always our preferred way of doing things, are not always practical. As I have written previously, lethal vertebrate control on RSPB reserves is only considered where the following four criteria are met:

- That the seriousness of the problem has been established;
- That non-lethal measures have been assessed and found not to be practicable;
- That killing is an effective way of addressing the problem;
- That killing will not have an adverse impact on the conservation status of the target or other non-target species.

'Deciding to use lethal control is something we never take lightly.'

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In *The Big Picture* we highlighted the fact that they have fenced, and are fencing, a number of reserves against 'ground predators'. The leaflet revealing this action had a picture of a cuddly otter on one of the pages, but the RSPB made this statement about the Otmoor Reserve in Oxfordshire, one of the reserves it has fenced:

'We've also built a large predator fence that has resulted in an 84% increase in the number of breeding waders.'

Do otters predate on birds? Yes! In *The Big Picture* we reproduced two biodiversity papers highlighting the significantly increased percentage of bird remains in the otter's diet. Some time back *Angling Times* highlighted the problems at Norfolk's Pensthorpe Reserve, and published this quote from Bill Makins about breeding avocets at the Buxton Conservation Trust:

"This year the birds tried at least three times to breed, as a result those that did were down by around two thirds. It's got to the point where we'll have to erect low-level (voltage?) fences to keep the otters away and protect the birds."

Martin Harper: The Conservationists' Dilemma Update, 28th June 2018

Recently I had the pleasure of paying my first visit to our Lock of Strathberg reserve in Aberdeenshire. The office window has one of the best views in the whole of the RSPB as it looks directly onto a tern island which, thanks to the erection of a predator fence, creates a cacophony.

Built over the winter of 2013-14 to exclude otters which were feasting on eggs, the fence has helped the reserve go from 10 pairs of common terns and 30 pairs of black headed gulls raising no chicks at all in 2012 or 2013 to 178 pairs of terns and 36 black headed gulls in 2017 raising almost 300 chicks. This year looks to be equally successful.

This is another reminder of the impact that fences erected to exclude predators can have on breeding productivity of ground nesting birds.

**‘The Predation of Wild Birds in the UK’
published by the RSPB ’**

‘Native mammalian predators of birds and their eggs in the UK include foxes, mustelids (such as stoats, weasels and badgers), hedgehogs and rodents. Added to this are several introduced species, principally domestic and feral cats, American mink, brown rats and grey squirrels. Mammals take eggs and chicks, although predation of incubating female birds on the ground can also be significant. The main avian predators, all native, are raptors, corvids (particularly crows, magpies and jays), large gulls and great skuas. Corvids take mainly eggs or small chicks, raptors prey mainly on chicks juveniles or adults, and gulls and skuas will eat eggs and birds at all stages. It has been suggested that recent increases in predator populations are largely responsible for the declines of many bird species.’

A Rare Opportunity to Protect Our Wildlife x 10

Otmoor in Oxfordshire: We’ve also built a large predator fence that has resulted in an 84% increase in the number of breeding waders.
From an RSPB leaflet published in full in *The Big Picture*, published as hard copy, and on our website www.thepredationactiongroup.co.uk

Quote from ‘RSPB Spotlight: Otters’ a book by Nicola Chester’

The Remains of Meals

A large discarded fish carcass with the energy-rich vital organs bitten out is often a sign of an Otter meal. The fish carcass may now have been abandoned by the otter, but it will not be wasted. Herons, Foxes and Badgers will often claim such carcasses.

Cubs are particularly wasteful eaters during the time they are learning their craft and stealing food from one another. Messy remains and bits of fish can be signs of cub meals.

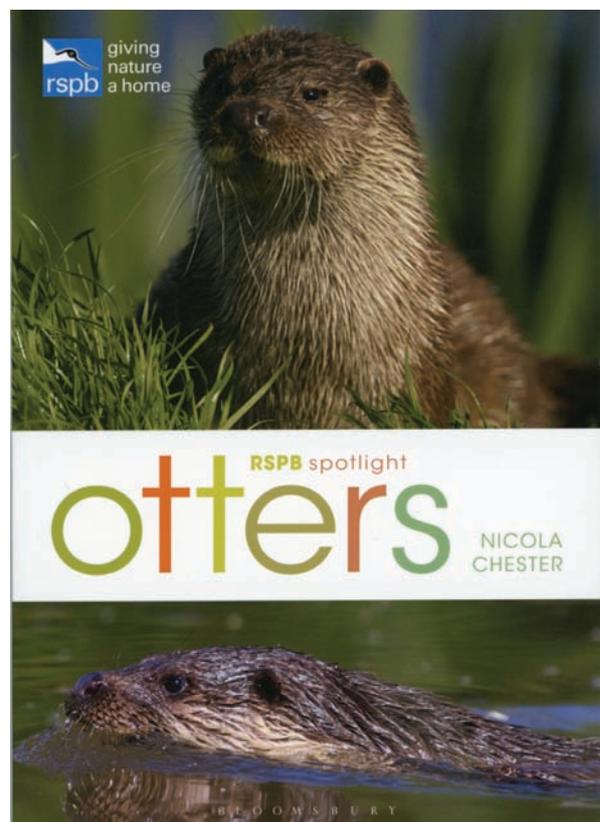
Finding the grisly remains of half toads with their loose spotted skin lying where their legs once were – or even half toads turned inside out – is very lucky indeed. You can be certain otters have been eating there. Otters are one of the few creatures that will risk tackling the nasty-tasting skins of toads. Otters are the only animals that have learned to skin toads in order to eat them. First they bite the hips, pulling off the back legs and eating the muscle before peeling back the skin to eat the insides. They will often treat frogs in the same way.

Comment from ‘The Wild Farm: RSPB Ring Fencing Nature’

‘If the RSPB are interested in protecting all birds they would admit that the best ways to protect them throughout the UK is by reducing the predators’

‘Habitat management is the RSPB’s mantra, stating things like ‘nature will find its own level’, yet here we see predator controls in action from them as the only way to save these waders. What we have out there is a public being adversely manipulated on wildlife issues and the main culprits are RSPB helped along by programmes like Springwatch, etc.

Even with their vast income from public sources the RSPB have failed to protect nesting birds on many of their reserves and to do so through fencing is out of the question. If the RSPB are interested in protecting all birds they would admit that the best ways to protect them throughout the UK is by reducing the predators where necessary, not just on a small patch of their own land using fences in a bid to take the high moral ground.’



A Fisheries' Officer's View

Gary Cyster, retired Environment Agency Fisheries' Officer

I have fished the River Trent throughout the last six decades and seen many changes in the fish population brought about by continuous improvements to water quality. In 1976 I decided to pursue a career in Fisheries Management working as a Fisheries Technician for Severn Trent Water Authority in the Trent Area Fisheries Department. By 1980 I was appointed Fisheries Inspector for the River Dove catchment and in 1982 a founder member of the Trent Salmon Study group. In 1990 I was appointed Senior Fisheries Inspector for the National Rivers Authority and after the formation of the Environment Agency in 1996, a Fisheries Officer in the Midlands Central area before retiring in 2011.

The Compleat Angler by Izaak Walton was first published in 1653. It is the most frequently reprinted book in the English language after the Bible, so it obviously still has an audience. Walton was born in Staffordshire and fished the clear waters of the River Dove for trout and grayling with his good friend Charles Cotton. When describing the River Trent Cotton said "it is doubtless one of the finest rivers in the world and the most abounding with excellent salmon and all sorts of delicate fish".

Even in the late nineteenth century, when a large part of the Trent catchment was already denied to salmon as a result of impassable barriers, records of The Conservators of the Trent Fishery District indicated that the Trent had recorded net catches of at least 3,000 salmon. The Rivers Dove and Derwent were extremely important in sustaining the significant run of salmon in the River Trent, estimated to be in excess of 10,000 fish. The Trent was also an important coarse fishery made famous by anglers such as J. W Martin who was associated with the Nottingham style of fishing with a centrepin reel and stick float. Others such as FWK Wallis were famous for catching specimen fish including a 7lb 2oz chub from the river at Shardlow in 1903.

The Industrial Revolution took its toll on the water quality in the River Trent catchment with waste from factories, liquors from town gas plants and sewage from homes which ran unchecked into rivers. It was during the mid to late 19th century that salmon started to disappear from rivers. The development of Birmingham and its related increase in industrial

output resulted in severe pollution which not only destroyed the River Tame but also much of the River Trent. By 1925 the salmon had entirely disappeared and there was little doubt that the Trent was justly named "a common sewer". In short the ravages of pollution and impoundment weirs and man's intervention through exploitation through over fishing reduced the run of salmon to a handful of fish straying from other rivers.

The gross pollution that contributed to the extinction of Trent salmon began to be reversed from the 1960s onwards and at that time the Trent became famous for its catches of roach from Burton Joyce and Barton Ferry. The clean-up continued aided by stronger pollution legislation and the creation of regional water authorities and investment in better treatment of sewage effluent.

During the 1970's straying salmon started to be recorded in the river again and angler catches were dominated by roach and chub; small barbel also began to appear in numbers. The Sporadic reports of salmon sightings and captures continued throughout the 1980s, the vast majority being confined to the lower river, downstream of Nottingham. By 1990 very large barbel were being caught from most parts of the Trent.

If someone were to ask me "What was the greatest impact on fish stocks in the Trent Catchment during the 35 years I was involved in Fisheries Management", I would think of the many storm water



I've worked on our rivers, and fished them, and I live on the Trent. This is the view from my study window.

discharges that resulted in thousands of fish killed in the River Tame and Trent. Cyanide pollutions of the upper Trent and River Anker and diffuse agricultural or sheep dip pollution on the Rivers Dove, Manifold and Hamps. The senseless release of Mink and the resulting predation on fish stocks throughout the catchment. Or maybe the rapid spread of signal crayfish which resulted in declining numbers of brown trout in small upland tributaries.

However, considering all of these factors, I would not hesitate now to say that the staggering increase in numbers of cormorants and goosanders inland and the resulting predation on fish stocks far exceeds any other impact. The fish populations found in pools, streams and rivers in the River Dove catchment prior to 1980 supported numerous species of fish-eating birds. Grey heron, great crested grebe, little grebe and kingfishers were common in the area and posed no real threat to fish stocks. From the early 1980's and through the 1990's cormorants and goosanders began to appear in the area in increasing numbers and were observed feeding on fish in rivers and stillwater fisheries in the catchment.

Cormorants became common visitors to the River Dove, with regular sightings of birds roosting and feeding, particularly on the lower and middle reaches. During this time there was widespread concern expressed by anglers about the effects of increased predation on the fish stocks in the area by cormorants and goosanders. In response to these concerns evidence was gathered from all electric fishing and seine net surveys carried out in the catchment. The presence of damage consistent with avian predation was routinely recorded on each survey. (When cormorants and goosanders take hold of a fish they leave characteristic bite marks on those that escape).

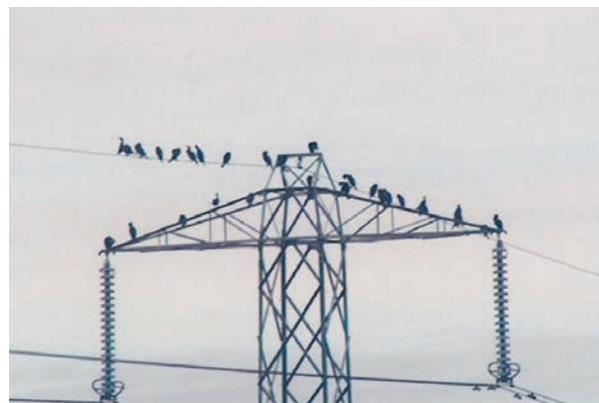


The National Rivers Authority had a number of stock ponds used to supply coarse fish in the Trent catchment. On two of these near Ashbourne up to 40 goosanders and 6 to 8 cormorants were observed during the winters of 1993 and 1994. During the winter of 1994 unusual avoidance behaviour was observed in one of the ponds. A large number of roach, many of which had damage marks consistent with avian predation, had congregated together underneath bankside trees in very shallow water.

The pond was drained down in 1995 to allow for Fisheries survey work to be undertaken. The survey revealed depleted fish stocks with few intermediate size roach (100 – 250 mm) and also large crucian carp with damage consistent with predation by cormorants. The following year a similar survey was undertaken on the larger pond to assess the status of fish stocks. The survey catch was made up almost entirely of bream in excess of 300mm length, with an absence of smaller fish and similar observations of damage marks.

The lower River Dove has a long history as a venue for match fishing and from the late 1970's became famous for producing consistently good match weights. The river became nationally recognized as a top river match venue and attracted anglers from all over the country. The Dove ranked amongst the very best river fisheries in the country. The match record for the Dove stands at 84.4 kgs of chub (16880 g/man/hour), taken from the river at Doveridge in February

“However, considering all of these factors, I would not hesitate now to say that the staggering increase in numbers of cormorants and goosanders inland and the resulting predation on fish stocks far exceeds any other impact.”



Goosanders on the River Dove below Tutbury weir in 2006, and cormorants on a pylon adjacent to the River Trent near Burton-on-Trent. I would not hesitate now to say that the staggering increase in numbers of cormorants and goosanders inland and the resulting predation on fish stocks far exceeds any other impact.

1996. From the late 1990's the catches declined dramatically and popularity of match fishing on the River Dove began to decline, resulting in a number of clubs stopping matches altogether.

During the autumn of 2001 concern was raised by angling clubs and riparian owners in the River Dove catchment, about the effects of fish eating birds, in particular cormorants and goosanders and their impact on angler catches on the River Dove and pools in the area. In response to these concerns the Environment Agency (Upper Trent Area) launched an investigation into the declining catches on the River Dove and other stillwaters in the area and the contribution of fish eating birds to this problem.

The investigation found that there was substantial evidence to support claims that fish-eating birds were seriously impacting on fish stocks. The analysis of match fishing records on the River Dove at Tutbury confirmed anglers' perception of declining catches. In 1990 the catch per unit effort recorded was 76 l g/man/hour falling to 29 l g/man/hour in 1998. Bird observations also confirmed that cormorants and goosanders were feeding on fish from the survey areas. Angler catch surveys revealed that 29% of all chub caught at Marchington in 2002 had damage marks consistent with avian predation. During a match fished at Tutbury on the 7th September 2002, all of the chub captured in excess of 300mm in length, had wounds consistent with cormorant predation.

Following the investigation a meeting with the Derbyshire and Staffordshire (DEFRA) Wildlife Management Advisors resulted in a more sympathetic understanding of the predation problems from fish eating birds and a catchment approach to licensing. A pilot project to launch a Fisheries Action Plan (FAP) in the River Dove catchment began in 2000 and by 2002 resulted in the setting up of the Dove FAP group. The Dove FAP group recognised the concerns over the impact of fish-eating birds on fish stocks and angling in the catchment. The FAP group offered a single coordinated approach to the problem of fish eating birds in areas affected by this problem. The group could therefore coordinate applications to DEFRA for licences to shoot on the River Dove and other waters in the catchment.

Prior to this there had been very few successful applications to shoot cormorants and goosanders but following the submitted evidence it became relatively easy to obtain licences. The licences issued by DEFRA limited the numbers of birds that could be shot to 10%-20% of the birds present locally. Licences were extended to include protection for migrating salmon smolts on the River Dove during the month of May. However, it required a huge amount of work



Fish eating birds consume huge quantities of fish.

by committed volunteers to carry out the shooting under the conditions of the licence. It also required the investment of many early morning hours as birds arrived from the roost sites.

By 1998 cormorants were very common and began breeding inland at many sites throughout the Trent catchment. A substantial national increase in the numbers of cormorants breeding inland took place between 1986-1999 with 151 pairs recorded in 1982 increasing to 1,317 pairs in 1996 and 2,362 in 2012. The proportion of these birds belonging to the continental sub-species *Pc.sinensis* is thought to be responsible for this increase with many birds originating from the Netherlands and Denmark.

Twelve studies have estimated the daily food intake variously as 6-32% of the bird's body weight of fish per day. The most realistic figure probably lies within the range estimated from energetics calculations (17-26%), equivalent to between 340g. and 520g. of fish per day. According to a study in the Netherlands a cormorant chick needs an average of 386g of fish per day in its first 30 days, with a peak food requirement of 632g per day in the period of fastest growth. This means that a pair of cormorants raising three chicks will need to catch 1.1kg to 1.9kg fish per day for their young, plus about 2 x 500g to cover their own energy needs.

Ornithological records of bird observations made on the River Dove at Dovedale between 1984 and 1989 showed that there were no reported sightings of goosanders. In Derbyshire the winter of 96/97 produced the highest counts ever of goosanders matching perfectly the national findings published in the Wetland Bird Survey. The River Dove and upland tributaries including the River Manifold and River Hamps had breeding populations of goosanders. Four pairs of goosanders were observed with young around the Dove – Manifold confluence during 2003. Three pairs of goosanders with young were observed on the

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River Hamps between Ford and Winkhill during 2002.

Small trout and salmon form an important part of the diet of goosanders and given the daily dietary requirements of these birds (240g –520g per day), even a few goosanders on a river could have a serious impact on fish stocks. For example in 3 months, 5 goosanders on a stretch of the River Dove could easily consume 9,000 small (8-12cm) salmon, trout and grayling in addition to substantial numbers of bullheads, stone loach and minnows.

As cormorant numbers continued to rise and in response to anglers’ concerns, DEFRA announced new measures to control cormorant populations from damaging fish stocks in 2004. The new system presumed that where significant numbers of cormorants are present at a site and it is clear that these are feeding on fish stocks, serious damage is occurring or there is a risk of serious damage.

In 2011 DEFRA commissioned a further review of its Fish Eating Birds Policy and published a report of its findings in 2013. The review found that there was no scientific evidence suggesting that the level of licensed lethal control authorised since the last review (2004) has had a significant detrimental impact on cormorant, red breasted merganser and goosander overwintering populations. Interestingly the review concluded that all three species considered by the Review Group

are green listed and are not nationally or globally threatened.

A revised time series of wintering cormorant numbers were derived by the British Trust for Ornithology using an improved methodology developed as part of the review. This resulted in a lower estimate – i.e. there were approximately 20% fewer cormorants in England than previously thought. The review estimate of the English wintering population in 2010/11 was 24,758 birds, with c.14,700 occurring inland.

The report concluded that there was no evidence that the frequency and scale of damage caused by fish eating birds had changed since 2004. The review group rejected a move towards a general licence for the lethal control of cormorants or other fish-eating birds but recommended a trial of catchment area licences. The review group recommended the appointment of Fishery Management Advisors (FMAs) to give advice on avian predation and the licence application procedure. The Angling Trust secured funding from the Environment Agency through anglers’ rod licence revenue in 2014 and now employs two FMAs.

However, since the last review the numbers of cormorants has continued to rise and during the winter of 2016/2017 an increase in the number of birds migrating from mainland Europe was reported. The annual report of the Wetland Bird Survey, Waterbirds in the UK 2016/2017 noted that the Cormorant Trend Index value reached a record high with a 25 year trend of +51%. Locally very large numbers were also observed that winter at Blithfield Reservoir a stocked trout fishery.

Fish eating birds consume huge quantities of fish. To put this into context, in 1982 cormorants were mostly winter visitors to Drakelow Nature Reserve a



Cormorants and goosanders often leave damage marks on fish that are not swallowed.



Goosanders on a pond at Ashbourne – and a fish refuge!

local gravel pit near to the river at Burton on Trent and counts of 8 or 9 birds each month were noted. The estimated annual fish consumption by cormorants at that site in 1982 was around 1.5 tonnes the equivalent of approximately 60,000 12cm roach, dace or chub. In 2017 this had increased to counts of over 200 a month and an estimated 40 tonnes consumed, the equivalent of 1,600,000 fish. This is just one of many roost sites in the Trent Valley and one of many sites where cormorants have been breeding successfully over the last 20 years.

The Trent Catchment covers an area of 10,435 km² (4,029 sq mi). Estimates derived from the Wetland Bird Survey (WeBS) in 1987 put the number of cormorants in the catchment excluding the area around the Humber Estuary at 750 birds. By 2017 this number had risen to 2,900 cormorants with an annual fish consumption estimated at a minimum of 480 tonnes. In 2009 a severe pollution of the Rivers Tame and Trent killed an estimated 2 tonnes of fish. That quantity of fish is consumed by 12 cormorants in a single year.

Predation also causes an imbalance in the natural structure of fish populations that has a knock on effect on angler catch. Time after time when carrying out surveys on waters that had been affected by predation we found size ranges of fish missing. The natural pyramid of numbers was missing so that only very small or very large fish were present. In addition those fish remaining would have a high incidence of damage marks associated with avian predation.

Cormorants and goosanders often leave damage marks on fish that are not swallowed. Puncture wounds may become infected leading to bacterial or fungal infection. It can also cause stress leading to a suppression of the immune system and subsequent infection and is particularly common in predation on carp ponds situated close to roost sites.

Throughout the catchment when carrying out surveys damage marks were found on all major species of coarse and salmonid fish. Even when operating a smolt trap on the River Dove we found damage on salmon smolts migrating down the river in May. During a netting survey on a Staffordshire lake in

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The River Dove at Rocester.

2004 14% of all bream and 25% of all roach captured had damage consistent with predation. The lake had 160 goosanders and a half dozen cormorants over wintering the previous year.

Another major impact that fish eating birds cause is the avoidance behaviour by fish in areas where there are large numbers of birds feeding. Fish tend to congregate in areas where more protection is given especially where human disturbance is high or where a physical structure exists that gives them protection. On rivers where there is a lack of disturbance fish will seek refuge in smaller tributaries or shoal up near bridges. The surveys carried out on the River Dove showed that some dye marked fish introduced to the river in areas of high predation were eventually recaptured in small streams that had full canopy protection provided by bankside trees. Avoidance behaviour therefore can affect angler catch and ultimately result in a loss of membership revenue for fishery owners or angling associations.

The Environment Agency has a duty under section 6(6) of the Environment Act 1995 “to maintain, improve and develop fisheries of salmon, trout, eels, lampreys, smelt and freshwater fish”. The Environment Agency’s role for fisheries encompasses protection of fish stocks and their environment and a service to anglers, paid for from the rod licence duty to manage fisheries.

The Environment Agency also has a duty under section 6(1) “to promote the conservation and enhancement of the natural beauty and amenity of inland and coastal waters and of land associated with such waters; the conservation of flora and fauna which are dependent on an aquatic environment; and the use of such waters and land for recreational purposes”.

When I first started working in Fisheries management, anglers were at the very centre of everything we did. Sadly, this is no longer the case and

the failure to address anglers' valid concerns about predation of fish stocks is disappointing. The agency is continually balancing its duties under the Environment Act but failing to adequately protect fish stocks. When it comes to predation on fish, the balance invariably swings in favour of the predator. This has had a dramatic effect on angling and fisheries management. Fishery owners and anglers have ended up picking up the huge costs associated with predation, including restoration stocking and fish refuge installations or fencing off our fisheries affected by otter predation.

The decline in salmon stocks is particularly alarming. The 2014 salmon stock assessment for England was the worst on record with many rivers failing to achieve their conservation limit. In response the Agency launched its 5 point approach to stabilising and recovering salmon stocks to ensure their future sustainability. Predation was way down the list, hidden under point 3. Remove barriers to migration (Up and Down) and Enhance Habitat. Point 3.6 gives the huge task of reducing the impact of damaging avian predation on parr and smolts to the Angling Trust. The Angling Trust has no statutory powers to protect fish.

There is no doubt that fish eating birds continue to be a major threat to inland fish populations. The huge increase in the numbers of cormorants breeding inland is significant as there is now a year round threat to fish stocks, particularly as cormorants consume much greater quantities of fish when rearing chicks. The recent increase in numbers over wintering from mainland Europe has further exacerbated the problem. Where once goosanders were considered winter visitors they are now breeding successfully in the Dove catchment and elsewhere.

In 2017 the Angling Trust called on the government to do more to protect rivers and lakes from fish-eating birds. In a letter to Fisheries Minister George Eustice, the Angling Trust called for a doubling of the number of cormorants licensed to be shot in England annually to 6,000. Additionally, in light of the Salmon Five Point Approach, and the need to do everything possible to restore salmon stocks, the Angling Trust firmly believes that there should be many more licences issued for goosander.

The River Trent and its tributaries contains many fish species protected under the EC Habitats Directive. The EC Directive places a duty on member countries to ensure the favourable conservation status of listed species. At a recent EA/Angling Trust forum I caught up with a river keeper on the Dove. He produced a photograph of a goosander shot under licence. The goosander contained 30 brook lamprey it had consumed whilst feeding in a known spawning area. Brook lamprey are one of the species listed under Annex II of the EC Directive on the conservation of natural habitats and flora and fauna.

A major review is now needed of the current policy on fish eating birds. There is no evidence that the current level of control is having any effect on reducing the impact on fish stocks. There is an urgent need for a general licence for the lethal control of cormorants and a relaxation on conditions for licensed lethal control of goosanders. Predation impacts on all fish species including those that are threatened or protected. Consideration should also be given for complete protection of salmon and migratory trout on recovering rivers and those rivers that are most at risk of failing to achieve their conservation limit. Having a robust system that allows for lethal control of fish eating birds is desirable but we are never going to see a return to the days when cormorants and goosanders were not seen as a threat to fish stocks inland. It must always be remembered that having a robust system of control in one area will lead to a movement of fish eating birds to another area where there is a less robust system in place.

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Cost of Fish Rearing

One of the side-effects of predation that has to be taken into consideration in assessing the actual long-term impact of predation is the effectiveness of the replenishing of stock by the authorities to try and counterbalance the impact of predation. Here are some of the facts. The costs of running the two EA fish rearing establishments were provided to us by the EA under the Freedom of Information Act: our thanks to the EA for the promptness of their replies.

There are two Environment Agency fish-rearing establishments, Calverton Fish Farm and the Kielder Salmon Centre.

Kielder Salmon Centre

'Kielder Salmon Centre costs approximately £120,000 to operate each year. The funding comes from the mitigation agreement put in place in the mid 1970s to compensate for the significant loss of habitat on the North Tyne that occurred when construction of Kielder Water began in 1978. As part of the preconstruction of Kielder Water planning, construction and operating costs of the hatchery must come from the operators of Kielder Water through that legal agreement which was passed by parliament prior to the construction of the Dam. This means that our funding comes from that source alone. We do not use licence money for any part of the operation of the hatchery.

I hope my reply has been helpful in answering your question regarding our operation. Should you need any further information I would be delighted to hear from you.

Richard Bond, Kielder Hatchery Manager.'

**The running of the Kielder Salmon Centre is not paid for from Environment Agency funds.
Calverton Fish Farm**

'Enquiry regarding annual running and distribution costs for Calverton Fish Farm'

Thank you for your enquiry which was received on 13 April 2018.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004. The following information has been provided by a manager within Calverton Fish Farm:

The annual running costs for Calverton are approx £400K per annum.

Please refer to Open Government licence which explains the permitted use of this information.

Yours sincerely, Rosalind McGarrie-Lound,
Customer Service Adviser, National Requests, NCCC.'

'Fish Rearing by the Environment Agency. All of the work is funded by rod licence income.'

According to Angling Trust's cormorant predation figures the stocking of our rivers and still-waters with small fish by the EA doesn't even keep up with predation by over-wintering cormorants, let alone predation by the other ever-increasing range of predators.

How much of our licence income is used to feed our over-protected predators?

Since 1996 we have put over 11 million coarse fish into our rivers and millions more fish fry – dace, grayling, chub, barbel, roach, bream, rudd, crucian carp and tench. The fish are used to stock rivers and lakes all over England – sometimes replacing fish that have been lost due to a pollution incident, sometimes giving local stocks a boost. 2016 (sic) was a record-breaking year, with over 452,000 fish and 1.3 million larvae put into rivers across England. All of its (EA) work is funded by rod licence income. **EA statement, April 2016.**

'...overwintering cormorants have increased from around 2,000 in the early eighties to nearly 25,000 in recent years. Cormorants eat over 11b of fish in a day. In many rivers silver fish populations are only able to survive in numbers in town centre locations where cormorants and goosanders are fewer in number.' **Joint statement from the Angling Trust, Angling Trades Association, Atlantic Salmon Trust, Avon Roach Project, British Association of Shooting and Conservation, Gam & Wildlife Conservation Trust, Predation Action Group, Salmon & Trout Association, The Rivers Trust, Wild Trout Trust, 2012.**

Cormorants and Goosanders/Mergansers

We are told that we have in the order of 30,000 cormorants (Angling Trust figure) and 12,000 goosanders (RSPB figure) overwintering on our waterways. Each of these predatory birds requires

a minimum of 1lb of fish per day to sustain them. We are told cormorants and goosanders prey on fish up to 12-14" in length.

'The goosander's love of salmon and trout has brought it into conflict with fishermen.' RSPB quote.

Quote from 'The Impact of Cormorants and Goosanders on river and Stillwater Fisheries in the UK', a booklet published by the Angling Trust, Feb 2013.

Quote: 'Cormorant numbers have increased since protection for these birds was introduced in 1981 via the European Wild Birds Directive and following the banning of DDT. Numbers of over-wintering inland birds, which traditionally were around 2,000 in the sixties and seventies, rose dramatically to 14,554 in 1987/8, and to a peak of 30,188 in the winter of 2003/4 - a doubling of numbers in 6 years and a staggering 15-fold increase in just over 20 years. The number of recorded colonies and breeding pairs increased dramatically through the 1990s, as shown in the British Trust for Ornithology's survey data.'

Predation of Carp and Coarse Fish

The predation of coarse and game fish is increasingly well documented. It is a fact of life that hundreds of carp and specimen fish still-waters have been, and are being, fenced to keep otters away from expensive fish stocks. It is estimated that in time this figure for the number of fenced still-waters will be in the thousands. The fencing of specimen-fish waters has been recognised by Natural England in the granting of a Class Licence covering the removal of an intruding otter from a fenced fishery by trained trappers under strict guidance rules, covered in a separate section. Many wild and natural fisheries cannot be fenced. This is true of rivers and canals which are popular coarse and specimen fish venues, and rivers which are valuable game fisheries. It is probably fair to say that, at best, it is possible to fence less than 1% of our waterways. The predation of rivers by otters was the subject of a recent petition submitted to the Government by the Barbel Society, which was dismissed by the Environment Agency.

Quote: 'Nearly 75% of our rivers are failing to reach good ecological status, and many of these are failing because of poor fish populations.' *Angling Trust Press Release, May 2015.*

Predation of Fish Stocks

Nearly 2,000,000 fish were released into our rivers in 2015, 452,000 actual young fish, and 1.3 million larvae. They were released into rivers all over the country, as follows: 53,729 chub, 46,850 dace, 67,875 roach, 66,976 bream, 15,231 tench, 88,034 crucian carp, 35,125 rudd, 20,000 grayling.

Official figures from the RSPB and the Angling Trust tell us that we have circa 12,000 goosanders (RSPB) and 30,000 cormorants (AT) are over-wintering on British still-waters and waterway systems. They eat 1-1½lb of fish per bird per day. Taking a five month winter period for October to February inclusive of 150 days (for ease of calculations) we arrive at the following results, depending on the size of the fish predated. (The combined avian predator figure has been rounded down to 40,000, again for ease of calculation.)

**4oz fish at four per pound
24,000,000**

**8oz fish at two per pound
12,000,000**

**One pound fish
6,000,000**

Those figures are for two species of overwintering birds during a five-month period. In fact they are not only with us during the winter, they breed here, too. Not in the numbers that are present during the winter but in sufficient numbers to make significant inroads into our fish populations throughout the year.

The 8oz figure is probably representative of the average prey, and includes salmon parr and smolt. Research has singled out cormorants and goosanders in terms of their predation of young parr and salmon smolt returning to the sea, discussed elsewhere in this document.

Our waterways are also predated by our more historical/traditional avian predators in the form of herons and kingfishers, and mammals/mustelids in the form of mink and otters.

In a perfect world predated fish would be replaced by new, growing fish, but we are not in a perfect world, we are in a predated unnatural world. The Government-introduced signal crayfish are an acknowledged preventative to the recovery of waters because they predate on eggs and fry.

The Kielder Salmon Centre on the River Tyne is paid for by private enterprise. The Tyne salmon

and sea trout results are exceptional, as Gary Cyster reveals below, but the Tyne apart research tells us that few, if any, smolt are successfully returning to the sea as a result of the attentions of cormorants, goosanders and otters, operating in the lower reaches, and at every weir and obstruction.

Fish rearing at Calverton Fish Farm costs in the order of £400,000 per year, paid for by licence money. The irony here is that despite the massive contribution to the licence money income from carp anglers carp are not included in the fish reared at Calverton because it is Environment Agency policy to not get involved in the stocking of carp because of the high risks associated with spreading SVC and KHV etc. and the biosecurity implications of having carp on a site rearing fish for river systems.

Additional Information from Former EA Fisheries' Officer Gary Cyster

A major review is now needed of the current policy on fish-eating birds. There is no evidence that the current level of control is having any effect on reducing the impact on fish stocks. There is an urgent need for a general licence for the lethal control of cormorants and a relaxation on conditions for licensed lethal control of goosanders. Predation impacts on all fish species including those that are threatened or protected. Consideration should also be given for complete protection of salmon and migratory trout on recovering rivers, and those rivers that are most at risk of failing to achieve their conservation limit.

Having a robust system that allows for lethal control of fish-eating birds is desirable but we are never going to see a return to the days when cormorants and goosanders were not seen as a threat to fish stocks inland. It must always be remembered that having a robust system of control in one area will lead to a movement of fish-eating birds to another area where there is a less robust system in place. The installation of fish refuges may provide some protection in small stillwaters but on larger waters and rivers they are impractical.

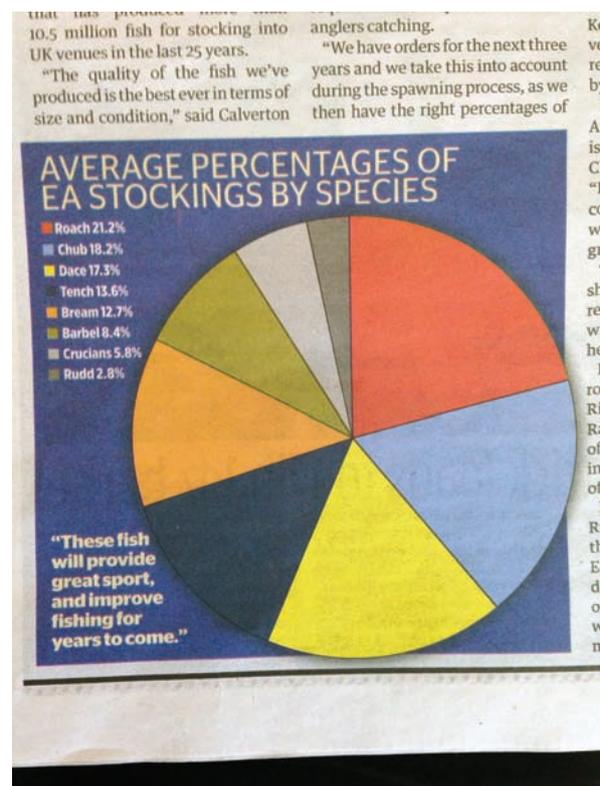
Where fish stocks have been affected by a loss of production caused by man-made activity or scheme then mitigation stocking is considered acceptable. Restoration stocking is carried out following a pollution that causes a fish mortality and subsequent loss of production. The Environment Agency salmon hatchery at Kielder was constructed to mitigate

the loss of production following the construction of Kielder Reservoir. In 2017 Kielder produced 406,506 0+ salmon parr for stocking into the River Tyne. The river with the highest declared rod catch of salmon in 2017 was the Tyne (3,357). This accounted for 25% of the total numbers of salmon caught in England and Wales in 2017. More salmon are caught from the River Tyne than the whole of Wales. In 2014 Natural Resources Wales announced an end to all salmon and sea trout stocking into rivers in Wales.

(**Note:** 0+ refers to the age of the fish, in this case a fish in its first summer of growth. Kielder 0+ parr range from 34mm to 105 mm in length and 0.4g to 14.3g in weight. The mean size is 60mm and the mean weight 2.9g.)

In 2017 Kielder produced 7,757 0+ sea trout parr for stocking into the River Tyne and 12,717 1+ parr for the River Rede (tributary of the Tyne). The river with the highest declared rod catch of sea trout in England is also the Tyne with 1,419 caught in 2017. It is also worth noting that the Kielder Hatchery produced all the 1.8 million 0+ salmon parr for the highly successful River Trent salmon restoration project from 1998 to 2010, and is capable of producing substantially more fish than it does now.

(**Note:** 1+ refers to the age of the fish, in this case a fish in its second summer of growth. It has survived



its first winter and is growing on. There will be larger and smaller fish and the size will differ from river to river and north and south etc.)

The Environment Agency's National Coarse Fish Farm at Calverton produces river coarse fish. It is the only fish farm that produces river coarse fish that are pre-conditioned in flowing water to enable survival in the river environment. Fish produced at Calverton therefore have a high persistence in angler catch after stocking. Calverton also produces fish that are at risk, including true crucian carp for stocking in still waters. In 2017 Calverton produced 350,000 coarse fish and also stocked over 6,000,000 advanced reared larvae back into the wild.

The main reasons for stocking Calverton-bred fish and larvae are: replacing stocks lost to pollution or following habitat or water quality improvements; improving stocks where natural reproduction is low; and helping to create fisheries in areas where there is a shortage of angling opportunities. Following the River Trent and Tame pollutions in 2009, Calverton river coarse fish were used to restore fish stocks in the areas affected and quickly improved angler catch.

So there we have two examples of where stocking is seen as appropriate, where it has been proven to be successful, and has contributed to increased angler catch. Unfortunately there is a great deal of resistance in restoring fish stocks impacted by avian predation by stocking. I really don't see the difference in the loss of fish by pollution or the destruction of habitat and the loss by fish-eating birds, except that the loss of fish by fish eating birds is far greater than the combined losses of the other two. The hatchery at Kielder produced around 1.1 tonnes (1,100 kilos) of 0+ salmon parr in 2017. A single goosander will consume 130kg of fish in a year. The National Coarse Fish Farm produced 9 tonnes (9,000 kilos) of coarse fish in 2017. A single cormorant will consume 165kg of fish in a year.

Note: Goosanders consume between 240g and 520g weight of fish per day, mean 380g. In general, the diet tends to consist of the most abundant and most easily-caught small fish (50-110mm) but can also tackle larger fish. They will consume multiple species including minor species such as bullhead, minnows

or lampreys etc., but this is likely to depend on both the availability of fish species and their ability to evade capture. So on a salmon river it will consume both salmon and brown trout and minor species such as bullhead. Goosanders also consume 1+ and 2+ smolts. Numbers-wise a single Goosander could consume 10 to 20 (1+) smolts or 6 to 13 (2+) smolts each day. Please refer to the attached paper on predation on salmon.

So clearly we don't have enough fish-rearing capacity to supply enough fish to compensate for the loss to fish-eating birds. This would require a major investment in fish-rearing capability and the redirection of funds within the Environment Agency. But whilst the set-up costs of hatcheries are high the running costs are comparatively small. Kielder costs around £120,000 and Calverton costs £400,000 each year.

The Environment Agency contributed £1,297,000 to the Angling Trust in 2017/18 of which £754,000 was staff salaries. The Environment Agency often uses Enforcement Undertakings rather than prosecuting for fisheries offences under S4.1 of the Salmon & Freshwater Fisheries Act 1975 (discharging matter or effluent that is poisonous or injurious to fish). Between 2012 and 2018 £1,800,000 was awarded for environmental projects of which £521,000 went to Wildlife Trusts and £160,000 went to non-fish specific projects. So there is scope to redirect finances to increase fish production if the will is there. However this requires a major change in the policy on stocking any fish to compensate for the loss to predation.

Note: From the Environment Agency Annual Fisheries Report 206/2017. "Kielder Salmon Centre is funded through the Water Resources budget, 95% of which is derived from abstraction licence fees of the local water company as part of the long term commitment made during the planning stages of the construction of Kielder Water".

The need for a fish-rearing programme is unarguable but the current levels of predation by our main predators means that the current fish-rearing programmes are not even keeping pace with the level of predation to which our fisheries are being subjected.

Otter impacts on Stillwater Fisheries: Chris Burt

Otter Predation Paper presented at the AT & IFM joint workshop June 2018

I. The impact of otters on fish stocks

ALL species can be heavily predated but first let's take a look at carp losses up to around 2014, using *The Big Picture* which is the most referenced document in the UK for fisheries predation, by universities, students, and researchers generally.

One County alone, Yorkshire, lost £2,700,000 of fish in four years. **That's £2.7M.**

That £2.7 million cannot be replaced, those fish are not available on the market. Those big fish are why anglers join those clubs, they are why they fish those waters, they are why they spend their money on tackle, bait, fuel and accommodation to go fishing in Yorkshire. Those fish represent lost jobs and livelihoods. Similar losses of fish are reported from around the country as detailed in *"Big Picture 2"*, every loss of a fish threatens a club closure, the loss of a water, the loss of a job somewhere in the tackle industry. So the costs of fish losses are much greater than the simple fish value equation.

Fishery managers value the fish, only the treasury can value the jobs lost and the taxes not paid, only the welfare system can value the newly unemployed, only the council can value the rates no longer paid on the clubhouse or the fishing tackle shop. How many jobs is an otter worth?

How many jobs is an otter worth?

"The Big Picture 2" (due out soon) updates the Southwest losses, in Cornwall alone of 95 fisheries, 19 have closed with the consequent loss of the clubs and the social contact they provided, the jobs they created in maintenance and support, and fifteen have fenced their waters.

More worryingly for conservationists and anglers *"Big Picture 2"* will expand on the other fish stocks that are being damaged by otters, we have reports from qualified fishery managers that after carrying out fishery surveys, upwards of 40% of all pike in fisheries are now damaged and marked by otters, as are tench. Silver fish stocks do not show the same level of damage because of course they cannot swim as fast or escape through their use of body mass in the way that pike and tench can. We must assume that silver fish are generally eaten when captured by otters.

To see where it started, read Fred Sykes' article on "The Death of a Fishery", a 20 year labour of love developing a beautiful small fishery in Cumbria which was totally destroyed by otters

Interesting to note when we first highlighted rampant fish losses from otters from 1999 onwards even most anglers could not accept it. Now, at any angling conference, 90% of those present have seen waters suffer badly. Getting worse

In this slide and the next I've used photos from our presentations to DEFRA in 2001, 2002 and 2003, when we pleaded unsuccessfully for Fisheries Protection money, these pictures are just as relevant and representative now as they were then.

I. The impact of otters on all venues

We're bringing out *The Big Picture 2* soon, a couple of extracts;

Fish Farming unfortunately has become a war of attrition for many industry-wide farms. The current legislation strangles the necessary control of the problem from predators damaging their long-standing established business.'

Those otters are also reducing the numbers of swans on many waters, we have reports from across Hertfordshire, Buckinghamshire and Wiltshire/Hampshire of reducing swan numbers on still waters and rivers. Nesting water birds have reduced in numbers over the past number of years. It may not be otters in every case but the reductions in numbers of birds has coincided with the increasing numbers of otter in each reported location.

RSPB too share our problems, they now have fences at 28 reserves protecting breeding waders, at sites with anti-predator fences lapwing productivity has been consistently above that necessary to population maintenance, even though at some sites only a proportion of the suitable habitat is protected by the fence. But non-lethal methods, whilst always their preferred way of doing things, are not always practical (we understand).

RSPB originally defined their fences, which are coincidentally identical to otter fences, as being for protection against foxes, mustelids* (such as stoats,

weasels and badgers), hedgehogs and rodents plus domestic and feral cats, American mink, brown rats and grey squirrels.

*Otters are mustelids. **Compiler's comment.**

Now in her book *Otters* by Nicola Chester, published by the RSPB, birds are included in the otter's diet: 'Otters' preferred food is eels, particularly those up to 50cm (20in) long.' 'In spring otters take advantage of spawning frogs and toads. During the summer months water birds feature higher up on the menu. Ducks sitting on eggs or moulting feathers are an easy target. Ducklings and slower moving inexperienced young birds may well get snatched from under the water.' In the recent past studies of Otter spraints revealed that



Chris, back left, at a meeting of the Predation Action Group in 2016. Chris has been involved in angling politics for over thirty years.



One County alone, Yorkshire, lost £2,700,000 of fish in four years. That's £2.7M. This ottered 30lb carp had a market value of at least £2500. Clubs cannot afford to replace lost fish of that size, and the commercial value of fisheries is damaged.

eels made up 80% of the fish eaten by otters., but eels are now in steep decline. It is estimated that just 5% of the eel numbers present in the 80s remain.

When the RSPB fenced the Otmoor Reserve in Oxfordshire the bird nesting success rate for waders went up by 84%.

If our observations are accurate and correct then action is needed now to protect the biodiversity of the waterscapes which concern us. The precautionary principle should be applied before it is too late to do anything. How many of us want to be taking our grandchildren to Reserves just to see a swan?

Otter trapping from fenced fisheries. Only example I have is Lonsdale Angling Club's where it took 2 weeks to trap an otter. If that had been an adult not a juvenile then all the large, valuable fish would have been lost. Quote from the club: 'The time taken to trap the otter would have been unacceptable to club members if carp were being lost.' If an animal can't be trapped in very short order then the process is meaningless.

Also what do we do about fisheries that can't be fenced?

Natural England (NE) has, it seems, stalled the recruitment and training of more otter trappers too.

2. The impact of otters on fish stocks, the environment and Biodiversity

European eel: Protected and critically endangered; population declining. Eels are currently at 5% of their population level of 25 years ago. So we have one protected species (otters) eating another protected and critically endangered species (eels).

Historically otter's favourite diet was eels, though Otter BAPS conveniently told us this definitely wasn't the case when we drew this to their attention.

Salmon too are under threat from otters.

- **The environment** is being highlighted by DEFRA that this should be available to everyone as an enjoyable resource, to use for leisure and exercise.
- So RSPB have their sites enclosed in fences.
- Anglers have well in excess of 1000 attractive waters now surrounded with fences.
- The numbers for both will inevitably grow considerably.
- That diminishes the natural environment, but is the only route open for fisheries protection.
- They all also deny access to water for many

other animals outside of those fences.

- Natural England is responsible for the delivery of some of Defra's public service agreements (e.g. reversing the long-term decline in the number of farmland birds by 2020 and improving public access to the countryside). How does this sit with the increasing need to fence waters to keep predators at bay, and in the case of fences round still-waters 'predators' equates to otters.

Fencing, all at a cost of circa £9-£15 a metre, cost per water £10,000 to £60,000+.

All at the insistence on single species management. It is unfortunate that Otter BAPS Group did not provide a Risk Assessment on the impact of otters on the wider environment to EA, NE, and DEFRA.

So we would ask, is the "pedestal" status of otters not disproportionate?

3. So now the final question to address on otter's impact on fisheries

At some point the thorny question of the National Gamekeeper's Organisation (NGO) decision is going to have to be faced.

The Judge criticised NE making it clear that public opinion should not be taken into consideration in the application of the law, and added that it had been made according to an undisclosed policy which went beyond NE and DEFRA's power in law.

The case for anglers demanding adequate protection from otters on their waters is of course a complete parallel with that pheasant breeder's situation.

We believe NE nearly offered complete capitulation there and then but were heavily influenced and held back by "other sources". That decision to ignore the near identical nature of these cases where NE and DEFRA had exceeded their legal powers, I guess revolves round shooting's ability to fund a Judicial Review, whereas angling is the poor relation and would be more challenged to do this. Not out of the question though.

Natural balance; **not** single species management in isolation, with decisions taken NOT on the Tarka and Bambi principal. Deer are heavily managed to control their numbers, the RSPB for instance culled 1300 deer in one year to protect woodland.



European eel: Protected and critically endangered; population declining. Eels are currently at 5% of their population level of 25 years ago.



How many jobs is an otter worth?

Note though I am NOT suggesting a cull of otters, but they need to be excluded from a heavy, destructive presence on fisheries, nothing more, including those waters that cannot be fenced. Trap and remove to otter sanctuaries by all means, which would be an ideal solution. The application of the law also needs to be upheld, would you agree?

How Serious is Predation?

The March of the Predators

'There is a recurring theme in this burgeoning predation scenario, and that is in the timing, as follows:

Signal crayfish: a growing threat from the mid-70s onwards following their 'ill-advised' introduction as a food source by government. The damage they are doing to our waterways is inestimable, and possibly irreversible.



Anglers have well in excess of 1000 attractive waters now surrounded with fences, and the numbers for will inevitably grow considerably. The pictures show site preparation at an Essex fishery, and one of the Carp Society's waters in Gloucestershire, near the location of the release of a number of otters in 1999.

Mink: a growing threat from mid-60s onwards following escapes from mink farms and illegal releases by activists.

Goosanders: a growing population in England and Wales since 1970. We now have 12,000 of these predators overwintering in Great Britain (**RSPB figure**), mainly on the western side of the mainland. 'Its love of salmon and trout has brought it into conflict with fishermen.' **RSPB quote.**

Cormorants: a growing threat since the increasing incursion of *phalacrocrax carbo sinensis* (the so-called 'Chinese cormorant') since the mid-80s. There are of the order of 30,000 cormorants over-wintering in Great Britain (**Angling Trust**).

Otters: a rebirth from 1970 onwards, with the otter releases of the 1990s, and beyond, accelerating the spread of otters and their impact on the ecology.

The impact of otters on fish stocks, the environment and Biodiversity

'Probably every species of freshwater fish in the area is vulnerable to otter predation, but some more than others. As examples, in scats of Eurasian otters in Scottish rivers, brown trout and Atlantic salmon dominate, and the otters also take many eel.' **Hans Kruuk, 'Otters: Ecology, Behaviour and Conservation', published by Oxford University Press.**

'This leaves some people concerned that the salmon populations in Scottish rivers, which have seriously declined for unknown reasons, are being delivered a final blow by the otters.' **Hans Kruuk, Otters: Ecology, Behaviour and Conservation, published by Oxford University Press**

Predation on Fish Farms

Tim Small, Lechlade Trout Farm

Predation of fish on stillwaters and wild river fisheries has been well documented but there is another predator food supply which seems to have been largely overlooked: this is via commercial fish farms, mainly trout farms producing fish for the table and restocking markets. These are intensive operations where many tons of fish, involving huge numbers of fish, are farmed in a relatively small area, being kept in concrete tanks or earth ponds. They are easy pickings for many types of predators. The sites are often impossible to fence and net-in due to their location, size and workability, and are also covered by planning laws and Health and Safety issues.

It is not only the direct loss of fish that impacts on the owner but many other associated implications, including welfare and environmental issues.

Whereas territory comes into play with many predator attacks, this falls away when there is such a huge, readily-available food source. After a release of 18 pairs of otters in 1998 on the River Thames, near

Lechlade, the otters, rather than taking up individual territories throughout the upper Thames region and Cotswold Water Park, made a bee-line straight for the Lechlade Trout Farm where over 20 otters were regularly spotted, in broad daylight, taking fish from an intensive farm that covered an area not much bigger than a tennis court. Likewise, trout farms, in the past, have experience of predation by over 200 herons at one time because there is such an abundance of food. Methods of deterrent were worked out over the years but herons are now, increasingly, being replaced by cormorants – which are far more persistent than herons – and even guillemots and goosanders in some areas. Given an unlimited supply of their favourite prey predators will take advantage of it.

It is not always the direct loss of fish but the stress created by a predator attack on a heavily stocked farm situation that does the real damage. The predator might only need to take and kill one fish but

WILTS & GLOS

STANDARD THURSDAY, JUNE 15, 2000 CIREN

3

Otter heaven is fish farming hell

TROUT farmer Tim Small's valuable stocks of organic fish are being decimated by a band of captive-bred otters.

Tim, of Lechlade Trout Farm, has branded the release of the aquatic mammals by the Otter Trust as "hugely irresponsible". He said: "I would be delighted if wild otters naturally returned to the area – one otter would have a large stretch of the river as territory.

"But I have heard there are up to 19 pairs of hand-reared otters here which have been released by the Otter Trust. "This is a bit like a pack of wolves being released in one of the biggest sheep farms in the country without any thought of the ramifications."

Tim and his two children regularly look out of their kitchen window while they eat their breakfast and see otters playing 20 feet away.

They are lovely cuddly creatures to watch but the predators are costing Tim a fortune as they devour his valuable stock.

"We were the first farm in the country



By Catherine Turnbull

to produce organic trout and the otters are decimating my stocks by about 30 per cent. My fish are also used to re-stock lakes and rivers and have to be in perfect condition.

"These otters are behaving like urban foxes – they bite chunks out of the fish indiscriminately.

"I can't see them moving away along the river when they have such easy pickings here."

Tim has tried putting up electric fencing around the farm but this only works as a short term solution and there is no compensation for the cost of protecting his property.

"Talk of six-ft high electric fencing is impractical and takes no account of other wildlife that would be affected by those sort of measures."

He is not allowed to frighten off the

otters as they are a protected species.

It is believed that the Carp Society, next door to Lechlade Trout Farm, has had valuable fish taken by the predators.

Conservationist Dr Simon Pickering, biodiversity officer for the Cotswold Water Park Society, has every sympathy for fish farmers.

He said: "When people set up their fishery businesses they do not expect to have to pay out large sums to protect their stocks from otters.

"We would prefer to see otters come back to the area naturally. Otters will cause great damage to a fish farm when they are in large numbers – it's a bit like otter heaven.

"We want to preserve a balance in the water park between wildlife, watersports, fishing and other recreation.

"One otter will naturally have a 10-20 kilometre stretch of river to itself and we hope that eventually the released otters will spread through the upper Thames area."

Simon has been trying unsuccessfully to contact the Otter Trust in Suffolk to find out how many pairs were released last year, but has had no response other than it

is part of their programme.

"It is not against the law to release captive-bred otters but it is not good to release several in one place, which may have happened," said Simon.

"There has been a dramatic increase in otter activity on the Thames, Leach and Coln.

"Some will be wild otters who are returning because of the work done to improve the habitat and encourage them back, but some are released animals.

"It is much better to allow them to colonise naturally so they can maintain themselves.

"One idea is to stock the upper Thames with elvers, which is the otters' preferred food, and give an alternative food source to the fish farm stocks."

The Cotswold Water Park Society recently hosted a seminar for fisheries and fishing clubs following the otter problem.

They were told of ways of protecting fisheries and given advice about the ecology of otters.

No one was available for comment at the Otter Trust at the time of going to press.

NEWS Digest

CIRENCESTER: Two drivers were taken to hospital following an accident outside the town's fire station at 8.15am on Tuesday.

A red Ford Sierra driven by a man from Abergavenny, in Wales and a red Peugeot car driven by a Tetbury woman were in collision. Both drivers were taken to Cirencester Hospital. Their injuries were not thought to be life threatening.

WINSTONE: A Peugeot 205 car parked in Fosse Field was scratched by vandals between 8.30pm on Sunday and 7am the following day.

ELKSTONE: Well-loved gardens in the village will be part of an open gardens event on July 16 to raise money for the Norman St John's church and the village hall fund.

Gardens will open from 2-6pm for a £2.50 entry fee.

LECHLADE: A murder mystery will be solved by drinkers at the Royal Oak on Monday night.

Amateur sleuths will meet a host of shady characters during the fun evening which starts at 7pm.

The predation of Tim's trout farm at Lechlade made news in the local press.

in the process will cause panic amongst all the other fish in a pond/tank leading to immediate death through heart attacks, and longer-term mortalities through stress-induced and disease-related issues. Feeding, probably the main cost for any trout farmer, is compromised through bad Feed Conversion Ratios, or a reluctance to feed at all, which again leads to welfare issues. This mass panic is exacerbated when otters bring their young onto the farms to teach them to fish. They have the time of their lives, not only catching easy food but having enormous fun in the process. Worryingly, cormorants have been seen recently working in packs in exactly the same way.

When there are so many fish on offer it really doesn't matter if the predator doesn't complete a kill the first time as many fish escape with chunks torn out of their bodies, leading to future infection and rendering them totally unacceptable for the table or restocking market. Brown trout, far more valuable and slower to grow than rainbow trout, are far more vulnerable to a non-lethal attack.

The UK has for many years been trying to establish its own breeding broodstock, rather than relying on the import of trout ova from overseas, and many years of work can be wiped out overnight by a predator attack. Many farmers will not be prepared to take the risk of growing and holding such valuable stock when they are so vulnerable.

There are environmental issues to take into account, too. In the aftermath of an early morning attack, where the fish have panicked at a time when dissolved oxygen levels might already be low, the resulting discharge of water from the ponds to the main watercourse, sometimes several hours later, can fail strict environmental parameters for Dissolved Oxygen, Suspended Solids and Biological Oxygen Demand, causing even more headaches for the farmer involved.

There is also the problem of the increasing number of signal crayfish spreading through our river systems and trout farms. They burrow into the sides of earth ponds that are still used by many farms, especially those in the restocking sector.

The ramifications for the rural economy are numerous. Trout farms employ many people, both directly and indirectly, in rural areas. Restocking trout keep a flourishing fly fishing industry going, bringing extra money into the local economy in terms of meals and accommodation, etc. Many rivers are now no longer being stocked because the trout are so likely to be predated before an angler even has a chance of catching them, and many anglers are now reluctant to pay what can be a substantial amount for a river season ticket when they are under the illusion that



The need for constant running water makes it difficult to exclude otters from the fishery and farm.



Otter predation marks on two of Tim's growing fish.

all the fish will have been eaten before they get the chance to fish for them.

Food Security is a buzzword that also comes in to play. Government is determined that the UK becomes as self-sufficient as possible in terms of the food it produces. There is little incentive to breed trout when the risk through predation, with virtually no controls at our disposal, is so great. 99% of farmers are keen naturalists and thrilled to be working with, and alongside, nature but once predators get to such out-of-control proportions, and there is no practical defence – and, in many cases, the predators are actually being actively encouraged – it is very easy to throw in the towel. We are already working in a difficult, challenging environment where climate change, the ever-decreasing availability of veterinary medicines, the red tape involved in licensing suitable vaccines, water abstraction reform, the Water Framework Directive and many other issues are already having serious impacts on this sector of the rural economy.

A final point to ponder is the debate surrounding the impact of commercial salmon farming on wild salmon and sea trout stocks. Having recently witnessed seals twenty miles upstream from the sea on the River Tay, and guillemots and goosanders feeding hard on salmon smolts, one wonders if any fish are even getting back to sea in the first place? Closer to home I have witnessed cormorants and goosanders feeding on our game-fishing rivers, particularly the River Exe and other rivers on Exmoor and Dartmoor, and our beloved chalk streams in the south of England

Predation is a huge problem, increasing the whole time. There are very few controls available for these highly protected species – highly protected because they are considered to be so rare. That does not seem to be the case anymore, especially when their numbers are being enhanced by human intervention, whether it be deliberate introductions or the availability of an abundant free-food supply. This changing scenario should be considered and acted on accordingly, especially where stricter controls could be adopted with the help of the various governing bodies.

How extensive is this problem? There are approximately 360 trout farms in the UK and from



Netting is required to keep the avian predators at bay.



Otter predation can cause multiple death through heart failure. These fish have been literally scared to death.

recent discussions at meetings I would suggest that almost every single one has/is now experiencing otter problems. They all have predator problems in one form or another but otters are the hardest to exclude because of water inlets and outlets (which are difficult to screen effectively and safely) and because they are working farm sites. They are often in locations that are difficult to fence/net, as the accompanying pictures illustrate. These show that farms have taken measures against avian predation but hopefully you can see the logistics that would be involved if you tried to keep otters out.

Predation on Carp Farms

Christopher Currie – Countryside Management
Consultancy Services Ltd

This is a poignant subject which unfortunately has become a war of oppression for many industry-wide fish farms, some of which have been farming carp since the 1970's. Some have had to consider whether the current official attitude to predation gives them enough scope to be able to operate and are facing closure.

The 'attacks' on the various fish lifecycles come from a variety of predators, but with the upsurge of the cormorant and goosander overwintering colonies, coupled with the increased number of otters successfully breeding across many counties, this has caused many stalwart farmers to re-assess their likely long term future under the current legislative shackles. Shackles which strangulate the necessary controls of the problem from predators, damaging their long-standing well-established profitable businesses.

The understanding which many fish farmers I speak with through my consultancy business cannot fathom is the lack of support they have to be able to stop these voracious predators wiping out a whole production pond, or rendering the residual fish unsaleable, due to the marks/black scars left on their heads/flanks/fins from actions of the predators as well as the predators causing stress by harassing the fish. At the time of writing this, there is little or no protection offered from the law and ultimately the Government, if your business is unfenced. As an example most otter attacks can cause irreparable damage with fins stripped, lips torn and deep gouges and subsequent scale removal for large carp, meaning it will leave a major wound open to infection, as the scales are large and well embedded in the skin. The sheep farmer has the right to kill (Farmers Right's) an animal whether that be a stray dog or fox that is injuring or killing livestock, thus affecting their business. The same right isn't afforded to the fish farmer, due to the current levels of protection in place for many fish-eating predators and this is what many fish farmers find incomprehensible. I come from a commercial fish-farming background representing many decades of work and have seen this devastation both on food-

producing fish farms and restocking fish farms which both, albeit slightly, have a different remit in terms of output, but both of which are in business to create employment and produce profits.

The time and care taken to cultivate fish from the egg to larval stage – right through to specimen proportions – can represent up to a decade of husbandry depending on the fish species, which, during this time, can have many peaks and troughs for the farmer. But when the fateful day comes and the fish are released into their new home to flourish and allow many anglers to enjoy the fruits of their labours, why should the farmer be filled with a level of trepidation in this day and age, harbouring a degree of doubt that these fish could become the subject of another gruesome 'Otter Kill' plastered across the national press or social media outlets the very next day if the fishery isn't fenced...?

The sense of pride around late winter time as you carefully pick the parentage of fish providing some of the best lineage this country has to offer for the forthcoming spawning in the spring, can be a celebratory occasion for the fish farmer. Each selected specimen may have a special attribute that you hope will be passed through the genes to the fledgling stock which will be nurtured through their



Fencing and netting are essential on all fish rearing and carp rearing farms to keep cormorants and otters at bay.

first summer of growth, with the farmer attentively watching their every movement, much like a mother and child. This joyful experience could all be wiped out come the early spring, not even a month later, if an otter attacks your broodstock pond, effectively wiping out a generation or strain of genes vital to this business! It is widely accepted practice that you use two males to every female to further your success rate of fertilisation. Female fish will start to develop small dormant eggs prior to the onset of the winter in readiness for their next spawning event the following spring. This means the female fish tend to put on a good deal of weight in the autumn months as their ovaries mature. The amassing of eggs can mean the females are very lethargic at the onset of winter, which unfortunately coincides with the upsurge of hungry predators like cormorants, goosanders and otters venturing from rivers to still-waters for an easier meal! A female carp of just 11lb will produce approximately one million eggs.

The egg and larval stages of the life cycle of carp are the most vulnerable, and it's during these stages of the life cycle that the highest level of mortality occurs. It is therefore no surprise that at these stages the growth of these fish is at its greatest. The smallest carp fry have a massive daily growth rate of around 50%, which compares to just 1-2% as they reach 100g fish. This means that the fish grow rapidly out of the most vulnerable stages of its life cycle. These fish from C0 – C1 (one summer's growth) can vary in size from 1-6 inch (10-30g each) depending on the pond temperature and availability of food. The following growing season from C1-C2 – depending on stocking ratios – you could achieve growth of nearly 8-12 inch (450g per fish) taking into the account the same parameters. The following growing season C2-C3, with a good stocking ratio achieved, can produce fish

that are approaching (1360g – 2267g) which, at the upper limit of 1800g+, would be considered to be cormorant or goosander proof, although this wouldn't necessarily deter a hungry bird trying to 'grab' a fish, causing damage to the fish for resale. So through this lifecycle you can appreciate this can take three years or longer of care to possibly get the fish predator-proof from the attacks of avian predators. This is a long time to nurture fish through the stresses and strains of both water-borne and aerial attack and, as you can appreciate from the above, the stress can have an effect, which can ultimately put a pond back months. A persistent threat of predation can mean the fish will have little appetite for feeding, which ultimately means little growth is attained. As the growing season can be as short as six months, depending on the prevailing weather, you can see the impact that persistent predation can have on a fish-farming business profitability, particularly where this is occurring on multiple ponds across the farm.

The reproductive maturation of carp requires the fish to have had sufficient food available to



A typical carp-farm fish prior to cormorant damage.



Cormorants are a nightmare for all fish rearers, fisheries and waterways.



Valuable fish being scrapped following predator damage.

allow the development of the gonad. If the carp has gone through periods of food shortage or stress, reproduction is normally stopped and eggs and sperm can sometimes be reabsorbed to allow fish to survive the lack of food. Reproduction for these larger fish can be very stressful. They must grow to a sufficiently large size that reproduction isn't going to harm or severely damage the fish. The fish must develop sufficient body reserves to allow the production of eggs or sperm. The production of eggs requires a lot more energy reserve so female fish often enter sexual maturity later than male fish. The fish must be given the right environment to spawn as the wrong environment, with factors like low temperature, lack of suitable substrate to spawn on (i.e. weed), water quality or excessive disturbance from predation can be devastating to fish and they can become bloated or egg-bound, which in the short term can mean a fatality for the fish farmer.

To combat the threat of cormorant attack in the early years of production – C0-C3 – it's becoming accepted practice, before applying for a cormorant licence from Natural England, that many fish farmers have to spend effort and money trying scaring methods set out in the legislation to alleviate active predation problems through the use of strings, inflatable people/scarecrows, gas guns, laser lights and shooting to scare. All scare tactics which can be used, but at what cost to the stress of other wildlife and with little preventative result on the levels of predation on the farm? And there is often a lack of response from avian predators to any method used regularly, with no reaction to the scare tactics used. The removal of roosting trees around the fish farm is damaging to the overall landscape and seems excessive just to stop predation from one species.

Then, when 'cormorant proof' fish have reached a size above 4lb they can be sold to fisheries nationwide to make anglers dreams come true, or to supermarkets to satisfy the table market. But, alas, unless the fishing site is fenced, the naive fish can unfortunately become 'lambs to the slaughter' with the fish achieving a suitable size for otter predation. Unfortunately unlike the 4-5lb plus 'cormorant-proof' sizing bracket the otter will prey on any size fish right up to 55lb+ which is currently the biggest attainment this country can achieve through natural growth without anglers' bait. This leaves the fish farmer in a quandary. It would seem pointless to grow fish for restocking into unfenced fisheries to feed an apex predator, which unfortunately can mean many fish farmers have little incentive to carry on, if the protection of the law can't help to safeguard their livelihood and product legally.



Heads bitten off...

To combat the threat of cormorant attack in the early years of production – C0-C3 – it's becoming accepted practice, before applying for a cormorant licence from Natural England, that many fish farmers have to spend effort and money trying scaring methods set out in the legislation to alleviate active predation problems through the use of strings, inflatable people/scarecrows, gas guns, laser lights and shooting to scare.



Backs broken...



Cormorant grab marks...



Typical cormorants damage. These could be fish of anything up to three years of age.



Otter scratch marks.



An all-too-familiar sight on predated carp and fish farms.

There is also the historic viewpoint that many out-sites fish farmers have successfully used to produce tens of thousands of pounds of fish year in year out for the last 30 years or so are being pillaged by otters. With little chance of erecting a fence on many of these historic waters due to the owners' stipulations and legal protection statuses they have little choice other than to relinquish the site and lose thousands of pounds in revenue from their businesses. This in itself causes a problem, as with fewer restocking fish being grown by the farmer, the damages to the fisheries in the industry are two-fold, with an increase in price

for the fish due to the lack of availability, and increased demand. This means that the lakes unable to be fenced will struggle to be financially sustainable, constantly restocking to combat the increased levels of predation year in year out at much higher prices per pound, which means that eventually this type of business will become non-viable. The fish farming industry provides thousands of jobs across the country and contributes substantially to many rural communities, whilst providing this country with a valuable recreational and food source. Can we afford to have it wiped out by unhindered predation by over-protected predators?

Fish Farmer Mark Simmonds' Losses

I started fish farming in 1987, farming roach, bream, rudd, tench and limited carp on various lakes in Hampshire, Wiltshire and Dorset. By 1994 this had become impossible because of cormorant predation and I switched to growing specialist carp, producing 500 fish between 14lb and 35lb each year. This was highly successful and involved buying in 4-year-old carp at between 10lb and 12lb and stocking them into six lakes, which were stocked with 550 fish each year to produce 500 saleable fish, which I achieved every year until 2006.

Until 2006 I had never seen one fish damaged or dead on the bank through otter predation: however things were about to change.

Estimated losses since the first otter turned up on my first out-site in 2006 up to last year now exceed £250,000 minimum. All my fish farm out-sites are estate lakes where it suits the estate owner to get revenue from their lakes without having too much intrusion. In 2005 I was fish farming on 11 lakes. This is now down to four lakes, with 7 lakes closed down due to otter predation.

I now have to travel a round trip of 140 miles three times a week to the out-sites I now have left which are in areas where, up to two years ago, there had been little predation. However this has now changed and predation is taking place on all the sites, where last year's losses were estimated at £15,000. These sites will become closed in the next four years if the predation continues to grow as it did between 2006 and 2010 on the other sites since otters first showed up. I estimate my 2018 losses will be £20,000.

My out-sites are not fenced as the land owners refuse to have their views over their lakes ruined by fencing. Also, in most cases the lakes are sporting estates and otter fencing wouldn't fit in with shooting activities.

Out-sites at Paultons Park, Romsey

Two lakes totalling over 10 acres in an amusement park near Romsey fed by the River Blackwater, which flows into the Test. The lakes are impossible to fence as they are in a flood plain, and have a road running over the top.

2006: Experienced dead fish on the bank for the first time between October and when the ponds were drained in January. No fish damaged, just 15 weighing

between 7 and 12 kilos dead on the bank between October and December. Large male dog otter seen taking fish.

2007: Lost 14 fish between March and June, and then nothing till October, and then a further 11 fish up to January. Fish lost between 7 and 14 kilos.

2008: Lost 20 fish in the spring and the rest in October onwards. First year of significant tail and body damage indicating female and cubs. Total loss for the year 39 fish, including one over 14 kilos valued at £2,000.

2009: Dead fish on bank from January to June, and then again from September to January. 56 lost or had to be destroyed. Warned the owner this would be my last year unless the otters moved on.

2010: Absolute carnage. Fish on the bank through the spring and mother otter and cubs took up residence in October. 105 fish out of 122 dead or destroyed in small pond and 80 out of 200 gone in big pond. Gave back my keys terminating the lease and walked away leaving 10 acres of prime lakes fishless. It was a sad day and my best site had gone.

Out-sites at Melbury Park, Dorchester

Chain of three lakes spread over three miles in a deer park.

2006: First signs of otters with 10 fish averaging 7 kilos found dead during September, and 7 had to be destroyed. This was in the Wood Pond at the bottom of the chain.

2007: Stocked 50 1 kilo carp into middle pond in the hope otters might eat those instead of the big fish in Park Pond. Wood Pond devastated when harvested in October 2007. 71 fish averaging 7 kilos gone or mutilated out of 100 fish. 1 kilo fish in the middle pond had gone to 3 kilos and 28 were mutilated or missing. First-ever predation on Park Pond with five fish lost in September averaging 9 kilos.

2008: Put 200 1 kilo fish into Wood Pond instead of 5 kilo fish in the hope the otters would eat those and leave Park Pond alone. 19 fish remained (out of

200) weighing 3 kilos when the pond was drained in October 2008. In the middle pond 50 1 kilo fish were stocked and when the pond was drained only 19 3 kilo fish remained. Despite stocking two ponds with 1 kilo fish the otters still moved onto the big fish in the Park Pond, killing 11 fish averaging 9 kilos.

2009: Same stocking – 200 1 kilo fish into Wood Pond, 50 1 kilo fish to the Middle Pond and 100 6-7 kilo fish to Park Pond in the hope they would eat the small fish in Wood and Middle and leave Park alone. When drained zero fish left in the Wood Pond and only 24 left in Middle Pond, while 17 of the big fish in Park Pond at 9 kilos were dead or had to be destroyed.

2010: Decided this would be the last year unless the otters moved on. Not a chance! All 200 fish had gone from Wood Pond; 44 out of 50 from Park Pond; and 40 fish worth £16,000 gone or mutilated in Park Pond. Handed in my notice and quit in October 2010 after being on the estate since 1988. Many fish reared at Melbury went on to make 40lb+ fish throughout the country, including three over 50lb.

It was the end of an era of fish farming on the Melbury estate.

Fencing

I was told by Hampshire Wildlife Trust that it's a legal obligation for people to exclude otters with fencing to stop the problems. I'm quite sure that's not the case! It will prove impossible for 90% of the lakes in the country to be fenced. As regards fencing money being available from the EA this was not available to fish farmers, commercial fisheries or closed member syndicate at the time of my problems, although I'm not sure of the current position. In any case the estate owners didn't want their out-sites fenced so fencing was always out of the question.

And lakes are just the tip of the iceberg. How do we protect the Hampshire Avon, the Dorset Stour, the Bristol Avon, the Wensum, the Ouse etc.?

Hampshire Avon and Dorset Stour

Without doubt two of the finest rivers in the UK, or should I say 'were'? Heart breaking devastation to these great rivers has occurred with the loss of the majority of the barbel, carp, pike and bream stocks from these famous waters.

The loss of revenue from tickets or rental from clubs to the controlling riparian owners is only part of the loss. Anglers used to flood from all over the country to fish these venues with Ringwood, Bournemouth and Christchurch pubs and B&B's full of visiting anglers, while the loss to the local tackle trade is also considerable. If you add cormorants to the situation all that will soon be left in the rivers will be the odd big fish, and lots of fry that will disappear as soon as they grow to six inches in length.

Conclusion

Because I put out a hard-hitting press statement at the time of my worst losses some people feel I over-reacted. I stand by my comments. My out-sites and un-fenceable fish-rearing waters are by no means the only fish farms to have been severely hit by predators, including otters, during the last ten years. At the time of writing we appear to be no nearer to a solution than we were when my losses were at their most severe. At least there now appears to be more general acceptance of the fact that otters were responsible for the damage my fisheries suffered, causing them to be closed down.

Otter-torn fish farms shut down



Savaged: £2,000 worth of 30lb carp that, unbelievably, was still alive after being attacked by an otter.

© Lack of home-grown carp could benefit illegal trade

Ben Miles News reporter
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A top-secret group of lakes used to grow some of the nation's biggest and most sought-after carp has been lost to fishing.

The three waters nestled deep in a private estate near Dorchester, used by one of UK's main producers of thoroughbred British carp, were a breeding ground for specimens that now weigh in excess of 50lb and reside in some of the sport's most prized venues.

But Angling Times can reveal this week the heartbreak suffered by respected fish-farmer Mark Simmonds after otters recently entered the lakes in Dorset and savaged £2,000 of his prized stock. During the last two years the Hampshire-based businessman has

been powerless to stop the predators, which have killed countless fish up to 50lb. In total Mark has lost an estimated £40,000 worth of carp to otters, and he has described the latest spate of attacks as 'the last straw'. Consequently, Mark has now had to turn his back on his cherished lakes after 20 years of hard work.

"I cried my eyes out when I had to give up the waters because they have produced some of my biggest and most beautiful fish. I still cannot believe that they are gone," Mark told Angling Times.

"This is the second site I have had to close this year after losing £30k worth of carp in January alone. All I want to do is rear big, healthy home-grown carp for fishery owners to be proud of, and that give anglers the chance of catching a fish of a lifetime."

"I have other sites to use, but the otters are making my life a misery – they are ruining my business, not to mention the future of specimen carp in this country."

Carp fishing legend and tackle company owner Kevin Nash stocked two of his Essex specimen fisheries with fish from these 'otter-torn' waters. These carp have now grown on to over 50lb, and Kevin is well aware of the importance of businesses like Mark's.

"The sport desperately needs people like Mark," said Kevin. "I wouldn't have fish of the calibre that I do if it wasn't for people like him and the waters that allow him to grow his fish on. The fact that fish farmers have no legal protection for their sites and stocks is a complete disgrace. What will we do if fish farmers are forced to give up?"

Respected carp angler and co-founder of the English Carp Heritage Organisation (ECHO), Ian Chilcot, is of the opinion that the increasing difficulties in producing home-grown carp because of otter predation will ultimately play into the hands of the illegal fish trade.

"It's becoming so hard and expensive to rear and stock big carp because of predation that I'm convinced it will force the sport underground to find cheap alternatives just so fishery owners can keep their businesses afloat. It's a bleak prospect," said Ian.

"I have other sites to use, but the otters are making my life a misery – they're ruining my business and the future of specimen carp in this country"
Mark Simmonds



The carp I am holding has been attacked at least twice but has lived to tell the tale.

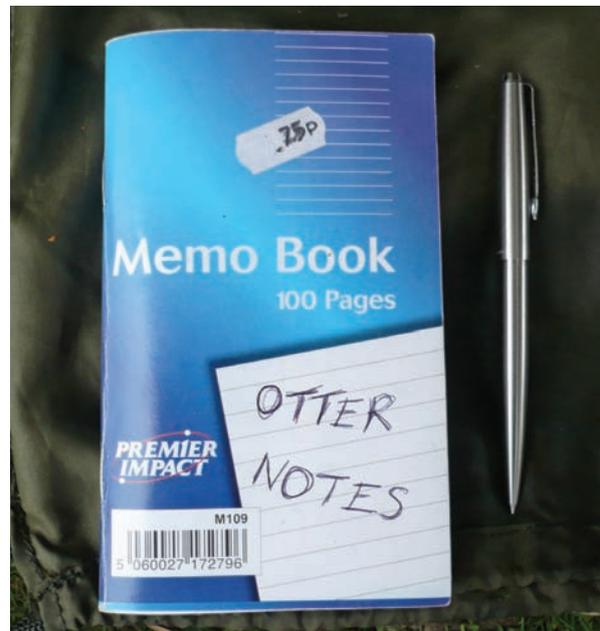
Otters in the Southwest: Adam Roots

Part Two sequel to Big Picture One

'I have been instrumental in trying to educate other anglers/fishery owners over the danger of the otter. Put it this way; a lot of carpers are fishing for 'ghosts' now and most do not even recognise, or want to acknowledge, that their venue has suffered predation. It's heartbreaking, especially as I can't find anywhere now that has not been 'ottered'. I managed to put a special 'solar' fencing system around my place and have not lost a fish since in over four years, and that's with the holt situated 100 yards away. But that's just me. What about all the other anglers who don't have the fencing? You see I feel very strongly about this as it a man-made problem.' I will stand by what I have written. There is no future whatsoever for Cornish/Devon coarse angling unless the fishery is prepared to fence the venue, hence my saying 'no fence no fish'. I go to sleep thinking about what has and is happening and wake up after a disturbed night still thinking about it. That's not good, and it has been going on for the last 20 years!

I have a lot of predation experience, now (sadly) over 30 years' worth. This has resulted in me keeping records, photos of kill, dates, and regeneration of body parts following carp attacks by the otter, and a very extensive list of waters which have had predation or otter activity on them. I knew way back in the 90s that otter predation would be carp angling's biggest-ever challenge, so therefore I started to compile as much info as I could. I have been instrumental in trying to educate other anglers/fishery owners over the danger of the otter. Put it this way; a lot of carpers are fishing for 'ghosts' now and most do not even

recognise, or want to acknowledge, that their venue has suffered predation. It's heartbreaking, especially as I can't find anywhere now that has not been 'ottered'. I've got lots of disturbing otter experiences, but the most disturbing is what happened to Shillamill lakes. In



My article covers only a small part of what has happened here in Cornwall and Devon. I started collating evidence in 1990, when all around me laughed at me. I was one step ahead: countryside issues have been my way of life since I was very young. Predation is an environmental disaster...



Double-meshing on a so-called budget fence combined with an electric solar wire system. It has kept predators out for at least eight years.



My son at a well-known lake in Devon. He caught a few carp, most showing various levels of otter predation damage. You can see the otter had a go at the fish; a little nip.

one year I caught 171 doubles from this lake. During this period a large dog otter, up from the River Fowey maybe, found the lakes. I was there the first night it killed on the venue. I saw it in my headtorch beam on the far bank. It was not a bit scared of me. I shouted at it, put a beam on it, fired a boilie or 20 at it. I'm sure it was a released one. The next day I found two dead mid-doubles on the bank, ripped up, and thus began the demise of a lovely venue. In the inlet at Shillamill the water is clear-ish: I could quite clearly see the survivors: no pecs, or dorsal fins; bites out of them; all of them disabled in some way by otter predation. This situation took about three months to get like this, the otter returning every night it seemed. In the end what was a prolific doubles lake only had approx 10/12 damaged survivors left: it was absolutely shocking.

Across the way is another fishery, Woodlay Farm. It was the same again, the lakes totally destroyed. The owner was distraught by what happened to his livelihood, suffered health issues and later sold up. It is the same story all across Cornwall.

It's so bad now that nearly every carp I catch is a repeat, or a healed survivor. I now only fish my own place or venues that have a fencing system around the lake; it's just not worth the time or money trying other venues locally as all of them have been predated. The fish are nothing but memories, or pictures in my album. I once found a 20lb ghost carp dead a quarter of a mile away from the lake, up stream. I simply followed the trail of scales till I found the carcass. What hurt most was the fact that I only caught it two days prior to its death. It was my first 20lb+ ghost at the time and took me two years to bank.

Who is to blame? The Tamar Otter Sanctuary, Cornwall Wildlife Trusts and the private do-gooders with their own agenda and release programmes. There are now so many dog otters in my area that they are fighting for territory, a fact that the Cornish Wildlife Trust admits to. They have been released



That's why the lake has been fenced.

into areas where, in the past, they never even existed. It's a totally man-made problem. These people should be made to pay for all the damage to the ecosystems that they have destroyed by overt reintroduction of an apex predator with no natural enemies.

Predation in the South West 2018

This piece follows on from my first piece that I wrote for The Big Picture and all the collation and visualising of overt otter predation in my area which covers, in angling terms, much of Devon and Cornwall...

Firstly, there has been much speculation regarding illegal releasing of otters by individuals or groups who are, shall we say `under the radar`. Some of the aforementioned have their own personal take

on re-wilding, or keeping otters in captivity until, for whatever reason, they are deemed ready to be released. Some of these people are very wealthy indeed and keep not only otters but many other diverse and uncommon creatures as well. I think the description 'private zoo' is best used to explain this. I found this information via a colleague who is deeply involved in the breeding of hybrid animals for sale in the UK and abroad. He also transports dangerous wild animals and domestic pets, legally, all over the UK. He is adamant that some of the places he has visited keep otters as pets. Sometimes these poor creatures are kept in less than adequate housing or conditions not at all suited for an apex predator. I also learnt that in the



My lake: proof of passionate anglers who value the lake, its wildlife and ecosystem.



Examples of effective Cornish club water fencing.

past some of these otters were released in the local water/river systems. I like to call them motorways as – if you take the Tamar Valley as an example – all the little streams, rivers and ditches are all interlinked: a veritable otter highway indeed. As I have mentioned in my many posts and on Carpforum and other media, all the `motorways` are extremely close to local coarse fisheries.

So what has this got to do with coarse angling? Let me give a scenario which is 100% fact as I have been given first-hand information by someone with no knowledge of the damage that the so-called re-wilding people have caused in their ill-informed mindsets. Only last year I was walking my dog in the local woods which is very close to my village. During the walk I met and conversed with a local landowner who has a small pond. I asked him if there were any fish in his pool worth going at, and if so could I possibly fish the pool? During our chat I mentioned that I doubted if there would be any fish in the pool as it was next to a fast running stream which was therefore potentially an otter motorway. Now what the landowner told me froze me to the ground. This is what he said: A year or two previously he was working in the fields near his home, and at the bottom of the fields is a stream, the one I mentioned above. The landowner was approached by a man and woman, both well spoken with London or southern accents: they did not appear to be country people. He was asked if it would be OK to release a male and female pair of otters into this waterway. I know the landowner declined and told these people to get off his land anyway.

This stream is mainly fed by a huge quarry and is completely devoid of any fish life of any great note. In fact it is well known the water quality is polluted, not the ideal place to let to hungry captive otters go forth into the wild. However, just above the quarry the quality of stream water is better and does support small fish, i.e. brown trout etc. Right next to the stream is my village carp and coarse fishery, which I run and is owned by my friend and worked on by my son. I worked out it was during this timescale that the lakes were heavily predated by otters. Many of the three ponds' inhabitants were needlessly murdered, or suffered terrible wounds to their body parts, dorsal, tail and the under-fins of the carp. Most fish were found dead and ripped up with scales in abundance scattered everywhere. In the main carp pool 90% of the fish were killed, leaving the remaining survivors with regenerating injuries. This caused my friend and all the village anglers much distress as some cannot drive, or are elderly, the pools being their social lifeline. I cannot emphasise enough how much anguish this caused my friends, as well as loss of income and reputation. My personal opinion through being involved for twenty eight years with this issue is that the otters were released above the fishery, or very near close to it, the contents of the fishery being



There are such things as `subtle predation signs`. By this I refer to spraints following predation that has occurred and is not always visible to the trained or experienced eye.



Near my cottage is a small fishery which has a very poor and inadequate fencing system. It does not deter otters. Advice has been given, and not heeded.

a readily available food source. Was the siting of the release intentional, that is the question?

For several years I was aware of a Pugin-designed manor house no more than eight miles from my home. In the grounds of this grand old house are three lakes, not open to the public as such, and so using my countryside contacts I managed to secure some carp fishing on the lakes. As you can imagine I was very excited and elated to be allowed to fish there. (I should mention before I continue that a well-known trout and salmon river is within a mile or two of the lakes, while next to the lakes is a very shallow stream which connects to the main river.) I enjoyed some good winter carp fishing on the pools, capturing for my camera many double figure carp, some I guess never having being heavily angled for. Good times indeed if you're a passionate angler and countryman like myself. And then, walking the banks one damp winter's morning a few weeks ago, I noted a scale, then another, and another, finally coming across a still limp but totally dead common carp, totally ripped up. The carp's eye was not even glazed over which meant it was a very recent kill. I was not shocked, as I am used to this now: I see it all the time on all the waters I have ever fished in Devon and Cornwall. So I carried on walking to the top pool, only to find another ripped up and destroyed double-figured carp on the bank, although this kill was older.

I then carried on back to the original kill platform and saw a large otter trying to drag the remains of the carp down the bank towards the stream. I contacted the owners and showed them the pictures I took on my camera phone. They were shocked, and I offered to show them the fencing on my own pool. Recently I returned to find more dead carp, and a newly-built fence with four-inch sheep mesh, but only going halfway around the pools. Yet another fishery in my area ruined for all time.

When I first became aware of, and learnt exactly what otter predation was, many people in the angling world – and I'm talking of fishery owners as well

as anglers – were often in denial, or didn't really understand the extent of the damage an otter could do to a fishery. There are now countless instances, collation and documentation of predation, so it seems to me anyway that the message is finally getting out. There are numerous fisheries in the Southwest now



Recently I went for a walk to the lake. There were scales on the bank from a dead carp, plus roach dying on the surface. It looks like this quiet, beautiful ecosystem will soon be further ruined as it has been visited by the big two, cormorant AND otter, possibly on the same day judging by how much mucus was still on the scales I found. I had some wonderful roach and hybrids in `my place`, but alas not any longer, all killed by cormorants.



This lake was very special. It had several twenty-plus fish in the venue. It was one of the first in the country to be fenced, but sadly the fence fell into disrepair. What was once a prolific doubles lake is no more. 90% of the carp are dead, and the bream totally wiped out by cormorants. Another Cornish venue lost forever.



I had a pet goose. It was safe in the interior of the otter fence. One day it got out, although it could not fly. It was found right next to a prominent spraint stone and kill platform. It had been killed by the local dog otter which is in situ, upstream from my lake.

that have some form of fencing to protect the lakes, but this is still not evident on all local fisheries. For example in the Holsworthy area of Devon, which is a veritable hotbed of otter activity, there is a well-known fishery which is just starting to produce carp over thirty pounds, big fish for this area and potential money spinners. Now the lake manager is fully aware of the otter situation, and indeed is a fully qualified fishery expert. It will be a case of when these fish are killed not if. Generally that's what I say, 'It's when, not if your fishery will be destroyed'.

Some of the fencing I have witnessed locally is very good, and others completely inadequate. One example of overkill is a well-known small lake near Newquay. This formerly lovely place now looks like a prison camp! The fencing not only keeps the otters out, which is great, but looks absolutely awful – and was very costly. The other end of the scale is my local village pools which have three strands of electric wire going around the lakes. Really this deterrent is only good for electrocuting frogs in the spring! So there are two ends of the spectrum: what information needs to be put out to lakes that don't have an otter proof fence is that it needn't be expensive or ugly to be effective, an example being the little fishery I manage. I'm currently double-meshing the perimeter with chicken mesh which has safeguarded the lake now for many years. Despite being heralded as a budget fence it works well and looks OK, too.

This is only my personal opinion. I would like to see a recognised otter park, sanctuary or trust, individual even, taken to court and a precedent, an example shall we say made of them under the heading of wildlife crime, for the releasing of an apex predator into the ecosystem which can only support many of them by raiding and destroying people's livelihoods and piscatorial dreams.. I would like people to note the Tamar Otter Park at North Petherwin,



Spraint by a kill platform.

near Launceston, to be considered for this as in the past they have actively admitted that they do indeed put orphaned or captive-bred otters into the Tamar Valley, As I have mentioned this has had a detrimental effect not only on coarse fisheries and rivers but on waterfowl and wildlife, too. A lot of the general public do not realise how efficient a killer the otter is. Also, on YouTube, they had a video showing a heron being killed by one of their otters, not to mention an escapee otter which actually got into the carp pond next door and was shown eating their own carp!

Since I wrote the original piece on Southwest otter predation my two favourite carp lakes have now closed down due to being destroyed by otters. In fact I have remained friends with one of the owners and I sometimes walk around the lake. Yes there are still a few fish in the venue, but on a hot day you can quite clearly see the appalling damage done to the fish's bodies, with many tails and fins bitten off: truly shocking if you love carp fishing, The other thing I noticed here is the lack of waterfowl. Not long ago there were plenty of coots, ducks and so on, but they are all gone, and my friend, who overlooks the lake from her home, tells me she has seen otters



Two examples of subtle otter damage. The fish escaped but others might not have been so lucky.

destroying the coots on the margins of the lake.

Certainly, for a very short period a couple of years ago, predation seemed to tail off, although I still found evidence on some fisheries, mainly in the Holsworthy and Bude areas, of fresh fish kills. To be honest I actually had a whimsical thought that things would improve on the killing front, but sadly I was incorrect. This year I am finding as much damage as before, so really nothing has changed: otters seem still to be in great evidence in my area of North Cornwall and Devon.

For me personally, having seen the rise of this apex predator, it has for sure had a detrimental effect on my physical angling in terms of the actual participation in it, but also in an unseen psychological way as well. For a while I became very down about the whole debacle and didn't do as much fishing as I used to. I would even go as far as to say I became depressed as my way of life, and all the beautiful ecosystems involved, became damaged because of the presence of the otter. That's obviously going to affect the angling trade, too. If I'm not purchasing gear and bait etc, then for sure other people who also now understand the impact of predation would also not be supporting the tackle shops, both online and locally.

I would like to take this small opportunity to personally thank Danny Fairbrass of Korda, as he

seems to be the only business who can see the overall reality of this problem by starting the Embryo project. It would be fantastic if other successful companies stuck their hands in the old pockets in a similar way, otherwise carp angling as we know it will cease to exist in the format that we know it.



An otter paw-print, a sign to look out for round your fishery.



Scattered scales are usually a sign of young otters learning to eat their prey. According to Nicola Chester they are messier eaters than their parents who tend to avoid scaled areas, or peel them back.



Otters can be unique 'sophisticated' eaters. They will peel back the skin of frog, toads and fish to get at the fleshy innards.

Adam Roots' Second Southwest Waters List, April 2018

Otters are everywhere. My list is just the tip of the iceberg for the Southwest. What annoys me is not being believed by other 'anglers', or fishery owners burying their head in the sand, even though I am actually physically sometimes standing there and showing them a spraint, or kill platform, or even rejuvenation on a survivor, a push-through, or pre predation spraint. I spent time in the company of an otter expert, coupled with the fact that I'm eagle-eyed, due to being hearing impaired. My eyes are my ears! What I am saying is I am able to see the signs a lot faster than others. I know exactly where on any lake the kill platform will be. It's the easiest place an otter can land a carp without expending any energy. All this I have learnt on my own over 20 years. The other thing is a lot of the eastern Europeans get a lot of bad press, sometimes with good reason too. Well down this way people blame them for taking and eating carp. It's not them, it's the otters in many cases; they are just a convenient scapegoat.

I have eaten slept and drunk Cornish carping since year dot, now it's ruined. Here is my Cornish/Devon predation list. All these waters have had *Lutra lutra* activity on them, either with on-the-bank carcasses, spraints or (me) catching fish damaged by otters showing fresh bites/damage and or tail/fin/rejuvenation. Some of the venues have more than one lake on site. The venues range from day ticket to private. I do a lot of fishing/looking, hunting out potential lakes:

***An asterisk after each venue denotes more than one lake predated on site, all predated by otters. All the following have suffered from otter predation.**

Shut down = ruined by predation

- Blue colour = fenced
- Red colour = shut down

- **St Tinney Farm** * part fenced
Tinny waters *
- **Alan Beats, shut down***
Yeomadon lakes*
- **Shoreston waters, fenced**
Youldon waters*
South Petherwin Quarry

- My lake, fenced.
- **Barn farm, shut down**
Porth Reservoir
Hele Barton fishery *
- **Stowford Lakes** * shut down
Argal Reservoir
- **Killock farm** * (and fenced now)
- **Jimmy Cleaves, private,* and closed down, ruined**
- **Kingslakes*** fenced
Southreed Fishery, owner in denial
Colliford Reservoir
Crowdy lake
- **Brocklands lake** * Shut down
Glenleigh Farm
Owl Lake
- **Roche Angling club***, Ken Townley`s famous clay pits. Just one lake Korda-protected under the Embryo project.*
Salmonhutch Lakes , now a syndicate *
- **Neets Valley, shut down**
- **Hystens Resort***, not restocked their koi, ruined
Helland forest lakes *
- **Gwinear lakes** * heavily fenced by Otter stop.
Clovelly lakes *
- **Trewen, private lake, devoid now of any carp and shut down**
Milemead lakes *
- **Tredidon Barton lakes** *, shut down ruined
Dutson Farm
Simpsons fishery *
- **Lanteglos Pool***, private , shut down ruined
- **Ferndale lakes** *, poorly fenced, huge amount of stock missing, suffered predation
Upper Tamar
Lower Tamar
Eastrose Farm* shadow of its former self
- **Exmoor Farm, ruined , shut down**
Alder Quarry
Stone Farm
- **Borlasaveth Manor** * ruined , heavily predated all lakes, one lake devoid of carp now
- **Retallack** * part fenced
- **Meadowside lakes** *owner head firmly in the sand regarding predation , now shut down to local anglers.
Oakside Lakes and fish farm: fish farm protected, main lake definitely not.
Penvose farm *
Mellanwatts Mill
Bush farm.*

- Anglers paradise *
- Trebellan Park,*owners heads in the sand, total denial!!!! Heavily predated
- Nanteague farm *
- Tory farm
- Shillamill Lakes*, total carnage and possible deliberate poisoning of the fishery when I was a member.
- Forda waters*
- Hengar Manor*...dreadful destruction of a lovely venue. Owners only half fenced the site, a waste of time and money.
- Woodlay farm*under new ownership.
- Stafford Moor* under new ownership , and in complete denial when asked about predation on the complex
- Stenhill, Fenced
 - Spires lakes *
 - Furzebray lakes*now fenced, despite owner getting aggrieved with being on a predation list.
 - Trevella lakes*
 - Penpol syndicate, fenced
 - Polisha Farm.* Now barren
 - Woodacott Lakes*
 - Trewanda Farm
 - Lostwithiel Golf Club Lake
 - St Kew pool
 - Jennetts reservoir
 - Gunnabarn Syndicate, shut down remaining carp moved to Gwinear pools.
 - Bude Canal, both levels...
 - Marahamchurch Pond
 - Whiteacres*predated in the past, but left out of original listing.
 - Wheal Grey
 - BK fisheries *
 - Adamsfield syndicate*owner, family friend in total denial. Head in sand.
 - Emperor lakes* Fenced
 - Trecrom , shut down, not open to angling.

- Downcarey Lake, shut down.
- Digger lakes * Fenced
- Crafhole Reservoir, closed to angling: fish moved to other SWLT lakes. Predated in the past.
- East kitchen Farm.
- Creedy Lakes*
- Shobrooke Lake
- Beechmere lake, 'BB' made famous.
- Winkleigh, Private lake
- Swan fishery*
- Westcountry trout*, river, fish farm and fishing pool
- Boscathnoe Reservoir, remaining fish moved to Tamar lakes and Simpson Valley.
- Bussow Reservoir
- Mainline Tony's private lake, fenced , predated by Cormorants
- The Alps Fishery*
- Mill Pool
- Fentrighan Manor
- Club Brunel
- Rivers: Delabole stream, River Kensey, River Allen, River Valency, River Camel, River Inny, River Ottery....otters reported as having been seen on them all.

I will stand by what I have written. There is no future whatsoever for Cornish/Devon coarse angling unless the fishery is prepared to fence the venue, hence my saying 'no fence no fish'. I go to sleep thinking about what has and is happening and wake up after a disturbed night still thinking about it. That's not good, and it has been going on for the last 28 years!

Remember: 'No fence, no fish.' It's as simple as that...

I wish to make clear, the above listing have ALL had otters on their banks, but remember that there are different levels of predation. Adam Roots April 2018.

Report on some of the financial implications of otter predation in Yorkshire

Mark Holmes, Predation Action Group Stalwart and Chairman of Bradford NO1 AA

Compiled by Mark Holmes and formulated from various sources, including individual fishery owners, anglers and an in-depth study commissioned by the Angling Clubs of Yorkshire across the geographic spread of the county in 2011. The conclusions reached from the compiling of this report and its content are the sole responsibility of its author. We have added some Yorkshire fencing detail to Mark's original report. The money spent on replacing fish and fencing fisheries in Yorkshire is inestimable but is well in excess of £5million.

This report represents a snap shot of predation across the largest UK County. An average viewpoint has to be taken with much of the information but where applicable, the findings are based on facts and real occurrences. The financial aspect of the report is ultimately a value in lost fish. That value is approx £26.00 x 1lb for over 10lb and £32.00 x 1lb for 20lb + fish as the accepted market value from a cross section of specialised carp suppliers such as VS Fisheries in East Sussex. Fish in excess of 30lb, and even 40lb, are based on POA (Price On Availability).

The financial implications of predation are far-reaching. Lost carp are not only an asset in a physical state but the implication in lost revenue through declining ticket sales is, quite simply, potentially catastrophic. As this is very much an individual situation where confidential information is a fishery owner's own business, this part in the overall cost of predation in Yorkshire has not been taken into consideration. Draw from that the obvious conclusion that the financial losses here are not only a snapshot in terms of the other waters not listed, but have to be individually costed. Due to that possibility, the consequential cost of predation in terms of loss of business, revenue, amenity and social economics have not been valued. If it were, this report would be far more damning than it is currently.

Not only is Yorkshire the largest County in terms of land mass in its historic form in the UK but also it is perhaps more relevant at formulating a true picture of otter predation, as many of the initial otter releases, both official and unofficial, were carried out here. Along with the South West of the UK (Tamar region) and East Anglia (Wensum Valley), the North East of the UK, mostly Yorkshire, was the main area where predation problems occurred first.

This report is not 'tilted' towards any particular bias but is intended to be used in conjunction with other material for the bigger picture document currently being compiled by the Predation Action Group. This group, of which the author is a member since April 2012, is in the process of compiling evidence regarding the actual affect and losses of fish to predation. That predation comprises all issues such as invasive crayfish, fish eating birds such as cormorants and goosander and, latterly, the otter. This 'perfect storm of predation' is conducive to bringing angling and carp angling in particular to a distinct crossroads.

What follows is a list of 28 waters where predation has occurred. Unfortunately due to permission not been given for this report, a further 12 have asked not to be included on grounds of confidentiality. However for the purpose of cost analysis these 12 have authorised that they can be grouped together.



Outspoken Mark Holmes, Chairman of one of the largest clubs in the UK, Bradford No 1 AA, a successful writer, carp angler and angling politician who is never afraid to speak his mind.

1. Wainstones Fishery, Stokesley Area

Predation Classification: Medium to severe

Stock: 30 plus out of 60 stock taken.

Value:	1 x 32lb common	£4,000
	1 x 31lb mirror	£4,000
	18 x 20lb+ carp	£14,000
	12 x Mid Doubles	£4,500

Estimated total £24,500

2. Queen Mary's Ponds, Ripon (Fig 8 Lake and Big Lake)

Predation Classification: Severe

Stock: Fig 8 Lake: 50 carp out of 50 carp were taken

Value:	1 x 45lb current value	£15,000 (if available)
	1 x 31lb	£4,000
	18 x mid-20's	£14,400
	30 x mid doubles	£11,700

Estimated total £45,100

Stock: Big Lake

Value:	1 x 30lb	£4,000
	15 x mid 20's	£12,000
	10 x mid doubles	£3,900

Estimated Total £19,900

Combined Total £65,000

3. Racecourse Lake, Ripon

Predation Classification: Medium to severe, and ongoing.

Stock: 25 carp taken

Value:	1 x 41lb value	£15,000 (if available)
	12 x 30 carp	£48,000
	12 x mid 20's	£9,600

Estimated total £72,600

4. Brickyard Lake, Ripon

Predation Classification: Severe and ongoing.

Stock: 65 carp taken

Value:	25 x mid 20's	£20,000
	10 x 20lb	£6,400
	30 x mid doubles	£11,700

Estimated total £38,100



A sad end to a lovely growing fish, eaten alive by an otter.

5. Brafferton, Boroughbridge

Predation Classification: Severe

Stock: 250 carp taken

	10 x mid 20's	£8,000
	110 x mid doubles	£42,900
	130 x doubles	£26,000

Estimated total £78,900

6. Lingerfield, Knaresborough

Predation Classification: Severe and ongoing.

Stock: 350 carp taken

	6 x 30	£24,000
	50 x mid 20's	£40,000
	50 x 20lb	£32,000
	150 x mid doubles	£58,500
	96 x doubles	£24,960

Estimated total £179,460

7. Welham Lakes, Malton

Predation Classification: Severe

Stock: 400 Carp Taken

	30 x mid 20's	£24,000
	30 x 20lb	£19,200
	280 x mid doubles	£109,200
	60 x doubles	£15,600

Estimated Total £168,000

8. Knaresborough Lagoon, Knaresborough

Predation Classification: Severe and ongoing.

Stock: 35 Carp Taken

	12 x 30lb	£48,000
	23 x mid 20's	£18,400

Estimated total £66,400

9. Plumpton Rocks, Knaresborough

Predation Classification: Severe and ongoing.

Stock: 65 Carp Taken

	2 x 30lb	£8,000
	20 x mid 20's	£16,000
	20 x 20lb	£12,800
	23 x mid doubles	£8,970

Estimated total £45,770

10. Staveley Lakes, Knaresborough

Predation Classification: Severe

Stock: 70 carp taken

	20 x mid 20's	£16,000
	20 x 20lb	£12,800
	30 x mid doubles	£11,700

Estimated total £40,500

11. Elvington Lake, York

Predation Classification: Severe

Stock: 80 Carp Taken

	3 x 30s (33, 34 & 31)	£12,000
	25 x mid 20s	£20,000
	35 x 20lb	£22,400
	37 x mid doubles	£14,430

Estimated total £68,830

12. Raskelf Lake, Helperby, North Yorks*Predation Classification: Severe*

Stock: 50 Carp Taken		
3 x 30s	£12,000	
25 x 20s	£20,000	
15 x 20lb	£9600	
7 x mid doubles	£2730	
Estimated total		£44,330

13. Knotford Leeds, Otley*Predation Classification: Severe*

Stock: 100 Carp Taken		
12 x 30s	£48,000	
65 x mid 20s	£52,000	
20 x 20lb	£12,800	
2 x mid doubles	£780	
Estimated total		£113,580

14. Thorpe Underwood, York*Predation Classification: Severe*

Stock: 120 Carp Taken		
15 x 20's	£9600	
105 mid doubles	£40,960	
Estimated total		£50,560

15. Kirklees Lagoon, Brighouse*Predation: Severe*

Stock: 45 Carp Taken		
2 x 30s	£8,000	
30 x mid 20's	£24,000	
13 x 20	£8,320	
Estimated Total:		£40,320

16. Angram, Selby*Predation: Severe*

Stock: 40 Carp Taken		
4 x 30s	£16,000	
25 x mid 20s	£20,000	
11 x 20lb	£7,040	
Estimated total:		£43,040

17. Grafton Mere, Boroughbridge*Predation: Severe*

Stock: 180 Carp Taken		
10 x 20lb	£6400	
170 x mid doubles	£66,300	
Estimated total:		£72,700

18. Tilery, Hull*Predation: Severe*

Stock: 65 Carp Taken		
4 x 30s	£16,000	
61 x mid 20s	£48,800	
Estimated total:		£64,800

19. Brickyard, Newport*Predation: Severe*

Stock: Carp Taken 40		
2 x 40s	£30,000	
3 x mid 20s	£2,400	
25 x 20lb	£16,000	
Estimated total:		£48,400

20. Langthorn, Bedale*Predation: Severe*

Stock: Carp Taken 45		
4 x 30s	£16,000	
30 x 20lb	£19,200	
11 x mid doubles	£4,290	
Estimated total:		£39,490

21. Hearts AC, Driffield*Predation: Severe*

Stock: Carp Taken 25		
2 x 30s	£48,000	
13 x mid 20s	£10,400	
Estimated total:		£58,400



£80,000+ of fencing erected by Dave Moore round north Yorkshire's Ingmanthorpe Lake, one of numerous lakes fenced in the Boroughbridge area..

22. Catterick Complex, Catterick, North Yorks

Predation: Severe

Stock: Carp Taken 90	
1 x 30	£4000
10 x 20lb	£6,400
79 x mid doubles	£30,810
Estimated total:	£41,210

23. Stables Carp Fishery, Brough

Predation: Severe

Stock: Carp Taken 50	
3 x 30	£12,000
20 x mid 20s	£16,000
27 x 20lb	£17,280
Estimated Total:	£45,280

24. Ellerton Pit, Catterick

Predation: Severe

Stock: 25 Carp Taken	
3 x 30's	£12,000
22 x 20's	£14,080
Estimated Total:	£26,080

25. Motorway Pond, Newport

Predation: Severe

Stock: 40 Carp Taken	
6 x 30's	£24,000
34 x mid 20's	£27,200
Estimated total:	£51,200

26. Majestic, Beverley

Predation: Moderate

Stock: 65 Carp Taken	
65 x mid doubles	£25,350
Estimated Total:	£25,350

27. Emmotland, Driffield

Predation: Severe

Stock: 40 Carp Taken	
10 x 30's	£40,000
30 x mid 20's	£24,000
Estimated total:	£64,000

28. Match Lagoon, Otley

Predation: Severe

Stock: 65 Carp Taken	
10 x mid 20's	£8 000
55 x mid doubles	£21,450
Estimated total:	£29,450

Grand total of above: £1,706,240
Plus unnamed clubs mentioned below: £1,020,680

**Total Yorkshire carp losses to otter predation:
£2,726,920**



An all-too-familiar sight on Yorkshire fisheries, many of which no longer hold fish.



Otter predation of pike and carp at Brandesburton Pits prior to the otter fencing being erected by Hull & District AA.



One of the twelve Hull & District still-waters fenced by the membership to keep otters at bay at an overall cost of £70,000+.

CORMORANTS DON'T ONLY EAT OUR FISH

Indirectly, they impact on other native wildlife as well

I was delighted to read Hugh Miles' response to Simon Barnes' article in the RSPB magazine, which asserted that anglers 'hate' cormorants.

Hugh simply states that most anglers have a deep love of the countryside and everything within it. However, I know plenty of anglers that DO hate cormorants. They have seen their ponds, lakes, canals and, in some instances, rivers, systematically destroyed as fisheries by what amounts to an invasive species, inland at least.

The hogwash that they have moved inland because of depleted fish stocks has to be forgotten: the seas around our coast are brimming with cormorant fodder. The trouble is, you rarely see cormorants there. They have followed our disappearing eel stocks upriver, and whereas until 1975 they could be – and were – controlled by river keepers, their



Simon Barnes – a fisherman's view

numbers have since escalated out of all proportion.

Once cormorants moved inland they found the 'milk and honey' of small, shallow pools and canals, and clear stretches of river, and enjoyed the Life of Riley. Some of those ponds, canals and rivers will never recover, especially now (and I am not talking about the signal crayfish and zander introduced by anglers, it shames me to say) are added to the toxic predatory mix.

It is blatantly obvious that the eel is the catalyst in this because in the UK precisely the same 'invasion' of cormorants has occurred on the Great Lakes, and American eel numbers are in exactly the same state of depletion as those of the European eel. That cannot be a coincidence. So if we are to protect eels and not allow anglers to catch them, surely a reduction in numbers of cormorants is an absolute must.

Simon Barnes, as much as any angler, suffers from cycloptic vision, seeing through just the one, hugely biased eye. He must recall when there were no, or very few, cormorants and remember how many more kingfishers and grebes, both little and great crested, there were. I certainly do.

Frog and water voles are also in decline and that could easily be laid at the cormorant's door – horns have to eat something, and if their local haunts are devoid of fish, they are going to eat anyway. I have watched a heron eat an



The cormorant is indirectly responsible for the decline of several native birds, amphibians and even mammals.

entire clutch of coot chicks in 30 minutes and there are fewer coots and moorhens around, by my observations, except on fisheries that have been granted a licence to control, in extremely limited numbers, cormorants.

No, Mr Barnes, cormorants might not be pests or vermin to you, but to a huge number of

anglers they are, and while many won't hate them, plenty do. You do your body no favours by defending the indefensible.

I wish every angling member of the RSPB contributed their subscription to the Angling Trust, because they do our sport real harm by supporting an anti-angling group, in my opinion.



Although Mark's report focuses on carp losses the devastation of all types of fish and fauna in Yorkshire has been devastating. This ottered tench is yet another otter victim.

certain fishery owners and affiliated Yorkshire clubs do not wish for their losses to be public knowledge. As these fisheries require anglers using their facilities and paying for that amenity, it is understandable the anonymity these owners seek.

Please be under no illusion there are some very important fact to understand with this report:

1. It is a snapshot only of the Yorkshire County, a county not noted for big carp.
2. The report does not record the millions of river fish and non-carp species also predated on by cormorants and otters.
3. The predation has occurred during a supposed growth period of a small population of otters. If their population levels are to remain unchecked, does that mean that the recorded deaths of carp will increase?



Support for The Predation Action Group



The PAG is a non-profit-making organisation and is dependent on support from companies and individuals for its upkeep, and the financing of its projects. We appreciate the support we receive from numerous individuals and companies, and the specialist groups who have affiliated to the PAG in support of our efforts. The following are a few of those groups and companies. Our fund-raising comes via donations, and raffles and auctions at carp and specialist meetings. At the end of this document you will find profiles of the people who are currently involved in running the PAG, all working on a voluntary basis, in highlighting the current injustice we feel is currently being meted out by the authorities and predators to angling, anglers, our waterways, our biodiversity, and our wildlife:

The Groups: The Carp Society, The Barbel Society, The National Anguilla Club, The Scottish Carp Group, Osprey Specimen Group, The Chub Study Group, Longford Estates, Northampton Specimen Group, Milton Keynes Specialist Group, AJS Fisheries, Neville Fickling and the Daiwa Manton Syndicate, Tim Small and the British Trout Association, The Perch Fishers, The Tenchfishers.

A further list of our invaluable and much-appreciated supporters appears on page 21 and our website: www.thepredationactiongroup.co.uk

Angling High Profile Personalities in the Public Domain

Compiled by: Bruno Broughton, Latest update: 4th November 2012

Sadly, some of the following have died since the list was compiled

Football

Jack Charlton (football), Paul Gascoigne (football), Vinnie Jones (football, now film star), Dave Seaman (football), Darren Eadie (football), Steve Guppy (football), Lee Bowyer (football), John Aldridge (football), Terry Butcher (football), Joe Cole (football), Roy Carroll (football), Mirandinha (ex Brazilian footballer), Glen Roeder (football), John Terry (Chelsea & England), Jean Tigana (French ex-footballer), Neil Warnock (Cardiff City manager), Bobby Zamora (football), Joey Barton (football), Tony Hibbert (football), David Batty (football), Jamie O'Hara (football), Jimmy Bullard (football).

Other Sport

Rob Wainwright (rugby, ex-Scotland), Sir Ian Botham (cricket), Geoff Capes (athletics), Barry McGuigan (boxing), Rickie Woodhall (boxing, former WBC middleweight world champion), Ricky Hatton (boxing), Alan Lamb (cricket), Nick Faldo (golf), Sam Torrance (golf), Robert Croft (ex-England cricketer), Bobby George (darts), Gareth Edwards (ex-Rugby Union, Wales), Barry Hearn (sports promoter), Jeremy Guscott (Rugby Union, England), Andy Platt (Rugby League, Wigan), Mike Atherton (cricket, England), David Lloyd (former England cricket), Steve Davis (snooker), David Duval (golf), Dean Macey (decathlete), Stephen Hendry (ex World snooker champion), Ian Holloway (football manager), Evander Holyfield (ex-heavyweight boxing champion), Nigel Mansell (former F1 champion), Phil Taylor (darts world champion), Phil Vickery (England rugby), Mark Williams (snooker), Jocky Wilson (darts), Tiger Woods (golf champion), Ronnie O'Sullivan (snooker), Rafael Nadal (tennis)

Music

Roger Daltrey ('The Who'), Eric Clapton (rock guitarist), Gary Brooker (ex-'Procul Harum'), Peter Watts (ex-'Mott the Hoople'), Roger Waters (ex-'Pink Floyd'), Richard Digance (singer/humorist), Max Bygraves (comedian), Robbie Williams (pop singer), Fergal Sharkey (singer), Mick Hucknall (Simply Red), Jon Bon Jovi, The Darkness (rock group), Bruce Dickinson (Iron Maiden), Eminem (aka Marshall Mathers, singer), Aretha Franklin (soul singer), Vince Hill (singer), Bruce Springsteen (singer), Bryan Ferry (singer), Gerry Marsden (Gerry & the Pacemakers), Dizze Rascal (rapper), Ozzy Osbourne (Black Sabbath), Cerys Matthews (ex-Catatonia, now TV celebrity), Andy Fairweather Lowe (ex-Amen Corner), N-Dubz (London hip-hop group)-

Entertainment

Scott Maslen (actor), Bernard Cribbins (comedian), Chris Tarrant (comedian & TV compere), David Copperfield (comedian), Jim Davidson (comedian), Ronnie Corbett (comedian), Billy Connolly (comedian), Ted Hughes (poet), Diana Rigg (actress), Faith Brown (compere), Geoffrey Palmer (actor), Jim Bowen (compere), Phil Cool (comedian), Bobby Davro (entertainer), Paul Whitehouse (scriptwriter & comedian), Stan Boardman (comedian), Fiona Fullerton (actress), Timothy Dalton (actor), Tom Stoppard (actor), Anton Rogers (actor & author), Brad Pitt (actor), Neil Morrissey (actor), Viggo Mortensen (actor), Griff Rhys Jones (actor & comedian), Susan Sarandon (actress) Syd Little (comedian), The Krankies (comedians), Phil Jupitus (comedian & DJ), Bobby Ball (comedian), Michael Barrymore (comedian & entertainer), Bob Carolgees (comedian), Craig Charles (comedian/actor), Michael Douglas (actor), Tom Felton (actor), Jane Fonda (actress), Sir Rocco Forte (hotelier), Robson Green (actor, former singer), Alan Halsall (actor), Steve Martin (comedian & actor), Jamie Oliver (TV chef), Robert Redford (actor), Rick Stein (TV chef), Freddie Starr (comedian), Eric Sykes (actor & comedian), Johnny Vaughan (DJ & comedian), Sean Wilson (actor), Henry Winkler (TV actor, 'The Fonz'), Julia Roberts (actress).

Media & Other

Garry Davies (DJ), Bruno Brookes (ex-DJ, TV presenter), Fiona Armstrong (newsreader), Jeremy Paxman (presenter), Loyd Grossman (presenter), Marco Pierre White (chef), Angela Ripon (presenter), Selina Scott (newsreader), Jenny Hanley (presenter), Max Hastings (editor), Nick Hancock (presenter), Julian Pettifer (broadcaster & RSPB former President), Tony Gubba (BBC sports presenter), Caprice (model), Jeremy Clarkson (presenter), Annie Mac (Radio 1 DJ), Dermot O'Leary (TV host), Ann Robinson (presenter), Fiona Bruce (newsreader), Norman Williams (pop photographer)

Politics

Vladimir Putin (former Russian President), George W Bush (US ex-President), Prince Charles, Ian Duncan Smith (former Conservative Party leader), General Norman Schwarzkoff, Martin Salter (former MP and Labour Party angling spokesman).



The late John Wilson, MBE at an early Predation Action Group meeting. He was an inspiration to those of us feeling we have to do something to protect our angling heritage – and the ecosystem.

Otters and the escalating harm these fierce predators are doing in Norfolk

John Wilson MBE

Otters have a natural tendency during the colder, winter months when the larder in running water is rather bare to target large still-water fish, carp in particular. When everything warms up they prey upon water birds like coots, moorhens and mallards etc., plus their eggs and young, plus newts, frogs, toads, snakes, slow worms and lizards etc. And in low temperatures when their metabolic rate is greatly reduced, even the largest, strongest carp is no match in manoeuvrability for an adult otter, which itself can weigh 40lb.

Up and down the length of the country well established lake land and river fisheries are currently fast running out of big fish. And that's the trouble with otters. They often seek out only the larger specimens and after dragging the unfortunate barbel or carp into the margins, consume just a small percentage of its flesh. Then, on many occasions, along comes a fox and carries the carcass away. So the fishery owner is unaware of what has happened, until anglers stop buying permits to fish there. And the local pub loses out on valuable B&B trade, etc etc. Otters are fast ruining the livelihoods of fish farmers, fishery owners, hard working club members, tackle shops, restaurateurs etc., many of whom have seen years of hard work and hard cash go down the pan.

Whilst the otter cannot help being a giant predatory, aquatic rat with Doberman-like teeth, the last government, together with Natural England, both

of whom were responsible for releasing them into already badly-depleted upper river systems from the mid 1990's, have a lot to answer for. With the lowest eel runs in living memory (a reduction of 90% has been suggested), and vast stocks of small to medium-sized silver shoal fish simply not there, what did the do-gooders think otters were going to prey upon?

Sadly, otters also 'play' with large fish they grab hold of, biting off part of the tail or anal fin to immobilise their prey, and so 'maim' fish badly which do manage to escape. But they do not escape death for very long, many dying quietly on the bottom weeks later, eventually rising to the surface as bloated stinkers. Yes, the word 'WANTON' can certainly be attributed to the otter, which never returns to its kill once it has eaten a small proportion of the flesh. The following night it seeks out another victim.

Otters have a natural tendency during the colder,

winter months when the larder in running water is rather bare to target large still-water fish, carp in particular. When everything warms up they prey upon water birds like coots, moorhens and mallards etc., plus their eggs and young, plus newts, frogs, toads, snakes, slow worms and lizards etc. And in low temperatures when their metabolic rate is greatly reduced, even the largest, strongest carp is no match in manoeuvrability for an adult otter, which itself can weigh 40lb.

Our rivers, up and down the country, especially the clear flowing upper reaches, now haven't half the fish they contained back in the 1960's. Only really large (cormorant-proof) specimens are present in many stretches, and these are fast disappearing to otters. Case book and feasibility studies were either never undertaken or totally ignored by Natural England prior to otter release. As rivers deteriorate further unless cormorant culling on a large enough scale is implemented the decimation of well stocked carp waters, where the investment could well top several hundred thousand ponds, is going to get substantially worse. In one or two decades' time only small fenced-in commercial still-waters are going to be



Only really large (cormorant-proof) specimens are present in many stretches, and these are fast disappearing to otters.



Otters are fast ruining the livelihoods of fish farmers, fishery owners, hard-working club members, tackle shops, restaurateurs etc., many of whom have seen years of hard work and hard cash go down the pan.

worth fishing. Is this what we all want to pass on?

Farmer's defence: surely if a farmer is allowed to shoot someone's dog worrying his sheep, then should it not follow that fish farmers and coarse fishery owners whose big carp are worth significantly more than a sheep should be allowed to do likewise? We in the Predation Action Group believe so and want to press government into action for protection for fish. The end for our fish stocks and fishing as we have come to know and to love it in Britain is not so far away.

The following is part of a case study detailing consequences of worsening, and now devastated, angling/leisure activity along the River Wensum Valley upstream from Norwich in the relatively short stretch between the villages of Taverham and Elsing, solely due to cormorant and otter predation. (Though the entire 30 miles of the river between Norwich and Fakenham have been similarly afflicted.) This has meant a substantial reduction in business to local pubs, shops, post offices, supermarkets, a golf course/fishery, hotel accommodation, guest houses and numerous, once prolific, coarse fisheries. This situation is now rife throughout Norfolk and Suffolk's major upper river systems, including the Yare, Bure and Waveney, plus their tributaries.

Why is this so?

When reintroduced by Tony Blair's administration in conjunction with Natural England throughout the 1990's and early 2000's, no consideration whatsoever was given to the impact on fish stocks needed to sustain an apex predator such as the otter. Were anglers even consulted about the consequences? Was there any kind of feasibility study done about the release of a major predator into river systems already raped of their silver shoal species by cormorants? Were riparian owners of the river banks consulted about their once 'valuable' salmon, chub, bream and barbel fisheries being turned into veritable wastelands for fish? Were angling clubs whose members have put in much hard work over the years in constructing and maintaining valuable still-water fisheries ever consulted? Were private fishery owners who have actually built their own fisheries ever told they would start losing expensive fish as otters started to devour, maim and disfigure them, once the larder in the rivers became bare? Sadly the answer to all these questions is a resounding 'NO'.

No one was ever consulted as Natural England, fired by Blair's administration, ran roughshod over East Anglia, introducing otters everywhere. And remember, most stretches of East Anglia's upper rivers had already been decimated of silver shoal fish by cormorants, with a much reduced stock of eels (said to be the preferred food of otters) which all the interested parties knew about. Very many superb angling fisheries in both still and running water have quite literally been turned into an 'Armageddon' for fish.

The Result

Devastating predation has occurred, and is constantly occurring, to both river and lake species, including dace, roach, perch, tench, bream chub, carp, pike and barbel. Already, the youngsters of the River Valley have no accessible spots in flowing water to pursue the art of fishing, where they stand much of a chance of catching anything, whilst lifelong anglers whose interest lay with specimen-sized fish, are having their heritage and much hard work destroyed at an alarming rate.

Barbel, especially, are easy meat to otters. As I experienced when scuba diving local rivers back in the 1970's, it was easy to come up alongside any sized barbel so long as you approached it from a down stream, or across river, direction. They would lie there and allow this 13 stone diver to twiddle their whiskers and stroke their bellies. They are by nature the most friendly and trusting of freshwater fishes, whereas all other species will move away if you approach too close. To otters, adult barbel, specimens somewhere between 15-25 years of age, are literally 'easy meat'. And all the otter ever eats from a 10-15lb fish is around one pound of flesh from its throat or stomach,



*John's heavily researched treatise on the impact of predation in Norfolk appeared in **The Big Picture (One)**.*



John's beloved River Wensum where he was one of the first to recognise the triple thrust of predation by signal crayfish, cormorants and otters.

before leaving the carcass for a fox to sniff out and carry off, a sad end to such magnificent specimens.

Implications

Together with heavy cormorant predation upon silver shoal fish still occurring there is no way these otter-ravaged rivers can continue as healthy fisheries and provide leisure for future generations. We are talking about tens and tens of thousands of anglers here (in East Anglia alone), all of whom have purchased a fishing licence in good faith from the Environment Agency whose mandate by the law of the land is to protect freshwater fisheries, be they still or running water. They are clearly **not** protecting fish! The anglers of East Anglia and the rest of the country have been let down badly. And it is a worsening situation.

The following are among those who are suffering along a comparatively short stretch of just the River Wensum:

TAVERHAM MILLS LAKE AND RIVER WENSUM FISHERY— tel Manager Simon Wrigglesworth on 01603 861014; e-mail: simonwrigg@yahoo.co.uk

Comprising a 24-acre lake and 1 mile of the River Wensum owned and controlled by Anglian Water, this fishery was once pride of its East Anglian holdings. A 16lb 6oz barbel, caught here by Steve Keer in 1998, actually held the British record. So the fishery was acclaimed nationally. In recent years however the entire fishery has been decimated.

The lake, though now fully fenced electrically, still suffers heavy otter predation each winter, particularly in high water levels. In the 2009/2010 season alone, 24 big carp of up to 32lb in weight (at an average retail cost of at least £500.00 apiece) were destroyed by otters. In the river there is but a handful of barbel left. And of course it is impossible to fence-in a river. The once prolific roach are virtually non-existent (mostly through cormorant predation), whilst adult chub, through otter predation, have been drastically reduced.

The fishery's self-catering, on-site angling accommodation and adjacent tackle shop used to once provide a valuable source of income, but it now produces **less than half the income** it did back in 2006, such has been the devastation suffered, mainly through otter predation. Ten years back the allocation of 35 'season permits' to fish the river only was always fully subscribed. In 2009 only 18 anglers had rejoined. The fishery used to contribute commercial value to many local businesses, its guests visiting local pubs, restaurants, shops and even other fisheries etc. This has now all but ceased.

Lenwade Post Office: Proprietor for 11 years is Alan Patrick, tel 01603 872237



Angling artist Chris Turnbull with one of the Wensum's pride and joys, a big barbel of 16lb 14oz.



The same fish lost to an otter claiming its pound of live flesh.

There has been a noticeable reduction in anglers both local and on holiday visiting the shop for food or bait. These past four years have seen a steady decline.

Lenwade newsagents: Prop for 5 years is Mr Steve Austin, tel 01603 872307, who is only too well aware of the local predatory problems due to large carp and tench being taken by otters from the lake at the rear of his property. This lake, once a gravel pit, like most of the 27 beautifully matured lakes around Lenwade now stocked with large carp, was excavated during the Second World War for the aggregates to build local airfields. It has been estimated that the water-owning residents of Lenwade have spent somewhere between £70,000-80,000-00 on fencing-in their properties trying to keep wanton killers such as the otter out.

Lenwade Mill Pool Residences, River Wensum
John Smith (tel 01603 308092: lenwademill@aol.com) came to live here 10 years ago when the old Mill House was renovated and turned into luxury accommodation. He bought the property mainly for the wonderful fishing in the mill pool with its two sluices, and heavy stocks of bream and chub, plus small groups of barbel and roach, a status quo that



Chris recorded the sad demise of the Wensum in a poignant article in Coarse Angling Today.

sadly no longer exists. Till 2007 fishing in the pool was still good, but from 2008 the decline has been unbelievably rapid through both cormorant and otter predation. Only last 2009/2010 winter, the worst for many years, due to many local still waters being frozen over, cormorants and otters plundered the pool and the river above to devastating effect. For instance, within a week of the Environment Agency stocking 250 young barbel into the river immediately below the Mill House, on every day thereafter there were up to 19 cormorants gorging upon them and what few other small fish that were left.

Today there are no concentrations of young fish from which adults will ever emerge and a mere handful of adult fish left. The Mill Pool as a fishery is dead.

Mr A P Morrish [tel 01603 870453; e-mail moatthemill@aol.com] lives and has done for 10 years in the Granary complex, being part of Lenwade Mill Pool fishery, and also in partnership in the (across the road) Bridge Public House which comprises a six-lake fishery and 600 yards of the River Wensum, once famous for producing barbel to nearly 20lb. In January and February 2007 Mr Morrish found 13 barbel dead and part-eaten by otters. All of these irreplaceable fish weighed in excess of 13lb. Two of these fish were found along the edge of the Mill Pool, the rest along the pub stretch, two of which Mr Morrish actually recognised [through scale and body deformities] as fish he had caught the previous autumn at 16lb 2oz and 16lb 6oz. Moreover, severe cormorant predation above the mill pool, combined with a river bed that has dropped from five feet to under four feet in the time he has lived here (due to poor management of the sluices by the Environment Agency) have ruined what by many was considered to be the finest roach fishing on the entire upper River Wensum. It was in fact the very reason he came to live here 10 years ago.

Mr John Seamons (tel 01603 879437; e-mail jseamons07@aol.com) lives in the Granary complex

at Lenwade Mill Pool and has done for 10 years since he first bought the property because of the prolific roach fishing. Due to advice (wrongly in everyone's opinion) from Natural England to the Environment Agency of **not** cutting a channel down the middle of the river so anglers can fish and for improving summer flow, fishing has been virtually impossible during the past few years. And what with massive predation from cormorants during the winter months, float fishing for roach and dace (the Wensum's indigenous species, both mentioned in the Parson Woodeford diaries of the 1700's) immediately above the mill pool is now largely a waste of time. In the words of Mr Seamons, who was so excited about the fishing when he first purchased his idyllic spot, 'The fishing during these past few years has now completely gone down the pan'. All because of an alien, non indigenous (to our inland waterways) immigrant sea bird and otters being introduced without any case book study being done as to what these apex predators are going to eat in a river system already badly ravaged by 'the black death'.

Three Hall Walk Lakes, Lenwade: tel Mr A. P. Morrish 01603 870453

These previously well-stocked fisheries have, like all other waters close by, suffered devastating predation by otters upon the carp which once weighed up to 39lb. Dozens of extremely valuable and costly fish have been found part-eaten by otters these past few years. A fence at a cost to the owners of £25,000.00 has now been erected.

Lakeside Fishery, Lake House, Lenwade: tel John Wilson MBE on 01603 872336; e-mail Kazan@river-productions.fsnet.co.uk These two small man-made lakes have been ravaged by otters for several years now, (despite an otter fence being erected along the river bank only at a cost of £6,500.00; the banking is too steep around the rest of the fishery) with over 50 carp and grass carp to over 20lb being killed, together with 20 catfish to 25lb. What's more, during the severe winter of 2009/2010, dozens and dozens of carp were so stressed out after being repeatedly chased by otters (a distinct white 'stress' caste could be seen along their backs) many died a slow death afterwards as a result. This is simply not acceptable.

Woodpecker Lakes, Old Hall Farm, Elsing: tel Mrs Jones 01362 688694: These two small lakes of two and three acres respectively, once prolific carp fisheries, lying adjacent to the River Wensum, have suffered drastically during recent years from otter predation. Specimens to over 30lb having been ravaged, specimens that would cost at least £2,000.00 apiece to replace.

Foxwood Guest House, Taverham, proprietor Mrs Yvonne Todd 01603 868474: During the past four



John Bailey, another high prolific angling writer who has highlighted the effects of predation in Norfolk.

or five years bookings with anglers visiting this area and staying at Foxwood have certainly crashed. It's as though the fishing isn't worth the effort any more, which is not far from reality!

Layfields Lakes, Lenwade: proprietor Darren Layfield 01493 842231; e-mail darren.layfield@hotmail.co.uk Comprising a short stretch of the River Wensum, plus four syndicate and day-ticket carp and general fishing lakes. Due to uneven ground between and surrounding the lakes not all of the fishery can be fenced in, although the owner has invested thousands of pounds endeavouring to protect much of the fishery, and still suffers severe winter otter predation, at outlandish costs.

The Bridge PH River Wensum Fishery, tel 01603 872248; Has suffered a noticeable decline in the amount of both local and visiting anglers wanting to stay at the pub and fish their stretch of river where the otters have reduced levels of specimen-sized barbel and chub to an all-time low. In the bar of the pub is a stuffed 16lb barbel (far larger than the once national record) found one morning part eaten beside the Wensum. This stretch produced monster barbel to almost 20lb a couple of years ago, individual fish that were merely a pound away from establishing a new British record. Now most have been eaten by otters. This creature single-handedly has destroyed a unique and irreplaceable angling phenomenon.

Three Bridges Farm Lakes and River Fishery, tel owner David Baker on 01362 637883; Periodically suffers otter attacks, especially during these past four years, resulting in lower syndicate membership of anglers joining their fishery. Not exactly how the owners envisaged the running of a modern coarse fishery.

Wensum Fisheries, Costessey, secretary Cyril Wigg, tel 01603 423 625: This lake land (three well established pits) and river complex just downstream

from Taverham Mill has suffered badly in recent years from both otter and cormorant predation, resulting in the Norwich and District A.A., who control the fishing, issuing fewer and fewer permits each year, and having to subsidise those they do issue. Roach in the River Wensum here, once the pride and joy of the association, are now a rarity, and chub are nowhere as thick on the ground as they once were, while carp, pike and tench in the lakes are regularly plundered by otters.

Dereham and District AA, secretary John Mills tel 07876 563378, who have several hundred members on their books, control stretches of the Wensum and various local pits between Lyng and Swanton Morley, open (for the modest price of a ticket) to all. Their waters are constantly suffering devastating otter attacks, undermining all the hard work in stocking, and in the quality and in the promotion of their fisheries to both local and visiting anglers alike.

Catch 22 Fishery, Lyng, Easthaugh, Manager David Wilby, tel 01603 872948
e-mail: info@catch22fishing.co.uk These two famous carp lakes (renowned throughout angling circles for the high-average sized carp they produce, including specimens to over 40lbs) have periodically suffered costly carp deaths from otters which enter the complex via the adjacent River Wensum. As this is a 'big carp' fishery, the cost of regularly replacing those specimens ravaged by otters becomes an escalating, economic problem for the management. For instance a 30lb, if obtainable, carp now costs up to £3000.00. At today's prices this fishery contains £1¼ million in stock fish, and caters for 5,000 anglers annually, including a party from Ireland who come over purely for the wonderful carp fishing. Due to the boggy-marshland boundary with the River Wensum, effectively fencing in the entire fishery is sadly not an option. The fishery at present is in the process of developing its own fish farm. Is it to lose still more fish to the wanton killing by otters?

Orams Fishery, River Wensum, Ringland, tel W. Oram on 01603 867317: This winding once chub-prolific stretch of the River Wensum has greatly deteriorated in recent years through predation from otters and cormorants. It now has nowhere near so many adult chub and pike available to the small amount of syndicate members who still fish there hoping for things to change. I once caught 21 chub of between 3-4½lb here in a single session, my best-ever chub haul from the upper Wensum. Twenty years ago this stretch (like so much of the upper Wensum) contained shoals of big roach and large dace, both of which, due to heavy cormorant predation, are a thing of the past. Yet first and foremost the River Wensum is actually considered a

lowland roach river. Now it's like a once-congested motorway without any cars.

Kingfisher Lakes and Apartments, tel fishing director John Bailey on 01263 712444: This four-lake complex bordered by the adjacent River Wensum, like all local fisheries has regularly suffered its large carp being found wantonly killed and part-eaten by otters, whilst the once roach-prolific River Wensum, (the envy of roach anglers up and down the country back in the last millennium) is now sadly but a shadow of its former self.

Wensum Valley Hotel and Golf Course Fishery, tel owner Basil Todd on 01603 261012; e-mail: enqs@wensumvalleyhotel.co.uk This fishery comprises nearly two miles of the once roach- and chub-prolific River Wensum, plus several wetland lagoons skirting the bottom of the golf course. Roach and dace are now almost non-existent due to cormorants, whilst otters predate heavily on the specimen-sized chub, trout and pike. The owner has on several occasions found part-eaten big chub in the middle of the fairways, where a fox has carted off an otter-mauled corpse and been disturbed by early morning golfers. This has resulted in fewer anglers staying in the hotel in order to fish this particular part of the river.

Lenwade Pike Club Lake, owner Mrs S Acloque tel 01603 872392; email acloque@btinternet.com This fishery has now been partly fenced in along the river bank, at quite some cost, having been heavily ravaged by otters. Time will tell whether this continues. Much of the work has been done by the members. Numerous cormorants gather along the adjacent river, particularly in winter, and add to the predation.

The Lawns, Lenwade, owner Mr C Arthurton tel 01603 879888: Another specimen carp lake in Lenwade that is periodically ravaged by otters, at great cost to the owners in replacing stock. It has been part-fenced along the river bank, but still 50 carp have been found part-eaten during the past five years.

The Station Lake, Lenwade, owner Mr J Woodhouse tel 01603 879421: A famous big carp lake that has thrilled local and visiting anglers alike with the size of its carp for more than 40 years. But it, too, in recent years has suffered chronic predation from the release of otters, with numerous carp to 30lb being found part eaten, along with a pair of large grass carp. The cost to the owner of replacing these adult carp is astronomical. It has now been partly fenced, but like so many of the mature lakes [ex-gravel workings] in Lenwade, the banks are extremely steep and uneven.

PREDATION CASE BOOK 2

Compiled March-April 2011 by John Wilson

Predation Problems

Along the Upper Waveney and the lakes within the Waveney Valley

ALDEBY HALL FISHERY—adjacent to River Waveney. Aldeby. Tel: owner Mark Dodds-Smith on 07799 767216. E-mail fishery@mdsenvironment.co.uk This heavily stocked 4-lake complex totalling 5 acres had a history of severe otter predation with high numbers of carp to over 20lb being taken. Now, however, it has been entirely fenced in by the owner and does not presently suffer this annual carnage. Large pike in the adjacent River Waveney however are becoming progressively thinner on the ground, as otters are restricted locally to running water.

BEDINGHAM LAKE, in Woodton is a deep ex-gravel workings of 5 acres. Contact manager Mr Richard Read on 01986 896715. Mobile 07981 1 20733. This superb carp fishery has suffered many severe otter attacks during the last decade, and even though now completely fenced in, predation still occurs, the worst example being 28 carp to nearly 30lb being killed in just one three week period. Were every one of those carp valued at just £200 apiece, it would mean a loss of nearly £6000. But the truth is that as a 20lb carp would cost at the very minimum £500 to replace, the actual loss would have been of the order of £15-20,000.

BROOKE LAKE, Brooke. Contact manager Mr Richard Read on 01986 896715. Mobile: 07981 1 20733. Despite all-round fencing, massive predation has occurred in recent years with 40-50 carp (it may have been more) to mid-20lb being killed by otters entering via the feeder stream

CAMELOT LAKE, Wortwell, contact Phillip Newcombe on 01986 788208. This 2½ acre ex-gravel workings lost a succession of specimen carp to 30lb seven years ago to prolonged otter predation, prior to erecting a fence all around the site. Since then the fishery nevertheless still averages around one otter attack annually, when adult and expensive carp are always targeted

DITCHINGHAM CLUB PIT, beside the Waveney on Bungay Common was leased by the Cherry Tree AC for over 50 years and was a once-cherished, well maintained carp fishery. That is before otters ravaged the inhabitants year, after year, after year, despite expensive fencing projects (the ground here is very uneven) and restocking by the club. This eventually resulted in the club relinquishing the lease in 2009.

This is a pretty 3-acre, intimate fishery that once provided peaceful fishing for many anglers, both local and visiting alike.

N.B. John Wilson first fished this pit in 1957 long before the 'black death' (cormorants) when roach fishing the Waveney around Bungay was deservedly acclaimed the best running water fishing in Suffolk.

PRESENT SITUATION: New, 10 year lease owner (from May 2010) is Mr Dale Wilby. tel 01379 669378, E-mail: dalewilby@live.co.uk Intends to spend £23,000 on new otter fence and is in the process of restocking.

EARSHAM GRAVEL PIT, adjacent to the Upper Waveney along Bungay Common. This 'impossible to fence' 66-acre pit was once a fabulous mixed fishery. Leased to Earsham AC through land agents Fen Wright of Colchester, tel Matthew Allen 01206 216547. Club secretary is Dave Gladwell tel 01508 518798 E-mail: dgladwell@toucansurf.com With the adjacent River Waveney, once the pride of Suffolk, now a virtual roach graveyard, due to the massive roosting and feeding attendance of over 100 cormorants on the pit throughout the winter, plus mink and heavy otter predation via the river, this fishery is on a downward spiral. It beggars belief that Natural England issued the land agents with a licence to shoot just six cormorants only. This quango is obviously not the slightest little bit in touch with the anglers it purports to represent. During the last few years 30-40 big carp to over 30lb have been taken by otters entering from the adjacent River Waveney. As a consequence of the deterioration of general roach and bream fishing, the club had to cancel nearly all their matches in 2010, resulting in 11 members failing to renew their membership.

ELLINGHAM NURSERY FISHERY, Ellingham, contact owner Mr Nigel Bates on 01508 518205. This secluded, one-acre fishery was badly ravaged by otters a few years back resulting in a dozen double figure carp being killed. A fence, at considerable cost, has since been erected around the site and so far no more fish have been taken

EYE PONDS AND FOUR MILES OF RIVER WAVENEY, Controlled by Diss and District AC, contact vice chairman Mr Roy Johnson on 01379 644784. These once roach-rich reaches of the Upper Waveney from Hoxne to Scole, Brockdish and Syleham have been badly ravaged by cormorants, with otters steadily accounting for anything sizeable such as tench and chub. Nowhere near a shadow of its former self. Of the 11 ponds controlled by the club at Eye, the 7 ponds on the west side of the road have been almost totally wiped out in one year by cormorants of their roach, perch, rudd, and a stock (costing the club £3,000) of small carp. On the east side of the road the club has erected electric fences around four ponds in an effort to keep the otters out.

HENSTEAD FISHERIES near Beccles. Contact owners Mr and Mrs Phillip and Carol Platt on 01502 477065 E-mail: carolinermoon@live.com This two lake day ticket fishery, of 2 and 1½ acres respectively, has suffered continual otter problems with specimen carp to over 20lb killed, due to its close proximity to part of the Hundred River. There is an unwelcome and unacceptable expense in constant restocking to the owners whose site covers 10 acres, which makes fencing in the lakes something they just cannot afford to do.

HENHAM LAKE, Blytheburgh, a 12-acre estate lake adjacent to extensive reedbed marsh from which otters come to target the fishery's double figure pike. There have been numerous fish kills. Contact Manager Richard Read, tel 01986 896715, or Mobile 079811 20733.

HOMERSFIELD LAKE on the Norfolk and Suffolk border. Tel owner Mr Norman Symonds on 01986 788548. To alleviate the catastrophic otter predation being experienced throughout the Upper Waveney Valley the owner of this magnificent 30-acre carp fishery used 1¼ miles (yes miles) of otter fencing, at astronomical cost, around the complete 50-acre lakeland site.

MARSH TRAIL LAKES, Beccles, contact Mr David Ragan on M 07913 115610.

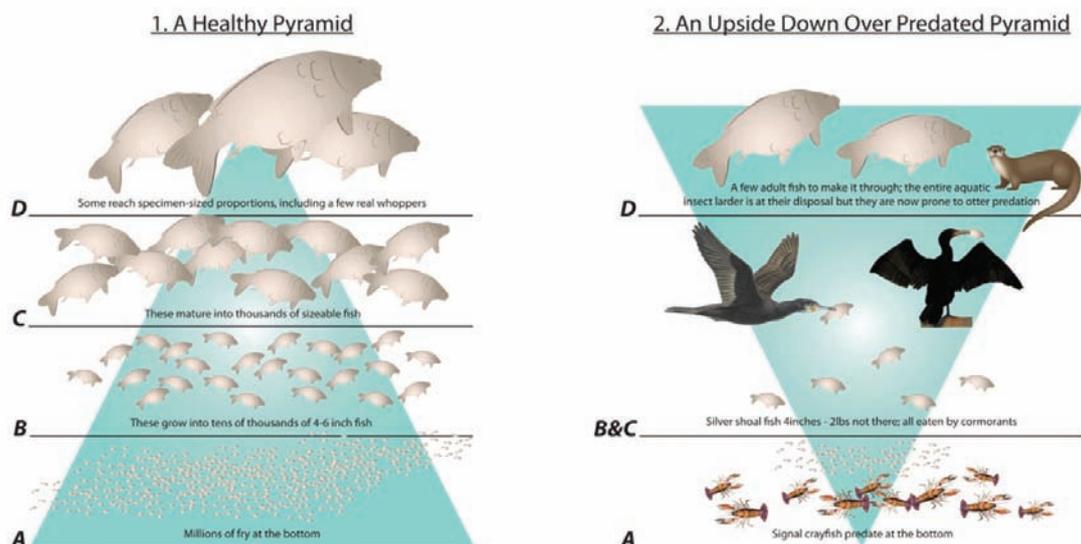
These three day ticket lakes are constantly being visited by cormorants during the winter months with substantial silver fish losses. There were heavy losses of carp running into double figures a few years back, due to otters visiting via the adjacent River Waveney until, at a cost of £6000, the management completely fenced the site in.

WAVENEY VALLEY LAKES, Wortwell; tel manager Dave Potter on 01986 788676. E-mail, enquiries:

wvl@talk21.com This 65-acre famous 12 lake, holiday angling complex which boasts 25 acres of water and both carp and catfish to over 40lb, has suffered both cormorant and particularly 'heavy otter' predation during the past 10 years. There is an on going problem from otters which enter from the adjacent River Waveney, despite protective fencing that has been erected where possible. This costs the fishery heavily each winter in replacing the stocks of specimen-sized carp and catfish to maintain Waveney Valley as a premier angling resort.

STRETCHES OF THE UPPER WAVENEY; between Ellingham and Wortwell. At Dairy Farm, Ellingham Mill, Broome, Wainford, Homersfield etc, fishing leases have all been relinquished by local clubs or changed hands during 2009-2011 because of deteriorating sport, due solely to cormorant and otter predation. The overall economic impact to land owners amounts to over £10,000 annually, the biggest single change being Suffolk County AAA, once an 8000 strong organisation which has been reduced to a match group totalling just 28 people.

THE STATION PIT on Bungay Common, controlled by The Cherry Tree AC, tel Mr Dave Gladwell on 01508 518798 E-mail; dgladwell@toucansurf.com Once well known for its sizeable crucian carp, this little pit has been badly ravaged by otters (the club is unable to fence in a public place) thus robbing visitors and the young anglers of Bungay and the surrounding district accessible pond fishing. What with much of the Waveney around the Common now a roach 'graveyard' sport for the future generations of young anglers is indeed gloomy and in constant jeopardy. The club is currently planning to restock with pure and traditional crucian carp, a species for which this pit was famous.





The challenge, with the otter in particular, is that it is an iconic animal of great beauty that is coming back from the brink of extinction in the UK.

A Fishery Owner's Views of Predators and Predator Control

Mark Walsingham

Mark is a fishery owner who has had years of experience of working with organisations such as Natural England and the Environment Agency at a senior level on just this sort of complex issue, gained during fifteen years of working with the National Trust. Mark's own fishery, Ashmead in Somerset, has taken over forty years to develop into one of the UK's finest carp fisheries. The fishery management is centred on careful management of the wetland environment with good nature conservation at the heart of the management ethos. Mark's explicit assessment of the predation issue is by an ecologist and a fishery owner with an impressive backlog of working with naturalist organisations. As Mark explains he was involved in the negotiations with Natural England which culminated in the issue of the Class Licence for the trapping of otters within fenced fisheries. He is an authorised trained trapper.

I see the challenge the resurgent otter population poses to our fisheries as one of the most complex and difficult issues angling has faced for many years. As a lifelong angler and someone who has worked in fisheries' management and conservation all my professional life, I can see both sides of what is often a very polarised debate. The problem as I see it is that the quality of our rivers and lakes is degraded and the nature that depends upon these fragile ecosystems is under ever increasing pressure.

The Environment Agency has just published the Annual Fishery Report, which makes depressing reading. The Water Framework Directive (WFD) requires the government to "aim to achieve good status (or potential) in all water bodies by 2015" (although there's a get out clause that means this improvement in status can be "realised through future cycles of the WFD, ending in 2027"). In 2015 the Environment Agency assessed the status of fish populations in 1,844 of the 3,924 riverine water

bodies In England. 58% of the waters assessed did not even achieve good status and of the 42% that met the WFD standard for fish, only just over 14% were of a high standard. The report presents some vague graphs to show why our fisheries are so degraded. It isn't difficult to work out that the single biggest issue is modern farming, although this is obscured in the report by breaking farming impacts into categories such as "Mixed agricultural", "Arable field", "Dairy and beef field", "Land use - arable", "Water body bank poaching cattle/beef" and "Land drainage". Perhaps stating simply that farmers are behind the majority of the problems with our fisheries would be too controversial? Other problems include barriers to fish movement, sewage discharges and urban development. In short, these are all problems that will take years to resolve, even if the political will and money to tackle them existed. The outlook is pretty bleak.

The impact of these pressures is exacerbated by the increasing impact of invasive alien species that are identified as an issue in the report. Signal crayfish can reduce natural recruitment in our fish populations by eating both eggs and fry and invasive plant species such as *Azolla* sp. and Water Pennywort can dominate the waters they colonise and catastrophically damage their ecology. Add increasing numbers of apex predators such as the otter and cormorant to this degraded environmental mix and they can tip the balance and fundamentally alter the ecology of a water and the quality of the fishery it supports, within a very short time span. I am convinced that predation can cause real damage to the wider ecology and the health of our fisheries, even though I believe predation is normally only the straw that breaks the camel's back.

The key question is, do we wait for the wider environment to be restored to a status that can support healthy fish stocks, robust enough to withstand predation, or do we address predation in the short term as an issue in isolation? The challenge with the otter in particular, is that it is an iconic animal of great beauty that is coming back from the brink of extinction in the UK. The otter is protected to the hilt by layers of European and UK legislation that successfully halted the catastrophic crash in otter numbers in the 1960's and 1970's. Otters are recolonising an environment that is radically different to the one that existed before their decline, especially in terms of the fisheries that have been developed in their absence. Past protection seems to be a one-way street and that makes it far more difficult to have a meaningful debate about the impacts of the resurgent otter population today.

It struck me as I am writing this that otters are effectively now an alien species in our countryside and are posing a very similar suite of problems. Of course otters are an indigenous species but they are an apex predator that is spreading rapidly in an ecosystem

where there are few natural limits or constraints and from which they have been absent for forty years. In ecological terms then, there isn't a great deal of difference between the otter and the invasive alien species that cause so much concern.

Over time, the otter population will reach a level balanced by prey availability and habitat but the impact on our fisheries and ecology whilst that happens could be huge and it may take decades for any natural balance in the population to develop. Thanks to the number of fisheries that have been developed during the absence of otters from our countryside, there is a food supply that is far greater than any that existed before their decline. Stillwater carp fisheries in particular provide livelihoods and support businesses in a way that was unheard of until recent years. Even if a natural balance does emerge, it is likely to be one that is unacceptable to fisheries interests. The otter also provides the poster image of choice for any nature conservation campaign about our waterways, and balanced debate about the management of otters is prevented by a fear of a public opinion predicated upon the "cute and furry" image constructed to raise support and funding for otter conservation in the past.

Any meaningful debate on the management of otters in our countryside should be informed by hard facts about the number and distribution of otters in the wild and the carrying capacity of the environment to support them. Previous otter surveys were, at best, a distribution study and funding for further surveys has been cut. This means that even the scant and out-of-date information we have on otter numbers and distribution won't be maintained in future years. That is disastrous at a time when what we need is further funding to be made available to carry out the rigorous research required to understand the status of the otter population and their impact.

What is the value of angling as an industry? Environment Agency research in 2005 estimated that the gross expenditure across the whole of England and Wales by anglers was £1.18 billion, with coarse angling responsible for £971 million of this. Household income of £980 million and 37,386 jobs were generated across England and Wales as a result of angling. Against that economic backdrop, I would have thought that researching and understanding the impacts of increasing otter predation on our fisheries would be worthy of investment.

It's a complex mess that will take years to resolve. This is evident when you consider the strength of the polarised views involved, with some otter conservationists insisting that no management of otters should be countenanced whatsoever, and some anglers calling for them to be culled every time a photograph of a fish killed by an otter appears on social media.

The immediate problem is that fisheries up and down the country are being destroyed by otter

predation **right now**. Especially in the case of stillwater carp fisheries, livelihoods and fishery businesses, developed through decades of investment, are being destroyed as well. I cannot accept that it is right morally to allow legitimate businesses and livelihoods to be destroyed by predation without giving those affected any legal recourse to prevent that from happening. Given the complexity I've spelled out here, it must seem to many owners and anglers that nothing will be achieved in time to prevent the destruction of the fisheries they have created and love.

My own fishery, Ashmead, has taken over forty years to develop into one of the UK's finest carp fisheries. Our management is centred on the careful management of the wetland environment and we have good nature conservation at the heart of our management ethos. Ashmead not only holds some of the finest carp in the UK, it also provides a home for over-wintering bittern, summer visitors like the hobby that join us to feast on the abundant dragonflies, and even a fleeting visit each spring and autumn from a migrating osprey. We have resident water vole, grass snakes, and the rare Great-Crested Newt. A multitude of field voles, mice and shrews provide food for the resident barn owls and tawny owls. An array of reed, willow, sedge and Cetti's warblers breed on the wetland and, in turn, these attract the increasingly rare cuckoo to nest each spring. In short, Ashmead provides a rich habitat for wildlife and that is only made possible by the income from the outstanding carp angling that Ashmead also provides. Of course (as a minor consideration), Ashmead also provides my family with a living, pays our mortgage and allows us to feed the children...

In that context I got involved with the predation issue, mainly because I believed I could bring a breadth of professional conservation and fisheries management expertise to the debate. I also have years of experience of working with organisations such as Natural England and the Environment Agency at a senior level on just this sort of complex issue, gained during fifteen years of working with the National



My own fishery, Ashmead, has taken over forty years to develop into one of the UK's finest carp fisheries.

Trust. I felt I could contribute by raising awareness and supporting angling concerns. I not only have a vested business interest in protecting my own fishery but I also believe very strongly in putting something back into fishing and wildlife management, and in doing what I can to support the future of angling.

I've always believed that it is the most difficult and complicated issues in nature conservation that are most in need of open discussion, however challenging that process turns out to be. The thing that struck me most strongly when I first became engaged in the predation issue, was the lack of meaningful discussion and informed debate. The Environment Agency and Natural England appeared to be in denial that there was any problem at all, and although The Angling Trust were making progress on the impact of cormorants and raising the profile on invasive species, they refused to raise the problem of otters in public because they believed it was too controversial and could damage the public perception of angling.

I couldn't accept that situation and fortunately I was not alone in that view. At the time I first got involved with the PAG, some years ago, they were almost a lone voice in the wilderness, struggling to get anyone to listen to predation concerns about the ecology, predation and fisheries. What encouraged me was the way that the PAG were addressing the wider conservation issues, rather than just talking about the damage otters and other predators were doing to fisheries and the ecology as a whole. I'm not comfortable with campaign politics and I still prefer to work quietly behind the scenes but there is no doubt that, without the PAG, the issue of otter predation in particular would never have been given the profile and consideration it deserves.

The perception at the time was that the otter was so strongly protected through European law and through the Wildlife and Countryside Act, 1981, that any prospect of controlling otters on fisheries was a complete non-starter. My understanding of the legal position was somewhat different. I've always admired the Wildlife and Countryside Act and the fact that it hasn't been replaced for 35 years is testimony to the balanced and comprehensive way in which it addresses the ever-changing challenges of nature conservation.

The Act is quite clear in the level of protection it gives to the otter and that protection reflects the severely endangered status of the species at the time that the Act was passed through parliament. The Act is also rooted in practicality, however, and it foresaw exactly the sort of conflict that has arisen, now that otters are making such a strong recovery. The Act permits the licensed control of otters where they are causing significant damage to fisheries.

I met with Natural England on behalf of the Angling Trust's Specialist Freshwater Advisory Group in 2015, to raise awareness of the otter predation

issue. Natural England didn't perceive that there was a problem with otters at that time but they agreed to me meeting their lead on the issue of otter control licensing, to discuss the licence application process and requirements. I had that meeting with Natural England and the Environment Agency (who have the UK Biodiversity Action Plan lead for otters on their staff) in February 2016.

That meeting was very helpful. It revealed that the reason Natural England didn't think that otters presented a problem to fisheries was that they had only ever received two applications for their control. One of these licence applications had come from Anglian Water and the other from a couple who had lost the valuable koi carp from their garden pond to an



Ashmead not only holds some of the finest carp in the UK. Ashmead provides a rich habitat for wildlife and that is only made possible by the income from the outstanding carp angling that Ashmead also provides.

otter. In both cases, fencing and alternative measures had provided a solution and no licence had to be granted. No wonder the perception in the licensing authority, Natural England, was that there really wasn't a problem to solve!

It was clear from discussion that the Wildlife and Countryside Act does indeed permit the control of otters under licence, where predation was they were causing significant damage to fisheries. The Act is not prescriptive about what form that control should take but it is clear that non-lethal measures should always be preferred and the first port of call.

What does "significant damage" to a fishery mean? Natural England defined significant damage in financial terms and it became clear that this would include the loss of valuable stock, damage to a fishery's financial position (including loss of membership) and a loss in capital value.

The decision to grant or refuse a licence application to control an otter that was causing significant damage to a fishery would be made by considering three key tests:

- 1.1. The Favourable Conservation Test: Are otter populations at a level that means control of an individual would not have an adverse impact on the population as a whole?
- 1.2. The No Satisfactory Alternative Test: Before trapping or killing would be considered all other reasonable steps to prevent a problem must have been taken. This includes fencing to exclude otters from the fishery.
- 1.3. The Purpose Test: Is there a clear purpose to the control for which a licence application has been made? This means there must be clear evidence of otters being the cause of the predation problem and that their relative impact (compared to other factors that might affect a fishery such as pollution, other predators etc.) justified control. In other words the applicant must show that the otter was causing serious damage.

That seemed clear and reasonable but when I pushed on the detail, it became evident that the lack of licence applications meant that little thought had gone into exactly how each of the tests would be applied. For example, Natural England couldn't clarify the geographical scale on which the Favourable Conservation test would be judged. Otters are common here in Somerset, for example, and throughout the Southwest, but if the assessment of conservation status was made on a Southern UK, or a whole-country basis, the results could be very different...

I presented a number of scenarios for consideration, starting with the simplest situation where a stillwater carp fishery with a valuable stock had taken all of the reasonable steps to exclude otters and had been properly fenced.

Natural England agreed that if the Favourable Conservation Test was met in this scenario, control was justified. Control would have to start with the humane trapping and removal of the otter from the fishery but they agreed that lethal control remained an option, once all other possible courses of action had been tried and had failed. That in itself provided a clear step forwards and it became even more significant when the Natural England lead on otter licensing agreed that it would be perfectly acceptable to apply for such a licence in advance of a specific incident occurring. In other words, if a fishery held a valuable stock and had been fenced to an acceptable standard, a pre-emptive application for control could be made to cover against the possibility of an otter gaining access; almost like an insurance policy against such an occurrence.

The other scenarios I presented were increasingly complex situations where there is predation on a stillwater that couldn't be fenced and protected and predation on a river. These scenarios are inherently more complicated because it is harder to prove the Purpose Test, even if the other two tests are met.

If you trap an otter in a fenced fishery and remove it, you should solve the predation problem if the fencing is improved. However, nature abhors a vacuum and trapping or lethal control on a stillwater that cannot be fenced is likely to result in another otter taking the place of the animal that's been removed. It is difficult to prove therefore that the control applied for will actually solve the predation problem. This scenario also comes up against the Favourable Conservation Test, as repeated control may also impact on overall otter numbers, especially if lethal control is used.

On rivers, the scenario is even more complicated as it is also far harder to prove that the relative impact of otter predation (compared to other problems such as pollution, other predators etc) justifies control.

Of course these complexities can be debated further and if a licence application submitted in these more complex situations was refused, any decision could be challenged. The next logical step however seemed to be to test the licensing process for the simple, fenced fishery scenario, where Natural England had agreed that they would grant a licence for the humane trapping and removal of an otter, and that they would do so in advance of any predation actually occurring, provided that the tests had been met.

I planned to submit an application for the humane trapping and removal of any otter that got into



Stillwater carp fisheries in particular provide livelihoods and support businesses in a way that was unheard of until recent years.

Ashmead, which is a fishery that we have fenced to protect a valuable stock of carp that is the cornerstone of our family business. A successful application for a licence in this scenario would not only clarify Natural England's position; the application process itself it would set precedents and principles that could be applied to other similar fisheries, allowing any adequately fenced fishery to apply for a control licence with confidence that it would be granted.

Equally, the precedents and principles set by the granting of any licence to control otters would then be applicable to the more complicated situation on stillwaters that cannot be fenced and fisheries on rivers.

What are those precedents and principles? First, and most importantly from my perspective, proof that angling and otter conservation interests can debate the issues and work together to develop practical solutions. Second, that control can and will be sanctioned: the current licence is for trapping and removal from fenced waters but if that fails, the only



***'In that context I got involved with the predation issue, mainly because I believed I could bring a breadth of professional conservation and fisheries management expertise to the debate.'* Mark, near right, at a 'summit meeting' of the Predation Action Group in 2016, with Joss Faulkner in the check shirt at the far end of the table.**



The otter fencing round the Ashmead site; expensive to install and expensive to main in essential good working order.



An ottered carp, a tragic and expensive sight for any fishery owner.

logical step in that scenario is lethal control. Third, that if control is acceptable on a fenced water, then unfenced fisheries should not be excluded from receiving the same level of protection unless there are really sound and fact-based conservation reasons.

So although the approval of a licence for the trapping and humane removal of any otter that gained access to Ashmead would be very limited in itself, it would be a massive step forward in framing future discussions about otter management.

Events then took an interesting turn. Through Joss Faulkner, who was a fellow member of the PAG Board, I met Dave Webb who is the head of the UK Wild Otter Trust (UKWOT), the largest otter trust in the UK. Dave is a practical otter conservationist and he shared the view that the restoration of our otter population can only be considered successful if the damaging impact of otters on fisheries and wildlife can be mitigated. He was committed to working with angling interests to provide solutions to the problems fisheries now face.

It was immediately apparent that a partnership approach to the issue would be much more powerful than a polarised argument between fisheries and otter conservation interests. A partnership formed between between myself and Joss Faulkner (who both had PAG support), UKWOT and the Angling Trust. This culminated in UKWOT submitting an application to humanely trap and remove otters from any stillwater fishery fenced to an adequate standard.

Footnote: As a result of the initiative Mark describes in the final paragraph of this excellent assessment of a complex situation Natural England agreed to the issue of a class licence (Class Licence WML – CL36) authorising NE-approved trappers to trap and remove an otter from a suitably fenced fishery, along guidelines outlined in the features which follow.



Although the approval of a licence for the trapping and humane removal of any otter that gained access to Ashmead would be very limited in itself, it could be a massive step forward in framing future discussions about otter management.

Otter Trapping Legalities and Realities

Otters are protected by the Wildlife and Countryside Act 1981

See also Wild Mammals (Protection) Act 1996 below.

Offences under Section 9 WCA 1981

- Section 9 (1): intentionally, killing or taking any such animal.
- Section 9 (2): possession or control of any live or dead animal included in Schedule 5, or any part of, or anything derived therefrom,
- Section 9 (4): Intentional or recklessly damaging, destroying or obstructing access to any structure or place which such animal uses for shelter or protection,
- Section 9 (5)(a): selling, or possessing or transporting for sale, any such animal live or dead, or anything derived therefrom,
- Section 9(5)(b): advertising for such a purpose
- Relevant provisions to this application

- S9(1) Protection of certain wild animals makes it an offence to “kill injure or take” an animal listed in Schedule 5
- S9(2) Possession of any animal or part thereof, alive or dead constitutes an offence
- S9(5) Creates an offence for any person who knowingly permits a prohibited act to take place

Otters are Listed under Schedule 5 as protected

Lutra Lutra – Common or Eurasian otter

It is a defence under

- 10 (4) Notwithstanding anything in S9, an authorised person shall not be guilty of an offence by reason of the killing or injuring of an animal included in Schedule 5 if he shows that his action was necessary for the purpose of preventing serious injury to live stock(.....) or fisheries.
- 10 (6)c An authorised person shall not be entitled to rely upon the defence provided by subsection (4) as respects any action taken at any time, if it had become apparent

before that time, that action would prove necessary for the purpose mentioned in that subsection and either

1. a licence under section 16 authorising that action had not been applied for as soon as reasonably practicable after the situation had become apparent or
2. an application for such licence had been determined

Application to become an authorised person under s16

Section 16 Wildlife and Countryside Act 1981 creates the power to issue such general licences.

The operative words of Section 16(1) WCA 1981 are:

“If it is done under and in accordance with the terms of the licence granted by the appropriate authority.”

The Statutory purposes relevant to this application are:

for the purposes of preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber, (fisheries or inland waters).

What constitutes an authorised person

Licence conditions

1. An “authorised person” means:
 - The owner or occupier, or any person authorised by the owner or occupier, of the land on which the action authorised is taken;
 - Any person authorised in writing by the local authority for the area within which the action authorised is taken; and
 - Any person authorised in writing by: English Nature, a water authority or any other statutory water undertakers, or a local fisheries committee constituted under the Sea Fisheries Regulation Act 1966.
 - The authorisation of any person for the purposes of this definition shall not confer any right of entry upon land.
2. An authorised person on a daily basis shall inspect

every cage trap used under authority of this licence when the cage trap is in use except where this is not possible because of severe weather conditions e.g. as a result of heavy snowfall. In such cases, every effort must be made to inspect the cage trap as soon as possible. At each inspection any birds caught in the trap shall be removed from it.

3. Where cage traps are left in the open but not in use, they must be rendered incapable of holding or catching birds.
4. Any birds killed under the authority of this licence shall be killed quickly and humanely but no method of killing shall be used which is prohibited by section 5 of the Act.
5. For the purpose of this licence, "to kill" includes accidentally to wound, whilst attempting to kill.
6. For the purposes of this licence, "livestock" includes captive game birds.

DEFRA Wildlife Management Policy

The overarching aim of DEFRA's Wildlife Management Policy Making Framework is to provide a consistent, evidence based and sustainable approach to managing interactions between wildlife and people.

Natural England is responsible for the delivery of almost all DEFRA Wildlife Management policy. General presumption is that Wildlife is not killed. Non lethal means must be investigated.

"there comes a point when damage caused by wildlife becomes unsustainable and lethal methods of control are required"

DEFRA policy is to issue licences to kill where

1. All other reasonable non-lethal solutions have been tried and/or shown to be ineffective
2. there is a genuine problem/need
3. there are no satisfactory alternatives
4. the licensed action will be effective at resolving the problem and the action is proportionate to the problem

Are Electric Fences Legal?

Schedule 6 Wildlife and Countryside Act 1981
Schedule 6 prohibits certain methods of killing and taking animals listed in the schedule (i.e. indigenous wild animals not regarded as pests).

(Note: Some species listed in Schedule 6 also appear in Schedule 5).

Under section 11(2)(a) and (b) WCA 1981 a person commits an offence if s/he either sets in position any trap, snare, electrical device for killing or stunning or

any poisoned or stupefying substance so placed as to be calculated to cause bodily injury to any wild animal listed in Schedule 6 of the Act or uses any such article or net for the purpose of killing or taking a Schedule 6 animal.

Defence to Section 11(2)(a)

Under section 11(6) it is a defence to show that the article was set in position by the accused for the purpose of killing or taking, in the interests of public health, agriculture, forestry, fisheries, or nature conservation, any wild animals which could lawfully be killed or taken by those means and that s/he took all reasonable precautions to prevent injury thereby to any wild animals included in Schedule 6. (N.B., this defence is not available to an offence under section 11(2)(b).)

The Natural England directive re the issue of Class License WML – CL36 is limited to suitably fenced still-waters. Otters can be trapped under rigorous guidelines and then released immediately outside the fishery where they were trapped. See PAG comments and Guide to Trapping.

The National Gamekeepers Organisation (NGO) ruling was that public opinion could not be taken into account in applying the law. Our talks with the Angling Trust reveal that public opinion re otters is a strongly influencing factor in terms of possible measures to control predation by *Lutra lutra*.

The NE licence conditions are not practicable in terms of time sensitivity.

The NE implied encouragement to fence still-waters does not appear to comply with Defra policy re the open countryside and the reinstatement of farmland birds:

There has been no otter survey published since 2010, and even that information will have been at least a year old at the time of publication. The powers-that-be can have no idea of the scale of the current otter population.

There are grants available for the protection of still-waters, a recognition by the authorities that otters are a threat to still-waters. They are the only ground threat to still-waters. Fencing represents a concern for otters, and ignores all the other species that require access to still-waters as breeding centres and watering holes. RSPB's suggestion that they are fencing to protect otters is laughable. The otter is recognised as an apex predator.

'Fence it' is now claimed to be the solution to all our problems. It is a solution for a minority of waters, and even then it is anti-nature. An increasing number of RSPB reserves are being fenced because our bird life is at risk from 'ground predators'. An increasing number of carp waters are being fenced, out of necessity. When you've fenced all the still-waters it is possible to fence, how much vulnerable bank space

will remain unprotected, and at the mercy of ground predators? – all large still-waters, all natural waters, all bankside multi-tenancy waters, all rivers, and all canals. When you have fenced every water it is possible to fence you may have 1%-2% of predator-vulnerable bank access fenced, at most. That suggests an element of discrimination in Natural England's directive that may be open to challenge.

Lonsdale Angling Club Trapping Experience

I'm secretary of Lonsdale Angling Club in Lancaster. We have had an otter on our fenced lake for three weeks now. Authorised traps have been in place for two weeks. Finally the otter was caught in a trap this morning. The process for getting the authorisation was quick and painless thanks to Richard Bamforth of the Angling Trust, who is authorised to use the traps. Fortunately for us the otter was small, possibly a young one, one year old, and possibly too small to take big fish, so no carp were lost. The time taken to trap the otter would have been unacceptable to



Trained and approved otter trapper and fishery owner Mark Walsingham demonstrating an otter trap.

club members if carp were being lost. I suspect the NE or AT may promote this as a success but in reality those two weeks could have been very damaging to the club if the otter had been able to kill carp – and it would have been a much greater struggle to keep club members within the law. **Thanks, Matt Dent.**

At the time of going to press we have been made aware of changes to the conditions pertaining to the trapping process dating from 31 Dec 2018, which registered trappers should be aware of. If you require further details please visit:

CLASS LICENCE Otter: live capture and transport: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/771011/cl36-otter-trapping-licence.PDF



We are proud to announce that the following are among the patrons supporting the work of the Predation Action Group





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The PAG need your support and your donations. Visit us online for more info:
www.ThePredationActionGroup.co.uk
 The effects of predation are a serious issue facing fishing in the UK, we are the people facing the issue.

Simplified Step-by-Step Process for the Trapping of Otters

Under Class License WML – CL36

Pre-requisites for fishery owner/manager:

- Ensure the fishery is appropriately fenced to the approved standard (see WML – CL36 Annex C)
- Ensure evidence is available to confirm the fishery contains value stock that would result in financial loss if predated upon by otters.
- Apply to Natural England (NE) for the necessary training and subsequent approval/registration under Class License WML – CL36 Otters: Live Capture and Transport,
- OR for contact details of one of the current registered persons (under WML – CL36).

Contact details for Natural England

For licensing enquiries:

Telephone 020 802 61089

Email wildlife@naturalengland.org.uk

Postal address Technical Services, Wildlife Licensing, Natural England, First Floor, Temple Quay House, 2 The Square, Bristol, BSI 6DG

For other enquiries use the Enquiry Service:

Telephone 0300 060 3900

Email enquiries@naturalengland.org.uk

Web <https://www.gov.uk/government/organisations/natural-england#org-contacts>

- Ensure landowner's permission has been obtained for any trapping associated activity.

Step-by-Step Otter Trapping/Release Process for Registered Persons Under Class License WML – CL36:

1. Ensure other legal and practical means of removing of otters from the fishery have been considered and have either failed or proved to be impractical prior to notification of intent to trap
2. Notify NE by e-mail using form found at WML – CL36 Annex D at least 5 days prior to any action taking place and forwarding to the e-mail address of the appropriate NE Area Team (see WML – CL36 Annex B).
3. Confirm appropriate landowner permissions have been obtained.
4. Inspect the fishery fencing prior to any trapping action. Ensure identification and rectification of any damage/breaches.
5. Ensure traps are of the approved standard (see WML – CL36 Information and Advice).
6. Ensure all traps are set at locations above normal flood plain and in accordance to the license conditions and recommendations.
7. Once set, ensure traps are inspected at least twice in any 24hr period in accordance to the license conditions and recommendations. [Note: Traps may be visually checked by an un-registered person who may report the outcome to the registered trapper. It is only the registered trapper who may set or handle the trap and any animal caught within it].
8. Any trapped otter to be released at the earliest opportunity, outside of the fishery fencing, near the fishery and close to a body of water.
9. Once trapping activity has completed, a "Report of action taken under license" (report form WML-LR-CL36) needs to be completed and sent to NE within 14 days.

National Gamekeepers' Organisation Legal Ruling

There are references to the National Gamekeepers' Organisation (NGO) legal ruling elsewhere in this publication. The ruling took place on 13th November 2015. A gamekeeper had applied for a licence to control buzzards which were preying on young pheasants, and thereby damaging his livelihood. The application was refused by Natural England.

The reporting of the ruling focused on the following points from the ruling:

1. 'Natural England and Defra had exceeded their powers and had unlawfully adopted a policy that made it more difficult to get a licence to shoot raptors that were preying on game birds than it was for other birds covered by the same law.'
2. 'Granting a licence for a gamekeeper whose livelihood is threatened and who has tried every non-lethal measure to stop buzzards killing his game birds is no different to a farmer being granted a licence to stop ravens killing his lambs in the uplands. It is right that wild birds should enjoy protection and illegal killing be condemned, but in extremis the flexibility in the law designed to maintain a balance should be observed.'
3. The Judge criticised Natural England, making it clear that public opinion should not be taken into consideration in the application of the law, and added that the decision had been made according to an undisclosed policy which went beyond NE and DEFRA's power in law.

Natural England can argue that in extremis they would grant a lethal control licence for otters. Graham Scholey admitted as much when Mark Walsingham had his licence talks with NE and EA prior to the issue of the UKWOT licence.

Defra and NE may well cite the absence of licence applications. Mark Simmonds' experiences, reported elsewhere, look more significant here. He has been told he has no redress, despite his losses of £250,000. He could get no grant for fencing at that time, but

was told that fencing was his only remedy. It could be argued that he was in a similar position to the frustrated gamekeeper.

So now the final question to address on otters' impact on fisheries:

At some point the thorny question of the NGO decision is going to have to be faced.

The case for fishery owners and fish farmers who stand to, or are suffering, financial loss through predation – and have taken all possible measures to protect their livelihoods – suggests a complete parallel with the appellant pheasant breeder's situation.

Angling's apparent decision to playdown the near-identical nature of the case where NE and DEFRA had exceeded their legal powers we presume revolves round Shooting's ability to fund a Judicial Review, whereas angling is the poor relation and would be more challenged to do this, added to which it appears to be an avenue Angling Trust are unwilling to explore on behalf of anglers.

The PAG is not suggesting a cull of otters, but we would argue that they need to be excluded from a heavy, destructive presence on fisheries, including those waters that cannot be fenced.

Otter trapping from fenced fisheries. The only example we have is Lonsdale Angling Club's, reported elsewhere, where it took two weeks to trap an otter. If that had been an adult, not a juvenile, then all the large, valuable fish would have been lost. Quote from the club: 'The time taken to trap the otter would have been unacceptable to club members if carp were being lost.' If an animal can't be trapped in very short order then the process is meaningless.

In the light of the two weeks of effort to trap an otter in an enclosed fishery this is far from an ideal solution. The law, and the application of the law need to be upheld.

If trapping is considered a long-term solution than the trapped otters need to be removed to an otter sanctuary, not released to pass the problem on to another fishery.

Issue of buzzard licence

Natural England is providing further information regarding the issue of a licence for buzzard control.

We recognise the strength of public feeling following the decision to issue a licence to control up to 10 buzzards and we are providing further context to this case.

Wildlife licences are required from Natural England for activities that will disturb or remove wildlife or damage habitats and can be granted to prevent damage to agriculture, livestock, fisheries, property or archaeology.

So far this year, we have received over 5,500 wildlife licence applications covering a variety of species. In deciding whether a licence should be granted, all applications have to be assessed in the same way against the relevant policy and within the legal framework of the Wildlife and Countryside Act 1981.

We fulfill this role as a wildlife licensing authority, alongside the range of our statutory responsibilities as government's adviser on nature conservation.

In assessing the buzzard licence application we took into account the legislative tests and policy guidance, the evidence received from the applicant, industry guidance and scientific literature. The application was rigorously assessed with input from specialists across our organisation.

The High Court has recently considered the issues surrounding the granting of a licence to kill buzzards in order to protect livestock and given clear direction on the decision making process. This includes the need to balance the protection of wild birds against the requirement to prevent serious damage to livestock and the need to adopt a consistent approach to the interpretation of policy which applies across a number of species. Natural England has taken account of the court's findings in reaching this decision.

The licence to control buzzards was issued to protect against serious damage to livestock. The Wildlife and Countryside Act 1981 defines livestock as any animal which is "kept for the provision or improvement of shooting or fishing".

Our guidance says that where birds are either in pens or are significantly dependent on people they are classed as livestock. For example, where a bird remains in close proximity to a release pen and will often return to it for shelter or to roost at night, and is dependent on food put out by the gamekeeper then we usually consider it to still be livestock even if it is free-living. As pheasants are released at a relatively young age, they will be dependent on the gamekeeper for several weeks at least. Natural England revised this guidance to take account of the High Court ruling, having consulted our stakeholders.

As a public body, Natural England has to balance the public interest with the security of the individuals who apply for licences. In the interests of transparency, Natural England will shortly be making documents associated with the assessment and granting of this licence publicly available. These also include details about control methods, assessment and criteria under which the licence has been granted. Any disclosed documents will be released in accordance with the Data Protection Act 1998 and therefore some details, such as personal information, may be redacted.

We would not consider licensing any activity which would adversely affect the conservation status of a species. Buzzards are now widespread in England, with over 60,000 pairs in the UK (British Trust for Ornithology). The loss of a small number of birds at the specified site will have no impact on the overall conservation status of the species.

It is illegal to kill wild birds without a licence from Natural England and anyone who suspects a wildlife crime should report details to the police.

The Fencing Phenomenon: The Tip of the Iceberg

(Is fencing really the answer to all our predation problems?)

Environment Agency

EA is an executive non-departmental public body, sponsored by *the Department for Environment, Food & Rural Affairs (formerly MAFF)*.

Angling Trust quote from ‘Where does our licence money go?’

‘What is the Environment Agency trying to achieve when it is spending Rod Licence Money?’

Well it’s the Government. In the form of the Department of the Environment, Food and Rural Affairs (DEFRA) who tell the EA what their aims are, and they state three key objectives:

1. To ensure the conservation and maintain the diversity of freshwater fish, salmon, sea trout and eels and to conserve their aquatic environment
2. To enhance the contribution salmon and freshwater fisheries make to the economy, particularly in remote rural areas and in areas with low levels of income
3. To enhance the social value of fishing as a widely available and healthy form of recreation’

Natural England

NE is responsible for the delivery of some of Defra’s public service agreements (e.g. reversing the long-term decline in the number of farmland birds by 2020 and improving public access to the countryside).

NE has 2,000 staff in offices throughout England. Their responsibilities include the following:

1. Promoting nature conservation and protecting biodiversity
2. Promoting access to the countryside and open spaces and encouraging open-air recreation
3. Contributing on other ways to social and economic well-being through management of the natural environment, e.g. changes to wildlife licensing to improve flexibility for developers.

The Fencing Phenomenon

The only recourse fishery owners have for protection from otters is to fence their waters. For various reasons only a small percentage of still-waters can be fenced. Rivers cannot be fenced, although research reveals that there were attempts to fence some stretches of Scottish rivers early this century to minimise otter predation of adult salmon. Similarly canals cannot be fenced.

A survey of immediate contacts of the Predation Action Group suggests that in excess of 1500 still-waters have already been fenced. Taking a conservative mean cost of £30,000 per site means that in excess of £45,000,000 (£45million) has already been spent on fencing. It is safe to say that in the light of the current protection otters enjoy many more will be fenced in the immediate and foreseeable future. These fences are not just to protect fish, they are necessary to protect livelihoods and the rural economy.

We have access to the costing of many fenced waters, but the cost of fencing the 28 RSPB reserves that have already been fenced is unknown. The RSPB has 200 reserves. 1300 employees and 18,000 volunteer workers. The erection of the 3½ kilometre fence round the RSPB’s Adwick Reserve is well documented on the web. (Picture of Adwick Reserve fence from website: www.rspb.org.uk-2017/05/16.)

There is a limited amount of money available each year for grants towards the cost of erecting fences to protect angling waters via the Angling Trust (see Chris Currie Appendix to this feature). In addition original PAG chairman and philanthropist Korda supremo Danny Fairbrass formed his company Embryo Angling in 2014 to acquire and protect angling waters, and give financial and practical assistance in the fencing of others. A visit to the Embryo website reveals that as at the summer of 2018 Embryo had acquired and protected 13 lakes, had subsidised, or paid for in full, the fencing of six other lakes, and estimated that they had erected 26+ miles of fencing round lakes. (Tel: 01268 285987. Email: info@embryoangling.org)

In addition Embryo has recently acquired a complex of day-ticket fisheries in Lincolnshire which will provide employment for a number of people.

Danny Fairbrass has a sterling track record for sponsoring carp and specialist angling politics.

Purely on the basis of personal contacts and contributors to this publication we are in a position to give details of a number of other fencing initiatives that have been undertaken

Girton Fishery near Newark, Lincolnshire. 2.7 kilometres of fencing round the 1000-acre 4-lake site installed by Embryo at a cost of around £40,000. Site clearance carried out in advance by the owners, AJS Fisheries.



The 3½ kilometre fence round the RSPB Adwick Reserve.



Interviewing Embryo's Danny Fairbrass and Matt Pettit for a magazine feature in 2015.



Embryo fencing round the 1,000-acre AJS Fisheries site near Newark in Lincolnshire.

East Delph Lakes, near Whittlesey, Peterborough, Cambridgeshire.

Information and pictures received from James Mackay of the East Delph Club, with thanks:

Fencing round a 15-acre site. Rough cost £16,000, which included a £2,000 reduction for site clearance and in-house labour supplied. Design by Bruno Broughton includes an electric fence over robust tornado wire with an overhang.

Steve Burke's Fishery near Canterbury, Kent. 2½ miles of metal fencing buried to two feet to keep otters out and to prevent rabbits digging access/egress



The Delph Fisheries successful electrified fence designed by Dr Bruno Broughton.



The turnover at the top of the fencing, an essential feature of successful otter fencing.



The design features of one of Dave Moore's successful fences.



The successful Dave Moore fence.

holes otters can use. Necessary clearance carried out in advance by the owner, Steve Burke and staff. There are an increasing number of otter reports from Kent. Estimated overall cost of installation approaching six figures.

Dave Moore's Fencing Information

Dave lives near Boroughbridge in north Yorkshire. He is high profile in angling circles, being a successful carp angler who has written numerous magazine articles. Dave erects fences in an effort to keep costs down for people, and in an effort to ensure that the fence will actually do what it is supposed to do – keep out otters. He has this to say about waters in his immediate area, mainly within eight miles of where he lives:

'This is a list of lakes around here that have been otter fenced, plus some approximate costs and design features:

Ripon Black Heath pond – This lake has been fenced twice because the first fence following EA guidance proved to be inadequate and never stopped predation. I don't have a picture of the first fence but basically it wasn't the right height and didn't have a large enough overhang, just to name a few of the problems it had! First fence cost £14k but was a complete waste of time in many aspects. The fence is basically a minimum of 1.5m high, sunk into the ground 0.4m, but the trench immediately in front of

the fence wall is filled with a layer of anti-dig material. The over-hang is 0.5m and at almost 90 degrees. The fence has also been installed in a 5m clearance envelope to ensure there are no tree links. Since being installed it has been 100% effective and is possibly the most cost-effective design. It cost £16K to install, making the total expenditure on fencing since 2008 £29,000.

Brafferton Fisheries – I don't have much info other than the owner paid £15,000 for the fence.

Raskelf Lake – Again this lake has been fenced but only partially a second time with the most expensive solution but effective. First fence was EA design and certainly had problems, mainly due to terrain and trees. The first fence cost £18k and has now been partially replaced with an anti-climb solid mesh panel design. This fence comes in 3x3m panels and is very expensive, but due to its coating and profile is impossible for an otter to climb. The fence is installed in a trench 0.6m deep making the total height above ground 2.4m. The cost to install and do the necessary ground works to date is £30k. Total cost since 2009 £48,000. However, the old fence design section has now had a two DC scare-wires installed, which is a temporary fix whilst trying to raising funds for the final stage. The fence design minus the electric wire is what the EA was promoting as an otter-fence design.

Ingmanthorpe Lake – This is a larger lake in a 44-acre site that was fenced in 2012 at a cost of around £80,000, with labour. The design is basically 3.0m high 50x50m chain link fencing installed 0.5m into the ground in an anti-dig trench, with a 0.5m 90 degree overhang making the fence approximately 2.0m high. It's also been additionally protected with a DC scare wire system. This fence has been 100% successful but again was installed correctly recognising the need for a substantial clearance envelope.

Lingers (Harrogate and Clero angling club) – Very big site; the lake is 90 acres. All I know is the materials cost 35K and the lake has a periphery of 3.5km. You can easily assume that with labour it cost more than £75,000.

Staveley Lakes – Bradford City venue – I know the guys that did this and it cost them £20,000, but in my opinion it may prove inadequate for keeping out otters.

Ripon Angling Club – They have fenced two of their venues but not the Racecourse Pond that has sadly been lost to the otters. Not sure what they cost but knowing the sites and the fence design it will have set them back at least £30,000.

Grafton Mere - Just fenced at a cost of £20,000

Pioneer Lake - Private syndicate in Roecliffe; fenced immediately it was created and cost £25,000.

All these lakes are within 8 miles of my front door. I don't know of any lake that has survived up here that hasn't been fenced: Potter's Pond, Brick Yard Ripon, all of Boroughbridge Angling Club lakes and the club itself – all gone. When I first moved up here in 1995 there were lots of farm ponds and small caravan parks that had lakes, good starter venues for young anglers. They have all been devastated by otters, cormorants and goosanders. The final blow has been to the rivers. I live minutes from both the Ure and Swale and what's happened to them in the last decade can only be described as disastrous.'

Hull & District Angling Association, East Yorkshire

Hull & District have erected over 12 miles of otter fencing to protect 12 of their lakes at a cost of £75,000. Funding was obtained for five of the lakes. The majority of the work was done via the voluntary labour of members. Otter predation had taken place on a number of the lakes prior to the fencing being erected.



A north Yorkshire fence that proved to be inadequate for keeping out otters.



The efforts of club and syndicate members made the fencing of the 12 Hull and District waters possible.



One of the Hull & DAA completed fences

The Carp Society's Horseshoe and Farriers Lakes, near Lechlade in the Cotswold Water Park

Fishery Manager Miles Carter reports: Please find attached a few photos of the fencing at both Farriers and Horseshoe. The length of fencing at Horseshoe was 2,500 metres; Farriers was 1250 meters plus Little Farriers (4 acres, I can't remember the exact metres). The cost of Horseshoe was around £35,000. Farriers and Little Farriers was roughly the same price. Although the meters were less at Farriers, the shape of it, and the clearance work before the fence was erected made it a more difficult task. The company who did the work was Otterstop, run by Dave Marvell. Total cost overall £70,000+, with much of the clearance work having been done in advance by members.

Horseshoe Lake is immediately adjacent to Tim Small's Trout Farm covered in detail in Tim's article.

Homersfield 50-acre angling site in Norfolk with a 40-acre lake. 1¼ miles of otter fencing erected many years ago at a cost of £40,000, with the fence posts, wiring and clearance work supplied by the owner. At the time this was considered to be the longest anti-otter fence in existence. The need for this fence and the work entailed is highlighted in 'One Man's Passion for Carp' about Norman Symonds of Waveney Lakes and Homersfield Lake fame.

Unnamed Essex Club Lake: PAG vice chairman Derek Stritton reports that the fences are for two lakes, one of four acres and the other of five. Cost for both was in the region of £36,000, but that didn't take into account the clearing and trench digging for one fence which the club did themselves.

Mark Walsingham's Ashmead Fishery: The 2¼ kilometre fence round the Ashmead fishery wetland site was installed many years ago at a



The Carp Society waters near Lechlade in Gloucestershire had to be fenced at a cost of £70,000+.

cost of £17,000. Maintenance cost is of the order of £500 per year. Total cost over the years circa £40,000.

Elsewhere in this document Adam Roots highlights the fencing of waters in the Southwest in his exposé of otter and cormorant predation in Devon and Cornwall. It is ironic that two unsolicited quotes summing up the impact of otter predation come from geographical extremes:



Clearance work in progress for an Essex club lake.



A section of the 2-mile fence round the Homersfield lake site in Norfolk.

Dave Moore in north Yorkshire, ‘I don’t know any lake that has survived up here that hasn’t been fenced,’ and Adam Roots in Cornwall, ‘No Fence, no fish’.

The first otter predation requiring fencing protection took place in Cumbria in the northwest when Fred Sykes suffered severe otter intrusion in the late 1990s, as reported in detail at the time in *Carpworld* magazine. The first wide-scale predation to be highlighted was by John Wilson in Norfolk, as witnessed by Norman Symonds’ fence described above. Some will argue that in addition to protecting livelihoods the fencing of waters is creating important nature reserves. Others can make the point that wide-scale fencing is contrary to the interests of biodiversity in that it denies mammals access to their natural watering holes.

We would argue that a spend of approaching £50million – and counting – on fencing is a lot of trouble and expense to go to in protecting fishery interests from an over-protected mammal whose existence was threatened 40 years ago, not from predator controls, but from now-banned pesticides.



One of the problems you encounter in trying to keep otters at bay is the fencing of inlet and outlet streams.



Redmire is probably the most famous carp water in the world – and has been since the early 1950s. The lovely 3-acre pool was free from the attentions of otters until three years ago. Now it is fully fenced.



There are numerous still-water fisheries that cannot be fenced but make an essential contribution to the rural economy.

Redmire Pool, where a carp found dead had all the hallmarks of an otter attack.

ICONIC | EVIDENCE IS DISCOVERED

LEGENDARY VENUE HIT BY OTTERS

Predators strike at Redmire Pool

BY BEN MILES
REPORTER
ben.miles@bauermedia.co.uk

The soft tissue around its gills and throat were eaten away," said Redmire boss Les Bamford. "I'm hoping that this was just a one off by a single predator, but we'll up the surveillance and if we find that the pool is being visited by more than one otter, then we will we take every precaution necessary to protect our stocks."

Redmire is particularly close to the heart of famous angler and renowned author Chris Yates, who fished the pool many times, culminating in his capture of a new British record weighing 51lb 8oz in 1980.

Chris, who also filmed at the venue for the famous A Passion For Angling series, said: "I have my fingers crossed that this has been done by an opportunist otter that is just passing through. "I saw otters and their tracks on riverbanks around a mile from Redmire back when I was fishing it, so it's easy to get carried away, especially in the current climate with so many lakes and rivers being decimated by the predators.

Chris Yates with his British record in 1980. It was caught from Redmire Pool.

"The sheer number of formerly captive otters that have been released into the wild with no environmental studies of what impact they might have on fisheries is a huge problem that sooner or later has to be addressed," he said. "Just hope that Redmire doesn't become one of the countless UK venues which are having to deal with this highly stressful and indeed costly problem."

Redmire cutting.

The Fencing Phenomenon and Improvement Grants

Chris Currie

I work regularly on fencing and fencing grants for clubs and private individuals. Having filled out a fair few applications in the last 4 years, I actually have a prefilled form ready all the time. The fencing grants are available from various sources which include:

Angling Trust via the Environment Agency

Biffa

Sport England

Tesco

The main one is Angling Trust. This money is secured from the EA from rod licences and distributed under the Angling Improvement fund. They run two streams a year, on average, and offer up to £5,000 per stream for predator protection measures, unless the party applying is willing to match the figure then they will

consider more funding. Their last round of funding was a minimum £300,000 of rod licence money and was made available (to those that applied) which was in July 2018. The windows for applying tend to be three months long but there is no limit to how many times you can apply. There is a form on the website which needs to be completed.

Information from AT: 'The Angling Improvement Fund was launched in January 2015 when £65,000 of fishing licence money was allocated for angling organisations to improve facilities, buy equipment and do other projects in support of the National Angling Strategy. Since then over £1.3million of fishing licence money has supported more than 370 angling projects worth an estimated £3.8million.

<https://www.anglingtrust.net/page>.

[asp?section=1097§ionTitle=What+is+the+Angling+Improvement+Fund%3F](http://www.sportengland.org/funding)

<http://www.sportengland.org/funding/>

<https://www.biffa.co.uk/sustainability/landfill-communities-fund>

<https://www.groundwork.org.uk/tesco-local-community-scheme-uk-programmes>

<https://www.entrust.org.uk/landfill-community-fund/>

Footnote: The grants available will vary from year to year, and the policy of making grants may be reviewed from time to time.

AT runs a short course for clubs and fisheries on how to write a bid. It is very good. Clubs may need to ask someone like Mark Wilton, Angling Improvement Fund Administrator, for details. mark.wilton@anglingtrust.net

Compiled by Chris Currie, Countryside Management Consultancy Services at The Cutting Edge Of Specialised Countryside Management: 07972 500924

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Wasted Otter Fencing!

Chris Burt

We are hearing comments that otter fencing is not always protecting waters as it should, and that otters are getting into fisheries. Personally I am very surprised that this can happen, providing the fence has been properly installed unless storm damage or similar has broken part of your defences.

Having seen one recent fence, however, I can now understand how this can happen. Tragically a club had installed a professionally built fence round a ten acre water but had broken so many of the fundamental essential rules that are needed to get effective protection, a leaky bucket stands up well by comparison! To make this plain, the errors on installation meant that the fence might as well not be there, they had wasted the £15,000 or so that this must have cost to install.

So what "errors" am I talking of? Let's go back to March 2005 when SAA first published the results in a report;



"The use of fencing to prevent access by otters to fisheries"

The report was commissioned by the Specialist Anglers Alliance, using EA (Environment Agency) funding to pay for the work, and it set out to define the fencing needed to keep otters out of fisheries. Our benchmark was a water in Suffolk which had what we believed was the first effective fencing anywhere in the UK. So we toured the site with Otter expert Geoff Liles and others to see this 9 acre water, which had put up the fencing a few years back, and which had excluded all otter incursions since. Prior to this it had been heavily predated with fish to well over 30lb taken, very big specimens back then, and many other big fish were left with scarring and damaged tail fins as marks of their narrow escapes. The fence incorporated all the original, basic principles; 4' high fence, 18" out-turn at 45%, and 18" of fencing buried underground with the soil round it firmly tamped down.

It was just as well though that the otters had given

up trying to get through the fence we saw on that inspection. Hinged fencing didn't exist then, so chicken wire was used for the 18" angled out-turn at the top and wired to the upright main fence, at 6" intervals. Geoff noticed two of these small securing wires had come off, and we were told in no uncertain terms that "any otter following this fence round the fishery WILL find that break, even though it's not immediately obvious to the eye, and they will get in. The fence might as well not be here". We challenged that, one tiny break in a fence covering 9 acres, could a single otter really find that? Well, he had no motive for highlighting this other than a desire to help anglers, and avoid conflict between us and the conservation lobby (of which he was part), who were enthusiastically welcoming the return of the protected otter.

Just think on that, one tiny gap in that huge length of fencing, rendering the whole thing useless! In the years leading up to the fencing report I had many occasions to use his fund of knowledge on





This fence does what it says on the gate: keeps out otters!

otter behaviour and he was never proved even slightly wrong on any of it, so I trusted his judgement implicitly. Geoff was a key member of the team, along with fencing expert Roger Trout, which used captive animals at an otter sanctuary to exhaustively test various fencing he had seen, along with many variants, on these otters.

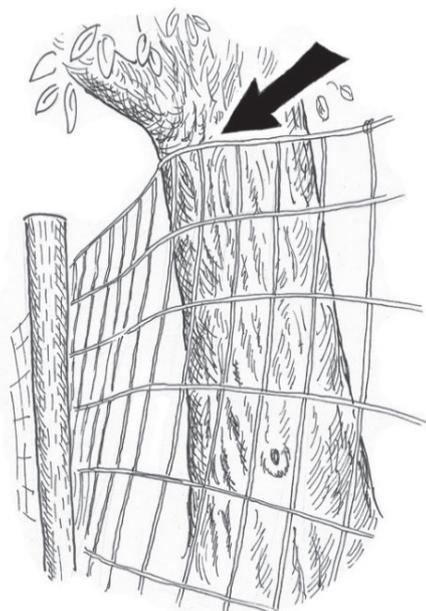
Basically the sanctuary had an outer pen which was sub-divided with an otter on one side, and food on the other, separated by the fence they wanted to try. The design we now use of 18" buried underground (or laid out flat away from the water and well pegged down for rocky or soggy ground), an upright fence with an 18" out-turn at the top, and close fitting gates over substantial lintels to stop burrowing underneath, has stood the test of time. Refinements have been made, of course, integral hinged out-turn of the wire being the best, and there are now solutions for streams

entering and leaving a fishery, and many others.

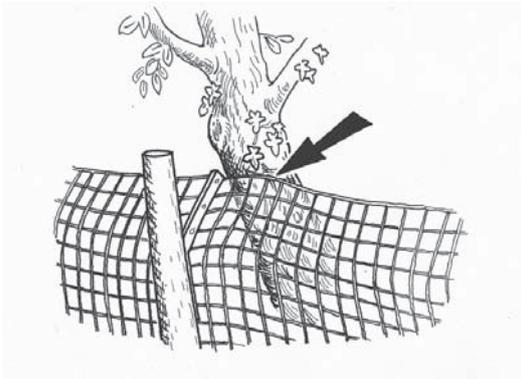
But the basic "Golden Rules" of installing these fences still apply. The tiniest errors like the one I outlined give a narrow gap in the wire, which would allow an otter to gain access to your fishery, and turn your fence into an expensive waste of time & effort.

Yet now we hear reports of fences that haven't stopped the incursions; but why haven't they worked? What mistakes, lack of attention perhaps, are being made? I have seen the following on just one venue;

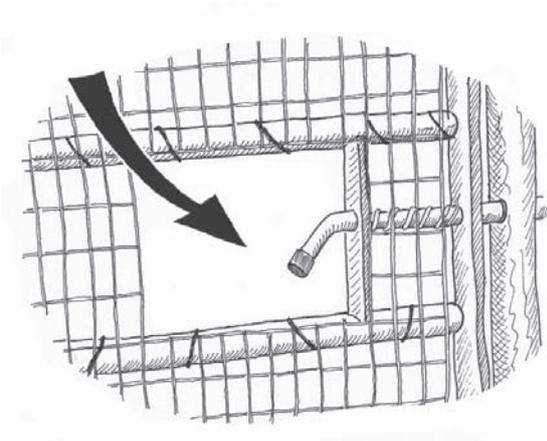
1. Whole stretches of fence where for ease of construction the fence has not been buried but laid on the surface of the ground facing out, but not pegged down-would take seconds only for an otter to get under
2. The fence runs very close in parts to trees, in some cases the out-turn is actually laid against a tree trunk. An otter can climb the upright tree trunk and be over that in no time at all



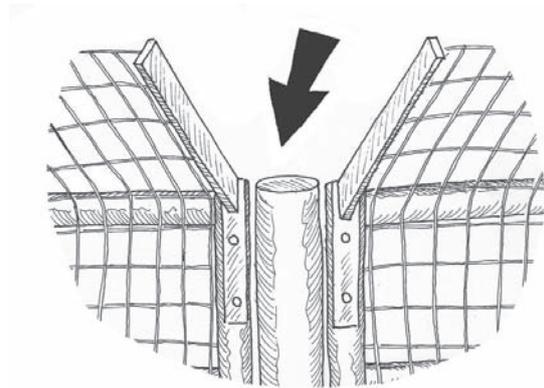
3. Even when the out-turn from the posts is only close to a tree, remember an otter can jump over, again making it very easy to gain access to the water



4. Purpose made holes in the gates so the access bolts are easy to operate but are probably big enough for a young otter to get through



5. As if that wasn't enough, the gap between the top of the gate and the main fence is large, so a clear run through



So all those have been errors made. Basic? Yes. Were the guide notes followed? Not here, and possibly on many other waters too.

So how often are clubs wasting all the time, money, and effort, plus the sight of a fence all round them, for nothing. You must watch the fine detail, both of how it's installed and the ever essential maintenance, or you will lose out when otters come your way. There will then be fish carcasses on the bank and a possible bill of up to £500 per visit to employ a licenced otter trapper.

If you know examples of where mistakes have been made, or otter access has happened, or can expand on the slip-ups outlined here, please share them with us, to help others avoid making the same mistakes.

Commentary: Life Cycle of the Salmon

The following will be common knowledge to those familiar with salmon, but not to all of us. As there is a wealth of evidence of salmon being predated at every stage of their existence, from pre-spawning, through incubation, in the rivers as alevins, fry, parr and smolt, and then at sea, it is hard to imagine that predation is not a significant factor in the failure of salmon stocks in the rivers of Great Britain to return to target levels. Cormorants and goosanders, in addition to our more traditional predators such as pike, kingfishers, and herons, predate on salmon at the alevin, fry and parr stages. There is strong evidence of the cormorant, goosander and otter populations making inroads into the parr and smolt stage, with informed predation estimates at this stage ranging from 20% to 48% to 70%, or even higher on some rivers. There is also evidence of adult fish being predated by otters while they are in our rivers, with a predation figure as high as 10% of the adult population being quoted by one of the sources.

Eggs are laid and buried in redds in gravel in late autumn. Males rarely survive spawning. Female salmon, or hen fish, can survive spawning and return to sea as kelts. Male salmon or cock fish usually die when spawning is over.

1. **Alevins** hatch in early spring but remain buried under gravel before emerging 4-6 weeks later.
2. **Fry** start feeding on tiny water organisms and grow quickly during their first summer.

3. **Parr** remain in fresh water for 1-4 years, feeding on insects.
4. Parr become **Smolts** in the spring of their second, third or fourth year.
5. Smolt have to undergo a transformation via smoltification to acclimatise them to salt water before they can migrate to sea. Smoltification takes place in the lower reaches of rivers, and in estuaries, over a protracted period of time, as long as a year or more in some cases. This is when the heaviest predation of salmon may take place.
6. Salmon travel great distances in the sea and feed on sandeels, krill and herring. **Salmon** return to the river of their birth to spawn after 1-4 years. **Grilse** are mature salmon which return to their native river after only one year at sea.

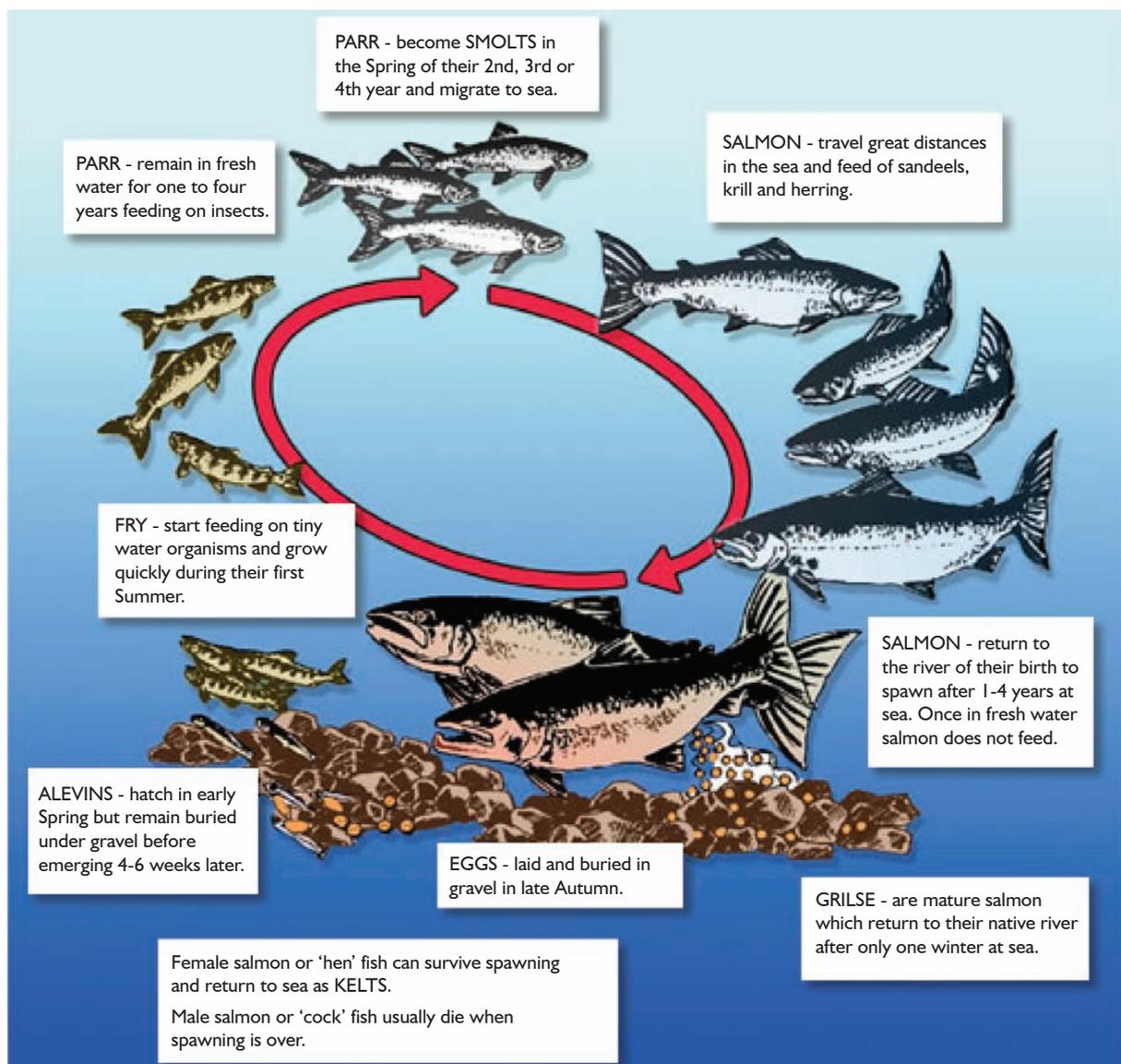
'Salmon smolt achieve a length of up to 16cm prior to heading out to sea.' **Salmon Life Cycle, snh.org.uk**

'With only 6% of the smolts that go to sea currently returning, compared to nearly 20% in the 1980s, each returning salmon is more valuable than ever.' **The Scottish Office of Agriculture and Fisheries Department Fisheries Research Services Report No 16/91 September 1991. www.gov.scot/Uploads/Documents/1691.pdf**

'About 3 years ago I was informed that of 15 salmon redds identified at Broadlands, on the Hampshire Avon half of the salmon had been removed by otters – and salmon are supposed to be an endangered species (sic).'*The Enchanting Killer*' by respected angling writer Dave Stuart: www.fishingmagic.com/fm/features/opinion/14710-otters-enchantingkiller-otters-html

In an article in *The Field* magazine published in May 2015, Tony Andrews, then executive director of the Atlantic Salmon Trust, asks: '**Atlantic salmon: can we save these wild fish?**' He lists the threats, which include predation, and poses this scenario: '*If the number of smolts that survive to become adults could be increased by only 2% or 3%, there would be a significant difference to the quantity of adult fish in our rivers.*'

The life cycle of the salmon from the Tweed Foundation website



THE PREDATION OF SALMON AND BROWN TROUT

'I know of successful businesses that have been badly damaged by excessive predation by cormorants, and we must give our inland fisheries the protection they need to remain healthy and productive.' **Owen Paterson MP, Secretary of State for Environment, Food and Rural Affairs, October 2012.**

We acknowledge that salmon face problems other than predation, not least from rising water temperatures, abstraction, pollution, and while they are at sea, but we are a group whose remit is to research, draw attention to and, if possible, combat the growing impact of predation. What follows is an attempt to put the impact of predation by crayfish, cormorants, goosanders and otters on salmon and brown trout in our rivers into perspective based on the research and observations of academics, researchers and casual observers. We focus largely on the issue of predation of fry, parr and smolt because that is where most research focuses, and because of the following quote:

In an article in *The Field* magazine published in May 2015, Tony Andrews, then executive director of the Atlantic Salmon Trust, asks: **'Atlantic salmon: can we save these wild fish?'** He lists the threats, which include predation, and poses this scenario:

'If the number of smolts that survive to become adults could be increased by only 2% or 3%, there would be a significant difference to the quantity of adult fish in our rivers.'

As there is a body of authenticated research material which suggests that smolt predation runs at 48-70%, or even higher, we would have thought that the 2-3% figure mentioned by Tony Andrews has massive significance in terms of the impact of our main predators.

'Predation pressures have been identified as a key source of population depletion in salmonid stocks.' www.loughs-agency.org/IBIS

Atlantic Salmon Threats

'Salmon have to cope with threats in both freshwater and seawater environments in order to survive. Many threats are completely natural – like flash floods or predatory birds, larger fish and otters or seals. These threats have always existed, but it is man-made threats that are causing the real problem.'

The Atlantic Salmon Trust:
www.atlanticsalmontrust.org/learning-zone.../atlantic_salmon_threats.pdf

Comment: The expression 'these threats have always existed' is based on fact, but does not take into account the dramatic increase in the level of predation by signal crayfish, cormorants, goosander and otters during the last 25 years. The presence of American signal crayfish dates back to an 'ill-advised' Government introduction to these shores in the 1970s, as does the otter reintroduction programme. Over-wintering cormorants have increased from 2,000 in the late-'80s to the current Angling Trust figure of 30,000+.

'An armour plated alien invader is eating its way through wildlife in Britain's waterways. A voracious predator, it will eat almost anything it finds, including our native white crayfish, plants, invertebrates, snails, small fish and fish eggs. A handful of escaping signal crayfish have now grown into an aquatic army numbering millions, which has infiltrated river systems and many stillwaters, from Cornwall to Scotland.' **Paul Eccleston, 2008.**

'When he used to fish for salmon, the river (Severn) was full of fry and small fish, but now the river is bereft of them.' **Ellis Brazier interview, quoted in the text.**

'This leaves some people concerned that the salmon populations in Scottish rivers, which have seriously declined for unknown reasons, are being delivered a final blow by the otters.' **Hans Kruuk, as quoted in the text.**



The distinctive otter predation of an adult salmon. In his book 'Otters: Ecology, Behaviour and Conservation' the authoritative Hans Kruuk assesses the predation of adult salmon on some Scottish rivers as 10%.

'The Angling Trust will call for Defra and EA to stop referring to otter numbers as successful restoration of river systems when the majority of rivers are failing to reach good ecological status and many fish populations are seriously depleted.' **Angling Trust Press Release. May 2015**

Predation by signal crayfish (crayfish have been filmed taking eggs from the vents of brown trout on the redds), cormorants, goosanders and otters has been a growing area of concern within ecological, angling and fish farming circles, for nearly 20 years. In 2013 we published our acclaimed document *Predation: An Ecological Disaster – The Big Picture*, dealing with predation as a serious threat, not just to fish stocks, but to the ecology as a whole. At the time we compiled *The Big Picture*, the attitude to the predation threat to salmon and brown trout stocks, particularly from cormorants, goosanders and otters, appeared to be low-key. Ongoing research of the subject since the mid-1980s suggests that this is an area which is now causing greater concern to some researchers. There is a body of evidence covering the concern for, and the research into, the predation of salmon and brown trout by cormorants, goosanders and otters, and, to a lesser extent, mink. The following is an excursion into just some of that research.

Some of the quotes included herein may not be meaningful in their own right, but they all have their own significance, not least in terms of the geographical spread of predation. The quote from Dave Steuart regarding the predation of redds on the Hampshire Avon is significant. It is hard to imagine that this is the only river where redds have been identified, and are predated. The same can be said of the smolt runs, and the periods when they are collectively most at risk during shoaling, prior to going to sea. Predators quickly become aware of prey sources, and exploit them. The continuing increase of predators within our shores means that the competition for prey is growing year by year. Sadly, both the spawning-run period for salmon, and the smolt gatherings, are at a time of year when the availability of the natural prey of both cormorants and otters is at a low ebb, making them a more likely target than they might be at other times of the year. Countryman Ellis Brazier has lived on the rivers all his life, as did his father before him, and he comments on the lack of fry in the Severn. His comment is echoed in these recent Environment Agency quotes:

Page 17: 'fry densities recorded in 2016 are the lowest on record.'

'The latest juvenile salmon assessments (2011-2016) indicate low levels of juvenile abundance across the country. There are concerns around the very low numbers of

juveniles, in particular fry, recorded in many river catchments during 2016. The reduction in fry abundance is likely to result in reduced smolt numbers in 2108.' **'Managing salmon fisheries in England and on the Border Esk'** – Environment Agency consultation document 2017.

Predation by Signal Crayfish, Birds and Otters

What follows concentrates mainly on predation by birds and otters but there is an increasingly invidious predator in the form of the invasive signal crayfish. John Wilson MBE wrote about their impact on the River Wensum. Respected wildlife film-maker Hugh Miles, and others, have commented on their impact on the River Thames. To check the Internet is to discover that they are more widely spread than many people think. As long ago as January 2008, Paul Eccleston wrote:

'An armour-plated alien invader is eating its way through wildlife in Britain's waterways. A voracious predator, it will eat almost anything it finds, including our native white crayfish, plants, invertebrates, snails, small fish and fish eggs.'

Intentionally, and mistakenly, introduced by the government in 1970, and bred on farms for the Scandinavian restaurant trade, a handful of escaping signal crayfish have now grown into an aquatic army numbering millions which has infiltrated river systems and many stillwaters, from Cornwall to Scotland. The presence of signal crayfish in an increasing number of our waterways means that the impact of predation is felt upwards from the bottom of the aquatic wildlife chain to the top. Research into controlling this menace is being taken very seriously, but to date there appears to be no obvious solution to the problem. Although the signal crayfish is an invasive predatory menace, a



Predated salmon corpse. To encounter dead or dying salmon predated in this way is rare because foxes and badgers soon eat the remains.

licence is needed to net them, and permission from the landowner on whose land the crayfish dwell.

The Improvement of the Quality of our Rivers

'Britain's rivers are about to be declared the cleanest they have been for almost 200 years. Their transformation has even heralded a comeback for otters, salmon and the kingfisher to a number of waterways for the first time since the Industrial Revolution, according to new figures from the Environment Agency.' ***The Observer, 2002.***

'Who Saved the Mersey? Salmon are leaping upriver. Otters are breeding in the shadows of Fiddles Ferry. The Mersey is cleaner than it's ever been since the Industrial Revolution.' ***sevenstreets.com***

'The discovery of juvenile salmon on the River Dearne for the first time in 150 years. An Environment Agency fish survey team spotted the 14cm juvenile salmon when carrying out routine checks last week. The discovery is the first evidence of salmon spawning in the river, which is a tributary of the River Don, for more than 150 years.' ***Government Press Release, June 2015.***

'Nearly 75% of our rivers are failing to reach good ecological status, and many of these are failing because of poor fish populations.' ***Angling Trust Press Release, May 2015.***

There are numerous other quotes of a similar ilk.

Predation Impact on Foyle Atlantic Salmon and Brown Trout Stocks

'There has been an overall reduction in the Atlantic salmon (*Salmo salar*) commercial fisheries catch within the Foyle catchment since the late-1960s. Predation pressures have been identified as a key source of population depletion in salmonid stocks. The great cormorant (*Phalacrocorax carbo*) is an opportunist predator with the potential to remove large numbers of Atlantic salmon smolts and brown trout (*Salmo trutta*) during the smolt run, ultimately influencing the number of individuals available to recreational and commercial fisheries. Modelled results based on best estimates and available data for the Foyle catchment suggested that cormorants could potentially remove up to 48% of the migrating salmon smolts.' ***The Impact of Predation on the Atlantic***

Salmon (Salmo salar) and Brown Trout (Salmo trutta) Stocks of Lough Foyle Catchment, Jenny McLeish, University of Glasgow. www.loughs-agency.org/IBIS

Results of the Loch Foyle Analysis

'An individual cormorant feeding in the Foyle catchment during the smolt run would require a predicted daily food intake of 628g. Of this, 187.79g would be assigned exclusively to smolt and 437.74g to brown trout. 450 cormorants would therefore consume 84.5kg of salmon smolt and 196.89kg of brown trout daily, equating to 3,246 smolt and 2,196 brown trout. Over the course of a 6-week smolt run, the predatory cormorant population would be responsible for removing 136,326 individual smolt and 92,232 individual brown trout from the waterways of the Foyle catchment. This level of predation would result in the removal of 48.32% of the total population of migrating smolt.

The modelled value of 48.32% removal of the total Atlantic salmon smolt in the Foyle catchment is comparable to the results of other studies in the same geographical region. Kennedy and Greer reported cormorant consumption of 51-66% wild smolt during their 1988 study.' ***The Impact of Predation on the Atlantic Salmon (Salmo salar) and Brown Trout (Salmo trutta) Stocks of Lough Foyle Catchment, Jenny McLeish, University of Glasgow. www.loughs-agency.org/IBIS***

Predation and Scavenging of Salmon Carcasses along Spawning Streams in the Scottish Highlands

'Salmon carcasses were recorded during October-December along spawning streams in three study areas: 1. Upper Shee Water, R. Tay system (2000 and 2001); 2. Upper Clunie Water, Aberdeenshire Dee system (2000 and 2001); and 3. Kinlochewe River, R. Ewe system (2001 only). Otters were found to be present in all areas. Estimated mean densities of spawning salmon were 50 fish/km for Shee (both years), 20 fish/km for Clunie (both years) and 10 fish/km for Shee (both years). The majority of the carcasses were of males, and many were taken dead or near dead from the water towards the end of the spawning period. Remains of females containing eggs were recorded from all three study areas.'

Contemporaneous otter spraints containing large salmonid eggs were recorded in locations within 400m of over 75% of these carcasses in Clunie and Kinlochewe, and over 20% of these carcasses in Shee (where spraints were collected from only one bank, once per week). Crude minimum estimates for predated pre- or part-spawned female salmon are 10% (2000) and 6% (2001) for Shee, 10% (2001) for Clunie, and 10% (2001) for Kinlochewe of respective total adult female salmon populations.'

Predation and scavenging of salmon carcasses along spawning streams in the Scottish Highlands. Final Report for the Atlantic Salmon Trust, October 2002. wrft.org.uk/files/finalASTrept10-02.pdf

'Sewin population in Welsh rivers in decline thanks to rise of predators, warn anglers.' Plaid AM Elin Jones says research into sewin numbers by a fisherman in the Teifi and other rivers in Ceredigion suggests a serious decline in recent years. Concerns have been raised over an alarming decline of sewin – sea trout – in rivers across West Wales.' **WalesOnline**

Comparison of Mink and Otter Diets

'A total of 15 mink scats were collected from the Shee study site. The recent frequency of prey remains was very different from that of otter spraints at the Shee (Figure 16). The highest frequency (mink) occurred for mammal remains, followed by bird remains. Of the two scats containing salmon remains, one contained large remains and one contained small remains.' **Figure 16. A comparison of frequency of occurrence of prey remains in otter and mink faeces during 2001**



The otter, now firmly re-established, but still enjoying carte blanche protection.

salmon spawning, River Shee. wrft.org.uk/files/finalASTrept10-02.pdf

'Salmon smolt achieve a length of up to 16cm prior to heading out to sea.' **Salmon Life Cycle, snh.org.uk**

'With only 6% of the smolts that go to sea currently returning, compared to nearly 20% in the 1980s, each returning salmon is more valuable than ever.' **The Scottish Office of Agriculture and Fisheries Department Fisheries Research Services Report No 16/91 September 1991.** www.gov.scot/Uploads/Documents/1691.pdf

'About 3 years ago I was informed that of 15 salmon redds identified at Broadlands, on the Hampshire Avon half of the salmon had been removed by otters – and salmon are supposed to be an endangered species (sic).'**The Enchanting Killer' by respected angling writer Dave Steuart:** www.fishingmagic.com/fm/features/opinion/14710-otters-enchantingkiller-otters.html

Q.'The rivers I've fished have included the Severn, the Vyrnwy, the Dovey, the Mawddach and the Dysynni, as did my father before me. About 3 years ago my father started salmon fishing again after a 22-year lay-off, and the first day I took him out he couldn't believe there were no minnows in the river (Severn). When he used to fish for salmon, the river was full of fry and small fish, but now the river is bereft of them. I don't think there's a section of the Severn where you don't see the cormorants and goosanders fishing daily. There is one main tree that is just white all winter, and probably holds upwards of 50-70 cormorants on it at a time. In all



Countryman and successful all-round angler Ellis Brazier with a healthy salmon. Some years ago he commented on the lack of fry in the Severn and other local north-west midlands rivers.

the time my father was fishing through the '60s and into the early-'70s, he saw just two otters when he was fishing for salmon. If you take last year alone, I reckon I saw around 50 otters on meres, pools and the rivers.'

Extracts from countryman/angler Ellis Brazier's interview in *Coarse Angling Today*, reproduced in *The Predation Action Group publication The Big Picture*, available at: www.thepredationactiongroup.co.uk

Preferred Size of Otter Predation Fish

'Around Europe, it has been found that the majority of fish taken by otters are between 10cm and 25cm in length. The results from Pembrokeshire and Gower agree with this, indicating that small fish also dominate the diet in Wales.' **walesonline.co.uk**

Scottish Mink Initiative

'Although the scale of the initiative was undoubtedly challenging, it represented the most effective means of dealing with mink and possibly other problem species.' **Scottish Mink Initiative Report. Association of Salmon Fishery Boards & Rivers and Fisheries Trusts of Scotland Annual Review 2014.**

Otters are efficient predators with a nose for new food sources, and love fish eggs, so it is hard to imagine that they aren't aware of the location of all salmon redds, and the timing of the spawning activity. Fish eggs, alevin and fry are quoted as a preferred prey for the ubiquitous signal crayfish. Year by year the official figures reveal a worsening situation on many of our rivers, which, in terms of salmon populations, are not recovering at the anticipated or required, rate. In fact, on many rivers the salmon populations continue to fall. Yes, there are clearly other factors involved here, but what will it take to convince the angling bodies that predation by cormorants and otters is at least partly responsible for this situation?

The Washington Department of Fish and Wildlife reports that river otters actually seek out spawning salmon and take advantage of the fish run. **answerbag.com**

'Especially in Europe and North America, otters have achieved remarkable popularity; in the not too distant past they were considered as vermin, no better than foxes, racoons or polecats. They are still considered

to be vermin in many developing countries. In our own recent research in Scotland, we recorded Eurasian otters eating many salmon, often large ones, and in some rivers they consumed almost half of the productivity of fish populations, as documented in chapter 8. More recently, researchers in western Scotland confirmed that otters took 28% of tagged adult salmon within a few weeks (Reynolds 2003). This leaves some people concerned that the salmon populations in Scottish rivers, which have seriously declined for unknown reasons, are being delivered a final blow by the otters.' **Hans Kruuk in his book, 'Otters: Ecology, Behaviour and Conservation', published by Oxford University Press**'.

'Probably every species of freshwater fish in the area is vulnerable to otter predation, but some more than others. As examples, in scats of Eurasian otters in Scottish rivers, brown trout and Atlantic salmon dominate, and the otters also take many eel.' **Hans Kruuk, 'Otters: Ecology, Behaviour and Conservation', published by Oxford University Press.**

'In the wild we estimated food intake by one large otter along a tributary of the River Dee in the northeast of Scotland, which we could follow and observe intensively in winter by radio-tracking. He ate mostly large salmon, and we could weigh the leftovers and measure the length of the fish, from that estimate its original weight, and thus calculate food consumption of the otter. This 8.0kg animal ate, on average, 975g from every fish he caught, and as he took one salmon every night, this amounted to 12.2% of his body weight per day (*Carss et al 1990*). This was an underestimate as the otter took some other prey that we could not assess.' **Hans Kruuk, Otters: Ecology, Behaviour and Conservation, published by Oxford University Press.**

'And herein lies the problem – should we be paying large amounts of money for otter or cormorant food?' **S&TA, Lincolnshire Branch, discussing cormorant, otter and mink predation: sta-lincolnshire.org.uk**

Given the body of evidence available for cormorant, goosander and otter predation of salmon, much of which dates back 30 years, it is difficult to understand the failure of the authorities to – publicly at least – give credence to the fact that predation is an issue

here. Two documents are particularly frustrating, one being the Angling Trust's statement dated **February 2013**, **'The Impact of Cormorants and Goosanders on River and Stillwater Fisheries in the UK'**. The statement concentrates solely on birds and coarse fish, and the words 'otter' and 'salmon' do not appear in the overall assessment. Yes, it is a document about bird predation, but it does half the job, and totally ignores the overwhelming body of evidence of coarse fish and salmon predation by otters **and** birds.

The second statement is equally frustrating. This is headed, **'The Decline of Rivers'**, a joint Press Release from Angling Trust, Angling Cymru, AfonyddCymru, Atlantic Salmon Trust, Fish Legal, The Rivers Trust, and Salmon and Trout Association, and dated **30th July 2014**. The subject: **Wild salmon stocks crash – Angling and Fisheries Organisations Call for Urgent Government Action**. The five main contributors listed above all include a quote on the problem, and nowhere does the word 'predation' appear. Angling Trust's Mark Lloyd's quote, issued with the press release, reads thus:

'These figures, coupled with reports from our members, are very worrying for the future of salmon and the angling sector which supports thousands of jobs. As the report makes clear, the decline in stocks is probably mostly due to reduced sea survival, but in that context the government must do everything possible around our coasts and in our rivers to minimise the threats to salmon. The Environment Agency must work closely with organisations such as Marine Management and the Inshore Fisheries and Conservation Authorities on an integrated approach to protect and restore migratory fish stocks.' **Mark Lloyd, Angling Trust CEO.**

The earlier comment that research of salmon predation dates back thirty years may seem questionable. The reference is to the following research and resulting published document:

'The Effects of Predation on Salmon Fisheries', 1996 published by MAFF following research by the Salmon Advisory Committee, set up by MAFF in 1986 to research salmon and brown trout predation.

The Salmon Advisory Committee was a body appointed by MAFF to report on salmon rivers predation, and the report was both comprehensive, and far from optimistic. The report came out at about the time otters were being re-introduced to our countryside and waterways, and impact of all predators has increased exponentially in the years since the report was published. Given the early

recognition of the predation of coarse fish in rivers and still-waters by the Environment Agency it is difficult to understand that the already-recognised impact on game fish in our rivers was apparently not anticipated by the Environment Agency in the 2010 Otter Survey, and seemingly continues to be ignored in successive discussions and reports about the state of our rivers, with salmon stocks in particular under scrutiny.

'The Salmon Advisory Committee publication identifies significant predators of salmon in respect of which the Committee might be able to offer advice relevant to the protection and development of salmon fisheries.'

'Salmon exist within a community of animals and are themselves predators. However they are also preyed upon by a variety of other species throughout their life cycle. Predators may influence the production of smolts and their survival to return as adults, which will in turn affect net and rod fisheries and the number of salmon that spawn.'

Since that time there has been very little official comment published on the predation of salmon rivers. In fact the following two documents published in 2017 by the Environment Agency do not even contain the word 'predation'!

Quote from a 1996 joint working paper published by Environment Agency, Defra, Angling Trust, The River Trust, Atlantic Salmon Trust, Salmon & Trout Conservation UK, Wild Trout Trust, Institute of Fishery Management.

'Salmon are a protected species and an iconic indicator of the health of the water environment. The 2014 assessment of salmon stocks showed a further decline in salmon populations to the lowest levels on record. Our assessment places each river's salmon stock into one of four categories with the strongest classed as 'Not at Risk'. In 2014 38 of England's principal salmon rivers were assessed as being 'At Risk' or 'Probably at Risk'. None were (sic) categorised as 'Not at Risk'. 'Salmon are a valued part of England's 'natural capital' supporting an estimated 900 full-time jobs and an estimated £22million in household income, which is particularly important for rural communities and economies where a salmon fishery exists.'

The value of salmon fishing in England was estimated at £300million by the Environment Agency.



The massive impact of cormorants on parr and smolt is well researched, and well documented.



The goosander's preferred prey is said to be salmon parr, as this dead bird's stomach contents bear witness.



A predated Hampshire Avon grayling.

Witness two recent Environment Agency Documents:

1. **Managing salmon fisheries in England and on the Border Esk** – Consultation document 2017.
2. **Appendix 2: The current state of salmon stocks 2017** (based on stats to the end of 2016).

Partners in the consultation process are/were: Environment Agency, Defra, Cefas, Angling Trust, The

Rivers Trust, Atlantic Salmon Trust, Salmon and Trout Conservation UK, Wild Trout Trust and IFM.

Resulting Five Point Approach to conserve and enhance England's salmon populations:

1. Improve marine survival
2. Further reduce exploitation by rods and nets
3. Remove barriers to migration and improve habitat
4. Safeguard sufficient flows
5. Maximise spawning success by improving water quality

Appendix 2: The current state of salmon stocks, 2017. This is a lengthy analytical document.

Page 21, Table 2. Number and percentage of England's 42 principal salmon rivers in each risk category assessed against the management target for 2016, and as predicted for 2021. Not at risk: 0.

'42 rivers are classed as principal salmon rivers in England.'

'The estimated total PFA of salmon from England and Wales has declined by around 50% from the early 1970s from around 400,000 fish to 200,000 fish.'

'The latest juvenile salmon assessments (2011-2016) indicate low levels of juvenile abundance across the country. There are concerns around the very low numbers of juveniles, in particular fry, recorded in many river catchments during 2016. The reduction in fry abundance is likely to result in reduced smolt numbers in 2108.'

Page 17: 'fry densities recorded in 2016 are the lowest on record.'

- The percentage of rivers classified as 'Not at Risk' remained relatively stable around 10 rivers (20%) until 2011.
- Since 2011 there has been a decline in the rivers in this category, significantly none have been assessed as 'Not at Risk' in the last three years.
- This is not predicted to improve: no English principal salmon rivers are predicted to be 'Not at Risk' in 2021.

The word 'predation' does not appear in either of the Environment Agency documents referred to above, or in the five point plan to restore salmon stocks.

'The percentage of (principal salmon) rivers classified as 'Not at Risk' remained relatively stable around 10 rivers (20%) until 2011. ...no English principal salmon rivers are predicted to be 'Not at Risk' in 2021.'
'Managing salmon fisheries in England and on the Border Esk', Environment Agency.

Commentary

Bearing in mind that the Atlantic Salmon Trust was the main sponsor of the October 2002 report on the predation of salmon (it is described as a **Final Report for the Atlantic Salmon Trust**), the failure by them, and the Angling Trust, to recognise predation as having a significant impact on the recovery of wild salmon stocks is difficult to understand. The odd thing is that there was a covering letter from Mark Owen, head of Freshwater at Angling Trust, to the relevant ministers in both England and Wales, with the press release in which predation was covered. Here is a quote from that letter:

'Fish passage. Although obstructions to migration are being removed on many rivers, or at least reduced by better fish passes, a great deal needs to be done, and an increase in the number of in-river hydropower schemes could make matters worse. In particular, greater attention should be paid to the obstruction of weirs and other structures in the downstream migration of smolts.

Recent research on the Tweed and in Denmark found that where obstruction delayed migration, usually in periods of low flow, up to 40 per cent of the smolts could be lost due to predation. Where weirs cannot be removed, the necessary steps should be taken to protect and enable downstream, as well as upstream, passage of fish. To help address these problems, the government should introduce the long-delayed Fish Passage Regulations as soon as possible, ensuring, among other things, that these require all offtakes in salmon and sea trout rivers to be adequately screened to prevent the incursion of smolts.' **Mark Owen, head of Freshwater at Angling Trust.**

Since compiling *The Big Picture*, it has struck us as odd that given the level of predation of other fish species by our growing army of predators, predation of salmon is not considered significant, and was apparently not anticipated by the compilers of The Fifth Otter Survey 2009-2010. Predators quickly recognise food sources, and the growing competition for food amongst predators means that they have to be aware of, and exploit, every available food source. River fish are the hardest of all to protect. Electric fences were being erected to protect salmon traps in Scotland at the turn of the century, but it was only the trap stretches that they could be protected in this way. Salmon stocks are at risk in our rivers from the moment the adult fish enter the river until their offspring return to sea as smolts, where other predators wait for them. Fewer fish returning to sea means fewer and fewer coming back to spawn.



Adding insult to injury... Angler Dave Steuart was presented with this ottered salmon on his Kennet riverside garden lawn!



Cormorants have increased from around 2,000 in the winter to an estimated 30,000+ during some winters.

Salmon are protected, as are cormorants and otters, but far more angling and tourist industry livelihoods are dependent on healthy salmon stocks than on the continuing proliferation of cormorants and otters.

What may not be apparent from those not close to the subject is that predation has escalated dramatically on all ecological fronts in the last 30 years. Cormorants and otters are proliferating, and competing for prey, ably supported by crayfish, mink, and our more traditional predators. (Overwintering cormorants have increased from around 2,000 in the early-'80s to nearly 25-30,000 in recent years. They eat over 11b of fish per day, which is the equivalent of 4,073 tons per year. The scourge of salmon rivers, the non-native goosander, has spread south from Scotland and is becoming increasingly established in Great Britain. The RSPB gives a quoted estimate of 12,000 over-wintering birds for goosanders. EA restocking figures for our rivers indicate that restocking does not even compensate for cormorant predation. Crayfish are proliferating, and otter numbers have escalated too, and continue to escalate, since the start of the reintroduction programme in the last third of the last century.)

Cormorants and Goosanders/Mergansers

We are told that we have of the order of 30,000 cormorants (Angling Trust figure) and 12,000 goosanders (RSPB figure) overwintering on our waterways. We are told that each of these predatory birds requires a minimum of 1lb of fish per day to sustain them. There isn't enough 'prey' in our rivers to keep the over-proliferation of over-protected predators fed so their predatory instincts have to take them to any species in the natural world, above and below the surface of the water, that will sustain their dietary requirements. We are told cormorants and goosanders prey on fish up to 12-14" in length.

'...overwintering cormorants have increased from around 2,000 in the early eighties to nearly 25,000 in recent years. Cormorants eat over 1lb of fish in a day. In many rivers silver fish populations are only able to survive in numbers in town centre locations where cormorants and goosanders are fewer in number.' *Joint statement from the Angling Trust, Angling Trades Association, Atlantic Salmon Trust, Avon Roach Project, British Association of Shooting and Conservation, Gam & Wildlife Conservation Trust, Predation Action Group, Salmon & Trout Association, The Rivers Trust, Wild Trout Trust, 2012.*

The predators are running out of prey and going to extremes to survive.

Wildlife Management

'S&TA believes that in a closely managed environment like the UK, all water-dependent wildlife should, where necessary, be managed on an ecosystem basis under catchment management plans, and not, as is common today, because one group of species has more attraction to, or support from, humans than



From a research paper dealing with the impact of goosanders on salmon rivers. There are an increasing number of similar research papers appearing.

another. An example would be that in a river protected as a Special Area of Conservation, in which salmon are a designated conservation species, the fish require just as much legal protection as their potential predators such as otters and cormorants, even though the latter have more public appeal than the 'invisible' salmon.' **Salmon & Trout Association website statement: www.salmon-trout.org. Our work**

The S&TA statement quoted above summarises the situation, but as we did with our publication **The Big Picture**, stops short of coming up with a solution. Interestingly, the S&TA statement describes the salmon as 'invisible'. As a carp angler, I have spent literally thousands of hours by lakes which I know are the haunt of otters, but I have never seen one, although I've seen the effects of their predation. To me they are invisible, and owe their 'cuddly' public reputation to a book and films. There will come a time when the angling bodies, and the Government, have to publicly confront all aspects of the predation situation, and insist that the level of predation we are suffering needs realistic solutions.

The coarse fish situation is a serious one, because it impacts on recreational activities and livelihoods. The salmon situation is far more serious, because if the current salmon population trends continue, eventually it will have a serious impact not just on recreation and livelihoods, but on the invaluable tourist industry too.

'The fact is that because they did terrible damage to fisheries, otter numbers gradually diminished because they were hunted and persecuted as the pests that they are.' **The above two quotes are from 'The Enchanting Killer' by respected angling writer Dave Stuart: www.fishingmagic.com/fm/features/opinion/14710-otters-enchantingkiller-otters-html**

Conclusion: Suggested Course of Action

In an article in *The Field* magazine published in May 2015, Tony Andrews, at that time executive director of the Atlantic Salmon Trust, asks: **'Atlantic salmon: can we save these wild fish?'** He lists the threats, which include predation, and poses this scenario:

'If the number of smolts that survive to become adults could be increased by only 2% or 3%, there would be a significant difference to the quantity of adult fish in our rivers.'

He then goes on to say, 'We cannot predict the increase of returning salmon...' In other words, we can only control what happens within these shores, and not beyond, although the three areas for attention he focuses on all concern the welfare of salmon at sea, and are beyond our control.

Would greater control of predation result in the desired 2% or 3% increase in the number of adult salmon? It is near-impossible to relate this percentage figure to the figures already quoted, but it is a fact that a number of authorities attach real significance to the impact of predation.

On paper, 2-3% for returning smolts looks achievable, but may not be. But what is a certainty is that because of the spread of signal crayfish, and the over-protection of the key predators, cormorants, goosanders and otters, predation is going to continue, and get far worse. Hundreds of carp waters in this country are fenced as a defence against otters, and many more are unfenceable, but need fencing. An increasing number of RSPB reserves are fenced against 'ground predators' (the latest available figure from RSPB is 28 fenced reserves). The scope for fencing rivers is very limited. There is a serious conflict here in that salmon and eels are protected, and their survival is under threat from protected predators.

Perhaps the most telling quote of all is countryman Ellis Brazier's concerning the lack of fry in the rivers, which is now reflected an official assessment. John Wilson, MBE, was the instigator of the Predation Action Group. Five years ago he made the very same comment about the East Anglian rivers. (His report appears in our document *The Big Picture*.) No fry in a salmon river makes Hans Kruuk's doom and gloom quote that salmon populations are being delivered a final blow by the otters almost believable, although it is arguable that crayfish, cormorants and goosander are equally culpable.

There were some revealing quotes in Keith Elliott's magazine, *Classic Angling*, the March/April 2016 issue. The quotes appear in Neil Freeman's piece, 'Goodbye to Scotland':

'I have become aware of a sea-change of opinion regarding Scotland among salmon anglers. It gives me cause for concern about the angling future of a country that benefits from the financial input of foreign anglers to the tune of some £120 million a year. In the last year I have lost count of the number of conversations that have ended up taking the same tack,

'Sadly we won't be going back to Scotland this year.' 'Will they throw tens of thousands of pounds at another hit-and-miss booking next year? Unlikely.'

Neil Freeman's conclusion, **'For now, like so many others, I will be casting a line in Scandinavia and the tropics rather than north of the border this year,'** echoes Hans Kruuk's doom and gloom quote that salmon populations are being delivered a final blow by the otters. Some still-waters can be fenced: rivers can't.

Sources

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'The Impact of Cormorants and Goosanders on River and Stillwater Fisheries in the UK', published by the Angling Trust in February 2013.

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The Scottish Office of Agriculture and Fisheries Department Fisheries Research Services Report No 16/91 September 1991: www.gov.scot/Uploads/Documents/1691.pdf

'The Decline of Rivers', a joint Press Release from Angling Trust, Angling Cymru, Afonydd Cymru, Atlantic Salmon Trust, Fish Legal, The Rivers Trust and Salmon and Trout Association, and dated **30th July 2014.**

Salmon & Trout Association website statement: www.salmon-trout.org. **Our work**

The Predation Action Group's The Big Picture, available at: www.thepredationactiongroup.co.uk
Hans Kruuk: <https://books.google.co.uk/books?isbn=0191513725>

Predation on adult Atlantic salmon: onlinelibrary.wiley.com/doi/10.1111/j.1095-8649.1990.tb03597.x/pdf

S&TA Lincolnshire branch: www.sta-lincolnshire.org.uk/fish_threats.html

Filthy waters now teem with salmon. www.theguardian.com

www.atlanticsalmontrust.org/learning-zone.../atlantic_salmon_threats.pdf

Tony Andrews: Atlantic salmon: can we save these wild fish? www.thefield.uk › Fishing › Home.
Classic Angling, March/April 2016: Goodbye to Salmon by Neil Freeman.

Numerous other references and studies on Google under: *Salmon and Otters: Otters and Salmon; Otters and Salmon Predation*, and 'Related articles' within quoted references.

Quote. 'The percentage of (principal salmon) rivers classified as 'Not at Risk' remained relatively stable around 10 rivers (20%) until 2011. ...no English principal salmon rivers are predicted to be 'Not at Risk' in 2021.' *'Managing salmon fisheries in England and on the Border Esk', Environment Agency.*

Additional Assessments

Wild salmon stocks crash – Angling and Fisheries Organisations Call for Urgent Government Action

Due to the efficiencies of receivers in the harbour area it is assumed that 63% of fish did not reach the harbour and either died in the river or decided not to migrate. The latter is considered unlikely as all the smolt were well advanced in the smolting process and all had migrated downstream since being tagged. The results suggest that predators are the cause of the smolt mortalities. *'Smolt migration through the River Dee and harbour', January 2018.*

Therefore from 19 tagged smolts only one made it as far as the open sea (95%) losses. In the Foyle experiment extremely high smolt predation was also found before these smolts made it to the open sea (85%+). The results from both studies would tend to indicate that while we have problems at sea the

real answer may lie closer to home. *'All at sea? Smolt predation in the Lomond system Lomond smolt tagging experiment 2015.'*

Exploitation of fish is only part of the equation. *Predation by birds and mammals* also contributes greatly to the problem of depleted salmon stock. Thirty years ago there were no goosanders on the Wye. According to the 1999 MAFF survey up to 98% of the salmon parr produced on the Upper Wye are eaten by goosanders. Additionally cormorants are seen in groups of up to 55, eating 2-3kg of fish each per day. More recently the increase in otter numbers has resulted in quite significant mortalities of unspawned fish especially where they are held up at falls. The effects of these natural predators would not be so marked on a salmon stock at former high levels but are likely to impact significantly when stocks are low and trying to recover, as on the Wye today. Predation has a more significant effect on low density populations. *'Exploitation & Predation of Salmon; Wye & Usk Foundation.'*

'Restoring Salmon in England: IFM Annual Conference 2016'
published by the Environment Agency

Recommendation 3.6: Reduce impact of avian predation on parr and smolt.



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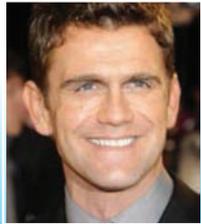

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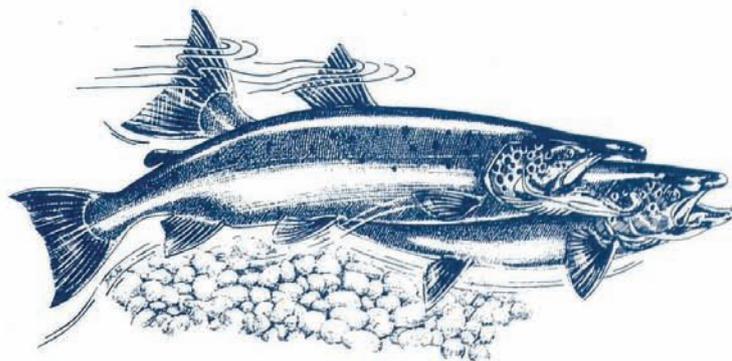

Terry Hearn

The PAG need your support and your donations. Visit us online for more info:
www.ThePredationActionGroup.co.uk
 The effects of predation are a serious issue facing fishing in the UK, we are the people facing the issue.

Report of the Salmon Advisory Committee, 1996



**THE EFFECTS OF PREDATION
ON SALMON FISHERIES**
Report of the
Salmon Advisory Committee



**Ministry of Agriculture, Fisheries and Food
Scottish Office Agriculture, Environment and Fisheries Department
Welsh Office Agriculture Department**

Report of the Salmon Advisory Committee, 1996

The Predation of Salmon, Brown Trout and Sea Trout

'The Effects of Predation on Salmon Fisheries', 1996

The Salmon Advisory Committee

Given the early recognition of the predation of coarse fish in rivers and still-waters by the Environment Agency it is difficult to understand that the already-recognised impact on game fish in our rivers was apparently not anticipated by the Environment Agency in the 2010 Otter survey, and seemingly continues to be ignored in successive discussions and reports about the state of our rivers, with salmon stocks in particular under scrutiny. This is particularly mystifying in the light the 1996 report by the Salmon Advisory Committee, 'The Effects of Predation on Salmon Fisheries', published by MAFF. The Salmon Advisory Committee was a body appointed by MAFF to report on salmon rivers predation, and the report was based on research from 1986-1996, and was both comprehensive, and far from optimistic. The report came out during the period otters were being re-introduced to our countryside and waterways, and impact of all predators has increased exponentially in the 22 years since the report was published.

Quotes:

'The Salmon Advisory Committee publication identifies significant predators of salmon in respect of which the Committee might be able to offer advice relevant to the protection and development of salmon fisheries.'

'Salmon exist within a community of animals and are themselves predators. However they are also preyed upon by a variety of other species throughout their life cycle. Predators may influence the production of smolts and their survival to return as adults, which will in turn affect net and rod fisheries and the number of salmon that spawn.'

Since that time there has been very little meaningful official comment published on the predation of salmon rivers.

Predation of Salmon Rivers

A Comprehensive 1996 70+ page Report by the Salmon Advisory Council published by MAFF

Membership of the Salmon Advisory Council

Chairman: Professor G. M. Dunnet*

Mr. G H Bielby, Dr. L Laird, Mr. C. G. Carnie, Mr I Mitchell, Mr R M Clerk, Mr M Owens, Mr J H Ferguson, Mr D R Paton, Mr D Heselton, Mr D J Solomon

*Professor Dunnet was Chairman of the Salmon Advisory Committee from its inception in 1987 until his death in September 1995. This report was prepared under his chairmanship.

Section 6: SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

GENERAL CONCLUSIONS

We have addressed the problem of predation exclusively as it affects salmon fisheries and populations. In this context the impact of predators is best considered in terms of the effect that the removal of fish at different stages in the life cycle will have on the number of adult salmon that are available to the net and rod fisheries and on the number of spawners. We acknowledge that some predation must be regarded as natural and inevitable, but conclude that in certain circumstances predation can result in a significant reduction in the exploitable surplus of salmon populations and thus have serious economic effects on fisheries. Even more seriously, it may affect the viability of the population.

Some predation occurs at stages when it will be compensated for by reductions in other forms of natural mortality and will not therefore affect the number of adult salmon. However, as the young fish grow, such compensation decreases and losses to predation are more likely to have direct effects on adult numbers. In addition, if spawning success has been poor, the ability of the population to compensate for early losses may be further reduced. As a priority, research should concentrate on those aspects of predation for which there is little or no likelihood of compensation and this should be borne in mind

in relation to our recommended research for each predator species.

In general, predation on smolts and large parr is not well compensated for. A better understanding is needed of the situations where predation on earlier stages may have significant direct and indirect impacts on salmon populations or cause serious loss to fisheries. Further research into the early life history and population dynamics of salmon is therefore required to identify the circumstances under which predation on eggs and small parr is not compensated for and causes serious damage to fisheries and salmon populations.

Although many predatory species are known to kill salmon, detailed information on the numbers of salmon taken is available for only a very few species and in a limited range of circumstances. For example there is as yet no effective way of accurately determining the number of salmon lost to seals.

We believe that the predator species likely to have the most widespread effects on salmon fisheries and populations in Great Britain are cormorants, sawbills, otters and seals. Further information is required on numbers, distribution and diet of these predators and on their impacts on salmon. As studies will be expensive and difficult to conduct, it is important to identify those future research requirements which are of top priority. Other predators such as pike, brown trout, mink, heron and gull may have significant effects in some localised situations, but do not generally have excessive impacts on salmon populations. However, we recognise that these predators and others may cause problems in certain circumstances, and it may be necessary to take management action.

It is important to try to achieve a balance between conflicting interests, and, in situations where predation levels become excessive and have a detrimental effect on the exploitable surplus some form of control will be required. In the absence of precise data on predator-prey interactions, decisions on the impact of predation, and on measures to reduce it, will have to be made on the basis of the best available information and interpretation.

The eight methods of reducing predation outlined in Section 5 range from the complete physical protection of prey to the eradication of the predator. In terms of practical management attempts to reduce predation may involve the use of one of these methods alone, or in combination with another. We consider it most important to record the action taken and, where practicable, to monitor the results of that action; and we encourage the dissemination of this information.

Control of predator species is covered by the Wildlife and Countryside Act 1981, which allows that licences may be issued for the purposes of preventing serious damage to fisheries. There is no clear statutory definition of 'serious damage' but it is

recognised that it includes economic considerations. It is not necessary for it to result in a decline in a salmon spawning population for it to be regarded as serious. A significant reduction in the exploitable surplus of the returning adult fish may not affect the spawning success of the population while still having a major impact on the viability of net and rod fisheries. Evaluation or serious damage should be made on a case-by-case basis taking account of the estimated extent of the impact on the spawning population, the exploitable surpluses and the economics of the fishery operation.

Predator control programmes need to be assessed on a case-by-case basis. However, there is also a need for some co-ordination of programmes which would allow the status of the predator population on a wider scale to be taken into consideration. Co-ordination would also help to ensure that a consistent approach is adopted and that beneficial actions in one area do not have adverse effects in another.

CORMORANTS

Although adult salmon have been recorded in cormorant diets, this is rare and the major impact of these birds is on the parr and smolt stages. The diet of cormorants varies considerably between rivers and with the time or year, but evidence suggests that in some places they eat sufficient salmon to have a significant impact on fisheries.

Action should be taken to protect large parr and smolts from predation by cormorants where predation is, or is likely to be, excessive or where salmon populations are at low levels. Scaring and habitat modifications, such as the removal of roosting sites, should be considered to reduce impacts at particular sites. Shooting will be necessary if other methods are impracticable or have failed to reduce the predation. Whatever action is taken should be recorded and, where practicable, the consequences monitored; and we encourage the dissemination of this information.

- to assess further the diet of cormorants on more rivers in Great Britain, carrying out studies at different times of year and in situations where there are different choices of prey;
- to assess the extent to which cormorants congregate around estuaries at the time of smolt runs, and whether predation on emigrating smolts continues into the sea;
- to carry out studies on the factors affecting the movement of cormorants to inland areas and their selection of feeding and roosting sites in order to assess whether they can be discouraged by manipulating the habitat;
- to acquire further information on the growth and distribution of cormorant populations in Great Britain;
- to examine, with a view to improving efficiency, the effects of various scaring techniques on the distribution of cormorants.

SAWBILL DUCKS

There is good evidence that sawbills have a significant effect on some salmon fisheries when they prey on large parr or smolts. Action should therefore be taken to protect large parr and smolts from predation by sawbills where this is, or is likely to be, excessive or where salmon populations are at low levels. Non-lethal scaring methods should be considered to reduce impacts at particular sites. Shooting will be necessary if other methods are impracticable or have failed to reduce the predation. Whatever action is taken should be recorded and, where practicable, the consequences monitored; and we encourage the dissemination of this information.

Most of the recent information on the diet of these species comes from a small number of rivers, many of which have yielded only a few stomach samples, and sampling has been largely restricted to particular times of year. We therefore fully support the continuation of studies to analyse the diet of sawbill ducks from rivers around Great Britain and at various times of the year, and to refine estimates of the numbers of salmon that are eaten by these birds.

Detailed information on the population dynamic of salmon from the River North Esk in Scotland and monitored rivers in other countries, has been collected for many years and provides the basis for modelling the impact of sawbill ducks on salmon populations in these rivers. The judicious application of such models with the incorporation of the information on geographic variations in the diet and numbers of sawbill ducks will allow assessments to be made of their likely impact on salmon stocks and fisheries elsewhere.

Priorities for research:

- to assess the effect on salmon populations of predation on juvenile fish;
- to acquire further information on the movements distribution and foraging behaviour of sawbill ducks in Great Britain;
- to investigate non-lethal methods for reducing the impact of sawbills on salmon fisheries.

OTTERS

Otters eat a wide variety of freshwater and marine fish species. They are resident in rivers throughout the year and, where abundant, have the potential to harm salmon populations where salmon predominate in the fish fauna.

We acknowledge and appreciate the interest in the recovery in otter populations, but recommend from a fisheries perspective that there should be a presumption against the deliberate reintroduction of otters to salmon rivers. This should be borne in mind when formulating any national strategy.

Where otters are thought to be having a serious effect on the salmon population of a river,

consideration should be given to methods of reducing predation.

Priorities for research:

- to further assess the impact of otter predation on juvenile salmon populations and returning adult fish;
- to assess methods of reducing the impact of otters on salmon populations;
- to establish the numbers of otters on salmon rivers throughout Great Britain.

SEALS

It is known that both common and grey seals prey on salmon, although it is difficult to assess the contribution of salmon to their diet and to quantify the impact of their predation on populations, exploitable surpluses and the economics of rod and net fisheries. However, there is reliable evidence of local problems, and there is a need for local control of seals in order to protect runs of adult salmon, and possibly smolts, on some estuaries. More information is therefore needed on the effectiveness of different control methods. Studies should also be carried out on the factors causing seals to congregate in particular areas and at particular times, and on the development of methods to discourage this behaviour.

Given the substantial and continuing increase in numbers of seals in recent years, and the potential for damage to salmon management, action should be seriously considered. Bearing in mind the particular public sensitivities attached to the use of lethal methods, urgent consideration should be given to the development and use of non-lethal methods of control. However, until successful non-lethal methods are identifiable, we support the use of killing in instances where it can be demonstrated that salmon populations, exploitable surpluses and the economics of operation of a fishery are seriously damaged.

Priorities for research:

- to assess the impact of seal predation on populations of adult salmon passing through estuaries where seals congregate;
- to develop improved methods for the analysis of faecal and gut samples to determine what is eaten;
- to evaluate all methods of seal management and the effects of their implementation on seal populations and their predation on salmon.

In compiling this report we have been grateful for the assistance of a number of organisations and individuals. We recognise that this is a controversial and sensitive subject, but believe that our report provides an analysis of the problem and that the conclusions and recommendations indicate a way forward.

Unanswered Letter to The Rt Hon Michael Gove MP under the Freedom of Information Act

May 8th 2018

Dear Mr Gove

The Predation Action Group was formed in 2009 by fishery owners, managers, freshwater fish farmers and anglers concerned about the impacts of predation on fisheries and riparian lands and habitats. The PAG has extensively researched and analysed the various predators, both native and non-native, working in the freshwater aquatic environment and the impact those predators are having on the health of our waterways, invertebrate populations, fish stocks, water and ground nesting birds and mammals. PAG produced The Big Picture in 2013, a study of the problem which has become the most referenced document for researchers into predation and fishery health. PAG does not seek the cull of any species, but is concerned about the human rights of people whose property, livelihoods and social structures are threatened by predation and the conservation of biodiversity and sensitive habitats.

We are in the process of preparing The Big Picture 2 to follow up on our previous research. As part of that exercise we have a number of questions to which we would appreciate the answers;

- 1) Of our main predators signal crayfish, cormorants, goosander and otters are having an increasingly serious impact on our waterways. Cormorants, goosanders and otters are protected by law, while special licensing considerations apply to fishing for, and thereby controlling, signal crayfish. Can you explain the reasons for, and the significance of, the special considerations which apply to each of these categories?
- 2) The greatest degree of protection is afforded to otters, which are becoming public enemy number one in the eyes of many carp and specialist anglers. Can you explain what protection of fisheries is currently available under the Natural England and Wildlife Act protection laws?
- 3) Otters, cormorants, goosanders, salmon and eels all enjoy a degree of protection under the IUCN (International Union for Conservation of Nature and Natural Resources) Red List for endangered species. The European eel, *Anguilla anguilla*, is

'critically endangered'. The otter, *Lutra lutra*, is now in the 'near threatened' category. Yet eels have been critically endangered (listed thus) since 2008, and their classification was reconfirmed on the 2014 list. Predation is included in the list of causes of the declining eel populations, which are classed as critically endangered because the European eel population has fallen by 90-98% over the last few years. 'Critically endangered' is third down from extinction on the Red List, i.e. very, very serious. The IUCN otter classification has been eased in recent years, from the 'Critically endangered' category to the current 'near threatened' category. Our understanding is that the Red List classifications are reviewed every five years. We would argue that the spread and impact of cormorants, goosanders and otters, none of which can now be considered to be threatened with extinction, means their protection status is long overdue for review. Is there an ongoing call for review at Government and European level? Who instigates reviews where they are felt overdue and necessary?

4) In the Angling Trust publication 'The Impact of Cormorants and Goosanders on river and Stillwater Fisheries in the UK' the following quote appears: 'Cormorant numbers have increased since protection for these birds was introduced in 1981 via the European Wild Birds Directive and following the banning of DDT. Numbers of over-wintering inland birds, which traditionally were around 2,000 in the sixties and seventies, rose dramatically to 14,554 in 1987/8 and to a peak of 30,188 in the winter of 2003/4 - a doubling of numbers in 6 years and a staggering 15-fold increase in just over 20 years.' At the same time the numbers of over-wintering goosander have increased to 12,000+ (RSPB figure), meaning we have over 40,000 fish-eating birds requiring 1lb of fish per day as their essential diet, which amounts to the predation of 6,000,000 fish in the winter period alone. In these circumstances why does Natural England seek continued protection for cormorants and goosanders, particularly in the light of increasing concern over the impact of these species on salmon, migratory sea trout and brown trout, and the resulting impact on the tourist industry?

Yours Sincerely

Mike Heylin OBE
Secretary
Predation Action Group

The Decline of BARBEL

The Barbel Society

When it comes to our rivers and the coarse fish that inhabit them, there is little doubt that the barbel (*Barbus barbus*) is the most iconic species. Barbel can be found in many of our river systems, in fact on some they are indigenous (The east flowing rivers), and on the others they have been stocked. From an angling perspective they are a very popular species but today (July 2018) they are under threat in so many ways, not least of which is predation.

Over the past twenty years we have seen a gradual decline in barbel populations in practically all the rivers they inhabit, to a point where in some cases the decline is so great that the numbers now are basically non-existent. On rivers such as the Wensum, Dorset Stour, Kennet, Teme, Bristol Avon, Gt. Ouse, Windrush, Cherwell – the list goes on – the barbel population has shown a drastic decline. On a river like the Kennet barbel have always been there, it is a tributary of the Thames where barbel are indigenous.

Otters are a major problem. Once they move on to a stretch of river it does not take long before the reduction in barbel numbers becomes very apparent. This apex predator will eat whatever is on offer and if that means a ten pound female barbel carrying many thousands of eggs then so be it. The consequence for the fishery is then very clear to see.

No big females equals no continuity.



PAG chairman Tony Gibson with a famous barbel, the Traveller, which was one of the first to be lost to otter predation.

It is absolute fallacy to say the otter will only target the old, infirm and moribund fish; it will take whatever it can. Barbel are a vulnerable species: they are a shoal fish; they spawn in the same areas, and they can lie up for some time, especially in the winter. It does not take long for the otter to work it out.

One thing we have to appreciate with regard to understanding the damage otters can do to barbel stocks is the need to be aware of the demographics of a barbel population. The barbel population will be made up of male and female fish: males outnumber the females by a ratio of approximately 7:1, in some cases as high as 10:1. Whereas females (the egg producers) can grow to sizes close to 20lb and live for 20 years plus, the male has a much shorter life span than the female and grows to weights that rarely exceed 8lb.

With this information we are suddenly aware of a profound mathematical situation unfolding in front of us. With big healthy females producing 50,000 plus eggs the damage an otter can do by killing that one fish isn't just about one less big barbel to catch, it's about the many thousands of barbel fry lost over the remaining years of what its life would have been.

So for example, with 500 barbel living in a short stretch of river, science tells us that 60 to 70 will be female (at best) with big females being more likely to be loners, or in small groups. By default they



A big barbel lost to otter predation. The Fifth Otter Survey refers to 'skewed big fish populations', apparently overlooking the fact that all barbel over 8lb are egg-carrying females, the predation of which carries far-reaching consequences for natural recruitment.

become easy pickings for a big powerful dog otter as a favoured source of food because it does not have the protection of the shoal, or the erratic escaping speed of a smaller barbel.

Therefore, taking into account how the barbel population is made up and the shorter life span of the male fish, it's not surprising how a small barbel population can suddenly collapse. What we are seeing now with many barbel populations, indigenous or introduced, is a self-fulfilling prophecy being played out before our very eyes.

The Barbel Society acknowledges there are other predatory effects on barbel populations, be they signal crayfish feasting on the fertilised eggs of a barbel, and goosanders and cormorants predated on the barbel fry, but it's the killing of a large fertile female barbel that basically takes out thousands of barbel fry that could have been the corner stone of a future barbel populations and sustainability.

Solving the problem is not easy, you cannot fence in a river and in any case barbel are wild fish. There are differing views as to how great the problem actually is. Some believe that there are more important underlying factors that if improved will help address the balance.

The Barbel Society takes a difference stance and believes that the huge increase in the number of otters means that it would take many years to find a balance, if indeed that is actually possible. You have to solve the predator problem first because if you do not then all the other factors become irrelevant.

If it were not for the River Trent and the River Wye then barbel fishing in this country would be on



The famous River Kennet: there are numerous reports from a number of reliable sources that this river has been stripped of its former glories by predation.



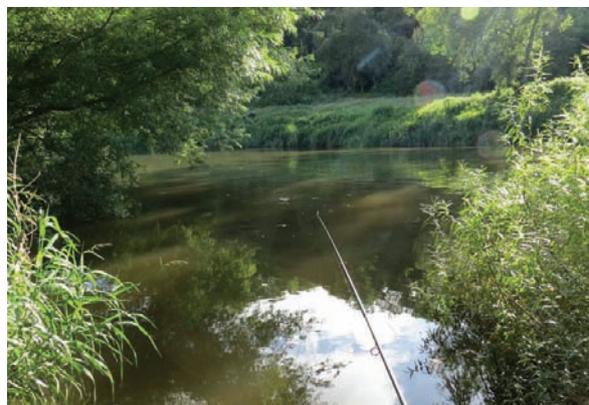
The Upper Teme, another of the numerous rivers to have suffered from the predatory attentions of birds and otters.

its knees. Based on experience over the past fifty years it is obvious that nothing stays the same and at some point the barbel fishing on both of those rivers could find itself in the same position as those that have suffered a wipe out. That may sound alarmist but it is highly likely.

We have a problem and for river anglers our problem is every bit as great as that of the carp angler. The Barbel Society stands four-square alongside the PAG in its continual quest to find a solution that is acceptable to all.



The PAG film carries footage of fish dying from otter predation of the vital organs. What are anglers and fishery owners supposed to do, stand by and watch this happen?



The heavily-predated Wensum, referred to in detail in John Wilson's heartfelt piece.

More on the Decline of Barbel

A collection of submissions, press reports and Facebook items that have caught our attention over the last three years

Ramblings of Des Taylor, a River Angler, Angling Guide and Journalist

Here are the ramblings of a river angler in response to recent comments playing down the impact of predation. I have fished on a number of rivers – the Thames, the Teme, the Wye and the Severn – when otters are in the area, and it frightens the fish so much that you cannot get a bite. This can be over a big span of water like a mile: yes, a mile. Fish afraid to feed is almost as bad as pollution.

As for saying there are no scales in otter spraint, well I eat fish three times a week and there are no scales in my 'spraint' because, like me, otters don't appear to eat scales. Indeed, on my rivers they will only eat a couple of pounds of flesh from an 8lb specimen barbel.

My catch-rate since the arrival of numbers of otters in the middle reaches of the Severn has gone down and down, and will be even worse this year. But then it would be because on numerous occasions I have sat and watched otters eating and leaving still live fish on the bank in front of me. They seem only to eat good-sized fish, about 6lb+, like pike, salmon, barbel and carp. Without a doubt a barbel appears to be their favourite meal on the Severn.

In 1986 I saw my very first otter on the Severn after many years of fishing it. Then, in 1996, I saw my second. Nowadays I see them every week, very often in pairs, and sometimes even more.

A chap just down from my house had three otters come into his riverside house pond and take all his koi carp out of the pond, all 20 of them. They killed the lot, many of them left on the ground with only a small bite mark, and only a very small amount of flesh taken as food.

I had a small pool in Hereford that held big chub to 7lb, and six carp between 12lb and 18lb. A small stream was connected to the pool and one night an otter arrived. In one week he had killed all the carp, and nothing else. When they were gone he killed all the big chub, and we found six bodies of chub, all over 6lb. This was in weeks, not months.

I fish a stretch of the Warwickshire Avon where at least 50% of the barbel have tail-fins half missing



Sundown on the middle Severn, a game- and coarse-fish river where all species have been severely hit by predation. Ellis Brazier commented, 'There is no fry in the river' ten years ago!

and scratch marks down their flanks where they have survived otter attacks. Many of the stretches are not worth fishing because the catch rate now is so low compared to when the otters were not there.

Teme anglers will tell you that otters have killed the river. I used to take guide days on there, but not any more: on my 'better' stretches you cannot get a bite.

Otters are killing my business, and my sport, and yet we get people suggesting they are doing no harm. I can write lots more, but I have given myself a headache, so I will stop.

Mark Hibbs, Fisheries Manager & Head Gamekeeper, Wasing Park

Just to give you some more information, our River Kennet syndicate was 120 strong 4 years ago. Our members have seen otters on a regular basis, and up to four at a time. Our membership last season was down to 68: this season I have already received 8 letters saying that they will not be re-joining due to lack of barbel and chub in the river. They also say that they believe this is due to otters. This cost us as a business £13,780 last year, and I think the cost will be around £26,500 this season. We are now seeing otters

on all of our lakes except for the specimen lakes that we have just had fenced at a cost of £40,000. I'm not sure how long we can sustain this level of predation

Giles Tiney's comments from Facebook, March 2017

I live at Market Harborough, Leicestershire. All along the Welland Valley has been completely cleared of fish. Lots of fish ponds have been cleared. 100 ducklings from the game farm have had their beaks bitten off. It's not nice to see, and it just goes on and on.

Darren Weatherly from Facebook

The otters are taking out the larger fish, and the spawning fish; the cormorants are taking out any size fish; the fry is being taken out by the grebes, and of course the eggs are being eaten by the crayfish. Nothing realistic is being done in terms of replacing these. I live 30 metres from the River Kennet and I have seen otters all the time over the last 10 years. This once-thriving river no longer has much in the way of fish. I no longer see small fry topping. There used to be so many chub, large roach, even the odd



Des Taylor at the annual 2018 Barbel Society conference at which the PAG's Fact Sheet and Predation Film were launched.

carp, with loads of bream. I used to bag up with 30-40lb of fish in 5-hour practice sessions. Now you're lucky to see a tiddler top. I've fished this section for days without even a bite. All I see is otters trolling through overnight. The London clubs once thrived down here, but not anymore. I also see otters on the Thames in the Sonning and Reading area, and also on lake Sonning Eye, where I saw three in one morning a couple of years back.

They may look cute, but as otters move into waterways to sport their eat.

RIVER KILLED BY OTTERS

No, the Thet is not 'up and coming'

I was interested to read that 20,000 fish had been introduced into the River Thet and that it was described as an 'up and coming river'. Sadly, this description is not accurate in my opinion. Around 20 years ago, this was one of the finest small waterways in the country and, after gaining permission from landowners to target a stretch, I landed 30lb bags of roach, dace and the odd chub. In fact, this was the venue which gave me my finest roach - a 2lb 7oz specimen.

This incredible sport ended abruptly, however, when otters were introduced in four different locations along its length. From then on, sport declined to such an extent that where catches were once excellent, it became impossible to get a bite, even for an experienced fisherman like myself.

My love affair with this lovely little river was over. It's not just me who has these feelings, as two angling clubs have given up renting stretches on the venue.

THE SCARBOROUGH, NORTH YORKSHIRE

The New Year is now here and this should be the start of a serious angling 'fight back' against the biggest issue dogging our sport - predation. Otters, cormorants and signal crayfish are battering venues up and down the country and they are leading to a decline in sport in most places and a complete end to action in others!

Put simply, more has to be done to help end the massive fish losses the nation is suffering. As has been said in the past, the RSPB has a huge membership base and it's a feared unit that many groups refuse to take on.

If every fisherman joined the Angling Trust and made our governing body one to truly be reckoned with, then maybe, just maybe, some hard-hitting action would be taken to protect our stocks against predators.

NARCIS DUKES, EMAIL

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» Otters » Attacks on two of the country's premier big-fish rivers

DEATH ON THE DORSET STOUR

TWO of the country's most prestigious and prolific rivers are under growing threat from otters. Both the Hampshire Avon and the Dorset Stour, accepted as the best big fish venues in England, have suffered fish kills in recent weeks - and otters look to be the culprits.

The body of a barbel between 1lb and 1½lb was discovered with its throat torn out at the Royalty Fishery, while a further three double-bairns have been found on the popular stretch at Langham on the Stour.

Although some locals are insistent that minck are to blame on the Royalty, the news will come as a hammer blow to both the regulars and the thousands of anglers who travel nationwide to fish two of the richest rivers in the country.

Both venues are no strangers to otters, but this is the first time two of the most famous, and popular, stretches have come under threat. The fear now is widespread decimation of the prized big-fish stock - and, with otters a protected species, anglers are powerless.

"In a normal week it's usual to hear different stories of about 100 to 200 of fish being taken by otters. How long can the rivers sustain that sort of attack?" said Andy Brown, owner of Avon Angling.

"I witnessed an otter eat a 1½lb-plus barbel that I'd caught earlier in the winter and that was heart-breaking."

As well as Langham, they have been seen at other popular stretches, such as Severals and Holey on the Avon.

Nigel Gray sells day tickets for the Christchurch Angling Club on Royalty Fishery from Doris Tackle and believes the problem is minck - not otters.

"We have found one dead barbel and scales from chub and carp. There was a large minck on the fishery, which has been removed, but no signs of otters. When the barbel was found, we searched the fishery but found no footprints, no spoor or any other signs."

Otters haven't been released in the area since 1995. An adult male has a territory of up to 10km, and can eat 100 fish a day. Without small fish, it will take specimens up to 100, eating only a partial amount. While individual otters are unlikely to have much impact, a female with cubs can average a rich area until empty.

» The growing predator problem

Case Study 1 - Hornesheo Lake, Glas
During the winter of 1995, a number of captive headlines were released near Hornesheo, coinciding with the death of 12 carp over 20lb.

As well as carp, the venue's noted big roach and rudd stocks were also hit, although since then there have been no reports of deaths.

Case Study 2 - Bigwood Fishery, Shrop
In March 2004, it revealed how the 10-acre lake had 1,000,000 worth of carp as otters caused total devastation.

Case Study 3 - Birchwood Farm, near Shrewsbury
In September 2001, well-known carper Rob Hughes found a dead carp which bore signs of an

other attack on the banks of his 3.5-acre fishery. After the death of a second fish, he consulted experts who confirmed that otters were responsible. Despite installing flashing lights and a radio, the animals still took fish and he was forced to spend £3,000 installing a fence.

THE Royalty Fishery has lost fish, but the controlling club instead think minck are to blame.

Fisheries consultant Keith Wesley, Bedwell Fisheries Service

I know for a fact that Natural England gave permission to release 24 otters in a 1km squared area in Gloucestershire. I know this for a fact because someone at Defra claimed such behaviour probably contravened animal welfare laws!

I've surveyed ponds in Norfolk and found no fish whatsoever after being called in by concerned local club anglers who wanted to know what was wrong with their fishing.

An EA fish survey of one stretch of the Great Ouse saw the stretch downgraded from a Category A to a Category C fishery due to a crash in the numbers of adult barbel, which took place over just three seasons.

In the past three years the EA has contacted me to investigate eel populations in various catchment areas. How can you release an apex predator and then claim it isn't impacting on eel populations?



Letter of the week Severn is shot for us

I HAVE often been accused of searching for a 'Barbel Utopia' and I don't deny it. For the last 16 years I have taken at least one week's holiday in pursuit of barbel on the River Severn.

Myself and sometimes up to ten other barbel addicts from our town head for Highley in Shropshire, we never lose focus that it is also a holiday and not just a fishing trip.

We go armed accordingly with plenty of cash to spend, sometimes up to £1,000 has been spent each on our week, but I would say £7-800 is average. We like to use the haunts we have visited, whether it be for the good food or just the atmosphere.

We try our 'banker' swims and of course listen to other anglers who are fishing the areas. There are 1,000s like us from all parts of our tiny island, who because of the publicity the Severn attracted in the 80s as a barbel mecca, head to the Shropshire and Worcester areas in search of the perfect holiday, barbel, beer and lovely scenery.

I first went there on the recommendation of a good friend of mine, Graham Purdy. He and his brother and their families had already been visiting the area for over eight years. They had enjoyed nothing but success in their pursuit of barbel, catching as many as 30 fish a day, and more on the odd occasion.

My first few years on the Stanley stretch on the Kinlet waters at Highley were very productive, although a relative novice it was easy to catch plenty of barbel and the odd big chub. We used to get through gallons of maggots and caster with buckets of hemp as an added attractor in the feeders.

The fish begun to wise up and, as we know, the pellet revolution kicked in - it was cheaper and for a while, even more productive. However, especially

over the last seven years there has been a drastic reduction in the amount of fish caught in the area.

It's not just the Highley stretch, from Ironbridge to Bewdley, all the anglers we speak to in the many pubs and tackle shops are all saying the same, it gets worse every year we come here.

I was lucky enough to bump into Des Taylor in a tackle shop in Bewdley this year and he told us how he has no time for people who come down on holiday, get drunk and expect to catch barbel. 'They pack up when the fish start feeding,' he said. 'It's not worth fishing till 4pm and finish at 10pm, so don't come in here and tell me there's no fish in the river.'

Fair enough, but it's not true. We spend up to 14 hours on the bank some days and have fished till midnight with only an average improvement in the daylight hours.

We unfortunately have had enough, we are off to the Wye next year and we are not the only ones. I spoke to at least three other groups of lads who, like us, have become disillusioned with the lack of barbel along the stretch.

My point in this long drawn-out story is, who should take responsibility to make sure that there is enough fish in the river to maintain the interest for the anglers. It's not just the tackle shops that lose out if us 'holiday' anglers stop coming. The impact will also hit the local community, from the shops where we stock up, to the pubs and restaurants we all use.

Well, I am looking forward to the Wye next year, but will miss the Severn and its people, they are a lovely bunch and have treated us well over the years.

Doug Woods, Worcester Park, Surrey.

■ SEVERN regulars - what do you think? Surely it's not as bad as Doug suggests? Meanwhile, turn to p.18 for a barbel Action Replay on the Wye. Ed.

As for fencing fisheries, that will just concentrate otters on unprotected wild fisheries.

I oversaw the stocking of 1,400 fish into two lakes at Ryemeads. After six months we only found three, and after a year just one.

For the EA to claim there's no problem is absolute rubbish. They know perfectly well there is but it isn't politically correct to admit it. We were all hoping the Angling Trust would stand up for anglers and back us to the hilt. What they should have demanded from NE and EA was the impact assessment that should have been carried out before these animals were released.

The Angling Trust can't speak for anglers if it doesn't speak to them and listen.

Footnote

Des Taylor's reference to no scales in otter spraints followed some comments on the subject in the press to the effect of: 'No barbel scales, no barbel predation.' It is clear from the numerous pictures of ottered fish we have included in this publication that Des's point about otters avoiding eating scales is entirely valid. In addition acknowledged authority on otters Han Kruuk, author of two acclaimed books on the subject, has this to say on the subject of identifying prey from otter spraints:

'Another problem of spraint analysis is the impossibility of allocating remains to individual prey animals. Prey species that are taken frequently will be underestimated because it is more likely that remains of several individuals will be found together in one spraint. After a long series of experiments with faecal analysis on captive European otters, David Carss expressed despair: 'It is not possible to quantify otter diet accurately by frequency of occurrence methods. (Carss and Parkinson 1996, p301).' **Otters: Ecology, Behaviour and Conservation, pp 99+, Hans Kruuk, Department of Zoology, Aberdeen, 2006.'**

An Angling Club's Views

From Farnham Angling Society's Website

Natural and Unnatural Fish Stock Predation

By Ian Gray – Honorary Secretary, Farnham Angling Society

Natural Predation of Stock

The presence of Herons, Kingfishers, Dab Chicks, Grebe, Goosander, Bittern and other piscivorous waterfowl is entirely natural and is accepted as simply being part of the natural habitat in which our fisheries are set and that our artificially-stocked fish have to survive.

That said, it would be negligent of FAS to ignore the impact of Herons that are deterred on fisheries such as Kings Pond & Wyke Pond where they are believed to have seriously impacted upon the smaller size of the fish that have been stocked and are developing in these fisheries. Herons themselves are capable of eating anything that it can swallow with fish of 11lb 8oz having been recorded as being swallowed. A quick search on 'Herons catching fish' on the web will provide some surprising photographs, and as well as the expected fish including eels, frogs, snakes, mice, and even including a rabbit being caught, drowned and swallowed!

Unnatural Predation of Stock

The sight of cormorants on inland fisheries has become a phenomenon that has steadily increased over the last 20-years and had severely impacted upon the stocks of fish within many freshwaters up and down the country. The precise reasons for their leaving their usual feeding grounds is the basis of a great deal of conjecture within the angling fraternity, with discussion centring upon reduced fish stocks within the seas around our coastline, but whatever the reason the impact remains the same as the birds pursue a captive prey.

Cormorants are a well-designed predator of fish, diving and chasing them underwater and with a hooked bill that they snap at fish with, whether they are able to ultimately eat them or not. Their presence, especially in winter when the numbers of anglers generally reduce on the bank and with most fish often far less active, given the birds an opportunity of easy fishing. Even if the fish survive being chased, they are



often injured and subsequently more susceptible to stress and disease as they are not at their strongest.

In an attempt to counter this, FAS applies each year for a licence to shoot a number of birds and fish refuges have been installed at Stockbridge Pond and on the far bank of Kings Pond. The reflective tapes that you may also see stretched across the water at Kings Pond, Badshot Lea Small Pond and Stockbridge Pond are installed to provide a deterrent to the birds.

The illegal Release of Mink (*Mustela lutreola*)

Before the ban on Mink farming in 2003, as a result of the intervention of animal rights activists, many thousands of farmed Mink were released into the wild in the UK in 1998 and 2001, this resulted in a UK population that was much higher than normal and continues to impact upon the wildlife on which they prey. Mink are not indigenous to the UK, but were introduced from the USA in 1929 to be bred for the fur trade.

Mink will have an impact on the rivers, streams and ditches that they often live along and use as corridors to travel, and they can often be seen at the stretches of the River Wey through Elstead. An adult needs several miles of riverbank as a territory and fish, particularly eels if available, form part of their varied diet: more so in the winter when fish are slower. They also feed upon mice, voles, rats, squirrels, birds and their eggs and young rabbits. The impact on water voles, whose population in the UK has crashed by 90% in the last 10-years for a number of reasons – including changes to farming practise and flood control – will certainly have been impacted by the increase in mink across the UK.

The Reintroduction of Otters (*Lutra lutra*)

The UK population of otters, currently a protected species in the UK, suffered very badly due to the use of DDT - dichlorodophenyltrichloroethane. This man made pesticide was widely used after the war until the 1960's when it was realised to be having disastrous effects on wildlife as it proved to be residual within the food chain. Eventually its use was made illegal in the UK in 1998. DDT was highly toxic to fish and subsequently the otter.

We have been advised for many years by the EA that the health of the rivers has been greatly improving, so perhaps the re-establishment of the UK's apex freshwater predator through natural colonisation by wild otters to complete a healthy and balanced ecosystem for both wild fish and wild otters was, on the face of it, a worthwhile objective.

However, the re-introduction of 117 otters (sic) between 1983 and 1999 in lowland Britain, having



been bred in captivity by the Otter Trust that has now closed due to its success, has resulted in the successful establishment of breeding populations in many areas of the UK.

Unfortunately the otters were released into aquatic ecosystems that had changed significantly since the demise of the otter and Environmental Impact Assessments do not appear to have been undertaken before they were released. It appears that the pendulum may have simply swung too far and too quickly in the otter's favour as man clumsily seeks to mend by once again interfering with the natural environment. Had the otter gradually re-colonised the UK naturally, of its own accord, then anglers would have been likely to have accepted the development.

Whilst it appears understandable that both Natural England and the Environment Agency would support and encourage the otter's comeback as a native species, this surely should not be to the detriment of fish such as barbel that are themselves a European indicator species for the welfare of the aquatic environment within the UK.

The barbel have done very well since the decline of the otter and it is possible that with the ongoing loss of natural broodstock, the future of the species at its current levels could be severely affected for decades

and it may be that the future of numbers of large fish within UK rivers has been a pinnacle that is unlikely to continue in the long term, or resume in the future.

The otters have simply done what comes naturally and fed on the fish stocks that inhabit the environment that they live in and expand into, whether they be the barbel of rivers such as the Great Ouse, the Windrush, the Teme, the Warwickshire Avon, the Welland and the upper Thames, or specimen carp within managed fisheries and fish farms.

Either way the effects are proving quite disastrous with fish populations being devastated and some angling clubs being forced to relinquishing leases on fisheries managed for 50-years as they have lost their stock.

The Environment Agency have made limited funding available to fence fisheries (£100K nationally which is a tiny sum considering the cost of the fencing required), but this does not take account of waters on common land (such as Frenshams and Tarn Pond), where such fencing cannot be erected or where the lakes and ponds are 'online' (whereby they are fed by a stream and so have an inlet and an outlet – such as Frensham Great Pond & Badshot Lea Small Pond & Stockbridge Pond), and where the waterway cannot be fenced to prevent otter access as it would simply become a dam.

In addition, the active encouragement of otters at a time when the European eel population is on the verge of collapse appears completely ill conceived, with eels being a preferred natural food source of the otter. It has been recorded in the Somerset Levels that there has been a ten-fold increase in the feather content of spraints from 4% in 1975 to 40% in 2007; the likely cause for this is the otters ability to adapt its diet due to the collapse in the eel population.

The dilemma appears to be that the given time, a natural balance should resume, but the stocking of farmed fish by fishing organisations and the EA into both freshwater habitats will continue to provide an artificially stock level for otters to prey upon and therefore survive in an environment that is not sustainable, therefore exacerbating the problem.

Whilst the Angling Trust continues to work with

both Natural England and the Environment Agency to undertake a Scoping Assessment on the impact of otters on fish stocks, there is serious concern that this is 10-years too late. Meanwhile the construction of otter holts by the Surrey Wildlife Trust working in collaboration with the EA has taken place locally to FAS fisheries, with 4 on the River Wey between Elstead and Eashing, and 2 on the South Wey at Tilford, with the consent of landowners but without consultation with the local fishing clubs.

It really depends on how you look at the situation, purely as an angler who wants the maximum fish stocks to be available or as an environmentalist who wishes to see a natural environment. But in truth, how natural is the environment when it is steered by human interference at every single opportunity?

That said, Farnham Angling Society will continue to monitor the situation closely and seek to protect its fish stocks where possible.

Human development and the effects of river fish habitat and their future recruitment.

The management of the river systems for flood protection and for use by boats has a direct impact upon the spawning grounds through the removal of suitable substrate and spawning grounds as well as putting obstacles that inhibit migration to spawning grounds, leading to little or reduced recruitment.

A barrier such as a weir is impossible for a fish to bypass – with the possible exception of salmon – and they create considerable changes to flow rates as well, that again affect the natural environment of the river system. The effects are not of course always negative, and as is the way of nature, different species will usually acclimatise to a gap that occurs.

The Environment Agency is responsible for both the management of flooding and for the protection of the habitat of the river and preserving it wherever possible. Different departments within the EA may seek different objectives, such as Flood Control and Fishery Management, but they seek to manage this difficult process through a series of policy-based decisions and advice to developers throughout England & Wales.

The Angling Trust And Predation

Mark Lloyd CEO of the Angling Trust

With the publication of *The Big Picture 2*, it's a good opportunity to explain what the Angling Trust has been doing and what it plans to do in the future to try to tackle predation of fish stocks by signal crayfish, cormorants, goosanders, and otters.

The Angling Trust was formed from a fragmented group of national fisheries and angling organisations in 2009 as the new unified representative body for all coarse, sea and game anglers. The Trust has a close collaborative relationship with Fish Legal (previously the ACA), which takes legal action against polluters and others on behalf of its member clubs and fisheries throughout the UK. Angling Trust and Fish Legal offer joint membership packages in a range of categories and so far have recruited 12,000 individuals, 1,800 angling clubs (with nearly 400,000 members) and nearly 400 fisheries.

Otters

Being a representative body for a community as large and diverse as our country's 3 million anglers is a difficult job. In any room of anglers, there are often more opinions than people! Many anglers have never encountered an otter and don't understand what the fuss is about. Many others have seen the horrendous sight of mutilated, dead prime fish lying on the banks of rivers and lakes. When large specimen fish are killed, it is particularly upsetting because for many of us catching the biggest and most unusual fish is part of the challenge and excitement of going fishing. Some of these fish are held in high regard as "target fish", and they are also worth a lot of money both in cost and as revenue earners to commercial fisheries, angling clubs and guides. The loss of several of them from a water can have very significant financial implications for rural businesses which employ a lot of people as well as to our member clubs which can suffer from declining memberships as a result of predation.

Knowing that there are huge fish out there that we might possibly catch one day is what keeps us coming back and fills our dreams. When that opportunity is taken away, even if there are still smaller fish around to catch, it destroys some of the magic of fishing. Many river anglers have got accustomed to catching large fish that were able to grow to their maximum size without any danger of predation.

Some captive-bred otters were released into the wild in the 1990s, without any consultation with anglers or thought about the impact on fisheries of

having unnatural concentrations of predators in certain areas. This affected many of us deeply and it's entirely understandable that people are still angry about it when they perceive that it has spoiled the sport that they are passionate about and their favourite venues. However, genetic research shows that otters released as part of this programme have not spread more than about 50 miles from the release site so the impact is probably more local than many believe.

There are lots of rumours about releases of captive-bred otters continuing, but no hard evidence. Breeding otters in captivity is very difficult and we do not have any evidence that this is happening. There is no doubt that the otter population has increased very substantially in the past two decades, but this is almost entirely due to natural regeneration of the population after the withdrawal of pesticides like DDT which accumulate at the top the food chain. There is also no doubt that this has had an impact on both river and still water fishing and that in places this has been very severe. In places, experts say that otters have already reached their maximum population. In others, the populations are still growing.

The decisions about what to do in response to this widespread damage and the changes it will mean for



Mark Lloyd, CEO of the Angling Trust. See Postscript on page 145.

angling have to be taken with a cool, rational head. We'd all love to see a simple solution to this very big and complex problem. But there are limits to what the Angling Trust, in our role as the representative body for all anglers, can call on the government and its agencies to do about it.

We also have to try and represent the full range of opinions in the angling community from those on one extreme who would like to see otters culled, to the others who believe that otters have more rights to the fish than anglers, and the wide range of opinions in between. It is the curse of any representative organisation that its policy on controversial issues will disappoint most of its members either by going too far, or by not going far enough. We do share the Predation Action Group's view that some predators – and particularly cormorants – are over-protected in law, having been given that highly protected status at a time when they were much less common than they are today.

The Angling Trust does not believe that there is any likelihood at all of politicians agreeing to a cull, and to call for such measures will only endanger the reputation of anglers as conservationists and guardians of our water environment in the public eye. It is technically possible for licences to lethally control otters to be issued under existing laws, but in practical terms we believe that there is no possibility of Natural England doing so. The government's response to the Barbel Society's online petition last year calling for unspecified "non-lethal measures" was predictably dismissive:

"While the Government understand concerns raised about the impact otters may have on fish populations, they are a protected species and there are no plans to introduce methods to control their numbers."

Even more telling was the reaction of angling's most supportive MP Charles Walker:

"As a lifelong passionate Angler and Chairman of the All-Party Parliamentary Angling Group, I can understand the frustrations of anglers in relation to fish stock predation. However, going to war with the otter will not deliver the result sought and will only serve to drive a wedge between anglers and the wider public. At a time when the Government is struggling to make the case to control grey squirrels, it is impossible to imagine a Government minister choosing to pick a fight with Tarka the otter."

There was also a public reaction against anglers and angling as a result of both the petition and some of the ill-thought out and irresponsible comments made by some on social media calling for otters to be unlawfully killed or "turned into gloves".

The Angling Trust posted an advert on Twitter last year calling for people to report sightings of cormorants and goosanders on our Cormorant Watch web site to support our campaign for greater freedom for fishery managers to protect their waters. This was picked up not only by hunt saboteurs and animal rights extremists but also by numerous people who treasure wildlife, including some anglers and some of our existing members. Many made comments calling for angling to be banned (and some for anglers to be shot, which seemed a strange moral balance!). We received over 200 tweets criticising us and only a handful of anglers chipped in with support for our policy. Cormorants have far less public appeal than otters.

Calling for lethal control of otters would not only alienate many of our existing supporters, but it would also critically damage angling's reputation in the public eye. Most importantly though, we cannot see any chance at all of such calls resulting in any change in Government policy because politicians themselves have told us they won't change their view because of the public outcry in so many other areas of wildlife management, including from anglers. A public demand by the Angling Trust for lethal control of otters would therefore involve enormous risks for angling, but it would almost certainly achieve nothing. It may even be counter-productive for change because it would entrench opinions.

Some people have asked why we haven't followed up the National Gamekeeper Organisation's legal case regarding buzzards and applied it to fisheries and otters. There are a number of reasons for this, but the principal ones are that it would be highly risky case, with very substantial financial risks. There would also be very significant reputational risks for angling if the national governing body were seen to be fighting for the right to shoot the nation's favourite freshwater mammal as described above.

I understand that the Trust's policy on this issue has led some to believe that we don't recognise the very real issues that otters are causing for fisheries up and down the country, or that we don't care, which is absolutely not the case. I am sorry that we have failed to make it clear how much we really do care about this issue and our determination to try and manage it. Most of the staff and volunteers involved in the Trust have had first-hand experience of otter predation in our angling lives. I have had a trout taken off the end of my line by an otter on the River Wye and have



Mark Lloyd at a meeting with concerned local anglers in Shropshire in 2014 when Mark saw the problems of unfence-able fisheries.



A meeting between Mark Lloyd and Martin Salter of the Angling Trust and members of the PAG board at Reading in 2014. Then-board members present are John Slader, Tim Paisley, Chris Burt, Rob Hughes and Mike Heylin OBE.

seen them eating salmon and sea trout on rivers I fish, where they undoubtedly have an impact on fish stocks and disrupt fishing. Many of my colleagues have experienced serious declines in their coarse and game fishing as a direct result of otter predation on both rivers and lakes. We know that there is a problem and we're not afraid to say that publicly, but perhaps this message has been lost.

When criticised for inaction, we have perhaps been too defensive or not responded to all of our critics and this has given the wrong impression. However, some of the online criticism has got out of hand and people reading it might get the idea that the Angling Trust has done nothing, or is in some way responsible for the regeneration of a species. Many of our critics do not have any solutions to suggest and most have never actually been a member of the Angling Trust but still demand we find a magic solution.

Predation Action Plan

In reality, the Trust has done more than any other organisation in recent decades to take practical steps to reduce the impact of all forms of predation on our fisheries. We published a Predation Action Plan, the detail of which was agreed with the Predation Action Group, in February of 2014. Since then, we have been working to deliver that action plan as best we can with our limited resources and we have achieved many of the actions in the plan as follows.

One of the key issues was that in the past the Environment Agency would not give financial support to fisheries to install otter-proof fences if they didn't sell day tickets. We argued successfully that the anglers who fished these venues bought rod licences and the Environment Agency accepted this argument. Four years ago, they set up the Angling Improvement Fund for clubs and fisheries to access funding from rod licence income for otter fencing projects on still

waters to be administered by the Angling Trust. Since the fund started in 2015, we have awarded grants specifically towards this purpose totalling £480,000. The total combined benefit of these projects is well over £1 million when you include match funding and volunteer time.

We have also worked with the UK Wild Otter Trust to train up both of our Fishery Management Advisors to enable them to trap otters found inside fenced waters, and release them outside the fence. We recently met with the CEO of Natural England and raised with him the need for more training of additional licensed trappers to ensure that there can be a rapid response to any reports of otters inside fenced fisheries but they are currently very resistant to these calls. Of course, fencing has its limitations as it's not possible to fence all still waters, or any river, to prevent the predation of specimen fish.

The Angling Trust believes that the only realistic way to manage predation by otters on rivers is to deal with the underlying problems affecting the productivity of fisheries. Agricultural and sewage pollution, damage to habitats, signal crayfish and over-abstraction of water kill far more fish than otters, and make them much more vulnerable to predation from all species. Our campaigns and legal actions to address these problems are almost universally popular with the whole of the angling constituency, as well as large sections of the public and other environmental organisations. We believe that we will have much more chance of success fighting these battles than taking on the impossible task of getting democratically-elected politicians to legislate for lethal control of one of the nation's favourite animals.

If we can increase the productivity of our fisheries, they will be more resilient to predation. It is simply not true to say that otters will eat every fish in a river, but we do need to ensure that those that are

lost to predation are replaced. Barbel and chub need clean gravels to spawn, and need to be able to move up and down river to complete their lifecycle. We have campaigned and taken legal action to force the government to do more to control pollution that destroys spawning areas and to allow fish to migrate up and down stream without being held up by barriers, where they are very vulnerable to predators.

Providing areas of undercut banks, tree roots and fallen trees as refuges for both large and juvenile fish can help reduce the impact of predation in rivers and still waters alike. Fish will learn to use them now that otters have become more commonplace. Our two Fishery Management Advisors have given free advice to more than 900 fisheries and angling clubs in the last 12 months alone to install these features to make it harder for predators to catch fish. We are continuing to try and find new ways of deterring otters from fisheries, but trials of acoustic pingers and other devices have not yet produced the results we want to see. We are also investigating the legal situation regarding scaring of otters in fisheries and fish farms and we will be advising our members about this. None of us wants to fish surrounded by fences, but for many fisheries for the time being that's the only option.

End the release of rehabilitated Otters

Other than killing otters, what other policies can we try and change to protect our rivers and lakes better from otter predation? One area we are investigating is the release of rehabilitated otters that are taken into captivity after being injured by cars or fights with other otters. After spending time in captivity being hand-fed, and therefore habituated to humans, they are then released back into the wild. Other otters however may have moved into their territories and this may cause more fights, or an unsustainable concentration of otters competing for limited food.

Many people believe that these rehabilitated otters are also less wary of humans and therefore more likely to predate on fisheries. This seems an entirely reasonable theory and the Angling Trust has called for these facilities to be legally prohibited from releasing animals back into the wild. At the very least, releases need to be regulated and require consultation with fisheries and angling clubs. Some of my colleagues and I recently met with the Chief Executive of Natural England and raised this issue. We also met recently with the head of the wildlife management department at Defra on a site visit in the South West to discuss it further, along with our continued demands for greater controls of cormorants and goosanders.

One of the favourite foods of the otter is the European eel, a species which has declined by

95% in recent decades, at the same time that otter populations have increased. The Angling Trust has campaigned to get the government to take action to restore eel populations by installing eel passes and screens on hydropower turbines and water intakes. Last year we delivered a petition to 10 Downing Street calling for an end to the senseless commercial exploitation of these highly endangered fish. We have also campaigned in Brussels for a European ban on commercial eel fishing in conjunction with the European Anglers' Alliance. If we can restore eel populations then otters will have less reason to predate on less favoured foods such as carp and barbel.

We organised, jointly with the Institute of Fisheries Management, a workshop of fisheries and otter experts in June 2018 to look at otter predation again in more detail and to identify new actions to add to our existing plan.

Mink, Cormorants and Crayfish

Moving on from otters, what have we done to tackle other predators such as fish-eating birds, crayfish and mink?

The American Mink is a small predator, which hunts both on land and in water. They are often mistaken for otters, but are in fact much smaller. Mink fur is dark brown and they have a white chin and lower jaw. Fish that have been killed by mink are sometimes assumed to have been killed by otters.

Mink escaped from fur farms in the UK in the 1950s with the help of animal rights extremists and they kill a wide range of fish, amphibians, rodents and birds. There are numerous local schemes run by wildlife organisations to cull mink numbers and eradicate the species if possible. The Angling Trust encourages all angling clubs and fisheries to consider taking part in these schemes to control mink predation. Our Fishery Management Advisors can provide free advice to help those willing to take action to control these non-native predators and rod licence funding may be available through the Angling Improvement Fund. Getting rid of the mink encourages the return of the water vole, which has been put at risk by mink as well as the depletion of its river environments.

We have campaigned very vigorously over many years to improve the protection of vulnerable fish stocks from predation by cormorants and goosanders. We have had some success, securing funding for two fisheries management advisors (FMAs), who have been employed by the Angling Trust since April 2014 to help angling clubs and fishery owners reduce predation, to co-ordinate applications for the new

area-based cormorant licences we secured and to gather better evidence about the number of birds in each catchment. We continue to fight for an increase in the national limit on the number of cormorants that can be shot each year and a simplification of the licence application form to control goosanders.

Our ultimate objective is to add cormorants to the general shooting licence (along with pigeons, crows, magpies etc.), subject to an annual review to ensure the conservation status of the birds is not threatened, but the Government has so far resisted this. We will keep trying.

Our policy on cormorants is by no means universally popular with anglers and it does some damage to the reputation of angling in the public eye. However, our surveys show that a large majority of anglers do support more lethal control of these birds and we believe that we can justify the policy in the court of public opinion. The fact that the government is being so resistant to increasing annual limits of licences for cormorants, which are not widely loved by any means, demonstrates the difficulty of seeking any lethal control of otters.

Signal crayfish are an invasive non-native species which burrows into banks and predate on invertebrates, fish eggs, fish and vegetation. They have a major impact on the health of fish populations in rivers and lakes and they rapidly colonise new waters. They have been spread by people taking part in water sports and for commercial gain in some cases, after they were stupidly introduced under government licence in the last century. Signal crayfish limit fish recruitment so we get fewer juvenile fish being produced each year and they damage invertebrate populations on which our fish rely for food. This makes our fish populations much more vulnerable to predation by other species. They burrow into banks causing erosion and collapse and deposit 1.5 Kg of silt into lakes and river each per year, damaging the spawning substrates.

The Angling Trust and CEFAS (the Centre for Environment, Fisheries & Aquaculture Science) have joined forces to trial a number of methods to find the most effective way of reducing signal crayfish numbers and their impacts on our aquatic wildlife. The Defra-funded project is supported by volunteers from angling clubs and others with an interest in the conservation of their local rivers, lakes and canals. The results of the study are potentially encouraging, but are still being considered by Defra and so we're not allowed to release them. As soon as they are available, we will work with our member clubs and fisheries to implement the findings and to try and reduce the impact of these pests.

Conclusion – We're Stronger Together

Fisheries have co-existed with predators for thousands of years, and will go on co-existing with them. Our job as I see it is to manage that relationship in a way that gives the maximum protection possible for fish and fishing, while recognising that otters, cormorants and goosanders are all highly protected species by law and that politicians pay attention to public opinion.

Changing government policy is very difficult, time-consuming and expensive. It requires compelling, evidence-based campaigns and the clear support of very large groups of target constituencies of voters. We believe that the best opportunity to protect fish stocks in rivers is to fight for greater protection of the water environment which will enable fish to reproduce more successfully and generate stocks that are more resilient to predation. On still waters, we believe that a combination of fencing, fish refuges and deterrents is the best combination of actions we can currently achieve to protect our fish. The full recovery of the otter population will inevitably mean that fishing will have to adapt to survive, but it absolutely does not mean the end of all fishing as we know it as some would have you believe.

I hope that this article helps explain the delicate balancing act the Angling Trust faces in deciding its policy about the predation of fish stocks. Predation is just one of many issues affecting fish and fishing that anglers expect us to manage. Canoeing, local angling bans, parking costs, child protection, coaching, legislation governing the ownership of dams, new data protection regulations and a very wide range of other issues affecting the marine and freshwater environment have all required the attention of our team in the past week alone. The formation of the Angling Trust was an historic turning point because it created a unified organisation that can take on all these (and many other) issues in a professional and sensible manner.

We'd love to be able to do more, and we could do if more anglers joined us. You might think we should be more – or less – aggressive in our approach to predation, but if that's the only reason you have not been supporting us, please think again. Fish and fishing need a strong, unified representative body that is supported by a large proportion of anglers. We're getting there, but we need your support if we are to protect your fishing, and that of your children, now and into the future.

Read more about our achievements over the past 10 years and the benefits of membership at www.joinanglingtrust.net

Angling Trust Article – PAG Comment

The PAG board appreciates the time and effort involved in the compilation of the Angling Trust's contribution to this document, which we feel highlights a number of differences between the Trust's and the PAG's approach to predation. We recognise the essential work of the Trust under difficult circumstances but we feel it is necessary to make a reply to a number of points made in the Trust's submission, as follows;

Quote: The Angling Trust does not believe that there is any likelihood at all of politicians agreeing to a cull...

Comment: Nowhere in Big Picture Two is there any reference to a cull of otters, and the PAG has never sought one.

Quote: Calling for lethal control of otters would not only alienate many of our existing supporters, but it would also critically damage angling's reputation in the public eye. Most importantly though, we cannot see any chance at all of such calls resulting in any change in Government policy because politicians themselves have told us they won't change their view because of the public outcry in so many other areas of wildlife management, including from anglers. A public demand by the Angling Trust for lethal control of otters would therefore involve enormous risks for angling, but it would almost certainly achieve nothing. It may even be counter-productive for change because it would entrench opinions.

Comment: The Predation Action Group's stance is that otters, cormorants and goosanders are over-protected. Is it too much to ask that AT quietly lobbies for the easing of this protection without parading it as a public issue?

Quote: It is technically possible for licences to lethally control otters to be issued under existing laws, but in practical terms we believe that there is no possibility of Natural England doing so.

Comment: Hardly reassuring... In negotiations with Natural England and the Environment Agency which resulted in the Class Licence for the trapping of otters

within fenced fisheries Mark Walsingham (representing various interested parties) raised the issue of lethal control with Dr Elaine Gill (Natural England) and Graham Scholey (EA and UKBPAS). Graham Scholey stated this was very unlikely to happen in practice because there were so many intervening steps to be taken before this last resort became the only option. Mark Walsingham pressed the question that where those intervening steps had all been taken, a licence to kill would be the only option. This was agreed by Elaine Gill and Graham Scholey as a possibility. Do Angling Trust, the Environment Agency and Natural England really accept that the life of a single otter is more important than the future of a livelihood?

Quote: The Angling Trust believes that the only realistic way to manage predation by otters on rivers is to deal with the underlying problems affecting the productivity of fisheries. Agricultural and sewage pollution, damage to habitats, signal crayfish and over-abstraction of water kill far more fish than otters, and make them much more vulnerable to predation from all species. Our campaigns and legal actions to address these problems are almost universally popular with the whole of the angling constituency, as well as large sections of the public and other environmental organisations. We believe that we will have much more chance of success fighting these battles than taking on the impossible task of getting democratically-elected politicians to legislate for lethal control of one of the nation's favourite animals.

Comment: A number of authorities comment that the impact of predation on depleted stocks is more keenly felt than predation on healthy fish stocks. Are fish stocks healthy? This Angling Trust quote suggests not: **Q. 'Nearly 75% of our rivers are failing to reach good ecological status, and many of these are failing because of poor fish populations.'** *Angling Trust Press Release, May 2015.*

Quote: Fisheries have co-existed with predators for thousands of years, and will go on co-existing with them. Our job as I see it is to manage that relationship in a way that gives the maximum protection possible for

fish and fishing, while recognising that otters, cormorants and goosanders are all highly protected species by law and that politicians pay attention to public opinion.

Comment: A wholly inaccurate cliché that keeps being paraded by the champions of predators. Our starting point to our website and Big Picture Two is the following assessment of predators. This is not the situation which has existed for thousands of years. On our website and in the lead-in to this document we spell out the burgeoning impact of predators over the last 50 years.

Q. Why has predation become a burning issue after millions of years of a seemingly balanced ecology?

A. We have always had predators but **in the last 50 years** the predator/prey relationship has become unbalanced for the following reasons:

Signal crayfish: A growing impact since the **mid-70s onwards** when they were mistakenly introduced by the Government as a food source and escaped to the wild. Predation by signal crayfish has grown exponentially since their ill-advised introduction, and the fact that they prey on eggs and fry means that they are making a natural recovery of predated waterways impossible. **Environment Agency Permit and landowner's permission required to trap.**

Mink: A growing impact **from the mid-60s onwards** following escapes from mink farms and illegal releases by animal rights' activists. Prey includes fish, birds and mammal life. **Illegal 'immigrants' and not protected.**

Goosanders: A growing population in England and Wales **since 1970**. We now have 12,000+ of these still-water and river predators overwintering in Great Britain. **Protected status.**

Cormorants: A growing menace **since the mid-80s** during which period their overwintering numbers have increased from circa 3,000 to 30,000+. **Protected status.**

Otters: **A rebirth from 1970 onwards** on the basis of their protection under European and British law and releases by the Otter Trust and the Vincent Trust. Prey includes fish, bird and mammal life, **Protected status.** The impact on the predator/prey balance means that predators are now driven to extremes of predation which would not have been necessary when there was enough prey to go round.

Salient quotes:

The Wye & Usk Foundation concerning predation on the Rivers Wye and Usk:

Quote: 'All the fish species that inhabit the Wye are subject to predation, whether as a juvenile or adult. Otters, herons and kingfishers, for example, have existed in the Wye and Usk catchments for the

millennia, in addition to the well-known fish predators such as pike and trout.

This predation has always taken place. However, the impacts are more significant when the population of a river species is already depleted. Such impacts may be even more adverse if a new predator species arrives on the scene.

Thirty years ago there were no goosanders on the Wye. According to the 1999 MAFF (sic: now Defra but we can't locate the paper referred to) survey up to 98% of the salmon parr produced on the Upper Wye are eaten by goosanders. Additionally cormorants are seen in large groups, each eating 2-3kg of fish each per day.

Cormorants and goosanders have a significant impact on coarse species, too. Sections of the Wye that were well known for large shoals of dace and bleak are now devoid of them. Large numbers of goosanders are also seen regularly on the USK, too, where the trout population takes the brunt of the extra predation.

More recently, there has been an increase in otter numbers in the Wye and Usk. Welcome by most this has resulted in quite significant mortalities of unspawned salmon, especially where they are held up at falls.

The effect of these natural predators would not be so marked on a salmon stock at former high levels. However they are likely to impact significantly when stocks are low and trying to recover, as on the Wye and Usk today.'

The Wye and Usk Foundation quote highlights the contribution of predators to the deterioration of our rivers. The comment 'impacts are more significant when the population of a river species is already depleted' is oft-repeated in the research papers on predation. Our waterways are over-predated, the predators are over-protected, and the spreading impact of signal crayfish is ensuring that there are no prospects of a recovery.

Quote. 'S&TA (now Salmon and Trout Conservation) believes that in a closely managed environment like the UK, all water-dependent wildlife should, where necessary, be managed on an ecosystem basis under catchment management plans, and not, as is common today, because one group of species has more attraction to, or support from, humans than another. An example would be that in a river protected as a Special Area of Conservation, in which salmon are a designated conservation species, the fish require just as much legal protection as their potential predators such as otters and cormorants, even though the latter have more public appeal than the 'invisible' salmon.' **Salmon & Trout Association website statement: www.salmon-trout.org. Our work**

The above quotes are not from the much-maligned specialist and carp angling fraternity, but from major game-fishing bodies.

The Biodiversity Myth, Public Opinion, and the Predation of Wildlife

‘Biodiversity: the variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.’

‘OPENING UP THE COUNTRYSIDE’

The RSPB has fenced at least 28 reserves to protect ground-nesting birds against predation.

The angling community has fenced in excess of 1500 still-waters to protect valuable fish stocks from predation by otters and, to a lesser extent, mink. Fish farms now resemble Fort Knox in an effort to keep the predators at bay.

There are approximately 360 trout farms in the UK and almost every single one has/is now experiencing otter problems, despite stringent netting and fencing precautions.

How do these measures sit with the Defra directive to Natural England?

‘...to reverse the long-term decline in the number of farmland birds by 2020 and improve public access to the countryside?’

The Biodiversity Myth and ‘The Court of Public Opinion’

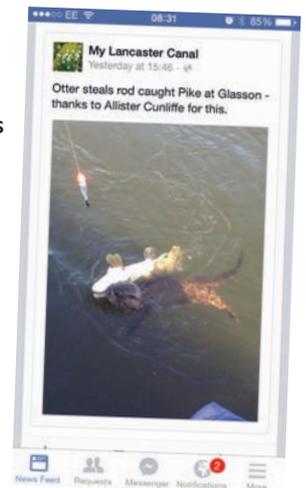
The biggest bone of contention when the subject of otter, cormorant and goosander predation comes up is the determination of the authorities to hide behind what they consider to be the insurmountable obstacle of ‘public opinion’. The Angling Trust piece in this document uses the word ‘public’ a number of times and appears to be more concerned with what the public thinks of anglers and their calls for control of predators than the impact of predators on our fisheries. The RSPB does what it has to do in terms of predator control and if there is criticism of their apparent need to ‘control’ up to 1300 deer in a year, along with other mammals and birds, they do what they have to do. Control of predators is, as Martin Harper of RSPB describes it, The Conservationist’s Dilemma. ‘Damned if you do and damned if you don’t.’

The NGO Ruling is discussed elsewhere in this document. From angling’s point of view the National Gamekeepers’ Association (NGO) ruling was a landmark one because the judge, in considering the appeal from a gamekeeper about the control of predators, made it clear **‘that public opinion should not be taken into consideration in the**

application of the law’. The ruling overturned a decision by Natural England not to grant a licence for the control of buzzards in protection of a gamekeeper’s livelihood, and ruled the decision ‘unlawful’. The fact of the matter is that potentially the NGO ruling has implications for the control of predators, although how that translates to practicalities remains to be seen.

Importantly we would suggest that there are signs that the much-quoted ‘public opinion’ is rethinking its opinion of otters, and seeing them for what they are when John Wilson described them as ‘giant predatory rats’.

The following are a number of cuttings plucked at random from national and angling press comments and articles painting the otter in a somewhat different light to the ‘cute and cuddly’ perception immortalised by Henry Williamson’s book *Tarka the Otter*.



A Facebook submission from Allister Cunliffe showing an otter attacking a pike which had taken the angler’s bait.



GUARDIAN PIECE BY ROB PENN, JANUARY 2013

‘Although some claim the otter population is getting out of hand, I will always love them.’

‘I was surprised to learn recently that otters are now

rights? Apparently not. I was helpless when it came to protecting mine. The first night after the massacre we made a valiant effort, barricading the garden gates and switching on outside lights to ward them off. All to no avail. The next morning there were more lacerated corpses strewn around the pond. Only Moby remained, half his magnificent tail gone, listless but clinging on.'

(Tony's pride and joy, his big fish Moby, later died from its injuries.)

The Spectator, March 2016

The screenshot shows the top of a web browser displaying the Spectator website. The article title is "Don't be fooled by the cosy veneer. It's carnage in South Northamptonshire" by Alexander Chancellor. Below the title is a small cartoon illustration of a man with glasses. The main image shows an otter with its cublets in a pond. Below the image is a subscription banner for March 2016, offering 2 free articles and a subscription offer for £1 per month for unlimited access.

'Don't be fooled by the cosy veneer. It's carnage in South Northamptonshire'

Alexander Chancellor

A month ago there were 13 ducks on my pond. Now there's only one – and its days are numbered.

The diet of Otters on the River Petteril, by James Common on 24th July 2016 in *Ecology, Environment*.

'Avian prey was of greatest significance during the late spring/early summer period with birds making up 38% of otter diet between March/May and 30% during June, whilst failing to occur at all outside this period.

This spike in predation coincides with the known avian breeding season and as such it is likely that otters are making use of inexperienced birds or the increased vulnerability of brooding adults.'

'This coincides with the known avian breeding season echoing similar finding from Chanin (1981) and De La Het (2008) both of whom recorded similar peaks in predation during the late spring/early summer. Otters are clearly capitalising on the increased vulnerability of avian prey during this period stemming from an abundance of inexperienced juveniles and brooding adults.'

DAILY MAIL

The screenshot shows a newspaper clipping from the Daily Mail. The headline is "Hungry otters turn garden fishponds into bloodbaths" by Simon de Bruxelles. The article discusses the impact of otters on garden fishponds, mentioning a massacre of koi carp and the role of otters as predators. It includes a small circular photograph of an otter's face. The text describes how otters have become a problem for pond owners in suburban areas, particularly in Wiltshire, where they are eating fish and leaving the ponds in a state of disrepair.

'Hungry otters turn garden fishponds into bloodbaths' **Simon de Bruxelles**

New Information on the Predation of Fish Eating Birds by the Eurasian Otter (*Lutra lutra*) by Jordi Ruiz-Olmo and Rosa Marsol.

'The Eurasian otter (*Lutra lutra*) feeds mainly on fish in the wild, but amphibians and other types of prey, including birds, can be important in certain areas or times of the year.' **Case studies and 13 reference sources quoted.**

NOW OTTERS PUT RARE BIRDS ON THE MENU

Fears mount for breeding avocets.

'Angling Times can reveal that the RSPB's own 'poster boy', the avocet, is having its breeding interrupted by the ever increasing number of otters in and around Norfolk's Wensum river system, leading experts to fear for other wildlife as the predatory mammal's numbers grow.

Founder of Norfolk's Pensthorpe nature reserve, the home of BBC's Springwatch, Bill Makins, spoke to AT about the issue:

'This year the birds tried at least three times to breed, as a result the numbers that did were down by around two thirds. It's got to the point where we'll have to erect a low-level electric fence to keep the otters away and protect the birds. We're also seeing the otters take waters birds and pheasants, as well as the rare white-clawed crayfish.'

The full Angling Times article was published in our document The Big Picture, published as hard copy, and on our website www.thepredationactiongroup.co.uk

CHANGES IN THE DIET OF A RECOVERING EURASIAN OTTER POPULATION BETWEEN THE 1970S AND 2010

Written by David Almeida, Gordon H. Copp, Laurence Masson, Rafael Miranda, MizukiMurai and Carl Sayer of the Department of Salmon & Freshwater team, Cefas-Lowestoft. **October 2011.**

'Otter diet composition varied greatly, with predation on aquatic invertebrates, crayfish, fish and tetrapods. Between the 1970s and the present, crayfish, brown trout, cyprinids, Eurasian perch, birds and mammals increased in prominence, with notable seasonal variations between the study periods.'

The full paper was published in our document The Big Picture, published as hard copy, and on our website www.thepredationactiongroup.co.uk

'THE IMPORTANCE OF BIRDS IN THE DIET OF OTTER LUTRA LUTRA ON SHAPWICK HEATH'

Research article by Daniel Charles de la Hey published in Bioscience Horizons, June 2008. (Shapwith Heath is a National Nature Reserve near Glastonbury.)

'This study investigates the importance of avian species in the diet of Shapwick Heath's otter population. The frequency occurrence of prey items was recorded from spraints collected between July 2006 and January 2007. Where possible, feathers



were identified to species level. The presence of fish scales in spraints was recorded, but not quantified. Bird feathers were recorded in 41% of all spraints, compared with 4.6% on Slapton Ley in 1981 and 4.7% on the Somerset Levels in 1975. The highest proportion of bird feathers was recorded in July 2006, at 61%. Coots were more frequently recorded than any other species; 15 spraints were found to contain coot feathers. Mallard feathers were recorded in six spraints. Cormorant feathers were found in three spraints and water rail feathers were found in two spraints. Pintail, teal, moorhen and little grebe were found in one spraint each. The high proportion of birds in the otter's diet, in comparison with past studies, suggests that otters are substituting birds for part of their traditional diet of fish.'

The full paper was published in our document The Big Picture, published as hard copy, and on our website www.thepredationactiongroup.co.uk

LEGLESS TOADS AND PREDATION OF MAMMALS: ELLIS BRAZIER



Water voles are probably the most effected by otters: they love them. They will also spend time trying to catch rabbits which we are now being told are on a major decrease. The sandy banks of the South Tyne see a lot of rabbit burrows so they hit them quite hard.

The toads are preyed upon by both otters and mink. The mink just tend to mutilate them whereas the otters like the legs. Numbers-wise I've seen hundreds dead or de-legged and left in piles – I guess almost cached. This hasn't happened for the last few years as there simply haven't been that many frogs and toads around. They have been heavily depleted. Dr Daniel Allen and Nicola Chester have also written about this phenomenon.

The common toad is in the least concern category in the IUCN Red List, but because of depleted numbers they are a Biodiversity Action Plan Priority Species. They face heavy predation from otters in an area of Spain.

Ellis first mentioned observing the legless toad, or one-legged toad, phenomenon some years back. He was also the first to draw attention to the shortage of fry in the River Severn. The EA are now admitting that the fry level in our rivers is the lowest one record.

'The Predation of Wild Birds in the UK' published by the RSPB Section 3.b.

'Native mammalian predators of birds and their eggs in the UK include foxes, mustelids (such as stoats, weasels and badgers), hedgehogs and rodents. Added to this are several introduced species, principally domestic and feral cats, American mink, brown rats and grey squirrels. Mammals take eggs and chicks, although predation of incubating female birds on the ground can also be significant. The main avian predators, all native, are raptors, corvids (particularly crows, magpies and jays), large gulls and great skuas. Corvids take mainly eggs or small chicks, raptors prey mainly on chicks juveniles or adults, and gulls and skuas will eat eggs and birds at all stages.

It has been suggested that recent increases in predator populations are largely responsible for the declines of many bird species.'

COMMENT FROM 'THE WILD FARM: RSPB RING FENCING NATURE'

'If the RSPB are interested in protecting all birds they would admit that the best ways to protect them throughout the UK is by reducing the predators'

'Habitat management is the RSPB's mantra, stating things like 'nature will find its own level', yet here we

see predator controls in action from them as the only way to save these waders. What we have out there is a public being adversely manipulated on wildlife issues and the main culprits are RSPB helped along by programmes like Springwatch, etc.

Even with their vast income from public sources the RSPB have failed to protect nesting birds on many of their reserves and to do so through fencing is out of the question. If the RSPB are interested in protecting all birds they would admit that the best ways to protect them throughout the UK is by reducing the predators where necessary, not just on a small patch of their own land using fences in a bid to take the high moral ground.'

The predation of coarse fish was anticipated, and has long been recognised, by the Environment Agency, as these quotes from The Fifth otter survey of England, 2009-2010 illustrate.

FIFTH OTTER SURVEY OF ENGLAND, 2009 – 2010: THE ENVIRONMENT AGENCY

'Canals: Many canals hold good fish stocks and this is a resource that otters are certain to exploit.

Garden ponds: '...there have been reports of otters taking fish from ornamental ponds in many parts of the country, including Devon, West Midlands, Oxfordshire, Cumbria and Norfolk. Many garden ponds are stocked with koi carp and other fish which can be very valuable and the loss of family pets in this way can be very distressing. Fencing is probably advisable if valuable fish are to be kept in ponds near watercourses.

Rivers: The impact of otter predation remains a very topical issue with discussions taking place between the Environment Agency, Natural England and representatives of the Angling Trust to address concerns, explore the facts and identify the underlying factors which may be affecting river fisheries. For river fisheries, the focus has primarily been on impacts on



'It is possible that the lack of eels on some of our rivers now provides them with a slightly narrower choice of prey than they would have had in the past...' Fifth Otter Survey. *Eels are now an endangered species.*

specimen fish, particularly chub and barbel, which are vulnerable to otter predation. An increase in large specimen fish may be symptomatic of a wider problem of poor recruitment caused by factors such as poor habitat (often as a result of past river engineering, the impact of water quality on egg survival and in some areas the impact of signal crayfish.)

'It is quite likely that in skewed fish populations dominated by large specimen fish predation by otters may initiate a return to a more balanced and sustainable age structure.'

'Otters have a catholic diet and will exploit whatever fish species are available. It is possible that the lack of eels on some of our rivers now provides them with a slightly narrower choice of prey than they would have had in the past but this may be compensated for by an increased biomass of other species (including non-native species such as common carp and signal crayfish).

Comment:

The Environment Agency, publishers of The Fifth Otter Survey, receives £20million+ per year in licence money from anglers, a high proportion of this coming from anglers fishing for 'skewed fish populations' in rivers and 'non-native carp' in rivers and still-waters. The rural economy, the national economy and the tackle trade benefit proportionately from these anglers. Notwithstanding all the research available on the subject of salmon and brown trout predation the report apparently failed to recognise that game fish inhabit rivers!

Here is a reminder of some of the duties of the Environment Agency and Natural England.

Environment Agency

EA is an executive non-departmental public body, sponsored by **the Department for Environment, Food & Rural Affairs (formerly MAFF).**

Angling Trust quote from 'Where does our licence money go?'

'What is the Environment Agency trying to achieve when it is spending Rod Licence Money? Well it's the Government. In the form of the Department of the Environment, Food and Rural Affairs (DEFRA) who tell the EA what their aims are, and they state three key objectives:

1. To ensure the conservation and maintain the diversity of freshwater fish, salmon, sea trout and eels and to conserve their aquatic environment
2. To enhance the contribution salmon and freshwater fisheries make to the economy,

particularly in remote rural areas and in areas with low levels of income

3. To enhance the social value of fishing as a widely available and healthy form of recreation'

Natural England

NE is responsible for the delivery of some of Defra's public service agreements (e.g. reversing the long-term decline in the number of farmland birds by 2020 and improving public access to the countryside).

NE has 2,000 staff in offices throughout England. Their responsibilities include the following:

1. Promoting nature conservation and protecting biodiversity
2. Promoting access to the countryside and open spaces and encouraging open-air recreation
3. Contributing on other ways to social and economic well-being through management of the natural environment, e.g. changes to wildlife licensing to improve flexibility for developers.

STOP PRESS

Not for the Squeamish

As we were wrapping our study of predation the following entry appeared on Facebook. The predation of birdlife – particularly waterside and ground-nesting birds – by otters is extensive, but what is unusual is that this kill occurred close enough to humans for the attack on a moorhen to be photographed.

Countryman Ellis Brazier feels that otters which are unafraid of humans have probably had recent experience of humans. The quality of the shot is, understandably, not really of publication quality, but as this is an attack



that is being repeated more and more regularly on our birdlife out of sight of the public we feel that the report is of some significance, and worthy of inclusion. Our thanks to Trevor and Yvonne Sawyer for the graphic report, and to Predation Action Group patron Kevin Clifford for drawing it to our attention.

The Disneyfication of the Countryside

Based on an article by W M N P Bown, Western Morning News 4.1.15

Only 17% of people in Britain believe it should be legal to kill deer, despite the fact that control of the mammals has been permitted for centuries and is seen as vital for the good of the countryside and the health of the herd.

Opposition to culling by a majority of the population also applies to grey squirrels, mink, foxes and rabbits – despite the fact that all are considered vermin and are routinely controlled as part of normal land management procedures.

Only rats and mice are considered appropriate mammals for legal killing by a majority – and even then a significant number of people, particularly the young, believe it is wrong to cull the rodents. Just 63% said it should be legal to kill mice while 81% thought rats ought to be killed.

The same squeamishness over taking the lives of living creatures also applies to birds. Just 22% thought it should be legal to shoot crows and 55% woodpigeons. Yet both species can be legally shot all year round to protect farm crops.

The pro-hunting and shooting Countryside Alliance, which carried out the research, blamed the high opposition to the legal killing of certain species on what it called the “Disneyfication of the Countryside.” The opposition to culling deer is higher among urban dwellers with only 15% saying they need control. Yet even in rural areas the figure stands at only 21%.

The research, which also asked respondents which political party they supported, found Lib Dem voters the most likely to oppose killing animals. Labour voters were next while Conservative and UKIP supporters the most likely to say that it was right to legally control some species.

The Countryside Alliance told The Times: “Culling of corvids, such as crows, is really important to protect songbirds. There is a need for a consistent evidence-based and principled approach to wildlife management and habitat protection across all species, but if people are never made aware of the reasons

why it matters they will think that culling any wildlife is cruel and inhumane and we end up with a situation like that over the trial badger cull.”

Badgers, protected unless special licences are granted for culling such as in Somerset and Gloucestershire during the recent pilots to tackle bovine TB, were also among the animals a majority believed should not be killed. Around one quarter of all respondents to the survey said it ought to be legal to kill them.

The widespread opposition to culling deer and other wildlife was blamed by the Alliance on what it called the “Bambi effect”. Yet the Government, through Defra, warns that deer cause major damage to woodland, threaten farm crops and pose a risk to other wildlife, particularly ground nesting birds if numbers are not controlled. Grey squirrels are also a threat to woodland and have driven out the native red squirrel, while rabbits and pigeons are among the biggest natural threats to farm crops. Rats and mice spread disease, contaminate food and damage property.

The Wildlife Trusts, the RSPB and the National Trust all sanction the culling of deer and some other species, including foxes, on their land. They do so for the benefit of the environment overall and to protect other, more vulnerable species. Venison is also growing in popularity and increasingly sourced from wild rather than farmed deer.

<http://www.westernmorningnews.co.uk/Deer-rabbits-rats-spared-legal-culling-millions/story-25803248-detail/story.html>

The Predation Action Group has never suggested a cull of any species, and would not support a move in connection with any of our predators. We would advocate the right of people to protect their livelihoods as a last resort..

Otters in Perspective

Otters in Perspective, the Rural Economy and Biodiversity

'Perhaps no other creature represents the dilemma faced by conservationists better than the otter.' PAG Predation film commentary.

One of the problems with otters is that their very existence is an emotive topic. They were headed towards extinction in Great Britain via the impact of pesticides through their prey inadvertently becoming the source of the life-threatening poison. The damaging pesticides were banned, a successful otter breeding and release scheme was instituted, and the otter population was soon on its way to making a full recovery: some would now say an over-recovery.

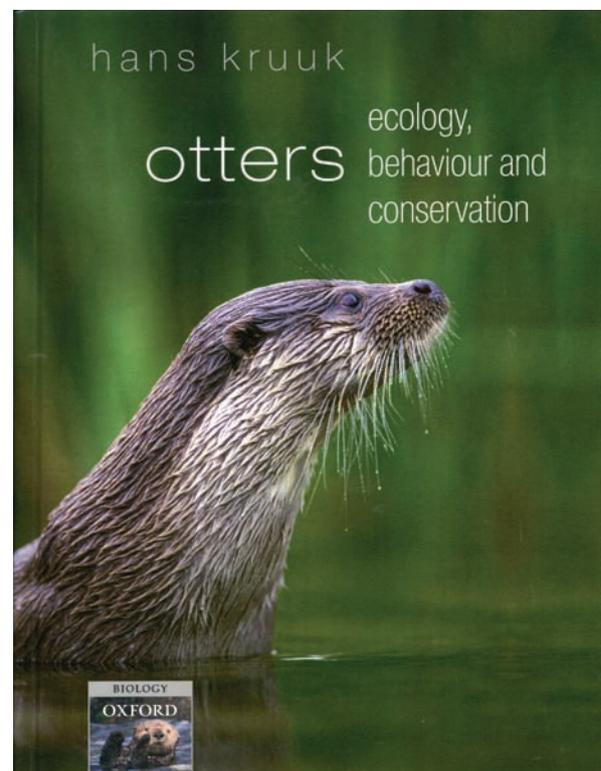
In their previous existence otters co-existed reasonably peacefully with anglers and the champions of other country pursuits. Otters were universally loved, made all the more lovable by Henry Williamson's *Ring of Bright Water* and a film based on the book. The first time I saw what I thought was an otter (on one of the carp waters I run) I was thrilled, although it turned out to be a mink. The first rumblings about predation were about cormorants. There was clearly a growing problem with cormorants, but as a carp angler it I didn't think it concerned me and my head went firmly back in the sand. Carp anglers as a breed tend to ignore realities unless they actually impinge on their own existence.

The big picture gradually became clearer, made clearer by John Wilson's promptings. The predator population was proliferating, and multiplying, a phenomenon we have already covered in detail throughout this publication. Many years ago we reached the point where there wasn't enough natural prey to go round and predators had to extend their prey horizons. Soon after we were first presented with evidence of big barbel and big carp being predated early this century I mentioned it to the late, great Fred J Taylor. He didn't believe it! He was a countryman through and through and he couldn't get his head round the fact that an otter could predate on a 30lb+ carp. I suppose that was understandable because we can only guess that big fish are, historically, not an otter's natural prey.

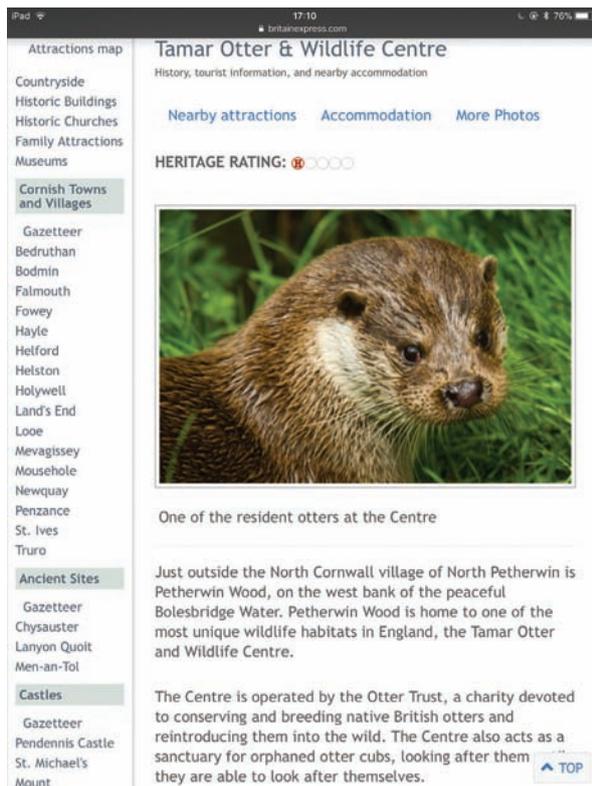
As the evidence of the predation of adult salmon, big barbel, big carp and koi carp by otters, in addition to their more traditional prey, became impossible to ignore the universal 'cute and cuddly' perception

became diluted. Maybe otters always preyed on ground-nesting birds and small mammals (in addition to their historically-recognised fish prey) but it certainly wasn't common knowledge. We are now in a media age where news becomes instant – via Facebook and the Internet – resulting in apparent anomalies rapidly becoming established fact. What is clear is that until this century there is no clear history of otters affecting livelihoods, which in itself changes the perception of them.

As Mark Walsingham comments in his fine assessment of the situation, life has moved on. And not just with the proliferation of predators. The Environment Agency and Natural England single out carp for the drip-feed of the 'non-native'



Hans Kruuk's well-balanced and authoritative 2006 book lays bare some of the facts regarding the predation of adult salmon on the Scottish rivers.



The screen shot re the Tamar Otter Wildlife Centre was taken in June 2018.

assessment but it is a strange species to single out for such a constant categorisation. Rainbow trout were introduced in the early twentieth century: carp preceded rainbow trout by at least 400 years, goosanders by a similar margin, and signal crayfish by 500 years. If you are a human-being born in this country you are a native. If you are a carp born in this country you are a non-native.

Well carp have been with us for at least nearly six hundred years, and possibly longer, and have become part of our way of life, not just as a food source, but as a valued and valuable leisure pursuit, too. (There is some archaeological evidence to suggest carp have been with us since before the Bronze Age, which places them here for at least 3,000 years, and suggests they arrived here via the east-flowing rivers when there was still a link to Europe – which would make them indigenous.)

(In fact if you visit the dictionary definitions of 'native', 'non-native' and 'indigenous' you realise that there is one set of terms of reference for humans and another set for flora and fauna. How many of our fellow countrymen can be deemed to be 'native' on the basis of the definition applied to carp?)

'The definition of 'native' is controversial in that there is no way to determine nativity.' **Wikipedia.**

In terms of its reference to fish and fisheries The Otter Survey 2010 is an under-researched document based on ignorance. Do our rivers only contain 'skewed big fish populations'? Do our still-waters only

contain 'non-native carp'? All fish in our rivers and still-waters are being plundered by predators, a fact conveniently overlooked by the Environment Agency in some of its public utterances.

Fifth Otter Survey, page 109:

'Otters have a catholic diet and will exploit whatever fish species are available. It is possible that the lack of eels on some of our rivers now provides them with a slightly narrower choice of prey than they would have had in the past but this may be compensated for by an increased biomass of other species (including non-native species such as common carp and signal crayfish)...'

(The Environment Agency habitually refers to carp as being non-native. In addition to the comment appearing in The Fifth Otter Survey and elsewhere, Graham Scholey made specific reference to the carp being a non-native species in discussions over the otter trapping licence. Two years ago the Environment Agency issued a pack of playing cards based on 'invasive species'. One of the cards features the common carp.)

There is another anomaly (i.e. inaccuracy) in the Fifth Otter Survey and that is regarding otter releases. The Survey comments that otters were released 'in small numbers' in the South West; two pages later commenting that 'No otters were introduced into the South West...' The attached screen shot re the Tamar Otter Wildlife Centre (formerly the Tamar Otter Trust) was taken in June 2018 on the morning of the IFM/Angling Trust Otter Assessment Day and presented to Graham Scholey and Elizabeth Chadwick at the meeting. They were taken by surprise and promised to 'look into it'. The writer had raised this issue with the Angling Trust on a number of occasions and they had been told by Tamar that it was an 'out-of-date entry'. How out of date we weren't told, but it is clear evidence that at one time otters were reared and released in the South West, and that the practice was possibly on-going well into this century, this despite repeated categorical assurances by the Environment Agency that the last otter releases were in 1999.

The reader will understand from this document that initially the worst-hit areas for otter predation have been the South West, East Anglia and Yorkshire. Bungay was the site of the first Otter Trust rear-and-release site, and the majority of the Vincent Trust releases were in Yorkshire. The evidence presented here and by Adam Roots suggests that Tamar was in fact a rear-and-release centre, as the centre itself claims.

Were there other release centres? The Otter Trust was listed as having three sites at the start of this century, Bungay, Petherwin (Tamar) and Bowes in County Durham, although we can find no claims for otter releases from Bowes.

In the NGO case summing up this judge's comment has a certain resonance where Defra, the Environment Agency and Natural England are concerned:

'The Judge criticised Natural England, making it clear that public opinion should not be taken into consideration in the application of the law, and added that the decision had been made according to an undisclosed policy which went beyond NE and DEFRA's power in law.'

Mink are alien invaders: allowed in by the government for mink farming, they were released by protestors, or escaped, and proliferated. Notwithstanding the fact that they are cute and cuddly – and have less impact on our natural life than otters – they are not protected. They can be 'controlled' at will. Is the public aware of this? Can your average lay person even tell the difference between a mink and an otter? It isn't easy at a quick glance, which is often all you get as far as both species are concerned. You can even argue that a mink is more cute and cuddly than an otter, but no one is making a case for them to be protected. What is certain is that they are here to stay.

Angling (and on the basis of tackle sales and licence sales coarse angling is now predominantly carp angling) is important to the following sectors: the rural economy, the angling economy and the tourist trade. Angling provides careers and jobs; many carp and specialist anglers travel great distances for their fishing, and spend an inordinate amount of money each year on fuel. Lakes, rivers and game rivers become famous for the big fish they hold and anglers travel in

pursuit of those fish. The loss of a big fish to predation can damage the income from a club-, day-ticket- or syndicate-water. Pike, barbel and carp are all big fish targeted by committed, travelling big-fish anglers. Non-native rainbow trout, salmon, brown trout and sea trout anglers travel great distances to fish for their chosen quarry, and support both the economy and the rural economy in the process.

At the meeting in June 2018 arranged by the IFM (Institute of Fishery Management) and the Angling Trust to assess the impact of otters on fisheries, part of the PAG/Carp Society presentation by Chris Burt touched on the subject of the predation of birds, and the overall impact of otters on nature. There was a comment from the floor to the effect of 'Let's not hide behind birds.' We thought that very strange. When the comment was raised with Mark Lloyd at the end of the meeting he was in agreement with it. But the predation issue is in relation to its impact on the ecology, not just fish. Do the 1,000,000+ members of the RSPB understand that otters are such a threat to birdlife? The RSPB does, as they have finally admitted.

Loch of Strathberg fence: 'Built over the winter of 2013-14 to exclude otters which were feasting on eggs the fence has helped the reserve go from 10 pairs of common terns and 30 pairs of black headed gulls raising no chicks at all in 2012 or 2013 to 178 pairs of terns and 36 black headed gulls in 2017 raising almost 300 chicks. This year (2018) looks to be equally successful. This is another reminder of the impact that fences erected to exclude predators can have on breeding productivity of ground nesting birds.'

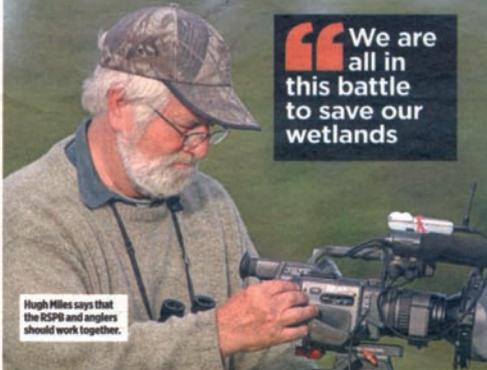
Until the above 2018 entry in 'A Conservationist's Dilemma' Martin Harper of the RSPB had tended to be a tad coy about mentioning otters in connection with the predation of ground nesting birds. This comment puts their impact on birdlife into perspective. When the Otmoor reserve in Oxfordshire was fenced some



Can your average lay person even tell the difference between a mink and an otter?

RSPB UNDER FIRE

Bird group rapped for 'applying double standards'



We are all in this battle to save our wetlands

Hugh Miles says that the RSPB and anglers should work together.

THOM AIRS
REPORTER
thom.airs@bauermedia.co.uk

Angling film-maker Hugh Miles has hit back at outrageous claims made by the RSPB that all anglers 'hate' cormorants.

The acclaimed cameraman and keen fisherman, the creative force behind *A Passion for Angling* and *Catching the Impossible*, has criticised a column by Simon Barnes published in a recent issue of the RSPB's *Birds* magazine.

In a piece headlined "It's hard to deal with hate", the well-known journalist said the image of "a cormorant sitting on its tree with a belly-full of fish...makes the angler's blood boil. It's a howl of anguish from a person who feels unjustly deprived of what should be his by right."

Mr Barnes, who also claimed that anglers exaggerate the numbers of fish eaten by cormorants, added: "The problem is that they want this howl of anguish to become the law of the land. They want the right to shoot cormorants any time they see one, any time they feel like it. The world, they believe, would be a better place without cormorants."

Hugh, who ran the RSPB's film unit for more than five years, said: "I am an angler and proud of the contribution I make to the conservation of all British wildlife, including fish. So, Mr Barnes, please don't think that you speak for all the RSPB membership, or say that anglers hate cormorants. We are all together in this battle to save our precious wetlands and it would pay us all to work together."

Martin Salter, national campaigns coordinator of the Angling Trust, added: "It's always a shame to see groups with whom we share so much in common when it comes to standing up for the environment applying double standards and using inflammatory language that only causes unnecessary divisions."

Naturalist, angler and acclaimed wildlife film-maker Hugh Miles has always stressed the importance of biodiversity.

years ago the productivity of ground nesting birds increased by 84%. There are 200 RSPB reserves, and at the time of writing 28 of them have fences. Yes, ground nesting birds will have more predators than fish, but the otter is acknowledged as being among them

Our rivers and their wildlife are in trouble and I hope that birdwatchers, anglers and conservationists will come together to contribute to the solutions.

Hugh Miles, wildlife film maker responsible for the universally acclaimed *A Passion for Angling*. The quote is from an Angling Trust publication.

Until the public is confronted with the facts there may well be a 'cute and cuddly' perception of otters, but is there a public outcry because the RSPB is realistic about controlling the deer population? Is there a public outcry over the culling of parakeets? Is the 'Tarka' principle any stronger than the 'Bambi' principle in the public's perception of our wildlife? Does the public even know that it is a crime to restrain an otter? 'Restrain'

may be an over-polite word in the context we are discussing here, but does someone actually have to be attacked before there is a rethink on the carte blanche protection of otters?

An angler being attacked by a fox was highly unlikely, and unprecedented – until it happened. An angler being attacked by an otter may seem far-fetched, and it may well never happen, except that it already has!

'River Otter attacks kayaker's face. Woman, fearing for her life, battles animal with paddle:

A serene trip turned life-threatening when a river otter surprisingly attacked a 77-year-old woman, Sue Spector, kayaking in Florida last weekend. The animal clawed, scratched and bit her arms, nose and ear. As she fought to beat the animal off her kayak flipped, leaving her in neck-deep cold water still battling the possibly rabid animal.'

Angler savaged!

JAMES BOERSMANN reports

A NGLER savagely attacked by a fox, sustained such serious injuries that he had to be immediately admitted to Brighton hospital.

Fishery baiter Andy Thomas was asleep in his bivvy while fishing for carp on South Beach Reservoir, Kent, when the animal pounced, mauling his face.

South Beach fishery manager and local farmer Ken Crow was shocked by the unprovoked attack, and told the Mail it was the first occurrence of any such incident on his waters. "I've never seen anything like this during my 25 years in fishing," he said.

"As a farmer I've had more experience with foxes than most, as they kill the chickens, as well as geese, ducks and even small lambs. But to have one attack an angler is unheard of for me."

"It was undoubtedly a very traumatic experience for Andy. I've seen him since and he's very shaken up by the whole thing."

Ken went on to outline the possible reasons behind the attack and ways in which anglers can avoid similar occurrences: "It obviously entered the bivvy looking for food and bait and as with any wild animal, when it felt it was cornered it attacked."

"One big problem is that people capture unwanted foxes in their areas and release them in the countryside. The result of this is that the countryside is now home to foxes that have no fear of humans."

"They hunt on small, and for them a bivvy filled with leftover food and bait seems no different from a quaglion. It's so to anglers to take precautions by throwing away old food and storing bait in bags away from your face in the bivvy."

"I would also suggest wiping your face with a sterilised wipe before bed as they won't go near that smell, or when possible sleep with the bivvy door shut," he added.

During a brief phone correspondence with Angler's Mail, victim Andy explained that he didn't wish to discuss the incident. "I'd rather not talk about it to be honest. I just want to get it behind me and try to forget about it," he clarified.



PHOTOGRAPH: An angler was savaged by a fox after a late attack at a popular weekend venue.

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An angler being attacked by a fox was highly unlikely, and unprecedented – until it happened. It can't happen with otters, except that it already has.

'The truth is that various species-protection organisations are not normally concerned with management. Their interest is protection of their target species.' **Tony Andrews, then CEO of the Atlantic Salmon Trust**

We have tried to make a case for the fact that there are predation situations that current protection laws don't make allowance for. If the future of the otter was in doubt 50 years ago it isn't now. Otter defenders will claim a population of 10-11,000 otters in this country. Anglers will claim that there are far more than that. What is abundantly clear is that they are no longer on the verge of extinction and are damaging the rural economy, the national economy, and the ecology.

There is a section of The Fifth Otter Survey referring to Persecution which includes this comment:

'Illegal killing of otters undoubtedly still occurs. Of the 589 otters sent to Cardiff University for post mortem examination in the three year period 2007 to 2009 four showed signs of being shot, not all fatally, (Chadwick & Sherrard-Smith 2008; Chadwick &

Deakin 2009; E. Chadwick pers.com.) but this must greatly underestimate the number of attempts at deliberate killing. Such killings could delay recovery in the south east and other areas where otter populations are weak but in areas where otters are well established it is unlikely that this will have an influence at a population level.'

The carte blanche protection of otters was made law because they were threatened with extinction. We are over 40 years on from the carte blanche protection of otters being implemented at European and national level. We are ten years on from the date of publication of the Fifth Otter Survey; ten years of escalating impact of predators on the ecology. Evidence given by Elizabeth Chadwick at the IFM/Angling Trust Otter Day indicated that otters have reached carrying capacity in some areas (like some birds they are territorial). Anglers will tell you that means most areas, and the increasingly urgent need for otter fences suggests that recovery is nearing completion in all areas. Once 200 RSPB reserves and 10,000 still-waters have been fenced, where do you go from there? The more still-waters you protect the greater the impact of predation on our already over-predated rivers will become, increasing the impact on our already-beleaguered salmon stocks.

The Austrian Otter Cull : Parliamentary Questions – Otter Cull in Lower Austria

Q. I have been contacted by a constituent who is concerned about the recent permission for the cull of 40 otters in Lower Austria. My constituent believes that otters are protected under the European Union Fauna and Flora Habitat Directive and therefore cannot be legally culled. She also believes that this cull directly threatens the health and well-being of the otter population.

The following verbatim reply was given by *Mr. Vella on behalf of the European Commission.

'As the Commission already pointed out in its answer to the written question E-001960/2017 it has been made aware of the matter raised by the Honourable Member by letters sent by private individuals and civil society organisations. The Commission has not been notified by Austria about a permit to cull 40 otters, as the Habitats Directive [1] does not require any prior notification of derogations granted on the basis of its Article 16 but only ex post reports by the Member States. Hence the Commission's views on this matter are solely based on available information.

The otter is a species listed in Annex IV of the Habitats Directive and as such benefits from the legal protection regime of its Articles 12 and 15. Article

16 of the Directive provides that Member States may derogate from these provisions for certain reasons listed thereunder and "provided there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range..."

The Commission has not received any evidence that the requirements of Article 16 would not be fulfilled in the case of the above permit. The otter is reported as being in a favourable conservation status in Austria. Its Lower Austrian populations have been expanding significantly over the last 20 years, in line with the overall positive population trend of the species in many other parts of the European Union.'

[1] Council Directive 92/43/EC, of 21 May 1992, on protection of natural habitats and wild flora and fauna, OJL206, 22.7.1992

***Kamenu Vella is the EU's Environment Commissioner, a political appointment by the Council of Ministers as Head of the Environment Department. The specific nature of the Derogation, which dates back to 1992, is of interest. Our application of the law appears to be more stringent than Europe's.**

The John Wilson Legacy

Predation and the Angling Lobby

From my point of view the late John Wilson MBE – with strong support from others – was the main moving force behind the formation of the body which adopted the name of The Predation Action Group. For long enough John Wilson was a distant angling TV, author and film-making hero figure. I had probably met him earlier, at shows, but I first got together with him in 1999 to compile a Big Interview for *Carpworld*, which appeared in two parts in issues 109 and 110, October, November 1999. He was banging the drum on predation issues during that meeting, but mainly in connection with the impact cormorants were having on his beloved roach in Norfolk. His insight into the bigger picture came later. He was a very intelligent, energetic man with strong views about the structure of angling, and the role of anglers. Ironically, going back to the 1999 interview, when I asked him about angling politics, he had this to say:

‘I am too dogmatic. I couldn’t sit on the fence like a politician and lie; I would have to say what I feel about cormorants.’

There is a double irony there. I believe that when predation came up at a meeting of the newly-formed Angling Trust, circa 2009, ten years after the interview, John did express his strongly-held views too forcefully and too dogmatically for some. The double irony is that as a result he did become involved in politics, via the formation of the Predation Action Group, and inspired others to get involved, too, me included. It is John’s passion for the subject – and his grasp of the significance of predation before 99.9% of us grasped that significance – that keeps me involved through those dark, discouraging periods when you feel you are wasting your time. John had the courage of his convictions, and in all honesty that was brave of a public figure of his stature. For long enough those of us involved in the predation movement have been ridiculed in high places, and in some minds we are still seen as the lunatic fringe.

Time will be the judge of that.

You can understand John’s frustration with the Angling Trust. He had this to say in the interview, which took place ten years before the Trust was formed:

‘Somewhere along the line years ago there should have been a national fishing licence to cover game, coarse and sea fishing. We should be much more



The late John Wilson, MBE: inspirational writer and TV star who was ahead of his time in grasping the big picture of the future impact of predation.



John was preaching the predation gospel at carp and angling shows from the early 2000s.

structured; we should have been marketed just like it (angling) is in the United States, and we should be powerful. We are not a powerful lobby: I think it has gone too far and I don’t think we will ever be a powerful lobby.’

Why are we not a powerful lobby: because we are fragmented? John commented:

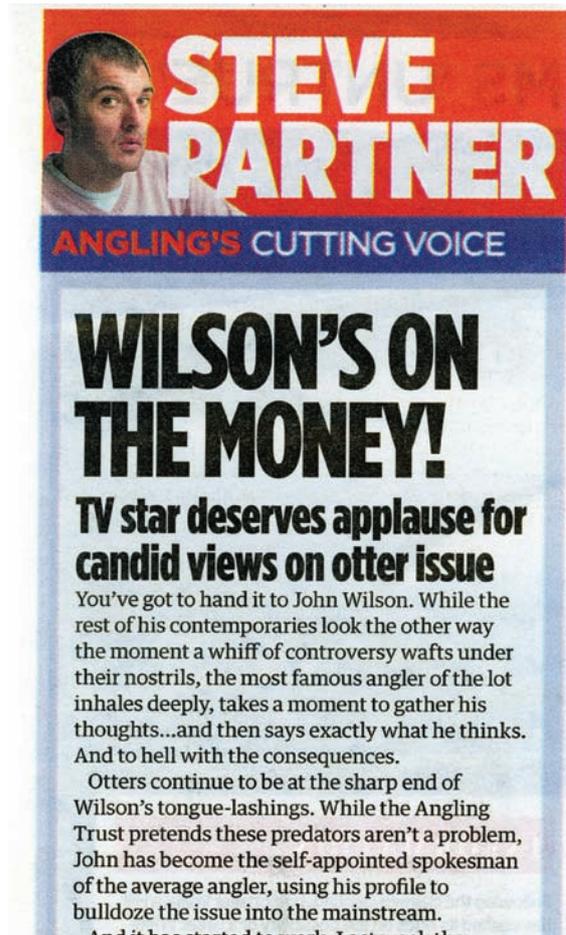
‘The sad thing about fishing, unlike the hunting and shooting fraternity, is that we are so fragmented.’ Ironically – that word again – I think it is likely that predation will eventually dissipate that fragmentation. Goosanders were never part of John’s Norfolk remit because then they were seen to be mainly residential in Scotland – now increasingly present and active

Right: The press has long recognised John's courage in standing up to be counted on the subject of predation.

across Britain – but the impact on rivers for all fish, game and coarse, from predation by cormorants, goosanders, mink, otters and signal crayfish is gathering momentum, and may be beyond repair. The Environment Agency still appears to be in denial over the impact of predation, and still champions the carte blanche protection of otters via European Law, and the so-called Biodiversity Plan.

Given angling's economic significance the Environment Agency's stance on predation is difficult to comprehend. In its 2004 98-page document 'Our nations' fisheries' (which can be found at http://resources.anglingresearch.org.uk/library/our_nations_fisheries) published in 2004 and based on a survey conducted in 2001 they have this to say in the Introduction:

'Our fish stocks can tell us a lot about the state of our environment. Monitoring fish stocks can help us see where pressures are impacting on our rivers. The fish populations of England and Wales, together with the fisheries they support, are of enormous environmental, social and economic value. Fish contribute substantially to the economy of both countries with four million anglers spending around £3billion per year.'



John at the formation of the Angling Trust in 2009 where he was perhaps a tad too forceful for some in expressing his views about predation. On-going predation lobbyists Danny Fairbrass of Embryo and Tony Gibson and Mike Heylin of the PAG are all in shot.

When I was compiling the PAG's Fact Sheet I researched angling licence income. Since 1995 anglers have paid the Environment Agency over **£400million in licence money**. This is hard to believe if you read the comments in the 2009 Otter Survey in which the EA clearly talks down to anglers. At the Angling Trust's Otter Workshop Day in July 2018 carp and specialist anglers (especially carp anglers) were talked down to by some delegates. The ongoing tackle trade statistics suggest that carp and specialist fishing now contribute of the order of 66%-70% for the figures quoted for licence income, and therefore the contribution angling makes to the economy as a whole.

So why are we not 'a powerful lobby', as John put it?

Because of the structure of angling...? The Angling Trust is partly dependent on significant handouts from the Environment Agency. The angling sector of the EA is a small part of the whole. The EA champions otters, and is in bed with Natural England, which grants licences for the shooting of cormorants, sawbills (goosanders and mergansers) and, in theory, otters. During 2018 I spent quite some time trying to rationalise all this, but couldn't, because to me it didn't, and doesn't, make sense. PAG secretary and co-compiler of this tome Mike Heylin OBE (former chairman of Angling Trust) is a wise old owl, and I talked to him about it at length. I don't know if he said so in so many words but the impression I got was that he feels that via the Angling Trust angling should be autonomous. There are over 1,000,000 licence holders, and circa 12,000 individual members of the Trust. Shouldn't the licence money be paid to Angling Trust so all anglers contribute directly to the administration pot? I don't think Mike actually suggested that, but it was the logical conclusion I drew from our discussions. When push comes to shove the Angling Trust does as it's told, and one of the things they are told by ministers – as Mark Lloyd makes clear in his Angling Trust predation appraisal in this document – is not to push for greater control of otters. I think that more or less sums up why angling is not a powerful lobby despite its considerable contribution to the Environment Agency, and the economy as a whole.

Does the Environment Agency talk down to carp and coarse anglers – to all anglers? Notwithstanding the angling spend on licences and the economy the fisheries function in the EA is no longer a structure in its own right but now managed by the Deputy Director Agriculture, Fisheries & the Natural environment under the Director Water, Land & Biodiversity. The Fifth Otter Survey of England, 2009 – 2010 was prepared and published by the Environment

Agency. Here is the summary of their assessment of the likely impact of otters on fish stocks in their own words:

'Canals: Many canals hold good fish stocks and this is a resource that otters are certain to exploit.

Garden ponds: '...there have been reports of otters taking fish from ornamental ponds in many parts of the country, including Devon, West Midlands, Oxfordshire, Cumbria and Norfolk. Many garden ponds are stocked with koi carp and other fish which can be very valuable and the loss of family pets in this way can be very distressing. Fencing is probably advisable if valuable fish are to be kept in ponds near watercourses.

Rivers: The impact of otter predation remains a very topical issue with discussions taking place between the Environment Agency, Natural England and representatives of the Angling Trust to address concerns, explore the facts and identify the underlying factors which may be affecting river fisheries. For river fisheries, the focus has primarily been on impacts on specimen fish, particularly chub and barbel, which are vulnerable to otter predation. An increase in large specimen fish may be symptomatic of a wider problem of poor recruitment caused by factors such as poor habitat (often as a result of past river engineering), the impact of water quality on egg survival and in some areas the impact of signal crayfish.'

'It is quite likely that in skewed fish populations dominated by large specimen fish predation by otters may initiate a return to a more balanced and sustainable age structure.'

These seemingly dismissive references are to large coarse fish with apparently no thought given to the fact that predation was/is likely to impact on our game fish and salmon rivers. Were the compilers of the Otter Survey unaware of the 1996 MAFF report by the Salmon Advisory Committee following ten years of dedicated study of the predation of salmon rivers issue?

Notwithstanding the huge body of evidence accumulated since that time, and the fact that the EA accepts that the fry in our rivers is at an all-time low, the 2017 EA Five-point Plan (highlighted on page ?? of this document) makes no mention of predation being an issue when it comes to the desperate plight of our rivers and salmonid stocks.

Some anglers may feel that the fact that the UK body for biodiversity, BAPS, was chaired by an influential member of the EA hierarchy represented a conflict of interests between so-called biodiversity and the impact of predators on fish stocks, angling,

the rural economy and the tourist trade. Here is an extract from **Biodiversity: The UK Action Plan**:

'To conserve and enhance biological diversity within the UK and to contribute to the conservation of global biodiversity through all appropriate mechanisms.'
And this has been translated into the specific objectives of conserving and where possible enhancing:

- the overall populations and natural ranges of native species and the quality and range of wildlife habits and ecosystems;
- internationally important and threatened species, habitats and ecosystems;
- species, habitats and natural and managed ecosystems that are characteristic of local areas;
- the biodiversity of natural and semi-natural habitats where this has been diminished over recent decades.

'However, possibly the most important result of the UK action plan was the establishment of a UK Biodiversity Steering Group that was given the task of producing a more detailed plan of action in order to meet the stated objectives. The basis of the strategy they developed was (UK Biodiversity Action Plan Steering Group, 1995):

- the development of costed targets for the country's most threatened and declining species and habitats;
- the establishment of an effective system for handling the necessary biological data at both local and national level;
- the promotion of increased public awareness of the importance of biodiversity, and broadening public involvement; and
- the promotion of Local Biodiversity Action Plans (LBAPs) as a means of implementing the national plan.'

Carp anglers may not be aware of it but they have a problem with this plan on the grounds that carp are still assessed as non-native despite the significant contribution they make to the EA income pot, and the economy.

On the other hand this has to be balanced against a number of important points concerning two of our proliferating predators:

1. That goosanders are non-native, and protected.
2. That the non-native invasive signal crayfish was actually introduced by the government.
3. The growing body of evidence concerning the predation of our salmon rivers.
4. Point 3 brings into question the following points arising from the Biodiversity Plan:

Salmon are an 'internationally important and threatened species', and if there was 'an effective system for handling the necessary biological data at

both local and national level' the threat to salmon stocks by predation would have been recognised over twenty years ago, following on from the Salmon Committee's Report in 1996 (the year after the Biodiversity Action Plan was established). That report concluded that there were pressures on salmon stocks other than predation, but that predation was a significant contributory factor which needed close and ongoing research.

How many anglers are aware of the State of Nature Report published in 2017? The concluding paragraph of Sir David Attenborough's Introduction reads as follows:

'We should also take encouragement from the report itself; it is heartening to see so many organisations coming together to provide a single voice, stating loud and clear what is happening to our wildlife. This partnership, backed by a combined membership of millions and enabled by the heroic efforts of thousands of volunteer recorders, provides a powerful force to bring the UK back to its former glory.'

Interestingly the report finds that the impact on our wildlife over the last 50 years has been a worrying one, a period which coincides with the proliferation and spread of our predators.

From the State of Nature Report Headlines:

- Of more than 6,000 species that have been assessed using modern Red List criteria more than one in ten are thought to be under threat of extinction in the UK. A further 885 species are listed as threatened using older Red List criteria or alternative methods to classify threat.
- Our assessment looks back over 50 years at most and over a considerably shorter period of time for many species groups. It is well accepted that there were considerable (albeit largely unquantified) declines in the UK's wildlife prior to the last 50 years, linked to habitat loss.'

This seemingly important Report is based on research from 50 partners, all listed. The list doesn't include a single angling organisation, or Defra, or Natural England, or the Environment Agency.

The harder you look the more significant John Wilson's comment about the ineffectiveness of the angling lobby becomes.

One of the projects covered by the State of Nature Report was The Million Ponds Project, 'a national partnership initiative that aims to create a network of clean water ponds for freshwater wildlife, and reverse a century of pond loss by ensuring that the UK has over one million countryside ponds once again.'

'With financial support from Biffa Award the

project directly funded the creation of 1,023 new ponds in England and Wales between 2008 and 2013.'

Would it be cynical to ask if all of the million new ponds are going to be fenced?

The question it is impossible for concerned bystanders to answer is this:

How significant are economic considerations when the biodiversity equation is being assessed by the authorities in Europe and the UK? We ask the question for the following reasons:

It is unarguable that angling has a positive impact and makes a significant contribution to the government, the angling authorities, the rural economy, the tourist trade, the retail trade, the fish-rearing community, and the ecology and economy as a whole.

It is unarguable that predators are having a negative impact on the rural economy, the tourist trade, the retail trade (not just angling), the fish-rearing community, and the ecology and economy as a whole.

The IUCN Red List is frequently and increasingly quoted in terms of the ecology and the status of our wild life. According to the Red List there are no grounds whatever for the continuing protection of cormorants and sawbills.

The government-introduced signal crayfish is

virtually unmanageable and ensures that the chances of a natural recovery of our highly-valued salmon rivers can't happen.

Otters are protected, but some would argue that their protection goes too far, and that a person's right to protect their property is a human right transgressed by the carte blanche protection afforded to otters.

Mark Lloyd's comment that a licence for lethal control is unlikely to be granted by Natural England whatever the circumstances is a reality check for many. The following comment is totally discouraging in the light of the proliferation of predators over the last 50 years.

'Fisheries have co-existed with predators for thousands of years, and will go on co-existing with them. Our job as I see it is to manage that relationship in a way that gives the maximum protection possible for fish and fishing, while recognising that otters, cormorants and goosanders are all highly protected species by law and that politicians pay attention to public opinion.'

Ironically the most encouraging public assessment of the impact of predation was voiced by Labour's then-angling spokesman Martin Salter – prior to his retirement as an MP – who called for better controls on numbers of otters and cormorants to ensure 'a sustainable balance between predators and prey'.

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Home | News | Salter signs off with a blast at Cormorants and Otter Predation

Salter signs off with a blast at Cormorants and Otter Predation

By **Martin Salter**

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Labour's angling spokesman Martin Salter, has made a call for better controls on numbers of otters and cormorants to ensure "a sustainable balance between predators and prey".

In a letter to Fisheries Minister Huw Irranca-Davies Mr Salter, who is standing down at the General Election, asked for a review of the current licensing agreements for cormorant controls so that "a higher number of birds can be shot" On otters Mr Salter pointed out the devastating affect that increased numbers of otters were having on smaller rivers such as the Bristol Avon and the Windrush in Oxfordshire where barbel numbers have been hit hard.

Cormorant & Trout by Monte Stinnett Image via www.pixdaus.com

Labour angling spokesman Martin Salter had a close working relationship with predation during his years as a politician: he arranged the first parliamentary discussions about cormorant predation in 2004 at the prompting of researcher and lobbyist Martin Read. (See The Big Picture.)

VETS | PAPER CONFIRMS OUR FEARS...

OTTERS - 'TIME TO CHANGE LAW'

Now we need power to act, says angling body

BY STEVE PHILLIPS
steve.phillips@bassmedia.co.uk

Angling's struggle against the devastating impact of otters has been bolstered this week following a report published by an influential group of vets.

The paper, produced by the Veterinary Association of Wildlife Management (VAWM) representing over 350 vets specialising in wild animals, warns of the "potential man-made threats to biodiversity" posed by the reintroduction of species to the UK countryside.

Citing the "current vogue for the reintroduction of species formerly present in Britain" the VAWM cautions that such projects can pose significant dangers to natural habitats, and that reintroduction schemes need to be "carefully assessed before being permitted."

Although not mentioned in the report, direct parallels can be drawn between the warnings it contains and the widespread reintroduction of otters to many parts of the UK - specifically the apex predator's massive impact on fish numbers at specific locations around the country.

One man who welcomes the report and sees its relevance to the otter problem is Tim Paisley.

"The PAG is interested in any report supporting the increasingly obvious fact that otter predation is having a colossal impact on the ecology," Tim told Angling Times.

"Otters are now at an unnatural level because of English Nature's wholly irresponsible policy of artificially rearing and releasing them into an environment which is being stripped of their natural prey, small fish."

"If a pet dog worries a £30 sheep a farmer has due cause to shoot it. If an otter kills a 35lb carp, valued at £5,000 onwards, then the otter is protected by law. There's no justice whatsoever in that."

"There's a growing need for the protection of otters to be removed to give fish farmers and water owners equal rights with farmers with livestock."

Other populations are at an alarmingly high level in the UK, according to the report.

BREAKING NEWS
otternews.co.uk

In a letter to then-Fisheries Minister Huw Irranca-Davies in April 2010 Mr Salter questioned predator controls: the letter included this comment:

‘It is, in my view, irresponsible in the extreme to maintain populations of apex predators such as otters where there are insufficient food sources available in their natural environment. We need to have a sensible approach to whole ecosystem management with a sustainable balance between predators and prey.’

Martin’s comment to the press was:

‘There’s been too much pussyfooting around on the issue of inland fisheries predation by both cormorants and otters. I want to see proper control mechanisms introduced that deliver a sustainable environment with a healthy balance between predator and prey.’

And so say all of us, with the addition of sawbills to Martin’s succinct assessment of the situation.

The irony is that since he retired from national politics Martin has become part of the Angling Trust hierarchy. It would be reassuring to the angling world to have as positive a statement from the Angling Trust as Martin Salter the MP’s statement in 2010. We all want to see proper control mechanisms introduced that deliver a sustainable environment with a healthy balance between predators and prey. There is an overwhelming body of evidence making it clear that such a balance does not exist, and in the present predator-protection climate it is unlikely to exist for the foreseeable future. We think that in the preceding pages we have made the strongest possible case to support that contention.

Tim Paisley and Mike Heylin OBE, on behalf of the Predation Action Group.



The Predation Action Group meeting with representatives of the specialist groups in the autumn of 2017 at which strong support was expressed for the work of the PAG.

PAG Profiles for Big Picture 2



Chairman Tony Gibson: Tony is a nationally known big fish angler who is chairman of the famous Northampton Specimen Group. He is a two-time holder of the UK barbel record, a former Drennan Cup and Fox

Cup winner, and a consultant for Dynamite Baits, Carp Spirit and Enterprise Tackle. He has 25 years' experience in the IT industry working for some of the country's leading financial institutions, specialising in the delivery of complex high profile projects. Tony has worked tirelessly on behalf of the Predation Action Group since its formation in 2009 and was appointed chairman in November 2017.



Mike Heylin, O.B.E.: Mike has been an angling club secretary for more than twenty years, is secretary to the Colne Valley Fisheries Consultative in Hertfordshire, past secretary of the Specialist Anglers

Alliance, is now chairman of the BRFC, and past chairman of the Angling Trust. He has fished since he was four and loves tench fishing in the summer and pike in the winter. If it swims he fishes for it, anytime, anywhere. He cares passionately about fish, their habitats and the other wildlife which depend on healthy waters.



Dave Booth: Dave has been passionately involved in angling for all course fish species for sixty years, with a particular interest in carp for well over fifty. He has played an active roll with

various angling club policies and restocking program's during a lifelong pursuit. In more recent times he has come to the conclusion that the biggest threat to the sport that has given him so much pleasure is an increasing problem with a predation imbalance. This has resulted in him attending various meetings to try and help redress the balance for the future.



Chris Burt: As a lifetime angler and long-time angling politician Chris took a major part in running SACG (Specialist Anglers Conservation Group) from its inception. SACG (later SAA –Specialist Anglers Alliance)

united most of the Specialist coarse angling Groups, opened on-going and constructive dialogue with the EA years before our own then Governing Body the NFA thought to, secured the National 4-rod limit, and wrote a collective Code of Conduct for Coarse Angling that is now adopted by the Angling Trust, in addition to achieving much, much more. Chris and his colleagues also opened the dialogue on otter predation in the 90s, sought and secured some funding to define effective fisheries protective fencing, though funding for this fell on deaf ears. Chris would like to see the balance redressed on all predation issues. He now runs his own club "Angling Coaching Initiative" in conjunction with two Essex angling clubs, to bring juniors into fishing.



Tim Small: Tim has been trout farming in Gloucestershire since 1974, initially starting a large Trout Hatchery near Cirencester and for the last 30 years has run a commercial Trout Farm and Trout Fishery at Lechlade. He

has been involved in Aquaculture Legislation for the last 40 years and in that time has been Chairman of the British Trout Farmers Restocking Association and the Stillwater Trout Fisheries Association and is currently the Chairman of the Restocking Sector of the British Trout Association (BTA), the industry's Trade Association. He also holds the Portfolio for Welfare and the Environment on BTA. He is currently working with Government on Water Abstraction Reform and in the past has advised on Animal Health and Welfare and UK Food Security planning. He is a member of the Fish Welfare Group. He is also involved in his local community, having been Chairman of the local Chamber of Commerce and also the Honorary Commander of the United States Airforce (Combat Division), Europe. He has recently joined PAG to address and represent the effects of predation on the fish farming sector, both directly and indirectly. Tim has contributed a revealing article on the impact of predation on trout farming to the PAG's Big Picture 2.



Mark Holmes: Mark is a carp angler through and through, and has been for over 35 years. He does however have a real understanding of predation given he is Chairman of one of the

largest clubs in the UK, Bradford No 1 AA, which owns many miles of rivers and stillwaters. With thousands of members a catholic overview of angling and predation is very necessary. It's not widely known but Mark has been involved in angling politics for 25 years and has the scars to show for it! Currently residing in Yorkshire, Mark considers his catching of three x UK 50lb plus carp in one season from two very different venues, neither Lakeview, as his greatest angling achievement. His acclaimed contribution to The Big Picture on the impact of predation on Yorkshire carp waters is considered an essential reference point on the economic impact of otter predation.



Tim Paisley: Former PAG chairman, Tim publishes Carpworld magazine and is still a regular contributor. He has been carp fishing since the late 60s, co-founded the Carp Society in 1981,

and has had various involvements with angling politics, including helping form the Specialist Anglers Alliance. He was the inaugural editor of the Society's Carp Fisher magazine in 1981, and launched the first newsstand carp magazine, Carpworld in 1988. He is a three-time World Champion, has had nine books published, and has contributed to upwards of 20 others. He runs two unfenceable carp waters in Shropshire on behalf of the landowners and sees the impact of predation by cormorants and otters on the waters he runs. He researches the predation of all species and compiles the PAG's acclaimed Big Picture and Fact Sheet documents on behalf of the group.



Vice Chairman Derek Stritton: Derek Stritton has been an angler for over 60 years. Although primarily known as a carp angler, he also regularly fishes for other species in both lakes and rivers.

Derek has been secretary of two Essex angling clubs, and has contributed to angling consultative groups. He was a founder member of the Carp Society in 1981 and is now a life member. He has been chairman of the organisation twice before, and fills this role at the present time. He is also a member of the British Carp Study Group. In 2011 he was inducted into the Carp Fishing Hall of Fame. He has written two books, contributed chapters to six others, and written many angling articles during the past thirty years. He has also owned a fishery in France. Prior to retirement he was a head teacher and school development manager in London's East End.



Merv Pennell: Merv is Regional Director for the biggest fittings and commercial heating distributor in the UK, having responsibility for 150 staff, £50 million of sales. He gives

what he can to the PAG in terms of time, and fully supports the cause, along with helping with fund raising. He wants to give something back to the hobby that has guided him through life, and wants to protect our fisheries. He has been fishing since he was seven, with his first carp caught by design in 1982 when he was nine. Merv calls himself an average angler, who works full time with his fishing fitted in around work, mainly weekends and holidays. He regularly fishes the Rivers Trent and Soar, along with syndicates in Northamptonshire and Lincolnshire, all of which are under the constant threat of predators.



Chris Currie: Chris has a strong background in Fish Husbandry. He's a Commercial Fish Farmer in a variety of species. He qualified and has gained vast experience and knowledge in this sector, being a Director of Countryside Management Consultancy

Services Ltd., after being a fishery consultant for 12 years. Currently he is reforming a complex of lakes in a fishery manager capacity spanning a five-year timeframe. He is also an experienced Director of a successful Arboriculture and Forestry business which runs in tandem. Chris is the respected author of 'Finding The Time To Cast', and has featured regularly in various press articles. Chris is a recent, and very welcome addition, to the PAG board and has contributed a revealing feature on the impact of predation on fish farms to the PAG's Big Picture 2.



Gary Cyster: Gary is a former Fisheries Technical Officer who worked for the Environment Agency and its predecessor bodies, the National Rivers Authority and Severn Trent Water, in the

Trent catchment from 1976 till his retirement in 2011. A keen angler Gary has fished the River Trent for the last six decades and been active in the conservation of the water environment. In 1982 Gary joined the Trent Salmon Study group and was a technical advisor to the Trent Salmon Trust, working on a project that resulted in the successful restoration of salmon to the river. During his time at the Environment Agency, Gary worked with colleagues in DEFRA and Natural England on fish-eating bird licensing and with CEFAS on monitoring the effectiveness of fish refuges in the River Dove Catchment.



Treasurer Miles Carter: Miles has been employed as Fisheries Manager for The Carp Society since November 2009. From 1989 to 2000 he ran an Antique and Collectables business, having shops in Huddersfield and Scarborough, as well as travelling the country attending various Antique fairs (both buying and selling). In 2000 he went back to college on a 2-year full-time business and IT course, where he obtained several Business and IT qualifications before taking up employment with The Department of Work and Pensions in their Human Resources department. He stayed with the DWP for 2 years before taking

a position as Licencing Officer for the local Council, a position he held for 5 years before eventually taking up his current position with The Carp Society as Fisheries Manager. He has always been involved with fisheries, helping out on a few lakes along the way, and again, acquiring a good grounding in Fishery Management. He has recently taken on the role of treasurer of the PAG.

Postscript

'Predation An Ecological Disaster' can be downloaded from our website. If you would like a hard copy then please send a minimum donation of £5 to cover P&P to The Predation Action Group, Horseshoe Lake, Burford Road, Lechlade, Gloucestershire, GL7 3QQ. Make sure you send your name and address if you do purchase a hard copy. All our work is voluntary and all donations are received with thanks. We are supported by donations, some sales of wrist bands and publications, and fund-raising at angling and carp meetings.

If you have any incidents of predation to report than please get in touch via our email addresses. If the impact of predation continues to worsen then it may well be that a further edition of our Big Picture publications will become a necessity at some time in the future. We need material and we need funding to produce these documents and any help we can receive will be gratefully accepted.

And finally... As we are going to print news has come through that our old friend Mark Lloyd is stepping down from his position as CEO of the Angling Trust and moving on to head the Rivers Trust. We have had a number of meetings with Mark over the course of our ten-year history, and while we haven't always seen eye-to-eye on the subject of predation we have always recognised his charisma and talent, and understand how difficult his job has been as leader of the angling world. We wish him all the very best in his new role.

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Footnote: Many of the above sources make reference to numerous other sources they have drawn on for their findings, meaning our research is actually based on hundreds of reference sources. Our sincere thanks to all the researchers whose studies and research papers have made this document possible.



All work on behalf of the Predation Action Group and in the compilation of this document has been carried out entirely voluntarily. The PAG is a non-profit making organisation and subsists via trade sponsorship, trade and individual donations, and fund-raising at angling shows and functions.

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