Cormorant and Goosanders - Time to Act

A briefing for DEFRA Ministers

Background

Cormorant numbers in the UK have increased from around 2,000 to 4,000 birds in the 1980s to a current over-wintering population of more than 64,000. Historically, cormorant numbers were controlled but like all UK wild birds they are now protected under the Wildlife and Countryside Act 1981.

- The BTO records demonstrate a 15-fold UK population increase resulting in an unsustainable level of conflict with a number of already protected fish species. Most notably, the Atlantic salmon, listed at a critically low population density in the UK, with evidence of the parr and annual smolt run being significantly impacted by cormorants and goosanders.

- UK overwintering cormorant numbers are mainly made up of the European subspecies P.c.sinensis which prefers to live and hunt inland in fresh water. The carbo senensis variety of cormorant is a land based European bird whose numbers have increased massively due to the natural expansion of their range. Furthermore, they are now interbreeding with the native carbo carbo resulting in growing hybrid populations.

- The Defra Evidence Summary - Review of fish eating birds policy (19July 2013) stated: 'The EC accepts that cormorants can deplete fish stocks rapidly…and the Government's own Moran Committee – 'Cormorants the Facts' states that '…if fish numbers fall to a very low level, predation by birds could become a factor in the survival of local [fish] populations'.

- With each bird requiring at least one pound of fish every day. They continue to predate threatened fish stocks to unsustainable levels and the limited control measures introduced have not dented their numbers and certainly not impacted on their conservation status.

- The increase in cormorant and goosander numbers, at a time when fish species are under significant pressure from other issues (not least barriers to migration and water poor water quality), is a major factor in threatening the conservation status of native fish species in many catchments including roach on the Hampshire Avon and salmon and sea trout in numerous rivers throughout the British Isles.

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-Two limited measures have been introduced in the last 17 years, these were the lifting of the cap to 3000 under Ben Bradshaw in 2006 and the introduction of Area Based Licences by Richard Benyon within the same cap in 2013, but numbers have continued to rise and fisheries have suffered accordingly.

Response from the Angling Community

- Angling clubs and fisheries have attempted a range of non-lethal deterrent methods, from scaring to the use of manikins, but these have proved almost totally ineffective unless backed up by shooting.

- This is in line with the Defra Evidence Summary - Review of fish eating birds policy. (19 July 2013) which states: ‘With many deterrents, their impact is likely to diminish with time as habituation tends to occur with any scaring technique that is not reinforced by a demonstration of real danger.’

- The difficulty in obtaining adequate licences to control cormorant and goosander numbers is a major factor in the angling community wanting to see the inclusion of cormorants and goosanders on the General Licence (GL 40 ‘licence to kill or take for conservation purposes’).

- The last review of the General Licence in 2020, prompted by the Wild Justice case failed to address cormorant problems.

- The new General Licence regime contains a specific criterion related to the protection of crops and fisheries. (GL 42)

There is also a licence to kill or take for conservation purposes (GL40).

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Evidence of the impact on fish populations including protected species

Salmon stocks in trouble

Atlantic salmon and many sea trout populations have been in decline for many years and the majority of stocks are currently classified as either ‘at risk’ or ‘probably at risk’ (Cefas, Environment Agency and Natural Resources Wales, 2020). Both fish species are now considered to be endangered and of high conservation concern and are fully protected by law. Salmon are Annex II species under the EU Habitats Directive.

The latest Salmon stock assessment concluded there are now:

- 42 Principal Salmon rivers in England and 60 Principle Sea trout rivers,
- 26 Principal Salmon rivers in England calculated as ‘At Risk by 2027’
- 10 Principal Salmon rivers calculated as ‘Probably at Risk by 2027’
- 5 Principal Salmon rivers calculated as ‘Probably not at Risk by 2027’

Special Areas of Conservation, rivers:

Avon, Axe, Camel, Clun, Dee, Derwent (N. Yorks), Derwent (Cumbria), Ehen, Itchen, Kent, Lambourn, Mease, Tweed, Wensum, Wye.

Predation of salmon smolts has been identified as a major factor in putting surviving salmon populations at risk. It prompted a change in policy in Wales (see below).

Whilst some licences are currently issued to control cormorants and goosanders in England during the smolt run they are restricted to mid-May and issued in wholly inadequate numbers to offer reasonable protection, particularly when smolt runs can run to June / July depending on river flows. They are linked to the population of birds present and **NOT linked to the status of salmon in these rivers.**

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The draft National Salmon Action Plan from the Environment Agency identifies 10 steps required to recover salmon stocks in “at risk” rivers. Building on lessons learned from the original 5 Point Approach it identifies as theme 4:

Predation control and management on “At Risk” Principle salmon river catchments ‘The 5 Point Approach identified predation control as a key action but little progress has been made in England’

In Wales NRW have moved ahead with a pilot catchment licence on the Usk where NRW are using the derogation to protect fauna & flora as opposed to protect fisheries to lethally control cormorants and goosanders as the right approach for salmon rivers designated as ‘At Risk’ for salmon.

NRW legal advisors have stated s.16 (1) (cb) of the Wildlife and Countryside Act would be the most appropriate subsection under which to issue a FEB licence to conserve fish in the River Usk as opposed to s.16 (1) (k) (protection of fisheries) given that the latter subsection is to protect a habitat generally as opposed to specific animals living there and the licence in question is for the sole purpose of conserving the salmon albeit it involves fisheries along the River.

Considerable research work is ongoing on the Tweed, Dee and Derwent catchments into fish eating bird pressures on smolts attempting to migrate to sea. The EA has drafted a revised action plan for salmon and sea trout and it now specifically mentions predation by birds as opposed to the original plan which was silent on the issue.

There is now both an opportunity and a need to at least follow the NRW initiative and go further to protect vulnerable coarse fish stocks as well.

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The Hampshire Avon

There can be no doubt that the massive increase in overwintering European cormorants, and the restrictions on the legal right to protect, had a huge impact on the general inland UK fish populations. The most high profile example of which is the iconic Hampshire Avon and the devastating decline in its once famous roach stocks. It was this that prompted the initiation of the award winning Avon Roach Project (ARP) in response to the EA Fish Stock Surveys of 2005 and 2008, which revealed virtually no roach left in the middle reaches of the river where they once abounded.

Roach, which had thrived in the Avon since the Ice Age were now estimated at being far below critical mass. The ARP commenced a major volunteer restocking of roach into the river, bred from original sources to protect the genetic integrity. Subsequently, with cormorant predation becoming a countrywide problem, and with the ARP as guidance, other roach projects, on various rivers were initiated on rivers such as the Kennet, Wensum, Severn, Warwickshire Avon, Bristol Avon, Great Ouse, Suffolk Stour, and many others.

Following on from the work with roach, and because many other coarse fish species have been likewise affected throughout the UK, the ARP and many other organisations are undertaking annual gravel spawning substrate enhancement and protection to try to mitigate the impact of cormorant predation on dwindling dace, chub, and barbel populations as highlighted in the various EA fish stock surveys. This can only have limited benefit while cormorant and goosander numbers remain at such high levels.

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From Europe

In May 2018, a Primary Research Paper - 'Change of foraging behaviour of cormorants and the effect on river fish.' was published by N. Jepsen (&) _ H. D. Ravn _ S. Pedersen DTU Aqua, National Institute for Aquatic Resources, Technical University of Denmark. It presented the results from studies using radiotelemetry, PIT-tagging, and traditional fish surveys to estimate the impact of predation in Danish lowland rivers.

The paper highlights how when cormorants began to appear in rivers and streams in increased numbers it coincided with an observed massive decline in fish populations, mainly brown trout (Salmo trutta) and grayling (Thymallus thymallus). The paper found that:

"Recovery of PIT-tags revealed that an estimated 30% of wild trout and 72% of wild grayling tagged in a small river were eaten by cormorants. In another medium-sized river, 79% of radio-tagged adult grayling were removed, presumably by cormorants during winter. Thus, predation from cormorants appears to be at a level that explains the observed collapse of grayling and brown trout populations in many Danish streams"

It concludes by observing that if scaring and non-lethal controls prove ineffective:

"The only way to protect the river fish seems to be a general reduction of great cormorant numbers."

Similar conclusions were reached in the European Inland Fisheries Advisory Commission…. Summary Progress Report:

'The enormously increased impact of cormorant predation on fish species conservation and the losses caused to aquaculture pond owners, professional fishermen and anglers has reached unacceptable levels.'– (Ref: EIFAC/XXV/2008/5 …)

'There is a need to explore the consequences of moving the cormorant to the status of Annex II, 2 of the EU Birds Directive 79/409/EEC (non-protected species). – (Ref: EIFAC/XXV/2008/5 …)

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From Wales

Managing the impacts of predation by fish-eating birds on fisheries in Wales - Executive Summary:

Populations of certain fish-eating birds, notably the cormorant and goosander, have increased in the UK in recent decades, and these birds are now widely distributed across Wales. As elsewhere in the UK and beyond, this has resulted in widespread perceptions of conflicts with fishery interests. Over similar timescales marked reductions have been observed in the status of certain freshwater fish stocks in Wales, particularly Atlantic salmon and sea trout. The majority of such stocks in Wales are now at historically low levels.

Final report and recommendations of the Wales Fish-eating Birds Advisory Group (May 2022)

Impact on wider biodiversity

86% of our rivers in the UK are currently failing to meet the standard of good ecological condition measured against the Water Framework Directive (WFD), which is partly assessed on general fish assemblage. Furthermore, there are only 210 precious Chalk Streams in the entire world with 85% of these being found in England, and all of these globally rare, fragile habitats are under increasing threat with, sadly, 77% of those in England also failing to meet the standard of good ecological condition measured by the Water Framework Directive (WWF Englands Chalk Streams).

The chalk streams characteristic clear shallow waters make predation by fish-eating birds relatively easy. There can be no doubt that the over-predation by these highly efficient overwintering birds is now unsustainable and contributing to a diminishing inland fish population. It will directly impact on our own, once balanced, native wildlife dependent upon the same food source such as the Great Crested Grebe, Heron, Kingfisher, Dab-chick and more.

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Impact on U.K. environment targets

The government's much heralded 25 Year Environment Plan has been superseded by the Environment Improvement Plan 2023 (EIP23) and include pledges to:

- Halt the decline in species abundance by 2030, and then increase abundance by at least 10% to exceed 2022 levels by 2042. (This is now a legal target under the Environment Act, and fish species are included).
- Improve the Red List Index for England for species extinction by 2042 compared to 2022 levels. (We are hopeful the IUCN will shortly red list Atlantic salmon giving the dire state of current stocks)
- New interim targets for all sites of special scientific interest (including those designated due to fish) to have an up-to-date condition assessment; and for 50% of SSSIs to have actions on track to achieve favourable condition by 31 January 2028.

Under the Water Framework Directive all assessed water bodies must meet good ecological status by 2027. Currently 58% fail to meet WFD targets for healthy fish populations.

There is zero chance of any of these targets being met if current unsustainable levels of predation on native fish populations by cormorants and goosanders continues.

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Action in Wales

The impacts of fish-eating birds on salmonid populations and game fisheries in the UK has been considered as part of extensive reviews in Scotland (Harris et al., 2008 and Humphreys et al., 2016) and England (Defra 2013) and also, for cormorants, across Europe (Carss et al., 2012, Marzano and Carss, 2012).

This focus, together with concerns of Welsh Government, the fishing sector, and some freshwater conservation bodies about to the impact of predation by fish-eating birds on wild and stocked fisheries, led NRW's Board to endorse the establishment of an NRW led Fish-eating Birds Advisory Group (the Advisory Group) to assess the position in Wales and advise on the suite of actions required.

Recommendations included:

- Ongoing population monitoring of cormorant and goosander is essential to ensure that observed population trends remain within the confidence intervals of modelled outcomes at the relevant level of intervention, especially in the light of uncertainty around changing demographic parameters and unpredictable stochastic effects.

- On-going population monitoring of salmonids is also essential, to demonstrate a link between lethal control of fish-eating birds and positive outcomes for fish.

- Full resurvey of overwintering cormorant and goosander should take place at least every ten years whilst lethal control is on-going.

Action by NRW - New Policy in Wales was adopted by the NRW Board July 2022 to cover cormorants and goosanders to protect conservation status of salmon. There is no equivalent in England.

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It states:

- **Where salmonid stocks are assessed as being 'at risk'/'probably at risk', and if licensing tests are met, it is recommended that NRW extends licences on such river catchments to include the smolt migration period (a critical period for salmonid populations), subject to limits on the numbers of birds to be licensed. This would need to be accompanied by population modelling to understand the consequences for fish-eating birds, and additional monitoring to inform ongoing adaptive management decisions.** (RSPB Cymru and Welsh Ornithological Society do not support the above recommendation.)

Conservation Status of cormorants

Favourable Conservation Status (FCS) for cormorants in England is defined by Natural England (NE) as:

"Inland **breeding** population size: As above we define Favourable Conservation Status for inland breeding cormorants as one in which the inland breeding population does not fall below **2,126** AON's in 2004.

Inland and coastal wintering population size: We define Favourable Conservation Status as one in which the wintering population of cormorants does not fall below **30,965** individuals recorded during the winter of 2004/05."

IT HAS BEEN CONCEDED BY DEFRA THAT THE FIGURE OF 30,000 IS ENTIRELY ARBITRARY AND COULD BE MUCH LOWER SINCE HISTORICAL CORMORANT NUMBERS ARE JUST A FEW THOUSAND.

"In practice, there is no recognised population level at which the species conservation status can be considered 'favourable', and the reference level could be set to any agreed value." (Defra - Evidence Summary - Review of fish eating birds policy. 19July 2013.)

Note: NE haven't done a FCS for goosanders, populations are assessed via Habitat Regulation Assessments on protected sites where they are designated.

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So why take action now?

- All previous efforts to reduce damage to vulnerable fish stocks have demonstrably failed and many fish species are struggling from pollution and abstraction without the added jeopardy of unsustainable predation.

- U.K. salmon stocks in particular are now critically endangered and cormorant and goosander predation on smolt runs has been identified as a factor.

- Government environmental targets will be badly missed without action on this issue

- NRW has acted with an action plan to protect the smolt run. England must do the same with similar protection for coarse species where appropriate.

- The conservation status will never be threatened, even if the arbitrary FCS figure is used, due to a 30,000 headroom in current numbers.

Recommendations

- **The government acknowledges the continued damage to struggling fish stocks, including highly threatened salmonid species, caused by the unsustainable increase in cormorant and goosander numbers. These birds belong on the General Licence. It therefore resolves to extend the current licensing regime to allow for fisheries to control the damaging impact of these birds subject to an annual review of their numbers to ensure that the conservation status is not impacted.**

- **The government should follow Wales and use the existing derogation to control bird numbers for conservation purposes and not just to protect commercially valuable fish stocks. Particularly in the case of salmon (a protected species at risk of extinction) and other fish species whose conservation status is endangered by unsustainable avian predation.**

ENDS

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(Produced by the Angling Trust and the Avon Roach Project in collaboration with Wildfish and the Game and Wildlife Conservation Trust - September 2023.)

Contact:

Martin Salter - Head of Policy, Angling Trust - martinreadingwest@gmail.com

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