

Predation Control
WADAA Game Angling
January 2021

Amongst other new challenges that WADAA is now having to deal with (climate change, agri-fertiliser increases, weed and algal growth), along with other angling organisations, is increasing bird predation and it is causing a real head-ache – trying to dissuade animals from what they do instinctively is difficult.

On the coarse waters, this predation is from both goosander/mergansers and cormorants, with the former often being the most destructive as they work in packs rounding up fish before plundering them.

Generally speaking, the goosanders take smaller fish up to about half a pound and as such have little impact on our game waters, though there has been lots of research into their devastating impact on salmon parr and smolt populations on rivers.

There are suggestions that they can actually help on 'big-fish' waters by keeping unwanted fish populations low – we are not in this place!



The club have taken extensive measures to protect these predominantly shoaling fish on our coarse venues by installing artificial refuges and although it is early days, these seem to be having a beneficial effect.





Avian predation on the game waters is almost entirely from cormorants. These birds, made up from 2 sub-species, now appear to be resident year-round and are not just a factor during the winter months (though October to March are the severest threats). Furthermore, these birds quickly become accustomed to human presence, so that even increasing angling pressure is ineffective as a deterrent.

It is very easy to dismiss the scale of the problem, reasoning 'they only take a few'. However, the maths is quite staggering! Working on the reasonable logic they wouldn't be coming if they weren't eating, an average of 2 birds per day on our 6 game waters equates to 12 fish per day, or 4,380

fish per year (these birds don't take a holiday) – that's approaching 40% of our total stocking effort!

From the information that we are now gathering on the 'e-Catch Returns', 2 visiting birds per day could be a substantial under-estimation:

Id	Date	Game Venues	Date	Membershi	Cormorant (
1382	18/01/2021 15:26	Ghyll Head	18/01/2021	Member	
1381	18/01/2021 15:25	High Newton	18/01/2021	Member	3
1378	18/01/2021 14:51	Choose a game venue		Member	
1377	18/01/2021 14:50	Bigland	18/01/2021	Member	
1359	17/01/2021 16:58	High Newton	17/01/2021	Member	
1358	17/01/2021 14:15	Bigland	17/01/2021	Member	
1357	17/01/2021 14:15	Choose a game venue		Member	
1356	17/01/2021 14:15	Bigland	17/01/2021	Member	0
1354	17/01/2021 11:24	High Newton	17/01/2021	Member	4
1353	17/01/2021 11:23	High Newton		Member	4
1352	17/01/2021 11:23	High Newton	16/01/2021	Member	3
1325	15/01/2021 16:43	High Newton	12/01/2021	Member	1
1324	15/01/2021 16:42	High Newton	13/01/2021	Member	2
1323	15/01/2021 16:41	High Newton	14/01/2021	Member	1
1322	15/01/2021 16:40	High Newton	14/01/2021	Member	1

This impacts the club in 3 ways:

1. The quality of sport is impacted as every fish a bird eats is one less for our anglers to catch
2. At around £2.20/lb, the cost to the club (and therefore our members) is huge
3. They cause fish to 'shoal-up', potentially rendering large areas devoid of stock

So, the 6 million dollar question, what can be done?

Potential actions typically fall into 3 broad categories:

- Control
- Protection
- Management Changes

I will tackle all 3 in turn.

Control

This is very often the first (and often only) solution which is considered by clubs and anglers. These controls can be split into 2 broad categories, lethal and non-lethal.

Non-lethal methods focus on making the general environment uncomfortable for the birds:

- Visual deterrents such as manikins and birds of prey kites
- Removal of roosting and resting opportunities such as bankside trees
- Methods which make it difficult for birds to land or take-off from the water such as ropes suspended just above the surface (often matched with a visual deterrent such as CDs which cast a glint in the sunlight)
- Audible deterrents such as gas cannons and specialist bird of prey call boxes
- Shooting-to-scare

Lethal methods, as the name suggests, involves shooting to kill. As a protected species, this is not straight forward. A

license has to be granted by Natural England. The qualifying process is long, detailed and exacting and an organisation has to demonstrate it has exhausted all reasonable and practical non-lethal methods before any license will be considered.

Additionally, shooters need the appropriate gun licenses and insurance and be operating with the full and explicit permission of the landowner(s).

Furthermore, control licenses are typically issued for the control of very low numbers of birds – 3 being the usual number. From experience, as quickly as birds are removed, they are replaced – topped up from a never-ending supply of those living on the big lakes such as Windermere and Grasmere, or around the coast in Morecambe Bay.

Additionally, there are large, well-funded organisations who actively campaign against lethal methods of control and expend significant effort holding clubs and individuals to account. Penalties for breaking wildlife laws are severe, involving not only large fines, but also jail sentences.

Protection

As has been previously outlined, the club has deployed cages and floating islands on it's coarse waters. These are designed to provide a refuge for fish to hide, in an environment impenetrable to birds (in additional to other water quality

and fish reproduction benefits). The placement of plastic hedgehogs achieve a similar effect:



However, research suggests these to really only offer a benefit for shoaling silver fish and therefore have very little relevance to game waters.

Management Changes

Cormorants are sight feeders and are only constrained by the size of fish that they can get down their necks. Unfortunately, like snakes, their gullets can expand meaning their scope is huge. They are well adapted to feed at depths of up to 10 metres and can remain under water for extended periods of time. Unfortunately for anglers, they are accomplished hunters.



There are a number of things that can be done to minimize the risk:

- Stock large fish
- Stock fish which are a more 'round' shape to make swallowing difficult
- Create water turbidity to make fish sighting difficult
- Stock large numbers of small 'sacrificial' fish to add a 'safety-in-numbers' element
- Eliminate stocking at the highest risk times of year (winter)
- Stock less fish (more fish equals more predation)
- Focus angling on waters where predation control is easier

Of course, not all of these are applicable us, either because they are not relevant for game angling or the nature of our waters would prevent their adoption.

The answer lies in devising control and management strategies which are a mixture of all appropriate measures, individually applied to match the characteristics and regulations of our venues.

From our experience and that of other organisations, cormorants become persistent with familiarity. Birds are wary in early visits and are more easily controlled with a variety of methods and then become progressively less so over time.

This is where shooting is most effective – moving on longstanding bird populations, facilitating the effectiveness of other methods on newly arriving birds.

The club holds cormorant control licenses for all waters on which it is permitted to do so. Unfortunately, our landlords for High Newton and Ghyll Head, United Utilities, do not permit lethal shooting on any of it's venues in Cumbria. Whilst we have been granted permission for 'shoot-to-scare', shooting to kill would immediately not only put our lease in jeopardy, but also render us and the individual shooter liable to prosecution.

On game waters, stocking alternative and less vulnerable species is not an option. We have considered adding other species, such as rudd and perch, however our view and that

of specialist advisers at the Angling Trust, is this would simply result in us attracting and sustaining larger numbers of birds.

In contrast to our coarse waters, increasing and encouraging turbidity through greater algae levels is also not an option. Not only does this have a negative impact for fly fishing, it also dramatically increases our fish-health risk caused by oxygen depletion when the algae inevitably dies back.

Increasing the size of stocked fish has some merit. We've found on the coarse waters, supported by fish 'shape', carp and bream above about 2lb are generally safe. However, due to the elongated shape of trout, increased weights manifest in increased length, rather than girth and as such, significantly larger fish can be consumed (see the earlier picture of the similarly shaped pike). It is thought that trout over 45cm (around 2.5lb) offer some protection. However, given the low natural food levels on our upland venues and some degree of over-wintering, stocking would need to be of a size significantly higher than this to stabilize at a 2.5lb average.

This has a major impact on cost. Additionally, in order to maintain our safe density levels of 300lb/acre, stocking fish of this size would result in far fewer individual fish in the water (and therefore bites!).

Again, on our game waters, due to size and the environment, most of the other control methods (tree cutting, strings, audible deterrents etc) are not practical.

This leaves us needing to be very creative with the solutions at our disposal and accepting that in order to deliver a sustainable solution, compromises will need to be made. With an annual game stocking bill of well over £50,000, continuing with the current levels of loss, or increasing stockings to replenish losses, is not an option without major increases to the membership fees.

So what do we know?

1. Some waters are easier to protect than others – we are highly unlikely to obtain control licenses for UU controlled waters
2. Farletonview, Capernwray and Bigland Tarn have control licenses in place for not only WADAA officials, but also landlords – allowing a permanent control presence
3. 2 waters, High Fairbanks and Farletonview are currently closed during winter, the months of highest predation
4. Smaller waters such as Capenwray require fewer fish to maintain a decent level of sport
5. Angler numbers in winter are vastly reduced

6. High Newton and Ghyll Head have the highest average numbers of cormorants (we are now seeing this proven by the catch returns)

So what do we plan to do?

1. Eliminate winter stockings (November to February) for the waters most at risk:
 - a. High Newton
 - b. High Fairbanks
 - c. Ghyll Head

This will stop the addition of stock in the worst predation periods of the year, on those waters where control is very difficult

2. For the September and October stockings at High Newton and Ghyll Head, stock a lower number of larger sized 4lb fish

This will reduce the overall numbers and therefore the visual attraction for the birds, whilst at the same time having fish of a size less prone to predation.

Additionally, the larger fish are likely to over-winter better (see a recent 5lb+ fish caught from High Newton) and provide venues for anglers wanting to target bigger fish.



3. Rapidly ramp up the stocking of Farletonview in late January and early February to provide additional early spring capacity for those anglers who fish early in the year (*discussion will take place with the landowner at Farletonview to understand the possibility of winter-opening)
4. Winter stock larger size fish at Capernwray and Bigland only. These 2 venues offer variety, 1 being a small, managed type water with easy access, and the other a bigger, 'wilder' venue. Both venues offer good levels of predation control opportunity.
5. Use 'shoot-to-scare' methods and audible deterrents as much as is feasible at the UU owned waters

The complexity of stock management now, taking into account predation and adverse environmental conditions is far greater than even 5 years ago. We are having to rapidly adjust and adopt new methods to maintain cost effective angling for our members.

The catch return system that we have developed is a vital component of this. This is the only way that we can assess the impact of the actions we take and assess the ongoing performance of our waters.

We urge all our members to complete the catch return – nil returns are as important as catch returns AND we need to see predation sightings.

A simple scan of the QR code, or a direct input via the website, gives us a massive insight into what is happening.

From this we can accurately assess fish stocks and monitor venue performance and levels of predation.

In summary, to maintain control of costs whilst offering continued good sport, we are going to have to become more focused and adaptable, changing not only our approaches throughout the year, but also venue by venue.

Though this may inevitably means sport at Ghyll Head in January (for example) may be 'poorer', our overall offering throughout the course of the year will be far greater and we'll be able to continue offer great sport, at an affordable price to all our members.