



# **Annual Fisheries Report 2017 to 2018**

## **Hertfordshire and North London**

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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# Foreword

In each of our 14 areas we carry out a wide range of work in order to protect and improve fisheries. Below are some examples of what has been happening in the Hertfordshire and North London (HNL) Area, much of which benefits fisheries from funding from both rod licence fees and other sources. For a wider view of the work we do across the country for fisheries please see the national Annual Fisheries Report.

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# 1. Fishing licence checks and prosecutions

During the 2017 to 2018 financial year (the last complete year of data) a total of 64,702 fishing licence checks were carried out by our fisheries enforcement staff across the country. Our checks show us that evasion was relatively low with a national average of 3.97%. Below are details from HNL:



**81,884** rod  
licences sold



**£1,695,901.75**  
income generated from  
rod licence sales



**6,820** rod  
licences checked



**219** successful  
prosecutions



**£30,327**  
fines and costs  
imposed

Fisheries Enforcement officers in the area continued to work pan area with colleagues in Thames area. This approach enabled us to deploy operational staff where needed. Intelligence from reports to our Incident Hotline, partner organisations and the police continued to be used to help direct this work.

During the annual close season for coarse fish, a short term incident response for reports received was successfully deployed across HNL and Thames. Following the principles of “detect and deter”, Enforcement officers continued to deploy signage at known hotspots advising the close season. Officers also actively patrolled those same hotspot areas to reinforce the message and reported a significant decrease in close season offences in the 2018 close season compared to previous years.

The illegal setting of unauthorised traps for non-native crayfish continued to proliferate. In one incident, working in partnership with the local police wildlife crime unit, officers removed in excess of eighty traps from a stretch of river.

Investigations commenced under the Keeping and Introduction of Fish regulations (2015). Having identified one venue with non-native species, officers undertook a compliance inspection of the site. Having opened dialogue with the owners, we expect this venue to fully comply with the regulations during 2018.

Two warranted volunteer bailiffs, appointed under the partnership with the Angling Trust, were proactive in licence compliance checking during the first half of the year. Regrettably their services were lost due to personal circumstances and relocation.

We continued to actively engage with volunteers operating under the Voluntary Bailiff Service. A number of joint patrols were offered and we supported local meetings and workshops with the Angling Trust Regional Enforcement Manager.

## Working with commercial fisheries to drive down rod licence evasion

In 2017 our enforcement officer Graham Haynes has been working on a project with Farlows Lake, one of the area's most historic specimen fisheries, to help support management at the lake, improve regulation & reduce rod licence evasion.



Herts North London fisheries Enforcement Officer : Graham Haynes with Farlows Lake manager Scott Steeples

Farlows Lake, located in Herts North London areas Colne valley, is a busy and successful day ticket specimen fishery, and is one of the oldest gravel pit carp fisheries which attracts over 15000 anglers each year from all over the country. The fishery has recently invested in the provision of an on site café and tackle shop and is a good example of the kind of modern well run fishery that today's anglers enjoy visiting.

Historically, the lake has long been a venue checked regularly for rod licence evasion. This was partly due to the large number of day anglers, visiting from across the country. Although under different management back then, this meant we had to visit regularly to ensure anglers had licences and were compliant with our byelaws.

Recently, we have been working closely with the lake managers to ensure better rod licence compliance. This has been achieved with a two pronged approach. Firstly, the lake managers require to see a rod licence before issuing day tickets. This has been enforced well, and backed up with signage at the fishery and on the fishery website. This has helped reduced evasion, and improves rod licence sales.

Alongside this, our fisheries enforcement officers, have been on hand to patrol the fishery and help with signage and education to explain the rules, and support the fishery with angler checks and patrols. As a result, we have seen our evasion rates decrease at the venue, from around 8% to 4% in 3 years.

Fishery manager Scott Steeple explains:

By working with help from the EA, we now undertake checks on anglers before they're issued with a permit. This helps us know who is on the fishery, and reduces the number of times anglers need to be checked, so they can get on with their fishing. The EA enforcement officers, are on hand when we need them, and their presence also acts as a deterrent to anyone thinking of bending the rules.

Funding from rod licence sales is ploughed back into fishery improvements and helping local projects. At Farlows, we have assisted the fishery with incident response over the last two seasons, during the prolonged hot weather. We will continue to work closely with them and other commercial fisheries to help with fisheries enforcement and management issues.

## 2. Illegal fishing

Illegal fishing remains a threat to game and coarse fish stocks in England and the fisheries they support. The Environment Agency uses a combination of covert and overt patrols to deter and detect poachers, as well as responding to reports of illegal fishing where there is a credible threat to fish stocks and where we have a realistic chance of apprehending the alleged offenders. We cannot respond to every report of illegal fishing so we must prioritise where we focus our efforts. For HNL:

**212** illegal fishing incidents were reported to our incident hotline (0800 80 70 60)

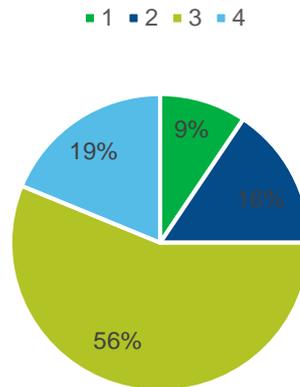


## 3. Incident management

Responding to fish kills and other environmental incidents is a vitally important part of what we do. We respond to thousands of substantiated incidents annually. Members of the public report incidents through our Incident Hotline (0800 80 70 60) and we are able to respond 365 days a year and on any day, at any time, providing an effective and proportionate response.

All incidents are categorised according to potential and actual impact on the environment and the impact on our resources. We can then break this figure down into categories of incident as shown below. Category 1 is the most serious and Category 4 is a reported incident with no impact.

### Hertfordshire and North London Incident Management Categories

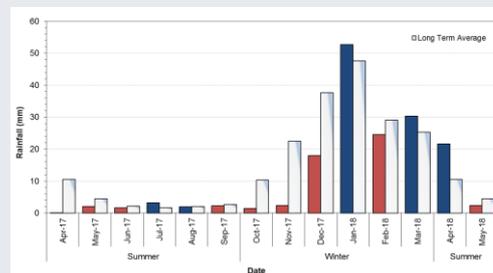
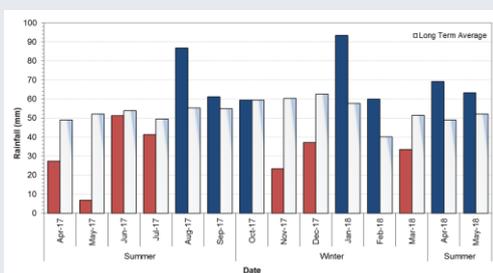


#### Fisheries incident response 2017. Prolonged dry weather

In 2017 a significant proportion of fisheries officers' time was spent on water resources issues, both operationally in terms of assisting with management of low flows, and technically, through consultations on abstraction and water resource planning.

2017 saw a period of prolonged dry weather across the South East of England, resulting in pressure on fisheries across the area.

Below average rainfall in Spring contributed to low flows in some of our rivers, which required fisheries officers to undertake walkover checks to ensure fish populations were not in distress.



Herts and North London rainfall

Herts North London effective rainfall

April 2017 to May 2018

The effective rainfall – (rainfall available to percolate into the soil or produces river flow). This demonstrates rainfall in August, September & October around the LTA had little contributed towards improving the water situation. This is due to higher soil moisture deficits, requirements of plants etc., temperatures leading greater evaporation rates. These summer rainfall events can cause an increase pollution incidents due to flushing out of surface drainage systems which is particularly common in urban areas and a factor

causing fish incidents. This is more likely if there had been a particularly dry period beforehand as in April to July 2017

To help mitigate for these impacts, HNL officers carried out proactive monitoring of river reaches to check water level and flow conditions levels and for signs of fish in distress before incidents occurred. This helped protect fisheries and enabled better use of resources, which were also deployed to assist on still-water incidents.

As a result of this pro-active approach, we were able to identify potential incidents and mitigate for them before fish became stranded. One example of this was on the River Misbourne, in Buckinghamshire, where our teams carried out a series of fish rescues, re-locating trout to other parts of the watercourse with better flows.



Carrying out watercourse checks in dry weather



Fish rescue

HNL officers carry out a fish rescue as a result of low river flows

In Spring we carried out a campaign to raise awareness of the need to plan for warm weather, across Stillwater fisheries in HNL area. This included targeting angling clubs, commercial fisheries and Local Authority waters to provide them with our advisory information on hot dry weather.

We advised a number of fisheries on how to plan for incidents and encouraged angling clubs to put in place an incident action plan for their fisheries.

A key element of these plans is advising fishery managers to ensure they have the right equipment including aeration units, pumps and a dissolved oxygen meter in place to manage their fisheries throughout summer. This enables fishery managers to deal with scenarios associated with hot dry weather, including low dissolved oxygen levels, to minimise impacts on their fisheries.



Hot, dry weather can reduce water and oxygen levels, which can kill fish.



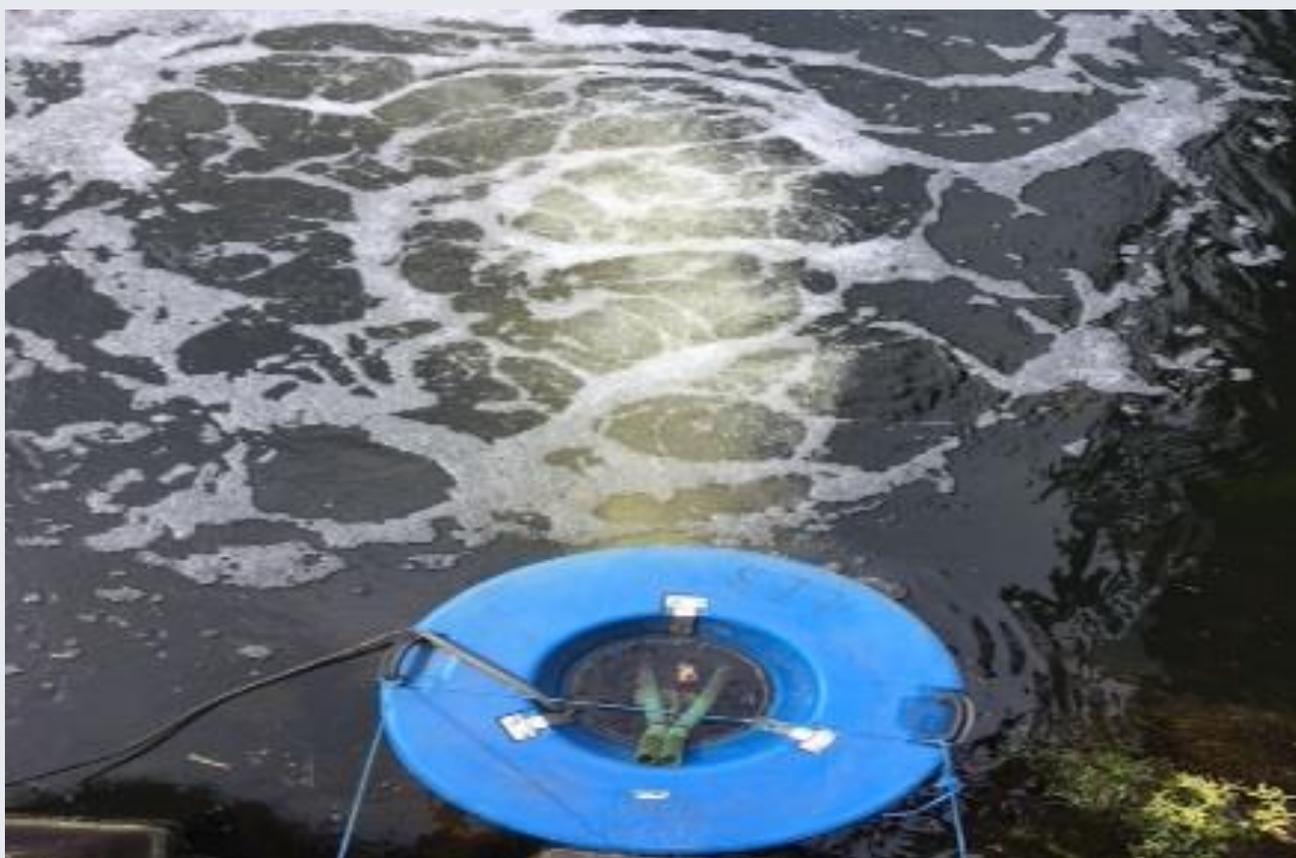
If you see fish in distress call the Environment Agency on 0800 807060 and alert the fishery manager.

Ref. \_\_\_\_\_

**Incident Action Plan**

Instructions: Use template prompts to assist in plan completion. Be brief and concise.

Location	Control Level	Operational Period From To
<b>1.0 SITUATION</b> Disease, community, environment <b>PROMPTS:</b> Weather, disease trends, Resources, Hazards & safety <b>REFERENCE:</b> Maps, weather reports, Streps, appreciation, warnings, alerts		CURRENT  PREDICTED
<b>2.0 OBJECTIVES (or MISSION)</b> <b>PROMPTS:</b> Time & space <b>REFERENCE:</b> Appreciation - control options, courses open to disease		CURRENT  ALTERNATE
<b>3.0 EXECUTION</b> add safety information as appropriate		
GENERAL OUTLINE		



Aeration unit in action

### **Incident response trailer**

This year we acquired a new incident response trailer for attending fisheries specific incidents.

This new trailer gives us the ability to respond to low dissolved oxygen fisheries incidents much more efficiently than previous years.

The trailer give us the ability to carry more aeration equipment and securely under lock and key. The benefit to this is from the initial report of an incident we are able to take the aeration equipment to site and leave it secure while we assess the severity and extent of the incident.

Once an assessment has been made and it is deemed we need to deploy the aeration, it is a simple case of unlocking, unloading and deploying the aeration equipment into the affected river or still water thus creating a survival zone and minimising the impact of the incident.



New Trailer

### **Creation of backwaters to assist fish populations**

This year the HNL team have been monitoring the beneficial impacts of a backwater installed on the River Colne. Creation of backwaters creates provides refuge for fish from high flows and pollution events and are an important feature within urban rivers.

HNL has delivered or supported several projects to create backwaters across our area including Ray Park on the River Roding, Eastbrook Country Park on the River Rom and the Withy Beds on the River Colne near Rickmansworth where our monitoring has taken place this year.

In 2017 we created new backwaters on the rivers Misbourne and Colne in partnership with Berks, Bucks & Oxon Wildlife Trust and the Wild Trout Trust and also on the Yeading Brook – a tributary of the River Crane – in partnership with the London Borough of Hillingdon. In addition to providing habitat and refuge for fish, backwaters also create valuable habitat for invertebrates and rare wildlife including water vole as well as creating storage capacity during high flow events.

The backwater at the Withy Beds was created in 2007 as part of an Environment Agency project where a series of habitat enhancements aimed to improve fish populations. The backwater was designed with shallow sloping margins, out of the main river flow. This enables the water to warm up quickly, giving productive conditions to allow fast growth of young fish. Marginal planting and some overhanging tree cover also provides cover from predators.

Monitoring of this backwater first took place in 2013 where over 2000 fish from eight



species were captured. In 2017 the River Colne was suffering from a period of prolonged dry weather impacting on flows in the river, never the less the team still found 56 fish from four species.

The HNL team continues to monitor the success of backwater creation projects as this allows us to refine and develop future projects such as those planned for Hanwell on the River Brent, allowing us to maximise the benefit of these features for fish populations.

River Colne backwater 2018

### Weir adjustments

Options for habitat improvement, such as weir removal or fish passes, can be limited in urban areas due to operational needs, so identifying simple ways of improving conditions for fish can yield significant results. One example of this approach was taken on the River Crane at Mereway sluice in West London.



The River Crane Mereway sluice, West London

The River Crane and its tributaries form a 127 km<sup>2</sup> urban river catchment in West London rising in the London borough of Harrow and entering the River Thames in Kingston-upon-Thames. At Mereway Road in Twickenham the flow of the River Crane is split by the Mereway Tilting Weir between the lower River Crane and the Duke of Northumberland's River – an artificially constructed water course – with the majority of

the flow being directed down the Duke of Northumberland's River as part of a historic abstraction agreement and the lower River Crane receiving water only in high flow conditions. As a result the lower River Crane endures low flows and often dries up completely during periods of dry weather. In addition to low flow issues the lower River Crane is heavily modified and offers little fisheries habitat being confined to a concrete trapezoidal channel.

The Crane Valley Partnership of which the Environment Agency is a partner highlighted a need for "increased and more variable flow throughout the River Crane, Duke of Northumberland's and Longford Rivers" as part of its catchment planning process. Abstraction at the Thames Water abstraction at Mogden was considered the main limiting factor to restoring flows to the lower River Crane however a one-day test was undertaken in 2016 to determine whether the Mereway Tilting Weir could be lowered to allow more water to flow down the lower River Crane without compromising abstractions that rely on the Duke of Northumberland's River, following the success of this one day trial it was agreed a one year pilot could be undertaken.

Beginning in November 2017 the Mereway Tilting Weir has been lowered allowing more water to flow down the lower River Crane, the result has been improved flows with impacts monitored by volunteers using fixed point photography and anecdotal evidence of juvenile fish being seen in the stretch of the River Crane that is usually subject to drying out. Due to end in November 2018, the success of this trial will help to determine options for improving fish passage & the long term management of flows in the lower River Crane and Duke of Northumberland's River, with improved flows allowing the Crane Valley Partnership to progress towards their long term ambition to restore the habitat of the lower River Crane to a more natural state which will create habitat able to support a healthy fish community.

## 4. Fisheries improvements

The boxes below highlight some projects we have delivered followed by the table below listing many of our environmental improvement projects that have helped to deliver benefits to fisheries; many in conjunction with our partners. We have included the time of our fisheries officers in the funding considerations for the projects as their posts are funded by rod licence income. Considerable amounts of their time and expertise has been provided for the projects. Many projects have also received funding from government or from other parts of the Environment Agency e.g. flooding, the Environment Programme or Water Framework Directive budgets however where contribution has included fishing licence income, this has been noted.

$$\begin{array}{rcccl} \mathbf{\pounds 65,500} & + & \mathbf{\pounds 38,200} & = & \mathbf{\pounds 103,700} \\ \text{EA Funding} & & \text{Match Funding} & & \text{Fisheries Improvements} \end{array}$$

Project Title	Outcome or benefit	Partners	EA Funding (£)	Match funding (£)	Total Cost (£)
Denham/ Colne Misbourne	Back Water Habitat on the River Colne River Restoration Wooded Material Tree Works	Berks Bucks Wild Trout Trust	£10,000	£5,000	£15,000
Marias Refuge	Planted Reed Bed habitat on the GUC	Thames 21	£10,000	£5,000	£15,000
Slimy Wrigglers 2	Eel Passage Notched Weir & channel works	Herts & Middlesex Wildlife Trust	£10,000	£5,000	£15,000
Stanborough	Weir Removal	Finesse Leisure	£12,000	£5,000	£17,000
Boot Pit	Tree Works	Lee Valley Regional Park	£5,000	£2,000	£7,000
<b>Total</b>			<b>£47,000</b>	<b>£22,000</b>	<b>£69,000</b>

## River Colne backwater habitat creation

Uxbridge Rovers Angling Club had reported to their local fishery officer that catch numbers had depleted and fish population survey results showed a declining and aging fish population.

It also showed that there was a low survival rate for juvenile coarse fish species present.

An Environment Agency Fisheries Improvement Programme funded project was designed to improve recruitment and encourage a sustainable fish population with the introduction of a backwater habitat feature

This feature was to be situated below some important spawning riffles that are regularly used successfully by mature fish and would provide juvenile fish with an area of refuge from predation and high flows during the winter period.



Denham backwater creation underway

Here is the backwater under construction, note the shallow marginal shelves giving areas for emergent and submerged macrophyte to establish quickly providing cover for juvenile fish and invertebrate life.

## Berms and channel narrowing

A proportion of the gravely material dug out from the backwater was used to narrow and pinch the main river channel that is overwide.

The benefit to narrowing the channel here with the back water material was that it increased flows over important spawning riffles thus sustainably keeping the riffles clean from sediment deposition.



### **The completed backwater**

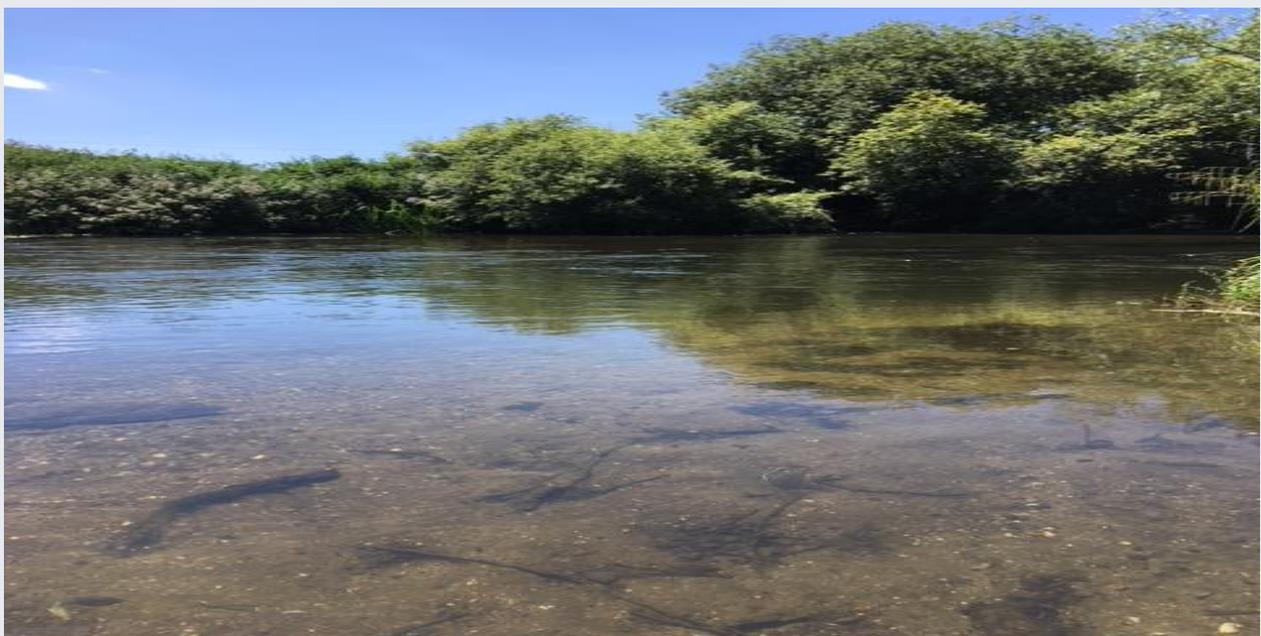
This image was taken only 3 months after the completion of the back water.

As you can see emergent macrophyte growth has established well on the shallow marginal shelves providing cover for an array of species.

It is planned for a fish survey to be undertaken to show the importance of this back water habitat feature and measure its success. On visual inspections an array of juvenile fish species have been seen utilising the new habitat feature almost instantly on completion, one of the key benefits of restoring backwater habitats on lowland rivers.



### **River Lea barbel action plan**



The River Lea Hertfordshire North London

HNL's Fisheries team in partnership with The Herts and Middlesex Wildlife Trust and the Lee Valley Regional Parks Authority have worked with local stakeholders to set up a Barbel Action Plan subgroup as part of the middle Lee Catchment Partnership.

The group was formed in early 2017 and has already made huge steps towards better understanding of barbel populations and improving habitats for the species throughout the middle Lee Catchment.

Some of the achievements made in 2017 include investigations into current and historic Barbel populations throughout the middle Lea catchment, identifying current and historic barbel spawning sites, and undertaking improvement works in the form of gravel jetting to improve spawning and survival for the species. A number of surveys were carried out in 2017 which will guide a river restoration project aimed at delivering further improvements to provide sustainable Barbel fishery through the entire Middle Lea Catchment.

HNL fisheries officer, George Horne, who is leading the project, submitted a bid for Fisheries improvement programme funding to support the project in 2018. This will assist in delivering further partnership improvements in the coming year.

The BBC's Countryfile television programme was interested in the project and aired a feature on it in November 2017. The episode of Countryfile highlighted the importance of the work we are carrying out as well as capturing how we are working with the local angling community to create positive environmental outcomes. HNL's Fisheries and Sampling and Collection team were filmed carrying out an investigative fish population survey through the proposed enhancement area whilst explaining the work we do.



HNL fisheries officer George Horne during filming with BBC Countryfile

### **Lee Valley Boot Pit habitat creation**

The Hertfordshire and North London's Fisheries Team have been working in partnership with Lee Valley Regional Parks Authorities' Fisheries Team to address repeat water quality incidents in still water fisheries whilst considering multiple benefits in fisheries habitats and wider biodiversity.

Boot Pit gets its name from when two small waters were joined together creating a boot shaped lake. The Stillwater fishery is situated within the Lee Valley Regional Parks in

Hertfordshire and offers a five acre mixed coarse fishery offering open angling for all abilities.

The fishery has suffered from low dissolved oxygen levels most summers for the past five years and dating back to spatial events beyond then. The fishery had extensive tree cover allowing no wind action onto the lake during the summer months. Extensive tree cover was also preventing diversity in marginal vegetation growth within the lake. The aim of the project was to create wind channels through the trees allowing wind action to the water's surface and therefore helping to aerate the fishery naturally throughout the summer months.

The project also aimed to address over shading in parts of the lake encouraging vegetation growth and as a result improving fisheries habitat. The project was part funded through the Fisheries Improvement Programme and this was match funded by the Lee Valley Regional Park Authority.

Not only did the project help improve angling amenity at the fishery it should also reduce the number of fisheries incidents received in area, allowing our fisheries officers to focus resource in other areas of the catchment.



Boots pit

## 5. Monitoring

Monitoring of all fish species is vital to our assessment of the condition of the environment. Surveys of fish populations, including coarse fish, are used to assess the status of stocks and contribute to the overall assessment of ecological status of a water body. In HNL:

**40** Waterbodies  
**assessed** for  
fish 2016/17

**40%** of waterbodies  
assessed were at  
good status or above  
for fish

You can look at our Catchment Data Explorer for more information.

Our fish count data is now available online here

## Fisheries monitoring case study: River Colne

A fisheries survey is carried out annually on the River Colne at Springwell Lane, this is a quantitative survey using PDC electric fishing techniques. This forms part of the monitoring for Water Framework Directive (WFD) classification as well as part of the annual coarse principal reference programme. The river is historically diverse in coarse species but also sustains brown trout (*Salmo Trutta*) populations.

Each year we've seen an increase in a variety of species notably roach (*Rutilus rutilus*), chub (*Leuciscus cephalus*), dace (*Leuciscus leuciscus*) and barbel (*Barbus barbus*). In 2017 we saw a significant rise in roach, dace and chub from previous surveys with a large quantity juvenile fish present. A healthy number of predatory species were also recorded in 2017 suggesting a good predator/prey relationship.

Historically, the river received a stocking of 1000 small barbel (8-15cm) as part of a wider catchment initiative to improve habitats and enhance the species within the catchment.

Our survey in 2017 revealed stocked fish naturalised to their new habitat and growing an average of 50mm + per year. This has helped ensure the barbel population remains healthy and provides a supplement to the existing gene pool present.

Ongoing monitoring will ensure we're able to provide advice to local angling clubs, assess the changes in population dynamics and help maintain a healthy River Colne for the future.



The River Colne, West London monitoring





Brown trout

For information on what we are doing across the rest of the country read our other Area reports

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