



Annual Fisheries Report 2017 to 2018

Lincolnshire and Northamptonshire

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 Lincolnshire and Northamptonshire (LNA) Area, much of which benefits fisheries from funding from both Fishing 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 LNA:



61,141 rod licences sold



£1,302,465.25 income generated from rod licence sales



2799 rod licences checked



134 successful prosecutions



£15,789 fines and costs imposed

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 LNA:

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



Fisheries enforcement

Our local fisheries enforcement resource in the Lincolnshire and Northamptonshire area has increased. We have successfully recruited two new team members - one new full time officer and one part-time. Our new staff have been fully trained, kitted out and welcomed as valuable members of the team. Our part-time officer is an experienced officer who has joined us from another area, he is now working across two areas with

half his working week on patrol in Lincolnshire. Our increase in fisheries enforcement resource has enabled us to check more rod licences, respond to more reports of illegal fishing and attend a number of workshops for local police, fishing clubs and the Angling Trust's Volunteer Bailiffs Scheme.



Environment Agency fisheries enforcement officers and waterways river inspectors on joint patrol on the River Nene.

Environment Agency fisheries enforcement officers training local Police officers



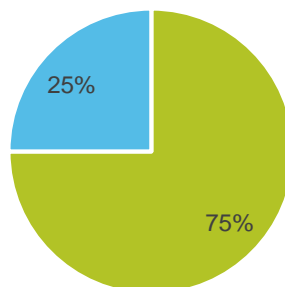
3. Incident management

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. Category 1 is the most serious and Category 4 is a reported incident with no impact.

Lincolnshire and Northamptonshire Incident Management Categories

■ 1 ■ 2 ■ 3 ■ 4



North level main drain – Clough’s Cross fish mortality

On Tuesday the 12th September 2017 at 16.07 hours a report of dead and dying fish on the North Level Main Drain near Clough’s Cross, Lincolnshire was reported to the Environment Agency incident line. The initial report was investigated by our Environment Management Team who observed very low dissolved oxygen readings at key locations along the water course. The team also took ammonia readings which were found to be low, indicating that the incident was not related to a specific pollutant.

Our on-call fisheries duty officer was notified who mobilised incident response equipment that evening. In order to raise dissolved oxygen levels and support surviving fish, hydrogen peroxide dosing equipment and venturi aerators were deployed at known fish holding areas and those sites most likely to be most affected. During the aeration period it was apparent that a large number of specimen roach, bream, pike and tench had died immediately as a result of the low levels of oxygen.



Fisheries hydrogen peroxide dosing equipment in action.

The aeration operation continued into the night and the following two days. As a result the oxygen saturation levels increased to 45% which is a safe level for coarse fish species. Following daily checks the oxygen levels remained steady at 55%, however on Friday the oxygen levels had crashed, as a result we mobilised again and deployed the peroxide dosing equipment.

The reason for the fish mortality was attributed to an excessive build-up of floating algae. A dense algae mat covered the drain for approximately 2km. Algae is a summer annual water plant which derives its nutrients from the water column on which it sits. When dense mats form on the water surface it has the ability to block sunlight reaching the water below. This reduces the ability of submerged plants to photosynthesis and their ability to produce oxygen during daylight. The incident was also exasperated by a large scale algal die back which increased bacterial action in the water, further reducing any available dissolved oxygen. Observations also indicated that the drain had succumbed to a temperature inversion. Heavy summer rain showers introduced colder fresh water which, when mixed with the warmer waters in the drain, had a detrimental impact on water quality, further reducing the dissolved oxygen levels.

We are working with Tydd Cote Angling Club and the North Level Internal Drainage board to prevent these incidents occurring again. The measures to be taken include regular dissolved oxygen monitoring during the summer months, improved communications between partners and where possible the removal of dense algal mats.

Fisheries incident response readiness

We are working hard to improve our fisheries incident response capability and have recently upgraded the response equipment based at our Spalding Depot. The new trailer set-up is equipped with the following; 3 x two inch pumps with venturi aeration units. 1 x two inch pump with peroxide dosing equipment. 330 litre capacity of hydrogen peroxide. 2 x dual fuel generators powering the 3 splash aerators on-board. Plus all the other ancillary equipment needed to deal with major high level aeration incidents over a long period.



Fisheries incident response equipment – Spalding depot

4. Fisheries improvements

The boxes below highlight some of the projects we have delivered. This is followed by a summary 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 fishing 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. Flood defence, the Environment Programme or Water Framework Directive budgets. Where contributions from fishing licence income have been included, this has been noted.

£535,960 + £84,000 = £619,950

EA Funding Match Funding Fisheries Improvements

In 2017 to 2018 LNA installed 5 fish passes and opened up 63.4km of habitat or spawning ground for fish.

Barrowden gauging weir fish and eel pass, River Welland near Stamford.



Barrowden gauging weir – fish and eel Pass, pre barrage rock ramp and river habitat improvements

Barrowden gauging weir fish and eel pass was a complex project delivered by our National Capital Programme Management Service and completed during the late summer of 2017.

The fish and eel pass was built into the pre-planned refurbishment works of the gauging weir. The scheme design included a range of techniques that have been developed through the experience of our Area and National Fisheries Technical Specialists.

Raising downstream water levels was achieved with the construction of a pre-barrage rock ramp, while fish passage into the main stilling basin of the weir was achieved with a cill notch, fitted with eel tiles to the bed of the notch. In order to provide fish passage over the crump weir, low cost baffles were fitted to the weir crest, with the addition of a vertical eel pass fitted to the left bank wing wall. The pass is designed to allow passage for all fish species and eels. In addition to this the Fisheries Biodiversity and Geomorphology Team delivered a complimentary fisheries habitat improvement scheme downstream from the weir. The improvements to river habitats included channel narrowing, new spawning gravels, in stream boulder placements and riverside fencing. The scheme would not have been possible without the cooperation of local residents and Boughton House Estate Office.

River Witham, Wyndham park project, Grantham

Works to deliver accessible river habitat improvements in Grantham town centre have been successfully completed. The works included gravel introduction, berm creation to narrow the river and re-energise the flow and the addition of marginal planting. In 2018 fish were observed spawning on the new gravels.

A public access platform was also created to encourage local people to get close to the river.

This work has supported the restoration of Wyndham Park led by South Kesteven District Council which has been funded by the Heritage Lottery grant scheme. The local Rivercare

group and Lincolnshire Rivers Trust volunteers have been involved in the development phase and follow up monitoring work.

The Wyndham Park Project is part of a wider habitat improvement programme on the Upper Witham catchment above Grantham. Over the last four years this has resulted in over 11.5km of habitat improvements. The improvements included Natural Flood Management techniques for example, storing water on flood plains, slowing the flow and using woody material and marginal trees. These techniques improve riverine environments and increase biodiversity. In addition to this, weir bypasses opened up 9km to fish passage and migration. The next stage is to work with our partner organisations to deliver the wider Grantham Urban Plan.



Wyndham Park berm creation and improvements

River Welland, Maxey Cut project, near Market Deeping

We continue to work in partnership with colleagues in Flood & Coastal Risk Management on a long term project to improve fish and eel habitats within the Maxey Cut Flood Relief Channel, near Market Deeping. The project is now in its 4th year and includes channel narrowing, the installation of flow deflectors and woody material. We believe this is a unique project which will reduce overall channel management costs while improving low flow and drought conditions for fish and eels.



River Welland project

Welton Beck Project, near Lincoln

Welton Beck flows into the Barlings Eau and then into the River Witham. Upstream of the confluence with Barlings Eau is a culvert which was impassable to fish and eels. Working with Flood & Coastal Risk Management Team we installed new gravel downstream of the culvert to raise water levels upstream allowing fish passage. This work has opened up 3km of fishery habitat and improved spawning habitat for trout.

In the centre of Welton village recreation area, gravel spawning habitat was augmented by the removal of hard concrete slabs that lined the river, planted coir rolls were installed and the banks were re-graded to create a two stage channel. The coir rolls were planted with marginal plants and flowers to encourage insect pollinators.

This work links into the Lincolnshire Limestone Beck Project which is a partnership being led by the Wild Trout Trust and Lincolnshire Rivers Trust, and supported by the Environment Agency. The aim of this project is to restore the Becks, involving local community volunteers and providing an educational environment for surrounding schools. Additional works are due to be delivered by the Lincolnshire Rivers Trust who have now appointed a dedicated project officer who will lead this work.



Welton Beck Project under construction and the completed design

Fisheries management work shop

During the weekend of the 20th and 21st January 2018, Fisheries Technical Officer Hugh Bunker from the Fisheries, Biodiversity and Geomorphology Team joined staff from the Institute of Fisheries Management (IFM) to deliver a free Fisheries Management Workshop for our local angling clubs and associations. This was held at Ferry Meadows in Peterborough and was funded directly by our rod licence income. The workshop was attended by a number of our major clubs and associations who represent thousands of local anglers.

The content and agenda was put together and delivered by staff from the IFM and was designed to improve the knowledge and skills of our local fishery managers. The subjects covered included; water quality, fish biology and physiology and causes of fish mortalities, including disease risks and how to minimise them.

With improved knowledge and skill sets fishery managers are more confident in managing their fisheries and can prevent fish health incidents and even fish mortalities occurring.

We hope this will reduce the need for support and intervention from local EA Fisheries Technical staff and ensure our clubs are using best practice to manage their fisheries.

The event was a huge success and we received some excellent feedback from those who attended.



Fisheries work shop

Project Title	Outcome or benefit	Partners	EA Funding (£)	Match funding (£)	Total Cost
Riseholme demonstration farm, Nettleham Beck. (River Witham)	General river habitat improvements through slow the flow and floodplain connection.	University of Lincoln	£12,000 WEIF	£4,000 (in kind)	£16,000
Welton Beck restoration project. (River Witham)	Fishery habitat improvements and fish easement, see case study below.	Wild Trout Trust, Lincs Rivers Trust, EA Flood & Coastal Risk Management	£10,000	£3,000 (in kind)	£13,000
Water Friendly Farming. (River Welland)	A diffuse pollution project with the aim of reducing fine sediment inputs into the River Welland. The creation of 30 on-line and of- line sediment traps and agricultural ponds. 14 sites in total.	Game & Wildlife Conservation Trust, Fresh Water Habitats Trust, York University	£24,000 WEIF		£24,000
River Witham invasive plants project.	Works to reduce the spread and impact of invasive species. This encourages natural vegetation which provides	Lincolnshire Rivers Trust	£20,000 WEIF	£8,000 (in kind)	£28,000

	cover for fish and invertebrates				
River Welland Gretton to Barrowden habitat improvements	Habitat improvements associated works with new fish pass at Barrowden on the River Welland.	EA Flood & Coastal Risk Management	£12,000		£12,000
Barrowden fish/eel pass (River Welland)	Fish and Eel Pass and improvement to linked gauging station.	EA Hydrometry & Operations	£200,000		£200,000
Eldernell Sluice eel pass (Nene)	Fish and eel pass including work on sluice.	EA Flood & Coastal Risk Management	£90,000		£90,000
Pennywort on Fosdyke & Till (River Witham)	Invasive plant species surveys and treatment.	EA Flood & Coastal Risk Management	£5,000		£5,000
Belton habitat improvement (River Witham)	Fisheries Habitat Improvements by introducing woody material and narrowing the river channel	National Trust	£10,000	£34,000	£44,000
Wyndham habitat improvement (River Witham)	Fishery habitat and spawning bed improvements along with enhanced public access to watercourse.	Lincs Rivers Trust, South Kesteven DC Grantham Rivercare	£40,000 WEIF £25,000 £10,000 FIP from rod licence funds	£5,000 (in kind)	£80,000
Maxey habitat improvement (Welland)	On-going improvement for fish and eels in the	EA Flood & Coastal Risk Management	£14,500		£14,500

	flood relief channel				
Chalk Streams (River Rase, Project)	A partnership project led by the Chalk Streams Project, focusing Natural Flood Management and landowner engagement in the upper catchment.	Chalk Streams Project	£10,000 WEIF		£10,000
River Nene Backwaters Project	Scoping work and on-going improvements for fish, eels and biodiversity on the River Nene Backwaters	River Nene Regional Park, Peterborough and District Nene Angling Association, Angling Trust	£10,000	£25,000	£35,000
Barnwell eel pass (Nene)	Eel pass fitted to weir at Barnwell	EA Flood & Coastal Risk Management	£5,000		£5,000
Lower River Witham riparian and marginal habitat improvements	Scoping and on-going improvements on the lower River Witham	EA Flood & Coastal Risk Management Lincs Rivers Trust Wild Trout Trust	£1,450	£5,000	£6,450
Lilford eel pass (Nene)	Eel pass fitted to weirs 1 and 2 at Lilford	EA Flood & Coastal Risk Management	£37,000		£37,000
TOTAL			£535,960	£84,000	£619,950

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 LNA:

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

32% of waterbodies assessed were at good status or above for fish

These surveys are part of a triennial report. The next assessment will take place this year and are due to be published later in 2019.

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

Our fish count data is now available [online here](#)

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

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