

# Make time to go fishing



## Lincs and Northants Fisheries Update October 2018

### Prolonged Dry Weather Incident Response

During this summer period fisheries staff, environment officers and biologists have responded to multiple incidents relating to the very hot summer and prolonged period of dry weather. Many of the incidents have been attributed to significant algal blooms and corresponding low dissolved oxygen levels. We have also responded to fish health incidents and incidents where rivers and their tributaries have suffered from low flows, impacting local fish populations. It is not possible to discuss all the incident work undertaken this year however we have selected a few notable incidents and provided a summary.

### Incident Response Summary

We received over 100 calls regarding fish in distress due to low water levels or low oxygen levels. We undertook three separate operations to capture fish samples for analysis at the National Fish Health Service. We provided equipment, advice and guidance and site visits while also liaising with private fisheries and Internal Drainage Boards. Our biologists worked hard to analyse and identify algal bloom samples and provided monitoring services to assist in the management of on-going incidents. In order to raise dissolved oxygen levels and prevent additional fish losses our field team use specialised hydrogen peroxide dosing equipment.

Hydrogen Peroxide dosing was carried out at the following sites.

- River Nene – Northampton
- Thrapston Lake
- River Slea
- Clay Dyke
- Holbeach
- New South Eau
- Ingoldmells Main Drain
- Queen Elizabeth Park lake - Grantham
- Still water fishery near Whittlesey



Peroxide dosing Ingoldmells Main Drain and a still water fishery near Whittlesey.

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### Incident Management Case Study - Thrapston Lake, Northampton

In July, following a report from a member of the public, Fisheries Officers Hugh Bunker and James Hooker responded to a serious and widespread fish mortality incident at Thrapston Sailing Club Lake. A significant blue green algal bloom had affected the entire 60 hectare lake. Cold overnight temperatures resulted in a dissolved oxygen crash which in turn resulted in the loss of thousands of fish and eels. Incident response equipment was mobilised and used to create an oxygen rich refuge area for surviving fish and eels. This work was then supported by Kettering Field Operations and Mechanical and Electrical Field Team staff who mobilised two six inch pumps, building on the initial fisheries deployment. Our response operation continued for 7 days with pumps running 24hrs a day, at which point the dissolved oxygen levels stabilised and recovered naturally.

Sadly many fish were lost, including specimen bream, pike, perch, tench and many silver fish. We continue to support the local angling club and will undertake a fish population survey later this year. This will then help to influence any future management plans. This was an extreme event directly linked to adverse environmental conditions.



A selection of images taken during the fish mortality incident at Thrapston Town Lake

### Incident Management Case Study - South Holland Main Drain: High Salinity levels

We started to receive reports from local anglers of fish in distress while also informing us that flatfish were being captured further up the drain than usual. We undertook detailed salinity sampling and mapped out where the salty water was concentrating and at what level of concentration. In order to identify the potential threat to fish populations and in conjunction with Holbeach Angling club and the Internal Drainage Board, we ran a side scan survey of the drain to see where fish were congregating, in relation to the salt concentration. Fortunately the salinity levels indicated that fish populations would not be impacted and the expected rainfall would also improve water quality. During hot summers with low rainfall salt moves up through the channel bed into the Main Drain. We attribute this incident to prolonged dry weather and the underlying geology which is particularly salty in this area of the fenlands.



Map showing the distribution of salt concentrations in the South Holland Main Drain and a side scan image showing shoaling bream.

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## Algal blooms and the potential impacts on fisheries

Algae are a summer annual water plant which occurs naturally in inland waters such as rivers, streams, drains and lakes. Algae feed on nutrients in the water and photosynthesise during the day. When conditions are ideal for growth an algal bloom can occur and in nutrient rich waters like ours, summer algal blooms can be common and widespread throughout the season. When dense mats or scums form on the water surface it has the ability to block sunlight reaching the water below. This reduces the ability of submerged plants to photosynthesise and their ability to produce oxygen during daylight. As with other aquatic plants, algal blooms also use up oxygen during the night which can suffocate fish and other aquatic creatures.

Blue Green Algae or Cyanobacteria can also produce toxins that can cause adverse health conditions. Colours can vary from blue, brown or green however positive identification can only be confirmed by studying a sample under a microscope.

There are also a number of alga that have spiky or sharp structures and in dense blooms these can irritate fish and can damage gill filaments. In some cases this can contribute to other fish health problems. Fish may stop feeding or become lethargic. It is always important to monitor the behaviour of your fish stocks as early intervention can prevent mortalities.

Throughout the summer staff responded to incidents around the patch; often the damage had already been done and any intervention would have had little positive impact. In other cases, such as a reported incident at Queen Elizabeth Park in Grantham, our early intervention prevented a large scale fish kill.

It is important to note that Algal Blooms do not always result in a fish mortality, for example a Blue Green algal bloom found at Ferry Meadows Peterborough this summer did not impact the fishery but water sports and recreational use was suspended until the bloom reduced in size.

If you are concerned about water quality at your fishery contact Hugh Bunker or Darren Randall.



Images showing algal bloom sampling



Images from the Thrapston Town Lake - 2018 Blue Green Algal bloom

## Follow Up on Argulus (carp louse) Infections and management - A Case Study

In the June edition of our fisheries update we highlighted the work of the National Fish Health Service and their new and innovative advice for the practical management of carp louse.

The recent period of hot prolonged dry weather has proven to be ideal breeding conditions for this damaging fish parasite.

Hugh Bunker is currently supporting one of our popular carp fisheries who succumbed to a particularly bad louse infection this year.



Argulus parasite burden on fish sample

The incident was first reported to us in July with the fishery reporting that they were losing specimen carp on a daily basis. An initial designation of KHV was placed on the fishery by the Fish Health Inspectorate. Hugh collected a fish sample for examination at the National Fish Health Service, Brampton. Fortunately this incident was not confirmed as KHV however a heavy burden of carp louse was causing significant health problems for the fish. During the peak of the infection the fishery was losing up to 10 carp per day. We continue to support the fishery with advice and guidance and the implementation of the new carp louse management techniques. For more information on the management of carp louse please contact Hugh Bunker or Darren Randall.

## River Nene Whiston Lock Weed Cut – Joint Team Training Exercise.

On 2 July 2018 staff from several Environment Agency teams (including Fisheries Biodiversity & Geomorphology and Analysis & Reporting) supported Welland & Nene Operations Delivery team with a difficult weed cut operation on the River Nene between Cogenhoe and Whiston Locks. This reach of the river is prone to oxygen depletion and is a known incident hot spot for coarse fish mortalities. This was an ideal situation for a joint training exercise as staff from four separate teams would benefit from dissolved oxygen monitoring, logistics planning, team work, decision making and the deployment of equipment to a remote rural location. During a site visit carried out the week before river conditions were found to be favourable with dissolved oxygen levels in normal limits for the time of year. However, on the day conditions had deteriorated significantly, poor water quality and lower oxygen readings presented a real challenge for the team. Fisheries incident response equipment was deployed to two key locations within the reach. This action raised the oxygen levels within the reach to an acceptable level providing a window in which the weed cut could be attempted. Oxygen levels were monitored constantly throughout the operation and a successful cut was achieved with no detrimental impact to the fishery. Inter team exercises such as this show that good team work can get difficult work delivered for the benefit of customers and the environment.



Images taken during the Whiston Lock Training Operation

## Fisheries Enforcement Summary

On Saturday 29 September Fisheries Enforcement Officer Bryan Seagroatt provided an insight into fisheries enforcement to attendees at the Angling Trust Fisheries Enforcement workshop in Grantham. Bryan presented the latest information on the Angling Trust and Environment Agency volunteer bailiff scheme. Bryan brought the presentation to life exhibiting equipment that is legal and illegal and discussed how volunteers can work with the Angling Trust to help the EA and police tackle illegal activity.

27 volunteers attended, interested to learn more about our intelligence led approach on enforcement and how they may be able to improve the quality of information reported into the EA hotline number 0800 80 70 60.



Bryan Seagroatt presenting at the Angling Trust Fisheries Enforcement Workshop



### River Nene Boat Patrols

This summer our Fisheries Enforcement Officers have conducted river boat patrols with our Waterways River Inspectors. The joint boat patrols enable a more efficient way of undertaking rod licence and navigation licence checks. Staff are able to patrol long sections of the lower river Nene covering both banks of the river.

This method of working saves time and vehicle mileage and enables checks to be carried out in remote rural areas. Plans are now in place to undertake additional joint patrols and targeted operations in and out of the fishing season.

### Fisheries Enforcement Incidents

Between 01 April 2018 and the 27 September 2018 we have received 166 individual enforcement related incident reports. Following investigation by our officers these have been categorised as follows:

- 2 x Category 4 (No Environmental Impact)
- 147 x Category 3 (Minor Environmental Impact)
- 3 x Category 2 (Significant Environmental Impact)
- 1 x Category 1 (Major Environmental Impact)

Although the number of Category 1 and 2 incidents is low all reported incidents require time and resource to investigate. If you see something in the environment that concerns you we encourage all anglers and members of the public to call our incident line. **0800 80 70 60**

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## Additional News Items

### 2018 Fish Population Monitoring

Our fish population monitoring programme for 2018 includes the Ancholme and Nene catchments. Survey techniques being used include seine netting and electric fishing, and also by using sonar technology. The programme this year had been delayed as a result of the very busy incident response, hot summer and water temperatures. We are however pleased to report that the programme is now back on schedule and will be completed within the next few weeks. The results will be analysed later this winter with reports being produced in the New Year (2019).

### Area contribution to the Annual Fisheries Report

In September we provided our submission for the 2017/18 Annual Fisheries report. We have focused on a number of project case studies including; a new fish and eel pass on the River Welland at Barrowden Gauging Station, near Stamford; on-going habitat improvement works to the Maxey Cut Flood Relief Channel, near Peterborough; the successful river habitat improvements at Wyndham Park Grantham which delivered fresh spawning gravels, berm creation and improved access for the local residents as a component of the wider Grantham Urban Plan. We also featured the works to improve fisheries habitat and fish easement at Welton Village on the Welton Beck, a tributary of the river Witham. The final report will be published on the Government Web Pages in December 2018, and formally launched in January 2019.

### Nene Witham & Welland Consultative - Visit to the National Fish Health Team Brampton

It has been confirmed that the National Fish Health team can provide a talk and guided tour of the fish laboratories at Brampton this winter. There will be space for approximately 10 consultative members and we have been asked to plan this for a weekday evening, to be held this winter. More detailed information will be made available soon however if you would like to show an expression of interest please give your name to David Hawley who will be coordinating the arrangements.

### Angling Trust Events

The Angling Trust is running a series of events across the country aimed at providing tips and information on how clubs and fisheries can improve their facilities and deliver better, safer and more enjoyable angling for all.

On the 15<sup>th</sup> November 2018 the Trust is running an event in Milton Keynes which may be accessible for clubs in our area. The venue is the Holiday Inn Milton Keynes. For more information please use the following website link.

<https://www.eventbrite.co.uk/e/angling-trust-milton-keynes-development-roadshow-for-clubs-and-fisheries-tickets-51328167932?aff=ebapi>

### Free Fishery Management Workshops

The Institute of Fisheries Management (IFM) and Environment Agency are planning an additional six of their free Fishery Management Workshops to be delivered around the country this winter. The nearest one to Lincs and Northants Area is likely to be in East Midlands Area (or maybe South Yorkshire Area), the location is still to be confirmed.

There may be an opportunity for clubs in the Lincs and Northants Area to attend the workshop, especially those in the North of the patch. If you are interested in learning more about these events and wish to show an expression of interest, please contact Darren Randall or Hugh Bunker who can pass your details onto the local Fisheries Office.

## Lincs and Northants Area Water Situation Report

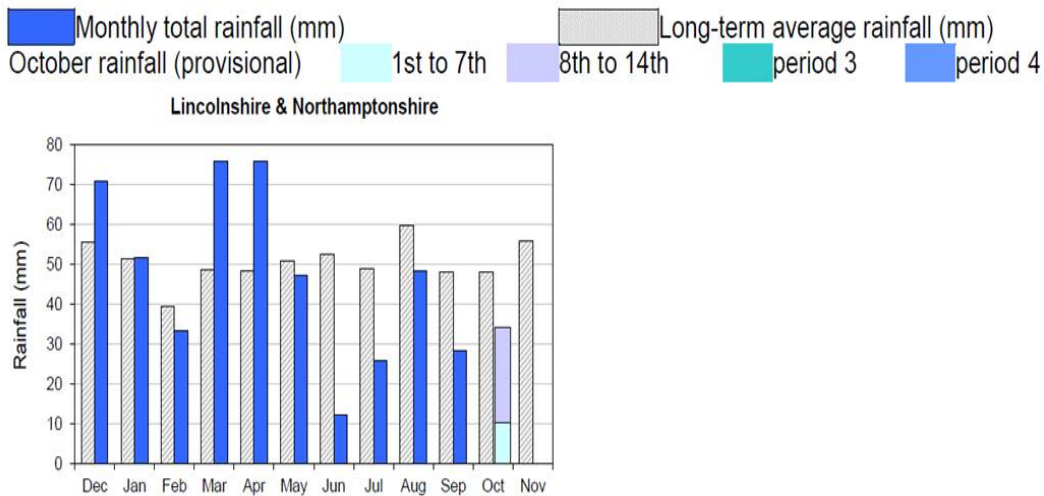
The dry summer had a significant impact on agriculture and the environment. September was another month of below average rainfall with soil moisture deficits remaining high as a result. (Soil moisture deficit is the difference between the amount of water held in soil and the amount of water the soil can hold).

The Area only received an average of 28.5mm of rainfall, 59% of the long term average (LTA) for September. So far in October the Area has received 71% of the LTA. Despite this dry period groundwater levels are still benefitting from the recharge received from the wet March and April with levels at all of our ground water monitoring sites showing 'Normal' or 'Above normal'.

Anglers will not be surprised to hear that River flows have decreased and the majority of our key monitoring sites are now classed as 'Below Normal'. Where necessary we continue to operate our own water transfer schemes to maintain river flows for water supply and the environment.

We continue to actively monitor the weather, water situation and the environment, and will sustain this until the situation improves. With very dry soils, there may be a delay refilling groundwater aquifers and reservoirs over the coming months.

A delay in recharge may mean we start spring 2019 with below average groundwater levels, increasing the risk of further impacts next spring and summer.



The graph shows rainfall totals for our area (blue bars) relative to the long-term average in grey.

For more detailed information on our Water Situation reports please use the following web link.

<https://www.gov.uk/government/publications/water-situation-local-area-reports>