

# BROAD SHEET



Photo by James Bass

## Navigation and water ecology

The Authority's programme of water plant management helps to maintain a balance between the requirements of boaters for navigable channels and maintaining diverse habitats for wildlife.

Plant cutting in the main rivers and marked channels through the open broads typically starts in April and runs through to October, after which plants will die down naturally.

Last year, plant cutting took place at the following locations:

- **Bure** – Coltishall Lock (head of navigation) down to Wroxham
- **Ant** – Tyler's Cut to downstream of Wayford Bridge
- **Upper Thurne** – Somerton Dyke down to Martham Ferry; Waxham Cut; Catfield Dyke; marked channel

in Hickling Broad

- **Wensum and Yare** – New Mills (head of navigation) downstream to Thorpe St Andrew

Plant removal from the River Wensum in Norwich city centre has resulted in significant visual reduction in plant growth. Rangers tell us that water clarity through the city has been very good over the past few years.

The Authority has two weed cutting vessels. Each has a set of cutting knives attached to a conveyor belt, which cut the plants below the water surface and collects the cut material as the vessel moves through the water. Cut plants are usually placed in low heaps on the bankside, where they quickly dry out.

Environment Officers and Rangers identify cutting locations by working with rowers, hire-boaters, sailors and partner organisations including Natural England.

Cutting locations vary depending on where plants grow during the spring and summer months, and ongoing monitoring of the local environmental conditions necessary for aquatic life.

Officers will also monitor changes in temperature and oxygen levels in the water and consider where rare and protected species of plants or populations of fish occur.

Cutting must leave a sufficient amount of vegetation under the water for aquatic life, to hold the sediment together and provide food for wintering birds.



Photo by Julian Claxton

## Navigation improvements 2020

**A new work programme for 2020/21 will be funded by increases in tolls of 1% for unpowered, hybrid and electric-powered vessels and of 2.9% for diesel and petrol-powered vessels.**

Last year, boat owners' tolls increased by a total of 2.6% in order to maintain the existing level of Broads Authority services (equating to 2.1%) and to fund the installation of new electric charging points at Acle Bridge moorings (an additional 0.5%), which are due to be refurbished in time for Easter.

In addition to patrolling and regular maintenance activities, this year's increase will fund the Authority's extensive dredging programme (see page 3) and refurbishment of the following mooring sites: Hardley Cross, How Hill, St Benet's, Dilham and Commissioners Cut.

This year, in order to meet its navigation responsibilities, maintenance work and annual inflationary pressures upon all outgoing expenditure, charges need

to rise by 1.8%. This will also offset the loss of income from a reduction of weekly-hired motor cruisers.

A further 1% increase will raise £30,000 necessary to construct a new free 24-hour mooring site at Peto's Marsh (Oulton Broad). Due to open this summer, these moorings will provide access to a brand new Suffolk Wildlife Trust visitor centre at Carlton Marshes and to the long-distance footpath, the Angles Way. With this addition, the overall increase in tolls required is 2.8%.

However, in recognition of the climate emergency and the future sustainability of Broads' vessels, Authority members decided to raise tolls for diesel and petrol-powered vessels by an additional 0.1% to 2.9% so that unpowered, hybrid and electric vessels could be subject to a smaller increase of 1%. Incentivising lower-emissions vessels is considered an important signal for the future of boating on the Broads. In reality this means that a large private motor boat (38m<sup>2</sup>) will pay an additional increased toll of around 50

pence to fund the reduced increase for unpowered, hybrid and electric vessels.

Examples of the increased charges are as follows:

### **Private sailing craft**

Small private sailing craft (5m<sup>2</sup> and under) will pay £42.70 for the year – an increase of £0.40.

Larger sailing craft (11m<sup>2</sup>) will pay £93.94 for the year – an increase of £0.88.

### **Private motorised sailing craft**

Motorised sailing craft (11m<sup>2</sup>) will pay £113.74 – an increase of £3.19.

### **Private motor craft**

Small private motor boat (5m<sup>2</sup> and under) will pay £69.90 for the year – an increase of £1.95.

Larger private motor boat (11m<sup>2</sup>) will pay £153.78 for the year – an increase of £4.29.

Large private motor boat (38m<sup>2</sup>) will pay £531.24 for the year – an increase of £14.82.





## Dredging programme

In addition to the CANAPE work at Hickling, the Broads Authority's Construction, Maintenance and Environment team has been busy this year dredging throughout the Broads.

**River Waveney:** Works at Beccles, downstream to Stanley Carrs began in April and were completed in summer 2019. Sediment was placed on the southern bank to provide material for Environment Agency flood-bank strengthening. The project removed shoals from the river bends and improved the navigable channel.

**Tyler's Cut:** 3,000 cubic metres (m<sup>3</sup>) of sediment were removed from the upstream end of Tyler's Cut between November and December 2019. The Authority worked in partnership and shared resources with Dilham Marina.

**Waxham Cut:** The first phase of removing 6,000 m<sup>3</sup> from Horsey Mouth to Brograve Mill began in November and was completed at the end of December 2019. Sediment has been placed to the east of the cut. The upstream section of the Cut will be dredged in autumn/winter 2020.

**Fleet Dyke:** December 2019 saw a return to South Walsham Broad to continue dredging operations. Dredged material is being placed on the bank at Horning Hall on the

River Ant. Completion is expected in April 2020.

### Future dredging works

**Oulton Broad:** 20,000 m<sup>3</sup> will be removed from Oulton Broad over a 3-year period, commencing in summer 2020. Sediment will be used to create 1 hectare wetland at the northern tip of Peto's Marsh at the Suffolk Wildlife Trust Carlton Marshes reserve.

**Bure:** Following works to remove 4,000 m<sup>3</sup> from the lower Bure at Acle in summer 2019, the dredging crew is scheduled to return to the area in April 2020 to remove an additional 2,000 m<sup>3</sup>.

**River Yare:** From Bishop Bridge to Thorpe Eye will be dredged in 2020, removing approximately 6,000 m<sup>3</sup>.

**River Chet:** The Authority will be dredging approximately 6,000 m<sup>3</sup> from Loddon to Chet Mouth from September 2020.

Finally, the Authority will be returning to Hickling Broad in winter 2020 to complete the final phase of the CANAPE project.

## What's on the web

For information on tolls, bridge heights, boating and other Broads Authority news:

[www.broads-authority.gov.uk](http://www.broads-authority.gov.uk)

For event information, and to inspire your visit to the National Park: [www.VisitTheBroads.co.uk](http://www.VisitTheBroads.co.uk)

Sign up to receive your monthly e-newsletter Broads Briefing: [www.broads-authority.gov.uk/newsletter](http://www.broads-authority.gov.uk/newsletter)

You can also follow us on Twitter, Facebook and Instagram.



## Cleaning up

At the end of October 2019, volunteers and staff from the Broads Authority and SEA LIFE Great Yarmouth partnered up for an end-of-season litter pick to clear up the area around Breydon Water, near Great Yarmouth.

Many dedicated helpers braved the wind and rain to take part in the event, which covered nearly a mile of shoreline along the edge of Breydon Water and the Herbert Barnes Park.

A staggering 25 bin bags of rubbish, eight shopping trolleys, two deck chairs, multiple car tyres, a parasol and even an old motorbike frame were retrieved from the landscape and disposed of throughout the day.

While successful, the event highlighted the negative impact that fly-tipping and irresponsible littering has on an area. The partnership is planning to start a regular litter pick at the beginning and end of each season. Head to the Broads Authority website and social media for future updates.



## Improving water level prediction

Monica Pichler is a PhD student in Marine Microbiology who has been on an internship in the National Park from the University of East Anglia.

Over the last three months she has been collecting and analysing river-level data in order to help the Authority update and improve its understanding of average water levels across the Broads. This will assist with setting dredging requirements and predictions of flooding at 24-hour moorings.

Monica has been using a water-level logger to record water levels between high and low tides on the River Bure. Using this alongside data collected by the Environment Agency, she has developed computer algorithms to extract the relevant tidal data.

This internship was supported by the UK Research and Innovation – Biotechnology and Biological Sciences Research Council (UKRI-BBSRC) Norwich Research Park Biosciences Doctoral Training Partnership.



## Progress at Acle

*Photos by Julian Claxton*

In August 2017 the Broads Authority purchased land at Acle Bridge to secure the mooring location and additional facilities for Broads users.

Following refurbishment works there are now over 150 metres of mooring space and a new raised path that will cope with high tides. The existing

toilet block has been re-opened for public use.

The Authority also welcomed the new Dunes River Café into the existing thatched building during early 2019. The café offers hot and cold refreshments, provisions for sale and an indoor seating area for visitors to enjoy during the summer.

Works are currently underway to further improve the piling and to install a number of new electric charging points on-site. These works are expected to be completed by the beginning of the 2020 season, when the café will also reopen.





## New recruits welcomed on board

It's been a busy year for apprenticeships. The Authority's Environmental Conservation apprenticeship scheme is now in its fifth year (this time with an all-female cohort) and October saw the start of a newly-created apprenticeship scheme, which focuses on reviving heritage craft skills.

Over the next year, new Environmental Conservation apprentices Eloise Dey, Emily Leonard and Becky Rimmer will learn the wide range of skills involved in habitat management, site management and conservation work in the Broads National Park. They have been busy so far with training on how to use herbicides, chainsaw felling, using brush-cutters, first aid and powerboat training.

Eloise and Becky, alongside a team of technicians and volunteers, have been working at Hoveton boardwalk, replacing a 68-metre raised wooden walkway. Emily has carried out scrub management at fen sites and has helped with work to improve the barn at Buttle Marsh and to install gates and fencing at Irstead.

Also joining the Authority are Tom Allen and Brandon Jarvis, on two brand-new heritage apprenticeships. They are working to restore iconic drainage mills throughout Norfolk and Suffolk and will learn mill restoration skills (traditional bricklaying, carpentry and joinery) as part of the Authority's Water, Mills and Marshes programme.

Many of the iconic draining mills across the region are in urgent need of restoration within the next 10 years or they face being lost forever.

So far, they have been working on Strumpshaw Steam Engine House, Mutton's, Herringfleet and Six Mile House drainage mills. The work has included making doors, window frames, furniture, stairs, fitting floors and shelving, plus laying bricks and stone to build chimneys and fireplaces.

The apprenticeship scheme is helping to keep traditional skills alive and to train the next generation of professional craftspeople and conservationists.

The Authority wishes the apprentices all the best in their new roles.



## Telling the story of National Parks

There is a huge breadth and depth to the work that goes on across the UK's 15 National Parks. They take the lead in a range of areas including: fighting the causes and effects of climate change; enhancing biodiversity; supporting health and wellbeing and promoting an understanding of some of the UK's most cherished landscapes.

Many members of the public are still not aware of these beautiful areas and the unique challenges that they face. To address this, the 15 National Parks have established a marketing and branding unit dedicated to telling the story of their work, both in the UK and worldwide, to inspire the public to understand and care for these truly special landscapes.

The Broads Authority is proud that, after a bidding process among the National Parks, it was awarded the opportunity to host this unit. The small team operates from Norwich and is funded by all 15 parks. Work has already started on building a programme of activity and campaigns along with making improvements to the UK National Parks website and social media channels.





## Riverside tree management

Last year, the Authority recommenced its annual programme of riverside tree management throughout the National Park which runs from October until the end of February.

After a detailed riverbank survey, around 3,000m of trees – about the same length as 60 Olympic swimming pools – have been identified for felling. Their removal will result in navigation safety improvements for boaters, particularly on river bends and narrow channels.

Authority staff, contractors and volunteers remove a selection of trees and over-hanging branches. They are careful to keep a range of mixed-age trees, over-hanging vegetation and some tree stumps in place. The remaining trees and bankside vegetation provide

important habitats for bats, fish and other wildlife.

Removing trees from riverbanks is demanding and labour intensive but this work has been reduced significantly thanks to a new set of mechanised tree shears purchased by the Authority.

The shears are operated by an excavator on a floating pontoon. The rotating cutting head means the excavator works with precision to retain the density of trees and vegetation necessary for wildlife.

In just one day, the tree shears cover a greater length of riverbank compared to working by hand. They are also proving to be a safer method of working for Authority staff, by reducing repetitive injuries caused by manual handling.

Locations of this season's programme of work include sections of: the River Ant (between Hunsett Mill and Stalham); the River Bure from Horstead to the Hoveton Viaduct 24-hour mooring (Wroxham) and two sections of riverbank just upstream of Beccles on the River Waveney.

During the quieter winter months, Rangers switch from patrol work to maintenance and conservation work. They are cutting back trees from the riverbank at Horstead, while the Broadsword volunteer group are working upstream of Belaugh Broad. The Authority's Operation Technicians are using the new tree shears along the River Yare, between Bramerton and Brundall.

For further information and maps of management locations visit: [www.broads-authority.gov.uk/trees](http://www.broads-authority.gov.uk/trees)

## Regeneration of Stalham Staithe

Major work happening this winter will give a new lease of life to the small waterside settlement.

Following much-needed repairs to the crumbling parts of the Staithe in 2018, major redevelopment work is currently underway to transform the site into a safe waterside area for

local residents, boaters and visitors to enjoy. The work will create a new footpath, mooring posts, safety ladders and additional safety features necessary for the site to operate as a free 24-hour mooring location.

The site had fallen into disrepair because no Land Registry records were in existence to identify who should take responsibility for the repair work and regeneration.

The Town Council, supported by the Broads Authority and Norfolk County Council, have resolved to register the Staithe as Stalham Town Council land, which will secure the area for the local community and provide them with legal guardianship of the site. Negotiations are underway to have the site managed by the Authority. The redeveloped site is expected to open by the summer.

Photo by Julian Claxton



## Useful apps

A number of mobile applications are now available to make your time cruising on the water easier and safer.

**What3Words** ([what3words.com](http://what3words.com)) has assigned each 3m square in the world with a permanent and unique three-word address. This three-word address can then be used to pinpoint your exact location by others, including the emergency services if you are in trouble.

**Aweigh** ([aweigh.co.uk](http://aweigh.co.uk)) is an application designed specifically to support the boating community, providing information on your speed, tide data, live maps, sunset times and more. It also includes information on who to contact should you need help whilst on the water.

There are also a range of applications available to help you gauge your speed while on the water. Search the app store on your mobile phone to find out more or visit the Broads Authority website for navigation information: [www.broads-authority.gov.uk/boating](http://www.broads-authority.gov.uk/boating)

These apps are produced independently of the Authority. Although they offer useful information, the Authority is not responsible for their accuracy.



## Second phase at Hickling

Following last winter's successful season of work, November 2019 saw the return of the Authority's Construction and Maintenance Team to Hickling Broad as the second phase of the EU Interreg funded CANAPE project commenced.

The project aims to restore one hectare of lost reedbed in this ecologically important area, owned and managed by our partners Norfolk Wildlife Trust. This will both improve biodiversity and provide a significant carbon store through the accrual of peat.

Last winter 5,850 cubic metres (m<sup>3</sup>) of sediment was dredged from the marked channel through the Broad. This was used to fill geotextile tubes which provide the boundary for a new reedbed known as Chara Bay.

This year's target is to remove 8,000 m<sup>3</sup> of sediment from the channel in Hickling and Heigham Sound using two 20-tonne excavators. Sediment is also being removed from nearby Catfield Dyke, helping to keep it open for navigation.

As a precaution, dredging in the Hickling area takes place during the colder winter months when *Prymnesium parvum* – an ever-present algae known as the 'golden algae' – is less likely to bloom to harmful levels.

The Authority rigorously monitors water temperatures and algal levels before works can commence, and 2019 saw the beginning of pioneering trials of a new DNA testing method to quantify levels of *Prymnesium*. This new method offers greater accuracy and faster test speeds, all of which has helped to safeguard against harmful blooms.

Alongside the work at Chara Bay, the Authority's Construction team will also be planting 50m of reed along the edge of Churchill's Bay, an earlier project site, to help accelerate its return to natural habitat.

Works to fill the lagoon and plant the boundary at Chara Bay will continue into 2021, eventually leading to a new area of thriving reedbed. Visit the CANAPE website for future project updates: [northsearegion.eu/canape](http://northsearegion.eu/canape)





## Journey of the Chet Boat

One of the most iconic projects of the National Lottery Heritage Funded Water, Mills and Marshes scheme has been the reconstruction of the Chet Boat - a medieval vessel unearthed near Loddon in 2013 and thought to be more than 900 years old.

A two-thirds scale prototype of the vessel was built by the International Boat Building Training College (IBTC) for the 2017 Chelsea Flower Show, taking centre stage in the 'Broadland Boatbuilder's Garden' which scooped a gold award in the Artisan Garden competition.

Over the last 18 months a full-size replica has been carefully constructed by the IBTC team in Lowestoft, led by designer Gary Breeze. An ancient oak tree donated by the Raveningham Estate provided materials for

the project, which has followed original hull plans and used traditional techniques every step of the way.

Throughout this journey, the IBTC opened their workshops for public and school visits and has recorded each stage of the production process. The oak hull is now finished, and following the production of a mast and sails, the working Chet Boat is expected to be completed this spring. A maiden voyage and subsequent trips on the River Waveney from Oulton Broad are planned for later this year.

The Broads Authority would like to thank all of the project partners and the National Lottery Heritage Fund for bringing the Chet Boat to life and for offering a unique insight into boat building techniques of the past.

Visit [www.watermillsandmarshes.org.uk](http://www.watermillsandmarshes.org.uk).

## Climate change action

Climate change affects all habitats, wildlife and communities throughout the National Park and will do so increasingly in the future, shaping the way the Authority works and how it will need to respond. Accordingly, the Authority has formally recognised the existence of a climate emergency and commits to reducing its CO<sub>2</sub> emissions to zero by 2040. It also proposes to engage with its constituent local authorities, businesses, residents and other stakeholders to explore reducing CO<sub>2</sub> emissions from within the Broads.

In addition to recent lower rates of toll increases for unpowered, hybrid and electric vessels, the Authority's Management Team is taking the following carbon reduction measures with immediate effect:

- Undertake an energy audit of all Authority buildings and take actions to further reduce energy consumption
- Commit to purchasing all-electric vehicles, except where towing capacity or 4-wheel drive demands make this impractical
- Install additional car charging points at Authority sites
- Identify suitable locations to install solar and other micro-generation devices at Authority buildings and land; and
- Review procurement practices to give additional focus to environmental criteria, while still achieving good value for money.

Please check the Authority website for future updates on this work.