

**Construction, Maintenance and Environment Work Programme  
Progress Update**

Report by Head of Construction, Maintenance & Environment

**Purpose:** This report sets out the progress made in the delivery of the 2018/19 Construction, Maintenance and Environment Section work programme to date. The plan for dredging and subsequent re-use of the sediment for 2019/20 is also detailed in Appendix 2.

## **1 Achieving Waterways Specification for navigation**

- 1.1 The detailed breakdown in Appendix 1 gives the volumes for the dredging programme to the end of February 2019. A total of 36,350 m<sup>3</sup> of dredged sediment has been removed from the prioritised sites. This figure represents 91% of the programmed target of 40,000 m<sup>3</sup> for 2018/19.
- 1.2 Since the last report, dredging work on the South Walsham Fleet Dyke has commenced. Just over 3,000 m<sup>3</sup> of sediment has been removed up to the end of February, with all this material having been placed in a setback area at Ant Mouth near Horning Hall.
- 1.3 In Hickling Broad, all of the area planned to be dredged along the approach to Catfield Dyke has been completed. The geotextile tubes have been filled to the designer's specification and these now form the outer ring of what will eventually form the new reedswamp area at Chara Bay. Active dredging stopped in Hickling Broad on 21 March when water temperature rose above the 8.0 °C ecological safeguard threshold. This water temperature was set to protect against the potential for works to stimulate algae, particularly *Prymnesium parvum*, which can be toxic to fish. The environmental and ecological monitoring will continue on a fortnightly basis for six weeks and then monthly until works start again later this autumn. *Prymnesium* monitoring has shown that the population has remained at low levels over the whole winter, both in the main broad and near the Pleasureboat Inn and boat yard.
- 1.4 In early February the Authority's work at Hickling was featured on BBC Countryfile's "Winter Special". A cold days filming produced some great drone footage of the site, some novel camera angles with a Go-Pro strapped to the excavator arm during dredging and presenter Matt Baker discussing the work with the head of Construction, Maintenance and Environment.
- 1.5 The plan of dredging locations for 2019/20 is given in Appendix 2. On the mid Bure, work started in February 2019 on Fleet Dyke at South Walsham and

continues into May 2019; a new setback area has been prepared to receive sediment at Oby, with dredging taking place between Oby and Acle. On the River Waveney, shoals downstream of the A146 road bridge towards Aldeby will be dredged, with the arising placed on the folding of the Suffolk bank. This team will then move to Oulton Broad in August and September to dredge on the north side of the marked channel from North Bay towards Mutford Lock. Over the winter, the second phase of the CANAPE funded work at Hickling features heavily. The focus of this work will be filling of the future reed bed area contained within the geotextile bags. At Tylers Cut, material will be side cast onto the north bank, from Dilham Staith to a point roughly 300m downstream of the entrance to Dilham marina. At Waxham Cut, a different configuration of pontoon and hired excavator will be required to tackle the narrow channel and have sufficient reach to place sediment beyond the footpath. Several consents to carry out this work remain to be gained, so updates will be provided on this particular project.

- 1.6 The timeline in 2019/20 for the refresh and restructuring of the contents and scope of the current Sediment Management Strategy has been developed. From April to December 2019 officers will be drawing together key information and data, with a view to consulting on a draft version in March 2020 at the earliest.

## **2 Maintaining safe public mooring facilities**

- 2.1 Piling contractors have finished driving all the replacement metal piling at Hoveton Viaduct 24 hour moorings. They have completed 110 metres of new piling and mooring posts at the downstream end of this mooring. Remaining tasks to be completed before the end of March includes adding new drainage behind the piles, laying a new compacted aggregate footpath and new timber capping and waling.
- 2.2 At Neatishead Staith 24 hour mooring two new electric points have been installed and are fully operational for public use. At Acle Bridge moorings, the most upstream 60 m of this stretch was in poor condition. The timber quay heading was refurbished with a slightly raised aggregate footpath laid behind and new mooring posts installed. In February, mooring post replacements at Whittingham country park moorings and repairs to the capping at Paddy's Lane mooring and St Benets were also completed. At Potter Heigham Bridge Green access to some of the river edge is restricted until the spring as we waiting for grass to establish on the new raised area. The raised levels have removed the unnecessary drop in level behind the piling and will reduce the waterlogging experienced along the front. At Belaugh moorings the timber quay heading was replaced as well as repairs to the concrete pad for the safety ladder.

## **3 Our resources**

- 3.1 In a large team there is always some turnover of staff and this month we welcome two new Operations Technicians to the construction and maintenance teams. Nick Turner is a former apprentice who starts with the

maintenance team. Tim Sanderson has swapped roles from being a fitter at the Dockyard, and joins the Construction Team.

- 3.2 The annual winter refit work on the weed harvesters, two of the ranger launches, the Electric Eel and the ranger RIB has been completed at the Dockyard. Ra has also received a refresh of its timberwork with the old varnish stripped and now teak oiled for a more easily maintainable but durable finish.
- 3.3 A clear out of old or surplus plant and equipment at the Dockyard has seen us sell ten of the original link flote pontoons from the May Gurney acquisition. Two of the older crawler cranes that were beyond economic repair and their associated storage containers of redundant parts were also scrapped. The space will be utilised to formalise other storage of aggregate, timber and steel piles.

#### **4 Managing riverside trees**

- 4.1 At Tyler's Cut near Dilham, a stretch of overhanging alder trees that have been causing issues for the past few years have been cut back. This work has been in partnership with a landowner who will also receive dredging's on their land later this year during dredging of Tyler's Cut.
- 4.2 The Broadsword volunteer group have been led by staff working on the River Ant near How Hill, at Neatishead and sections of the Bure near Belaugh. Staff were also involved in clearing sallow on the edge of Oulton Dyke. Extensive work with contractors was carried out along stretches at Brundall on the Yare, Dunburgh on the Waveney and Wroxham on the Bure.

#### **5 Working with nature**

- 5.1 The next major project initiated by the Authority, at the Suffolk Wildlife Trust (SWT) land at Peto's Marsh, at the confluence of Oulton Dyke and the River Waveney, was granted planning consent at the March Planning Committee. The project aim is to develop just over one hectare of new reedbed at river rond level, which will complement the bold vision of habitat creation at the Carlton Marshes Nature Reserve. For the Authority to construct this reedbed habitat, roughly 20,000 m<sup>3</sup> of sediment is required, which shall be sourced from Oulton Broad over the next four years. As additional elements of the project with SWT, the Authority is intending to develop public mooring locations on Oulton Dyke and on the River Waveney, which will connect up with the land-based visitor access infrastructure being implemented by the Trust.
- 5.2 The survey season for reptiles starts in April, so black corrugated mats have been put out at future dredge sites to check for presence of these sensitive species. The warm sheltered conditions provided by the mats attract reptiles present, so they can be monitored and relocated, if necessary. Sites include the banks along Waxham Cut, the River Waveney downstream of Beccles and at Postwick Tip.

- 5.3 An interim assessment of the stonewort/water plant cutting trial plots in Hickling Broad was shared with partner organisations. There is one growth season remaining of the three year trial. Cutting of ten experimental areas happened in 2017 when plant growth was high. Regular monitoring of plant height, coverage over the bed and the species present has continued since then. The early summary is that some impact on overall coverage was still observable a year later, but not at highly significant level. The results of the third year will allow final conclusions to be drawn and the results shared more widely. If anyone is keen to have a look at the statistics and trends at this stage, please let me know.

## **6 Other navigation works around the Broads**

- 6.1 The Authority contracted a local operator to carry out a litter pick from the river between Trowse Bridge and Postwick Mooring. Mooring post repairs were carried out at Hoveton Riverside Park at the mooring/launching spot for the trip-boat Liana.

Background papers: [Navigation Works Licence Guidance](#)

Author: Dan Hoare

Date of report: 27 March 2019

Broads Plan ref: 2.1; 2.3; 3.1; 3.2; 4.2; 6.1

Appendices: Appendix 1 – Dredging Progress 2018/19

Appendix 2 – Forward dredging plan for 2019/20

## Dredging Progress 2018/19 (April 2018 to end February 2019)

Project Title	Project Element	Active BA dredging weeks Completed (to end Feb / Planned)	Volume Removed m³		Annual project Cost <sup>a</sup>	Actual project cost (Apr-Feb)
			Planned	Actual		
<b>Lower Bure</b>	a) Three Mile House to Marina Quays (Apr-Aug) b) Marina Quays to Yacht Station (Sep-Nov)	37 / 32	14,000	20,920	£184,400	£245,870
<i>All completed</i>						
<b>Mid Bure</b>	a) Horning to Thurne Mouth (May-Jul) b) South Walsham Fleet dyke (Feb-Mar 2019)	17 / 33	18,000	10,150	£190,450	£75,310
<i>All dredged material being from mid Bure currently being placed in setbacks near Horning Hall. Setback area at Oby has been prepared for usage June 2019 onwards</i>						
<b>Breydon Water</b>	Bar upstream of Breydon Bridge (Sept 2018)	1 / 1	500	300	£1,300	£1,300
<i>Mechanical dredging with excavator completed as an urgent safety hazard</i>						
<b>Hickling Broad</b>	Mudpumping marked channel in North Bay (Oct-Feb)	12 / 16	5,500	5,280	£148,850	£65,360
<i>CANAPE funded project underway</i>						
<b>Lower Bure</b>	Plough dredge (Mar)	Contractor	2,000	0	£9,500	0
<i>Contract for plough dredging to tackle priority shoals on Lower Bure near Yacht Station, and Breydon Water near Turntide Jetty</i>						
<b>Site restoration</b>	Rockland, Hickling, Stokesby	-	-	-	£42,590	£33,710
<i>All completed apart from Hickling ploughing of pumped sediment, which has been deferred until late spring 2019 when soil is dry enough</i>						
<b>TOTAL</b>		<b>67 / 82</b>	<b>40,000</b>	<b>36,650</b>	<b>£577,090</b>	<b>£421,550</b>

<sup>a</sup> –project costs includes staff time for all elements (pre-works ecological mitigation, site set-up, active dredging & site restoration); BA plant; & budgetary expenditure (equipment hire, survey costs, contractor costs, mitigation works, materials & consumables etc); within the reporting period.

## Forward dredging plan for 2019/20

<b>Project Title</b>	<b>Project Element</b>	<b>Active BA dredging weeks</b> Completed / Planned	<b>Volume removed m<sup>3</sup></b> £		<b>Annual project cost <sup>a</sup></b> £	
			<b>Planned</b>	<b>Actual</b>	<b>Planned</b>	<b>Actual</b>
<b>Hickling</b>	Dredging of marked channel & habitat creation (Oct - Feb)	0 / 22	8,000		149,670	
<i>CANAPE funded project; filling the lagoon areas created within the geotextile tubes</i>						
<b>Tyler's Cut</b>	Dilham Staith and 600m downstream (Nov - Dec)	0 / 17	3,000		40,330	
<i>Sidecasting to north bank</i>						
<b>Mid Bure</b>	a) South Walsham Fleet Dyke (Apr - May) b) Oby to Acle Bridge (Jun - Aug)	0 / 22	13,000		126,640	
<i>Setback areas at Horning Hall and Oby</i>						
<b>Oulton Broad</b>	Dredging in North Bay (Aug - Sep)	0 / 9	6,000		51,680	
<i>Sediment into setback area at Horseshoe Point</i>						
<b>Waxham Cut</b>	Dredging & sidecast (Nov - Jan)	0 / 13	4,000		38,090	
<i>Sidecasting onto the eastern bank from Horsey Mere to Brograve Mill (subject to various consents being gained)</i>						
<b>Waveney</b>	Beccles to Stanley Carrs (Apr - Jul)	0 / 16	8,000		102,550	
<i>Sediment onto folding along the Suffolk bank</i>						
<b>Lower Bure</b>	Plough dredge (Mar)	Contractor	2,000		10,000	
<i>Priority shoals in lower Bure and Breydon Water</i>						
<b>Site Restoration</b>	Stokesby, Lower Bure & Postwick Tip	-	-	-	43,540	
<i>Rond restoration after sediment has dried on the Bure; moving dried sediment out of the "wet cell" at Postwick Tip</i>						
<b>Site Preparation</b>	Peto's Marsh, Carlton Marshes	-	-	-	15,860	
<i>Construction of new cross wall in preparation for sediment re-use in 2020-2022 for dredging from Oulton Broad</i>						
<b>TOTAL</b>		<b>0 / 99</b>	<b>44,000</b>	<b>0</b>	<b>568,360</b>	<b>0</b>