

**Construction and Maintenance Work Programme  
Progress Update**

Report by Head of Construction, Maintenance and Environment

**Summary:** This report sets out the progress made in the delivery of the 2013/14 Construction, Maintenance & Environment Section work programme. Appendix 2 shows the agreed 2014/15 dredging programme

Members are invited to comment on the report and ask questions.

**1 Construction and Maintenance Programme 2013/14**

1.1 The progress of the Construction and Maintenance work programme is described in this report. As previously reported verbally to members, a further detailed breakdown shows that up to the end of March 2014, 56,510m<sup>3</sup> of sediment has been removed from the Rivers and Broads, and the details of quantities and costs achieved so far are set out in Appendix 1. This represents 113% of the programmed target of at least 50,000m<sup>3</sup>.

1.2 The picture below shows the two filled cells of Duck Island (picture courtesy of Mike Page).



- 1.3 The two smaller cells are filled and will be planted up with reed and sedge in the 2014/15 programme year. The third and largest cell is half full and more sediment can be placed in this cell. We are monitoring the settlement and consolidation of this cell before determining when to carry out the next dredge. Any future project will again need the relevant permissions, water sampling and Prymnesium Parvum monitoring before commencement.
- 1.4 In March 2014 work to secure and adequately mark Turntide Jetty was commissioned. The assortment of faded hazard markers position along the structure were removed by a local contractor and a set of more durable posts, painted bright orange were installed. The colouring of the markers was preferred by the Great Yarmouth Port Authority and gives good visibility in low light and mist. The tensioned steel cables between opposite piles were also replaced to help maintain the structural integrity of the structure. Regular structural monitoring of the structure is programmed, with a contract to design a replacement of the landward half of the Jetty planned for by July 2014.

## **2 2014/15 Programme Progress Update**

- 2.1 Dredging continues on the Mid Bure at Doles Pump, with sediment being placed downstream at Thurne. The offload site is to a low lying bankside where some of the sediment will be used for flood defence works and the rest to help reinstate reeded swamp along the river bank.
- 2.2 Grab 10 has been mobilised to Breydon Water where it is installing the steel tubes needed to form the new Dolphins. The existing, dilapidated Dolphins (situated at Bure Mouth) will be decommissioned later in the year, divers will be needed to cut the old timber uprights off at bed level and we will dredge in the immediate vicinity to give better water depth at the new structures.
- 2.3 A set of 9 Linkflotes are at Griffin Lane Dockyard having new winches fitted before RB66 is loaded. Once Grab and Linkflotes are ready the unit will be mobilized to the River Waveney, where dredging on the bends at Burgh Saint Peter will commence. With the forecasted improving weather this should be around week commencing 19 May.

## **3 Maintenance Team**

- 3.1 The Maintenance Team has been actively engaged with preparing the Broads for the new visitor season and I have detailed a few of the maintenance works completed to date.
- 3.2 How Hill has had various paths and the ramp down to Toad Cottage re-graded and topped up, to enable visitors to have safe access around the site.
- 3.3 Ludham de-masting mooring, Geldeston, Horning Marshes and Horstead moorings have all had footpath works completed.

- 3.4 New rope has been added to the fish barrier at Barton Broad, the buoys have been cleaned and new buoys have been installed on the Pleasure Island, with improved signage.
- 3.5 A fallen tree at Gaye's Staithe has been removed and a Beech Tree and an unruly Willow on the river bank near How Hill has also been felled for safety reasons.
- 3.6 Signage has been repaired and some replaced at Thorpe Viaduct, Potter Heigham, and Reedham to assist vessels and other river users.

#### **4 Environment Team**

- 4.1 A meeting is being arranged between the Broads Authority, Natural England and the Marine Management Organisation to discuss the MMO notifications, work licensing guidance, and impacts on SAC & SPA features when contractors pump directly into the main rivers.
- 4.2 The grazing ponies are starting to be moved to their summer grazing sites. The ponies offer an alternative solution to managing marsh land as they are selective grazers. They are also able to help deliver the sites management plans, especially where mechanical equipment cannot be used due to water levels or poor ground conditions.
- 4.3 Environment Officers are also working on a project to address some of the reed loss and bank erosion in Hickling Broad. A joint project is being developed with Norfolk Wildlife Trust using soft engineering to reinstate some of the worst areas within the top sections of Hickling. Although at an early stage, the initial discussions seem favourable and the project idea is developing.
- 4.4 A plan has been agreed with Norwich Fringe Project which has seen the grazing cattle being put onto grass at Carey's Meadow. Environmental Officers and Access Officers are now looking at the whole site to see what is needed to ensure this green space on the outskirts of the City is used to its full potential.

#### **5 Fitters**

- 5.1 The weed cutter, Megan, is in Griffin lane Dockyard being prepared to start the new season of water weed cutting. Once completed, the Fitting Team will concentrate on modifying and fabricating items for the Prisma Project. We plan to modify a dredging bucket to help reduce fluidisation of sediments, build a 'Plough' capable of bed levelling within the Breydon area and adjustments to our Piling hammer. Other projects are already underway, such as installing new winches on Linkflotes and work on more Spudlegs.
- 5.2 Grab 7 (large NCK positioned in one of our dredging barges) has needed a considerable amount of Fitters time recently, as the clutch plates and brakes are old and near the end of life. This Crane has been certified for work for

2014/15 but it will be its last year of operation as it is beyond economical repair. Officers are currently looking at what type machine to replace it with, as purchasing another old Grab is not considered cost effective.

## **6 Prisma**

- 6.1 The Final Prisma Conference in Antwerp is approaching (June 18). Invites asking for expressions of interest have been issued to a variety of potentially interested groups, who can attend at their own expense. The conference will share the learning that has been experienced by the Partners and presentations will be given on their individual projects. Leading companies and suppliers to the Dredging fraternity will be attending and all data and reports from the Prisma Project will be available on the Prisma website (<http://www.prisma-projects.eu>)

Background papers: Nil

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Appendices: APPENDIX 1 –Dredging Programme 2013/14  
APPENDIX 2 – Dredging Programme 2014/15

**Dredging Progress 2013/14 (April 2013 to end of March 2014)**

**APPENDIX 1**

Project Title	Project Element	Active dredging duration (weeks) Completed (Apr-Feb)/Planned	Volume Removed m <sup>3</sup>		Annual project cost	Actual project cost <sup>1</sup> (Apr-Feb)
			Planned	Actual	Planned	Actual
<b>Lower Bure</b>	Six Mile House to Acle Bridge	28/ 22	20,000	26,230	174,000	£201,050
<i>Now completed, although work extended to utilize all the volume capacity available in the setback area. Six Mile House setback is now full.</i>						
<b>Mid Bure</b>	Thurne Mouth to Horning Church	3/12	9,000	3,941	66,000	£37,790
<i>Delayed start due to extension of Lower Bure dredging. Arisings being placed on rond and flood bank</i>						
<b>Salhouse Spit</b>	Site restoration	0	0	0	45,000	£38,190
<i>Dredging completed. Expenditure represents final payments of 2012/13 work and any remaining staff maintenance on site</i>						
<b>Heigham Sound</b>	Navigation Channel	15/16	10,000	13,339	154,000	£113,910
<i>Mud Pumping Contract is now complete with approximately 3,000m3 being removed following and extension of works. Complete total will be reported in next Committee Report.</i>						
<b>Upton Dyke</b>	Whole length of boat dyke	5/6	3,000	3,000	24,000	£13,790
<i>Basin and main channel completed.</i>						
<b>Hardley Dyke</b>	Centre channel dredged of the full boat dyke length	7/4	3,000	3,000	65,000	£87,500
<i>Completed. Excavator completed the sediment removal rather than the trial of mudpumping into Geo-bag</i>						
<b>Breydon Water</b>	Spot dredging near Bridge, downstream span	1/1	500	500	0	
<b>Loddon Basin</b>	Dredge channel from basin to Pye's Mill, Pye's 24hr mooring and Wherry Close moorings.	6/8	6,000	6,500	110,000	£65,610
<i>Basin completed. Final PRISMA sediment stability trials continuing</i>						
<b>TOTAL</b>			<b>51,500m<sup>3</sup></b>	<b>56,510</b>	<b>£638,000</b>	<b>£557,840</b>

<sup>1</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, contractor costs, mitigation works, materials & consumables etc); within the reporting period.

Dredging Plan 2014/15 (Progress to end April 2014)

APPENDIX 2

Project Title	Project Element	Dredging (weeks) Completed /Planned	Volume Removed m <sup>3</sup>	
			Planned	Actual
<b>Mid Bure</b>	Thurne Mouth to Ant Mouth	4/ 12	10,000	3,040
<i>Some dredging also included near Thurne Dyke. Arising spread on rond near Thurne.</i>				
	Ant Mouth to Horning Church	0/6	6,000	0
<i>Arisings used to fill setback areas near Ant Mouth</i>				
<b>Lower Waveney</b>	Burgh St Peter bends	0/5	4,000	0
<i>Arisings used to fill setback area at Black Mill on River Waveney</i>				
	Haddiscoe Cut entrances	0/9	4,000	0
<i>Arisings used to fill setback area at Black Mill on River Waveney</i>				
<b>Lower Bure</b>	Bure Loop	0/26	10,000	0
<i>Agreements to be finalized with landowners in the loop</i>				
<b>Upper Bure</b>	Belaugh to Horstead Mill	0/13	6,000	0
<i>Agreements to be finalized with landowners</i>				
<b>River Ant</b>	How Hill to Barton Broad	0/13	6,000	0
<i>Arisings used to fill setback area at the Authority's land at Buttle Marsh</i>				
<b>River Chet</b>	Pye's Mill to Hardley Flood	0/12	4,000	0
<i>Arisings placed along the flood bank and folding for future re-use</i>				
<b>TOTAL</b>		<b>4/96</b>	<b>50,000m<sup>3</sup></b>	<b>3,040 m<sup>3</sup></b>