

**Construction and Maintenance Work Programme**  
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 to date.

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 agreed with members, a further detailed breakdown shows that up to the end of October 2013, 20,460m<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 41% of the programmed target of at least 50,000m<sup>3</sup>.
- 1.2 Dredging on the River Bure between Acle Bridge and Stokesby is progressing. Removed sediment is being placed in the Marsh Farm setback area. The dredging and offloading is being carried out by waterborne cranes as the river banks at the locations are too narrow to allow the placing of our long Reach Excavators.
- 1.3 Prior to Goodchilds Marine, the successful contractor for the mud pumping contract, starting at Heigham Sound, operatives deployed a silt curtain to fully envelop the perimeter of the gabion baskets. This is one of the mitigating measures we designed into the operation to ensure any sediment fluidisation was contained and allowed to drop-out before affecting the wider water column. The mud pumping commenced on 21 November, with no problems being reported to date.
- 1.4 The latest Prisma trial started at Hardley Dyke, with a well-attended site meeting including European visitors, members and other external bodies interested in this innovative project. Sediment from Hardley Dyke is being pumped from the dyke bed along pipes to a geo-textile tunnel, situated at the Farm at the top of the Dyke. The sediment is dosed with a flocculant (it attaches to the sediment and helps the material drop out of suspension, speeding up the de-watering process). Aspects for the innovative trial, like the mud pump and flocculant dosing, are working well, but we have experienced teething problems with the dewatering 'Geo-tunnel. Following a progress meeting with the Dutch contractors, the Authority's engineering staff and

operatives, improvements and tweaks are being made. A verbal update will be presented to members at the Navigation Committee meeting.

## **2 Maintenance Team**

- 2.1 The Maintenance Team has continued to work to priorities set in the works programme and a selection of some of the projects they have been involved with are described within this report.
- 2.2 The works at Saint Benets is now complete with operatives and equipment being removed from site. We were acting as contractors for the Norfolk Archaeological Trust, employed to lay footpaths, develop a car parking area and erect fencing. The project has been heralded as a great success and the completed works have vastly improved access to this iconic Broads landmark.
- 2.3 The Maintenance team have been carrying out essential safety work on the system with broken or damaged mooring posts at Martham bank, Bridge Green, Sutton Staithe, How Hill, Horning Marshes, Womack Dyke, Belaugh and Bramerton being replaced. Safety ladder fendering has been installed at Coltishall as well as the replacement of 12m of capping timber work.
- 2.4 Safety Ladder handles and chains have been replaced at Sutton Staithe, Neatishead and Horning Marshes.
- 2.5 As part of the ongoing priority to engage with volunteers and to give a worthwhile yet Broads objective fulfilling experience, we have been working with volunteers on conservation tasks at Geldeston Marshes, How Hill, The Trinities, Whitlingham Marshes, Burgh Common, Hall Fen as well as Broadsword being engaged in scrub clearance at Ranworth Dam and Whitlingham Broads edge. Crassula has also been removed with the assistance of volunteers at Decoy Carr.

## **3 Fitters**

- 3.1 The on-going task of plant and equipment maintenance continues with Grab 10 (our large dredging crane and pontoon arrangement) and the Dockyard Telescopic Lifter passing its yearly assessment and receiving the required certification.
- 3.2 The trip boat, Electric Eel, has been taken out of the water and is being given its yearly maintenance and repairs in the new dockyard workshop. This major overhaul will see a full service of the engine, steerage and the vessel cleaned and made ready for the new season.
- 3.3 Winter checks and maintenance continues with the Broads Authority motor launches with small repairs being carried out on Charles Collier, Chet with the Yare motor launch being taken into Goodchilds Marine for its yearly service. The newest vessel, Motor Launch Martin Broom, is now in service on the River Yare with good performance and reliability being reported from the hybrid engine by the Rangers.

## **4 PRISMA**

- 4.1 On the 12 – 14 November 2013 the Broads Authority hosted the PRISMA Conference, using Yare House and the Dockyard as the venues to host our European partners. As well as the obligatory partnership meetings we took the visitors to see the trial sites at Salhouse Spit and Hardley Dyke in order to share the techniques and good works we are trying as part of the European funding. The Prisma Project is in its final stages and we are preparing the draft final reports and financial claims needed to draw this initiative to a close. The de-watering trials at Hardley and Loddon represent the last of the European funding and take us nicely towards the conclusion of the technical aspects of the project.

Background papers: Nil

Author: Rob Rogers  
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Appendices: APPENDIX 1 –Dredging Programme 2013/14

## Dredging Progress 2013/14 (April to end October 2013)

## APPENDIX 1

Project Title	Project Element	Active dredging duration (weeks) Completed (Apr-Oct)/Planned	Volume Removed m <sup>3</sup>		Annual project cost	Actual project cost <sup>1</sup> (Apr-Oct)
			Planned	Actual	Planned	Actual
<b>Lower Bure</b>	Six Mile House to Acle Bridge	21/ 22	20,000	20,460	174,000	£145,130
<i>As the setback at Marsh Farm, Stokesby, has taken more sediment than predicted, it will be filled completely in this season (5 additional weeks) rather than the two separate campaigns. Final volume will be nearer to 25,000 m<sup>2</sup>.</i>						
<b>Mid Bure</b>	Thurne Mouth to Horning Church	0/12	9,000	0	66,000	£880
<i>Dredged sediment will be used to improve bank profile along the Lower River Thurne at White Mill. Site checks completed, will start January 2014.</i>						
<b>Salhouse Spit</b>	Site restoration	0	0	0	45,000	£37,910
<i>Dredging completed. Expenditure represents final payments for 2012/13 work and any remaining staff maintenance on site</i>						
<b>Heigham Sound</b>	Navigation Channel	0/16	10,000	0	154,000	£77,580
<i>Contractors on site and pumping in November 2013</i>						
<b>Upton Dyke</b>	Full boat dyke	0/6	3,000	0	24,000	£670
<i>Dredged sediment will be used to infill low area between old and new flood banks. Start January 2014</i>						
<b>Hardley Dyke</b>	Centre channel dredged of the full boat dyke length	0/4	3,000	0	65,000	£0
<i>£12,000 contribution from Hardley 100 Sailing Club. Starting November 2013</i>						
<b>Loddon Basin</b>	Dredge channel from basin to Pye's Mill, Pye's 24hr mooring and Wherry Close moorings.	0/8	6000	0	110,000	£0
<i>£7,000 total contribution from South Norfolk District Council &amp; local residents. Start November 2014</i>						
<b>TOTAL</b>			<b>51,000m<sup>3</sup></b>	<b>20,460</b>	<b>£638,000</b>	<b>£262,170</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.