

Construction and Maintenance Work Programme
Report by Head of Construction and Maintenance

Summary: This report sets out the progress made in the delivery of the 2013/14 Construction and Maintenance Section work programme to date and updates members on proposed amendments to the 2013/14 dredging programme.

Members are invited to note the content of the report, and views are sought.

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 July 2013, 7,189m³ 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 14% of the programmed target of at least 50,000m³.
- 1.2 The proposed amended dredging programme for 2013/14, shown in Appendix 1, has been amended to reflect changes that have been suggested due to work which took place over the summer break (Appendix 2 shows original programme for information). Using Prisma funding we are intending to trial a new de-watering technique, whereby a re-usable geotextile material will be used to contain wet sediment whilst it de-waters. The technique allows for additives to be mixed into the removed sediment, changing its strength and other characteristics, making it a suitable material to be used in flood wall construction. This technique is proposed to be trialled at two locations in the Yare Valley to allow for different additives and different doses of flocculants to be used, to assist with the gathered data, dewatering and material stabilization. Both projects will be further funded by money received from the private elements at these locations, as sediment removal within private mooring and dykes is not funded by the Broads Authority. This proposal has been fast tracked in order to respond to the concerns raised regarding water levels in the upper Chet, but will mean that works on the River Ant will need to be postponed to next financial year. Members' views on this proposal are welcome.
- 1.3 Dredging on the Lower Bure has been progressing well, with two set-back locations being used to place removed sediment. Six Mile House at Runham is now full, with 7,000m³ of material deposited. The sediment here is being re-profiled to create reed bed as its final restoration. The second Set-Back area

is at Marsh Farm, Stokesby, this is a larger site and the filling of this will take two dredging seasons. Therefore the sediment will be managed to prevent scrub and invasives growing until the site can be fully restored once the area has been filled.

- 1.4 Work on Breydon and Bure Mouth has continued with the de-masting pontoons being installed on Breydon. The installation is situated opposite Fendercare, set into the row of channel markers. Additional marker posts have also been installed at Turn Tide Jetty and one close to the Coaster Jetty to aid navigators. The old channel marker (they appeared to look like a dilapidated dolphin) opposite Great Yarmouth Yacht Station has also been removed and replaced with a new marker. The steel frames for the Dolphins has been fabricated and galvanised. These two Dolphins will be constructed upstream of Breydon Bridge on the right hand side.

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 Work at Saint Benets Abbey car park and associated fencing has been completed. Following the good quality of this work, we have been contracted to install the Stock fencing (to stop cattle wandering around the Abbey Gatehouse). A total of 100m of stock fencing has been ordered and the final position agreed, this will be installed in mid-September and will mark the total completion of this scheme.
- 2.3 We have completed two of the planned three cuts on paths and trails managed by the Broads Authority, and kept up with the mowing required on the moorings as well as mowing at Horstead Mill and Barton Car Park. The timing for the third cut will be decided soon, once the recent spell of dry weather passes.
- 2.4 75m of Commissioners Cut and 50m of Postwick 24 Hour moorings have been refurbished, two electrical charging points have been installed at Whitlingham mooring and two at Loddon Staithe, safety signage on the Lower Bure has been repaired as well as reactive works to safety ladders, chains and other safety signage, damaged over the summer period.

3 Environment and Design Team

- 3.1 Water plant surveys are being conducted with Hickling, Horsey and Strumpshaw Broads completed. Hickling Broads has seen another good year for plant growth, with an increase in Stonewort. Surveys on Wroxham, Cromes, Hoveton Great, Alderfen, Decoy, Pound End, Hoveton Little and Barton Broads will continue throughout August. The data received from these surveys help us establish the health of the water body and can inform management plans and actions to ensure improvement is continuing.

- 3.2 The existing Fen Harvester is cutting the flower meadow at How Hill, following a review of the management plan and the relocation of Swallowtail caterpillars that had taken up residence on the Milk Parsley. In conjunction with Natural England, cutting at this time of year prevents reed establishing in the meadow and promotes wild flower growth. As wildflower meadows are scarce, this site is seen as a valuable Broads Authority asset.

4 Dockyard Development

- 4.1 The Dockyard development continues with the existing site being tidied and new security fencing being erected. The chain link fence to the front of the property is being replaced with a palisade security fence, this reflects the need for more protection since the tools and equipment from Ludham have been redistributed and workshop facilities have now transferred to Griffin Lane. The fencing to the property boundary, removed during construction, is also being replaced with a weldmesh fence.

5 Fitter Projects

- 5.1 The Fitters have been busy keeping all the plant, equipment and vessels operating during this busy summer season. 'Monster', one of the oldest and poorest conditioned wherries, has been decommissioned and cut up for scrap, following the introduction of 'Iona' earlier in the summer. Other projects include the overseeing of the new Patrol Launch build and testing as well as visiting LogLogic, who are building the new Fen Harvester.

7 Prisma

- 7.1 Week commencing the 9 September officers from the Broads Authority, Broadland Environmental Services Limited and Environment Agency will be visiting a European funded project called 'Dredgdikes'. This project focusses on the use of dredged material in floodwall construction, looking at additives and mixing ratios to create a material suitable for re-use. The Prisma funded trip will help us see the data, visit the trial floodwall and look at the specification being used in the construction, with the objective being for the Broads Authority to construct two trial flood banks on a smaller scale. These proposed trials will be carried out at Hardley Dyke and Loddon Basin using sediment removed from these locations. The outcomes and findings will form part of our Prisma reporting and will be brought to this committee upon conclusion of the trials.

Background papers: Nil

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Appendices: APPENDIX 1 – Revised Dredging Programme 2013/14
APPENDIX 2 – Original Dredging Programme 2013/14

Revised Dredging Programme 2013/14 (April to end July 2013)

APPENDIX 1

Project Title	Project Element	Active dredging duration (weeks) Completed (Apr-Jul)/Planned	Volume Removed m ³		Annual project cost Planned	Actual project cost ¹ (Apr-Jul) Actual
			Planned	Actual		
Lower Bure	Six Mile House to Acle Bridge	9 / 22	20000	7189	174,000	£77,216
<i>Setback at Six Mile House completed. Next setback at Marsh Farm, Stokesby, started to be filled</i>						
Mid Bure	Thurne Mouth to Horning Church	12	9000	0	66,000	£61
<i>Dredged sediment will be used to improve bank profile along the Lower River Thurne at White Mill. Site checks completed.</i>						
Salhouse Spit	Site restoration	0	0	0	45,000	37,742
<i>Expenditure represents final payments for 2012/13 work and on-going staff maintenance of site</i>						
Heigham Sound	Navigation Channel	12	8000	0	tbc, subject to tender	£65,390**
<i>** £65,390 spent up to end July is final payments for 2012/13 work and on-going staff maintenance time</i>						
Upton Dyke	Full boat dyke	6	3000	0	24,000	£0
<i>Dredged sediment will be used to infill low area between old and new flood banks. Start January 2014</i>						
Hardley Dyke	Prisma project plan in preparation		3000	0	64,000*	£0
<i>*Projected costs have not accounted for the contribution from Hardley Hundred.</i>						
Loddon Basin	Prisma project plan in preparation		7000	0	106,000*	£0
<i>*Projected costs have not taken into account contributions from private parties, as discussions are still ongoing.</i>						
TOTAL			50,000m³		£633,000.00	

APPENDIX 2

Original Dredging programme 2013 /14

Project Title	Project Element	Active dredging duration (weeks) Planned	Volume Removed m ³		Planned annual project costs £	Actual project cost ¹ £
			Planned 2013/14	Actual 2013/14	Actual 2013/14	Actual 2013/14
Lower Bure	Six Mile House to Acle Bridge	22	20000		174,000	
Dredged sediment used to fill setbacks at Six Mile House and Stokesby						
Mid Bure	Thurne Mouth to Horning Church	12	9000		66,000	
Dredged sediment used to improve bank profile along the Lower River Thurne at White Mill						
River Ant	How Hill to Barton Broad	12	10000		92,000	
Dredged sediment used to fill setbacks at Buttles Marsh						
Heigham Sound	Navigation Channel	12	8000		88,500*	
Dredged material used to infill of the gabion basket lagoons at Duck Broad as part of the reedbed restoration project. *Estimated cost is currently based on contractor delivery.						
Upton Dyke	Full boat dyke	6	3000		24,000	
Dredged sediment used to infill low area between old and new flood banks						
TOTAL			50,000m³		£444,500	