

**PRISMA Progress Update**  
Report by Director of Operations

**Summary:** This report sets out the progress on the programme of projects which were planned for the development of sustainable dredging techniques, treatment and disposal and funded by the European Interreg initiative.

## **1 Background**

- 1.1 A partnership project was developed to submit a funding bid to Interreg to support the delivery of the Sediment Management Strategy through a number of practical projects such as the development of Duck Broad Island.
- 1.2 Project partners include:
- Waterways and Seacanal, Belgium (Lead partner);
  - Hoogheemraadschap van Schieland en den Krimpenerwaard, Netherlands; and
  - ARMINES agissant via le Centre de Douai, France.
- 1.3 The bid, with a total fund application of €3,204,226.00 across all partners, was submitted on 20 January 2011 and approved at the Steering Group meeting of 10/11 May 2011. The project's deadline and closure of eligible expenditure is June 2014. All partners projects are described in Appendix 1.

## **2 Project Plan**

- 2.1 At Appendix 2 members can see the progress that is being made against each of the project elements, all of which fall into one or more of the three activity packages supported by the bid which include:
- development and testing of adapted dredging techniques;
  - development and testing of new treatment methods; and
  - development and trials of beneficial reuse opportunities.
- 2.2 There has been some slippage from the original timetable, partly due to the delay in the bid process, but also as a result of the long lead in time for a number for projects e.g. Duck Broad, wherry design, Dockyard workshop although these are not significant to the delivery of the programme as a whole.

- 2.3 In regard to the cross border joint activities, the Broads Authority has developed a monitoring form for dredging projects which has been circulated to partners for their completion. Analysis of this information will enable the environmental impact of different types of dredging techniques to be fully assessed. Factors monitored include carbon emissions and local disturbance issues such as noise. Additionally, the Authority has chaired the Wet Dredgings Group revision of the 'WASTE MANAGEMENT FOR DREDGINGS OPERATIONS: a good practice guide for navigation authorities' publication, which will be a component of the joint study to undertake a comparison of the regulations of sediment management in UK, France, Flanders, the Netherlands and the EU (-directives) with the aim to make recommendations to promote uniform interpretation of legislation.

### **3 Budget**

- 3.1 The match funding requirements of the programme that the partners have to provide is 50% of the costs, which can be a combination of cash and staff time. The original budget breakdown for the Broads Authority element of the project is shown in the table below. The total expenditure has been claimed from August 2009 until December 2011, the remaining budget shall be available until June 2014.

Budget Lines		Original total Budget	Total expenditure	% of expenditure	Remaining budget	Projected expenditure	Comments
1	Staff cost	651,480 €	184,073 €	28%	467,406 €	290,000€ 38,000€ 138,000€	In relation to the completion of salhouse Broad and Duck Island In relation to joint and local activities Future pilots, trial, monitoring and reporting
2	Administration cost	22,500 €	885,34 €	4%	21,614 €	14,000€ 7,000€	In relation to the completion of Salhouse Broad and Duck Island Future pilots and trials
3a	External Consultants	197,790 €	27,144 €	14%	170,645 €	170,64€5	In relation of final reporting and joint activities
3b	External suppliers	598,495 €	118,254 €	20%	480,240 €	370,000€  60,000€ 50,000€	In relation to the completion of salhouse Broad, Duck Island, dewatering trials and previously purchased second hand equipment In relation to joint and local activities Future pilots and trials
4	Travel and accommodation	23,000 €	3,867 €	17%	19,132 €	19,000€	In relation to partner meetings and workshops
5	Equipment	82,855 €	8,091 €	10%	74,763 €	60,000€  14,000€	In relation to the new wherry and tools and equipment ( e.g. hydraulic grab) Additional purchase tools and equipment
6	Investment	247,000 €	917 €	1%	246,082 €	175,000€ 70,000€	Construction of the workshop at the Dockyard In relation to land purchase
7	Validation of expenditure	20,000 €	3,554 €	18%	16,445 €	21,000€	For independent auditing
<b>Total</b>		<b>1,843,120 €</b>	<b>346,789 €</b>	<b>18,82%</b>	<b>1,496,331€</b>	<b>1,496,645€</b>	

3.2 By tailoring this project to support the Authority's programme of planned work it has been possible to identify match funding from our existing navigation expenditure budgets as set out below. The activity packages include for the purchase of land and equipment against which we have already established reserves, which as well as being used for match funding will provide a lasting legacy, increasing our capacity and ability to complete future dredging programmes.

## 3.3

## Summary of Expenditure to date £

	09/10 & 10/11		11/12		12/13	
	Staff	Invoices	Staff	Invoices	Staff	Invoices
Prep	6,798.27	0.00	1,745.10	0.00	0.00	0.00
1.0	53,538.15	47,477.87	39,652.24	28,992.02	0.00	2,000
2.0	3,412.24	36,167.98	15,318.36	468.00	0.00	0.00
3.0	6,812.56	22,867.27	7,584.90	66,194.05	0.00	23,800
Mgmt	108.67	16,829.43	21,583.95	8,784.14	0.00	844
Comm	216.32	0.00	2,901.47	6,267.46	0.00	1,284
	70,886.21	123,342.55	88,786.04	110,705.67	0.00	27,928

## Projected Expenditure £

12/13		13/14		14/15		Total
Staff	Invoices	Staff	Invoices	Staff	Invoices	
0.00	0.00	0.00	0.00	0.00	0.00	0
80,000	170,000	60,000	20,000	20,000	20,000	370,000
5,000	0.00	5,000	0.00	5,000	0.00	15,000
100,000	480,000	80,000	10,000	20,000	10,000	700,000
25,000	100,000	25,000	60,000	40,000	60,000	310,000
1,000	5,000	1,000	2,000	1,000	2,000	12,000
211,000	755,000	171,000	92,000	86,000	92,000	<b>£1,407,000</b>
Total value of invoices						£939,000

## Movement on reserves for 11/12 only

<u>Funds in</u>	Contribution from Dockyard Vessels & Equipment reserve	60,000.00
	Contribution from Dockyard Dredging Disposal reserve	60,000.00
	Contribution from Dockyard Site Maintenance reserve	30,000.00
	Year end adj for previous claims not yet received	181,161.95
<u>out</u>	Prep Invoices only	0.00
	1.0 Invoices only	-28,992.02
	2.0 Invoices only	-468.00
	3.0 Invoices only	-66,194.05
	Mgmt Invoices only	-8,784.14
	Comm Invoices only	-6,267.46
	Project Managers staff costs only	-17,554.70
	Balance at March 2012	202,901.58

Total claims to 2014	703,500
Contribution from Dockyard dredging disposal reserve	32,598.42
Balance in Prisma reserve account	202,901.58
Invoices only to 2014	-939,000

Balance at March 2015	0
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## 4 Outputs/ Outcomes

4.1 The project has provided the following outputs to date:

- 2x second hand cranes.
- Second hand tug.
- New JCB.
- New wherry design, currently under construction.
- New sonde (water quality monitoring).
- New Silt curtain.
- The material and staff cost for the execution of Upton Little dredging and reusing of the sediment, sediment awaiting agricultural spreading.
- The material and staff cost for the execution of Thorpe River Green dredging, completed late December 2011.
- The material and staff cost for the execution of Dredging of the Lower Bure, completed late June 2012 (monitoring ongoing).
- The material and staff costs of construction of Duck Broad island.
- Design and calculations for the reconstruction of Salhouse spit
- Concrete pumping trial, partially completed
- International meeting held at DfH and attended by all project partners, as well as territorial facilitator.

The following outputs are still planned:

- Further investigations concrete pumping trial
  - The material and staff cost for the execution of dredging Heigham Sound.
  - Hire or purchase of dewatering equipment to complete further trials (hydrocyclone and centrifuge).
  - The material and staff costs of construction of Salhouse Broad spitrestoration and the dredging of the middle Bure.
  - Contribution towards the development of the Dockyard workshop facilities.
  - Contribution toward the purchase of land, suitable for sediment reuse.
- Purchase of a wherry, by the new design.

4.2 Outcomes on completion of the programme of projects will include:

- The improved environmental performance of the dredging process.
- Identification of further beneficial reuse opportunities.
- Increased expertise and understanding in all matters relating to dredging activities, including technical, environmental and legislative aspects.
- Improved understanding by local communities and partners of the requirement to, and importance of, undertaking sediment management activities including the benefits to the wider environment.
- Cross border cooperation and knowledge sharing

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Appendices: APPENDIX 1 – Partners Projects

APPENDIX 2 – Progress being made against each of the project elements

## Partners Projects

Activity Packages → Topics/sub actions ↓	AP 1: actions and investments to develop and test adapted methods in order to improve the dredging process <b>Broads Authority to coordinate</b>	AP 2: actions and investments to develop and test innovative methods for the treatment dredge spoil <b>WenZ to coordinate</b>	AP 3: actions and investments to develop and test re-use possibilities and to stimulate re-use of sediments <b>WenZ to coordinate</b>	Joint actions, communication and dissemination <b>WenZ to coordinate</b>
Sub action 1	Broads: Investigate current dredging techniques to assess impacts, suggest improvements on traditional dredging techniques by adaptation/ development, considering sustainable development, feasibility, carbon costs and environmental impacts and trial recommendations.	Joint study to develop a decision framework model considering dredging and sediment treatment taking into account the economic, logistic, technical and environmental (dis)advantages. Case studies by each partner will validate the model	Broads: Testing several techniques for the construction of islands, adapting farmland and providing river defences by means of dredge spoil, and produce best practice guidance	General Joint Actions: - Joint European excursion to Toulon (partner institute EDM) - Joint community engagement project, and local community engagement activities
Sub action 2	EDM, Broads and HHSK: Developing and testing adapted mobile dewatering methods, including pilot trials aiming to reduce volume before transport to re-use destination	Case study to validate the decision making model as above	WenZ: To design and build a dike core( flood embankment) from dredged materials using geotextile bags; afterwards, testing and monitoring the strength and effects	Specific Joint Actions in relation to the local actions and investments: - Three Master classes on the issues of dredging methods, sediment treatment and re-use possibilities by workshops, local excursions and evaluation reports - Exchange of experts
Sub action 3	Lille M: Local and specific case study about innovative dredging methods (Study Plan Blue (working title))	EDM and HHSK: Development and testing in the field of a mobile dredging characterization laboratory.	EDM: searching and testing the re-use of sediment in Civil engineering application (concrete, road)	External Communication activities: - Logo and website - Brochure and newsletters - Articles in newspapers, journals and radio - Half year reports
Sub action 4		Testing treatment methods: implementing several pilots, assessment of results (Broads, WenZ and HHSK: development of a new integrated system of dredging storage and treatment methods, including using geotextiles to make the sediment more stable and reusable.)	HHSK: is involved in a consortium that will reuse sediments in making the surface ready for real estate development: HHSK will facilitate various meetings with this consortium to discuss the results of this reuse experiment	Dissemination activities: - legacy and final conference, - evaluation reports of AP's - guideline, website, newsletters - external presence within the master classes - European workshop on the issue of AP3 sub action 5
Sub action 5			Joint study: comparison of the regulations of sediment management in UK, France, Flanders, the Netherlands and the EU (-directives) with the aim to make recommendations to uniform legislation	Internal communication: meetings of the international Steering Committee, Coordination Group and Communication Group, website, newsletters

## Progress being made against each of the project elements

Project	Approximate budget cost (£)	Comments	Progress	Actual cost
Duck Broad Ph1	84,000	Feasibility and trial costs	Completed	£67,384 for the construction of the trial including staff time
Duck Broad Ph2	210,000	Includes island construction and dredging of Heigham Sound	Island perimeter has been completed, dredging deferred until winter 2012/13	£ 80,000 staff cost £ 70,000 perimeter completion £ 150,000 dredging/planting
Salhouse Broad spit restoration	240,000	Includes bank stabilisation and dredging of middle Bure/ Salhouse Broad	Consultant appointed, design completed and planning application determined. Works planned to start Sept 2012	£ 100,000 Staff cost £ 100,000 Material & Plant
Land based habitat creation	130,000	Includes land purchase, dredging of adjacent water bodies and trial to create wetland habitat/ arable reversion etc	Upton Broad geobag trial completed Restoration of agricultural land planned for Aug/ Sept 2012 Thorpe River Green dredging complete, material disposed to Postwick Tip Lower Bure dredging ongoing til end June 2012, disposal to set back areas restoration planned for summer 2012.	£ 50,000 staff £ 36,000 material & plant  Estimated £ 10,000  £ 50,000 Staff cost £ 20,000 Material & plant  £ 80,000 Staff cost £ 10,000 Material & plant Estimated £ 10,000
Purchase of equipment and materials	410,000	Purchase or hire of wherry/ excavator/ pump/ modification to machinery	Order placed for new low wash wherry, currently under construction and delivery due Oct 2012 Trial of knock down pontoon completed as part of Thorpe River Green dredging project Trial of sediment pumps planned for Sept 2012	
Development costs	326,000	Project manager, Dockyard development for new workshop Bid preparation costs	Project manager appointed, Dockyard development out to tender	
Support costs	200,000	Publicity, attendance at meetings, audit costs, website etc		
<b>Total</b>	<b>£1,600,000</b>			