



# **Poole Harbour Approach Channel Deepening**



## **Report on Harbour Monitoring 2008**





**Poole Harbour Commissioners**

FEPA Licence Ref 32691/06/0

Poole Harbour Approach Channel Deepening

## **Report on Harbour Monitoring 2008**

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**JA Ramsbottom, MSc CEng MICE  
Harbour Engineer  
Poole Harbour Commissioners  
The Harbour Office  
20 New Quay Road  
Poole  
Dorset BH15 4AF**

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## **1. Introduction**

- 1.1 Over the winter of 2005/06 Poole Harbour Commissioners carried out a capital dredge of the approach channels to the Port. The work involved dredging of approximately 2.12 million cubic metres of material to deepen the channels to a navigation depth of 7.5m below Chart Datum, and widen the Middle Ship Channel to 100m.
- 1.2 Of the dredged material, approximately 1.15 million cubic metres was sand, which was placed on beaches at Swanage, Poole and Bournemouth for beach nourishment/coast protection. The remainder, consisting of silts and clays, was placed in the south west quadrant of the licensed disposal ground centred on 50° 37.5' N 1° 52.6' W.
- 1.3 The work was carried out following the completion of extensive studies and the publication of 'Poole Harbour Approach Channel Deepening and Beneficial Use of Dredged Material, Environmental Statement' (ES) in November 2004. Following approval of the ES, a licence was issued under the Food & Environment Protection Act 1985 (FEPA).
- 1.4 Conditions of the FEPA Licence 32691/06/0 required a degree of monitoring and reporting, both during the execution of the works and over the subsequent period. The Conditions also called for the Sediment Management Plan dated 16.06.05 to be implemented to reduce the total amount of fine material lost from the Harbour system, both by natural means and as a result of maintenance dredging.
- 1.5 This report carries an update of the monitoring to the end of 2008. The report should be read in conjunction with the Report on Harbour Monitoring 2007. The report includes the development of the Sediment Management Plan. Completed technical reports are attached as appendices and references to relevant reports are made under each main heading.
- 1.6 This report and all appendices will be available to be downloaded from the Poole Harbour Commissioners' website [www.phc.co.uk](http://www.phc.co.uk).

## **2. Suspended Sediments**

- 2.1 No further work has been carried out for this report – refer Harbour Monitoring Report 2007.

## **3. Hydrodynamic and Sedimentary Regime**

- 3.1 No further work has been carried out for this report – refer Harbour Monitoring Report 2007.

#### **4. Sediment Management Plan**

- 4.1 The following technical report was submitted and approved by the Marine & Fisheries Agency, and is available as an appendix on [www.phc.co.uk](http://www.phc.co.uk)

Appendix XII      *Report on Experimental Disposal of Material in Poole Harbour (May – July 2008)*  
Poole Harbour Commissioners

- 4.2 It is a requirement of the approvals for the Harbour Deepening that the Harbour Commissioners' Sediment Management Plan is developed to minimise the amount of fine material taken to sea as a result of maintenance dredging within the Harbour.
- 4.3 The Sediment Management Plan explores the possibility of using agitation dredging to displace the silt fraction from the main shipping channels. It also suggests a system of allowing disposal of small amounts of fine material from third party dredging at a suitable location within the Harbour. These actions would reduce the total amount of fine material being lost from the Harbour.
- 4.4 On the basis of 4.3 above, and as indicated in the HR Wallingford Report of 2005 (Appendix 5 of Appendix XII), Poole Harbour Commissioners received an experimental dumping licence to dispose of 10,000 m<sup>3</sup> of sediment on the Brownsea Island Disposal site.
- 4.5 As outlined in Appendix XIII (below), monitoring of the operation showed no significant changes to the harbour and has thus far not been of sufficient quantity or duration to have a quantifiable effect. The Commissioners have obtained a licence to continue the experiment for a second year in order to confirm the predictions of the HR Wallingford Report.

#### **5. Hydrographic Changes**

- 5.1 The following technical report is attached as an appendix:

Appendix XIII      *Bed Level Monitoring Report – Poole Harbour 2008*  
Poole Harbour Commissioners

- 5.2 Hydrographic changes are monitored on a routine basis by Poole Harbour Commissioners, and this continues. Appendix XIII summarises the routine hydrographic work carried out during 2008.
- 5.3 Comparisons of specific areas in more detail are recorded, but it is not practicable to publish the huge amount of data available. The report, therefore, summarises the overall situation while more detailed information on small areas can be extracted.

- 5.4 The survey and comparison work will continue and, as natural changes in the Harbour take place, influences from the capital dredging may become apparent. There is, however, no indication of major unexpected changes to the system.

## **6. Shoreline Sections**

- 6.1 There is a requirement to monitor shoreline cross-sections at Studland and Brownsea Island. The baseline information is available from the Channel Coast Observatory ([www.channelcoast.org](http://www.channelcoast.org)). The first cross-sections have been taken following completion of the dredging works.
- 6.2 There is no indication of unusual deterioration on the relevant Brownsea Island frontage.
- 6.3 There is slight indication of accretion at the north end of Studland beach.

## **7. Saltmarsh**

- 7.1 There is no further requirement for a survey of the extent of saltmarsh in the Harbour to be repeated until 2010. In the 2006 Report, a comparison was made between aerial surveys carried out in 2005 and previous aerial surveys to establish the baseline rate of change prior to the dredging.
- 7.2 A comparative survey will be carried out in 2010 in accordance with the requirements.

## **8. Marine Habitats in Poole Bay**

- 8.1 The following technical report is attached as an appendix:

Appendix XIV *Poole Bay/Harbour Marine Habitat Surveys: Post Channel Deepening EIA Studies 2006. Progress Report December 2008*  
Dr Ken Collins

- 8.2 Work is still on-going on surveys of marine habitat in the western part of Poole Bay following the dredging and disposal operation. Appendix XIV gives details of the work concluded to date.
- 8.3 No impact has been found on the reef algal density
- 8.4 Following an initial decline in Maerl density, work is continuing for a further season to ensure that findings are fully understood and statistically significant.
- 8.5 Following anecdotal evidence of a reservoir of sediment within Poole Bay, work has been extended for a further season to better understand the sediment pattern.

9. **Archaeology**

9.1 The following technical reports are attached:

Appendix XV *Swash Channel Wreck: 2007 Annual Report*  
P Palmer and D Parham, Bournemouth University

Appendix XVI *Swash Channel Wreck: 2008 Season Report*  
D Parham & P Palma, Bournemouth University

9.2 Bournemouth University have completed the second and third season's monitoring of the Swash Channel Wreck, and their reports appear as Appendices XV and XVI. A further programme has been agreed between Poole Harbour Commissioners and Bournemouth University and will be carried out during the 2009 diving season.

9.3 English Heritage have produced a Draft Conservation Statement and Management Plan for the wreck, and this is still to be published.

9.4 An agreement has been reached between Poole Borough Museum Services and Bournemouth University for the curation of items that have been recovered from the wreck.

10. **Forward Work**

10.1 A final report will be provided after all the monitoring reports are completed at the end of 2009.

10.2 The proposal would be that on-going of monitoring of Poole Harbour will be included under Maintenance Dredging Protocol, which will be included and updated regularly on the PHC website.