

## 24 MONITORING PROPOSALS

### 24.1 INTRODUCTION

1. The HHA implements and manages an extensive monitoring programme in the Stour and Orwell estuaries and associated off-shore areas, largely in response to the commitments placed on them following the 1998/2000 Approach Channel Deepening, and extended to take account of the Trinity III Terminal (Phase 2) Extension. In summary, this addresses the following issues:

- Bathymetry;
- Suspended sediment;
- Sedimentation;
- Benthic communities;
- Fish, shrimp and plankton;
- Intertidal vegetation and topography; and
- Waterfowl distribution and abundance.

2. This programme, overseen by a Regulators group, would not be affected by the reconfiguration of Felixstowe South, the monitoring requirements for which are set out below. However, it is proposed that the HHA would act as an agent to HPUK in implementing any monitoring actions arising from the FSR HRO relating marine ecology and fisheries (i.e. water based effects).

3. With respect to land-based effects that require monitoring, full details of any mitigation measures and on-going commitments proposed are set out in the relevant sections of the ES (i.e. air quality, noise and vibration, and transportation), but summarised here.

### 24.2 MARINE ECOLOGY

1. It is proposed that the effect of capital dredging on benthic communities (comprising both infauna and epifauna) in the Harbour be monitored. Details of the proposals are provided in Sections 24.2.1 and 24.2.2. However, prior to any monitoring being undertaken, the objectives and methodology for sampling and data analyses would be discussed and agreed with relevant regulatory bodies (e.g. CEFAS and English Nature).

#### 24.2.1 Infaunal communities

1. As described in Section 6.1, the baseline survey included sampling 46 stations in triplicate so that could potentially act as future monitoring stations. It is suggested that 6 of these stations are selected and targeted for monitoring. The selected stations should be located within the footprint of the proposed dredged area and at varying distances from it. The aim of sampling at these stations would be to determine the direct impact of the dredging on the infaunal community and the extent and magnitude of indirect impacts on the surrounding seabed due to the sedimentation of fine material disturbed and suspended by the dredging. The methodology adopted for the sampling

and data analysis should be the same as that used for the baseline survey, as described in Section 6.1.

2. During the infaunal sampling described above, sub-samples should be taken for analysis of the particle size distribution of the sediment. This would provide information on the direct and indirect impact of dredging on the physical nature of the seabed and allow any changes to the nature of the seabed identified to be linked to biological changes determined from the infaunal sampling.

3. If the works proceed, it is proposed that all samples from the stations sampled in triplicate during the baseline survey should be analysed (only a single sample from each station was analysed in order to describe the baseline communities) in order to provide a comprehensive pre-construction data set. In addition, further pre-construction monitoring should be undertaken in order to provide more data against which to assess the impact of the proposed development. This would be undertaken once a year (at the same time of year as the baseline survey) until construction commences. Monitoring would then continue on an annual basis during construction and for at least 2 years post-construction. The requirement, or otherwise, for subsequent monitoring would then be determined based on the findings of the monitoring programme overall.

#### **24.2.2 Epifaunal communities**

1. It is proposed that 5 of the trawl paths sampled during the baseline survey (see Section 6.1) would act as monitoring sites. The aim is similar to that described above for infaunal communities. The same sampling methodology and method of analysis would be adopted as for the baseline survey. It is proposed that the timing and frequency of the monitoring would be the same as that described above for infauna.

### **24.3 FISHERIES RESOURCE**

1. Fisheries monitoring has been ongoing in the estuarine system for a number of years. The monitoring commenced following the 1998/2000 Approach Channel Deepening and has since been extended following the approval of the Trinity III Terminal Extension (under construction) and given other proposed developments in the system. However, the monitoring sites are not in the vicinity of the proposed reclamation and dredging associated with Felixstowe South.

2. Given that a number of years of data exists for the estuarine system, and the methodology adopted is accepted by fisheries organisations, it is proposed that the existing fisheries surveys are amended to include 4 stations in the vicinity of the proposed development. Although no baseline data currently exists for this area, the data from the remainder of the system would provide valuable context and allow comparison with data that would be collected for Felixstowe South.

3. Monitoring of the 4 sites would be undertaken at the same time as the monitoring that is undertaken for the remainder of the estuarine system and would continue for at least 2 years post-construction. The requirement for further monitoring would then be reviewed based on the findings of the monitoring programme overall.

## **24.4 NOISE AND VIBRATION**

1. Regular monitoring of noise levels would be undertaken during the construction phase for the reconfiguration of Felixstowe South, particularly during the noisier phases such as piling, to ensure that reasonable levels of noise are not being exceeded.
2. Monitoring of vibration levels would also be undertaken when piling is taking place relatively close to residential properties or other potentially vibration sensitive structures. For example, during the latter half of piling for the Phase 2 quay wall construction, when the works would be closest to Landguard Fort and flood defences.

## **24.5 TRAFFIC AND AIR QUALITY**

1. The TA sets out the requirements for a Traffic Management Plan and a Travel Plan (see Section 12). The mitigation proposals for the effects of the proposals on air quality include the implementation of an Environmental Management Plan for the control of construction dust generation, to ensure that plant are well-maintained on site and to reduce diesel engine idling times whenever possible. The implementation of these plans would be properly managed and monitored.

