

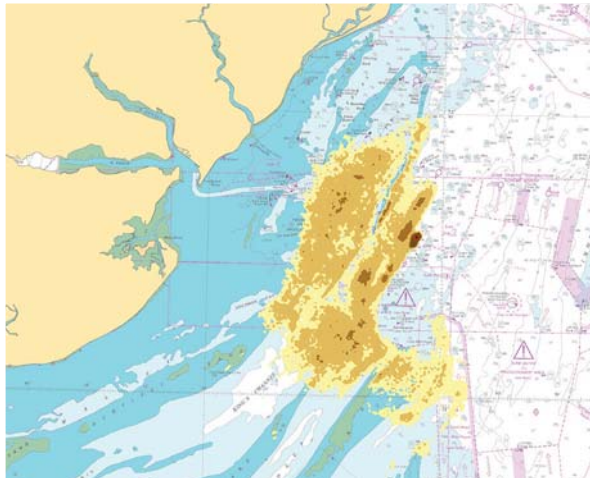
## Plume dispersion assessment for dredging, disposal and reclamation



HR Wallingford is an internationally recognised authority in the measurement and prediction of plumes arising from dredging, disposal and reclamation. With a 30 year track record, we have the expertise and skills to offer a full range of services tailored to meet our clients' needs. We have worked for and with developers, contractors, environmental consultants, trade associations, regulators and stakeholders to deliver robust evidence-based science as a basis for the management and regulation of dredging, disposal and reclamation operations.

Dredging, disposal and reclamation activities can potentially have adverse effects on ecology and local stakeholders. Developers and Regulators often require an assessment into the potential impacts and changes to the environment associated with the release of fine grained sediment during dredging, disposal and reclamation activities, as part of licensing of projects. Via both numerical modelling and monitoring, assessments also help dredging efficiency to be maximised and can be an important input to 'Building with Nature' design.

We have a highly experienced, dedicated team of experts available to undertake studies worldwide. Underpinning this experience is a suite of state-of-the-art numerical model tools which are used to inform the assessment and the design and implementation of monitoring.



## Plume dispersion assessment

HR Wallingford is a world leader in plume dispersion consultancy and research into the release of sediment caused by dredging operations into the surrounding waters. We have a range of numerical models, including dredger process models, plume dispersion models and sediment transport models which we have developed to aid the assessment of plume dispersion:

- > Expertise in the evaluation of release of sediment from dredging and disposal activity.
- > Development of models of environmental effects of dredging for the industry.
- > Detailed simulation of plume dispersion from dredging/disposal/reclamation operations.
- > Long term simulation of plume dispersion over the entire duration of a construction project.

## Monitoring

We offer a wide range of monitoring services in support of dredging, disposal and reclamation activities. These services include: monitoring design; specification of works; support during tendering and contract negotiations; management and quality assurance of monitoring in the field and data processing, interpretation, QA and management.

We have a team of highly skilled and experienced professionals with extensive expertise in oceanographic (metocean), hydrographic, marine geophysical and ecological surveying and monitoring.

## Environmental Assessment

HR Wallingford offers environmental expertise to provide added value to plume assessment studies:

- > Scoping environmental assessments.
- > Interpreting the consequences of physical changes in sensitive environments.
- > Input to EIA.

## Research Projects

- > Specialist monitoring of aggregate dredging plumes for Eastern English Channel Resource Area (UK aggregate dredging industry).
- > TASS system for evaluating environmental effects of trailer suction hopper dredgers (EcoShape, Building with Nature).
- > Release of fine sediment caused by backhoe and cutter suction dredging.
- > Development of advanced software and acoustic measurement techniques for plume monitoring (e.g. Sediview).