

Managed realignment and habitat creation



HR Wallingford has been involved in studies associated with managed realignment and habitat creation since the concepts were first developed in the UK.

Intertidal areas, like mudflats and salt marshes, are a key habitat within coastal and estuarine ecosystems, they contribute significantly to flood defence and are subject to considerable pressures from coastal squeeze, reclamation, erosion and salt marsh dieback. The quantity and functionality of coastal and estuarine habitats can be maintained by realigning the coast or using dredged material to create or enhance habitat areas.

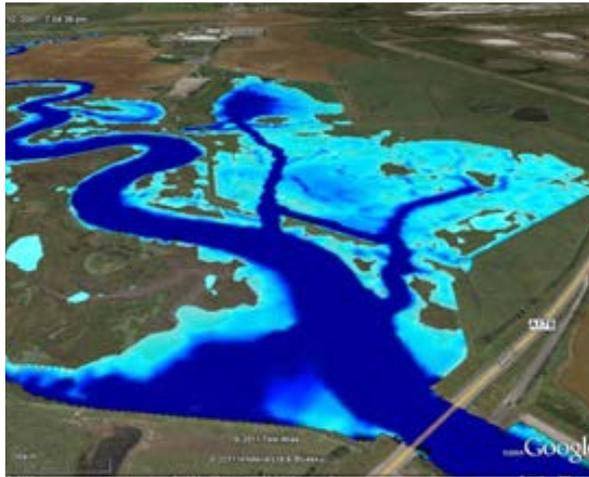
HR Wallingford has extensive experience of designing, implementing and monitoring managed realignment and habitat creation schemes. We are able to apply our knowledge and understanding of the physical and ecological processes affecting aquatic environments to offer a complete service to scheme proposers.

Our strengths

- > Feasibility, planning and design studies
- > Environmental Impact Assessment
- > Peer review
- > Monitoring
- > Novel methods and research

The need

- > Compensation for development
- > Mitigation of natural change
- > Use of 'soft' coastal defence
- > Beneficial use of dredged material



Legislative framework

We have a sound understanding of legislation that applies to habitat creation, including the European Birds and Habitats Directives, Water Framework Directives and Environmental Impact Assessment Directives. With extensive experience in environmental regulation, we are well placed to deliver practical solutions that meet legislative requirements.

Compensatory habitat creation

When a project is planned near a designated conservation site, compensation and mitigation measures may be required to ensure that vulnerable habitats and species are protected. Under environmental legislation, protected habitats must be replaced like-for-like if they are damaged or destroyed by a development.

Compensatory habitat replacement schemes are often expensive to implement, they require careful design and management to ensure that a solution is delivered that is fit for purpose. HR Wallingford is well placed to help scheme planners meet these criteria in the most cost effective way.

Beneficial use of dredged material

Dredged material was once considered a waste product, now however, increased understanding of the environmental sensitivities of dredging operations and the development of international legislation means beneficial uses of dredged material now must be considered within any capital dredge.

HR Wallingford is able to offer expertise, knowledge and understanding of the engineering and environmental constraints associated with the beneficial use of dredged sediment. We have worked with all types of sediment, ranging from fine silts and clays used for intertidal habitat creation at Shotley on the Orwell estuary, beach recharge at Poole using sands from the capital dredge of the Poole approach channel, to the creation of lobster habitat using rock from the approach channel at Harwich.

Our capabilities

We have a unique mix of know-how, assets and facilities that enable us to provide the required components for successful managed realignment and habitat creation projects.

Our capabilities include:

- > state of the art numerical and physical modelling of hydrodynamics, sediment transport and morphology;
- > engineering design;
- > expertise in practical dredging;
- > full knowledge of the legislative context;
- > ecology; and
- > environmental assessment.

HR Wallingford has an excellent reputation for technical expertise and independence with the regulatory authorities.