

Coastal Habitat Restoration Services

Introduction

Jacobs has class leading experience in the investigation, design and delivery of habitat restoration programmes and schemes. We have undertaken and appraised schemes around the world including the United States and Europe. In the UK, we have assessed more than 300 realignment sites in over 50 estuaries and have delivered some of the country's largest and most prestigious schemes including Medmerry, Freiston, Alkborough, Hesketh Out Marsh West and Steart.

Key Capabilities

We undertake all aspects of habitat restoration including:

- Regional and estuary-wide studies
- Feasibility and detailed design
- Surveys and construction supervision
- Monitoring, research and post scheme appraisal
- Inclusion of managed realignment policies within Shoreline Management Plans (SMPs) and Flood and Coastal Risk Management (FCRM) Strategies.

What We Do

Our expertise

We have an experienced team of specialists who have been involved in creating intertidal habitats for over 20 years. We were involved in some of the earliest UK schemes, such as Tollesbury and Paull Holme Strays, and pioneered early contractor involvement in scheme design.

Our staff have contributed to national and international guidance for the selection, design, appraisal, management and implementation of habitat creation schemes, including the Construction Industry Research and Information Association (CIRIA) Managed Realignment Guide, in addition to several guides for UK Government.

**Alkborough Flats
Managed
Realignment and
Tidal Defence
Scheme, UK**

Image ©
Environment Agency



We have also developed best practice both regionally, in the Humber, as well as internationally, in projects such as Flood Risk and Management in Estuaries (FRaME), Tidal River Development (TIDE), and Harmonised River Basins Strategies North Sea (HARBASINS). Our scientists and engineers also regularly contribute to national and international scientific journals and conferences.

Scheme Design

We design schemes that deliver the desired habitats whilst minimising environmental impacts on the surrounding environment. We make use of our 1D, 2D and 3D modelling to reduce impacts such as the creation of scour channels and the deepening of estuary channels. Scheme designs have included regulated tidal exchange, breaches and bank removal, large scale re-profiling, wave breaks, cattle refuges and artificial creek systems.

Dealing with Designated Habitats and Species

We are experienced in dealing with designated habitats and species within sites at strategic and scheme level. We have successfully developed strategies and schemes to balance intertidal and freshwater designated site interests. We routinely deal with water vole and newt issues and develop suitable mitigation strategies (e.g. trapping and relocation).

Dealing with Challenging Site Conditions

Many of our realignment schemes have involved dealing with existing services through re-routing, redesign, or alterations to scheme boundaries. Services that have been successfully dealt with include gas pipelines, high voltage power lines and water mains. Several of the managed realignment sites that we have developed have involved dealing with contaminated land including landfill, fly tipping and brine extraction wells.

To deal with archaeological issues, we have an in-house team of archaeologists and also work with our supply chain partners to undertake archaeological surveys and design appropriate mitigation strategies.

UK Studies
Image © NASA



Key Projects

A selection of our UK project experience is given below:

Strategic site appraisal & selection

- Aldeburgh FCRM Strategy
- Blackwater & Colne Estuary FCRM Strategy
- Exe Estuary FCRM Strategy
- Lower Clyst Managed Realignment Study
- Lune Estuary Habitat Management Study
- Medway & Swale Estuary SMP Review
- North West England & North Wales SMP Review
- Poole and Wareham FCRM Strategy
- Ribble Managed Realignment Study
- River Adur – Restoring Flood Plain Connectivity
- Roach & Crouch Estuary FCRM Strategy
- South Devon & Dorset SMP Review
- Stour & Orwell Estuary FCRM Strategy
- Thames Estuary 2100 Flood Risk Management Strategy (TE2100)
- Wyre Estuary Habitat Management Study

Feasibility studies

- Walberswick to Dunwich Tidal Defence Scheme

- Penhill Marsh Intertidal Habitat Creation
- River Arun Managed Realignment
- Aveton Gifford Managed Realignment

Detailed design & implementation

- Alkborough Scheme, Humber Estuary
- Chowderness Scheme, Humber Estuary
- Cobnor Scheme, Chichester Harbour
- Exe Estuary Habitat Delivery Project
- Greatham North Scheme, Tees Estuary
- Hesketh Out Marsh West Scheme, Ribble Estuary
- Medmerry Coastal Managed Realignment, West Sussex
- Paull Holme Strays Scheme, Humber Estuary
- Rye Harbour Farm, Scheme, River Rother
- Steart Coastal Management Project, Bristol Channel
- Welwick Scheme, Humber Estuary

Post scheme appraisals

- Alkborough Engineering Structures Review
- Alkborough Siltation and Flood Storage Review
- Frieston Managed Realignment Post Project Appraisal
- Re-appraising Managed Realignment Schemes on the Humber Estuary

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This note is for general information purposes only to provide an indication of the range of services Jacobs offers and information on previous projects utilizing these capabilities. It is current as at the date specified below. Exact services and personnel must be confirmed on a project-by-project basis.

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