

science summary



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Update of Saltmarsh Management Manual

Science Summary SC030220/SS

An updated Saltmarsh Management Manual is now available to assist coastal planners and operating authorities working in Flood and Coastal Erosion Management. The manual provides an understanding of both the requirements of saltmarsh, and when and how to manage it.

Background

Saltmarshes have a value that is related to their flood and coastal erosion risk management function, and ecosystem and conservation importance. They also have a role in pollution control, waste disposal and the maintenance of water quality, fisheries, agriculture, recreation and tourism. Their value is based on the interaction of their basic components (soil, water, flora and fauna), their physical shape (including channels and saltmarsh surface) and the assemblage of plants and animals they hold.

In the context of the wider coastal and estuarine environment, saltmarsh maintenance, restoration or enhancement is increasingly being considered as a means of managing flood risk. It also has the advantage of enhancing the conservation importance of a 'natural' habitat. The purpose of this Environment Agency Science project was to produce a Manual aimed at assisting coastal and estuarine managers and planners in the identification of the problems a saltmarsh may have (if any), and in the determination of an appropriate management response (i.e. the selection of a solution or range of potential solutions).

Results of R&D project

The project was carried out by specialists from Royal Haskoning, assisted and advised by a Steering Group with relevant expertise. Additional support and contributions were also provided by a broad group of individuals and organisations who were consulted on items ranging from the type of output to matters of technical detail. The preparation of the 'Saltmarsh Management Manual' was based on a thorough revision and updating of an existing 'Saltmarsh Management Guide' published by the Environment Agency in 1995, and took account of recent experience in saltmarsh

management, and advances in science understanding and management practice since the publication of the original Guide.

R&D Outputs and their use

The 'Saltmarsh Management Manual' is published in two formats – a hard copy report, and an interactive, electronic platform – over the web or as a disk.

The structure of the hard copy report aims not only to provide a logical journey through the wealth of information available, but also to provide a structure that more experienced coastal and estuarine managers can dip into at appropriate points. The structure also allows less experienced managers to be directed to specific sections for reference, training and development. The Manual consists of six main chapters (each supported by detailed Appendices)

- What is the saltmarsh that we might manage? Addresses the morphology and processes associated with estuaries and bays, and with their intertidal sub-systems (mudflats and saltmarshes), as well as their ecology.
- Why is saltmarsh worth managing? Examines the 'value' of saltmarsh, with particular reference to those issues that are of key importance to coastal and estuarine managers, namely ecosystem and conservation significance, and flood and coastal defence.
- Factors leading to saltmarsh change. Explores the human and natural factors that may affect saltmarsh habitat and lead to both morphological and ecological change. Both past uses that have influenced the development of saltmarshes, and current activities that could affect the condition and distribution of saltmarsh, are described.
- Saltmarsh management. Presents the main focus of the Manual, and gives details of a range of techniques that are available for maintaining, restoring or enhancing saltmarshes. Potential environmental effects are discussed, and the effectiveness of the various techniques at maintaining and enhancing saltmarsh habitat is reviewed. This chapter also provides reference for saltmarsh creation techniques that can be used in areas where there is no existing

saltmarsh. A series of case study examples of the various techniques is given in the accompanying Appendix.

- Survey and monitoring of saltmarsh

An essential component of any saltmarsh management scheme is monitoring the state of its physical and biological systems. This chapter therefore describes the general components of a saltmarsh monitoring programme.

The electronic platform version of the Saltmarsh Management Manual takes exactly the same technical content as the hard copy report, and provides it in a format which allows the manager, planner or client to select his/her own route through the information quickly and consistently, dependant on the issues the particular individual faces. Linkages to websites and other sources of information are also included as part of an integrated deliverable. This is not an expert system - it will not make decisions for the coastal or estuarine manager, but will rather support them.

In both its versions, the Saltmarsh Management Manual will help coastal and estuarine managers, clients and planners to arrive at sound decisions for maintaining, restoring or enhancing saltmarshes, based on easy access to the guidance and information contained in the Manual.

This Summary relates to information from Project SC030220 (formerly W5-076). Findings are reported fully in the following outputs:-

Science Report: [SC030220/SR](#)

Title: Saltmarsh Management Manual.

ISBN: [1844325008](#)

October, 2006

Report Product Code: [W5-076/TR](#)

Saltmarsh Management Manual – Electronic Platform

<http://www.saltmarshmanagementmanual.co.uk>

Internal Status: Released to Regions

External Status: Released to Public

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This project was funded by the Environment Agency's Science Group, which provides scientific knowledge, tools and techniques to enable us to protect and manage the environment as effectively as possible.

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Summary Product Code:

