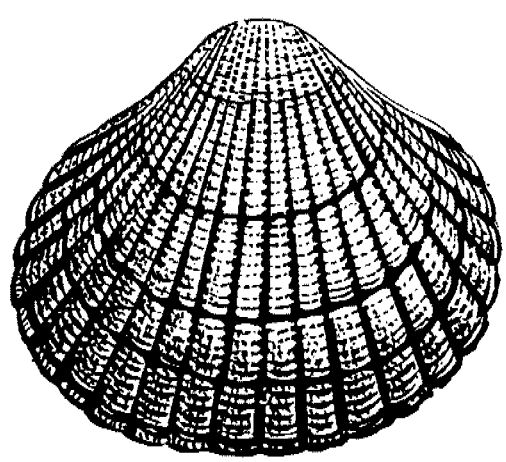
ENGLISH NATURE

No. 323

Grey literature on the maritime environment

A select bibliography



Compiled by
Anne Beach & Brigid Newland
Edited by Jean Tither

Library and Information Services

English Nature Research Reports

English Nature Research Reports

Number 323

Grey literature on the maritime environment: a select bibliography

Compiled by
Anne Beach and Brigid Newland

Editor: Jean Tither

This document is also available on diskette

ISSN 0967-876X

Acknowledgements

We would like to acknowledge the work of other members of the Information and Marketing Team who assisted with this project: Judith Alvey and Malcolm Rush for their advice on cataloguing issues and Sheila Gorman, Pat Hall and Mary Roberts for typing the final version of the text.

Contents

Introduction

The material covered by the term grey literature, for the purpose of this bibliography, comprises essentially unpublished reports of research projects and environmental surveys, doctoral theses and proceedings of conferences and seminars. It has been produced by a wide range of organisations, including government departments, local authorities, conservation bodies, university departments and consulting engineers. In many cases English Nature has contributed to or helped to fund the work which has been detailed here. However, the bibliography includes very few reports of work carried out entirely by English Nature. The reason for this exclusion is that information about these titles is available through *Wildscape*, the English Nature library's textbase and via the separate listings of *English Nature Research Reports* and *English Nature Science* available from the English Nature enquiry service.

The report collection was originally held by English Nature's Maritime Team and relates to all areas of the Team's work: marine conservation, marine ecology, coastal zone management, coastal geomorphology, coastal wetlands and saltmarshes, sea defence, shoreline monitoring and management, fisheries, environmental impacts such as dredging and disposal, marine pollution and oil spills, estuarine studies and issues. There was no systematic attempt to collect all grey literature in these subject areas. Instead, this is a random collection that the Team has built up during the course of research. Most of the reports document research that has been carried out in the last five years.

In 1996 the library of English Nature undertook an indexing project to bring this material under bibliographic control and ensure that other English Nature staff engaged in maritime work would be aware of its existence and have access to it. Since then most of the collection has been incorporated into the library's collections. This work has resulted in the compilation of the present bibliography. Its publication in English Nature's Research Report series will also make the references available to a wider audience beyond the organisation.

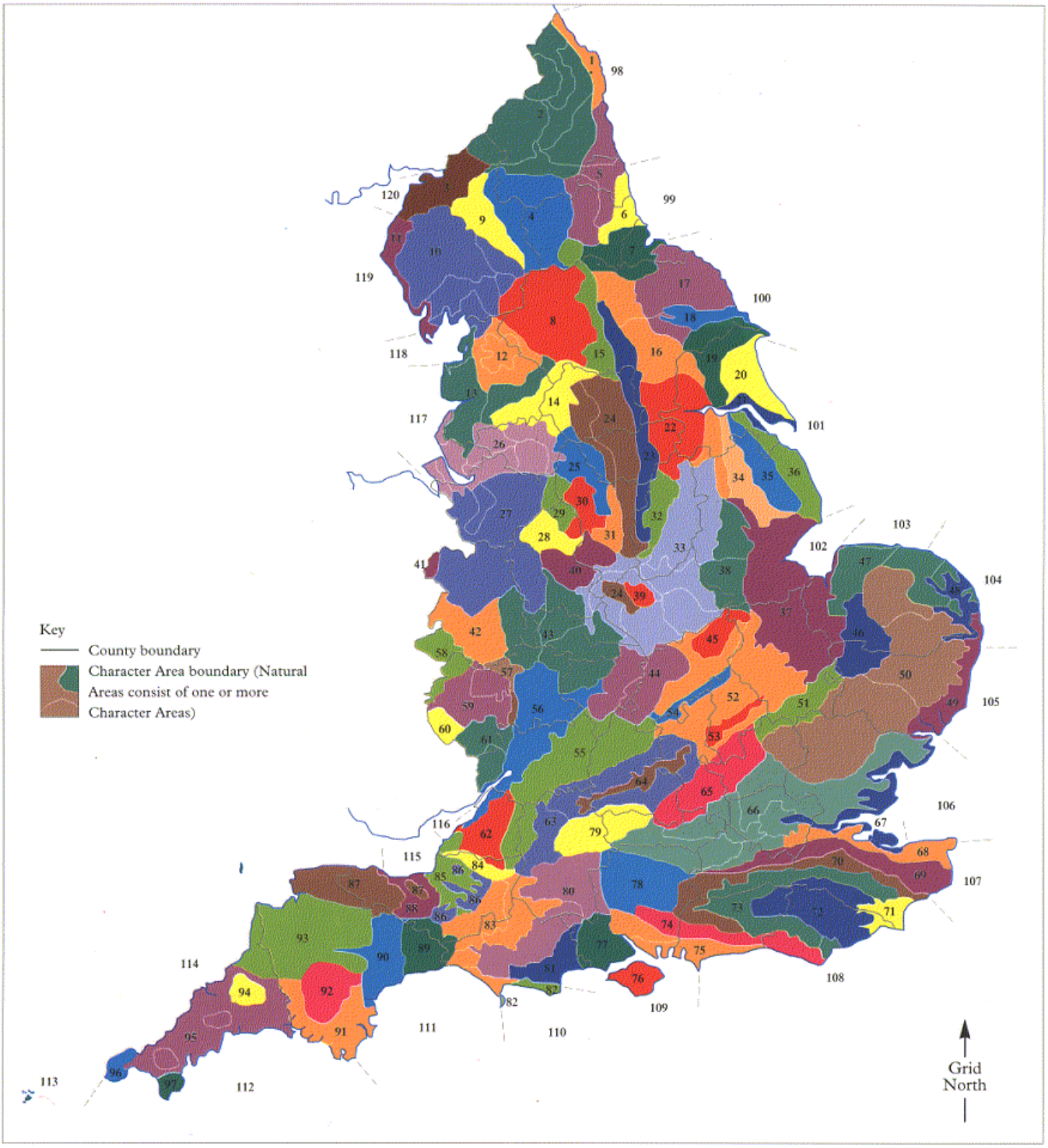
Most of the reports included in the bibliography can be made available to external users through the organisation's lending policy which is to supply items on loan to an individual's local library service rather than lend directly to an individual user. The location P in the bibliography indicates that the item is located via English Nature's library in Peterborough. For further information about English Nature's library services contact the Library help desk (tel: 01733 455094; e-mail: library.en.nh@ gtnet.gov.uk).

The bibliography has been subdivided by maritime Natural Area. English Nature's system of mapping the country according to natural areas has been specially developed to underpin its work on the country's wildlife and natural features (see the Natural Areas map). Where a report covers more than one Natural Area, a general designation has been used.

Jean Tither
Information and Marketing Team

ENGLISH NATURE

Natural Areas



1	North Northumberland Coastal Plain	25	Dark Peak	49	Suffolk Coast and Heaths	73	Low Weald and Pevensey	97	The Lizard
2	Border Uplands	26	Urban Mersey Basin	50	East Anglian Plain	74	South Downs	98	Northumberland Coast
3	Solway Basin	27	Mosses and Meres	51	East Anglian Chalk	75	South Coast Plain and Hampshire Lowlands	99	Tyne to Tees Coast
4	North Pennines	28	Potteries and Churnet Valley	52	West Anglian Plain	76	Isle of Wight	100	Saltburn to Bridlington
5	Northumbria Coal Measures	29	South West Peak	53	Bedfordshire Greensand Ridge	77	New Forest	101	Bridlington to Skegness
6	Durham Magnesian Limestone Plateau	30	White Peak	54	Yardley-Whittlewood Ridge	78	Hampshire Downs	102	The Wash
7	Tees Lowlands	31	Derbyshire Peak Fringe and Lower Derwent	55	Cotswolds	79	Berkshire and Marlborough Downs	103	Old Hunstanton to Sheringham
8	Yorkshire Dales	32	Sherwood	56	Severn and Avon Vales	80	South Wessex Downs	104	Sheringham to Lowestoft
9	Eden Valley	33	Trent Valley and Rises	57	Malvern Hills and Teme Valley	81	Dorset Heaths	105	Suffolk Coast
10	Cumbria Fells and Dales	34	North Lincolnshire Coversands and Clay Vales	58	Clun and North West Herefordshire Hills	82	Isles of Portland and Purbeck	106	North Kent Coast
11	West Cumbria Coastal Plain	35	Lincolnshire Wolds	59	Central Herefordshire	83	Wessex Vales	107	East Kent Coast
12	Forest of Bowland	36	LIncolnshire Coast and Marshes	60	Black Mountains and Golden Valley	84	Mendip Hills	108	Folkestone to Selsey Bill
13	Lancashire Plain and Valleys	37	The Fens	61	Dean Plateau and Wye Valley	85	Somerset Levels and Moors	109	Solent and Poole Bay
14	Southern Pennines	38	Lincolnshire and Rutland Limestone	62	Bristol, Avon Valleys and Ridges	86	Mid Somerset Hills	110	South Dorset Coast
15	Pennine Dales Fringe	39	Charnwood	63	Thames and Avon Vales	87	Exmoor and the Quantocks	111	Lyme Bay
16	Vale of York and Mowbray	40	Needwood and South Derbyshire Claylands	64	Midvale Ridge	88	Vale of Taunton and Quantock Fringes	112	Start Point to Land's End
17	North York Moors and Hills	41	Oswestry Uplands	65	Chilterns	89	Blackdowns	113	Isles of Scilly
18	Vale of Pickering	42	Shropshire Hills	66	London Basin	90	Devon Redlands	114	Land's End to Minehead
19	Yorkshire Wolds	43	Midlands Plateau	67	Greater Thames Estuary	91	South Devon	115	Bridgwater Bay
20	Holderness	44	Midland Clay Pastures	68	North Kent Plain	92	Dartmoor	116	Severn Estuary
21	Humber Estuary	45	Rockingham Forest	69	North Downs	93	The Culm	117	Liverpool Bay
22	Humberhead Levels	46	Breckland	70	Wealden Greensand	94	Bodmin Moor	118	Morecambe Bay
23	Southern Magnesian Limestone	47	North Norfolk	71	Romney Marshes	95	Cornish Killas and Granites	119	Cumbrian Coast
24	Coal Measures	48	The Broads	72	High Weald	96	West Penwith	120	Solway Firth

Revised to December 1996

England: Maritime Natural Areas

21 Humber Estuary

1. TITLE **Analysis of hydrocarbons in sediments of the Humber Estuary: final report.**
   YEAR 1988
   AUTHOR HOWELLS, S.E., and others
   ORGANISATION Field Studies Council. Oil Pollution Research Unit (OPRU)
   ABSTRACT Aims to determine the concentration and nature of hydrocarbons in sediment of the Humber Estuary and to compare these with other UK estuaries. (Humber Estuary Natural Area, Oil pollution)
   LOCATION P
   NOTES 1v. (var. pag.). Bibliog. Pembroke.

2. TITLE **Humber Estuary and coast: management issues**
   YEAR 1994
   AUTHOR PETHICK, J.S.
   ORGANISATION Hull University. Institute of Estuarine and Coastal Studies, &side County Council. Environment Sub-committee
   ABSTRACT Describes a new method of coastal management in which an attempt is made to understand and work with the natural forces of the coast rather than to resist them. Summarises the present state of knowledge and presents some management guidelines for the future which may assist with this new approach. (Coast protection, Humber Estuary Natural Area, Humberside, Sea defences)
   LOCATION P
   NOTES 17p. Bibliog. Hull.

3. TITLE **Humber Estuary tidal defences: procedure for ensuring consistency of approach for delivering flood defence works. Version 1.0.**
   YEAR 1996
   ORGANISATION Environment Agency
   ABSTRACT The 'Framework for Action', prepared by the Environment Agency in 1996, describes the long term approach to the Estuary which will involve the development of an Estuary based Shoreline Management Plan. In the interim it is regarded as essential that the Agency promotes works, referred to as 'Urgent Works', on the Estuary in advance of long term strategy development. The procedures described in this publication permit the identification, planning, preparation and construction of flood defence works which will comprise the Urgent Works Programme in the Humber Estuary. (Estuaries, Humber Estuary Natural Area, Humberside)
   LOCATION P
   NOTES 1v. (var. pag.). Bibliog. No place of publication given.

4. TITLE **Humber Management Group: strategic development; a framework for action.**
YEAR 1996
AUTHOR BARHAM, P.
ORGANISATION Environment Agency. Anglian region, & Humber Management Group
ABSTRACT Prepares the framework for the Environment Agency's strategy for the Humber, identifies key areas of work and the personnel responsible for their delivery. (Humber Estuary Natural Area, Coastal management, Estuaries, Humberside, Lincolnshire)
LOCATION P
NOTES 29p. Peterborough.

5. TITLE **Humber Estuary meeting...November 1996.**
YEAR 1996
ORGANISATION Environment Agency
ABSTRACT Includes: minutes of the previous meeting which was held in February 1996; a paper reporting on the progress of long term strategy development; a paper entitled Humber Estuary flood defences: procedure for ensuring consistency of approach for delivering urgent flood defence works (Version 5.0). (Humber Estuary Natural Area, Estuaries, Humberside)
LOCATION P
NOTES 1v. (var. pag.). No place of publication given.

6. TITLE **Managing the Humber Estuary: the Environment Agency's approach.**
YEAR 1997
ORGANISATION Environment Agency
ABSTRACT Summarises the responsibilities and actions of the Environment Agency in planning for a sustainable estuary. (Humber Estuary Natural Area, Coastal management, East Riding of Yorkshire, Kingston-upon-Hull, North East Lincolnshire, North Lincolnshire, Sustainability)
LOCATION P
NOTES Folded Leaflet. Lincoln.

67 Greater Thames Estuary

7. TITLE **The extent and distribution of organochlorine insecticide and polychlorinated biphenyl contamination in the sediment and invertebrates of the salt marsh at Two Tree Island.**
YEAR 1993
ORGANISATION Imperial College of Science, Technology and Medicine. Department of Civil Engineering, & English Nature (EN)
ABSTRACT A survey of 5 salt marshes along the Essex coast between 1991 and 1992 for a range of organic micropollutants and trace metals revealed that the sediments at Two Tree Island contained relatively enhanced concentrations of a range of pollutants, including chlorinated micropollutants such as organochlorine insecticides (OCL) and polychlorinated biphenyls (PCB). The objectives of this study were to

evaluate the contribution of local inputs, particularly the old council waste tip situated on Two Tree Island, to OCL and PCB contamination in the area and to assess the extent of accumulation in the invertebrate population of the mud flats fronting the salt marsh. (Coastal ecology, Greater Thames Estuary Natural Area, Pesticides, Pollution, Toxic chemicals)

LOCATION P

NOTES 37p. Bibliog. London.

8. TITLE **A survey of DDT residues in salt marsh sediments from the Dengie Peninsula, Essex.**

YEAR 1994

ORGANISATION English Nature (EN), & Imperial College of Science, Technology and Medicine. Department of Civil Engineering

ABSTRACT Finds that the amount of DDT and its metabolites (DDE and DDD) likely to be released as the salt marsh at Dengie erodes is unlikely to cause immediate or significant environmental concern in relation to amounts already available or released from other sources. The distribution of DDT and its breakdown products (predominantly DDE and DDD) in sediments shows little variation along the salt marsh of the Dengie peninsula. There is an indication that concentrations may be greater on the southern site, Tip Head. pp-DDE is the predominant breakdown product, and is present in concentrations above those of the parent compound pp-DDT. op-DDT exhibits greater persistency than pp-DDT, however, the lower toxicity of this isomer causes less concern regarding its residues. There is a tentative link between moisture content of the sediment and the relative amount of pp-DDE to that of pp-DDT. It was not possible to link this to elevation above OD Newlyn (and frequency of inundation). (Coastal ecology, Greater Thames Estuary Natural Area, Pesticides, Pollution, Toxic chemicals)

LOCATION P

NOTES 40p. Bibliog. London.

9. TITLE **Full-scale managed setback trial - Tollesbury Creek, Essex: Environmental assessment.**

YEAR 1994

ORGANISATION Hull University. Institute of Estuarine and Coastal Studies, & English Nature (EN)

AUTHOR BRICKLE, C., and others

ABSTRACT Examines the environmental impact of the construction of a new counter wall along the landward boundary of the trial site and considers managed retreat as a method of coastal defence. Contains details on the following: historical framework; physical characteristics; biological environment; socio-economic factors; environmental interactions. Also considers the potential impacts of the trial and provides proposals for monitoring. (Coast protection, Coastal management, Greater Thames Estuary Natural Area, Marine nature conservation, Sea defences)

LOCATION P

NOTES 1v. (var. pag.). Bibliog. Hull. EN contract no. F72-04-29

10. TITLE **Monitoring of salt marsh experimental sites - Essex: 3rd survey report.**
YEAR 1993
ORGANISATION National Rivers Authority (NRA). Anglian Region
ABSTRACT Provides data on site layout and installation and includes tables of levels. (Greater Thames Estuary Natural Area)
LOCATION P
NOTES 1v. (var. pag.). No place of publication given. Order No. 92813

11. TITLE **Northey Island set-back scheme: results of monitoring.**
YEAR 1991
ORGANISATION Hull University. Institute of Estuarine and Coastal Studies
ABSTRACT States that the continued maintenance of some existing sea defences is becoming increasingly uneconomic and that the ability of natural ecosystems to adapt to the changing coastal environment should be used as part of the sea defence management system. Set back, or managed retreat (MR) allows the flexibility to cope with increasing rates of change whilst also providing environmental enhancement. Describes small scale experimental set back scheme and includes the following chapters: monitoring; sluice design; implementation; recommendations. (Coastal engineering, Coast protection, Essex, Greater Thames Estuary Natural Area, Sea defences)
LOCATION P
NOTES 1v. (var. pag.). Bibliog. Hull.

12. TITLE **Two geologically dissimilar sites on the Swale.**
YEAR 1994
AUTHOR FRANKLIN, P.
ABSTRACT The relationship between inter-tidal fauna and sediment type was studied at two locations on the Swale, part of the Thames estuary. Sampling was carried out after terns had vacated their breeding sites on adjacent nature reserves and when daylight and tides were suitable. These results show a positive correlation between species of polychaete worms and their preferred habitat. (Greater Thames Estuary Natural Area, Kent)
LOCATION P
NOTES 1v. (var. pag.). Bibliog. London.

13. TITLE **The coastal marshland of East Essex between the seventeenth and mid-nineteenth centuries.**
YEAR 1960
AUTHOR GRAMOLT, D.W.
ORGANISATION London University
ABSTRACT This thesis is divided into three parts. The first is concerned with the reclamation of salt marsh. With the aid of a large variety of sources, it is possible to trace the stages by which reclaimed marshland has been added to the east coast of Essex since Elizabethan times. Most land was gained from the sea in the periods 1570-1720, 1780-1815, and 1850-1880. Owing to differing physical conditions, more marshland was reclaimed in the south-east of the county than in the north-east. In

the second part, it is first described how the Commissioners of Sewers supervised the maintenance of drainage and the sea defences of the marshes. Water-courses not only had to drain excess water, but also were the means of supplying water in summer. The sea defences were strengthened and the sea walls heightened and enlarged to keep out the sea, but as a result of subsidence of the land relative to the sea and the occurrence of storm surges, unprecendented high tides have inundated and covered anew the fresh marshes, temporarily or permanently, at fifty-five year intervals. The third part describes the utilisation of the marshes. Sheep were grazed on the marshes late in the sixteenth century for dairy produce, but this later died out, as did the salt industry, although other pursuits continued to contribute to both the marshland landscape and marshland scenery, in particular, the capture of wildfowl in duck decoys. Grazing and fattening stock for sale as beef, mutton, and veal in the London markets always remained a mainstay of the economy, but much of the higher, better-drained marshlands, especially in the south-east of the county, came to be converted to arable cultivation. (Greater Thames Estuary Natural Area, Saltmarshes)

LOCATION P
NOTES 398p. & appendices. Bibliog. London. Place of publication guessed. M.A. Thesis.

14. TITLE **Sites of historical sea defence failure: phase II interim report.**
AUTHOR BURD, F., CLIFTON, J., & MURPHY, B.
ORGANISATION Hull University. Institute of Estuarine and Coastal Sudies
YEAR 1993
ABSTRACT Records data from sites identified in a preliminary study of areas of reverted saltings in Essex. Data consist of a range of physical variables which may have determined the fate of the inned marshes when they were re-flooded, together with the observed characteristics of the new marshes after a period of inundation. The dataset will undergo statistical analysis and may be used to design engineering and management strategies for new managed retreat (MR) Schemes. (Coastal engineering, Greater Thames Estuary Natural Area, Saltmarshes)
LOCATION P
NOTES 33p. + appendices. Hull.

15. TITLE **Environmental considerations and priorities in relation to rural seawall policies in Essex: a preliminary study of land use. Volume 1.**
YEAR 1992
AUTHOR ST. JOSEPH, A.
ORGANISATION Wetlands Advisory Service (WAS), & National Rivers Authority (NRA). Anglian Region
ABSTRACT Aims to provide a rationalisation of sea defences and the recognition that the MAFF/NRA cost benefit analyses need to be able to put a comparative value on the nature conservation potential of individual sites. The area of study is the Essex coast from Great Wakering to

Point Clear, excluding Ministry of Defence sites. Rising sea levels and eroding saltmarsh are likely to cause a significant increase in sea defence costs at a time when costs are already under review because of falling land values and agricultural returns. The environmental value of the Essex coast is very high. Amenity interests are related to a strong demand for informal recreation facilities from a very large, urban-based population. The area is of international importance to nature conservation. It is one of the top three sites for migratory waterfowl on the UK North Sea coast. Five zones have been selected where nature conservation should be of particular account in future sea defence decisions. The Essex saltmarshes are a very important natural resource. As a wavebreak in front of seawalls, it has a major role in reducing sea defence expenditure. There are major habitat shortfalls for wildlife on the coast. These are: high level saltmarsh, a varied fresh water/saline habitat and extensively managed grassland. None of these will be provided by a process of abandoning existing sea defences. Alternatives to hard engineering techniques are complicated by low land levels, residential considerations and long estuaries. A policy of immediate widespread retreat does not appear feasible. Locally, some short sea wall sections are considerably over-resourced and a re-appraisal should be combined with the need to gain experience with tiered defence systems that appear to offer lower long-term costs, the retention of some land-use capability and longer-term prevention from erosion. Sixteen sites have been suggested for re-consideration. Funding of alternative land use through the proposed ESA may provide some annual income, as well as allowing the translocation of some high value nature conservation sites to higher levels as they would be at considerable risk of elimination. (Coastal engineering, Coast protection, Greater Thames Estuary Natural Area)

LOCATION P

NOTES 60p. Bibliog. Slimbridge.

16. TITLE **Essex salt marsh erosion**

YEAR 1991

ORGANISATION Hull University. Institute of Estuarine and Coastal Studies

ABSTRACT Summarises the work carried out by IECS on the Essex marsh erosion problem during the period 1987-90, and outlines the results of the continued research carried on in the period July 1990 - January 1991. Intended to act as a discussion document both for the planning of future research and for the development of management principles based on the results of past work. Summarises the results and implications of the research rather than the details of experimentation. (Coast protection, Coastal management, Greater Thames Estuary Natural Area, Saltmarshes)

LOCATION P

NOTES iv. (var. pag.). Bibliog. Hull . Report No. 7

17. TITLE **The Blackwater Estuary: monitoring and management recommendations.**
YEAR 1993
ORGANISATION Hull University. Institute of Estuarine and Coastal Studies
ABSTRACT Outlines the requirement for research and monitoring necessary for the provision of a data base which is adequate for the future management of the estuary and provides a preliminary management strategy. (Essex, Estuaries, Greater Thames Estuary Natural Area)
LOCATION P
NOTES 8p. Hull.

18. TITLE **Results of post breach monitoring of Orplands managed retreat site, August 1995 to March 1997.**
YEAR 1997
ORGANISATION Environment Agency & HR Wallingford
ABSTRACT Includes the following chapters: vertical accretion/erosion; tidal flow through the breaches; plant survey; animal survey covering infauna and fish and wintering and breeding birds. (Coast protection, Coastal ecology, Coastal management, Essex, Greater Thames Estuary Natural Area, Saltmarshes)
LOCATION P
NOTES 157p. Wallingford. Place of publication given guessed.

19. TITLE **Essex saltings research 1986 to 1992 [and] summary.**
YEAR 1993
ORGANISATION Hull University. Institute of Estuarine and Coastal Studies, & National Rivers Authority (NRA). Anglian Region
ABSTRACT Aims to draw together and summarise the types of research undertaken, the hypotheses examined and the main results and conclusions of the work. Allows the current state of knowledge of saltmarshes to be presented, together with recommendations for methods of coastal management. The saltmarshes are a valuable resource, providing habitat for birds, invertebrates and halophytic plants, and buffering protection for the county's sea defences. They are important for both their nature conservation and economic value, but the problems of continuing erosion mean that the resource will be lost unless a new equilibrium with the physical forces can be reached. (Greater Thames Estuary Natural Area, Salt marshes, Wetlands management)
LOCATION P, NC
NOTES 2v. Glossary. Hull.

20. TITLE **Proposed gravel extraction: Maplin Sands.**
YEAR 1992
AUTHOR BALDOCK, B.M.
ORGANISATION Civil and Marine Limited, & Wimpey Environmental
ABSTRACT Aims to identify the information available on the important biological, hydrological, sedimentological and commercial aspects of the study area in the outer Thames estuary and to anticipate the likely environmental impacts of gravel extraction. (Essex, Greater Thames Estuary Natural Area)

LOCATION P
NOTES 33p. + appendices. Bibliog. Swindon. Contract No. RENZ5127

21. TITLE **Maplin Sands area: sediment movement study.**
YEAR 1992
AUTHOR DEARNALEY, M.P., & BURT, T.N.
ORGANISATION NHR Wallingford, & Civil and Marine Ltd.
ABSTRACT Investigates various aspects concerning sediment movement associated with a licence application for extracting marine aggregate from an area in the outer Thames estuary. (Coastal geomorphology, Essex, Greater Thames Estuary Natural Area, Sand and gravel extraction, Sediment transport)
LOCATION P
NOTES 39p. + appendices. Bibliog. Wallingford. Report No. EX 2528

22. TITLE **Baseline survey of potential coastal realignment site, Rewsalls, Essex: description of pre-tidal inundation physical, chemical and biological conditions.**
YEAR 1996
AUTHOR CARPENTER, K.
ORGANISATION HR Wallingford, & National Rivers Authority (NRA)
ABSTRACT Summarises data collected during a study to establish existing physical, chemical and biological characteristics of an area of coastal grazing land at Rewsalls, Mersea Island, which the NRA has proposed as a possible managed retreat (MR) site. Describes study site and control sites and measurements and presents the collected data. Provides predictions of the character of the site after coastal realignment and makes recommendations to improve the success of the scheme. (Coast protection, Coastal ecology, Coastal management, Greater Thames Estuary Natural Area, Saltmarshes)
LOCATION P
NOTES 1v. (var. pag.). Bibliog. Wallingford. Report No. EX 3390

23. TITLE **Baseline survey of managed retreat site, Orplands, Essex: description of pre and post inundation monitoring and methodology and a description of the physical, chemical and biological characteristics of the site before the seawall was breached.**
YEAR 1996
ORGANISATION HR Wallingford, & National Rivers Authority (NRA)
AUTHOR CARPENTER, K.E.
ABSTRACT Aims to conduct a pre and five year post - inundation survey of land which was going to be reopened to tidal flooding following coastal realignment. Contains the survey methodology and the results and interpretation of the baseline survey. Provides a general description of the study site and control sites. Describes the methodology and presents the collected data.
(Coast protection, Coastal ecology, Coastal management, Greater Thames Natural Area, Saltmarshes)
LOCATION P

NOTES 1v. (var. pag.). Bibliog. Wallingford. Report No. EX3391.

24. TITLE **Remote sensing of saltmarshes: an appraisal of contemporary techniques and applications, with reference to the Blackwater Estuary.**
YEAR 1996
ORGANISATION University College London
AUTHOR ADAMS, B.J.
ABSTRACT In theoretical and practical terms, remote sensing contributes new and improved sources of information and increased efficiency to the monitoring of ecological and morphological properties of saltmarsh environments. Large-scale mapping and inventorying benefits from the synoptic coverage of remotely sensed imagery, while semi-automated edge enhancement techniques enable rapid and reliable extraction of natural and engineered saltmarsh channel networks. Digital terrain models of the intertidal zone provide a framework for modelling landform-process feedback mechanisms and for predicting the effect of sea level rise. Furthermore, remote sensing can contribute to baseline surveys of potential sites for implementing managed retreat and the subsequent monitoring of saltmarsh regeneration. High resolution multispectral imagery is the optimal source of data for all round studies of the intertidal zone. The implementation of CASI imagery and panchromatic aerial photography in a case study of the Blackwater Estuary marshes, demonstrated the importance of customising the source of remote sensing data to meet the spatial, spectral and temporal requirements of the monitoring applications. The integration of remote sensing and conventional ground based monitoring techniques within a GIS environment, points the way towards strategic management of the intertidal zone. (Aerial photography, Coastal management, Essex, Greater Thames Estuary Natural Area, Salt marshes)
LOCATION P
NOTES ix, 49p. Bibliog. London. MSc. Report

25. TITLE **Trial foreshore recharge.**
YEAR 1992
ORGANISATION National rivers Authority (NRA). Anglian Region
ABSTRACT Describes a trial experiment to recharge eroded foreshores on the Essex coast at Foulton, Stone Point and Horsey Island. Extensive monitoring was undertaken both before and after the trial to ascertain the impact on the affected areas. This experiment in beach replenishment shared a potential for reducing capital and maintenance expenditure for suitable locations, using an engineering method that has environmental and visual benefits and a fast construction time. (Coast protection, Coastal management, Greater Thames Estuary Natural Area)
LOCATION P
NOTES 19p. + appendices. Bibliog. Peterborough.

26. TITLE **Walton backwaters: an assessment of a trial replenishment scheme.**
YEAR 1990
ORGANISATION Hydraulics Research
ABSTRACT Describes a study undertaken of a trial replenishment carried out at three sites on the Essex coast, south of Harwich. Two sites, at Foulton Hall and Pye Sand are open beaches, the third is an area of saltings at Horsey Island, sheltered by a series of offshore breakwaters. Sediment gradings of the present beach materials were analysed. Wave predictions were made for the 70% wind speed waves and two return periods (1/1 and 1/50), based on a previous report (EX1906). Measurements of the tidal currents in the lee of the offshore breakwaters were made. Predictions of the current transport processes and directions were made for each of the sites. Guidelines for the selection of material and the use of sediment control structures were presented. (Coast protection, Coastal engineering, Greater Thames Estuary Natural Area)
LOCATION P
NOTES 1v. (var. pag.). Wallingford. Report No. EX2191.

27. TITLE **Coastal monitoring at the Cudmore Grove Country Park, East Mersea, Essex: interim report.**
YEAR 1990
AUTHOR ROE, H.M.
ORGANISATION Cambridge University. Botany School
ABSTRACT Identifies significant coastal erosion due to the physiography of the site, the nature of wave attack and longshore sediment transport processes. A coastal defence scheme was introduced with the aim of allowing saltmarsh plants to recolonise the intertidal area and restrict the movement of beach materials. Two trends have been identified: polder fences are arresting the transport of sand up the coast and promoting change on the foreshore. (Coast protection, Coastal engineering, Greater Thames Estuary Natural Area. SSSI, Salt marshes, Sea defences)
LOCATION P
NOTES 40p. Cambridge.

28. TITLE **Blackwater Estuary coastal processes and conservation.**
YEAR 1993
ORGANISATION Hull University. Institute of Estuarine and Coastal studies
ABSTRACT Aims to: review the current knowledge of physical processes as tides, waves, currents, sediment sources and sinks, patterns and rates of accretion and erosion; review the coastal landforms within the estuary and summarise their Holocene development; assess the effects of changes in sea level, tidal range, and wave climate and storm surge frequency on coastal landforms, habitats, protection and flood defence and make recommendations regarding future research and monitoring requirements. (Coastal geomorphology, Essex, Greater Thames Estuary Natural Area)
LOCATION P

NOTES 1v. (var. pag.). Hull.

29. TITLE **Orplands saltmarsh regeneration scheme.**
YEAR 1995
ORGANISATION National Rivers Authority (NRA). Anglian Region
ABSTRACT Coastal engineering, Essex, Greater Thames Estuary Natural Area, Salt marshes, Sea defences
LOCATION P
NOTES 1v. (var. pag.) . Peterborough. Place of publication guessed.

98 Northumberland Coast

30. TITLE **A field guide to the littoral biotopes of the Farne Islands.**
YEAR 1996
AUTHOR FOSTER-SMITH, J.L., & R.L
ORGANISATION English Nature (EN) , Biomar, National Trust (NT), and others
ABSTRACT Marine ecology, Northumberland Coast Natural Area
LOCATION P
NOTES 29p. Bibliog. No place of publication given.

31. TITLE **Intertidal biotopes of the Farne Islands: a conservation assessment and monitoring exercise.**
YEAR 1996
AUTHOR FOSTER-SMITH, J.L., & R.L.
ORGANISATION English Nature (EN), & National Trust
ABSTRACT This survey aims to describe and map the littoral biotopes for Inner Farne, Staple Island, Brownsman and other islands; consider the conservation value of the littoral biotopes on the Farne islands in the context of the Northumberland and Berwickshire coasts; suggest a suitable monitoring programme, including areas for fixed-point photography for monitoring purposes; establish a procedure for monitoring work which can be carried out by seasonal wardens. (Marine ecology, Northumberland Coast Natural Area)
LOCATION P
NOTES 45p. Bibliog. No place of publication given.

32. TITLE **Groynes research at Blyth Sands.**
YEAR 1985
AUTHOR DUNN, N.H.
ORGANISATION Binnie & Partners
ABSTRACT A serious loss of sand from Blyth beach is described, as a consequence of which the promenade structure was left exposed with no protection from wave forces. Simple groynes were constructed on an experimental basis, and observations to date indicate that the remedy has been effective. (Coast protection, Coastal engineering, Northumberland Coast Natural Area, Northumbria, Sea defences)
LOCATION P
NOTES iv. (var. pag.). No place of publication given. Date of publication guessed.