

NATURE CONSERVATION

OUR AIMS AND OBJECTIVES

LONG-TERM AIM:

“to ensure that the existing nature conservation value of the Solent is understood, maintained and enhanced”.

OBJECTIVES

- 1. Meet the objectives for the conservation of habitats and species of the Solent.**
- 2. Protect the natural system from long-term damage due to human activity.**
- 3. Use appropriate management strategies and techniques to maintain, restore or improve coastal and estuarine habitat quality and biodiversity.**
- 4. Provide better information exchange on the nature conservation value of the Solent to planners and managers.**
- 5. Promote widespread support for Nature Conservation.**

THE POSITION

The Solent is a unique sheltered body of water lying between the mainland and the Isle of Wight. It embraces a complex of estuaries, open inshore waters and coastal and marine habitats. It is also located at a transition between different biogeographic realms¹, therefore, many species within the Solent are at the limits of their natural ranges.

The Solent and its three eastern harbours, can be considered as a single, huge, estuarine system, indeed it is thought to be the fourth most important estuary in the United Kingdom. It has coastal, intertidal and marine habitats, which include grazing marsh, vegetated shingle, sea cliffs, saltmarshes, mudflats, sand flats, rocky shores, lagoons and a variety of types of sea-bed.

KEY FACTS

- Over 150,000 migrating birds visit the Solent every winter;
- The Solent contains 15% of the UK resource of brackish lagoons;
- The Solent contains 6% of the UK resource of saltmarsh;
- The Isle of Wight has the best examples of inter-tidal and off-shore reefs in the South East region.
- 10% of the total intertidal area of the Solent has been lost to development since 1930.

The mudflats are a food resource which sustain an internationally important bird population. This includes the presence of nesting colonies of terns, gulls and other shorebirds, and the provision of feeding and roosting sites for migrating and over-wintering wading birds and wildfowl, supporting a winter peak population of c.150,000 birds. The shoreline habitats support a wide range of nationally important flora and fauna.

¹ *Biogeographic realms contain distinctive assemblages of plants and animals. The Solent lies at the transition between the warm 'Lusitanian' waters of the western English Channel - linking to the Atlantic and the Gulf Stream, and the colder 'Boreal' waters in the east, linking to the North Sea*

HABITATS IN THE SOLENT

Coastal habitat	Isle of Wight	Hampshire	West Sussex to Selsey Bill
Coastal grazing marsh	✓	✓	✓
Estuaries	✓	✓	✓
Maritime cliffs	✓	✓	✓
Rocky shores	✓	✓	✓
Saline lagoons	✓	✓	✓
Saltmarsh	✓	✓	✓
Sand dunes	✓	✓	✓
Seagrass Beds/Intertidal flats	✓	✓	✓
Vegetated Shingle	✓	✓	✓

✓ included in Local Biodiversity Action Plans



Saltmarsh (W. McKenzie)



Mudflat (Bob Lord)



Grazing Marsh (Ray Smith)

SPECIES OF THE SOLENT

The Solent contains a number of highly valued species by both wildlife conservation bodies and the general public. For example, this is the only site where *Spartina maritima* (Small cordgrass), *S.alterniflora* (smooth cordgrass) and *S.townsendii* (Townsend's cordgrass) are found together with the more common *S.anglica* (Common cordgrass).

The Ramsar site in particular has an assemblage of rare, vulnerable and endangered species (see Section on Nature Conservation Designations).

There are three main groups of birds: seabirds (breeding and wintering); migrant and wintering waterfowl and coastal breeding birds. The black-headed gull and little tern occur in internationally important numbers and offshore waterfowl, such as the great-crested grebe and red-breasted merganser, are also present. Breeding, migrant and wintering waterfowl (waders and wildfowl) that make use of the extensive estuarine areas and sheltered coast include Brent geese, dunlin, oystercatcher, little grebe, and shelduck.



Spartina (EN)



Black-headed Gull (Bob Lord)



Sea Holly

The Solent has a naturally sustaining population of native oysters and threatened migratory salmon and sea trout populations. It is also an important nursery for sea bass, flatfish and bream.

Unusually large numbers of rare benthic species of flora and fauna have been recorded. These include the large burrowing mantis shrimp (frequently recorded in the Solent, but elsewhere in Britain records are uncommon). Lagoonal species include foxtail stonewort, starlet sea anemone and the lagoon shrimp. Approximately, 300 species of marine algae have been recorded here; the Isle of

Wight has important examples of littoral fringe chalk cliff algae. Subtidal communities in the Solent are dominated by polychaetes. The introduced slipper limet is widespread.

NATURE CONSERVATION DESIGNATIONS

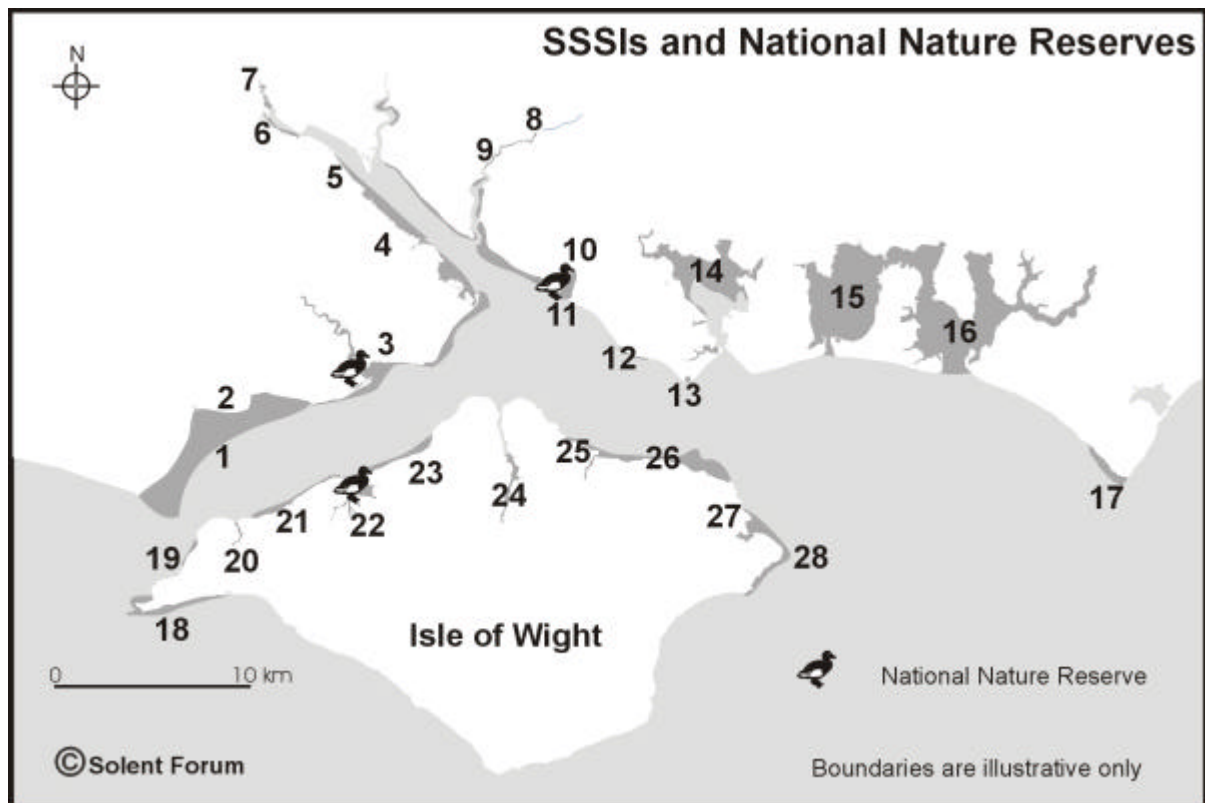
The system is protected by a large number of existing and proposed nature conservation designations, as detailed below:

LOCAL DESIGNATIONS

- sites of regional/local importance: Sites of Importance for Nature Conservation (SINC);
- 10 Local Nature Reserves

NATIONAL DESIGNATIONS

- sites of national importance: Sites of Special Scientific Interest (SSSI);
- three designated National Nature Reserves



1. Hurst Castle and Lymington River Estuary
2. Lymington River reedbeds
3. North Solent
4. Hythe to Calshot Marshes
5. Dibden Bay
6. Eling and Bury Marshes
7. Lower Test Valley
8. Upper Hamble Estuary and Woods
9. Lincegrove and Hackett's Marshes
10. Titchfield Haven
11. Browdown
12. Lee-on-the-Solent to Itchen Estuary
13. Gillicker Lagoon
14. Portsmouth Harbour

15. Langstone Harbour
16. Chichester Harbour
17. Bracklesham Bay
18. Headon Warren and West High Down
19. Colwell Bay
20. Yar Estuary
21. Bouldner & Hamstead Cliffs
22. Newtown Harbour
23. Thorness Bay
24. Medina Estuary
25. Kings Quay Shore
26. Ryde Sands and Wootton Creek
27. Brading Marshes to St. Helen's Ledges
28. Whitecliff Bay and Bembridge Ledges

INTERNATIONAL AND EUROPEAN DESIGNATIONS

The EC Habitats and Species Directive (92/43/EEC) is a significant piece of legislation, which applies to European Wildlife Sites - Special Areas of Conservation (SAC, designated under the Habitats Directive) and Special Protection Areas (SPA, designated under the EC Birds Directive). Europe-wide, the SACs and SPAs make up the 'Natura 2000' series of sites. Under government policy, Ramsar sites are to be treated as if they are European sites.

The Solent has been awarded International and European designations for:

a) sites that are internationally important for habitats and species that are listed in the EU Habitats Directive: **Special Areas of Conservation (cSAC);**

Habitats for which the Solent is a candidate SAC	
<ul style="list-style-type: none"> • Annual vegetation of drift lines • Atlantic Salt meadow • Coastal Lagoons • Cordgrass swards • Estuaries • Mudflats and sandflats not covered by seawater at low tide 	<ul style="list-style-type: none"> • Perennial vegetation of stony banks • Salicornia and other annuals • Sandbanks which are slightly covered by seawater all the time • Shifting sand dunes along shoreline with <i>Ammophila arenaria</i> (white dunes)
Species for which the Solent is a candidate SAC	
ANNEX II Species: <i>Vertigo moulinsiana</i> (Desmoulins whorl snail)	

b) sites that are internationally important for birds:

Special Protection Areas (SPA);

- Chichester and Langstone Harbour SPA
- Portsmouth Harbour SPA
- Solent and Southampton SPA



Oystercatcher (English Nature)

Bird species protected by the Solent's SPAs:		
Black tailed godwit	Little tern	Roseate tern
Common tern	Mediterranean gull	Sanderling
Dark bellied Brent geese	Redshank	Sandwich tern
Dunlin	Red breasted merganser	Shelduck
Grey plover	Ringed plover	Teal

c) internationally important wetlands: **Ramsar sites**

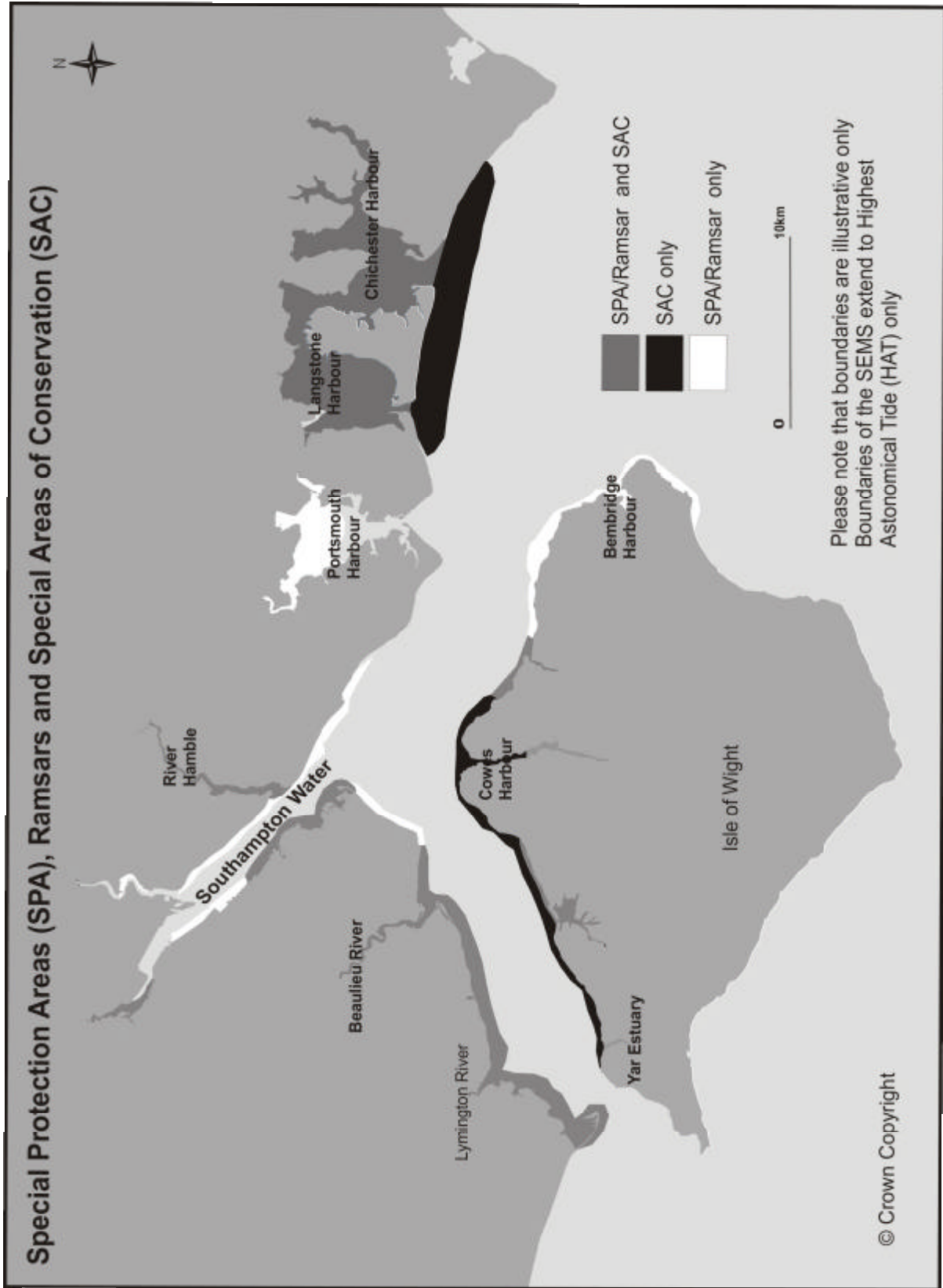
- Chichester and Langstone Harbour Ramsar site
- Portsmouth Harbour Ramsar site
- Solent and Southampton Ramsar site

Brent Geese (Bob Lord)

Solent Ramsar Sites have qualified under one or more of these criteria
Good representative example of characteristic wetland Hosting an assemblage of rare, vulnerable or endangered species Regularly supports more than one percent of waterfowl species Regularly supports 20,000 wildfowl Special value for maintaining diversity



These are known collectively as the Solent European Marine Sites (SEMS). English Nature have a statutory duty to advise the relevant authorities on the nature conservation objectives for the site and on any operations which may cause deterioration or damage to the features of interest. They will also advise the relevant authorities on applications to undertake plans and projects which may have a significant effect on a European marine site.



OTHER INTERNATIONAL DESIGNATIONS IN THE COASTAL ZONE

Solent and Isle of Wight Lagoons cSAC

The Solent on the south coast of England encompasses a series of **Coastal lagoons**, including percolation, isolated and sluiced lagoons. The site includes a number of lagoons in the marshes in the Keyhaven – Pennington area, at Farlington Marshes in Chichester Harbour, behind the sea-wall at Bembridge Harbour and at Gilkicker, near Gosport. The lagoons show a range of salinities and substrates, ranging from soft mud to muddy sand with a high proportion of shingle, which support a diverse fauna including large populations of three notable species: the nationally rare foxtail stonewort *Lamprothamnium papulosum*, the nationally scarce lagoon sand shrimp *Gammarus insensibilis*, and the nationally scarce starlet sea anemone *Nematostella vectensis*. The lagoons in Keyhaven – Pennington Marshes are part of a network of ditches and ponds within the saltmarsh behind a sea-wall. Farlington Marshes is an isolated lagoon in marsh pasture that, although separated from the sea by a sea-wall, receives sea water during spring tides. The lagoon holds a well-developed low-medium salinity insect-dominated fauna. Gilkicker Lagoon is a sluiced lagoon with marked seasonal salinity fluctuation and supports a high species diversity. The lagoons at Bembridge Harbour have formed in a depression behind the sea-wall and sea water enters by percolation. Species diversity in these lagoons is high and the fauna includes very high densities of *N. vectensis*.

South Wight Maritime cSAC

The southern shore of the Isle of Wight, off the coast of southern England, includes a number of subtidal **reefs** that extend into the intertidal zone. This site is selected as a SAC on account of its vegetated sea cliffs and its variety of reef types and associated communities, including chalk, limestone and sandstone reefs. To the west and south-west some of the most important subtidal British chalk reefs occur, representing over 5% of Europe's coastal chalk exposures, including the extensive tide-swept reef off the Needles and examples at Culver Cliff and Freshwater Bay. These support a diverse range of species in both the subtidal and intertidal. Other reef habitats within the site include areas of large boulders off the coast around Ventnor. There is a large reef of harder limestone off Bembridge and Whitecliff Bay, where the horizontal and vertical faces and crevices provide a range of habitats. The bedrock is extensively bored by bivalves. Their presence, together with the holes they create, give shelter to other species, which adds further to habitat diversity. Intertidal pools support a diverse marine life, including a number of rare or unusual seaweeds, such as the shepherd's purse seaweed *Gracilaria bursa-pastoris*. A number of other species reach their eastern limit of distribution along the English Channel at the Isle of Wight.

River Itchen cSAC

The River Itchen is a cSAC for a number of freshwater habitats and species including the Atlantic Salmon *Salmo salar*. This is of particular relevance to the Solent as salmon migrate through the Solent both as young fish venturing to the sea after hatching and then when they return again as adults to spawn. Passage from the river to the sea via the estuary, and the return journey through the estuary, represent critical and high-risk aspects of the life cycle of the salmon. Typically only 10% of young fish that migrate to sea survive to return to the rivers as adults, and much of this high level of mortality is believed to take place in the estuary and coastal waters. The River Itchen salmon stocks are also known to be genetically distinct as a result of thousands of years of natural selection. The Itchen stocks are thus unique and are irreplaceable if lost. Current evidence shows that stocks of salmon in the Itchen are much below historic levels and appear to be under considerable stress.

CLIMATE CHANGE AND IMPLICATIONS TO NATURE CONSERVATION

The Solent will be affected by predicted changes in the world's climate (which are attributed partly to human activity on an international dimension). The impacts of climate change are uncertain, but a sea level rise of 6mm a year is predicted leading to a 32cm increase by 2050. There may also be changes in weather patterns - including an increase in extreme storms and tides, and a gradual shift in the distribution of wildlife. Within the Solent, significant loss of intertidal habitats is to be expected as they are 'squeezed' between rising sea levels and fixed coastal defences unless action is taken. Conversely, a number of important habitats are protected by existing coastal defence and could be damaged or lost if defence structures are altered. It is envisaged that *Coastal Habitat Management Plans* (CHaMPs) will offer a long term strategic view of habitat losses and gains likely to occur in response to 'coastal squeeze' and recommend measures to prevent future losses. The actions will be delivered through *Shoreline Management Plans* (SMPs) and flood and coastal defence schemes and coastal strategies.

HUMAN USES OF THE SOLENT

Human activities can have significant impacts on the ecology of the Solent, which can only be understood by taking a long-term view of the evolution of the system. They include:

- modified physical processes (such as sediment movement and coastal erosion) through measures to protect the coast from erosion and flooding, and through the dredging and maintenance of shipping channels and the disposal of materials at sea;
- loss of coastal habitats through reclamation of intertidal land, development on the coastline, and an interruption of natural habitat transitions by sea defences;
- discharges of waste and pollution into the system from urban populations, industry and through dispersed inputs such as agriculture runoff;
- the potential risk of a pollution incident from shipping or coastal industry;
- disturbance of birds and other species by human, commercial and leisure activities. Disturbance affecting birds at their summer nesting sites, winter intertidal feeding areas and roosting sites is regarded as potentially serious;
- the potential risk of both small scale and catastrophic pollution through accidental release of oil or chemicals into the environment from shipping or industrial sites.

Human Uses of the Solent

Access	Disposal of dredged spoil	Moorings (new)
Aggregate dredging	Domestic outfall	Moorings (ongoing management)
Agricultural runoff	Educational field trips	Navigation
Airborne sports	Egg harvesting	Oil and gas exploration
Anchoring	Fishing	Oil spills/oil spill clean up
Angling	Flood defence	Other water sports
Bait digging	Foreshore recharge	Outfall maintenance
Barrage/sluice operation	Freshwater abstraction	Pipeline construction/alteration
Beach cleaning	Grazing	Recreational boating, power
Beneficial disposal of dredgings	Holiday camps	Recreational boating, sail
Boat repair / maintenance	House boats	Sea water abstraction
Capital dredging	Industrial outfall	Shell fish collection (intertidal)
Coastal development	Land based recreational activity (informal)	Shellfish dredging
Coast protection	Land reclamation	Shellfish laying
Commercial shipping (inc cargo/pass vessels)	Maintenance dredging	Slipway cleaning and maintenance
Construct'n/alterat'n of slipways, jetties, marinas, pontoons	Mariculture	Wildfowling
	MOD aircraft	

Source: Solent European Marine Sites Management Scheme, 2002.

PLANS AFFECTING NATURE CONSERVATION

What are Coastal Habitat Management Plans (CHaMPs)?

These will include modifying flood and coastal defence options to avoid damage, or identifying the necessary habitat restoration or recreation works to compensate for unavoidable losses. Currently pilot projects are specifically developing CHaMPs for managing European and Ramsar sites that are located on or adjacent to dynamic coastlines to meet obligations under Article 6.2 of the Habitats Directive. CHaMPs will also include strategic habitat monitoring programmes to map future changes.

What are Shoreline Management Plans (SMPs)?

Shoreline Management Plans set out to produce sustainable policies for the coastal defence of our shoreline, taking into account the natural coastal processes and issues relating to the environment and human need.

The second round of SMPs is now being undertaken and will provide a more long-term approach to the issue of coastal defence and refer to and complement CHaMPs.

What are Local Biodiversity Action Plans?

One of the key aspects of biodiversity policy in the UK is the development of Local Biodiversity Action Plans (LBAPs). These plans are meant to complement the UK Species and Habitat Action Plans that have been produced (UK Biodiversity Action Plan). The purpose of LBAPs is:

" to focus resources to conserve and enhance biodiversity by means of local partnerships, taking account of both national and local priorities."

The functions of LBAPs can be summarised as follows:

- Ensuring that national targets for species and habitats are translated, where possible, into effective action at the local level.
- Identifying targets for species and habitats appropriate to the local area.
- Developing local partnerships to ensure that biodiversity work is implemented and maintained in the long term.
- Raising awareness of the need for biodiversity conservation locally.
- Ensuring that opportunities for conservation and enhancement of the whole biodiversity resource are fully considered.
- Providing a basis for monitoring progress in biodiversity conservation at a local level.

What is the SEMS Management Scheme?

Under the Habitats Regulations 1994, the relevant authorities are required to exercise their functions in a way that ensures the internationally designated sites remain in favourable condition. In order to ensure that this happens, the relevant authorities are to produce and comply with a management scheme. In the Solent the 30 relevant authorities have formed a management group and appointed a project officer to prepare a management scheme, in consultation with a strategic advisory group of interested organisations. The final management scheme will:

- Audit ongoing activities and their management
- Identify activities which may cause deterioration or damage to the site
- Develop actions/measures for activities which are shown to be damaging
- Provide a timetable for the delivery of actions
- Identify research and monitoring requirements in order to assess the site's conditions and status in the future.

The management scheme will ensure that it integrates with existing and future plans and initiatives concerned with the management of the coast, including the Strategic Guidance. It is intended that the first draft of the management scheme will be produced by the end of 2003.

Guidance on the requirements for the sites was published by the DEFRA. The country agencies (e.g. English Nature) have produced a booklet titled 'Natura 2000 - European Marine Sites, an introduction to management', which gives guidance on the implications of the designation for European marine sites.

WHAT DO WE NEED TO DO?

1. Meet the objectives for the conservation of the habitats and species of the Solent (Annex 2).

Objectives for the conservation of habitats and species of the Solent have been set and are laid out in Annex 2. based upon the advice of English Nature.

LEAD ROLE: English Nature.



SOLENT FORUM ACTION: The Local Biodiversity Action Plans (LBAPs) in the Solent area (Hampshire, Isle of Wight and West Sussex) will help implement many of the objectives for nature conservation as laid out in Annex 2. The Solent Forum should encourage the coordinated implementation of these plans as many of the habitats are common to the different BAP areas.

2. Protect the natural system from long-term damage due to human activity.

There is a fundamental need to protect wildlife from both development and human uses, and maintain the basic natural processes which underpin the system. This implies acceptance that there is a finite limit on development and activities, and that damage to the long-term health of the eco-system through short-term decisions must be avoided. Where further development is required, it should be located and constructed to avoid causing significant damage to the remaining natural habitats of the Solent. If significant damage is unavoidable, then compensatory measures to replace the lost resource should be put in place. The marine environment, including commercial fish species, should be given protection consistent with that on land.

This need can be met by the following actions:

- considering the nature conservation objectives for the Solent when taking decisions about the planning and management which could affect the environment.

LEAD ROLE: All competent authorities for example, local and harbour authorities.

- Developing and maintaining co-ordinated land-use planning policies for the Solent coast which protect its nature conservation value. There is a need to ensure that local development documents are revised to take account of the Habitats Regulations and emerging issues.

LEAD ROLE: Planning authorities and Countryside Agency.

- promoting sustainable development and activities in ways which reduce or eliminate damage to the nature conservation value of the system.

LEAD ROLE: Local Authorities, Ports and Harbour Authorities, Countryside Agency and other statutory agencies and the private sector.

- securing compliance with high standards of water quality and protecting the environment from pollution.

LEAD ROLE: Environment Agency, DEFRA, Water Companies and other dischargers.

- managing human activities within a framework of useful non-statutory plans which take full account of the long-term needs of nature conservation interests.

LEAD ROLE: Local authorities and port and harbour authorities.

- Ensuring that all activities are managed sustainably through the implementation of all actions that arise from the SEMS management scheme

LEAD ROLE: All relevant authorities.



SOLENT FORUM ACTION: The Solent Forum should co-ordinate those actions of the SEMS management scheme that can be applied across the Solent or where links exist with other Solent relevant initiatives and plans.

3. Use appropriate management strategies and techniques to maintain, restore or improve coastal and estuarine habitat quality and biodiversity.

In addition to the protection of important nature conservation interests, there is a need for a positive programme of management of the Solent's wildlife sites to maintain and enhance their value.

- All nature reserves have a particularly important role, protecting some of the most important parts of the system and providing important refuges for wildlife. Resources must be maintained to ensure that their value is assured in the long-term.

LEAD ROLE: Local Nature Reserve managers or other reserve managers such as English Nature, Hampshire Wildlife Trust and Royal Society for the Protection of Birds; local authorities and port and harbour authorities.

- There is also a need to seek positive management outside the nature reserves, by agreeing appropriate management measures with owners of SSSIs and SINCs which will ensure that their nature conservation value is not damaged through either neglect or inappropriate land management practices.

LEAD ROLE: English Nature, Environment Agency, Hampshire Wildlife Trust, local authorities in conjunction with landowners.

- All parties should work together to reconcile conflicting nature conservation interests which result from evolving environmental conditions (sea level rise, climate change).

LEAD ROLE: English Nature; Solent Forum.



SOLENT FORUM COMPLETED ACTION: Flagship Project 2: Solent Environment and Access Initiative has provided the document "Access and Environment Enhancements: A Strategy for the Solent" together with the RITE Opportunities for Action. Positive benefits to nature conservation could result from the fulfilment of a number of these actions:



SOLENT FORUM ACTION: Implementation of the following actions as identified in the Access and Environment Strategy

- E1 Assess recreational impacts on nature conservation
- E2 Determine areas or zones where access for recreation needs to be controlled and develop the appropriate method of management
- E3 Where appropriate create/restore habitat with native species
- E4 Enforce regulations that make it an offence to drop litter or dispose of garbage overboard
- E5 Promote schemes such as Marine Conservation Society's Adopt a Beach as an approach to tackling the coastal litter problem

4. Provide better information exchange on the nature conservation value of the Solent to planners and managers.

- There is a need to make better use of the body of scientific knowledge about nature conservation within the Solent, in order to ensure the quality of its future management. The information which currently exists could be better co-ordinated and disseminated, and there is a need to identify and address key gaps in information, including the marine environment in particular.

LEAD ROLE: English Nature and the Solent Forum Secretariat.



SOLENT COMPLETED ACTION: Flagship Project 1: Solent Information Network and Flagship Project 5: Solent Science Conference latterly known as Solent Research continue to contribute to the provision and exchange of information relating to nature conservation.



SOLENT FORUM ACTION: It would be useful if key indicators in monitoring programmes were also reported in the State of the Solent Reports (Flagship Project 4) and such reports be made every three years.

- There is a need for support to be provided to the site managers of coastal reserves, country parks and other important sites, by maintaining a network to exchange ideas and good practice, to keep them briefed on changes to the system which may affect their work and to ensure that their views and experience can be drawn upon when discussing policy matters.

LEAD ROLE: Solent Forum Secretariat and site managers.



SOLENT FORUM ACTION: this issue should be addressed within the continuing implementation of the Solent Information Network (Flagship Project 1) and The Solent Science Conference (Flagship Project 5). A Coastal Rangers Seminar should take place every two years.

5.Promote widespread support for nature conservation

If we expect people to protect the wildlife of the Solent, we must do more to convey its importance and ensure that its value is appreciated. There is a need to promote understanding and enjoyment of the Solent's wildlife more widely among the general public, the various user groups and the organisations responsible for planning and management.

- The priorities should be to provide a wider range of opportunities for people to gain first-hand experience of the Solent's important wildlife sites, to provide better access to environmental information and to secure a higher profile for Solent wildlife within the media. The Solent Forum can take a lead in achieving this within 'Solent Outreach'; however the responsibilities for action extend throughout the organisations responsible for nature conservation within the Solent. This is a major challenge.

LEAD ROLE: English Nature, Hampshire and IoW Wildlife Trust, Marine Conservation Society, Royal Society for the Protection of Birds.



SOLENT FORUM ACTION: Promote nature conservation within the implementation of the Access and Environment Strategy. Detailed below are actions related to this:

- In1 Carry out an interpretation audit to establish what is and isn't promoted and/or interpreted in the Solent area
- In3 Establish an integrated approach to interpretation and information provision along the coast through key sites, heritage trails and educational information explaining the attributes of the coastal resource
- In4 Generate a public awareness campaign to promote the Solent and its enhancement
- In 8 Support collaboration between teachers and organisations to improve the educational use of the Solent

ANNEX ONE

WHAT IS BIODIVERSITY?

Biodiversity (biological diversity) can be simply defined as:

'the variety and richness of nature'.

It encompasses the whole range of mammals, birds, reptiles, amphibians, fish, insects and other invertebrates, plants, fungi and micro-organisms such as bacteria and viruses.

The importance of conserving biodiversity is recognised by the UK through the Government's commitment to the Convention on Biological Diversity, signed at the Earth Summit in Rio in 1992. Agenda 21, the action plan for sustainable development, which also resulted from the Earth Summit states that:

'Our planet's essential goods and services depend on the variety and variability of genes, species, populations and ecosystems... the current decline in biodiversity is largely the result of human activity and represents a serious threat to human development.'

The Government's commitment to Biodiversity is set out in Biodiversity - the UK Action Plan (1994), which established a Biodiversity Steering Group to investigate priorities for action, and report back. The Steering Group reported to the Government in 1995, proposing a number of implementation proposals, including a costed series of habitat and species action plans.

ANNEX TWO

OBJECTIVES FOR THE CONSERVATION OF HABITATS AND SPECIES OF THE SOLENT

BACKGROUND

The objectives below have been prepared by English Nature as a contribution to the Strategic Guidance for the Solent. Full account has been taken of the approach being developed by English Nature for the provision of formal advice on European Marine Sites (cSACs, SPAs and Ramsars). The advice is not intended to represent or replace the formal advice given by English Nature in its Solent European Marine Sites Regulation 33 advice (issued 18 October 2001).

1. Objective for the physical environment

- to maintain a complex of interdependent estuaries, and coastal and marine habitats capable of supporting the range of characteristic plant and animal communities (English Nature, 2001)¹. The range of biotopes² and their distribution should reflect the physical and chemical characteristics for which the Solent is particularly noted; the unique double high water stand, strong tidal currents, a wide range of wave exposures, salinities, water temperatures and sediment/rock substrates. This will be achieved by maintaining and not further compromising natural coastal processes and habitat transitions, within the constraints imposed by existing human influences on coastal processes, geomorphology and land-use.

Activities to be considered under the scope of this objective are principally:

- those affecting sediment dynamics, including coast protection/flood defence works, dredging and disposal of dredgings, reclamation and development affecting the intertidal or tidal regime, and;
- those affecting water quality, including agricultural, industrial and sewage effluent discharges, dredging and disposal of dredgings; oil, chemical and thermal pollution.

2. Objectives for coastal habitat (above Mean High Water)

- to ensure no net loss of resource and no significant change in distribution pattern or quality of coastal habitats as a result of human activities, and;
- to maintain the extent and quality of the full range of biotopes, as exemplified by the distribution and relative abundance of key habitat types and characteristic species as follows:

- *Grazing Marsh: internationally important overwintering populations of dark-bellied Brent Goose;
- *vegetated Shingle: nationally important populations of breeding tern species;
- *vegetated sea Cliffs: Rock samphire (*Crithmum maritimum*);
- *perennial vegetation of stony banks;
- *shifting dunes along the shoreline with binding marram grass (*Ammophila arenaria*), and;
- *Desmoulin's whorl snail (*Vertigo moulinsiana*).

Activities to be considered under the scope of this objective are principally:

- those affecting biological diversity including agricultural improvement, drainage, development/loss of habitat, disturbance, and;
- those affecting natural coastal processes and vegetational succession, including coast protection and flood defence works.

3. Objectives for intertidal habitats

- to ensure no net loss of resource and no significant change in distribution pattern, quality or geomorphological function of intertidal habitats, as a result of human activities, and;
- to maintain the extent and quality of the full range of intertidal biotopes present, as exemplified by the distribution and relative abundance of key habitat types and characteristic species as follows:
 - *annual vegetation of driftlines, the Solent has 24.7km of driftline (or strandline)vegetation;
 - *saltmarshes: cord-grasses (*Spartina* spp. except *S. anglica*), upper marsh transitions to coastal habitats and lower marsh pioneer habitats such as *Salicornia* and other annuals colonising mud and sand;
 - *mudflats & sandflats: Eel-grasses (*Zostera* spp.), nationally important populations of wintering waterfowl, and;
 - *rocky shores and intertidal reefs: Gastropod mollusc (*Paludinella littorina*).
- to encourage the use of managed coastal retreat/realignment in the face of predicted sea level rises, this will allow natural progression of coastal and intertidal habitats threatened by 'coastal squeeze'. Activities to be considered under the scope of this objective are principally:
 - *those affecting coastal processes and vegetational succession, including coast protection/flood defence works, reclamation or other development affecting the intertidal or tidal regime;
 - *those affecting water quality (as above), and;
 - *those affecting biological diversity, including reclamation/habitat loss, bait digging/clam dredging, disturbance.

4. Objectives for subtidal habitats

- to ensure no net loss of resource of subtidal habitats, as a result of human activities, and;
- to maintain the extent and quality of all subtidal habitats such that they are able to support the full range of subtidal biotopes described, as exemplified by the distribution and relative abundance of key habitat types and characteristic species as follows:
 - Sandbanks which are slightly covered by seawater all the time encouraging rich and diverse habitats and refuges for fish spp.;
 - sediment substrates: native oyster (*Ostrea edulis*), Eel-grasses (*Zostera* spp.), and;
 - subtidal rocky substrates and subtidal reefs.

Activities to be considered under the scope of this objective are principally:

- those affecting sediment dynamics, including coast protection/flood defence works, dredging and disposal of dredgings, aggregate dredging, reclamation and development affecting the intertidal or tidal regime;
- those affecting water quality, including agricultural, industrial and sewage effluent discharges, dredging and disposal of dredgings oil chemical and thermal pollution, and;
- those affecting biological diversity, including reclamation/habitat loss, fishing, disturbance, introduction of alien species, disturbance.

5. Objectives for lagoons

- to maintain a range of brackish and saline lagoons and lagoon-like habitats such that they are able to support the full range of characteristic communities and species, and;

- to ensure no net loss of resource, and no significant change in distribution pattern due to human activities, and to encourage the replacement/creation of new lagoonal/lagoon-like habitats as a result of natural coastal processes and/or managed retreat.

Activities to be considered under the scope of this objective are principally:

- those affecting water quality, including agricultural, industrial and sewage effluent discharges; dredging and disposal of dredgings; oil, chemical and thermal pollution, and;
- those affecting coastal processes and hydrodynamics, including coast protection/flood defence and other works affecting the tidal/flushing regime; reclamation/habitat loss.

6. Objectives for ornithology

- to prevent reduction, due to human activities, in the size of the nationally and internationally important population and species diversity within: i) The Solent and Southampton Water, ii) Portsmouth Harbour and iii) Chichester and Langstone Harbours, relative to national and international patterns of population fluctuation. This will be monitored by the rolling 5 year peak mean and average counts for these areas carried out under the WeBS scheme³, and;
- to ensure no net loss, as a result of human activities, of area, quality or significant change in distribution pattern of habitats upon which nationally and internationally important bird populations rely, such as:
 - Sand and Shingle;
 - boulder and coble shores;
 - saltmarsh;
 - intertidal mudflats and sandflats;
 - mixed sediment shores, and;
 - shallow coastal waters.

Activities to be considered under the scope of this objective are principally:

- those which may affect the area, quality and distribution of coastal and intertidal habitats (see above), and;
- those affecting the ability of coastal, intertidal and marine habitats to support existing populations of waterfowl, including pollution and disturbance.

NOTES

¹ The baseline information on the ecology of the Solent to which the objectives refer is contained within the Solent European Marine Sites Regulation 33 (2) Advice (October 2001) and the following additional sources:
The Solent and Isle of Wight Sensitive Marine Area (Fowler, 1995);
Subtidal: Mapping the distribution of benthic biotopes around the Isle of Wight (Southern and Foster-Smith, 1995);
Lagoons: A directory of saline lagoons and lagoon-like habitat in England (English Nature, 1992).

² The term biotope refers to the interaction between flora and fauna, and with their physical environment; it embraces species, communities and habitat, and the relationship between them;

³ The Wetlands Birds Survey (WeBS) is a partnership between the British Trust for Ornithology, the Wildfowl and Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee

REFERENCES

LEAD ORGANISATIONS: NATURE CONSERVATION

DEFRA
 English Nature
 Environment Agency
 Hampshire Wildlife Trust

Local Authorities
 Port and Harbour Authorities
 Royal Society for the Protection of Birds
 Water Companies

OTHER PLANS AND INITIATIVES	
Biodiversity Action Plans	Planning Depts of County Council or Unitary Authority
British Trust for Ornithology: Web Counts	www.bto.org
Coastal Habitat Management Plan (CHaMP)	University of Portsmouth Geography Dept
EC Habitats and Species Directive	www.europa.eu.int/comm/environment/nature/legis
Solent European Marine Sites Management Scheme	www.solentems.org.uk www.marinesac.org.uk
Solent Shorebird Study Group	Peter Potts C/O Westwood Office Royal Victoria Country Park Netley Southampton
Shoreline Management Plans and Coastal Defence Studies	SCOPAC
South East Marine Programme	Hampshire Wildlife Trust: www.hwt.org.uk
SOLENT FORUM INITIATIVES	
Flagship Project 1. Solent Information Network	Database of plans and projects Database of research projects Database of data holders
Flagship Project 2. Solent Environment and Access Initiative	RITE Opportunities for Action
Flagship Project 3. State of the Solent	State of the Solent Report – revised every 3 years Monitoring of indicators
Flagship Project 4. Solent Outreach	Solent News Solent Forum Website Attendance at public events – display board and invitation for interested members to attend.
Flagship Project 5. Solent Conference/ Solent Research	Solent Research Group is advised by English Nature

FURTHER READING

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