

Our coasts and seas

A 21st century agenda for their recovery, conservation and sustainable use



working today
for nature tomorrow



Kelp forests are similar to our woodlands, both in appearance and diversity of wildlife living there.
Paul Kay

"I really don't know why it is that all of us are so committed to the sea, except I think it's because in addition to the fact that the sea changes, and the light changes, and ships change, it's because we all came from the sea. And it is an interesting biological fact that all of us have, in our veins the exact same percentage of salt in our blood that exists in the ocean, and therefore, we have salt in our blood, in our sweat, in our tears. We are tied to the ocean. And when we go back to the sea, whether it is to sail or to watch it – we are going back from whence we came."

John F Kennedy, 14 September 1962

Our Vision: making space for people *and* wildlife



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Boulder shore causeway to White Island, Isles of Scilly.
Dan Laffoley/English Nature

Foreword

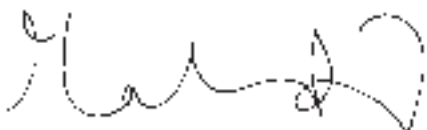
As part of an island nation, England is fortunate to have such a rich maritime heritage. We all depend on the health of our coasts and seas for a better quality of life. However, despite a number of initiatives aimed at improving coastal and marine management, the quality of our coasts and seas continue to decline. In November 2002 we published our *Maritime State of Nature Report for England: getting onto an even keel*, which highlighted fisheries, water quality and inappropriate coastal development and management as the priority issues for the nation's coasts and seas. We also made a commitment to develop a strategy for England's maritime environment.

Over the last 18 months we have embarked on a process of dialogue and participation with a wide range of stakeholders to shape and develop this strategy. This consultation paper, building on the themes outlined in our *Developing English Nature's Maritime Strategy - State of Nature one year on* document, presents the results so far from the dialogue process and sets out our agenda for the recovery, conservation and sustainable use of our coasts and seas.

There is no doubt that the need for action is ever more urgent. As we said in our *Maritime State of Nature* report, much coastal habitat has been lost and the seabed highly modified. Our marine ecosystem continues to show signs of significant stress and low resilience to continuing pressure. Reversing this is a considerable task. We have identified four themes where action can be taken now to start to recover some of what we risk losing forever; recovery, sustainable coastal management, better planning and integration, and the use of science to improve our decision-making.

English Nature is uniquely positioned to take forward this demanding agenda, through its role as advisor to European Union, national and regional Government departments and agencies and through achieving real outcomes in protected areas. Working in partnership with many other stakeholders in the marine and coastal sectors will be vital if we are to realise the objectives outlined in this Agenda. Whilst it is likely that English Nature will change as a result of current Government reviews, all our marine and coastal work will continue as part of any successor body.

I hope all those who manage, use and enjoy our coasts and seas and who care about the future of the marine and coastal environment, will contribute to this consultation and help us to take the action required to recover our marine and coastal environments.



Sir Martin Doughty
Chair, English Nature

Executive summary

This Agenda complements and supports other initiatives including Government’s Marine Stewardship process, the England Biodiversity Strategy and the Review of Marine Nature Conservation. It updates English Nature’s objectives for our coasts and seas and will act as a catalyst to take these initiatives forward. English Nature is committed to offering quality advice underpinned by robust science and clear evidence, and discharging our responsibilities for wildlife through strong partnerships with those who manage, use and enjoy our coasts and seas.



Eggwrack *Ascophyllum nodosum*, found on sheltered rocky shores. Dan Laffoley/English Nature

The ecosystem approach is central to our Agenda. It integrates the management of land, water and living resources and promotes conservation and sustainable use whilst recognising that people are an integral component of ecosystems.

This Agenda advocates an integrated approach to delivery where the environment is at the heart of decision making through a regionally delivered marine spatial planning framework linked to Integrated Coastal Zone Management (ICZM). It seeks comprehensive, site-based actions in the sea to safeguard the full representation of marine wildlife, coupled with improved management of risk and uncertainty and improved enforcement throughout the marine and coastal environment. Management actions and financial incentives should be directed at securing recovery.

“Without healthy seas our Island would be a far poorer place to live.”

Respondent to English Nature’s web survey, 2003



The colonial Yellow anemone *Parazoanthus axinellae* forms pretty aggregations, Lundy MNR. Paul Kay



Nesting kittiwake, Farne Islands, Northumbria.
Paul Glendell/English Nature

We need to complete the cultural shift from coastal **defence** to coastal **management** in this dynamic environment. In addition, there should be better access to, and coordination of, the information required to understand issues and take management decisions.

Whilst much of our Agenda can be implemented through changes in policy and working practices, some key areas will require new legislation including: a sea use planning system that encompasses a fully integrated consents regime and the establishment of a representative network of Marine Protected Areas (MPAs); and updating of existing legislation to allow for more effective deployment of resources to achieve sustainable coastal management.

This report forms part of an ongoing process whereby we are developing our Agenda, and actions to achieve it, through stakeholder participation. We want to hear stakeholders' views and comments and the section after the introduction gives details on how to do this.

Introduction

The Maritime State of Nature report, published 10 years after the launch of English Nature's highly successful *Campaign for a Living Coast*, assessed the precarious state of our marine and coastal ecosystems. It complemented other reports recently compiled by the International Council for the Exploration of the Sea (ICES) and OSPAR (Oslo Paris Convention for the Protection of the Marine Environment of the North-East Atlantic) in Europe (Frid *et al* 2003; OSPAR 2000), but looked in more detail at marine and coastal issues around England.



This Agenda focuses on the actions needed to give our coasts and seas the chance to recover to a reasonably healthy state and to sustain them into the future. For our Agenda to succeed, we firmly believe that we need the commitment and support of those who rely on the marine and coastal environment for their livelihood, for food and for recreation. We value peoples' views on the work that we do and the direction that we take. Therefore, involving people has been essential in developing our Agenda.

Over the past 18 months we have engaged with a wide range of individuals and organisations to find out what matters to them, and how they think we should take forward our Agenda to “halt biodiversity loss and promote recovery of our coasts and seas”.

We have held workshops and meetings and carried out a web-based survey (ENRR 587). This clearly showed that people care about our marine and coastal environment and want to be involved in protecting it. In November 2003 we produced an update, *Developing English Nature's Maritime Strategy - State of Nature one year on*, to keep people informed of the progress we had made, whilst we continued to develop the themes.

The following pages set out the case for action, with our vision and long-term objectives for the marine and coastal environment in the 21st century. This focuses strongly on the ‘ecosystem approach’. Our short-term objectives and actions are based around four inter-related themes that emerged from the

Maritime State of Nature: getting onto an even keel report, launched in November 2002. These are:

- Recovering and sustaining the wildlife of our coasts and seas
- Dynamic environments – delivering sustainable coastal management
- Improving the governance of our coasts and seas – how better planning and integration can help
- Improving our decision-making – how science can help

The sea slug *Flabellina pedata*, shows how eye-catching marine wildlife in our UK waters can be. Paul Kay



We want to hear your views

“Future generations would not forgive us for having deliberately spoiled their last opportunity and the last opportunity is today.”

Jacques Cousteau at a 1992 environmental gathering.

Through our consultation process we want to capture your views and responses on this document. You can do this in a number of different ways. English Nature is involved in a wide range of national, regional and local fora, shows and events. These will be the starting point for our discussions with you. We will also hold meetings and workshops with key stakeholders, building on the experiences and lessons learned from last year's workshop programme. Some questions we would like you to consider are:

1. To what extent do you agree or disagree with the need for significant change in the way we manage our coasts and seas?
2. In prioritising our actions for recovery and improved management, what needs to happen first and why?
3. Are there any significant omissions in our proposed approach? If so, what are they and how do you think we should address them?
4. Who else do you think should be involved? How can we contact them and involve them in developing our Agenda?

Please also let us know whether you are happy for your response to be made public.



Charismatic Tompot blenny. Paul Naylor

How can you let us know what you think?

1. Using the electronic response form ([www.english-nature.org.uk/coasts and seas](http://www.english-nature.org.uk/coasts%20and%20seas)).
2. By letter or email (address below).
3. By talking to us at one of our events (see our website for details of upcoming events).
4. Through your local estuary partnership/European marine site meeting or coastal forum.

Contact details:

Helen Rae, English Nature, Maritime Team, Northminster House, Peterborough PE1 1UA.
maritimestrategy@english-nature.org.uk

A case for action

“[It is] immoral to damage needlessly a remote and largely unknown assemblage of organisms - even if they are out-of-sight, out-of-mind, and apparently of little importance to the general ecological processes in the ocean - through negligent and ignorant abuse of the oceans.”

Martin Angel in "Ocean Trench Conservation" 1982



Eroding saltmarsh on the Somerset coast.
Peter Wakely/English Nature 20559

Whilst there has been some success in addressing more conspicuous threats to our coasts and seas, recent advances in science and knowledge reveal that the state of our coasts and seas is still generally poor. They are degraded and vulnerable to further damage.

In the sea most fish stocks are now outside safe biological limits. Fish populations are significantly skewed towards small species and young and immature individuals. The selective nature of fishing is reducing the genetic diversity of some exploited species, whilst food webs have been severely disrupted. Damage to the seabed and its communities is widespread, with significant harmful effects on other species, and on particular habitats and communities. The by-catch of dolphins and porpoises is serious and is an unacceptable risk to the viability of some, supposedly protected, cetacean populations. At the coast and in estuaries, existing coastal defence works have disrupted sedimentation processes and contribute to the ongoing loss of important wildlife habitats. Many of our important marine and estuarine wildlife sites are at risk from nutrient enrichment and toxic chemicals that are discharged from the land and waterways into the water column. Current research indicates that even subtle lowering of oxygen levels in seawater and increases in turbidity are sufficient to disrupt the behaviour, growth and survival of some fish species.

A more strategic approach to coastal defence in the last 10 years has reduced pressures on our coast and some specific improvements have been made to water quality to meet the requirements of European legislation. Nonetheless, pressures continue to rise in the marine environment as we increasingly look seaward for new space for our activities and industries. As a consequence of this, parts of our seas are in danger of becoming crowded as different economic sectors compete for the same space. The multiple and cumulative effects of often relatively minor developments, combined with more pervasive impacts from fishing, are significant and of increasing concern.

The state of our coasts and seas affects us all, and matters because of the many benefits they supply to the national economy as well as to the quality of our lives. If these benefits are to be maximised, then recovery, together with better planning, integration and management of actions, are essential.

Recovery to a healthier condition, and improved governance and management measures, are essential if the range of benefits we receive from our coasts and seas are to be sustained and enhanced. These benefits contribute significantly to the economy and should not be allowed to decline as a result of weak governance and inappropriate management. *Revealing the value of nature* (English Nature, 2002) describes the range of functions, in terms of appreciation, knowledge, products and ecosystem services, that society can benefit from by looking after its coasts and seas.

Coastal policy changes over the past 10 years have seen the adoption and acceptance of managed realignment as a legitimate technique for more sustainable flood defence management. Many of the conflicts between naturally changing coastlines and development, flood management and recreational use are starting to be addressed. Despite these changes, we are still losing coastal habitats at an estimated rate of at least 100 hectares each year. Over 21,000

Cod are one of the most important commercial fish in the Mid-North Sea, spawning occurs extensively in the area offshore from Flamborough Head.
Paul Kay/MWPA 001290



Benefits of a healthy marine and coastal environment

These are often interdependent and include:

- Food and employment – around £546 million of fish is landed stimulating around £800-£1,200 million a year of economic activity.
- Recreation – a recreational angling industry worth around £1 billion a year.
- The non-use value of healthy marine mammal populations to the UK public is estimated at being between £470 million and £1,200 million per year.
- Flood and storm protection – wetlands provide protection from the effects of storms and floods.
- Nutrient cycling – putting nitrogen and phosphates back into food chains.
- Climate regulation – absorbing and trapping excess carbon dioxide and slowing climate change.
- Bioremediation of waste – purifying effects of wetlands, estuaries and other habitats.
- Providing raw materials – sources of oil, gas, sand and gravel, worth over £14 billion a year.
- Providing genetic resources – opportunities for cross-breeding and engineering.
- Providing medical resources – current benefits and future drugs.
- Providing ornamental resources – shells, driftwood, etc.
- Functional habitats – required to supply all other goods and services.
- Spiritual and cultural values – religion, folklore, artistic appreciation, etc.
- As a physical environment – equivalent to about £11,000 million a year with possibly £48 billion to be invested in offshore wind turbines in the coming years.
- As an education opportunity – education, training and research worth around £83 million a year.

hectares of SSSIs are affected by ‘coastal squeeze’ and inappropriate coastal management. Together with fisheries, this is a principal reason for unfavourable condition. In addition, current agricultural policy affects our ability to manage saltmarsh and cliff-top grasslands, either through the establishment of appropriate grazing levels or through appropriate habitat restoration. As a result of the legacy and scale of previous coastal management action, conflicts are now emerging not only between nature conservation and human uses of the coast, but also between different nature conservation uses of the coast.

Underpinning these issues is the need for better integration of activities through implementation of an ‘ecosystem approach’. Various initiatives recognise the need for a more integrated approach, not least the Government in *Safeguarding our seas* (Defra, 2002). This, and similar commitments under other relevant initiatives, must now be turned into practical actions.

Bottlenose dolphins are frequently sighted throughout the English Channel. Mick Baines



Selected from *Net Benefits - A sustainable and profitable future for UK fishing* (Cabinet Office, 2004) and *Revealing the value of nature* (English Nature, 2002).

Commitment to an ecosystem approach

“I believe we need substantial areas where all extractive activities are prohibited.”

HRH Prince Charles, Plymouth, 28 April 2004

In the past our coastal and marine ecosystems were often taken for granted and it has largely been assumed that their resources were limitless – ‘there’s plenty more fish in the sea’. However, their complexity means that if we are to effectively address current environmental problems we need to change the way we manage our activities and the burden we place on this environment.

The ecosystem approach is about integrating the range of demands we place on the environment so that it can indefinitely support these demands without deteriorating. It is a key way in which we can achieve sustainability. It means taking a holistic and balanced approach to managing demands on the environment, both on the land and at sea. In the marine and coastal environment this means all sectors, from shipping to nature conservation, fisheries to flood management, must adopt it. Above all, it is a sustainable and precautionary approach that seeks to ensure that damage does not occur through a lack of knowledge or understanding. In this way we can collectively improve the management of risk and a develop wider range of management options. People are an important part of the ecosystem and we are reflecting this by developing this Agenda through a wide, participative and long-term consultation.

Hauling in a beam trawl, showing the skids enabling the net to be trawled on the seabed. Spike Searle



Our vision and objectives for the 21st century



“The same regions do not always remain sea or always land but all change their condition in the course of time.”

Aristotle 384 – 302 BC

Our vision is for coasts and seas that are neither pristine nor totally degraded but which are fit-for-purpose. It is for an environment where social, economic and environmental quality is optimised, rather than one where opportunities for individual sectors are maximised.

We would like to see the introduction of a new framework for environmental management of our coasts and seas which implements an ecosystem approach. The significant investment and successful outcomes of the Irish Sea Pilot, and other work undertaken as part of the Government-led Review of Marine Nature Conservation, will inform this. At the coast this will require shifting from ‘defence’ to ‘management’, in order to work more closely with coastal processes. Such management must take account of the scale at which these processes operate, and the implications of long-term coastal evolution. In the sea this means recovering the overall quality of the environment, its habitats and populations of species, regardless of whether they are actively exploited. This will improve the ability of the sea to sustain demands now and in the future.

Together we must now progress a new approach fit for the 21st century. Primary legislation will be required to achieve this, but its precise shape and form does not need to wait until every last detail has been resolved. Enabling regulations can provide greater detail at a later stage.

“The last fallen mahogany would lie perceptibly on the landscape, and the last black rhino would be obvious in its loneliness, but a marine species may disappear beneath the waves unobserved and the sea would seem to roll on the same as always.”

G. Carleton Ray in "Biodiversity",
National Academy Press, 1988

Our 21st century vision is for a marine and coastal environment where:

- Regulators and stakeholders have a greater understanding of the risks and impacts from nutrient enrichment in the marine environment. Nutrient inputs (both point source and diffuse) are controlled through appropriate management and targets. The risk from nutrient enrichment is reduced from 2004 levels and instances where eutrophication is currently occurring, or thought to be occurring, have been tackled.
- Inputs of non-synthetic and synthetic chemicals are reduced to background levels or removed altogether. Regulators and stakeholders have a greater understanding of the risks and impacts on marine wildlife from short- and long-term exposure to synthetic chemicals.
- Plans and management measures are in place and implemented to allow the coast to adapt to long-term coastal evolution.
- Management of freshwater and brackish habitats in the coastal floodplain is fully integrated and there are natural transitions from saline to brackish and freshwater habitats.
- Sufficient land has been secured and is being effectively managed in sustainable locations to accommodate those habitats that need to be moved away from the coast.
- Designated site boundaries can accommodate coastal change and are managed within the context of the coastal ecosystem.
- There is better management of coastal habitats, including adjacent farmland, to sustain and enhance biodiversity.
- Fish that are a source of food in the marine food chain, especially for predators, are present in sufficient numbers to allow populations of species higher up the food chain to recover.
- Incidental killing and destruction of wildlife and habitats is minimised through technical measures, and is removed altogether when unacceptable levels of damage occur despite such measures.
- Populations of fish species used for human consumption are present at a level and of a character that can sustain our demands in the long term, as well as providing sufficient fish to support marine food chains.
- Species that have been maintained at artificially high levels, as a result of discarding fish and marine wildlife, or killing and damaging wildlife through fishing, show a fall in population numbers as artificial sources of food are removed by improved management.
- Improved management and the use of sanctuary and recovery areas allow populations of marine species that are slow-growing or only reach reproductive age after many years to recover and increase.

Mechanisms for achieving our vision – at a glance

- An ‘ecosystem approach’ where ecosystem functioning is not compromised by development.
- An integrated approach to management where the environment is at the heart of decision-making.
- A regional marine spatial planning framework linked to ICZM.
- Wider measures and improved enforcement to safeguard our wildlife throughout the marine environment.
- Development of a network of protected areas in the sea to safeguard the full representation of our wildlife.
- Management actions and financial incentives directed at recovering damaged components of coastal, estuarine and marine ecosystems.
- Improved management of the risks within ecosystems.
- Improved access to, and co-ordination of, information and science needed to understand issues and to take management decisions.
- Better information for decision-making, particularly on fisheries.
- A move from coastal defence to coastal management.
- Assisting the recovery for marine and coastal ecosystems in various ways, such as reducing fishing effort and using no-take zones for nature conservation.

To achieve the above we need changes in policy and legislation including:

- Addressing fixed designated site boundary issues for mobile habitats at the coast.
- Establishing a strategic approach for a fully representative permanent national network of Marine Protected Areas.
- Establishing a marine spatial planning system with regional delivery, linked to ICZM.
- Consistent and high-quality environmental assessment of impacts across all sectors, including fisheries, with sectors bearing the costs of their impacts.
- Improving the enforcement of marine nature conservation legislation.
- Integrating actions at the national and regional level, moving away from a national sectoral approach.



Grass of Parnassus amongst dune slacks, Ainsdale Sand Dunes NNR. Peter Wakely/English Nature 22151

A changing world

“We suggest that in the next decades fisheries management will have to emphasize the rebuilding of fish populations embedded within functional food webs, within large 'no-take' marine protected areas.”

Daniel Pauly et al. in "Science" 1998

We are developing this Agenda in the knowledge that the world is changing rapidly. The economy, financial markets, European policies and globalisation of trade, all act as strong driving forces that shape the world around us. Our coasts and seas are places that continually change as weather, climate and currents alter on daily to decadal scales. Man's use of the sea is also changing. For example 10 years ago offshore windfarms were almost unheard of, but now they are becoming a reality. We need to be able to respond to such change in a strategic and planned manner. Recovering and sustaining our coasts and seas, and the benefits they provide, is an important part of planning for the future. It is about sustaining future prosperity and keeping options open in the face of climate change and other inevitable changes we will see.

Some environmental changes are already happening as a result of climate change and these will accelerate and increase in scale if current predictions become a reality. Governance of the marine and coastal environments also faces change. At the European level work is already underway to develop a pan-European Marine Strategy. This has the potential to provide the future framework within which English Nature operates and marine conservation is delivered. Within the UK, the shape and form of English Nature will change as a result of current Government reviews. We will build issues such as landscape, access and recreation into this Agenda as the shape of the new remit develops. An increasingly ambitious approach is needed to address the impact of these changes as well as the changing trends and values affecting the use of our coasts and seas, and the scale and nature of the demands placed upon them.

Plaice caught today are only a quarter of the size than they were in 1902. Paul Naylor





Container vessel, ABP Southampton.
Dan Laffoley/English Nature

A changing world

Some changes may already be inevitable as a consequence of previous human impacts. We need to plan for the shape of things to come, whilst bearing in mind that many of the impacts are inter-related, difficult to forecast and could be more severe than current predictions indicate. Some potential changes are listed below.

- A decline in the strength of the Gulf Stream that warms the seas around us, by as much as 25%, is possible by 2100. This is unlikely to result in cooling of our climate, due to a predicted steady increase in air temperature.
- Sea surface temperatures may rise by up to 3° C in our shallowest seas by the 2080s, as a result of 'global warming'. This will change the mixture, distribution and abundance of marine wildlife including commercially important fish species.
- Habitat loss is occurring in many areas on the south and east coasts. There is evidence in Essex that at least 40 hectares of saltmarsh are lost each year. This is partly attributable to coastal squeeze and will increase in the longer term if steps are not taken now.
- The need to change coastal defence options means that a substantial number of internationally designated sites with freshwater habitats directly behind seawalls will be affected by either managed realignment or removal of seawall maintenance by 2050. As a result, re-creation of key freshwater features at locations inland will be required.
- There may be an increase in the risk of severe flooding events in some eastern locations by as much as 90% in any one year by the 2080s.
- Increases in the productivity of some regional seas could have significant effects on the character and types of species that occur around England and the quantity of wildlife they can support. The North Sea is beginning to show some characteristics more similar to the Mediterranean.
- The acidity of seawater is predicted to increase by 0.7 units in the next 50 years, thereby affecting the ability of the sea to absorb carbon dioxide and regulate climate.

Making it happen



Lundy Reserve Warden takes group on shore walk.
Paul Glendell/English Nature 24268

“...throughout the 1980’s, successive fishery ministers of both [political] parties chose to ignore scientific advice by setting total allowable catches 20-30% higher than levels advocated by ICES (International Council for the Exploration of the Seas).”

Dr Stephen Lockwood
(Sunday Times, 7 March 2004)

English Nature cannot deliver this ambitious agenda alone. Given the evidence of continuing decline, damage and disruption to our marine and coastal ecosystems, more timely and radical actions are now needed from Government, its agencies, the research community and all who use and care about our coasts and seas including business and industry. This has to happen if together we are to reverse these trends and deliver greater benefits for conservation, the economy and society. We will develop and implement this Agenda with our partners. This will contribute to the implementation of the England Biodiversity Strategy, that aims to embed biodiversity into all sectors, the Marine Stewardship process, and the many Government-led reviews that will report during 2004. In addition, we will seek to influence and learn from European Union initiatives such as the Marine Strategy, and implementation of the Water Framework, Habitats and Birds Directives.

A key requirement is that Government-led programmes set clear targets for the marine and coastal environment. Explicit programmes must be developed to help meet the many obligations that Government has signed up to. There are strong economic arguments for taking urgent action to make this happen. Future benefits for industries that gain from exploiting living resources are closely linked to the health of the environment. In addition, the costs to existing and new marine industries will continue to rise as economic activity continues to take priority over conservation and integrated management efforts. The current lack of an overall management framework results in a lack of certainty for investors and increases risks and conflicts as the sea becomes an increasingly crowded place.

Working together, we need to make significant changes to the way we approach the conservation, management and sustainable use of our coasts and seas. There is still much to discover about the marine environment and we



Shingle at Pagham, West Sussex. Nature Coast Project

should adopt the precautionary approach, using co-ordinated, focused research and adaptive management where outcomes are uncertain. There should be an emphasis on trying new ideas and learning from actions, rather than waiting for certainty that may never be achieved. Incentives that damage the environment should be removed and sectors should meet the costs of their impacts. Management and research should be integrated across the different sectors to manage cumulative issues, increase co-operation and thereby reduce conflicts. Policies for the marine and coastal environment, and actions to implement them, should be regularly revised in the light of increased knowledge and understanding and ongoing regular assessments of its condition and state.

Progress has already been made in some areas and so some elements of this framework need more development than others. Within this context the following pages set out some of the key actions needed over the next 10-15 years to put this Agenda in place.

The UK, in common with most countries around the world, has made commitments to the conservation, protection, management, recovery and sustainable use of our coasts and seas (for details see Key Drivers below) The evidence on which this Agenda is based, and outputs from recent high-level inquiries in the UK (for example the Prime Minister's Strategy Unit study on a future of the UK fishing industry and the Environment, Food and Rural Affairs Select Committee inquiry into the marine environment), confirm the need for these commitments.

This Agenda translates such commitments into lasting actions that will result in positive changes for our coasts and seas. Through our own actions and by working with others, we need ambitious and improved stewardship. We also need to implement policy and actions across all sectors, and at all levels, to tackle current problems as well as meeting our existing commitments. Such actions must resolve the policy constraints identified under the England Biodiversity Strategy to ensure coastal and marine biodiversity gain.

“The time has come to take the protection of the UK marine environment seriously, make tough decisions and above all move from talk to action.”

Marine Conservation Society, March 2004

Some key drivers that seek to safeguard our coasts and seas

Government has signed up to a number of international agreements and conventions and some of the key drivers from these are listed below:

The Convention on Biological Diversity, Rio de Janeiro 1992, has led to many Biodiversity Action Plans. Progress on the England Biodiversity Strategy is available at www.defra.gov.uk/wildlife-countryside/ewd/biostrat/

An overall management framework comprising a primary network of closed areas, an ancillary network of sustainable multiple-use sites and sustainable management practices in the wider marine environment was recommended (February 2004) to the **Convention on Biological Diversity** by the Subsidiary Body for Scientific, Technical and Technological advice (SBSTTA) as a key implementation element of the Jakarta Mandate (1995) on marine and coastal biodiversity.

The World Summit of Sustainable Development, Johannesburg 2002, agreement led to targets including:

- Representative networks of Marine Protected Areas by 2012.
- Restore depleted fish stocks to maximum sustainable yields by 2015, where possible.

The Gothenburg Summit (June 2001) is where EC Member States signed up to halt biodiversity loss across the European Union by 2010. The Habitats and Birds Directives are deemed important elements of this.

The Bergen Declaration, 2002, is where the North Sea Environment Ministers signed up to identify additional areas to be closed permanently or temporarily to fishing activities for the protection of juvenile fish and to reaffirm the 2010 OSPAR target.

Reform of the **Common Fisheries Policy (CFP)**, 2002, recommends progressive implementation of an ecosystem approach to fisheries management in our seas.

OSPAR – the Oslo Paris Convention on protecting the marine environment of the north east Atlantic - more specifically targeting the reduction of the entry of anthropogenic pollutants into our seas, and latterly recommending, where feasible, restoration measures. It also recommends the establishment of an ecologically coherent network of well managed Marine Protected Areas by 2010.

The Water Framework Directive – seeks to deliver a more integrated, ecologically driven management of transitional and coastal waters. The overall objective is for waters to achieve “good ecological status” by 2015.

The EU Marine Strategy, being established under the 6th Environmental Action Programme, is contributing to the Community Strategy for Sustainable Development, and is striving for sustainable and healthy European seas and ecosystems, sustainable exploitation of renewable marine resources and ICZM.

EU recommendation on ICZM – requires Member States to develop national ICZM strategies by 2006.

Theme 1

Recovering and sustaining the wildlife of our coasts and seas

Objective

To generate an understanding and acceptance of the need for, and jointly put in place the actions necessary to, recover the condition of our marine and coastal wildlife.

Our priorities for action

English Nature cannot achieve the necessary recovery in isolation and will **work with key stakeholders** to take forward the following actions:

- The introduction of a new framework for management of our coasts and seas which implements an ecosystem approach and delivers, in the longer term, truly sustainable use of resources.
- The implementation of new legislation, policies and partnerships to deliver this new framework.
- The implementation of Government reviews that focus on recovery and sustainable use of natural resources, for example the Prime Minister's Strategy Unit enquiry into commercial fishing.
- The production of an English Nature Position Statement on Marine Protected Areas and their use as a recovery tool.
- The implementation of a regional project in the south west to establish a network of Highly Protected Marine Areas.
- The trial of protected areas for nature conservation around windfarm installations, working with the offshore windfarm industry.
- The implementation of a monitoring programme for the Lundy no-take zone and work with Sea Fisheries Committees and the fishing industry towards identifying no-take zones as part of a strategic network of MPAs.
- The development of a greater understanding of the impacts of nutrients in the marine environment. In particular, the description and assessment of "undesirable disturbance" with regard to eutrophication, and a move towards a more integrated ecosystem approach to the management of nutrient enrichment.
- The development of tools for assessing risks and impact of nutrients in estuarine Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).
- The continued identification of SACs and SPAs which are at risk of, or impacted by, issues of water quality or quantity, through the Environment Agency's Review of Consents.

For every kilogramme of sole caught by a beam trawl, up to 14 kilogrammes of other seabed animals may also be killed. Spike Searle



“Along with many other stocks, cod in the North Sea, Irish Sea and west of Scotland have been declining for a number of years, despite our repeated warnings. If they are given the chance to return to their former productive states now, we hope in the future they will be able to support valuable fisheries again.”

David Griffith, General Secretary of ICES

- The publication of a review on the potential of ‘biomarkers’ as long-term monitoring tools. These can demonstrate chemically-induced stress on terrestrial and aquatic (including marine) wildlife resulting from aquatic inputs. We will also develop proposals for trialing the practical application of these tools in the marine environment.
- The implementation of the Water Framework Directive through joint work with the Environment Agency. This Directive will become a central driver for improving biological, chemical and hydromorphological quality in estuaries and coastal water.
- The development of a greater understanding of the extent of anthropogenic disturbance on the productivity of our seas. In particular, we will investigate the effects of factors such as increased turbidity and decreased oxygen on fish behaviour and population dynamics.
- The development of national best practice guidance on fisheries in European marine sites (marine SACs and SPAs) and development of fisheries management plans for European marine sites.
- The revision of conservation objectives for European marine sites.
- The piloting of the application of IUCN indicators of effective management on five selected European marine sites.
- The implementation of an ecosystem approach to fisheries through joint work with the Regional Advisory Councils.

Delivering our Agenda for recovery

Although some progress has been made, new approaches are required if the trends in the state of wildlife at the coast and in our seas are to be reversed. These actions will contribute significantly to the longer-term goal of achieving environmentally sustainable use of natural resources. They will play a major role in delivering clean, healthy, safe, productive and biologically diverse oceans and seas. Some of them can be achieved through building new partnerships and strengthening existing ones. Changes in Government policy, new legislation and a new level of ambition in all who manage, use or care about our coastal and marine environments will also be needed.

The value of non-fisheries exploitation of the marine environment is significantly greater than that of the fisheries. Markedly reducing fishing pressure, and allowing some large areas of the seabed to become sanctuaries from extractive uses and disturbance, will offer one of the greatest benefits to the marine environment. Protected areas that include fish breeding grounds can aid recovery of fish and other marine life and are a key mechanism for helping to achieve both conservation and fisheries objectives. Risk must also be better managed by implementing a more precautionary approach and adopting environmental assessment procedures for existing and new fisheries. A more strategic approach, that includes marine recovery,



Recently located *Sabellaria spinulosa* reefs between Swarte & Broken Banks in Southern North Sea. Conoco Phillips

will provide opportunities for scientists, industry and environmentalists to work together in developing a better understanding and ownership of information on the marine environment. It can also provide opportunities for fishermen to migrate from jobs in exploitation to more sustainable marine practices.

- We need to take a long-term view. Environmental change occurs over long timescales but decisions are made on political timescales that focus on short-term issues rather than long-term gains. As a result, we often fail to fully appreciate the true scale of change when taking decisions about the future, and the quality of the environment continues to decline.
- An important shift in Government policy is needed, changing from a selective approach of focusing on species that are threatened, declining or rare to one that embraces all our marine and coastal wildlife and the context within which it exists.
- Our seas and coasts are complex ecosystems and are closely interlinked by chemical and physical processes. We will probably never fully understand them but we need to work much more with natural processes if we are to make more progress in improving ecosystem quality and its inherent resilience.
- There needs to be a better and more widely accepted recognition of the socio-economic values of the marine and coastal environment, as well as the direct economic benefits it provides.
- New legislation may be required to successfully establish areas for recovery (Highly Protected Marine Areas) and a fully representative network of Marine Protected Areas (MPAs). (The Habitats Directive alone does not lend itself to a representative approach and does not readily facilitate full protection, as sites are managed for sustainable use.)
- Government and its agencies have a key leadership role to play in our Agenda for recovery. New tools are needed to integrate the recovery of the marine and coastal environment into the mechanisms of Government, including high-level indicators and Public Service Agreement targets which can direct future Government spending.
- The public sector and scientific community have an important role to play in this Agenda. We need to make better use of existing and new data, ensuring that all publicly funded information is collected to a common standard and is rapidly placed in the public domain.
- Work at the European level is important in terms of implementing the ecosystem approach. Changes to fisheries management, now included in the Common Fisheries Policy (CFP), can only be achieved at the European level due to derogations under the CFP. We will work with the developing Regional Advisory Councils to bring about the changes needed for ecosystem recovery.



Ballan wrasse *Labrus bergylta* is the largest and heaviest of the wrasses in England's waters. Paul Kay

“Look deep into nature, and then you will understand everything better.”

Albert Einstein

The essential recovery role of Highly Protected Marine Areas

Highly Protected Marine Areas are a fundamental tool in the recovery of our seas. The UK has been unable to deliver the benefits they offer with any degree of certainty through existing approaches. Benefits they provide include:

- Restore natural population structures of exploited species (age, size, gender and gene pools).
- Protect biodiversity at all levels, and protecting all taxa.
- Eliminate fishing gear impacts and by-catch.
- Provide undisturbed spawning conditions, habitats and settling sites.
- Provide some essential fisheries management data (particularly natural mortality).
- Provide opportunities to enjoy undisturbed/unmodified areas and enhance sustainable tourism.
- Allow the public to see and understand the effects of human activities and the benefits of management.
- Provide long-term monitoring, benchmarks, control areas, and places for research in areas unaffected by human activities.

Addressing these in an effective manner is fundamental to the ecosystem approach

Temporary closed areas are an accepted fisheries management measure used to stimulate recovery of depleted fish stocks. The principle of closing an area to extractive use could be used more widely and on a permanent basis to protect areas of our seabed and promote recovery of all marine wildlife. Currently we have only 3.3 km² (Lundy Island), out of approximately 48,000 km² of England's Territorial Waters (out to 12 nautical miles) permanently set aside for wildlife recovery.

Theme 2

Dynamic environments – delivering sustainable coastal management

Objective

To manage coastal landscapes in a way that accommodates the dynamic nature of the coastline. This will allow for coastal habitats to migrate or to be re-created elsewhere when necessary, and careful planning of development will reduce the risks to people and property from flooding and erosion.

Our priorities for action

English Nature cannot achieve the delivery of sustainable coastal management in isolation and will **work with key stakeholders** to take forward the following actions:

- Set out our vision and philosophy for the coast and its management, articulating what we mean by sustainable and functional coasts and estuaries and how this fits in with an ecosystem approach for the coast.
- Investigate all currently available options for shoreline management to identify clearly the restrictions to the achievement of sustainable coastlines.
- Identify the key factors to be addressed with others to encourage a shift from ‘defence-at-all-costs’ towards ‘coastal management’.
- Promote the identification and uptake of biodiversity opportunities in the development and implementation of SMPs over the next 50 years. The transition of SMP policies from ‘hold the line’ to ‘managed realignment’ or ‘no active intervention’, where this will deliver the best all round sustainable solution, is also needed.
- Advise on those habitats and species which cannot be conserved in situ where coasts are predicted to change. We will help the Environment Agency and others to develop and deliver regional habitat programmes and undertake strategic land acquisition to sustain the Natura 2000 network in the face of long-term coastal change.
- Develop and implement a programme, based on the National Nature Reserve series, to trial and demonstrate techniques for managing changing coasts for wildlife and people. This will include applying standards of flood defence appropriate to nature conservation.
- Work with Defra, landowners and their associations, and planners in developing a policy to create at least one field’s width of unimproved grassland around the open coast. This will allow for the movement of coastal features and provide landscape and public access benefits.
- Develop and implement a programme of consensus-building to help planners and local communities understand what is needed to adapt to coastal change and to maintain the ecosystem services provided by our coast.
- Ensure that the funding regime for coastal defence/management is sufficiently flexible in order to deliver operational outcomes.

Sea pinks on the cliffs near Compton Chine, Isle of Wight. Peter Wakely/English Nature 13827



Managed realignment at Abbots Hall Farm, Essex, is creating 70 hectares of saltmarsh, mud flat and grassland. Essex Wildlife Trust

Delivering our Agenda for sustainable coastal management

English Nature believes it is important to acknowledge that the current shape and alignment of the coast will change, and to incorporate this into all types of management plan. The actions of wind, wave and tides, as well as changing relative sea levels, all play their part in both erosion and accretion. The natural response of coastal systems is to adapt to physical changes in order to adjust to a most stable state. The importance of these driving physical processes, and the scale at which they operate, must not be underestimated in the planning and delivery of coastal management. Whilst some of these changes are relatively slow, in other areas, notably the south and east, they are happening comparatively fast, compounded by the legacy of existing coastal defences. We need to find ways to manage these dynamic changes in such a way as to take account of the needs of both people and the environment. This means accepting and planning for the reality of greater change in some areas, whilst investing in appropriate coastal defences in others.

English Nature is committed to working with Government departments and agencies, local authorities and local communities to resolve these conflicts and ensure the effective long-term management of our coasts.

Since English Nature's *Campaign for a Living Coast* (1992) a number of milestones have passed. These include publication in 1993 of Defra's (formerly MAFF) *Strategy for flood & coastal defence* (under review in 2004) and the development of Shoreline Management Plans for the English and Welsh coastline during the 1990s. Publication of UK Coastal Biodiversity Action Plans for coastal habitats in 1999 set clear targets for the creation and management of the coastal nature conservation resource throughout the UK. The joint English Nature/Environment Agency/Defra/NERC LIFE Nature *Living with the Sea* Project, completed in 2003, championed the sustainable management of dynamic coasts within Natura 2000 sites for people and wildlife.

English Nature's recent report on *The condition of Sites of Special Scientific Interest in England in 2003* established a baseline and revealed the key impacts on our most important wildlife and geological sites. If we are to deliver our agenda for sustainable coastal management, the following needs to happen:

- A widely shared vision for the sustainable management of England's coast and estuaries is needed. It must recognise the importance of a long-term view of coastal change, the need to adjust to changes in sediment supply to beaches, to adapt to climate change and to provide space for both people and wildlife.
- Shoreline management that reflects the 21st century need for 'management' of the coastal environment as a whole rather than simply 'defence' of land from erosion and flooding is required. This may entail restoration of some previously reclaimed land back to intertidal habitat
- Operating Authorities, supported by planners and regional bodies, must adopt a strategic approach at a regional level to plan for and create new freshwater habitats when they cannot be conserved in the coastal floodplain.
- There needs to be a clear recognition and acceptance by communities, local government, the voluntary sector and national government agencies of the need to accept the reality of a changing coast and to adapt activities and management practices accordingly.
- There needs to be better working and communication between local communities, local government, the voluntary sector and national government agencies to develop a shared understanding and vision on how to achieve this adaptation to coastal change for the benefit of both people and wildlife.
- Development planning solutions in areas that are, or will be, affected by coastal change, must be sustainable at a national, regional and local level and clearly set out in the development of new strategic plans.

Millook cliffs, Boscastle to Widemouth SSSI, part of the South West Coast Path. Peter Wakely/English Nature 20389



English Nature is a partner in a research project run by the Tyndall Centre for Climate Change Research (www.tyndall.ac.uk), together with Defra and the North Norfolk District Council. An important focus of this one year project from February 2004, will be to investigate stakeholders' understandings and expectations for coastal management in the face of climate change, sea level rise, and increased storminess on soft and vulnerable shorelines. The project will aim to evaluate the concepts of 'stability' and 'mobility', both of the physical coast itself and of people's understanding of coastal change with respect to their circumstances. For Shoreline Management Plans to work over the coming decades there is a need to develop better dialogue and understanding of long term coastal change. It will include workshops and interviews with a range of interested parties and individuals as well as a review of other research findings. A key output will be recommendations for improving stakeholder communication with regard to coastal governance in the context of fresh approaches being created and accommodated by English Nature.

Managing coastal change at Cley/Salthouse, North Norfolk coast

All those involved in the management of this area agreed that the existing practice of managing the shingle ridge was unsustainable. It created an increasing risk of breaching of the ridge and damaging nature conservation interests. After discussions, English Nature and the Environment Agency agreed that, from a nature conservation perspective, any flood management scheme for this area needs to include the following elements:

- Restoration of the ridge to a wider more natural profile that will be more robust and able to adjust itself to the impacts of storms.
- Improvement of drainage to remove floodwater from the grazing marshes.
- Creation of a new reedbed to support two pairs of bittern that cannot be conserved at Cley as their habitat becomes more brackish.

Coastal dune heath, Winterton Dunes NNR.
Peter Wakely/English Nature 20115



Theme 3

Improving the governance of our coasts and seas – how better planning and integration can help

Objective

To establish effective planning and integrated mechanisms at an appropriate scale that achieves both nature conservation benefits and sustainable use of our coasts and seas.

Our priorities for action

English Nature cannot achieve better governance of our coasts and seas in isolation and will **work with key stakeholders** to take forward the following actions:

- Continue to make the case for marine spatial planning and investigate the economic as well as environmental benefits.
- Increase awareness and support for the need for marine spatial planning with key stakeholders including regional bodies, planners and industry through workshops and meetings to further develop and refine our ideas.
- Explore what a marine spatial plan might look like and the statutory basis needed to underpin it, building on the Irish Sea Pilot (Vincent *et al*, 2004). This will consider the national framework required, legal aspects, zoning and the relationship with Marine Protected Areas.
- Provide better information on the distribution of our biodiversity resource through the Mapping European Seabed Habitats (MESH) Project. We will also build on Marine Natural Areas to collate and map information on key human activities in the marine environment.

Delivering our Agenda for better planning and management

Implementing the integrated approach, as advocated in the *Maritime State of Nature* report, requires better governance, from protection through management to planning, at different spatial scales. Obvious gaps in such governance include ICZM and marine spatial planning, although the scope of each of these is intimately related. Whilst there are other planning instruments that contribute to ICZM, for example land use planning and Shoreline Management Plans, marine spatial planning is a new concept and needs to be trialled. Both ICZM and marine spatial planning have strong regional dimensions which must be reflected in policies and their subsequent delivery.

Integrated Coastal Zone Management

Management of activities in the marine and coastal environment has been an iterative process, with regulatory responsibilities growing to meet emerging sectoral issues. Today, a range of new technologies are emerging and their introduction places demands upon regulatory regimes that were not designed for such a changing world. This has led to a degree of overlap between consents regimes and repetition of some elements of the process. In such an environment there is much scope for delay, and for decisions favouring sectoral interests, rather than a regulatory regime that addresses the key issues relating to environmental management, navigation and accommodating local concerns. This is a fundamental tenet of ICZM. A major overhaul of the regulatory process is needed if decision-making is to be streamlined and fit-for-purpose, with resources directed at resolving conflicting demands.



English Nature's Marine Natural Area Profiles, to be published 2004

“We have really noticed the decline in fish numbers over the last few years, the only schools we regularly see are of fish that are not commercially valuable. No-take zones for divers are also a good idea. They don't stop everybody, but the more conscientious among us do stop and consider why they might be no-take zones, and stop colleagues from taking from the sea.”

Respondent to English Nature's web survey, 2003

Desired characteristics of a marine spatial planning system

- Has a strategic vision and clear objectives.
- A statutory system with a statutory purpose.
- Embraces all marine use including not only physical and spatial development but also ongoing and proposed activities such as fishing.
- Contains a hierarchy that comprises a national level planning framework, a regional level and flexibility to produce local plans where required.
- Extends to the limits of the UK designated area and, in the long-term, to adjacent countries.
- Includes zoning to identify areas for different types and levels of human use including areas to avoid, such as those sensitive to damage and disturbance.
- Promotes participation by being transparent, open, and inclusive.

If a marine spatial plan is established, we believe ICZM should provide a key role in ensuring integration with the Land Use Planning system for those issues or sectors at the land-sea margin that require it.

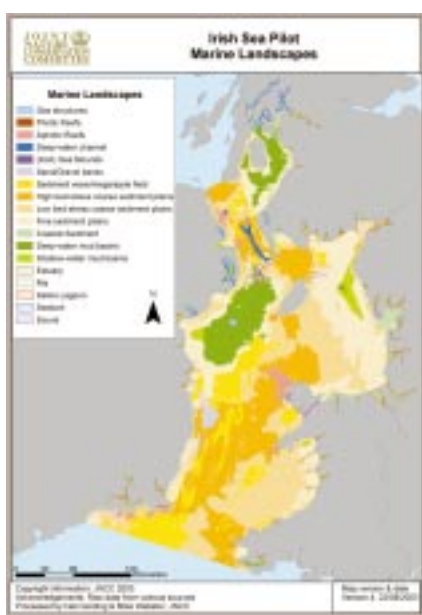
In view of this our overall objective for ICZM is as follows:

- Implement an integrated consents regime for the coastal and marine environment which is administered in a cost-effective manner. Serious consideration should be given to the replacement of current legislation with a new, fit-for-purpose, Act.

In the meantime we will continue to support the development of a more strategic and national perspective on ICZM. We will contribute to the Government's initiatives to implement the EU ICZM recommendation including the production of a national ICZM strategy by 2005. We will work to ensure the tools, which are key to achieving effective ICZM, have a solid foundation, and that instruments such as the developing Regional Spatial Strategies give sufficient attention to marine and coastal issues. We will also work with regional bodies, such as Regional Development Agencies, to increase their awareness of marine and coastal issues and of their potential role in governance of the coasts and seas.

Marine spatial planning

Marine spatial planning offers a range of potential benefits, not only to nature conservation but also to marine stewardship in general. This may include reconciling different and competing sectoral objectives, delivering agreed



Distribution of seabed habitats in the Irish Sea. JNCC. (Golding N, Vincent M, & Connor D.W., 2003. A Marine Landscape classification for the Irish Sea Pilot: a consultation paper. Peterborough, Joint Nature Conservation Committee.). Irish Sea Pilot Copyright information Defra 2003.

Benefits of marine spatial planning

- Provides greater certainty for industry when planning new development and reduces conflict between competing users.
- Provides a framework within which to understand and maximise the value of a network of multiple use and highly protected marine areas.
- Establishes in advance areas of importance or sensitivity, thereby reducing the risk of conflict with development.
- Ensures there is 'room' for biodiversity and nature conservation measures.
- Enables biodiversity commitments, such as those made in the England Biodiversity Strategy, to be at the heart of planning and management.
- Provides a mechanism that is proactive and directed towards delivering nature conservation objectives.
- Offers a key tool to pre-empt or address cumulative effects on the natural environment.
- Reduces impacts to the environment by promoting efficient use of space and resources.
- Improves prospects of increased awareness and ownership of marine conservation features and issues, particularly amongst the users, regulators and decision makers.

development priorities as well as those for the environment at various scales, better co-ordination between sectoral activities and addressing cumulative effects.

Based on recent initiatives and our dialogue with many stakeholders, we believe there is a sufficiently strong case to meet the following objective.

- By 2010 implement a statutory marine spatial planning system including the necessary legislation (by 2007) and statutory plans (by 2010) for all the seas around our coasts.

We recognise that to achieve this objective there are several elements that remain to be investigated and understood in detail. These include how to integrate sectors that are managed at an international rather than a national scale, for example shipping. We therefore recommend that these elements are explored, including what legislation is required, through a non-statutory trial at a regional level building on the work of the Irish Sea Pilot. In the short term we can also achieve some improvement in planning and management of our seas through better use of spatial and temporal information.



Wind turbines. There are 17 proposed windfarm sites within the Southern North Sea Natural Area.
Paul Gilliland /English Nature

“Other than the aesthetics of a good healthy coastline, the coast is an important leisure and food source. Destroying our environment will damage these properties. Also we do need to protect our environment for the sake of it, we are only here temporarily, we need to make a positive impact not a negative impact.”

Respondent to English Nature's web survey, 2003

Pink sea fan, a Biodiversity Action Plan species, recorded from Lundy. Frances Bunker/English Nature



Regional approach

Regional seas provide an appropriate scale to look at a range of issues, such as an understanding of ecosystem functioning (biological, chemical and physical processes), and an assessment of environmental resources and human use. It can also help find appropriate tools to help plan, manage and protect the sea. In the long-term we should aim for management plans for each regional sea supported by relevant institutions. We will use Marine Natural Areas and initiatives such as the Irish Sea Pilot project to help develop a more comprehensive approach to regional seas around the UK.

We welcome the EC's initiative on Regional Advisory Councils (RACs) for fisheries management. However, we believe regional fora that are not sector-specific are required to facilitate a more integrated approach. We therefore advocate that the geographic basis of RACs does not preclude different boundaries being adopted for 'regional seas' management. Given that our seas and coasts vary around the country, and that the UK is embracing the ecosystem approach, we need an ecologically meaningful, regional approach to govern and manage them. This must be embraced by all those who use or have an interest in our marine environment. In England and Wales we use a regional framework of coastal cells to manage the coastline and this should be extended out into the sea. This mirrors the approaches being put in place throughout Europe to manage fisheries and the broader marine environment. Co-operation at an international level is required in order to exchange good practice and link management actions in the UK with those in Europe.

Such a regional framework can address common needs across all our seas, as well as focus on landscape issues, and on habitats and species. We believe that action at four different geographic scales is fundamental to successful implementation of our agenda:

- The whole sea. By working with the European Commission, intergovernmental organisations, our sister agencies in the UK and regional seas conventions, we can tackle widespread issues such as water quality, shipping, pollution and the conservation of wide-ranging species, and prevent introductions of non-native marine species.
- Regional seas. This is an appropriate scale to consider the implementation of marine spatial planning, ICZM and reformed shoreline management, and to engage with institutions and stakeholders.
- Marine and coastal landscapes. This is the scale where we can consider more detailed planning and management where required, such as in areas of intense activity, to achieve sustainable use.
- Habitats and species. We also need this detailed scale to identify policies and priorities to manage, conserve and protect species and habitats.

Theme 4

Improving our decision making – how science can help

Objective

To improve the role of science so that we take better-informed decisions that enhance the quality of our marine and coastal policies and ensure more integrated, and therefore more effective, marine and coastal planning and management.

Our priorities for action

English Nature cannot achieve this alone and will **work with key stakeholders** to take forward the following actions:

- Improvements in the management of data. We will work with Government to secure the release of a standard GIS outline of the coast, with standard bathymetry, that can be downloaded from the Defra website. This should be cost-free for users and would ensure that future spatial data can be integrated with greater ease.
- Improvements in access to data. We will continue our work with Government through the National Biodiversity Network (NBN), for the inclusion of a standard clause in all publicly-funded survey contracts. This will require all marine data to be placed in a standard format and released at the end of each project so that everyone can have access to and use of it. The costs of delivering this, and putting in place a central co-ordination mechanism, would more than offset the large sums of money currently spent trying gain access to data from publicly-funded work.
- Improvements in the use of data and knowledge. English Nature will champion and promote the use of mechanisms that bring together scientists and policy makers to ensure that increasing scientific knowledge is used to create better policies and take improved decisions.
- Increase the diversity of data and knowledge. English Nature will work with research institutes and others to support and influence the diversity of data that is generated. This will ensure that the right types of information are available to improve decision-making. This will include economic and socio-economic information as well as broader biological data and innovative models.

Marine Biological Association, overlooking Plymouth Sound. Dan Laffoley/English Nature



- Improvements in knowledge of marine biodiversity and ecosystems to inform decision-making and end-users. For example, by extending the highly successful trial of mapping the marine landscapes of the Irish Sea to all the regional seas around the UK, and beyond. This work is essential to support sea-use planning, governance, improved decision-making, delivery of integration, and implementation of current commitments such as the establishment of a permanent, fully representative network of Marine Protected Areas.



- Improvements in the integration of English Nature’s work with the science community. We will work with the science and policy community to grow and develop our Marine Science Technical Advisory Group (TAG).
- Developing our understanding of climate change. The multi-partner ‘MarClim’ project, led by the Marine Biological Association of the UK, with the University of Cork and the Scottish Association of Marine Sciences, is an ideal route to develop this process. Monitoring marine climate change needs to form a fundamental part of the UK’s work on climate change. Predicting its likely scale should be included in future generations of climate change scenarios.

Delivering our Agenda for science

The complex nature of the marine and coastal environment, coupled with its physical continuity, means that there is a high degree of ecological interdependency. For example, the over-harvesting of fish species can have significant and widespread impacts on other parts of the food web. This results in the loss and restructuring of biodiversity, and the loss of ecosystem stability and resilience that is essential if continual use is to be maintained.

Both our marine and coastal environments are suffering from the loss of habitat, long-term structural changes and losses in biodiversity, unsustainable use of resources, and poor water quality. The lack of long-term research and monitoring and the lack of a

coherent, strategic, integrated ecosystem-based planning and management framework have allowed the damage to accumulate with no-one taking responsibility. With environmental change accelerating and growing in magnitude, the major concern now facing nature conservation is how species and habitats will respond.

Our insufficient knowledge and understanding of marine biodiversity and ecosystem processes is hindering effective conservation and sustainable use of resources. Within the UK world-class scientific research is undertaken. Many individual projects carried out in our academic institutions will provide useful information at the scale of individual sites and species. However, this approach contributes little to our overall understanding of the causal mechanisms and thus fails to increase our ability to better manage the effects of change on the environment. Small-scale, closely focused projects may help resolve individual operational or tactical problems but strategic issues will only be resolved through strategic science.

In order to enhance the quality of marine policies and decision-making and to ensure the better integrated, and therefore more effective, planning and management, the following requirements need to be met:

- Greater cohesion and integration from the science community to help understand our marine and coastal environment.
- Better co-ordination and integration across policy, operational and research levels.
- Increased effort to set the management of marine and coastal resources within the context of climate change.
- The development of a regional science agenda, enabling the science community to integrate with the development of regional management approaches.
- Greater effort to ensure that publicly-funded research is placed in the public domain.
- Greater interactions between science projects and policy makers to ensure that results are fit-for-purpose and are used in decision-making.



The population structure and life history of basking sharks, the largest fish in UK waters, are being studied using satellite tagging systems. (www.cefas.co.uk/sharks). Bill Sanderson

“How inappropriate to call this planet ‘Earth’, when it is clearly ‘Ocean’.”

Arthur C. Clarke

“Let us hope that all the wise words can, sooner rather than later, translate into a million actions that make a difference.”

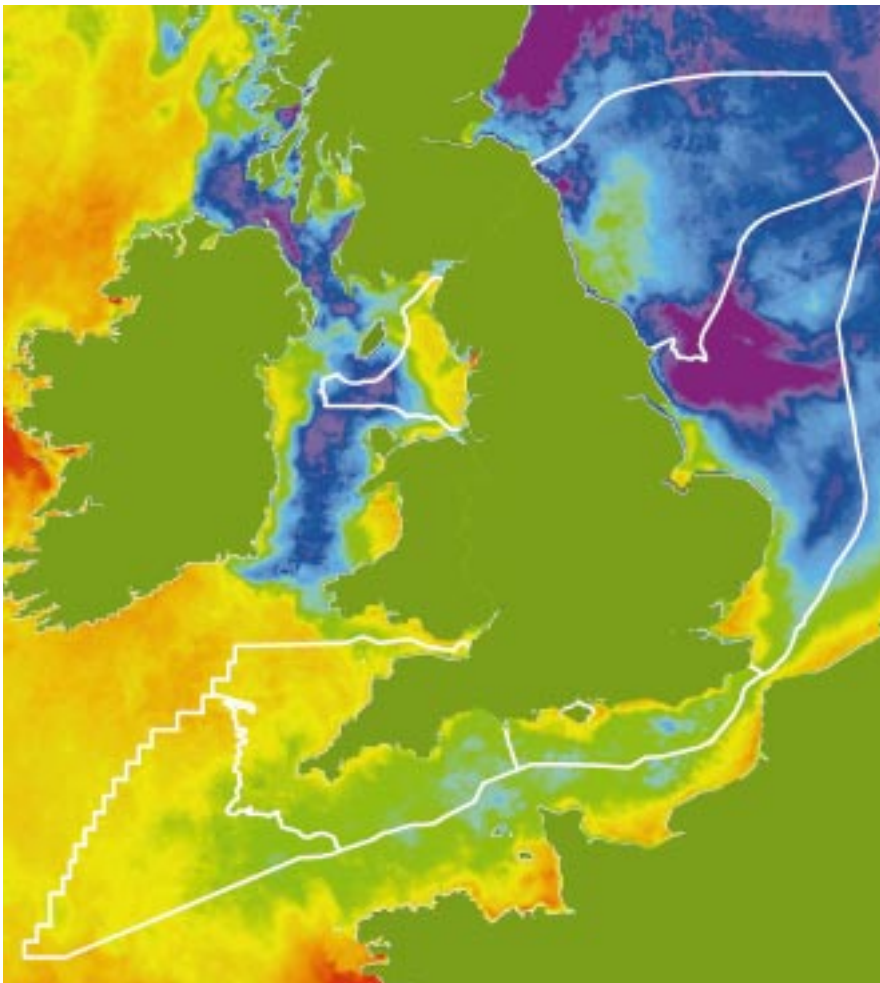
Dr Bob Earll, Coastal Management for Sustainability, 2003.

Shoreline Management Plans - a better way of co-ordinating monitoring programmes

The Channel Coast Observatory (<http://www.channelcoast.org>) is the data management and regional co-ordination centre for the South-east Regional Coastal monitoring Programme. The programme provides a consistent regional approach to coastal process monitoring. It provides information for development of strategic shoreline management plans, coastal defence strategies and operational management of coastal protection and flood defence. The programme is managed on behalf of the Coastal Groups of the south east of England and is funded by Defra, in partnership with Local Authorities of the south east of England and the Environment Agency.

The coastline of the south east supports a wide range of coastal habitats, including intertidal mudflats, coastal grazing marsh, sand dunes, saltmarsh, vegetated shingle and saline lagoons. The Coastal Biodiversity and Monitoring project is seeking to redress the lack of habitat information by providing a region-wide baseline assessment of biodiversity from the Isle of Portland to the Thames estuary.

Seawater surface temperature for all Marine Natural Areas in June 1997. ©Natural Environment Research Council (NERC) & Plymouth Marine



English Nature Marine Science TAG

Two years ago English Nature established the multi-agency Marine Science Technical Advisory Group (TAG). This is primarily to help promote better co-ordination and collaboration of science between the key national marine research institutes, and to improve the integration of science into policy development and related decision-making. In particular, the TAG has been extremely useful in building a coalition of support for policy and research initiatives underpinning our Agenda and the application of the ecosystem approach. An ambitious strategic Marine Science Programme for 2004-2008 has been developed through the Marine Science TAG to take forward and implement the ecosystem approach. The practical implementation of the ecosystem approach will be trialled at the scales of regional seas and coastal waters.

Engaging with people

“At the end of the day, people need to be educated. Not everyone takes an interest in our seas but they do need to have a respect for them.”

Respondent to English Nature's web survey, 2003

Developing our Agenda

The proposals and objectives we have described for managing our coasts and seas will only be achieved if there is strong local community support and commitment from Government, regulators and industry.

In 2003 English Nature made a commitment to improve the way we involve people in our work through developing this Agenda. For more information see *Developing English Nature's Maritime Strategy-State of Nature one year on* at www.englishnature.org.uk/science/coasts_and_seas/default.asp. This was the start of an ongoing process which we hope will both gain support for our ideas and help to address your concerns. We have held workshops and meetings and carried out a web-based survey (English Nature, 2004). These clearly showed that people not only care about our coasts and seas, but also want to be involved in protecting them through improved integration and management and better support for communities and partnerships.

The main issue facing us is how to ensure that stakeholder involvement processes result in 'credible' outcomes. This is not easy when different people have different expectations or aspirations for the areas of coast and sea which they have traditionally used. 'Credible' to some groups means the outcome must be scientifically 'perfect'; to others it means the outcome must completely satisfy the concerns of all groups. Often the practical answer must actually lie somewhere in-between.

National Nature Reserves are great places for people and wildlife, Saltfleetby-Theddlethorpe Dunes NNR. English Nature 24140



Common seals on sands at North Norfolk which holds 9% of UK population of this species. Peter Wakely/English Nature 18345



“Like the countryside inland, we need planning and development of living communities, local coastal and maritime industries, facilities for peoples' daily lives.”

Respondent to English Nature's web survey, 2003

Involving communities in the stewardship of our coasts and seas

There are many different groups and fora set up to help look after our coasts and seas. They include estuary partnerships, coastal fora, European marine site groups and Voluntary Marine Conservation Areas, Heritage Coasts and some Areas of Outstanding Natural Beauty partnerships. These groups provide opportunities for local people to contribute to safeguarding their coastline.

Wading birds on the sandflats at Cleethorpes, entrance to the Humber Estuary where industry and wildlife thrive. Paul Glendell/English Nature



Last year's web-based survey revealed that a significant number of respondents want more support for coastal partnerships. Now is the right time to begin the development of a programme similar to "CoastCare" in Australia. This type of programme could build on existing strong partnerships and become a focus for community participation and sustainable use of our coasts and seas, as well as contribute to improved quality of life. A co-ordinated approach to funding partnerships would complement objectives already being developed following the Defra ICZM stocktake.

English Nature is developing a project in the south-west of England that will build on the experience and knowledge of communities, including fishermen, anglers, naturalists and scientists,

to create a network of sanctuary areas for marine wildlife. It is hoped that these areas will bring a wide range of benefits to different users but the emphasis is on community participation to discuss the need for, and identify the best places for, these areas.

Opportunities for involving people

The Berwickshire and North Northumberland Coast European marine site (<http://www.xbordercurrents.com>) uses a number of exciting ways of to bring attention to information on the wealth of wildlife and actions being taken to look after it. A 15 minute video makes an excellent free educational tool, a new guide book provides information for visitors on what to see, safe access and local transport. The East Berwickshire Natural History Festival 18-20 June 2004 promotes the areas natural and cultural heritage.

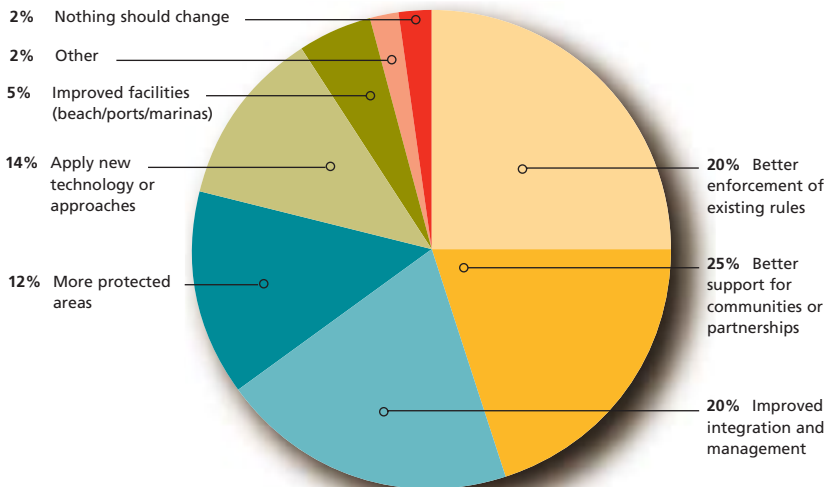
The quality of the North Devon Area of Outstanding Natural Beauty Management Plan (<http://www.northdevon-aonb.org.uk>) has been strengthened through community participation. Over 650 people attended a series of events and parish workshops over summer and autumn 2002, generating over 1300 views or comments on issues relevant to the area and its management. This approach was successful because the events were combined with other partners such as the National Trust, or exercises and consultations on other initiatives, such as Community Strategies.

Since its inception, 1995, the Dorset Coastal Forum (<http://www.dorsetcoast.com/>), has carried out, and been involved with, a wide range of projects relating to many aspects of the Dorset Coast. The Forum has been involved with educational events and literature, such as its 'sustainable fishing postcards', survey work, contributing to consultations and the sharing of information. The good practice here was used to help establish the Pembrokeshire Coastal Forum.



Puffin on the outer Farne Islands.
Paul Glendell/English Nature

English Nature web survey 2003
What actions do you think should be taken?



Signposts to good practice

Warden schemes have been set up on the Thanet Coast, Kent and through the Nature Coast Project in Sussex (<http://www.pebbledash.org.uk>). These provide opportunities for people not only to care for their coast but also learn new skills.

If you are interested in enhancing your knowledge of our fabulous marine heritage then MarLIN

(<http://www.marlin.ac.uk/learningzone/Sightings/signpost.htm>) gives you a signpost to where you can report on your finds, whether it is your local rocky shore or your catch of the day from your local beach. For the more adventurous, SeaSearch (<http://www.seasearch.org.uk/>) is continuing its national campaign, providing opportunities for divers to learn new skills and record what they see on the seabed.

There are also opportunities to find out about your local coast through the RORE LowTide events. To find out more or organise an event visit their website at <http://www.riverocean.org.uk/lowtide/index.html>. If you have a favourite beach near you, then why not adopt it? The Marine Conservation Society still co-ordinate the 'adopt-a-beach' scheme through local groups (<http://www.adoptabeach.org.uk/>). To find out about your nearest National Nature Reserve visit the English Nature website <http://www.natureonthemap.org.uk>.

“They [our seas] have been taken for granted for too long and we need more people to actively get involved in looking after them.”

Respondent to English Nature’s web survey, 2003

Fully loaded aggregate dredging barge in Eastern Channel. Paul Gilliland/English Nature



The Essex Estuaries European marine site Management Scheme (<http://www.essexestuaries.org.uk>) was completed in 2004 following an extensive stakeholder engagement process. The voluntary approach has been integral to this process, building on the success of existing estuary partnerships that make up this complex area. In addition, during the consultation period, some 46,000 flyers were distributed to communities, businesses and organisations, encouraging people to have their say on the proposals and process for future management of this special area.



Rocky reefs at Hartland Quay form part of the natural and cultural heritage of the North Devon AONB.
Peter Wakely/English Nature

The Wildlife Trust's South East Marine Programme (<http://www.southeastmarine.org.uk>), funded by the Aggregates Levy Sustainability Fund, is raising awareness of marine life through its Marine Week events, aggregates conferences, marine wildlife training days and educational videos.

Turning the Tide (<http://www.turning-the-tide.org.uk/>) demonstrates how nature conservation has been used to help transform the coastline of County Durham and is bringing new hope to former mining communities. Restoration of the area included the removal of 1.3 million tonnes of spoil to reclaim 80 hectares of magnesian limestone grassland. The project also opened access to the coast and beaches by creating 20 kilometres of footpaths and 47 kilometres of cycle route. The area has now achieved Heritage Coast status which will be used to contribute to the area's economic and social revival. "Environmentally, the coast has bounced back- now it is time to help the local community do the same", Sarah Curran, Heritage Coast Officer (Urbio 5 <http://www.english-nature.org.uk/pubs/publication/PDF/Urbio5.pdf>)

Now we would like to hear from you

Our commitment is to collate all of your comments and publish our response. We will then issue our Agenda which will take all those considerations into account and then take forward the actions in partnership with others. It is an ongoing process – a 21st century agenda for the recovery, conservation and sustainable use of our coasts and seas.

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“The oceans are the cradle of life on earth, the engines that govern our climate, the repository of a vast and diverse wildlife. They are an integral part of all our lives and their protection and preservation is our greatest challenge.”

BBC Natural History Unit, 'The Blue Planet'



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Right: Charismatic Tompot blenny. Paul Naylor



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