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Turning the Tide – Addressing the impact of fisheries on the marine environment





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Presented to Parliament by the Secretary of State for Environment, Food and Rural Affairs and the Chief Secretary to the Treasury by Command of Her Majesty May 2006

Cm 6845 £7.50

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# Introduction

The Royal Commission on Environmental Pollution's Twenty-Fifth Report "Turning the Tide – Addressing the Impact of Fisheries on the Marine Environment" was presented to Parliament in December 2004. This document is the Government's formal response to that Report. Reference is made to action by the Devolved Administrations in this response but the opinions expressed are those of the UK Government. Within the UK, fisheries management is devolved in Scotland and Wales, but in Northern Ireland devolution is currently suspended. The Scottish Executive is responding separately to the Royal Commission's report. Some of the Royal Commission's recommendations (particularly on aquaculture) were directed specifically to them and will be addressed in the Executive's response.

The Turning the Tide Report is based on a study commissioned by the Royal Commission on the environmental impacts associated with a variety of commercial fishing activities in the North East Atlantic, particularly those fisheries regulated by the European Union's Common Fisheries Policy and the waters around the UK. The study examined trawling, drift netting, industrial fishing and fish farming as well as regulatory and management practices, the institutional and legal framework and the state of marine science and data, including their social and economic dimensions.

The Government welcomes the Royal Commission's Report as a substantial contribution to current thinking on improving the management of marine fisheries and the conservation of the marine environment. The context for future management of fisheries in the marine environment is challenging. The World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 also recognised this and set an ambitious agenda with specific goals and targets for oceans and fisheries. The UK Government is committed to delivering the outcomes of the Summit, recognising that the event was a significant step on a long road to achieving sustainable development. We have published WSSD delivery plans for the commitments and integrated international sustainable development priorities (including WSSD commitments) into the UK Government Sustainable Development Strategy.

There is strong evidence – as the Royal Commission Report reflects – that dramatic changes have taken place in the marine ecosystems around the UK since the 1980s and that these changes are continuing. The implications of these changes are not yet well understood but they emphasise the importance of an effective responsive management framework and a precautionary approach. We accordingly accept the Report's main conclusion that a new framework for managing the marine environment is needed. We are currently consulting on how such a framework can be implemented in England through the Marine Bill. Further details on these ideas are set out below in response to specific recommendations from the Report.

This response draws heavily on the work that Fisheries Departments undertook to respond to the landmark report by the Prime Minister's Strategy Unit, "Net Benefits". There is much in common between the Royal Commission's recommendations and those in the Net Benefits Report. Progress since publication of "Securing the Benefits", (the Fisheries Departments' response to "Net Benefits" in June 2005), is reported below.

In order to present the action that the Government is taking coherently, this response is structured under the following themes:

- Improved management of the marine environment
- Improved management of fisheries
- International fisheries management
- Research
- Public participation
- Jurisdictional issues
- Reducing the environmental impacts of aquaculture

### IMPROVED MANAGEMENT OF THE MARINE ENVIRONMENT

### **Marine Bill**

Recommendation 9 Para 10.46

The UK government and the Devolved Administrations should introduce Marine Acts in their areas that set out the principles for managing human impacts on the marine environment, with the primary objective of the enhancement and long-term protection of the environment; establish a statutory basis for marine spatial planning and targets for marine protected areas and no-take reserves.

The Government agrees that a new framework for managing the impact of human activities on the marine environment is needed. Defra's five-year strategy, published in December 2004, includes a commitment to improve the current management and protection of all our marine resources through a Marine Act. This new framework for our seas will be based on marine spatial planning, that balances conservation, energy and resource needs. This framework will ensure that those UK Government bodies who regulate marine activities can work together effectively to ensure the sustainable use and protection of our marine resources, including our fishery resources.

The Government launched a consultation exercise on 29 March 2006, covering:

- thinking on how a marine spatial planning system might operate;
- options for modernising the way in which applications for certain types of licence for development in the marine area are considered and decided;
- options for improving the framework within which we protect marine ecosystems and biodiversity; and
- whether there is a case for a new Marine Management Organisation (MMO) and if so, what functions it might undertake.

The UK Government and Devolved Administrations are working together to achieve the best means for managing the marine environment around the UK. However it will be for the individual administrations to decide on the way forward in their respective countries.

Recommendation 7 Para 10.40

An investigation should be made of the possible synergies between various regulatory and marine protection regimes.

"Securing the Benefits" acknowledged that current arrangements for fisheries and environmental regulation are complex, with overlapping jurisdictions and responsibilities. Defra has already established, from 1 October 2005, the Marine Fisheries Agency which deals with delivery and operations, as well as licensing and quota management in England and Wales. We are also considering whether there is a case for a new Marine Management Organisation (MMO) undertaking some Government activities in the marine area, including some new functions that

might be introduced through the Marine Bill. An MMO could improve the co-ordination and delivery of marine management functions. However, at this stage, our consideration of what scope an MMO might have remains very broad, and what Government functions, if any, an MMO might deliver in the marine area remain to be decided. Much will depend on decisions taken following analysis of responses to the Marine Bill consultation.

Recommendation 1 Para 7.54

Human impacts on the marine environment should be managed in a fully precautionary manner. Fishing should only be permitted when it can be shown to be compatible with the framework of protection set out in this report.

Recommendation 2 Para 7.59

The above principle would reverse the current presumption in favour of fishing. In future, applicants for fishing rights (or aquaculture operations in the marine environment) should have to demonstrate that the effects of their activity would not harm the sea's long-term environmental sustainability.

We are considering how to improve the protection of marine ecosystems as part of our work on marine nature conservation under the Marine Bill. This includes the development of ecosystem objectives and the use of precautionary environmental limits beyond which we would be in danger of fundamentally damaging ecosystem functioning and the services which ecosystems provide. These objectives would help implement the ecosystem-based approach to the management of human activities in the marine environment, and provide a framework within which the need for the use of existing sectoral management tools could be more clearly identified and acted on. Such objectives, together with mechanisms for marine protected areas, would fit within the framework of marine spatial planning that we are proposing to introduce in the Marine Bill. Together these measures should allow us to ensure that we can take the necessary decisions to deliver long term sustainability in the marine area.

The section below on strategic environmental assessment sets out how we are taking forward the need to ensure prior consideration of the impact of fishing on the marine environment.

### **Effective Institutions**

Recommendation 10 Para 10.51

The principal objective of UK policy in fisheries should be to protect the marine environment.

The protection of the marine environment is a critical part of UK fisheries policy. However, the social and economic pillars of sustainable development also need to be integrated into our work. UK Fisheries Departments, in extensive consultation with stakeholders on the "Net Benefits" report, developed an overarching aim for fisheries management and policy-making in the UK which is set out in "Securing the Benefits": "A fishing sector that is sustainable and profitable and supports local communities managed effectively as an integral part of coherent policies for the marine environment."

importance of protecting the marine environment as part of our strategy to achieve a thriving fishing industry that supports a healthy and flourishing marine environment.

Objectives flowing from this aim (also set out in "Securing the Benefits") highlight the

Recommendation 11 Para 10.51

### The allocation of resources should reflect these new policy priorities.

The Government's allocation of resources for fisheries management reflects the change programme detailed in "Securing the Benefits". A major part of this is managing fisheries within the marine environment.

# **Spatial planning**

Recommendation 5 Para 10.22

The UK government should develop a comprehensive system of marine spatial planning that: (a) sets out the principles and long-term goals for protecting the marine environment and promoting the sustainable use of the sea; (b) develops integrated regional management plan to guide all uses of the sea, including fishing. These should ensure high standards of marine protection and be subject to strategic environmental assessment; (c) has a statutory basis as well as a clear framework for public participation.

Recommendation 6 Para 10.22

# The UK government should promote the principle of marine spatial planning at European and international levels.

We agree that marine spatial planning offers an opportunity to take better account of the location of activities within the marine environment and the relationship between these activities. The Government commissioned a consortium to undertake a pilot planning project for part of the Irish Sea. The final report from this project was published in February 2006.

The Government intends to introduce a system of marine planning through the Marine Bill, drawing on the experience gained in the Irish Sea pilot. This will establish a set of high level principles and objectives to guide development and application of marine planning in UK waters. Marine planning will incorporate strategic environmental assessment (SEA) and will involve extensive stakeholder participation.

The provisions for marine planning in the Marine Bill, and how these might link to licensing activities, and existing management systems such as those for fisheries, will become clearer in the coming months particularly as we consider responses to the consultation launched in March 2006.

The Government welcomes the current proposals within a European Marine Strategy that recognise marine spatial planning as a useful tool. We are actively sharing the findings that have emerged from the Irish Sea pilot with the European Commission and countries in the European Union and beyond. The UK is contributing to the development of the European Maritime Green Paper and has provided results from the Irish Sea pilot to the European Commission unit undertaking this development. The UK has been participating actively in the Convention for the Protection of the North East Atlantic (OSPAR) work to follow up a North Sea Conference commitment to examine the scope for taking forward marine spatial planning.

### **Marine Protected Areas**

Recommendation 3 Para 8.96

UK government should develop selection criteria for establishing a network of marine protected areas so that, within the next five years, a large-scale, ecologically coherent network of marine protected areas is implemented within the UK. This should lead to 30% of the UK's exclusive economic zone being established as no-take reserves closed to commercial fishing.

We agree that marine protected areas (MPAs) have a role to play as part of the framework for protecting the marine environment, which is set out in this response. The Government and the Devolved Administrations are committed to establishing networks of marine protected areas to maintain and restore biodiversity in the marine environment. Under the EU Habitats Directive (92/43/EEC), the UK is identifying sites as part of the Natura 2000 network. The Joint Nature Conservation Committee has already established criteria for the identification of such sites and is co-ordinating survey work to gather the data required for designation.

The Marine Bill consultation paper includes proposals for a new mechanism for the designation of marine protected areas for the conservation of nationally important species and habitats (and potentially wider purposes). This mechanism would be used to help to deliver our commitment under the Convention for the Protection of the North East Atlantic (OSPAR) to establish a coherent network of protected areas. This network will conserve the areas that best represent the range of species, habitats and ecological processes in our waters as well as protecting vulnerable or sensitive species and habitats. Some of these areas are likely to require protection from fisheries activities. The nature conservation agencies are beginning to consider which areas might be in need of protection in addition to that provided by wider marine management measures. It is not possible at this stage to say what the overall coverage of the network would need to be to deliver our objectives for marine nature conservation within the context of sustainable development.

Closed areas or seasons can also have benefits for fishing stocks if they are well-designed and have clear objectives. A recent example of such a measure is the closure during the spawning season in 2005 and 2006 of an important spawning area for cod and other species off the north Cornish coast. The effects of this closure are being monitored.

A significant level of protection is already afforded by marine spatial controls. A recent review<sup>1</sup> has calculated that, in UK territorial waters around England and Wales, spatial management measures under the Common Fisheries Policy cover 33% of those waters. If other managed areas are also included, such as those regulated by Sea Fisheries Committees, Special Areas of Conservation, Special Protection Areas and other restricted areas, then over 40% of our territorial waters are subject to spatial management.

Developing the ecosystem approach: Key tasks and practical progress towards integrated planning in the UK. ICES CM 2005/L:09. Annual Science Conference. 20-23 September 2005. Aberdeen, UK

<sup>&</sup>lt;sup>1</sup> Rogers, S.I., Eastwood, P.D., Houghton, C.A. and Mills, C. (2005)

In other cases, the benefits may be less clear. The migratory nature of cod and its relatively even distribution in the North Sea means that it is likely that closure(s) will not reduce cod catches, unless they cover the majority of the sea area. Furthermore, the simple closure of an area of sea is not necessarily beneficial since it can simply divert fishing effort to other localities, creating additional fishing pressure in these areas.

Although we are uncertain about the scientific basis for the Royal Commission's recommendation for a closure of 30% of the UK's Exclusive Economic Zone, the Turning the Tide Report and recommendations in the Net Benefits Report have stimulated considerable debate about the role and extent of marine protected areas in fisheries management. We hosted a workshop of environmentalists, scientists and industry representatives in March 2005 to consider in particular, the scope for multi-purpose marine protected areas, in order to provide the maximum number of benefits in terms of stock recovery, nature conservation and social and economic development. We also commissioned desk studies to review the lessons learned from the experience of marine protected areas in Northern European waters and to analyse the potential contribution protected areas could make to the recovery of a small selection of specific stocks. The reports of these studies are available at <a href="http://www.defra.gov.uk/fish/science/index.htm">http://www.defra.gov.uk/fish/science/index.htm</a>.

Following this work, we are during 2006 developing our plans for a controlled trial of marine protected areas which aim to have both fisheries and wider marine conservation benefits.

We are using the opportunity provided by the Marine Bill to review current legislation used for designating protection of marine areas for various purposes. We will fill any gaps that become apparent, but we may decide to replace existing law with a single piece of legislation flexible enough to deal with all current and possible future requirements for designating protected areas within the marine area.

Recommendation 4 Para 8.98

The marine protected area network should be implemented as part of a balanced package of measures to improve the management of human impacts on the marine environment and to reduce fishing effort.

We agree that the implementation of marine protected areas needs to be seen as part of a balanced package of measures. The Royal Commission considered at length the example of the Georges Bank off the north east coast of the United States, where closures have taken place as part of a comprehensive management plan, including significant reductions in effort. This is consistent with the evidence from the research reports referred to above, that fisheries closures are most likely to be effective when accompanied by effort reductions.

## **Strategic Environmental Assessments**

Recommendation 8 Para 10.28

The UK government and devolved administrations should apply strategic environmental assessment and environmental impact assessment to fishing, amending the legislation as necessary.

As noted in "Securing the Benefits", we support the concept of strategic environmental assessment (SEA) and asked the Joint Nature Conservation Committee (JNCC) to advise us on how to proceed with such assessment of fisheries management policy in the UK. We also indicated in "Securing the Benefits" that we would examine how we can adopt environmental impact assessment (EIA)-type procedures within current fisheries management practices.

In the light of the advice from JNCC, Defra intends to establish a Steering Group, including JNCC and Natural England, to develop and take forward a methodology for environmental assessments against which strategic fisheries decisions can be made. This will involve working with a Sea Fisheries Committee to pilot application in a real fisheries management situation. Our intention would be to move on to examine how we can then adapt and adopt EIA-type procedures to current fisheries management practices more widely.

# Licensing

Recommendation 25 Para 9.34

The UK government should make greater use of renewable fishing licences to regulate UK fisheries, by linking licensing to marine spatial plans, reductions in fishing effort, gear restrictions and improvements in vessel monitoring technology.

UK Fisheries Departments already operate a restrictive system of renewable fishing licences. For example, the Department introduced through licensing conditions a ban on the use of a type of scallop dredge ("the French dredge") in the English Channel. This system sets out conditions for individual licence holders, which allow for the reduction of fishing effort, and restrict the gear types that may be used or carried in particular fisheries. Fisheries Departments have also installed new tamper-resistant satellite-tracking devices on all fishing vessels over 15 metres in overall length.

The one area of the RCEP recommendation which is not currently covered by our licensing system is the link with marine spatial planning. Other parts of this response explain that the Government is consulting on taking forward marine spatial planning through the Marine Bill. The nature of these provisions will become clearer as the Marine Bill consultation proceeds.

### **IMPROVED MANAGEMENT OF FISHERIES**

### Fishing capacity and decommissioning

Recommendation 19 Para 9.15

The UK government and fisheries departments should initiate a decommissioning scheme to reduce the capacity of the UK fishing fleet to an environmentally sustainable level and ensure similar reductions are made in EU fleets that fish in UK waters.

The Royal Commission's recommendation is consistent with the findings of the Prime Minister's Strategy Unit in respect of fishing fleet capacity. Overfishing is one of the major threats to the marine environment. One of the key causes of overfishing is excess capacity to catch fish. Overcapacity leads to an increase in fishing effort and increases incentives to illegally fish in order to maintain profitability. A better match between fleet capacity and long-term fishing opportunity is essential to the sustainability of the fishing fleet.

Fisheries Administrations have already made substantial funds available for decommissioning (a total of over £76 million spent on decommissioning 265 vessels in 2001 and 2003). The number of UK vessels targeting cod in the cod recovery zone fell from 700 to 330 between 2001 and 2004. Several other countries – notably Ireland and the Netherlands – have announced decommissioning programmes and others are considering doing so. Fisheries Administrations consistently argue the case for a strategic and long term view of fleet structure within Europe, in order to secure a match between capacity and fishing opportunities. We also oppose the introduction of subsidies that risk increasing fishing capacity

Defra officials have been in discussion with industry representatives since late last year on the best means of managing fleet capacity and improving profitability. We have also taken into account the results of our economic model of sustainable fleet capacity and considered the effectiveness of previous schemes. In the light of this, the Government has concluded that decommissioning is not the most effective, nor the fairest way of reducing fleet capacity, and does not encourage fishermen to make long-term business decisions. That said, discussions about a possible recovery or management plan for Western Channel sole are in progress.

It would be unreasonable to ignore the prospect of such a plan re-shaping the management and prospects for this fishery. For that reason, Defra will develop a decommissioning scheme which could be put in place for beam trawlers targeting the fishery in the event of a plan being agreed. This would be consistent with the action taken in response to the implementation of the cod recovery scheme.

# **Funding and subsidies**

Recommendation 20 Para 9.16

Funds should be made available to help the transition of the industry during the establishment of the UK network of marine protected areas and no-take reserves.

Recommendation 21 Para 9.16

The UK government should review arrangements for EU Structural Funds and other funds to promote economic diversification in fisheries dependent areas.

We agree that the displacement effect of proposals for closed areas needs to be carefully considered, including the need for accompanying effort reductions. The context of Recommendation 20 is that large-scale marine protected areas will mean that aid will be needed to support fishermen who have to adjust their fishing activity, and that aid will also be needed to cut fishing effort to avoid displacement of activity from closed areas. This proposal is dependent on Recommendation 3, that 30% of the UK's Exclusive Economic Zone should become part of a network of declared MPAs. Our response to that recommendation above explains that we are undertaking experimental work on multi-purpose MPAs. It is too early, therefore, to reach conclusions on this recommendation.

We agree that there is merit in considering appropriate support in areas vulnerable to cuts in fleet capacity. This is likely to involve joint working between Defra, RDAs and other responsible agencies. Such a partnership approach is envisaged under the European Fisheries Fund which is due to open in 2007.

Recommendation 22 Para 9.83

The UK government should press at EU level for an end to all subsidies that can result in increased fishing pressure, including vessel modification and improving port and fish processing facilities.

We agree that there is the need to avoid subsidies which can result in increased fishing pressure. The EU undertook commitments on this in the World Summit on Sustainable Development (WSSD) at Johannesburg in 2002 (for example, to progressively eliminate subsidies contributing to Illegal, Unregulated and Unreported fishing and overcapacity) and has made this a fundamental aspect of the "revised" Common Fisheries Policy. Modernisation grants are monitored to seek to ensure that these do not lead to increased fishing effort. However the Government does not consider that grants for ports or processing, for example, necessarily result in increased fishing pressure.

During the EU negotiations on the future fisheries grants scheme, some Member States have been insisting on re-instating the ability to pay aid for vessel construction. The UK has led the support for the Commission's position that to allow such aid undermines the significant reforms of the CFP in 2002. The UK would support vessel, port and processing improvements in order to enhance the quality and value of the catch, but not if this increased fishing effort.

# **Effort Management**

Recommendation 23 Para 9.29

The UK government should move towards managing fisheries on the basis of effort controls (in terms of kilowatt-hours at sea) within the next three to five years.

Recommendation 24 Para 9.29

The UK government should take steps to ensure that appropriate effort controls are introduced throughout EU waters in the shortest possible time frame.

Most of the waters around the UK are now subject to effort control in the form of restrictions on days at sea. Effort control has been introduced into the North Sea, the Eastern Channel, west of Scotland and Irish Sea to protect cod stocks, and to the Western Channel to protect Dover sole. The UK has, through these restrictions and decommissioning, reduced our effort on cod in the controlled area by more than 60% since 2000. This compares favourably with the effort reductions achieved by most other Member States.

We have said in 'Securing the Benefits' that effort control is likely to remain a part of EU fisheries management, particularly in the context of stock recovery plans. We are also committed to looking into the practicality of a system based entirely on effort control. The UK supported a Commission proposal to introduce effort management for deep-water fisheries where scientific advice considered Total Allowable Catches (TACs) and quota measures unsuitable. However, it is already clear that a risk inherent in effort control is that fishermen would simply target the species that offered the best return, to the ultimate detriment of that particular stock and potentially with considerable discarding of other species, unless the overall capacity of the

international fleet is brought more in line with the size of the resources it is targeting. In the North Sea cod, haddock and whiting fishery, the most valuable species is cod – the very stock that we are attempting to recover. It is therefore probable that a combination of effort control and Total Allowable Catches will continue to be applied for the time being in these fisheries.

# **Control and enforcement**

Recommendation 32 Para 9.8

The UK government should review the activities and environmental impact of smaller vessels that do not fall under the full set of fishing controls to ensure that the benefits of our recommendations are not reduced.

The Government is aware of the size and power of the UK fleet of smaller fishing vessels. As acknowledged in the RCEP report, managing this fleet is considerably more complex than that of the larger vessels. However, recent statistics relating to the UK under ten metre fleet do not indicate any trend of significant growth in the sector nor that the power of individual vessels is increasing.

The Restrictive Shellfish Licensing Scheme restricts entry into the sector and, for the first time, requires fishermen to submit detailed records of effort and areas fished. Studies of smaller vessels and their effects have also been and are being undertaken in the context of cetacean bycatch. Further, consideration of the various impacts of the inshore fleet will be a factor in the development of a workable methodology for applying strategic environmental assessment techniques to fisheries management, one of the main actions envisaged in "Charting a New Course". This publication sets out how fisheries management and the development of fisheries policy, as agreed among Fisheries Administrations in the UK, will be achieved in England.

Recommendation 33 Para 9.76

The UK government should pursue a policy of installing tamper-proof vessel position monitoring devices on licensed fishing vessels over 8 metres in length. The aim should be to complete this installation within three to five years.

We support the use of satellite monitoring equipment on board fishing vessels where the benefits justify the costs. In recent years the requirement for fishing vessels to install tamper-resistant devices has been progressively extended, firstly to over 18 metre vessels, and then from 1 January 2005, to over 15 metre vessels. A total of 850 UK vessels over 15 metres have been fitted with Government-funded tamper-resistant satellite tracking devices, at a cost of over £2 million.

However for smaller vessels the benefits of such vessel-monitoring systems become less clear-cut. This is because the primary purpose of satellite-tracking devices is to enable us to regularly monitor the position of fishing vessels. The need to do this becomes more questionable with smaller vessels, which by their very nature are less nomadic. This would apply particularly to the 1,800 or so vessels between eight and ten metres most of which will be day boats and will not normally venture far from their home port.

There are 2,500 UK vessels between eight and 15 metres. It would cost up to an additional £6 million to fund the installation of devices on these vessels. In addition to the capital costs, there would be recurring costs to be paid by the fisherman (typical transmission costs might be £100 - £200 per vessel a year) and extra resources needed by Fisheries Departments to handle the very considerable increase in the volume of satellite data that would be received.

We believe that the control of these vessels' activities can be carried out more effectively by monitoring their landings. In pursuit of this, we have recently introduced a scheme for the registration of the buyers and sellers of first sale fish, which will significantly improve our ability to monitor landings from all commercial fishing vessels and play an important part in tackling the trade in blackfish.

Recommendation 34 Para 9.76

UK fisheries departments should commission work to trial video recording of catch on board vessels.

We are aware of recent Canadian trials of the use of masthead video equipment which is used to monitor the stern deck when gear is hauled. This has the potential to provide valuable scientific evidence about catch composition, discarding practices, etc and in this context may provide an alternative to onboard observers. However its value as an enforcement tool is more difficult to assess and other developments such as electronic logbooks, together with satellite monitoring, seem to have more immediate potential to improve compliance within the UK fleet. We will nevertheless continue to study developments in this area to see whether they have potential applications within UK fisheries.

# **Discarding**

Recommendation 30 Para 9.67

The UK government should negotiate at EU level for a mandatory full catch reporting scheme and the data should be published annually by Defra and the relevant devolved authorities.

Recommendation 31 Para 9.68

The UK government should press for the introduction of an EU-wide discard ban.

In 2002 the European Commission published an action plan on discards. This recognised that the reasons for discarding in EU fisheries are complex and varied. The Commission put forward a number of possible measures to reduce the practice and proposed that pilot projects be taken forward to investigate their effectiveness. The Commission suggested that a discard ban be considered in the medium term, while recognising that such a ban did not necessarily reduce catches. Discard bans control the disposal of unwanted catches at sea; they do not necessarily reduce the catch of such species. There is also a possible risk that the ability to land and sell small immature fish could lead to the development of a market for such fish and thus their targeting in some cases. During 2006, Defra will be developing a pilot project in the Irish Sea involving full catch reporting. This pilot project will help to provide better information on the nature and

causes of discarding and possible forms of adaptive management for addressing these. The Anglo-Northern Irish Fish Producers Organisation has prepared a proposal on these lines, which is being considered by stakeholders within the North Western Waters Regional Advisory Council.

# Selective/damaging gear

Recommendation 26 Para 9.37

The UK government should rank the impacts of gear specific to UK fisheries in relation to their impact on habitats and press at EU level for the introduction of appropriate policy responses.

We agree that there is a need to understand the relative importance of the impacts of different fishing gears on different habitats (and species), and to act where it is required both nationally and internationally. Such issues are addressed in section 6.1. of "Securing the Benefits" and a range of research is in hand.

The Royal Commission cited a US study, which ranked fishing gears in relation to the severity of their impact and advocated a hierarchy of management restrictions depending on the gear and area. The Royal Commission suggested such ranking is done in relation to JNCC landscape classification and seabed mapping studies.

While the ranking of gear impacts may have benefits in some cases, for example the ranking of mesh sizes for the purpose of impacts on bycatch of immature fish, we are not convinced that developing a ranked list of gears against the broad-brush "landscapes" or habitats emerging from work by the JNCC and others is feasible. The types of approach outlined elsewhere by the Royal Commission and in this response – for example on strategic environmental assessments – are likely to provide a finer level of detail for management decisions.

Recommendation 27 Para 9.39

The Joint Nature Conservation Committee should develop a list of potentially damaging operations, which should be avoided in all areas of marine conservation importance.

Recommendation 28 Para 9.40

The UK government should introduce plans to give complete protection to sensitive marine habitats from destructive fishing techniques in specific areas through a new process of marine planning and strategic environmental assessment that would approve the use of gears only in those areas where they will not cause significant environmental harm.

We have considerable sympathy with the need to give protection to sensitive areas so as to avoid ecosystem damage. We are developing an approach based on an understanding of ecosystem functioning and resilience, which would measure the impacts of potential developments and activities against our objectives for marine ecosystems.

We are seeking to achieve ecosystem conservation through a combination of marine protected areas and a framework of ecosystem objectives to inform licensing and management decisions, including in relation to fisheries. We agree that marine planning and strategic environmental assessments need to take into account the impact of different types of fishing gear, to avoid significant environmental harm. For example, static gear and pelagic trawls can be safely used in areas where demersal trawls would cause damage to seabed features.

There is also a need to strike a sustainable balance which provides for a healthy marine environment – which maintains ecosystem health, functioning and integrity and protects biodiversity – alongside sustainable fishing and coastal communities. For this reason, we do not believe that a blanket approach to banning activities in all sensitive areas would be consistent with our sustainable development objectives. Within this framework, some sensitive areas will of course be protected by marine protected areas. The use of marine spatial planning coupled with strategic environmental assessment for marine activities is a suitable way of finding this balance.

Recommendation 29 Para 9.59

We recommend a staged approach to reducing by-catch. Modified gears should be introduced for the entire fleet along with a more comprehensive monitoring regime to ensure compliance and to determine the effectiveness of these measures. If target levels of by-catch reduction are not met in a particular fishery, then this fishery should be closed.

The context for this recommendation in the RCEP report is very much the issue of cetacean bycatch. However, the report also makes reference to the need to encourage the take up of more selective fishing gears. The Government agrees with the RCEP. For example we have funded the development and testing on a range of vessels of panels in the bottom of beam trawls. These panels have been shown to release benthos and thereby reduce the impact of beam trawls on species which live on the seabed.

We agree that there is a need to reduce cetacean by-catch in some fisheries. Considerable research has been, and continues to be, funded by Government and undertaken by organisations such as the Sea Mammal Research Unit, the Seafish Industry Authority, the Fisheries Research Service in Scotland and the Centre for Environment, Fisheries and Aquaculture Science. The UK Government spent around £1.6 million on cetacean by-catch mitigation research between 2000 and 2005.

As a result of this research, bass pair trawling was banned within South-west waters out to 12 nautical miles in 2004 when research showed there was no technical solution to reducing bycatch levels through mitigation devices. We also proposed that this ban be extended to vessels of other Member States, but the Commission did not support this.

In light of the findings of pinger trials in both the UK and other Member States we are considering, along with other Member States, how the use of pingers might best be implemented to ensure that those we recommend for use are safe and cost effective for the industry and offer maximum protection to porpoises.

We recognise that a solution to the problem of bycatch can only be achieved on a European scale and we will continue to work towards this. The letter from Commissioner Borg in September last year to Fisheries Ministers of Member States reflects the success the UK has had in raising the profile of the issue at European level.

As the RCEP report states, the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS) position is that bycatch over 1.7% is an unacceptable level. The ASCOBANS medium term target is to get bycatches to less than this, with the ultimate objective of minimising bycatch as far as possible. The UK Small Cetacean Bycatch Response Strategy aimed to identify measures that could be taken to work towards reducing small cetacean bycatch to below 1.7%. The Strategy also recognised that the measures identified should work towards reducing bycatch to the lowest possible level. We will continue to look to develop measures which are demonstrably both cost effective and efficient.

# Co-management/Regional Advisory Councils (RACs)

Recommendations 39 – 43

Para 10.66

If regional fisheries management is introduced safeguards should be put in place to ensure that it takes proper account of scientific advice; involves a balanced range of stakeholders and is not dominated by fisheries' interests; has a clear mandate to protect the environment and to manage fisheries for long-term sustainability; is established on a regional seas scale; has independent oversight and is subject to an early review of its scope, success and environmental impact.

The Government recognises the Royal Commission's concern that regional fisheries management might lead to short-term expedient decisions rather than long term decisions needed to ensure sustainable fisheries. As regards taking proper account of scientific advice, the Government has advocated this in the past and continues to do so. However, it is not the Government's place to instruct RACs on how they approach their work, but rather to facilitate their activities. The Government is very clear that RACs should have independent oversight of development of fisheries policy.

The composition of RACs is set out in the Council Decision under which they were established, namely two-thirds of membership to come from the fishing industry and one third from other interest groups affected by the Common Fisheries Policy. The Government was very firm in ensuring that this principle was observed when the North Sea RAC, the North Western Waters RAC and the Pelagic RAC were set up. We believe these RACs comprise a balanced share of stakeholders. It is for individual RACs to establish their own mandates. It goes without saying that their ultimate objective is long-term sustainability of fish stocks and environmental issues are covered by environmental interest organisations which participate in RACs.

The Council Decision establishing RACs (EU Council Decision 2004/585/EC of 19 July 2004 establishing RACs) provides for seven RACs to be created to cover different areas of water. The Government considers that this fulfils RCEP's recommendation that regional management should be established on a regional seas scale.

A review of the implementation of the Council Decision and the functioning of the RACs must be completed by 30 June 2007. The Government is already setting in place plans to prepare for this review.

In addition, the new Marine Fisheries Agency for English and Welsh waters is trialling the concept of regional fisheries managers in south west England. The regional fisheries manager is tasked with identifying – with the fishing industry and other stakeholders – ways to improve the management and potential of local fisheries and of benefiting local communities.

### **Role of Sea Fisheries Committees**

Recommendation 46 Para 10.71

We further recommend that the powers of Sea Fisheries Committees to protect the environment are examined and upgraded as part of the current review of their role.

Following the report on inshore fisheries management produced by the Net Benefits Inshore Fisheries Working Group, we are considering the powers and duties that would be necessary for the body or bodies responsible to deliver effective inshore fisheries management in the future. This includes powers to regulate fisheries for the purposes of stock conservation, wildlife conservation, environmental protection and socio-economic purposes. Any necessary changes to primary legislation will be taken forward in the Marine Bill.

# INTERNATIONAL FISHERIES MANAGEMENT Bottom trawling on the high seas/Deep sea species

Recommendation 35 – 36

The UK government should immediately halt any deep-sea trawling taking place in UK waters or being carried out by UK vessels. We also recommend that the UK Government should press the European Commission to ban bottom trawling, gillnetting and long-lining for deep-sea species in EU waters.

Para 9.51

The UK has argued for stronger measures within the EU to restrict deep sea fishing by all EU vessels as we do not believe that current effort restrictions go far enough to protect vulnerable deep sea stocks. We will continue to press for further action. The EU agreed a ban for 2006 on gill netting for deep sea species and the fishery using that particular type of gear will only be reopened if it can be carried out on a sustainable basis.

As regards a total ban on bottom trawling, the Government believes this should occur only where there is clear scientific evidence that such a restriction is justified on environmental grounds. As is noted elsewhere in this response, the UK has argued successfully for a ban on bottom trawling to protect the Darwin Mounds cold water corals. The Government would wish to ensure that possible displacement of fishing effort, if a wider EU moratorium on bottom trawling for deep sea species were introduced, is considered.

Recommendation 37 Para 9.53

The UK government should promote measures to prohibit destructive deep-sea fishing practices and promote the establishment of a system of marine protected areas on the high seas. In addition, it should press for international controls on high seas bottom trawling, and for their proper implementation and enforcement under, for example, the UN Straddling Stocks Agreement and the UN Convention on the Law of the Sea.

We fully share the concerns of the RCEP. The protection of vulnerable biodiversity in areas beyond national jurisdiction, including from destructive bottom trawling on seamounts and other ecosystems, was an issue that the UK attached considerable importance to under its EU presidency. We have argued successfully that the EU should support closed areas to destructive fishing, including bottom trawling, on seamounts under the North East Atlantic Fisheries Commission, and have pressed at the UN and other fora for the taking of similar measures by the rest of the international community. The UK will be using the current UN review of destructive fishing practices to press for a total ban on bottom trawling in areas beyond national jurisdiction which are not covered by Regional Fisheries Management Organisations (RFMOs). We will also be pressing for action in areas where RFMOs already exist. Underpinning this approach is UN Resolution 59/25 of 2004 which urged States and RFMOs to take necessary urgent action to protect sensitive biodiversity areas against destructive fishing practices.

We are encouraging the EU to play a leading role in promoting an integrated approach by the international community to biodiversity in areas beyond national jurisdiction, focusing on an Implementation Agreement under United Nations Convention on the Law of the Seas (UNCLOS) to establish a system of marine protected areas. This would help deliver our commitments at the World Summit and the Convention on Biological Diversity. We see the UN Fish Stocks Agreement as key to strengthening RFMOs and oceans governance generally, and within the EU will be pressing for the upcoming May review at the UN of the Agreement to widen ratification and promote the uptake of its norms by RFMOs and States.

# Fishing by EU vessels in non-EU waters

Recommendation 13 Para 10.54

The UK government should strongly promote action at the European level to ensure that, outside its home waters, the European fleet does not fish to standards that would be unacceptable within the EU. In particular, access agreements should restrict fishing to sustainable levels that respect the environment and the livelihoods of people in developing countries, and effective measures are rapidly developed to monitor and police such fishing.

The Government agrees that the European fleet must fish responsibly and to sustainable levels outside its home waters. We strongly support the 2004 Council of Ministers conclusions on Fisheries Partnership Agreements (FPAs). Under these conclusions, fisheries agreements with third countries should, for example, promote sustainable exploitation of fisheries and include targeted financial support for the local fishing sector.

Under our Presidency of the EU Fisheries Council we took action to improve the implementation of the 2004 conclusions. In particular, we held a seminar on FPAs to look at ways that the European Commission and Member States can work together in the future to improve the process. The seminar addressed a range of issues, including the negotiating process, financial matters, links with environmental and development policies and a proposed implementation action plan for 2006-2010.

The Government also strongly supports the High Seas Task Force (HSTF), which is currently chaired by Ben Bradshaw, Minister for Local Environment, Marine and Animal Welfare. The Task Force is a Ministerially-led international initiative with NGO partners, which has developed an action plan designed to combat illegal, unregulated and unreported (IUU) fishing on the high seas. The Task Force reported in March 2006 and made nine proposals for action:—

- Strengthen the International Monitoring, Control and Surveillance Network
- Establish a global information system on high seas fishing vessels
- Promote broader participation in the UN Fish Stocks Agreement and the UN Food and Agriculture Organisation (FAO) Compliance Agreement
- Promote better high seas governance through Regional Fisheries Management Organisations
- Adopt and promote guidelines on flag state performance
- Support greater use of port and trade measures
- Fill critical gaps in scientific knowledge and assessment
- Address the needs of developing countries
- Promote better use of technological solutions

Current partners have already committed over USD 2 million to take forward initial work on the proposals, with the UK providing nearly USD 1 million of this. As part of this funding, the UK has now set up a small unit that will help facilitate and co-ordinate the actions of the partners in the HSTF as they take forward the proposals. The unit has both Defra and Department for International Development staff to ensure sustainable fisheries and development issues are covered. A key role for existing HSTF members is to promote the results of the HSTF work and to gain commitment from new partners to join action on specific proposals.

### **Marine emissions**

Recommendation 38 Para 9.96

The UK should promote efforts at the European and international levels to bring marine emissions of greenhouse gases within international agreements and to control other atmospheric emissions from ships.

We are working to achieve controls on emissions of greenhouse gases within international agreements and to improve controls on other emissions. This work is mainly conducted in the International Maritime Organization (IMO), which has the primary responsibility for the

international regulation of pollution from ships, and is considering additional controls on oxides of nitrogen (Nox) to supplement those already adopted under MARPOL Annex VI. The work of the IMO is supported by action taken in Europe. The EU recently adopted a Directive (2005/33/EC) on the sulphur content of marine fuel, and the Council has requested the Commission to continue efforts to reduce emissions from shipping.

The case for this action is supported by recent assessments conducted as part of the recently proposed European Commission Thematic Strategy on Air Quality and, in the UK, review of our Air Quality Strategy. These indicate that emissions of nitrogen oxides (Nox) and sulphur dioxide (SO<sub>2</sub>) from ships contribute significantly to secondary particles formation and exceedences of critical loads for ecosystems. The assessments carried out suggest that actions to reduce these emissions are amongst the most cost effective measures to improve air quality.

### RESEARCH

### Marine environment/fisheries

Recommendation 58 Para 7.32

Government should encourage universities, research councils and others to fund marine environment research and consider how to improve dissemination and use of marine data. NERC should also consider as part of its review of marine science in 2004/5.

Defra has a combined marine and fisheries science programme budget of approximately £25 million, of which £8 million is dedicated to research, £9 million to stock assessment and advice and £5 million to monitoring and assessing the marine environment. The development of marine related policies, such as the setting of ecosystem and sustainability objectives, rely heavily on scientific evidence, and research makes a significant contribution to the translation of the Common Fisheries Policy and other policy drivers, into practical effect.

In addition, as we committed to do under "Charting a New Course" 2005, we are working in partnership with the research councils and others for strategic research. Defra were leaders in the launch of the new Marine Data and Information Partnership (MDIP) on 1st March 2005, working in partnership with the Inter-Agency Committee on Marine Science and Technology (IACMST), the Natural Environment Research Council (NERC), and other members of the marine community. Further information is available at <a href="https://www.oceannet.org.uk">www.oceannet.org.uk</a>. This will, through partnership between suppliers and users of marine data, build a co-ordinating framework for data capture storage and dissemination. A project manager has now been appointed and a two-year work programme has begun to look at principles of data standards, marine mapping and DACs (Data Archiving Centres). The first stage is to consider how publicly-funded marine data can be managed sustainably, but this MDIP framework is open to all interested parties.

To enhance our science-related work, Defra has established an ad hoc science budget which will be used to fund research ideas put forward by the fishing industry. This initiative responds to a number of recommendations in the Prime Minister's Strategy Unit report on the UK fishing industry 'Net Benefits', in particular those on greater stakeholder involvement in science commissioning, greater management focus in fisheries science and on the need to provide

practical support for the work of RACs. The £400,000 budget allocated to this programme for 2006/07 will be used to commission research areas identified as priorities by the fishing industry. The aim is to involve the industry in the research directly, including providing in-kind contributions where appropriate.

Defra, SEERAD and NERC are working together to establish a jointly-funded programme, 'Sustainable Marine Bioresources' (See Recommendation 59) which will include research on the marine environment.

Recommendation 59 Para 7.31

NERC should make it a priority to fund research on the environmental impacts of marine capture fisheries and to ensure that this knowledge is transferred to policymakers, regulators, fisheries managers and others.

We agree that the impact of fishing is one of the priority areas for future research funded by the Natural Environment Research Council (NERC). NERC, Defra and SEERAD recently commissioned a study entitled 'Science for Sustainable Marine Bio-resources'. This is one of the ten themes of the new NERC "Oceans 2025" Science plan, which will steer the direction of UK Marine Research funded by NERC for the next decade. The aim of the study was to explore the potential for improving the science supporting current and future management needs in the area of marine bio-resources, particularly fisheries. The study's report also proposed a number of candidate areas suitable for collaborative funding. These included fishing impacts on the ecosystem functioning and the spatial and temporal structure and dynamics of marine bio-resources and their interaction with user communities.

NERC, Defra and SEERAD are now considering the study's recommendations. Our plans are to develop a jointly-funded programme 'Sustainable Marine Bio-resources' which will promote better collaboration within the research base – fisheries laboratories, NERC centres, higher education institutes – and lead to improvements in the scientific evidence on which fishery management decisions are made.

Fisheries Research Services in Aberdeen is actively pursuing funded links with a number of leading Scottish academic institutions in order to widen the science base for fisheries advice.

Recommendation 60 Para 7.70

The UK government should adopt a suite of indicators that reflect the state of marine ecosystems in UK territorial waters and measure progress in conserving the marine environment.

We are working with a representative group of stakeholders to develop a series of ecosystem objectives which, if met, would ensure the health, diversity, functionality and resilience of marine ecosystems. Progress in relation to objectives would be measured with a suite of indicators, which are also under development. Once cost effective objectives and indicators have been agreed, we intend to develop and modify our monitoring programmes to support them.

The UK Government Response to the Royal Commission on Environmental Pollution's Twenty-Fifth Report

Turning the Tide – Addressing the impact of fisheries on the marine environment

Recommendation 61 Para 7.35

Fisheries subsidies should support research and monitoring schemes that use information provided by fishers in order to supply data for modelling and management.

We are providing annual funding of £1 million for a joint science/fishing industry programme of research and monitoring. Information from this Fisheries Science Partnership is being used within the annual assessment of stocks by the International Council for the Exploration of the Sea (ICES).

### **Nutrition**

Recommendations 53 – 57

Para 3.52

Studies should be undertaken to examine the full environmental implications of the Food Standards Agency's advice on eating fish.

Every effort is made to introduce alternative sources of long chain polyunsaturated fatty acids (n-3 PUFAs) from biological sources other than fish.

An urgent effort is made to discover efficient chemical synthetic pathways to generate the fatty acids, EPA and DHA.

Further consideration should be given to providing advice to the public about adding long-chain n-3 PUFAs as dietary supplements rather than relying solely upon an increase in oily fish consumption.

Further research should be undertaken to discover the mechanisms by which long chain n-3 PUFAs benefit human development and health.

The Food Standards Agency will be carrying out a sustainability assessment of its advice on fish consumption, as part of its implementation of the principles of sustainable development into policy making. This will involve drawing upon Defra advice on the sustainability of fish stocks. It will then become clear to what extent it is desirable for industry to explore alternative sources of long chain n-3 PUFAs. Currently, dietary supplements containing n-3 PUFAs are commonly derived from fish.

The Food Standards Agency recommends that people should eat at least two portions of fish a week, of which one should be oily. The 2004 conclusions of the Scientific Advisory Committee on Nutrition (SACN) and the Committee on Toxicity (COT) advised that consumption of this amount would confer significant public health benefits to the UK population in terms of reducing cardiovascular disease risk. There may also be beneficial effects on foetal development.

Oily fish and fish oils are the only significant sources of long-chain n-3 polyunsaturated fatty acids (PUFA) in the diet. Fish obtain these fatty acids from plankton or by eating other fish. Plants and other animals cannot synthesise these fatty acids to any significant extent. The Food Standards Agency previously funded research into the use of plant-derived shorter chain n-3 PUFA (alpha linolenic acid) as alternatives to the long chain n-3 PUFAs found in fish. The research conducted, however, did not support the use of plant-derived n-3 PUFA as a viable alternative to marine-derived long chain n-3 PUFAs, e.g. there appears to be only limited conversion of the shorter chain forms to the longer chain forms in humans.

Algal oils (rich in the long chain n-3 PUFA docosahexaenoic acid) have been suggested as a supplemental source. The SACN has considered a specific algal oil supplement, DHA Gold, and concluded that: 'it cannot be assumed that the effects of a supplement of docosahexaenoic acid alone will be similar to the effects of fish oil containing both eicosapentaenoic and docosahexaenoic acid'. Oily fish (or fish oil) is therefore currently the only significant dietary source of long chain n-3 PUFA. Supplements do not provide an alternative source; long chain n-3 PUFA in supplements are derived from fish. Fish is also an important source of other nutrients (e.g. selenium, vitamin D) and provides a healthy alternative to other foods.

The Agency has a number of research projects on health aspects relating to long chain n-3 PUFA intakes. These include projects aiming to provide a stronger scientific basis for identifying optimal dietary intakes of long chain n-3 PUFAs in subgroups of the population and projects examining the effect of long chain n-3 PUFAs on cognitive function. The Agency is also funding research investigating the effect of fish consumption on colorectal cancer risk. The results from these projects will help inform SACN when formulating future recommendations for fish and long chain n-3 PUFA dietary intakes.

### PUBLIC PARTICIPATION

## Stakeholder and public involvement

Recommendations 47 – 49

Para 10.79

The UK government and the devolved administrations should establish a process that will provide an opportunity for a broad cross-section of the public and civil society to engage in informed debate about the management of the marine environment.

The UK government and the devolved administrations should use the above process to inform from an early stage the development of policy on the marine environment and fisheries, including the development of marine spatial planning and marine protected areas.

The UK government and the devolved administrations should encourage greater use of these methods in the formulation of policy at the European level.

Recommendation 51 Para 10.82

The UK government should develop and implement strategies for communicating marine issues to stakeholders and the public.

The Government communicates with stakeholders on marine and fisheries issues in many ways. We hold regular meetings with a wide range of stakeholders, including local stakeholders at the coast. Defra has recently published "The Marine Bill Newsletter", specifically to inform the public about progress on the Marine Bill. With the Marine Fisheries Agency, Defra publishes "Fishing Focus", a newsletter for marine fisheries stakeholders. We are through this newsletter, inviting stakeholders to contribute views on issues at an early stage of policy thinking, and also improving guidance for fishermen.

We agree that there is a need for greater involvement of a broad cross-section of civil society in decisions about the management of the marine environment, and we support such initiatives wherever possible. That is why we are supporting the establishment of Regional Advisory Councils for fisheries management. We will provide opportunities for wide engagement in the development of marine spatial planning. The process of strategic environmental assessment also provides an opportunity for public engagement on development within the marine environment.

Throughout the process of developing the policies that will feed into the Marine Bill there has been, and will continue to be, extensive and inclusive stakeholder engagement. The UK Government wants to ensure that all interested parties have the opportunity to contribute their views. We also intend that in setting up a system of marine spatial planning a crucial element will be the need to build in appropriate structures to ensure sufficient stakeholder participation in the construction of plans for the marine area, in particular where planning may be focused on the coastal zone.

To help further develop links with the stakeholder and academic communities, Defra is establishing a Marine Fisheries Science Advisory Group. The Group will provide a forum for discussing Defra's proposed priorities and strategic direction for the science programme, as well as how best to disseminate results to a wider audience of stakeholders.

### **Education**

Recommendation 50 Para 10.82

The UK government should develop and implement strategies for improving education on marine matters by including these issues into key stages 2 and 3 of the national curriculum.

The marine environment is not explicitly stated as an area for study in science and geography programmes at primary and secondary school levels, but it can be integrated into the national curriculum. The Qualifications and Curriculum Authority (QCA) already encourages such adaptations by allowing a teacher to integrate their own interests, choose an alternative focus or to look at ways of using local examples in their teaching. The QCA provides advice and examples of how to do this in the 'Customise your Curriculum' section of its website (http://www.gca.org.uk/schemes).

The QCA has provided a list of topics that could be covered at key stages two and three (KS2 & KS3) in the science and geography programmes. This includes, for science:— examples of food chains and webs based on marine ecosystems; ocean colour; sound and communication in dolphins (for Key Stage 4); the role of the oceans in carbon cycle and global warming. Other topics include the extraction of salt from seawater; coastal sea breezes and convection currents on the beach; dolphin-friendly tuna; over fishing in the seas and their impact on marine food webs. Field trips can also be undertaken on beaches and at coastal locations to investigate marine habitats and surveying techniques.

Science Schemes of Work can be accessed online on the Standards website: <a href="http://www.standards.dfes.gov.uk/schemes2">http://www.standards.dfes.gov.uk/schemes2</a>.

Oceans4Schools <a href="http://www.oceans4school.com/">http://www.oceans4school.com/</a> is run by the National Oceanography Centre in Southampton.

Topics suggested for inclusion in the geography curriculum at key stage two are: knowledge and understanding of environmental change and sustainable development; knowledge and understanding of places, rivers and oceans; and the study of water (rivers, coasts, etc). At key stage 3 the impact of over-fishing or pollution on the marine environment may be studied as examples of conflicting demands.

# Labelling and awareness-raising

Recommendation 52 Para 10.87

Within the next two years the UK government and devolved administrations should work with producers, retailers and caterers to produce a strategy to (a) increase the proportion of seafood and aquaculture products produced under environmentally-accredited schemes; (b) improve the quantity and quality of environmental information available to consumers through labelling and awareness schemes; (c) ensure the reliability of such schemes by developing appropriate standards and auditing procedures.

We agree with the Royal Commission that, while there can be problems with labelling and awareness schemes, they can be a force for good in encouraging the uptake of sustainable production methods and providing the consumer with a more informed choice.

Our approach is set out in "Securing the Benefits". We welcome the development by the Sea Fish Industry Authority of its responsible fishing scheme, which will certify that vessels are operated efficiently and in an environmentally friendly way, storing fish on board to high quality standards and ensuring full traceability along the food chain. The Government will also continue to provide funding to the industry in meeting the costs associated with applying for certification of sustainable fisheries by the Marine Stewardship Council. The European Commission launched a debate on ecolabelling in June 2005, envisaging creation of EU minimum requirements for voluntary ecolabelling schemes. We will play a full part in this debate.

### **JURISDICTIONAL ISSUES**

# Interaction of EU habitats and fisheries legislation

Recommendation 12 Para 10.52

The UK government should encourage the European Commission and European Councils of Ministers to co-operate in the development of joint environment and fishery objectives within the Common Fisheries Policy, the EU Marine Thematic Strategy and other relevant policies.

The Government agrees that there is a need to encourage greater coherence between policy objectives at the European level. We are working to achieve this in our contributions to the development of the EU Marine Thematic Strategy, the European Maritime Green Paper and the Common Fisheries Policy.

The UK Government Response to the Royal Commission on Environmental Pollution's Twenty-Fifth Report

Turning the Tide – Addressing the impact of fisheries on the marine environment

Recommendation 14 Para 8.44

The UK government should amend legislation to allow UK Marine Nature Reserves to be designated even where there are objections.

We are developing provisions for the draft Marine Bill which would enable the designation of marine protected areas for nationally important species and habitats. We currently envisage that the potential site identification process would be led by our conservation agencies, but that site selection would be a collaborative enterprise with industry stakeholders, which would take account of socio-economic considerations. The final decision would however be taken by the Secretary of State for Environment, Food and Rural Affairs. Although the provisions of the Marine Bill have yet to be finalised, it is possible that they will include provision to repeal the current legislation on Marine Nature Reserves and replace them with entirely new provisions.

Recommendation 15 Para 8.44

The UK government should introduce measures to protect all designated sites (such as Natura 2000 sites) from the adverse effects of fishing. If such measures cannot be agreed under the CFP, the UK should introduce unilateral measures to protect these sites.

The Common Fisheries Policy framework regulation (Council Regulation 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy) sets out powers for the Commission and Member States to take conservation measures. These can include measures to protect designated sites. For example, the UK pressed successfully for the Commission to take emergency action to protect the cold water coral reefs known as the Darwin Mounds from bottom trawling. Emergency measures were taken in August 2003 ahead of UK action to notify the Darwin Mounds as a possible Special Area of Conservation under the Habitats Directive. The European Union subsequently adopted long term measures to protect the Darwin Mounds. There is to date, no evidence that the measures available under the Common Fisheries Policy are inadequate to protect designated sites. Unilateral action by the UK could not however prevent foreign vessels fishing in Natura sites in UK waters and thus would be an ineffective means of protection.

Recommendation 16 Para 8.44

The UK government should review the operation of the EC Habitats Directive and consider how the Directive's ability to protect the marine environment could be improved and extended to the wider environment as well as vulnerable areas.

Recommendation 17 Para 8.44

The UK government should with the Joint Nature Conservation Committee, develop proposals to extend the Annexes of the EC Habitats Directive to provide adequate coverage of important marine species and habitats.

Recommendation 18 Para 8.44

The UK government should use the findings of the above review to negotiate with the EU to amend the EC Habitats Directive.

The UK Government Response to the Royal Commission on Environmental Pollution's Twenty-Fifth Report

Turning the Tide – Addressing the impact of fisheries on the marine environment

The purpose and underlying rationale of the Habitats Directive is the protection of vulnerable species and habitats. The process of designating species and habitats under the Directive is relatively inflexible and costly in its approach to identifying measures and in monitoring impacts. It was not designed for the purposes of management of the wider terrestrial or marine environment and is not, therefore, suitable for such purposes.

The European Commission is considering the addition of new marine species and habitats to the Directive's annexes. The UK is not convinced that this is necessary in view of the work being undertaken within OSPAR and elsewhere to protect species and habitats. There are risks of duplication and dilution of activity through an expansion of similar initiatives.

### Twelve mile limit

Recommendation 44 Para 10.69

The UK government should seek to extend its powers to regulate UK and foreign vessels out to 12 nautical miles.

Recommendation 45 Para 10.69

The UK government should press for the 12 nautical miles territorial limit to be made permanent.

The UK extended its territorial limit to 12 nautical miles on a permanent basis in the 1970s. However, under the Common Fisheries Policy, certain historical rights of access to waters within 6-12 miles are recognised. These have been reviewed whenever the Common Fisheries Policy has been renewed, most recently in 2002.

The revised framework for the Common Fisheries Policy provides powers to regulate both UK and foreign vessels to conserve and manage fisheries resources and to minimise the effect of fishing on the conservation of marine ecosystems. The UK was the first Member State to take advantage of these powers in introducing in January 2005 a ban on pair trawling within 12 miles, in order to help address the problem of cetacean bycatch in this fishery.

# REDUCING THE ENVIRONMENTAL IMPACT OF AQUACULTURE Making supply of forage fish more sustainable

Recommendations 62 - 64

Para 6.49

The UK government and the Scottish Executive should promote a strategy to improve the sustainability of fish meal and fish oils supplies. This should include steps to

- increase the efficiency with which fish meal and oil are used within the aquaculture industry
- to encourage the trend away from the use of fishmeal and oil in the livestock industry, so that the aquaculture industry is given preference of supply;
- accelerate the development and use of viable alternatives within aquaculture. This should include research into the feasibility of substituting fishmeal and fish oil with alternatives, the farming of non-carnivorous fish and consideration of a tax or other economic instrument on the use of fishmeal and fish oil.

The Commission strategy for the sustainable development of European aquaculture seeks to address sustainability issues surrounding the production and use of fishmeal and the operation of industrial fisheries.

With the rise in the cost of fishmeal and the move away from sourcing feed from raw marine resources, vegetable proteins and oils are being included more regularly in diets for farmed fish, including salmon. Because of the carnivorous nature of salmon, the inclusion of vegetable matter in a salmon diet is unlikely to reach 100% replacement of fishmeal (at least with current technology). Vegetable protein, in general, is not as efficiently utilised by salmon as fishmeal-derived animal protein. Increased levels of carbohydrates included within vegetable matter are not readily metabolised by salmon, and the anti-nutritional factors that are sometimes present in sources of vegetable protein may have fish health implications.

Defra has funded research into the practicalities of replacing fishmeal with vegetable protein in cod diets. This field of research is particularly important for farmed cod, since this species has been identified as having a comparatively high protein requirement in its feed.

Ultimately the potential for complete replacement of fishmeal in diets for farmed fish is entirely dependent on the species of fish in question, since different species have different nutritional requirements.

Recommendation 65 Para 6.45

### Appropriate controls should be put in place at the start of farming of new species.

We would agree that appropriate controls need to be in place before new species are farmed. A precautionary approach must be taken in terms of possible cross-infection between fish species, the emergence of novel diseases and the carrying capacity of the environment. In the UK, the main farmed finfish species are salmon and rainbow trout, but there is already limited diversification into new species including cod, halibut, turbot, bass and, most recently, barramundi. The EU's strategy document on Aquaculture identified the need for legislation to harmonise EU rules on the use of alien species in aquaculture and a proposal for a Council Regulation designed to deal with this issue is currently before the Fisheries Council. The intention is that persons wishing to farm alien species should be required to seek a permit from their national authorities, the assumption being that a permit would be refused unless the risks entailed in the proposed project were low – or could be reduced to that level by appropriate mitigating action by the operator.

# **Genetically modified fish**

Recommendation 71 Para 6.81

Genetically modified fish should not be released or used in commercial aquaculture in the UK for the foreseeable future.

The release and marketing of GMOs in the EU is governed by European Directive 2001/18/EC on the deliberate release of genetically modified organisms or Regulation (EC) 1829/2003 on genetically modified food and feed. This legislation provides for each proposed release of a

specific GMO to be considered individually, underpinned by a detailed risk assessment. Any decisions on commercial releases are taken collectively by EU Member States and the Commission.

The legislation covers any proposed release of GM fish into the environment for research or commercial purposes, including any proposed release of GM fish in nets, tanks or cages in the sea or in rivers, lakes or streams. Before any such release could go ahead, it would have to be authorised by a consent from the relevant authority. Decisions on whether or not to allow a release would be based on a detailed assessment of any risks that may be posed by the GMO to human health or the environment in each case. As stated on the Defra website, under the current requirement of this legislation, it is difficult to envisage any circumstance in which a release of GM fish would be authorised in England. There are no GM fish being held in aquatic net-pens in the UK and no approval has yet been sought or granted for the commercial production of GM fish.

# **Environmental impact assessment for modified fish farms**

Recommendation 74 Para 6.142

We also recommend that an environmental impact assessment should be carried out for every application for a new or significantly modified fish farm.

The current town and country planning system in England and Wales requires environmental impact assessments to be carried out for major developments. In Scotland where most aquaculture development has taken place, the Scottish Executive is extending Local Authority statutory planning controls to fish and shellfish farming developments in 2006. In addition as the Executive has noted in its response to the RCEP, work will be carried out to develop guidance on environmental impact assessments.

In Northern Ireland, the Environmental Impact Assessment (Fish Farming in Marine Waters) Regulations (NI) 1999, require the Administration to assess the need for Environmental Assessments, where development may take place in a sensitive area; or the proposed development is designed to hold a biomass of 100 tonnes or more; or will extend to 0.1 hectares or more of the surface area. For the purpose of the Regulations, fish farming excludes shellfish farming.

May 2006

Printed in the UK by The Stationery Office Limited on behalf of the Controller of Her Majesty's Stationery Office 187863 05/06 338080 19585

Printed on paper containing 75% post-consumer waste and 25% ECF pulp



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