



Report of the OSPAR workshop on  
defining actions and measures for the  
OSPAR list of threatened and/or declining species  
and habitats



### **OSPAR Convention**

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”) was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Community and Spain.

### **Convention OSPAR**

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l'Espagne.

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## List of Acronyms

BDC	Biodiversity Committee (of OSPAR)
CPs	Contracting Parties
EC	European Commission
EcoQO	Ecological Quality Objective
EIA	Environmental Impact Assessment
EU	European Union
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IUCN	International Union for the Conservation of Nature
IUU	Illegal, unregulated and unreported (fisheries)
MASH	Marine Protected Areas, Species and Habitats (Working Group of OSPAR)
MLS	Minimum Landing Size
MM2010	Ministerial Meeting of OSPAR in 2010
MPA	Marine Protected Area
MSY	Maximum Sustainable Yield
NEAFC	North-East Atlantic Fisheries Commission
SEA	Strategic Environmental Assessment
SAP	Species Action Plan
SPA	Special Protection Area
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
WFD	Water Framework Directive
WWF	World Wide Fund for Nature

## Executive Summary

An OSPAR workshop on defining actions and measures for the OSPAR List of threatened and declining species and habitats was hosted by the French Marine Protected Areas Agency in Paris, France on 14-16 October 2009. The event was requested by the OSPAR Biodiversity Committee (BDC) and organised by a Steering Committee with representatives from France, The Netherlands and Germany, some additional contributions from the UK, and support from the OSPAR Secretariat.

The objectives of the workshop were to:

- define priorities for the decisions to be taken by OSPAR Ministers in 2010 on actions and measures for a selected set of species and habitats;
- outline the content of these actions and measures to be proposed as decisions for OSPAR Ministers.

The first task was a consideration of the key pressures and threats affecting the pre-selected species and habitats from the OSPAR List. These were grouped into categories used in the development of an OSPAR biodiversity assessment framework. Many were specific to a particular species or habitat but two more general themes were mentioned in some form by all the groups as having both direct and indirect effects on species and habitats on the OSPAR List; namely climate change and fishing activities.

Existing actions and measures were identified and discussed in working groups. Some were specific to listed species and/or habitats and others were general measures that could benefit more than one species or habitat on the OSPAR List. Species Action Plans, sightings and strandings networks, catch limits, life history studies, and prohibiting deliberate damage to particular habitats are examples from the former category. Designation of Marine Protected Areas, raising awareness about the need for conservation action for species and habitats on the OSPAR List, promoting management of species targeted or indirectly affected by commercial fisheries on the basis of best scientific advice and Marine Spatial Planning are examples from the latter category.

Views on the effectiveness of existing actions and measures also covered a spectrum. Some, such as the ten year old Species Action Plan for the Balearic shearwater were seen as generally ineffective given that the population is estimated to have halved in the last 10 years. Similarly stocks of deep water shark in the OSPAR Area have declined extremely strongly and bluefin tuna stocks in the area are overfished and depleted. On the other hand the good use of EIAs for the oil and cable industry and code of conduct for research on deep sea habitats were considered to be largely effective in helping to protect these habitats. In a number of cases the effectiveness of existing or proposed actions and measures was unclear or could not be determined. The effectiveness of the gill net ban below 600m on the population of thornback ray and spotted ray is unclear for example. This should have stopped target fishing but observer coverage and enforcement is low and rates of bycatch in gillnet fisheries operating from 200-600m are unclear. The effectiveness of the EU setting a zero TAC for Orange roughy from 2010 will need to be assessed in the future.

The potential role of the OSPAR Commission and its Contracting Parties and other organisations in promoting existing and proposed new actions and measures was discussed. In many cases the actions and measures were seen as a shared responsibility but there were clearly identified areas where participants considered that either the OSPAR Commission or its Contracting Parties should lead. These were categorised as actions and measures that would reduce the current level of threat, prevent further threats, spatial measures (a category used given the specific recommendation for OSPAR to establish a network of MPAs), awareness/communication measures and increasing scientific understanding. Many other organisations were identified as having a role in instigating or delivering the proposed measures and actions.

The workshop participants identified more than 90 species/habitat specific, or general and cross-cutting measures and actions that might be developed further to inform the 2010 Ministerial Meeting. Twenty-nine were elaborated on and there was also some consideration of priorities. Most of the proposals could be categorised as potential OSPAR agreements, including calls for action, although there were also examples that might form the basis of OSPAR Recommendations and one call to reiterate an existing OSPAR Recommendation on establishing an MPA network. These proposals provide a useful checklist for the Working Group on Marine Protected Areas, Species and Habitats when considering the sorts of actions and measures that might be developed for the Ministerial Meeting in 2010.

Two strong themes emerged from the workshop: the need for promotion of the OSPAR List and the need for co-operative working with bodies outside OSPAR in relation to the OSPAR List.

The promotional measures suggested were mostly concerned with raising the profile of the species and habitats on the OSPAR List as well as the profile of scientific advice that should underpin their management and lead to improved status. There was also a range of proposals for OSPAR to support and encourage research that would improve understanding and therefore help address the threats and reasons for decline of the listed species and habitats.

Co-operation was sought with a wide range of bodies, both international and regional, as well as with Contracting Parties to inform, advise, and support their work with a view to improving the status of species and habitats on the OSPAR List. The need to track progress for example through research, monitoring, assessment and reporting was recognised and the various ways in which Contracting Parties might report to OSPAR were described for each of the proposed actions and measures.

There was clearly a desire amongst participants to see progress and considerable interest in immediate action-oriented measures. Whilst some of these might not be within the competence of OSPAR it sends a clear message that could usefully be picked up and elaborated by OSPAR's Biodiversity Committee in the lead up to the Ministerial Meeting in 2010.

## Récapitulatif

Un atelier OSPAR sur la détermination des actions et mesures portant sur la Liste OSPAR des espèces et habitats menacés et/ou en déclin a été accueilli par l'agence française des aires marines protégées à Paris, France. Il s'est tenu du 14 au 16 octobre 2009, à la demande du Comité biodiversité OSPAR (BDC). Il a été organisé par un Comité directeur et y ont participé des représentants de la France, des Pays-Bas et de l'Allemagne, avec des contributions supplémentaires du Royaume-Uni et le soutien du Secrétariat OSPAR.

Cet atelier avait pour objectif:

- de déterminer les décisions prioritaires que devront prendre les Ministres participant à la réunion ministérielle d'OSPAR de 2010 (MM 2010) quant aux actions et mesures portant sur une série sélectionnée d'espèces et d'habitats.
- d'esquisser le contenu des actions et mesures à proposer à titre de décisions pour les ministres OSPAR;

Il s'agit en premier lieu d'envisager les pressions et les menaces clés affectant les espèces et habitats présélectionnés de la Liste OSPAR. Elles sont regroupées en catégories utilisées pour le développement d'un cadre d'évaluation de la biodiversité OSPAR. Nombre d'entre elles sont spécifiques à une espèce ou un habitat particulier mais tous les groupes mentionnent, sous une forme quelconque, deux thèmes plus généraux ayant aussi bien des effets directs qu'indirects sur les espèces et habitats de la Liste OSPAR, à savoir le changement climatique et les activités de pêche.

Des groupes de travail ont déterminé les actions et mesures existantes et en ont discuté. Certaines sont spécifiques aux espèces et/ou habitats de la liste tandis que d'autres sont plus générales et pourraient être utiles pour plusieurs espèces ou habitats de la Liste OSPAR. La première catégorie englobe notamment les plans d'action des espèces, les réseaux surveillant les observations et les échouages, les limites de capture, les études d'histoire de vie, et l'interdiction d'endommager délibérément des habitats particuliers. La deuxième catégorie englobe notamment la désignation de zones marines protégées, la sensibilisation à la nécessité d'actions de conservation pour les espèces et habitats de la Liste OSPAR, la promotion de la gestion des espèces ciblées ou affectées indirectement par la pêche commerciale en se fondant sur les meilleurs conseils scientifiques et la planification spatiale marine.

Les actions et mesures existantes font l'objet de points de vue très divers. Certaines, telles que le plan d'action spécifique au puffin des Baléares, vieux de dix ans, ne sont pas considérées dans l'ensemble comme étant efficaces car on estime que sa population a diminué de moitié au cours des dix dernières années. De même, les stocks de requin des grandes profondeurs dans la zone OSPAR ont fortement décliné et ceux de thon rouge dans cette zone sont surexploités et appauvris. D'un autre côté, on considère que le bon usage d'EIA pour l'industrie du pétrole et des câbles et le code de bonne conduite pour la recherche sur les habitats en eaux profondes sont très efficaces en permettant de protéger ces habitats. Dans un certain nombre de cas, l'efficacité des actions et mesures existantes ou proposées n'est pas évidente ou ne peut pas être déterminée. Par exemple, l'efficacité de l'interdiction de l'utilisation des filets maillants à des profondeurs supérieures à 600 m pour la population de raie bouclée et de raie douce n'est pas évidente. Cette démarche aurait dû mettre fin à la pêche ciblée mais la couverture de l'observation et la mise en vigueur sont faibles et les taux de captures accessoires par la pêche aux filets maillants par 200 à 600 m de profondeurs ne sont pas clairs. Il faudra, à l'avenir, évaluer l'efficacité de la détermination, par l'UE, d'un TAC de zéro pour l'hoplosthète orange à partir de 2010.

L'atelier a discuté du rôle potentiel de la Commission OSPAR et de ses Parties contractantes et d'autres organisations, s'agissant de promouvoir des actions et mesures existantes et nouvelles proposées. Dans de nombreux cas on considère que la responsabilité des actions et des mesures est partagée mais les participants pensent que dans des zones bien déterminées la Commission OSPAR ou ses Parties contractantes devraient assurer le pilotage. Il s'agit des actions et mesures qui permettraient de réduire le niveau actuel des menaces, d'empêcher de nouvelles menaces, des mesures spatiales (catégorie utilisée étant donné la recommandation spécifique pour OSPAR de créer un réseau de ZMP), des mesures de sensibilisation/communication et de meilleures connaissances scientifiques. Il a été déterminé que nombre d'autres organisations jouent un rôle dans la promotion et la réalisation de mesures et actions proposées.

Les participants à l'atelier ont déterminé plus de 90 mesures et actions propres à une espèce/un habitat ou générales et interdisciplinaires qui pourraient éventuellement être développées plus avant afin d'informer la réunion ministérielle de 2010. Parmi elles, 29 ont été développées plus avant et les priorités ont été envisagées. La plupart des propositions peuvent être catégorisées comme des accords OSPAR potentiels, il s'agit notamment des appels à l'action, bien qu'il existe des exemples pouvant constituer la base de recommandations OSPAR, et d'un appel visant à réitérer une recommandation OSPAR existante sur la création d'un réseau de ZMP. Ces propositions constituent une check-list utile pour le Groupe de travail sur les zones marines protégées, espèces et habitats (MASH) lorsqu'il envisage le type d'actions et de mesures pouvant être développées par la réunion ministérielle de 2010.

Deux thèmes importants émergent de l'atelier: la nécessité de promouvoir la Liste OSPAR et la nécessité de coopérer avec les organes externes à OSPAR quant aux travaux portant sur cette liste.

Les mesures promotionnelles suggérées se préoccupent uniquement d'accroître la visibilité des espèces et habitats de la Liste OSPAR ainsi que celle des conseils scientifiques devant étayer leur gestion et permettre d'améliorer leur état. Il existe également une série de propositions permettant à OSPAR de soutenir et d'encourager la recherche qui amélioreraient les connaissances et permettraient donc d'aborder les menaces et les raisons du déclin des espèces et habitats de la Liste.



On recherche une coopération avec une gamme étendue d'organes, aussi bien internationaux que régionaux, ainsi que des Parties contractantes pour informer, conseiller et soutenir leurs travaux afin d'améliorer l'état des espèces et habitats de la Liste OSPAR. On reconnaît par exemple la nécessité de suivre les progrès grâce à la recherche, à la surveillance, à l'évaluation et à la notification et les diverses méthodes de notification à OSPAR par les Parties contractantes sont décrites pour chacune des actions et mesures proposées.

Il est évident que les participants souhaitent voir des progrès et s'intéressent énormément aux mesures immédiates fondées sur les actions. Bien que certaines d'entre elles risquent de ne pas relever des compétences d'OSPAR, le message est clair et pourrait s'avérer utile au Comité OSPAR sur la biodiversité qui pourrait le développer plus avant dans l'attente de la réunion ministérielle de 2010.

## Background

Article 2 of Annex V of the Convention on the Protection of the North East Atlantic sets out that Contracting Parties shall take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected.

OSPAR 2003 agreed on the initial version of the OSPAR list of threatened and/or declining species and habitats (OSPAR List) to guide the OSPAR Commission in setting priorities for its further work on the conservation and protection of marine biodiversity. Further species and habitats were added in 2004 and 2008 (*OSPAR agreement 2008-6*). The OSPAR Biodiversity Committee (BDC) has been considering further steps in relation to the OSPAR List in parallel with the development of the OSPAR network of MPAs and communication with other authorities. BDC is developing a series of background documents for the species and habitats on the OSPAR List, each of which include proposals for a possible range of actions and measures for the species or habitat concerned.

The adoption of measures in relation to a selection of species and habitats on the OSPAR List has been identified as a target for the Ministerial Meeting of OSPAR that will take place in Bergen in September 2010. This report presents the findings of a workshop held in Paris, France on the 14-16 October 2009 to prepare the basis for these measures to be considered at the next meeting of MASH in November 2009. The BDC meeting in spring 2010 will agree on the actions and measures to be forwarded for consideration by the OSPAR Ministerial Meeting in September 2010 (OSPAR MM2010).

## Objectives and organisation of the workshop

The workshop was requested by the OSPAR Biodiversity Committee (BDC) at its meeting in 2009 and organised by a Steering Committee with representatives from France, The Netherlands and Germany, some additional contributions from the UK, and support from the OSPAR Secretariat.

The objectives of the workshop were to:

- (a) define priorities for the decisions to be taken by OSPAR Ministers in 2010 on actions and measures for a selected set of species and habitats;
- (b) outline the content of these actions and measures to be proposed as decisions for OSPAR Ministers.

The workshop programme (Annex 1) was designed to provide background information on a pre-selected set of species and habitats from the OSPAR List and to exchange experiences on adequate means for their protection. Three working group sessions enabled consideration of actions and measures for individual species and habitats while plenary sessions enabled consideration of possible actions and measures common to more than one species or habitat and of potential priorities. Both the working groups and plenary

sessions supported the development of proposals for the most urgent and realistic actions and measures to be considered further in the OSPAR framework in preparation for OSPAR MM 2010.

The workshop was open to biodiversity experts including those from OSPAR Contracting Parties, Observers and other relevant international organisations. There were just under 60 participants with representatives from most Contracting Parties working on marine biodiversity matters, as well as observers including Birdlife International, Robin des Bois and WWF and invited guests including those from fisheries organisations, the European Commission and biodiversity experts (Annex 2).

## Preparatory work

Following review and agreement by BDC Heads of Delegation in a written procedure six groups of species and habitats from the OSPAR List were pre-selected by the Steering Committee for detailed consideration at the workshop (Table 1). The pre-selection was based upon:

- their status and the urgency for protective measures (taking into account draft Chapters 9 and 11 of the Quality Status Report 2010).
- charisma and attractiveness as subjects for the OSPAR Ministerial Meeting
- whether protection is already being adequately provided by other instruments within the North East Atlantic
- regional coverage (balance between OSPAR Regions).

Summary tables of the key pressures, existing measures and recommendations for species and habitats as described in the OSPAR List Background Documents were also prepared using outline, draft and finalised species and habitat assessments and case reports. These were placed on the OSPAR website prior to the meeting for consideration by workshop participants.

The following participants acted as facilitators for the different group discussions;

- Group 1 – Seabirds and turtles – Kate TANNER (BirdLife International)
- Group 2 – Elasmobranchs – Jim ELLIS (Centre for Environment, Fisheries & Aquaculture Science/ ICES Working Group on Elasmobranch fisheries)
- Group 3 – Diadromous fish – Amelia CURD (Musée National d'Histoire Naturelle) and Jane GOODWIN (Department of Environment, Food & Rural Affairs)
- Group 4 – Other commercially important species – François GAUTHIEZ (Agence des Aires Marines Protégées)
- Group 5 – Deep sea habitats– Mark TASKER (ICES/Joint Nature Conservation Committee)
- Group 6 – Coastal and continental shelf habitats – David CONNOR (Joint Nature Conservation Committee) and Cecilia LINDBLAD (Swedish Environmental Protection Agency)

TABLE 1

Species and Habitats from the OSPAR List that were pre-selected for detailed discussion by groups at the workshop

Species/Habitat
<b><u>GROUP 1 : Birds and marine turtles</u></b>
Balearic Shearwater ( <i>Puffinus mauretanicus</i> )
Black-legged Kittiwake ( <i>Rissa tridactyla</i> )
Leatherback Turtle ( <i>Dermochelys coriacea</i> )
<b><u>GROUP 2 : Elasmobranchs</u></b>
Portuguese Dogfish ( <i>Centroscymnus coelolepsis</i> )
Gulper Shark ( <i>Centrophorus granulosus</i> )
Leafscale Gulper Shark ( <i>Centrophorus squamosus</i> )
Common Skate ( <i>Dipturus batis</i> )
Spotted Ray ( <i>Raja/Dipturus montagu</i> )
Porbeagle ( <i>Lamna nasus</i> )
Thornback Skate/Ray ( <i>Raja clavata</i> )
White Skate ( <i>Rostroraja alba</i> )
(Northeast Atlantic) Spurdog ( <i>Squalus acanthias</i> )
Angel Shark ( <i>Squatina squatina</i> )
Basking Shark ( <i>Cetorhinus maximus</i> )
<b><u>GROUP 3 : Diadromous Fish Species</u></b>
Common Sturgeon ( <i>Acipenser sturio</i> );
European Eel ( <i>Anguilla anguilla</i> )
Allis Shad ( <i>Alosa alosa</i> )
Salmon ( <i>Salmo salar</i> )
Sea Lamprey ( <i>Petromyzon marinus</i> )
<b><u>GROUP 4 : Other Commercially Important Species</u></b>
Bluefin Tuna ( <i>Thunnus thynnus</i> )
Cod ( <i>Gadus morhua</i> )
Orange Roughy ( <i>Hoplostethus atlanticus</i> )
<b><u>GROUP 5 : Deep Sea</u></b>
Coral Gardens
Deep-Sea Sponge Aggregations
Lophelia Pertusa Reefs
Oceanic Ridges with Hydrothermal Vents/Fields
Seamounts
<b><u>GROUP 6 : Coastal &amp; Continental Shelf Habitats</u></b>
Sea-Pens and Burrowing Megafauna
Ocean Quahog ( <i>Arctica islandica</i> )
<i>Modiolus modiolus</i> beds
Intertidal Mudflats
<i>Zostera</i> Beds
Flat Oyster ( <i>Ostrea edulis</i> ) and flat oyster beds

## Introduction to the workshop

The workshop was opened by François Gauthiez, Deputy Director of the French Marine Protected Areas Agency, who welcomed everyone to the meeting. He set out the objectives of the meeting and its role in the lead up to MM2010. Participants were invited to consider cross-cutting measures as well as those more specific to the listed habitats and species and to give particular attention to measures for which OSPAR actions would give added value given its specific legal competence. Mr Gauthiez concluded by noting that an expert workshop provides an opportunity for discussion by all concerned parties in an open and transparent process.

Richard Emerson of the OSPAR Secretariat provided the context for the workshop by outlining the work of OSPAR and its Biodiversity Strategy, including that which has led to the adoption of an OSPAR List of threatened and/or declining species and habitats. He reiterated that the purpose of the meeting was to guide the OSPAR Commission in setting priorities for its further work on the conservation and protection of marine biodiversity. Mr Emerson also described the different types of OSPAR measures (decisions, recommendations and other agreements such as guidance, programmes of action and communications) which could guide the outputs of the workshop. The competence of OSPAR particularly in relation to fisheries was also described. By way of illustration OSPAR might consider a general measure which calls upon Contracting Parties to take the necessary measures nationally to protect the species and habitats on the OSPAR List and report back to the OSPAR Commission on what they have done. This could be complemented by guidance on measures that could be taken nationally, commitment to evaluated progress at a specified date and a reporting system that would provide the basis of any such evaluation.

Dr Susan Gubbay, the meeting rapporteur, introduced the workshop programme and explained the workshop procedures including the supporting guidance for facilitators and participants.

The question of how fisheries issues could be addressed at the workshop was raised during the initial plenary session. This was considered acceptable given that the event was an expert workshop on the most appropriate measures for species and habitats on the OSPAR List. Participants were nevertheless reminded of the limitations imposed by Article 4 of Annex V of the OSPAR Convention when identifying potential priorities for action. This states that:

- no programme or measure concerning a question relating to the management of fisheries shall be adopted under this Annex.
- where [OSPAR] considers that action is desirable in relation to such a question, it shall draw that question to the attention of the authority or international body competent for that question.
- where action within the competence of [OSPAR] is desirable to complement or support action by those authorities or bodies, [OSPAR] shall endeavour to cooperate with them.
- there were four presentations on a selection of species and habitats from the OSPAR List; the European sturgeon, seabirds, elasmobranchs and the deep sea.

## The European Sturgeon - Nicolas Michelet (Comité National des Pêches)

Strictly protected under international conventions and national legislations in most countries of its historic range, the European sturgeon (*Acipenser sturio* L.1758) is considered to be one of the most threatened fish species in Europe. Today, the anadromous species is restricted to one known relict population with its spawning grounds in the Gironde's watershed in France. The marine distribution of the species extends from the shallow coastal waters from the South of the Bay of Biscay to Scandinavia and around the British Isles.

Since 2007, following the success of artificial breeding programmes, the release of fingerlings (juvenile fish) in France, and the adoption of an International Action Plan by the European Council, there is renewed hope for the European sturgeon. Mortality resulting from accidental catches at sea is still one of the main dangers

for the sturgeon today however this can be avoided. Due to its migration and reintroduction prospects, the protection of European sturgeon requires the involvement of Europe-wide fisheries.

To establish coherence with the new international objectives, the Comité National des Pêches in partnership with WWF France and several French and European organisations have been running an information and awareness campaign directed at the fishery. This has been operational since 2006 in France and since 2008 in Europe. The goal of the project is to circulate messages about the species' status and the procedures that should be followed if any European sturgeon is caught.

Communication documents (booklet, poster, etc.) and tools (DVD, website) adapted to the international context and translated into 5 languages have been produced and disseminated throughout Europe, thanks to the networks implemented in the main Member States potentially concerned with sturgeon bycatch. Since 2007, the accidental catch of 8 adults and 7 juveniles had been reported, 12 of which were caught in French coastal and estuarine waters. All of them survived capture.

Despite these positive initiatives France has still to adopt and implement its own National Action Plan to provide the necessary framework and driving force behind the actions in favour of the species restoration. Such action would also encourage neighbouring countries also concerned with the species to introduce conservation measures.

## Elasmobranchs - Sarah Fowler (International Union for the Conservation of Nature, Shark Specialist Group)

The deepwater sharks pre-selected for discussion at the workshop were the siki sharks: Portuguese Dogfish (*Centroscymnus coelolepsis*), Gulper Shark (*Centrophorus granulosus*), and Leafscale Gulper Shark (*C. squamosus*). These species are widely distributed, but their population structure is poorly known and the taxonomy of *Centrophorus* uncertain. Their biological resilience to fisheries is very low.

Deepwater shark catch data are poor and very rarely species-specific. OSPAR Area stocks have declined extremely steeply due to target gill net and longline fisheries and bycatch in other deepwater fisheries. ICES advice since 2006 is for a zero Total Allowable Catch (TAC). Management includes gear restrictions and quotas. The bycatch TAC in 2010 will be 10% of the 2009 level. A gillnet ban below 600m is inadequate to protect mature females and has caused redirection of effort to other areas. Illegal, unregulated and unreported (IUU) fishing also occurs. There is no obvious way to mitigate bycatch in deepwater fisheries. Rebuilding, if it is possible, will not be measureable for several decades and is unlikely to happen unless the gill net ban covers all areas below 200m (thus protecting all mature females), other deepwater fisheries are very tightly regulated and large areas are closed to all fisheries. OSPAR could encourage Contracting Parties to adopt and implement ICES advice and seek to include extensive areas of deepwater habitat within the OSPAR Network of Marine Protected Areas.

The skates and rays pre-selected for discussion at the workshop were the Common Skate (*Dipturus batis*), White Skate (*Rostroraja alba*), Thornback Skate/Ray (*Raja clavata*), and Spotted Ray (*Raja montagui*). Vulnerability to fisheries and commercial value of these species are linked to body size. The very large white and common skates (the latter is comprised of two threatened species) are severely depleted, the medium-sized thornback ray has declined in part of its range, and the small-bodied spotted ray is abundant and increasing in most areas.



White and common skates were formerly targeted by fisheries and are still an utilised bycatch. Thornback ray is an important commercial target and an utilised bycatch. Spotted rays are of lower commercial value. The skate and ray TAC is not species-specific, but EC regulations require release of the two largest species. Catch identification is poor and fisher awareness of this regulation is unknown; it could usefully be supplemented by maximum size limits and protection under biodiversity legislation. OSPAR could encourage Contracting Parties to adopt and implement ICES advice and fisheries legislation, provide protected species status for seriously threatened skates, and protect any relict populations through the OSPAR Network of Marine Protected Areas (MPAs).



Thornback Ray © Jim Ellis

The coastal sharks pre-selected for discussion at the workshop were Angel Shark (*Squatina squatina*), Basking Shark (*Cetorhinus maximus*), Porbeagle (*Lamna nasus*), and Spurdog (*Squalus acanthias*). The angel shark has been severely depleted in target and bycatch fisheries, and the basking shark was depleted by former target fisheries and is now listed in some international biodiversity conventions. Both species have zero TACs. Landings are prohibited in EC waters, but still continue in some Member States. Species protection under biodiversity legislation, as adopted in the UK, and conservation of critical habitat and/or relict populations within the OSPAR Network of MPAs would be valuable complementary management measures.

Porbeagle and Spurdog have been very important commercial species but are now seriously depleted. ICES (2008) advised zero TACs for both species and that landings of porbeagle should not be allowed. The target EU spurdog fishery is closed and the bycatch TAC should be ~100t in 2010. EU regulations set size restrictions, bycatch quotas and permit one small target porbeagle fishery. Catch reporting is poor and bycatch levels uncertain. The current TAC may allow the stock to remain stable or, if slightly reduced, permit rebuilding to Maximum Sustainable Yield (MSY) in ~60 (40–124) years. OSPAR could encourage Contracting Parties to adopt and implement ICES advice and fisheries legislation and protect critical habitats through the OSPAR Network of Marine Protected Areas.

## Birds - Kate Tanner (BirdLife International)

Two species of seabird were pre-selected for consideration by the workshop: the Balearic Shearwater (*Puffinus mauretanicus*) and the Black-legged Kittiwake (*Rissa tridactyla tridactyla*).

The Balearic Shearwater breeds in the Mediterranean region but a high proportion of the global population moves into the OSPAR Maritime Area in the post-breeding season. This means that there is an important role for OSPAR in tackling the at-sea threats that face this species during its time in the OSPAR Area. The threats include – lack of prey availability (due to overfishing, or changes in their distribution), fisheries bycatch, oil pollution, and badly placed offshore windfarms.

The Balearic Shearwater is already marked as a high priority species: being listed as Critically Endangered by IUCN, on Annex I of the Birds Directive, and Appendix I of the Convention on Migratory Species. There is an EC Species Action Plan (SAP) and a recovery plan drafted for this species, and various monitoring programmes in the OSPAR Area (e.g. Seawatch SW, a volunteer programme running in the UK). However, more could still be done – for example improving the implementation of the SAP and recovery plans. OSPAR and its Contracting Parties could also work together to develop and implement an updated SAP and a

monitoring strategy for the OSPAR Area, and make sure that these are implemented properly. Relevant OSPAR Contracting Parties should also look for opportunities to designate OSPAR MPAs for this species to protect marine areas that it uses regularly.

The Black-legged Kittiwake is present throughout the OSPAR Area and in decline throughout, though particularly in Regions I, II and III. Eighty-five per cent of the subspecies *tridactyla* is found in the OSPAR Area so clearly actions taken by OSPAR can be very important for the survival of this species. Threats facing the Kittiwake in the OSPAR Area include recent reductions in the availability of its prey (small pelagic shoaling fish species). This has been linked to competition with industrial fisheries e.g. for sandeels, and the wider issue of regime change linked to ocean warming. Predation of adults, chicks and eggs can also be a problem, alongside fisheries bycatch, oil pollution, and hunting in Greenland.



Black legged kittiwake © Andy Hay (rspb-images.com)

The Kittiwake does not feature so prominently on international lists and conventions as the Balearic shearwater so there are few specific measures aimed at the species at present. However, it does benefit from protection of seabird colonies in which it breeds (from predation and from human disturbance) e.g. as Special Protection Areas (SPAs) under the EU Habitats Directive. There is also some control of hunting in Greenland, though more could be done on this front. The Kittiwake is a well-monitored and well-studied species as it is relatively easy to accomplish this. Existing measures for the Kittiwake could be improved by the designation of more MPAs, including offshore sites to protect foraging areas. In particular there should be a series of coastal reserves designated in Greenland and managed as off-limits to hunting of all seabirds, including Kittiwakes. The monitoring that already goes on across the OSPAR Area could also be drawn together in a co-ordinated monitoring strategy at the OSPAR level.

In addition to building on existing measures for both of these species it is recommended that OSPAR should contact other competent authorities to notify them of the listing of these species and ask for any relevant information they might have, and enlist their help with conservation actions. It is also suggested that OSPAR and its Contracting Parties could have a role in raising awareness (among management bodies and the general public) for example through production of a brochure and accompanying website with information on all OSPAR listed features. Finally, OSPAR has a role to play in promoting further research to inform the conservation of these species.

## The Deep Sea - Mark Tasker (International Council for the Exploration of the Sea)

Coral gardens, deep-sea sponge aggregations, *Lophelia pertusa* reefs, oceanic ridges with hydrothermal vents/fields and seamounts were the deep sea habitats pre-selected for discussion at the workshop. A number of deep sea species were also subject to discussion however only the orange roughy *Hoplostethus atlanticus* is discussed further in this introductory paper.

All of the species and habitats selected for consideration under the heading of deep-sea at the workshop have features in common:

- their complete distribution and abundance is not well known;
- they are long-lived (or in the case of physical habitats, have associated long-lived organisms);
- they are vulnerable to human impacts due to being either slow growing or having low fecundity.

The greatest threat to most of these habitats and to orange roughy comes from deep-sea fishing, in particular trawling. The habitats, with the possible exception of 'oceanic ridges with hydrothermal vents/fields' are particularly susceptible to fishing activities including with 'fixed gear' such as lines and nets. Orange roughy is a comparatively high value, long-lived, low fecundity species that is therefore highly susceptible to overharvesting. The increase in carbon dioxide and other greenhouse gases in the atmosphere will lead not only to global warming but also to increase acidity in the oceans – probably at a level not experienced for at least the last 20 million years. The prediction of future oceanographic processes is not certain, but it seems likely that the projected decrease in pH will affect corals at least. There are a few other human activities that present minor, easily regulated, risks to these habitats.



Coral garden on the flank of Anton Dohrn seamount  
© JNCC, 2009

The primary measure being undertaken at present to conserve deep sea habitats is the establishment of areas closed to fishing activity – all such areas will need to be agreed by relevant fisheries managers. Scientific surveys have underpinned the boundaries of some but not all such closures. There has been a lack of agreement over protection measures for orange roughy, with the North-East Atlantic Fisheries Commission (NEAFC) failing in 2008 to agree either a complete ban on targeted fisheries for this species (proposed by the EU, supported by Iceland) or a catch of 150 tonnes in far offshore Atlantic waters (proposed by Faroes, supported by Russia). Instead the only relevant regulation agreed was a reduction on overall fleet activity by 1/3 for all deep-sea fleets. Catches in the last few years for the NEAFC regulatory area have been: 2004:597 tonnes; 2005:583 tonnes; 2006:587 tonnes and 2007:185 tonnes. NEAFC also has rules in place aimed at reducing the risk of damage to previously unknown patches of habitat.

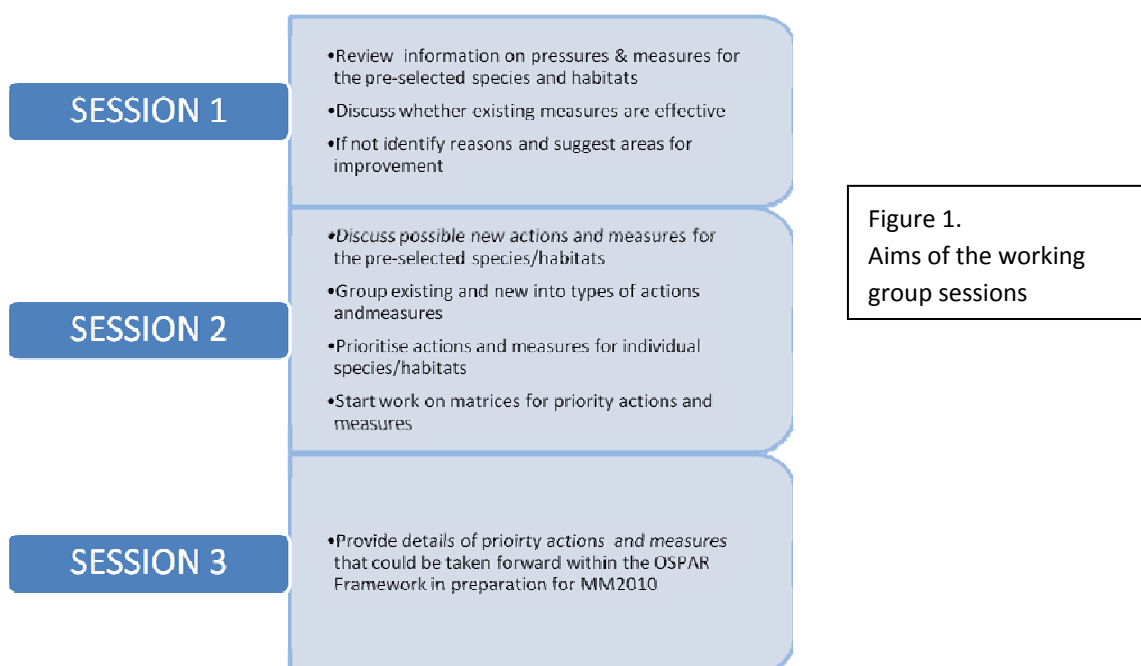
The effectiveness of these measures is plainly mixed or not known. A way forward would be to continue surveying, delineating areas to be closed to bottom-contact fisheries and managing them. Targeted fisheries for orange roughy should be prohibited.

OSPAR's role could be to co-ordinate and lead these efforts. The power to manage relevant human activities is not in OSPAR's hands, but does belong in the hands of its Contracting Parties, which often act in relevant fora related to fisheries management. OSPAR therefore needs to work with other bodies in negotiating productive ways forward, rather than dictating what it wants.

## Working Group Sessions output

The workshop was organised around three working group sessions (Figure 1). Papers based on the OSPAR assessments (outline, draft and final) provided background material and guidance for facilitators included a structure for summarising the outcomes (Annex 3). The final output was a form providing detail on actions and measures that should be considered within the OSPAR framework in preparation for OSPAR MM2010.





This process enabled participants to take a systematic approach to proposing new measures and ensured that they could be linked to actual threats as well as being developed in light of consideration of existing measures. The main points made in each group are summarised below.

It is important to note that **all the proposals developed in the different working groups were considered relevant** however given the time constraints of the workshop only some could be worked up in more detail. **The completed forms (Appendix 1) should be viewed as working documents as the task of the workshop was to develop proposals in outline. They will need to be elaborated further if they are to act as a basis for OSPAR agreements.**

### GROUP 1 – Birds & Marine Turtles

The pre-selected species considered by Group 1 were the Balearic shearwater, Black-legged kittiwake and Leatherback turtle.

The main problem for Balearic shearwater was considered to be adult survival. There is limited information on what is causing adult mortality but longline fisheries are believed to be a major problem. Prey availability also appears to be affecting the distribution of this species and is an issue linked to climate change. The key existing measure for this species is a 10 year old Species Action Plan (SAP) however as the population has more than halved since this was produced, it has clearly failed as a conservation measures. The group suggested that actions and measures should be focused on quantifying and reducing the at-sea threats to this species, particularly from fisheries bycatch. There was support for the introduction of an EC Plan of Action on seabird bycatch, comprehensive fisheries observation throughout the OSPAR Area (logging bycatch) and further OSPAR collaboration with and Contracting Parties' ratification of ACAP (Agreement for the Conservation of Albatrosses and Petrels). The SAP needs to be updated and extended to include the OSPAR Area, through cooperation with Mediterranean states and the Barcelona Convention. More effort needs to be put into its implementation and on monitoring work.

For the Black-legged kittiwake the changes in availability of food at sea was considered to be a key pressure coupled with predation at the breeding colonies by white tailed sea eagles in Norway. Existing measures such as good monitoring programmes are currently focused around the breeding colonies and measuring population size. The group therefore noted that more demographic data is needed alongside more information about where kittiwakes spend time when at sea. (e.g. identification and survey of wintering areas). It was also noted that the collection of further information at the breeding colonies would link in with OSPAR work on the proposed Ecological Quality Objective (EcoQO) for seabird population trends. Protected

areas either associated with breeding colonies or covering known, stable feeding areas offshore would also help.

Longlining and fixed nets are believed to be a significant threat to the leatherback turtle when at sea however the group noted that there is limited information about the scale of impact in the North East Atlantic. There was also much to learn about the role of plastic ingestion including the circumstances under which it might be the main factor contributing to the mortality of this species. Information on leatherback turtles comes from many sources including coastal observatories, sightings and stranding schemes, however data are not necessarily comparable or scientifically robust. Suggested areas for improvement were the identification of activities that detrimentally impact on the leatherback turtle population in the OSPAR Area and identification of measures to reduce this impact including a comprehensive fisheries observer programme to quantify the threat from bycatch. The need to collect more information on the species e.g. by aerial surveys as well as on the pressures such as longline fisheries was discussed and it was agreed that there was added value in co-ordinating databases and facilitating detailed necropsies to get more information from strandings.

The group identified 11 species-specific actions and measures for the Balearic Shearwater, 5 for the Black-legged kittiwake and 8 for the leatherback turtle (Appendix 1.2). In all cases this included measures and actions where OSPAR could take a lead. Six proposed measures were worked up in detail incorporating some but not all of the species-specific actions discussed by the group. The completed forms, which should be considered working documents, are attached in Appendix 1.3 and summarised in Table 2.

Table 2. Priority actions and measures on birds and turtles elaborated by Working Group 1 (for full details see Appendix 1.3)

Action/Measure	Objective
Co-ordinated and improved demographic monitoring at Black-legged kittiwake breeding colonies	To draw monitoring information together at the OSPAR level, inform the Ecological Quality Objective (EcoQO) on seabird populations trends and to improve understanding of the population structure and its status.
Increase knowledge on the wintering quarters of Black-legged kittiwakes	To improve understanding of the mechanisms that cause population decline.
Co-operation with and ratification of ACAP, National/European Plans of Action and comprehensive fisheries observer programme for the Balearic Shearwater	To help tackle the low adult at sea survival of the species and to quantify the threat from bycatch in the OSPAR Areas so that it can be effectively addressed.
Co-ordinated strategic development of a Species Action Plan for the Balearic shearwater which can then be implemented across the OSPAR and Mediterranean areas.	To increase the effectiveness of conservation measures for this species across its range which includes the Mediterranean and OSPAR Area
Aerial surveys and sightings/strandings networks for leatherback turtle	To obtain accurate population estimates of the leatherbacks in the OSPAR region so that trends in abundance can be determined and therefore the status of the species.

## GROUP 2 – Elasmobranchs

The 11 pre-selected elasmobranch species were considered in six ecological groups; angel shark and white skate; the common skate complex; thornback and spotted rays; leafscale gulper shark, gulper shark and Portuguese dogfish; porbeagle and spurdog; and basking shark.

Bycatch of angel shark, white skate and the common skate complex in demersal fisheries was considered to be the key pressure. Another potential issue was discard mortality and the impacts of recreational angling on these species but the scale and possible effects are unknown at the present time. ICES has advised that there should be no fishing for two of these species (angel shark and white skate) and no target fishing for common skate. All three are listed on the Total Allowable Catch (TAC) and quota regulations as 'non-retention' species. Some Contracting Parties have protected the angel shark in national waters and there is a Minimum Landing Size for all skates in some coastal waters of England and Wales but this is of little species-specific benefit to white skate and of questionable benefit to common skate. The angel shark, white skate and common skate may also benefit from more general management measures for various fisheries such as effort control.

The angel shark and white skate are very heavily depleted and considered extirpated from former parts of their range. The common skate species complex is heavily depleted and considered extirpated from former parts of its inshore range. As the species specific measures have only recently been introduced and the level of enforcement across the range of the species is unknown it is not yet possible to determine their effectiveness in supporting any recovery of population numbers and/or range.

Better education particularly in relation to identification of the white skate and common skates and on how to release them is needed and is starting to be addressed through various initiatives. Former habitats of angel shark and white skate, and known areas of the importance of some inshore grounds for the common skate complex could be used as a rationale for identifying potential locations for Marine Protected Areas but there is also a need to improve understanding of the current distribution including the home range of any relic populations, offshore areas of critical importance and site specific threats before any spatial management can be applied.

Thornback and spotted rays (in OSPAR Region II) are taken as bycatch in demersal fisheries and the thornback is also subject to targeted fishing in some areas. Recreational angling is locally important, particularly in the case of the thornback, but its impact on the population and range is unknown. These species are subject to a multispecies 'skates and ray' TAC with species-specific landings required since 2008. The TAC has reduced in recent years and there are bycatch restrictions for some vessels. There is also a MLS for skates in some English inshore waters. Both the thornback and spotted ray may also benefit from more general management measures for various fisheries such as effort control.

ICES have advised that the stocks of thornback and spotted ray in the North Sea are currently stable/increasing, although thornback ray has decreased distribution in some parts of the North Sea and its status in these areas is uncertain. The TAC is not species-specific at the present time but may be restrictive. Any benefits from recent management to population growth are unknown at present. Discard survival in UK inshore fisheries is considered high, but the level of survivorship in other fisheries is unknown.

Actions and measures for thornback and spotted ray suggested by the group centred on improving education, knowledge, and data collection. They included better species identification of landings, improved knowledge of thornback ray stocks, data on discard survival from offshore fisheries and identification of the location of spawning grounds. The scope for improved management of known inshore nursery grounds, for example through size/spatial/gear restrictions, was another aspect which the group suggested be examined. Given the high local abundance and commercial importance of thornback ray in the Greater Thames Estuary such an exercise should consider the three main commercial species together (i.e. cod, sole and thornback ray), so as to ensure appropriate regional fisheries management.

The leafscale gulper shark, gulper shark and Portuguese dogfish have all been targeted in fisheries. The TAC has recently been reduced and there is a minimal TAC for bycatch in 2010. This may lead to discarding

and the potential discard mortality is unknown. There are some gill net bans in place however the effectiveness of the ban is unclear and the effects of ghost-fishing from discarded gillnets also needs to be evaluated. Enforcement is problematic and due to the short time of current measures any effects on population growth remain unknown. The group advocated the management of deep water fisheries as a whole and for an ecosystem based approach to the management of deep-water habitats in order to improve the status of these species. There is some knowledge of ecologically important locations such as nursery areas and sites with a high abundance of gravid females, but more data would be valuable.

Useful actions identified for all the elasmobranchs considered by the group were to evaluate their presence in existing/proposed MPAs and to improve observations of these species with dedicated and co-ordinated surveys including collation of fishermen's' observations.

The group identified 11 actions and measures for the basking shark, 6 for the angel shark/white skate; 6 for porbeagle/spurdog, 5 for the common skate complex, 6 for thornback and spotted ray, 8 for Portuguese dogfish, gulper shark and leafscale gulper shark, and the OSPAR Commission was identified to have a role in some of these (Appendix 1.2). Seven proposed cross-cutting measures were worked up in detail. The completed forms, which should be considered working documents, are attached in Appendix 1.3 and summarised in Table 3.

Table 3. Priority actions and measures for elasmobranchs elaborated by Working Group 2 (for full details see Appendix 1.3)

Action/Measure	Objective
Research on discarding and discard survival	To better understand discarding patterns in light of existing and other potential management measures and the likelihood of discarded elasmobranchs surviving.
Fishery independent surveys	To better understand spatial and temporal dynamics of the various species, including sites of critical importance (e.g. for nursery, spawning, pupping, breeding grounds, relic populations) and so to allow more robust options in terms of their spatial management
Implementation of ICES advice and incorporation of fisher knowledge	ICES advice on the stock status should be followed and appropriate management strategies developed (in conjunction with STECF and the fishing industry) to allow depleted stocks to recover and to ensure sustainable fisheries.  Gathering fisher information will complement ICES advice that can be used in fisheries management (e.g. historic information from fishermen could improve knowledge of past range and ecologically important areas) and fisher knowledge and experience could also be used to inform on practicable and effective management measures.
Life history studies	Increase knowledge of biological parameters such as growth, maturity, reproductive potential, diet and relation with prey species. This will improve scientific advice underlying fisheries management measures.  Studies on the movements of these species are also required to better understand their spatial distribution and migrations, identify populations/stocks, evaluate the potential effectiveness of MPAs, identify critical habitats for specific life history stages (including spawning and juveniles as a basis for spatial measures).  Tagging studies can also further improve knowledge of survival of discarded

	individuals.
Identification of critical elasmobranch habitats and/or sites of aggregations and delineation of MPAs, where appropriate and practicable.	To protect aggregations from unsustainable fishing impacts To minimise impacts from boat strikes on basking sharks To enable recovery of populations of OSPAR listed elasmobranch species and supplying refuge areas with low pressure levels To protect the critical demersal habitat from direct damage To enable recovery of any critical demersal habitats which have been damaged in the past.
Statutory nature conservation provisions	Extension of the formal legal protection measures in some Contracting Parties waters to elsewhere in the OSPAR area and providing additional support to existing fisheries measures.
Improvements to species identification and species-specific data collection	To have correct identification in critical species complexes To have correct reporting of species on fish markets and in national landing statistics Enforcement of reporting systems for species User friendly guides for the fishing industry and enforcement officers.

### GROUP 3 – Diadromous fish

The pre-selected species considered by this group were the European sturgeon (*Acipenser sturio*), European eel (*Anguilla anguilla*), Allis Shad (*Alosa alosa*), Salmon (*Salmo salar*) and Sea Lamprey (*Petromyzon marinus*). Obstacles to migration both upstream and downstream as well as chemical contamination and changes in natural estuarine processes were identified as key pressures and threats to these species. Climate change will also have direct and indirect effects on them.

The EC Water Framework Directive (WFD) was identified as an important measure to assist the management and conservation of these species within EU Member States. There are also Species Action Plans for European eel, salmon and sturgeon. Restocking is promoted in some cases however the group considered that this is not necessarily a solution as it can affect the diversity of the gene pool and have other consequences. The effectiveness of such an approach is also unknown at present. The group believed that it was probably too early to assess the effectiveness of the WFD and national SAPs (except for Atlantic salmon) in helping to improve the status of these species.

Improving our knowledge of these species in the marine environment was identified as a key issue. This should not only involve data collection but also monitoring populations, for example through experimental fisheries, increasing the number of fisheries observers and dissemination of data collected through different means and by different groups. Increased and improved co-ordination at an international level across the organisations involved in for data collection, management and regulation was essential. The connectivity of river habitats also needs to be improved to support the migration of these species.

The group identified 6 actions and measures and the OSPAR Commission was identified as taking a lead role in some of these (Appendix 1.2). Two proposed measures were worked up in detail. The completed forms, which should be considered working documents, are attached in Appendix 1.3 and summarised in Table 4.

Table 4 Priority actions and measures for diadromous species elaborated by Working Group 3 (for full details see Appendix 1.3)

Action/Measure	Objective
Collection of information about the marine phase in the life cycle of diadromous fish	To provide the evidence base in order to develop measures to protect these species and their associated habitats.
Restoration of freshwater and marine habitat used by diadromous fish	To improve the status of these species given that all need to have access to a range of riverine and estuarine habitats for their life cycle.

#### GROUP 4 – Other commercially important species

The pre-selected species considered by this group were the bluefin tuna (*Thunnus thynnus*), cod (*Gadus morhua*) and orange roughy (*Hoplostethus atlanticus*). Fishing was identified as the key pressure in all cases although there were differences in the extent to which this applied. For cod ICES considers that there is a reduced reproductive capacity and overfishing for the North Sea, Eastern Channel, Skagerrak and Irish Sea stocks, whereas the level of spawning biomass and fishing mortality is considered to be unknown for the Celtic Sea stocks. Although the status of fishing mortality is unknown in the west of Scotland, ICES considers that there is a reduced reproductive capacity for this cod stock. In the case of orange roughy the indirect effects of fishing as well as on habitats critical to the species was also identified as a pressure. Other key pressures on cod that have been highlighted by ICES were acidification of the oceans and the release of hazardous substances causing endocrine disruption and therefore affecting the reproductive capacity of cod stocks.

Issues around the reliability of data for some cod stocks, inaccuracy of available data that affects adversely the precision of stock assessment and difficulties in providing multispecies advice all have a knock on effect on the effectiveness of all the management measures relevant to cod. Multiannual management plans for cod are a key management measure at the present time however as these only came into force for the North Sea, Eastern Channel, Skagerrak, West of Scotland and Irish Sea in 2009, it was too early to assess their effectiveness. In the Celtic sea cod fisheries were subject to a TAC and discussions about a management plan are underway. There are also some fisheries MPAs for cod.

The orange roughy has been subject to a zero TAC in Norway since 2007 and the same will apply under EU rules from 2010. Given their relatively recent introduction the effect of these bans on helping to improve the status of orange roughy is not yet measurable. The group suggested that these bans should be extended to all countries fishing in the North East Atlantic.

Bluefin tuna stocks are overfished and depleted. The problems have been clearly identified and include non-compliance with catch limits, deficiencies in controls such as on transport and trade, and fleet overcapacity. ICCAT adopted a new management plan in 2008.

The group identified 7 actions and measures and the OSPAR Commission was identified as taking a lead role in some of these. These proposed measures were worked up in detail. The completed forms, which should be considered working documents, are attached in Appendix 1.3 and summarised in Table 5.

Table 5. Priority actions and measures on other commercially important species elaborated by Working Group 4 (for full details see Appendix 1.3)

Action/Measure	Objective
Raise awareness of the status of bluefin tuna, cod and orange roughy	<p>To improve acceptability of and confidence in management measures for bluefin tuna, cod and orange roughy</p> <p>Enable the consumer to make an informed choice about purchasing decisions</p> <p>Facilitate a public debate on the conservation of these species</p>
Co-operate with ICCAT and Barcelona Convention	To have a consistent approach to the conservation and management of bluefin tuna
Encourage the further collection of data and research work on bluefin tuna, cod and orange roughy	<p>To provide the scientific underpinning for ecosystem-based management of the bluefin tuna, cod and orange roughy</p> <p>Partnerships with fishermen are essential</p>
Consideration of orange roughy when establishing deep sea MPAs	To help safeguard orange roughy aggregations when they are present in areas where MPAs are being established for the conservation of deep sea habitats.
Discussion with fisheries management authorities and stakeholders to identify appropriate tools to reduce and/or eliminate cod discards	Reduce and/or eliminate cod discards and therefore cod mortality.
Ban on the removal of orange roughy from the OSPAR Area	Provide total protection to orange roughy from fishing activity in the OSPAR Area.
To promote management of bluefin tuna, cod and orange roughy on the basis of best available scientific advice	To ensure that any fisheries that are permitted have the best chance of operating sustainably.

## GROUP 5 – Deep sea habitats

The pre-selected deep sea habitats considered by Working Group 5 were coral gardens, deep sea sponge aggregations, *Lophelia pertusa* reefs, oceanic ridges with hydrothermal vents/fields, and seamounts.

Fishing was identified as a key current pressure and ocean acidification caused by increased CO<sub>2</sub> levels a key pressure in the future especially for sponges, coral gardens, *Lophelia* reefs and seamount communities. Ocean acidification is not likely to affect hydrothermal vent habitats. Insufficient knowledge of deep sea habitats and variable assessments across habitats makes it difficult to be more precise about other key threats and pressures but examples relevant to some of the habitats discussed by the group included chemical contamination, litter, oil pollution, seabed disturbance and the spread of non-indigenous species.

Management measures currently relevant to the deep sea habitats were the use of Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA) and codes of conduct for scientific research, closure of areas to fishing, and the blanket ban by Norway on impacting *Lophelia* habitat. EIA/SEAs and codes of conduct were considered to be generally effective. Closed areas were applied patchily and were considered to be insufficient in both time and space but generally effective if permanent. The effectiveness of

the general Norwegian ban on deliberate *Lophelia* impact was considered to be patchy but should improve as further areas where *Lophelia* occurs are mapped. The NEAFC measure to move on when coral is impacted was considered likely to be generally ineffective, but no evidence of its operation was available.

Suggested areas for improvement were a broader application of NEAFC/national closures for fisheries and biodiversity following mapping, and for these closures to be made permanent as well as being monitored and assessed. The general Norwegian ban on deliberate *Lophelia* impact should be extended to other deep water habitats but would need to be underpinned with mapping work. The group also suggested that the 'move on' measure should be replaced. One possibility in this regard was to freeze the current footprint of fishing in the deep sea.

The group agreed that detailed mapping of the deep water habitats on the OSPAR List throughout the OSPAR Area was important. The suggestions to freeze the current footprint of fishing activities and to designate MPAs were agreed as priorities, however opinion was divided on the order of priority of these two measures. Many of the group considered that freezing the footprint should be the top priority. This action should be followed by the use of SEA/EIA tools to examine fished areas for "recovery sites" that might be established as MPAs and for areas outside currently fished zones where fishing might be allowed. A ban on deliberate damage to the five deep sea habitats was viewed as the essential fallback position with this approach. An alternative view was to prioritise the immediate protection of already known habitat occurrences from destructive impacts by continuing the MPA designation process for the five habitats. In parallel OSPAR should work with the responsible fisheries management bodies towards freezing, and if possible shrinking the current footprint to prevent damage in currently unfished areas, including the use SEA/EIA tools and recovery sites. If the 'freezing' did not work a ban on the deliberate damage to the five habitats would be needed as the fallback position with this approach.

The group identified five cross-cutting actions and measures and the OSPAR Commission was identified as taking a lead role in some of these (Appendix 1.2). Four of the proposed measures were worked up in detail. The completed forms, which should be considered working documents, are attached in Appendix 1.3 and summarised in Table 6.

Table 6. Priority actions and measures on deep sea habitats elaborated by Working Group 5 (for full details see Appendix 1.3)

Action/Measure	Objective
Further mapping of deep sea habitats on the OSPAR List	To have greater knowledge of the distribution, habitat extent and quality and ecological requirements of each habitat
Freeze the footprint of fishing in the deep sea.	To prevent further expansion of damage to coral gardens, deep sea sponge aggregations, <i>L. pertusa</i> reefs and seamounts from fishing in currently unfished areas
Designate further MPAs for deep sea habitats on the OSPAR List	To provide protection to areas of suitable habitat To implement international commitments
Ban deliberate damage to deep sea habitats on the OSPAR List	To provide protection to areas of relevant habitat
Use Strategic Environmental Assessment/Environmental Impact Assessment tools	To reduce effects and prevent further damage from human activities, including fishing.



## GROUP 6 – Coastal and Continental Shelf Habitats

Six pre-selected species and habitats were considered by this group; seapens and burrowing megafauna, ocean quahog (*Arctica islandica*), *Modiolus modiolus* beds, intertidal mudflats, *Zostera* beds, and 'flat oyster' (*Ostrea edulis* and flat oyster beds'. Physical damage was recognised as a pressure on all of them and, with the exception of *Zostera* beds, removal of target or non-target species.

The seapen and burrowing megafauna habitat is subject to pressure from eutrophication (especially in the Kattegat), organic pollution and bottom trawling. A limited proportion of this habitat lies within areas that can be protected under the EC Habitats Directive (as 'large shallow inlets and bays') but as this is not the main reason for designation the effectiveness of the management in providing protection is variable and consequently the habitat is largely unprotected. The seapen and burrowing megafauna habitat may benefit indirectly in areas where seabed damage is limited by fisheries regulations such as cod recovery zones in UK waters.

Pressures on ocean quahog include the impact of heavy gear from demersal fisheries and poor water quality arising from direct and diffuse inputs from land. The group also raised concerns about changes in hydrodynamic regimes which affect this habitat (e.g. due to construction activities such as bridges), land claim, coastal developments, dredging and fishing. There were similar pressures on intertidal mudflat habitats but with an additional issue of the spread of non-native Pacific oyster in the Wadden Sea. With no existing measures specific to the ocean quahog it was suggested that reducing beam trawling and undertaking EIAs prior to fishing would be useful future actions. There was also a role for MPAs established for biodiversity conservation as well as those relevant to fisheries management, in safeguarding the habitat of this species.

*Zostera* beds and oyster beds are subject to similar pressures but in the case of *Zostera* trampling, impacts from boating activity such as that caused by the wake of vessels or anchoring, increased turbidity and wasting diseases were also relevant. Oyster beds were damaged by demersal trawling, overfishing, and competition with non-native Japanese oysters. A likely future impact is from increasing acidification of the oceans as a result of increased CO<sub>2</sub> concentrations in the atmosphere.

For Member States within the EU measures taken to comply with the Water Framework Directive for improving water quality were considered important and protected areas designated under the EC Habitats Directive and OSPAR MPA mechanisms could benefit some of these species and habitats.

The main actions and measures suggested by the group were to reduce fishing pressures (without displacing fishing effort elsewhere), undertake impact assessments, and encourage changes to less damaging fishing practices where the habitat occurs e.g. from trawling to creeling for *Nephrops* on seapen and burrowing megafauna habitats. There was also a role for MPAs in both protection and restoration of habitats. Communicating the need for conservation measures as well as increasing scientific understanding by using data collected for other purposes such as commercial Remotely Operated Vehicle footage as well as studying historic data on the character of communities before significant damage by trawling would be very valuable. A related issue was the need for mapping to determine the extent and quality of these habitats.

The group identified 8 cross-cutting actions and measures and the OSPAR Commission was identified as taking a lead role in some of these. Three of the proposed measures were worked up in detail. The completed forms, which should be considered working documents, are attached in Appendix 1.3 and summarised in Table 7.

Table 7. Priority actions and measures on coastal and continental shelf habitats and species elaborated by Working Group 6 (for full details see Appendix 1.3)

Action/Measure	Objective
Reducing fishing pressure including mutual benefits of closed areas and through improved gears and practices	Close some areas of habitat to improve habitat quality (and age structure of target species) and potentially benefit fisheries.  Change fishing gears/practices (e.g. reduce weight, change from trawls to creels for <i>Nephrops</i> ) to reduce impacts on seabed.
Marine Spatial Planning	Develop overall strategy for management of large areas to better manage relationship between activities and biodiversity. This needs to happen at different scales (e.g. from regional sea to local MPA). Develop zoning schemes.
Impact assessments	To ensure new, and if possible existing, regulated activities take account of the need to protect habitat and species on the OSPAR List.

## Overview of findings, discussions and conclusions

### Pressures, measures and lead organisations

The first task undertaken by the working groups was a consideration of the key pressures and threats affecting the pre-selected species and habitats. Species-specific background documents provided a starting point but the discussions and elaborations were an opportunity to reach a collective view on the main issues and provide a basis for subsequent proposals for actions and measures.

The key pressures and threats were grouped into the categories used for the development of an OSPAR biodiversity assessment framework and although many were specific to a particular species or habitat two more general themes were mentioned in some form by all the groups. These were climate change and fishing activities.

Climate change was identified as having both direct and indirect effects on species and habitats on the OSPAR List. Examples given were acidification as a result of increasing CO<sub>2</sub> which would affect – amongst others - corals, sponges, and oyster beds and changing sea water temperatures leading to shifts in distribution of listed species such as the leatherback turtle or their prey as in the case of the Black-legged kittiwake.

Fishing activities were identified as a key pressure for many of the species and habitats considered at the workshop. Fishing might cause a direct impact e.g. bottom trawling or where a species was the target of a fishery as in the case of e.g. bluefin tuna, or an indirect impact such as bycatch of the ocean quahog and damage to seapen habitats during demersal fishing operations. Uncertainty about the precise effects was also an issue in some cases.

Many types of existing actions and measures were identified and discussed in the working groups. Some were specific to listed species and/or habitats and others were general measures that could benefit more than one species or habitat on the OSPAR List. Species Action Plans, sightings and strandings information networks, catch limits, life history studies, and prohibiting deliberate damage to particular habitats are examples from the former category. Designation of Marine Protected Areas, raising awareness about the need for conservation action for species and habitats on the OSPAR List, promoting management of species targeted or indirectly affected by commercial fisheries on the basis of best scientific advice and Marine Spatial Planning are examples from the latter category.

Views on the effectiveness of existing actions and measures also covered a spectrum. Some, such as the ten year old Species Action Plan for the Balearic shearwater were seen as generally ineffective given that the population is estimated to have halved in the last 10 years. Similarly stocks of deep water shark in the OSPAR Area have declined extremely strongly and bluefin tuna stocks in the area are overfished and depleted. The “move-on-rule” relating to bottom impact fishing could lead to increased habitat destruction. On the other hand the good use of EIAs for the oil and cable industry and code of conduct for research on deep sea habitats were considered to be largely effective in helping to protect these habitats. In a number of cases the effectiveness of existing or proposed actions and measures was unclear or could not be determined. The effectiveness of the gill net ban below 600m on the population of thornback ray and spotted ray is unclear for example. This should have stopped target fishing but observer coverage and enforcement is low and rates of bycatch in gillnet fisheries operating from 200-600m are unclear. The effectiveness of the EU setting a zero TAC for orange roughy from 2010 will need to be assessed in the future.

The potential role of OSPAR, OSPAR Contracting Parties and other organisations in promoting existing and proposed new actions and measures was discussed during Working Group Session 2. In many cases the actions and measures were seen as a shared responsibility but there were clearly identified areas where participants considered that either the OSPAR Commission or its Contracting Parties should lead. These were categorised as actions and measures that would reduce the current level of threat, prevent further threats, spatial measures, awareness/communication measures and increasing scientific understanding. These potential roles for OSPAR are discussed in more detail below. Other organisations identified as having a role in instigating or delivering the proposed measures and actions were;

CAFF CBird	Conservation of Arctic Flora & Fauna, Circumpolar Seabird Group
CITES	Convention on International Trade in Endangered Species
EC	European Commission
FPOs	Fish Producer Organisations
ICES	International Council for the Exploration of the Sea
IMO	International Maritime Organisation
IUCN	International Union for the Conservation of Nature
ISA	International Seabed Authority
NEAFC	North East Atlantic Fisheries Commission
NCOM	Nordic Commission
RFMOs	Regional Fisheries Management Organisations
RACs	Regional Advisory Councils
STECF	EU Scientific, Technical & Economic Committee for Fisheries

On the last day of the workshop a plenary session enabled participants to seek clarification on the various measures proposed and discuss potential priorities from the list of measures and actions produced by the individual working groups. For birds and marine turtles the HELCOM database for cetaceans in the Baltic was mentioned as a potential model for collecting information on strandings and sightings and a European Community Plan of Action of Seabirds was suggested as a good way of packaging proposals for seabirds. There was a desire for more focus on actions that would address the threats to these species rather than on determining their status but it was recognised that this was because of the limited knowledge on aspects such as the status of their prey and effects of climate change.

When discussing the proposals on elasmobranchs the possibility of changes to the OSPAR List was raised but it was noted that there were to be no changes until at least 2010. Technical issues, such as referring to the ‘common skate complex’ may however be taken forward. The potential of using MPAs for elasmobranchs

was discussed and the point was made that whilst it should be pursued the value of this approach will depend on the species and will be a role for those authorities charged with their management.

Discussion of the outputs on commercial fisheries group included the question of whether the group considered whether bluefin tuna should be listed on CITES. Whilst this was discussed no proposals were made as there was no consensus and the issue is already subject to discussion elsewhere. The importance of incorporating fishers knowledge was raised and agreed as being important. Various partnership projects seek to do this. Comment was made on problems created by some fishing subsidies and the need for this to be addressed although this is not an OSPAR issue.

The need for more information on the distribution of coastal and continental shelf habitat and threats was raised when discussing the outputs from the group dealing with these habitats. At the same time it was stated that there is enough information to take action to safeguard these habitats and that the main pressures are from fisheries. Co-operation and co-ordination of work with fishermen was seen as critical and should work from the “bottom up” as well as “top down”. This was relevant to the outputs from all the groups and the point was made that data from fishermen such as on bycatch would be of considerable value. There were differing views on whether further regulation might be needed to elicit such data.

### **Potential priority actions and measures and the role of OSPAR**

On the last day each participant was asked to identify one action as their top priority from the list of measures produced by each working group. When taken together these selections give an overall impression of the where most participants felt priorities should lie (Table 8). Given the varied background and expertise of those present it is important to stress that this prioritising exercise was only to **get an overview** in a way that cannot be captured by limited discussions in open session. The results of this prioritisation exercise should also be treated with some caution due to differences in the ways in which the different working groups had written up and presented their measures. It was also noted that those present could not represent the views of the whole scientific community but rather that they would be giving an indication of priority from their own perspective.

An examination of the full list of potential actions and measures discussed at the workshop also reveals a number of cross-cutting themes. Many of these are also likely to benefit species and habitats on the OSPAR List that were not discussed during the workshop. The informal voting in the final plenary sessions also gave an impression of the collective view of priorities for those cross-cutting measures listed in Table 9. An additional cross-cutting theme suggested during the plenary discussions was the idea of a comprehensive fisheries observe programme for the OSPAR Area that would be beneficial for example in logging/quantifying bycatch for seabirds, turtles, non-target fish species.

Many of the proposed actions and measures worked up in more detail identified a potential role for OSPAR Commission. These were listed in the working documents where participants were asked to suggest on optimum means of delivery for any proposed measures and actions (Appendix 1.2). All instances where the OSPAR Commission was specifically mentioned are listed in Table 10.

Most of the proposed actions by OSPAR can be categorised under the general heading of ‘agreements’. These include calls for action, collaborative working, promoting and communicating issues.

Table 8. Actions and measures from each group as prioritised by participants

WORKING GROUP	PROPOSALS	INDICATION OF PRIORITY ACTION/MEASURE BY ALL WORKSHOP PARTICIPANTS	OPTIMUM MEANS OF DELIVERY
Seabirds & Turtles	The group identified 11 species specific actions and measures for the Balearic Shearwater, 5 for the Black-legged kittiwake and 8 for the leatherback turtle. Six were worked up in detail	Co-ordinated and improved demographic monitoring at breeding colonies of black-legged kittiwakes	OSPAR Recommendation to CPs to carry out the monitoring.  Annual reports from CPs giving overview of breeding numbers, reproduction rates and key demographic parameters
Elasmobranchs	The group identified 11 actions and measures for the basking shark, 6 for the angel shark/white skate; 6 for porbeagle/spurdog, 5 for the common skate complex, 6 for thornback and spotted ray, 8 for Portuguese dogfish, gulper shark and leafscale gulper shark. Seven cross-cutting measures and actions were worked up in detail.	The identification of critical elasmobranch habitats and/or sites of aggregation and delineation of Marine Protected Areas where relevant and practicable	A variety of options. Could be promoted by OSPAR but also requiring co-operative action. In areas of national jurisdiction CPs should lead, in EEZs, CPS, EU and OSPAR to promote collaboratively and of High Seas for OSPAR to work with relevant international bodies.
Diadromous fish	The group identified 6 actions and measures. Two proposed measures were worked up in detail.	Freshwater and estuarine habitat restoration for diadromous fish	OC to encourage CPs. Within the EU under the auspices of the EC WFD.
Other commercial fish	The group identified 7 actions and measures. These 7 measures were worked up in detail.	Advocate management based on best scientific advice	Ministerial commitment and/or OSPAR recommendation
Deep sea habitats	The group identified 5 cross-cutting actions and measures. Four of the proposed measures were explored in more detail.	Freezing the footprint of fishing activity	Call for action by OC to fishing authorities; co-operative work between CPs and fisheries authorities  Work with fishers (e.g. distant waters RAC)  Future development could include increase in VMS transmission frequency; transmission of more information (e.g. gear types)
Coastal & continental shelf habitats	The group identified 8 cross-cutting actions and measures. Three of the proposed measures were explored in detail.	Reducing fishing pressures including mutual benefits of closed and managed areas if possible	Involvement of fishermen and other stakeholders to develop proposals and monitoring progress is critical to success (offshore – Regional Advisory Councils, inshore – CP Fishery competent authorities)  Adapt management measures as delivery progresses building upon experience  Need input to MSFD delivery mechanisms regarding biodiversity assessment of GES

# Report of the OSPAR workshop on defining actions and measures for the OSPAR list of threatened and/or declining species and habitats

Table 9. Cross-cutting themes from the actions and measures proposed at the workshop.

CROSS-CUTTING ACTIONS & MEASURES*	EXAMPLES FROM WORKING GROUP OUTPUTS
Immediate measures	Ban orange roughy fishery, ban deliberate damage of deep sea habitats on OSPAR list, freeze footprint of fishing on deep sea habitats, promote use of less damaging gears to reduce damage to seabed habitats
Partnership projects	Increase international scientific co-operation to determine most appropriate measures to protect diadromous species  Gather fisher information to completed ICES advice that can be used in fisheries management.
Research priorities schedule for species and habitats on the OSPAR list	Mapping the location of deep sea habitats throughout the OSPAR area.
Improved co-ordination of information	Sightings and strandings network for leatherback turtle
Designation of Marine Protected Areas	To give direct protection to deep sea, coastal and continental shelf habitats, critical habitats for elasmobranchs, important seabird feeding areas and as a supplementary measure for other species such as orange roughy.
Better implementation of existing measures and some extension of their use	Strategic Environmental Assessment/Environmental Impact Assessment
Reporting of actions taken by CPs to improve status of species/habitats on the OSPAR list  Raising awareness of the OSPAR List	All species and habitats on the OSPAR List
Call for ICES advice to be followed	for bluefin tuna, orange roughy, elasmobranchs
Increased cooperation with relevant authorities responsible for management of species/habitats on the OSPAR List	E.g. with ACAP for the Balearic shearwater, with NEAFC for deep sea habitats, EU for elasmobranch species.

\*The list is presented in order of priority as suggested by the informal scoring during the final plenary session.

An additional cross-cutting theme suggested during the plenary discussions was the idea of a comprehensive fisheries observe programme for the OSPAR Area that would be beneficial for example in logging/quantifying bycatch for seabirds, turtles, non-target fish species.

Table 10 Suggested actions and measures that could be taken forward by the OSPAR Commission

CATEGORY	ACTIONS AND MEASURES from forms prepared in Session 3 (Appendix 1.2)
DECISION	Note existing Recommendation on establishing an MPA network
RECOMMENDATION	<p>For CPs to carry out specified co-ordinated and improved monitoring for Black-legged kittiwake</p> <p>For CPS to ratify ACAP and produce NPOA for seabird bycatch</p> <p>For EC to produce European POA for seabird bycatch</p> <p>Memorandum of understanding with ICCATT for co-operative working on conservation measures for bluefin tuna</p> <p>For more data/research to improve the scientific basis for ecosystem-based management for bluefin tuna, cod and orange roughy</p> <p>To reduce and/or eliminate cod discards</p> <p>For management based on best available scientific advice</p> <p>Possible formal measure for designation of specific MPAs in the areas beyond national jurisdiction.</p>
AGREEMENT	<p>For CPs to report annually on monitoring results for Black legged kittiwake</p> <p>To prepare a coordinated strategic SAP for the OSPAR &amp; Mediterranean areas for Balearic Shearwater (and subsequent a recommendation for its adoption and implementation)</p> <p>Co-operative work with ACAP for Balearic shearwater</p> <p>Call for action that CPs set up and co-ordinate activities to assess the leatherback population.</p> <p>Call for action (with other bodies e.g. ICES, NEAFC) to promote the need for the importance of research on discarding &amp; discard survival of elasmobranchs</p> <p>To communicate to EC and EU MS the importance of following ICES advice for elasmobranch species.</p> <p>Encourage CPs to collate data from ad hoc sampling of elasmobranch species not subject to biological sampling especially for those species where there are gaps in knowledge of their life history.</p> <p>To promote and work collaboratively with others to identify critical elasmobranch habitats/and or sites of aggregation and delineation of MPAs where appropriate and practical</p> <p>To act as a catalyst for the introduction of statutory nature conservation measures for elasmobranchs by prompting/suggesting the measure to CPs</p> <p>To recognise and promote the importance of CPs retaining national fish collections and appropriate scientific expertise in taxonomy and systematics.</p> <p>Call for action to generally promote the need to improve knowledge of diadromous species in the marine area</p> <p>To promote cooperative work at an international level at the distribution area scale for all 5 species of diadromous fish.</p> <p>Call for action from OSPAR to NEAFC to ban all capture of orange roughy</p> <p>Call for action and work co-operatively with CPs to implement further mapping of deep sea habitats.</p> <p>Call for action to fishing authorities and cooperative work between CPs and fisheries authorities and fishers (e.g. distant waters RAC) to freeze footprint of current fishing activity in the deep sea.</p> <p>Work cooperatively with other organisations to designate further MPAs for deep water habitats.</p> <p>Call for action from OSPAR to appropriate authorities to ban deliberate damage to deep water habitats on the OSPAR list</p> <p>Work cooperatively with other organisations to ban deliberate damage to deep water habitats on the OSPAR list.</p> <p>Call for action by fisheries authorities and cooperatively work between OSPAR and other organisations for SEA/EIA tools to be used to reduce effects and prevent further damage to deep sea habitats from human activities.</p>

## Conclusions and next steps

The workshop participants identified more than 90 species/habitat specific, general and cross-cutting measures and actions a number of which might have potential to be developed further for possible adoption by the MM2010. Twenty-nine were elaborated on and there was also some consideration of priorities. Most of the proposals can be categorised as potential OSPAR agreements, including calls for action, although there are also examples that might form the basis of OSPAR Recommendations and one call to reiterate an existing OSPAR Decision. These proposals, presented in the working group summaries and in Tables 8,9, & 10 provide a useful checklist for MASH when considering the sorts of actions and measures that might be developed for MM2010.

Two strong themes emerged from the recommendations; the need for promotion and for co-operative working in relation to the OSPAR List

The promotional measures were mostly concerned with raising the profile of the species and habitats on the OSPAR List as well as the profile of scientific advice that should underpin their management and lead to improved status. There was also a range of proposals for OSPAR to support and encourage research that would improve understanding and therefore help address the threats and reasons for decline of the listed species and habitats.

Co-operation was sought with a wide range of bodies, both international and regional, as well as with Contracting Parties to inform, advise, and support their work with a view to improving the status of species and habitats on the OSPAR list. The need to track progress for example through research, monitoring, assessment and reporting was recognised and the various ways in which Contracting Parties might report to OSPAR were described for each of the proposed actions and measures.

There was clearly a desire amongst participants to see progress and considerable interest in immediate action oriented measures. Whilst some of these might not be within the competence of OSPAR it sends a clear message that could usefully be picked up and elaborated by MASH and BDC in the lead up to MM2010.



## Annex 1 – Workshop Programme

### Wednesday 14<sup>th</sup> October

14.00 -14.15	Welcome to workshop	France
14.15 -14.30	Background to workshop	OSPAR Secretariat
14.30-15.00	Introduction to workshop process	Susan Gubbay (rapporteur)
15.00- 16.00	Presentations on a selection of species & habitats from the OSPAR list	
	- Sturgeon	Nicolas Michelet (CNPMMEM) -
	- Elasmobranchs	Sarah Fowler (IUCN SSG)
	- Birds	Kate Tanner (BirdLife International)
	- The deep sea	Mark Tasker (ICES)
16.00-16.30	COFFEE BREAK	
16.30 – 16.35	Organisation of working groups	France
16.35 – 18.30	<b>Working Groups Session 1</b>	
	Review information on pressures & measures	
	Discuss whether existing measures are effective.	
	If not identify reasons and suggest areas for improvement	

### Thursday 15<sup>th</sup> October

9.00 – 9.45	<b>Feedback from Session 1</b>	Plenary
9.00 - 9.15	<i>Summary of working group session</i>	
9.15 - 9.45	<i>General discussion &amp; harmonisation of working group approaches</i>	
9.45 – 12.30	<b>Working Groups Session 2</b>	
	Discussion of possible new actions and measures (gap analysis)	
	Group existing and new into types of actions and measures	
	Prioritise actions and measures for individual species/habitats	
	Start work on matrices for priority actions and measures	
	(flexible coffee break)	
12.30 – 14.00	LUNCH BREAK	
14.00 – 16.00	<b>Working Groups Session 3</b>	
	Complete matrices for priority actions and measures	
16.00- 16.30	COFFEE BREAK	
16.30 – 18.00	<b>Feedback from Sessions 2 &amp; 3</b>	Plenary
16.30 – 17.30	<i>Presentations by working group facilitators</i>	
17.30 – 18.00	<i>General discussion &amp; harmonisation of working group approaches</i>	

**Friday 16th October**

9.00 – 9.30	Summary of Working Group Findings	Plenary
9.30 – 10.30	Discussion of common themes & priorities	Plenary
10.30 – 11.00	COFFEE BREAK	
11.00 – 12.00	Discussion of common themes & priorities	
12.00 – 12.30	Summary	France
	Next steps	OSPAR Secretariat
	Closing of workshop	France

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## Annex 3 – Working Group Sessions guidance and feedback forms

### GUIDANCE FOR FACILITATORS & RAPPORTEURS - SESSION 1

The aims of this session are to

- Review information on pressures & measures for the pre-selected species/habitats
- Discuss whether existing measures are effective.
- If not identify reasons and suggest areas for improvement

A summary table has been prepared to assist in this task. The information has been taken from the assessments being prepared for each of the OSPAR listed habitats/species, however please be aware that very few have been finalised. Some are drafts and others are only at the outline stage.

Please note the following:

- The headings used to describe the pressures are taken from the OSPAR Assessment Matrix being used in Chapter 9 of the QSR.
- Only the key pressures are described. Some assessments have a summary table of the pressures/threats. In such cases only the threats ranked as 'high' have been included.

The following steps are suggested:

- Discuss the pressures/threats on the species/habitat and reach agreement on whether all the key threats are listed. If not note any gaps
- Review the listed existing key measures and note any gaps
- Discuss the effectiveness of existing measures – the scale given below could be used
- Where measures are not considered effective, discuss reasons and suggest how the situation might be improved.

#### Evaluating effectiveness

The following categories may help with discussion of the effectiveness of existing measures.

- Very effective – effective all the time, in relation to all relevant activities &/or locations to which the measure applies and benefits the species/habitat throughout its entire range
- Generally effective – effective most of the time, in relation to all relevant activities and locations to which the measure applies and benefits the species/habitats in the geographic area to which the measure applies
- Partially effective – effective part of the time or only in relation to some activities or some locations where the measure applies
- Effectiveness very patchy – limited and only part of the time or only in some situations
- Ineffective – has made no difference in relation to any activity or location
- Unable to assess.

**Rapporteurs will need to hand in the completed feedback form at the end of the session so that results can be collated for a report back on the morning of the 15th October**

Please use the following table/format to summarise discussions in Session 1

OUTPUTS FROM SESSION 1	
GROUP NUMBER	RAPPORTEUR
SPECIES/HABITAT (individual or grouped)	
Comments on <b>key</b> pressures/threats including any gaps	
Comments on key measures	
Comments on effectiveness of existing measures	
Suggested areas for improvement.	

## GUIDANCE FOR FACILITATORS & RAPPORTEURS - SESSION 2

The aims of this session are to

- Discuss possible new actions and measures for the pre-selected species/habitats
- Group existing and new into types of actions and measures
- Prioritise actions and measures for individual species/habitats
- Start work on matrices for priority actions and measures

A summary table has been prepared to assist in this task. The information has been taken from the assessments being prepared for each of the OSPAR listed habitats/species, however please be aware that very few have been finalised. Some are drafts and others are only at the outline stage.

Please note the following:

The headings used to describe the proposed actions are those developed at the Utrecht workshop.

Please make sure there is an indication of who should take the action/measures

OC	OSPAR Commission
OC & CPs	OSPAR Commission & Contracting Parties
CPs	Contracting Parties
Others	Please specify

Participants may wish to work in smaller groups to prepare the matrices.

The following steps are suggested:

Using suggested areas for improvement identified in the previous session frame these into possible new actions and measures. Make this as specific as possible e.g. OSPAR call for Action, EU Regulation

- Group all the actions and measures (proposed and existing) into categories;
- Reduce current level of threat
- Prevent future threats
- Spatial measures
- Awareness raising/communication
- Increasing scientific understanding
- Identify who should take the action/measure.
- Prioritise actions and measures for species/habitats, giving highest priority to those that could be taken forward within the OSPAR framework in preparation for OSPAR MM2010. If time allows, start work on completing the detailed matrices for priority actions and measures (see guidance for session 3).

**Please use the following table/format to summarise discussions in Session 2**

OUTPUTS FROM SESSION 2			
GROUP NUMBER	RAPPORTEUR		
SPECIES/HABITAT (individual or grouped)			
Required new actions and measures			
<p>List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC &amp; CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (*).</p>			
Measure	Lead	Objective	Priority
E.g. High Seas MPA	OC, CPs, NEAFC, EC	SM	*

### GUIDANCE FOR FACILITATORS & RAPPORTEURS - SESSION 3

The aims of this session are to

- Provide details on priority actions and measures that could be taken forward within the OSPAR framework in preparation for OSPAR MM2010

A template has been prepared to assist you in this task (see example below)

Please also refer to the material prepared during the previous workshop sessions.

Participants may wish to work in smaller groups to prepare the matrices.

**Working Group Facilitators will be asked to report on the outcomes of Sessions 2 & 3 to Plenary at the end of the day on the 15th October**



## PROTECTIVE MEASURES MATRIX

Please provide the following information for each action or measures being proposed

**EXAMPLE**

GROUP NUMBER

RAPPORTEUR

<b>Short name of the protective action or measure</b>
<b>Species/habitat from the OSPAR List likely to benefit</b>
<b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)
<b>Description of the measure</b> (i.e. what practical steps are involved)
<b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)
<b>Existing experience</b> (i.e. is there any existing experience of what is proposed)
<b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)

<b>Optimum means of delivery</b> (I.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)
<b>Compliance issues that Contracting Parties could report on</b> (means of implementation/particular success criteria etc.)
<b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)
<b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)
<b>Definition of any technical terms used in the above description.</b>

## Appendix 1 - Working Group Outputs

All the proposals developed in the different working groups were considered relevant however given the time constraints of the workshop only some could be worked up in more detail.

The following outputs should be viewed as working documents as the task of the workshop was to develop proposals in outline. They will need to be elaborated further if they are to act as a basis for OSPAR agreements.

### 1.1 Key pressures, measures and their effectiveness (Session 1 outputs)

OUTPUTS FROM SESSION 1	
GROUP Birds & marine turtles	RAPPORTEUR K.Tanner
SPECIES/HABITAT (individual or grouped) Balearic Shearwater	
Comments on <b>key</b> pressures/threats including any gaps	
<p>While we don't know so much about what is killing the Balearic Shearwaters we do know that the main problem is adult survival, and we have reason to believe that fisheries (longline fisheries) are a major problem – this needs investigation.</p> <p>The basic problem for these birds is survival at sea. Adult birds that are tagged do not come back. We don't know what proportion is killed in the Mediterranean and in the Atlantic.</p> <p>Evidence of the effects of longline fisheries – 72 birds killed in one event last year (very close to the shore and so observable)</p> <p>More data needed on the effect of longline fisheries – e.g. from observers. Very difficult to observe e.g. with one mass event every 5 years per boat you would reach the level of mortality that we are seeing now.</p> <p>There is an observer programme covering the tuna and swordfish fisheries (in the Mediterranean) but it seems that the mortality is occurring in the demersal hake fishery which uses sardines as bait (but there are no observers for this). This fishery occurs in the Mediterranean but also in the Spanish and Portuguese Atlantic and presumably also off France.</p> <p>Other threats are also potentially important :</p> <p>Prey availability is definitely affecting distribution, with birds moving northwards following the prey. Climate change affecting distributions. More and more birds spending more time in early winter in the OSPAR Area which could have survival implications.</p> <p>Mainly feeding on clupeids (anchovy, sprat). The other bird species that also feed on these fish are not all declining?</p> <p>Other species of shearwaters aggregate with tuna and dolphins for feeding – if there are fewer tuna present then the birds follow fishing vessels more could be are more at risk</p> <p>Mercury pollution – not causing massive declines in other species that have similar feeding habits, so not the main threat?</p>	

A few years ago thought there were hotspots in the Bay of Biscay (stable for 15-20 years) where they took advantage of the important clupeid fishery which occurred there – possibly 55% of the world population in one flock. But now the fishery is dead (partly because of lack of fish) so shearwaters have to look for food elsewhere but where we do not know.

Birds stay close inshore – up to 20nm but sometimes disperse more than 100 kilometres offshore. Is there a bias because surveys only occur from shore? More coastal than all the other procellariiformes. In Biscay there have been few at sea surveys but even then the concentrations have been always coastal. Though there could be lower density, larger dispersal. Usually aggregations associated with river outflows but seem to be totally unpredictable. Huge aggregation habit – half the world population regularly turning up in one single flock.

Offshore windfarms – what is the threat? Don't know about the impact. Balearic shearwaters don't fly very high when foraging? But might fly higher when commuting between foraging areas. Don't know the impact – should apply the precautionary principle.

#### Comments on key measures

10 year-old SAP – in the last 10 years the population has more than halved so the need is now even more apparent. Implemented only in Spain, maybe not even there. Definitely worth revisiting or even better a new drafting altogether.

Recovery plans mostly related to management on land at breeding sites so not relevant to OSPAR.

#### Comments on effectiveness of existing measures

They have clearly failed as the population has halved in the last 10 years.

Mark and recapture intensive programme at breeding colonies has been stopped – needs to be done at the breeding sites. Can't be done at sea. Could also be interesting to use electronic tags to see where they are going (c.f. work done on Manx shearwater). Would help to see how pelagic they are. But used satellite telemetry before it was available for such a small species and none of the birds survived one year as tag was 5% of bodyweight. Though tagging could increase entanglement with fisheries...

#### Suggested areas for improvement.

Re-do species action plan with new information, and make sure it's implemented.

Monitoring – need monitoring not only of the birds themselves but also of the activities. Observers on fishing boats.

EC POA on seabird bycatch? Needs encouragement and implementation.

Spain is going to propose the species for ACAP listing – committed to do this. Will happen before the next meeting of the Parties. Could explore OSPAR working with Spain – how could OSPAR help? ACAP action plan containing a lot of measures at sea and on land. Measures at sea include mitigation, observers, reporting, other threats e.g. pollution. An agreement to address mortality from fisheries.

Would be good for OSPAR to encourage ACAP coming up north. Encourage CPs to ratify ACAP – at present only UK, France and Spain that are members of ACAP. Other CPs that are range states for the species should be encouraged to ratify ACAP.

OUTPUTS FROM SESSION 1	
GROUP Birds & marine turtles	RAPPORTEUR K.Tanner
SPECIES/HABITAT (individual or grouped) Black-legged Kittiwake	
Comments on <b>key</b> pressures/threats including any gaps	
<p>Workshop organised by Nordic council of ministers in Faroes Sept 2007 – feeling was that for kittiwake – the changes in oceanographic availability of food, probably directly linked to Calanus species in the North sea and regime change = the most important threat. Calanus finmarchicus is moving further north and being replaced by helgolandicus (less nutritionally valuable). Causing issues for prey species and in turn for kittiwakes.</p> <p><b>REF:</b> West Nordic seabirds in a threatened marine environment (workshop) 26-29 Sept 2007. ISBN 978/92/893/1732/0. Available as pdf.</p> <p>NW Atlantic – all birds that rely on small fish species such as sand eel are all declining whereas gannets and bigger species feeding on bigger prey are much better off. Not been able to definitively prove. Brunnichs &amp; common guillemot, razorbill, these species are declining all over the area.</p> <p>Predation at breeding colonies –white tailed sea eagles increasing enormously so this is also a problem.</p> <p>Bycatch is mentioned as a threat – a few records of kittiwakes being caught even though kittiwake are quite rare. But we don't know much about this. Must occur and might be something to look at, but a second order threat.</p> <p>Extreme weather events. E.g. this year kittiwakes swept through continental France and continental Spain and ended up in the Med. A lot ended up inland e.g. in the Pyrenees. And 1984/85 series of 3 tropical storm through Bay of Biscay – wiped out about 40,000 together on the French seaboard. Not something we can control but if extreme weather events becoming more common with climate change then that's a threat we need to know about?</p>	
Comments on key measures	
<p>People are monitoring kittiwakes in the colonies as that is where you can handle them. Monitoring programmes on kittiwakes are quite good e.g. SEAPOP, UK programme. Monitor number of breeding pairs, recruitment, breeding success, etc.</p> <p>Country with biggest number of kittiwakes is Iceland –they know about their bigger colonies but do not collect any demographic data. In Greenland they collect demographic data in a few colonies.</p> <p><b>REF:</b> Status of the black legged kittiwake breeding population in Greenland, 2008</p> <p>Labansen, Aili lage; Merkel, Flemming; Boertmann, David &amp; Nyeland, Jens, in prep</p> <p>Concluded – Greenland has a total populations of 107,000 pairs of which 3,500 in north-east Greenland and approximately 200 in south-east Greenland (i.e. in the OSPAR area. West Greenland is v important for OSPAR breeding population as they migrate down there for wintering.</p>	
Comments on effectiveness of existing measures	
<p>Existing measures are focused around the breeding grounds and colonies – but we really need to get data from at-sea as well.</p>	

Suggested areas for improvement.
<p>Collect demographic data connect with survey of colonies – adult mortality, juvenile mortality, then you can find out more. UK &amp; Norway have done this already and need to spread this to the other countries. Emphasis put on getting this information and maintaining database through time – at least 10 years.</p> <p>Impossible to survey all colonies – e.g. in Iceland. Instead concentrate on some colonies and make a monitoring programme that really targets the issue – collect exactly what is needed to answer the questions demographic parameters (breeding success, age etc.). There is such a programme in Brittany running for 30 years individually colour ringing birds.</p> <p>Need information from at-sea – data-loggers on kittiwakes, aerial and ship-based surveys. Can start to look at mechanisms that govern distribution of birds at sea and then get further into the real effects. If we are right in thinking that the availability of food is essential then we would only be able to really deal with that if we know more about the finer scale distribution at sea.</p> <p>If it's climate change induced lack of prey then there's nothing we can do in the short term – have to just try and minimise anthropogenic threats from other areas.</p> <p>Protected areas – associated with the colonies would help. But do you know where the kittiwakes feed and how they feed? If there are stable feeding areas offshore then they should be designated.</p> <p>Now is the time to protect the kittiwake – it's not too endangered, we can start early. Easy to work with and still very common. Might be easy to get them off the list? Also many of the issues are not a single species issue, might be better addressed on a wider platform.</p>

OUTPUTS FROM SESSION 1	
GROUP Birds & marine turtles	RAPPORTEUR K.Tanner
SPECIES/HABITAT (individual or grouped) Leatherback Turtle	
Comments on <b>key</b> pressures/threats including any gaps	
<p>Fisheries effects - coastal areas – fixed ropes are one of the major issues. Ropes going up to lobster pots. Only one rope – but leatherbacks manage to get one rope wrapped all around them. Tide will go out, rope will be slack. Wrap rope around them, then sea comes in and they are stuck underwater and drown.</p> <p>Pelagic animals swimming over entire north Atlantic. They bump into things a lot.</p> <p>Oceanic areas – it would be longlining. Not going for the bait but get hooked while swimming along and then can't get free. Hook will catch carapace – leathery/soft not hard. Hook will dig in and they'll be dragged along or down. No real values for impacts in the north east Atlantic. More info available in warmer waters (bigger fleets with observer programmes). Lots of big gaps in knowledge.</p> <p>We only get larger leatherbacks in the OSPAR area - once leatherbacks get older with shell length over 1m they are more able to migrate into colder waters, further north. Warming seas – we are more likely to get more leatherbacks in the OSPAR area.</p> <p>Salmon drift nets used to catch turtles but never kill them. Now phased out. Fixed fisheries and longline fisheries that kill them. Pot ropes – strandings reported, trying to report the mortality. No money invested to get necropsy and determine cause of death.</p>	

<p>Litter – ingestion of plastic – don't know whether plastic causes the mortality or whether they can survive and die for other reasons. Need to make the most of strandings information – can learn a huge amount when one is washed up.</p> <p>Boat strike – but don't know how much of a problem this is.</p>
<p>Comments on key measures</p>
<p>Listed as CR but globally. Declines in the Pacific. Seems stable in Atlantic.</p> <p>OSPAR region – we don't have reliable estimate of numbers that are visiting the OSPAR region.</p> <p>Coastal observatories and sighting schemes (UK, France, Ireland) and reporting of strandings, should be continued and strengthened.</p> <p>France – database for sightings and strandings along Atlantic and Channel coasts. But problem with sightings is that it's not scientific, just sailors so no assessment of effort.</p> <p>In 20 years more than 300 strandings and more than 1,000 observations along the French Atlantic coast. Most observed next to La Rochelle</p>
<p>Comments on effectiveness of existing measures</p>
<p>Just need more measures in place.</p> <p>French Atlantic coast necropsies of strandings – 50% found plastic bags in stomachs. Also found turtles with missing limbs. Boat strike of limbs and face. Also genetic analysis – predominantly Caribbean population washing up on French coasts.</p>
<p>Suggested areas for improvement.</p>
<p>Conduct aerial surveys in different regions of the OSPAR area (though would be limited to coastal areas primarily). Would be good to have that estimate of how many of them are coming up into the OSPAR Area. Also could see if becoming more abundant with warming seas. Aerial surveys should be part of a regular programme like SCANS for cetaceans. Pan-European programme, covering big area. Boat and aerial surveys giving abundance estimate. Need it at the right time of year – SCANS is June/July/August, so maybe could work for turtles (they would need to be done July/Aug).</p> <p>Coordinated concerted effort of targeted surveys e.g. in La Rochelle area to start with and again off west coast of Ireland. Then to start getting an idea of numbers. This could be repeated in 3 years' time. Could tie up with survey of the jellyfish – the food.</p> <p>Looking at sightings around UK and France – they all have in common jellyfish swarms Rhizostoma up to 30kg. So turtles congregate there and spend more time there? So would tie in with survey for actual turtles.</p> <p>Need to know whether leatherbacks are being caught on longline fisheries e.g. Portugal and the Azores – observer programmes.</p> <p>Strandings – get vets involved. Make the most of the information. Need more money to conduct necropsies and beef up the strandings network. Early warning system from strandings – if mortalities do keep increasing then that should ring alarm bells. Accurate recordings. And genetic analysis. Would be great if there was a pan-European study where we did the genetics in-house and shared the information. Where do they come from and where do they go? Database on strandings and original sightings for the whole OSPAR Area.</p> <p>Keep sightings database going and extend it with the general public.</p>

Tagging – most of the leatherbacks found in OSPAR from French Guiana, Surinam, Grenada.

Tags – the longer you leave them on the less likely you are to get them back. Tag on the nesting beaches and the tag will run out of life before the turtles make it to OSPAR Area. Want to tag in north east Atlantic. But only managed 2 in 4 years. Salmon drift net fisheries catching turtles that could then be tagged. So have got some foraging tracks. But that fishing industry is finished now.... so would be too expensive to do tagging in OSPAR area.

#### OUTPUTS FROM SESSION 1

GROUP ELASMOBRANCHS RAPPORTEUR JIM ELLIS

SPECIES/HABITAT (individual or grouped) ANGEL SHARK AND WHITE SKATE

Comments on **key** pressures/threats including any gaps

Bycatch in demersal fisheries (localised targeting probably stopped by the 1960s)

Now both subject to non-retention policies, discard mortality unknown

Impact of recreational angling unknown.

Both species occur in the Mediterranean (where they are threatened) and other parts of the Eastern Atlantic (threats and status unknown)

Comments on key measures

ICES advised zero fishing/strict possible protection, and this advice is unlikely to change in the short or medium term

Both species are listed on the TACs and quotas regulations as 'non-retention'. This should deter targeting, but survivorship of discards is unknown. Degree of education for fishermen/fisheries officers and enforcement across their range unknown.

Some CPs have protected species (angel shark) in national waters. Awareness of the protected status to relevant stakeholders is unknown.

Within English & Welsh waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species and is of little benefit to white skate.

As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).

Comments on effectiveness of existing measures

Both species very heavily depleted and considered extirpated from former parts of range. Species-specific measures only brought in recently (e.g. TACs and quotas regulations since 2009).

The non-retention policy has not been controversial with fishing industry. But discard survival is unknown.

Angel shark is a unique looking species and so should be no identification problems, although in UK there may be confusion with the use of the common name 'monkfish' which can be applied to both angel shark and anglerfish.

White skate is rare and there is the high possibility of mis-identification, which will affect release from fisheries. Better identification material is needed, and is being addressed in various initiatives.



Due to short time of current measures, benefits to population growth are unknown.
Suggested areas for improvement.
<p>Education of how to identify white skate is needed (ID guides in preparation, and these need to be circulated in relevant languages)</p> <p>Education on the need and how to release these species required</p> <p>Need to better understand current distribution (and the home range of any relic populations and site-specific threats) before any spatial management can be applied.</p> <p>Dedicated and coordinated (e.g. through ICES) surveys to be able to identify current distributions could be usefully undertaken</p> <p>Former habitats could be used as a rationale in wider MPA selection. Presence of these species in existing MPAs needs to be evaluated</p> <p>Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state</p>

OUTPUTS FROM SESSION 1
<p>GROUP ELASMOBRANCHS      RAPPORTEUR J. ELLIS</p> <p>SPECIES/HABITAT (individual or grouped) COMMON SKATE COMPLEX</p>
Comments on <b>key</b> pressures/threats including any gaps
<p>Bycatch in demersal fisheries, with some localised targeting in recent years in EC waters, and the extent of this in non-EC waters, e.g. Norway and Iceland is unknown.</p> <p>Now subject to non-retention policy, discard mortality unknown.</p> <p>Discard mortality of specimens taken at depth may be high, but should be lower when caught in shallower waters</p> <p>Recreational angling locally important but impact unknown.</p> <p>This species (or parts of the complex) occur in the Mediterranean (where they are threatened) and other parts of the Eastern Atlantic (threats and status unknown)</p>
Comments on key measures
<p>ICES advised no target fishing and minimum bycatch</p> <p>The species-complex is listed on the TACs and quotas regulations as 'non-retention'. This should deter targeting, but survivorship of discards is unknown. Degree of education for fishermen/fisheries officers and enforcement across their range unknown.</p> <p>Within English &amp; Welsh waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species (e.g. thornback) and any benefit to common skate is questionable.</p> <p>As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).</p>

Comments on effectiveness of existing measures
<p>The species-complex is heavily depleted and considered extirpated from former parts of the inshore range. Species-specific measures only brought in recently (e.g. under the CFP since 2009).</p> <p>The non-retention policy has been controversial with the fishing industry. Degree of compliance is unknown and there may be some misreporting. It may have deterred target fishing but some vessels may land dead bycatch (e.g. as skinned wings). Discard survival unknown.</p> <p>Education to improve compliance and better enforcement needed</p> <p>Common skates and other long-nosed batoids can be mis-identified, which will affect release from fisheries. Better identification material is needed, and is being addressed in various initiatives.</p> <p>Due to short time of current measures, benefits to population growth are unknown.</p>
Suggested areas for improvement.
<p>Education of how to identify common skate is needed (ID guides in preparation, and need to be circulated in relevant languages and distributed). These guides will need to be revised and updated for the two 'common skate' species.</p> <p>Education on the need and how to release these species needed</p> <p>The importance of some inshore grounds is known, but we need to collate and verify the offshore areas of critical importance to the species complex (e.g. mating, spawning and nursery grounds) before any species-specific spatial (temporal) management can be applied. This information will apply to the species-complex, and more detailed species-specific information needs to be evaluated.</p> <p>Presence of these species in other existing/proposed MPAs needs to be evaluated. There may be some overlap with OSPAR habitats (e.g. sea mounts and other 'deep-sea' (down to 600 m) habitats, and sea-pen/burrowing megafauna, <i>Modiolus</i> beds on the continental shelf).</p> <p>Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state</p>

OUTPUTS FROM SESSION 1		
GROUP	ELASMOBRANCHS	RAPPORTEUR J. ELLIS
SPECIES/HABITAT (individual or grouped) THORNBAC RAY AND SPOTTED RAY (NORTH SEA ONLY)		
Comments on <u>key</u> pressures/threats including any gaps		
<p>Bycatch in demersal fisheries. Thornback ray subject to target fisheries in some areas.</p> <p>Recreational angling locally important (more so for thornback ray) but impact unknown.</p> <p>These species occur in the wider NE Atlantic and are not listed as threatened and declining</p>		
Comments on key measures		
ICES advised that these stocks in the North Sea are currently stable/increasing, although thornback ray has decreased in area of abundance and the state of thornback ray stocks outside IVc is uncertain.		

<p>These species are subject to a multispecies 'skates and rays' TAC, with species-specific landings required since 2008. The TAC has reduced in recent years and is now in line with recent landings. Vessels over 15 m are also subject to bycatch restrictions (25% of weight).</p> <p>Within some English inshore waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species (e.g. thornback ray).</p> <p>As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).</p>
Comments on effectiveness of existing measures
<p>TAC may now be restrictive, but the effect of the reduced TAC on population growth is unknown.</p> <p>The TAC is not species-specific, although species-specific quotas may be established in the future.</p> <p>Discard survival in UK inshore fisheries is considered high, but is unknown in other fisheries</p>
Suggested areas for improvement.
<p>Better species identification of landings is required (e.g. between thornback and starry ray, blonde and spotted ray). ID guides in preparation, and need to be circulated in relevant languages and distributed).</p> <p>The importance of inshore nursery grounds (e.g. Greater Thames Estuary) is known. The Thames stock needs to be managed appropriately as it is the main concentration of thornback ray in OSPAR region II. OSPAR and RFMO's should examine the benefits of, e.g. size restrictions, spatial/temporal gear restrictions in spawning areas (e.g. as part of an MPA) etc. to ensure the sustainability of this fishery. This assessment should also consider sole and cod, as these three species form the basis for the Greater Thames fisheries.</p> <p>Need to know more about other thornback ray stocks elsewhere in OSPAR region II (e.g. in The Wash, off NE England, and the inshore waters of mainland Europe).</p> <p>Presence of these species in other existing/proposed MPAs needs to be evaluated (e.g. offshore sand banks, Dogger Bank, <i>Sabellaria</i> reefs).</p> <p>Discard survival from offshore fisheries required</p> <p>Locations of spawning grounds need to be determined</p>

OUTPUTS FROM SESSION 1	
GROUP ELASMOBRANCHS	RAPPORTEUR J. ELLIS
SPECIES/HABITAT (individual or grouped) LEAFSCALE GULPER SHARK, GULPER SHARK AND PORTUGUESE DOGFISH	
Comments on <b>key</b> pressures/threats including any gaps	
<p>Have been targeted in fisheries, but reduced 2009 TAC and minimal TAC for bycatch for 2010. This may lead to discarding and discard mortality unknown.</p> <p>Effects of ghost-fishing from discarded gillnets needs to be evaluated</p>	

Comments on key measures
<p>ICES advised no target fishing and minimum bycatch</p> <p>The species-complex is listed on the TACs and quotas regulations and the TAC for 2010 will allow 10% of the much-reduced 2009 TAC for bycatch.</p> <p>Gillnet bans are in place for some areas and depth ranges</p> <p>Species-specific management has progressed to the full extent and so ecosystem management for the wider deep-water habitats are required.</p>
Comments on effectiveness of existing measures
<p>Reduced TAC may increase discarding in mixed fisheries, but will prevent target fishing (although IUU fishing may be an issue in international waters). Discard survival is unknown, but may be low.</p> <p>Effectiveness of gill net ban is unclear. It should have stopped target fishing (but observer coverage and enforcement is low) and rates of bycatch in gillnet fisheries operating from 200-600 m unclear. Deep-water shark bycatch is meant to be &lt;5%, but this could create a discard problem and enforcement is problematic.</p> <p>The TACs are for the wider deep-water shark community and not species-specific</p> <p>Due to short time of current measures, benefits to population growth are unknown.</p>
Suggested areas for improvement.
<p>Deep-water fisheries should be managed as a whole, i.e. more holistic deep-water management.</p> <p>Given the OSPAR etc. initiatives for orange roughy and various deep-water habitats, deep-water sharks may benefit from wider management initiatives.</p> <p>The importance of ecologically important habitats (e.g. nursery areas and sites with a high abundance of gravid females) is partially known, but further studies are required. OSPAR should support the planned PGNEACS initiative for internationally-coordinated surveys to better understand the distribution and life-histories of deep-water fishes etc.</p> <p>Presence of these species in other existing/proposed MPAs needs to be evaluated. There may be some overlap with OSPAR habitats (e.g. sea mounts and other deep-sea habitats), but the movements of the species within such sites may be difficult to evaluate.</p> <p>Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state</p> <p>Improved observer coverage in all deep-water fisheries, and more innovative enforcement methods (e.g. deck cameras)</p> <p>The taxonomy of the genus <i>Centrophorus</i> is problematic and needs to be addressed.</p>

OUTPUTS FROM SESSION 1		
GROUP	ELASMOBRANCHS	RAPPORTEUR J. ELLIS
SPECIES/HABITAT (individual or grouped) SPURDOG AND PORBEAGLE		
Comments on <b>key</b> pressures/threats including any gaps		
<p>Both are or have been targeted in fisheries, and are also important bycatch species in a variety of demersal/pelagic fisheries</p> <p>Although spurdog is still 'targeted' locally/seasonally in some inshore areas, the fleet of auto-liners (the main target fishery) has ceased to operate</p> <p>TACs and opportunities for target fisheries have been reduced, which may lead to discarding. Discard survival is unknown and will be variable. Discard survival in mixed trawl fisheries can be related to quantity of spurdog captured (higher mortality in large spurdog catches)</p> <p>Bycatch may be unavoidable given current fishing methods</p> <p>Both species taken in recreational fisheries, impact unknown</p>		
Comments on key measures		
<p>ICES advised zero TACs until sustainable exploitation rates identified, and measures to protect mature females</p> <p>TACs have been greatly reduced, measures to stop targeting (e.g. of mature females) are in place in either CFP (e.g. MLL in force for both species) or national measures (e.g. UK trip limits for porbeagle).</p>		
Comments on effectiveness of existing measures		
<p>Reduced TAC and MLL restrictions will reduce targeting, but could increase discarding in mixed fisheries. Discard survival in the various fisheries is unknown.</p> <p>Due to the short time of current (restrictive) measures, benefits to population growth are unknown.</p> <p>Estimating lengths of live fish can be difficult, and the utility of surrogate measures (e.g. snout length or inter-dorsal length) that can be measured more easily need to be evaluated.</p> <p>Until then, there will be issues of tolerance for enforcement.</p>		
Suggested areas for improvement.		
<p>More coordinated knowledge of the important sites of critical life-history stages (e.g. nursery grounds) is needed, as both are wide-ranging species and anecdotal information on such sites should be used with caution, and the temporal stability of potentially important sites would need to be verified for any species-specific MPAs.</p> <p>MPA selection for wide-ranging pelagic species will be controversial, but any critical habitats for these species should be a useful component of wider MPA selection. The utilisation of a MPA network for these species should be investigated</p> <p>Spurdog are taken in internationally-coordinated trawl surveys, but there are NO fishery-independent data for larger pelagic sharks (including porbeagle) in the area. OSPAR could usefully promote investigations by CPs and coordinated surveys (under the auspices of ICES) to better inform on (a) temporal trends in catch rates in main areas and (b) wider spatial investigations. Given that most RVs may not be suitable platforms for such surveys, industry collaboration would likely be required.</p>		

The efficacy of MLL restrictions would depend on discard survival and studies on this are required, as is the degree of compliance/enforcement. Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state.

Best practice for how to handle and return any non-retained fish needs to be evaluated with the fishing industry and the wider fishing community informed.

Improved observer coverage in those fisheries with a high probability of capture and/or more innovative enforcement methods (e.g. deck cameras) in such fisheries

#### OUTPUTS FROM SESSION 1

GROUP ELASMOBRANCHS RAPPORTEUR J.Ellis

SPECIES/HABITAT (individual or grouped) BASKING SHARK

Comments on **key** pressures/threats including any gaps

Was targeted in commercial fisheries, but they have ceased for several years.

In subsequent years, occasional bycatch may have been landed

Often in upper parts of the water column and may be involved in collisions with ships. Mortality associated with ship strikes unknown

Popular species for vessel-based tourism, which can be opportunistic, but impact unknown

The large fins of basking shark are high value.

As a planktivorous fishes, their distribution may be influenced by oceanographic changes (which can be influenced by climate change)

Comments on key measures

ICES has advised zero TACs until sustainable exploitation rates identified. Now listed as 'Prohibited species on TACs and quotas, and protected by some MS

Fisheries have ceased, now listed as a 'prohibited species' and so all fish should be discarded (except Norway, where dead discards must be landed). Discard levels and discard mortality unknown.

Protected in some waters by CPs.

Listed on CITES and CMS

Comments on effectiveness of existing measures

Fishing mortality greatly reduced (i.e. no longer any target fisheries). Those fisheries with the greater chance of bycatch need improved observer coverage or deck cameras to better understand incidence of bycatch and potential for discard survival (see below).

Due to the relatively short time of current (restrictive) measures, and problems with assessing stock size, benefits to population growth are unknown.

Suggested areas for improvement.
<p>Lack of knowledge of the important sites of critical life-history stages (e.g. nursery grounds), for this wide-ranging species. Anecdotal information on such sites should be used with caution, and potentially important sites verified. Hence, little opportunity for species-specific spatial management for all life-history stages at the present time.</p> <p>The known basking shark (seasonal) aggregations should be included in MPA site selection.</p> <p>There are NO fishery-independent data for larger pelagic sharks in the wider area, and sightings programmes (e.g. in UK, France) will have an inshore bias. OSPAR could usefully promote investigations on the recording of basking sharks from offshore industries to better inform on distribution. Further electronic tagging to better understand offshore movements and habitat use required</p> <p>Improved observer coverage in those fisheries with a high probability of capture and/or more innovative enforcement methods (e.g. deck cameras) in such fisheries. Need to be able to collate fishermen's observations on this species, and provide incentives for recording of discards and health state</p> <p>Basking shark now legally protected in some MS (and Crown dependencies), and OSPAR could encourage other CPs to protect the species on national legislation</p> <p>Basking sharks are sometimes stranded. An integrated approach to collecting information on such strandings (including cause of death and the collection of biological material to be stored in national museums) should be promoted. Such work has been done for marine mammals/sea turtles, and so should be extended to basking shark. This occurs in some CPs and should be extended to other CPs.</p> <p>Standardised code of conduct/best practice for vessels near basking shark needs to be developed and education for stakeholders.</p> <p>Bern Convention: extend basking shark listing to wider OSPAR waters</p>

OUTPUTS FROM SESSION 1
<p>GROUP ELASMOBRANCHS      RAPPORTEUR J.Ellis</p> <p>SPECIES/HABITAT (individual or grouped) ANGEL SHARK AND WHITE SKATE</p>
Comments on <b>key</b> pressures/threats including any gaps
<p>Bycaught in demersal fisheries (localised targeting probably stopped by the 1960s)</p> <p>Now both subject to non-retention policies, discard mortality unknown</p> <p>Impact of recreational angling unknown.</p> <p>Both species occur in the Mediterranean (where they are threatened) and other parts of the Eastern Atlantic (threats and status unknown)</p>

Comments on key measures
<p>ICES advised zero fishing/strict possible protection, and this advice is unlikely to change in the short or medium term</p> <p>Both species are listed on the TACs and quotas regulations as 'non-retention'. This should deter targeting, but survivorship of discards unknown. Degree of education for fishermen/fisheries officers and enforcement across their range unknown.</p> <p>Some CP have protected species (angel shark) in national waters. Awareness of the protected status to relevant stakeholders unknown.</p> <p>Within English &amp; Welsh waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species and is of little benefit to white skate.</p> <p>As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).</p>
Comments on effectiveness of existing measures
<p>Both species very heavily depleted and considered extirpated from former parts of range. Species-specific measures only brought in recently (e.g. under the CFP since 2009).</p> <p>The non-retention policy has not been controversial with fishing industry. But discard survival unknown.</p> <p>Angel shark is a unique looking species and so should be no identification problems, although in UK there may be confusion with the use of the common name 'monkfish' which can be applied to both angel shark and anglerfish.</p> <p>White skate is rare and there is the high possibility of mis-identification, which will affect release from fisheries. Better identification material is needed, and is being addressed in various initiatives.</p> <p>Due to short time of current measures, benefits to population growth are unknown.</p>
Suggested areas for improvement.
<p>Education of how to identify white skate is needed (ID guides in prep. And need to be circulated in relevant languages)</p> <p>Education on the need and how to release these species needed</p> <p>Need to better understand current distribution (and the home range of any relic populations and site-specific threats) before any spatial management can be applied.</p> <p>Dedicated and coordinated (e.g. through ICES) surveys to be able to identify current distributions could be usefully undertaken</p> <p>Former habitats could be used as a rationale in wider MPA selection. Presence of these species in existing MPAs needs to be evaluated</p> <p>Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state</p>



OUTPUTS FROM SESSION 1		
GROUP	ELASMOBRANCHS	RAPPORTEUR J.Ellis
SPECIES/HABITAT (individual or grouped) COMMON SKATE COMPLEX		
Comments on <b>key</b> pressures/threats including any gaps		
<p>Bycaught in demersal fisheries, with some localised targeting in recent years in EC waters, and the extent of this in non-EC waters, e.g. Norway and Iceland is unknown.</p> <p>Now subject to non-retention policy, discard mortality unknown.</p> <p>Discard mortality of specimens taken at depth may be high, but should be lower when caught in shallower waters</p> <p>Recreational angling locally important but impact unknown.</p> <p>This species (or parts of the complex) occur in the Mediterranean (where they are threatened) and other parts of the Eastern Atlantic (threats and status unknown).</p>		
Comments on key measures		
<p>ICES advised no target fishing and minimum bycatch</p> <p>The species-complex is listed on the TACs and quotas regulations as 'non-retention'. This should deter targeting, but survivorship of discards unknown. Degree of education for fishermen/fisheries officers and enforcement across their range unknown.</p> <p>Within English &amp; Welsh waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species (e.g. thornback) and any benefit to common skate is questionable.</p> <p>As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).</p>		
Comments on effectiveness of existing measures		
<p>The species-complex is heavily depleted and considered extirpated from former parts of the inshore range. Species-specific measures only brought in recently (e.g. under the CFP since 2009).</p> <p>The non-retention policy has been controversial with the fishing industry. Degree of compliance is unknown and there may be some misreporting. It may have deterred target fishing but some vessels may land dead bycatch (e.g. as skinned wings). Discard survival unknown.</p> <p>Education to improve compliance and better enforcement needed</p> <p>Common skates and other long-nosed batoids can be mis-identified, which will affect release from fisheries. Better identification material is needed, and is being addressed in various initiatives.</p> <p>Due to short time of current measures, benefits to population growth are unknown.</p>		
Suggested areas for improvement.		
<p>Education of how to identify common skate is needed (ID guides in prep., and need to be circulated in relevant languages and distributed). These guides will need to be updated for the various species.</p> <p>Education on the need and how to release these species needed</p> <p>The importance of some inshore grounds is known, but we need to collate and verify the offshore areas of critical importance to the species complex (e.g. mating, spawning and nursery grounds) before any species-specific spatial (temporal) management can be applied. This information will apply</p>		

to the species-complex, and more detailed species-specific information needs to be evaluated.

Presence of these species in other existing/proposed MPAs needs to be evaluated. There may be some overlap with OSPAR habitats (e.g. sea mounts and other 'deep-sea' (down to 600 m) habitats, and sea-pen/burrowing megafauna, Modiolus beds on the continental shelf).

Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state

OUTPUTS FROM SESSION 1	
GROUP	ELASMOBRANCHS
RAPPORTEUR	J.Ellis
SPECIES/HABITAT (individual or grouped)	THORNBAC RAY AND SPOTTED RAY (NORTH SEA)
Comments on <b>key</b> pressures/threats including any gaps	
<p>Bycaught in demersal fisheries. Thornback ray subject to target fisheries in some areas.</p> <p>Recreational angling locally important (more so for thornback ray) but impact unknown.</p> <p>These species occur in the wider NE Atlantic and are not listed as threatened and declining</p>	
Comments on key measures	
<p>ICES advised that these stocks in the North Sea are currently stable/increasing, although thornback ray has decreased in area of abundance and the state of thornback ray stocks outside IVc is uncertain.</p> <p>These species are subject to a multispecies 'skates and ray' TAC with species-specific landings required since 2008. The TAC has reduced in recent years and is now in line with recent landings. Vessels over 15 m are also subject to bycatch restrictions (25% of weight).</p> <p>Within some English inshore waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species (e.g. thornback).</p> <p>As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).</p>	
Comments on effectiveness of existing measures	
<p>TAC may now be restrictive and so the effects of TAC to benefit population growth is unknown.</p> <p>The TAC is not species-specific, although species-specific quotas may be established in the future.</p> <p>Discard survival in UK inshore fisheries is considered high, but is unknown in other fisheries</p>	
Suggested areas for improvement.	
<p>Better species identification of landings is required (e.g. between thornback and starry ray, blonde and spotted ray). ID guides in prep., and need to be circulated in relevant languages and distributed).</p> <p>The importance of inshore nursery grounds (e.g. Greater Thames Estuary) is known. The Thames stock needs to be managed appropriately as it the main concentration of thornback ray. OSPAR and RFMO's should examine the benefits of, e.g. size restrictions, spatial/temporal gear restrictions in spawning areas (e.g. as part of an MPA) etc. to ensure the sustainability of this fishery. This assessment should also consider sole and cod.</p>	

Need to know more about other thornback ray stocks (e.g. Wash/NE England, inshore waters of mainland Europe).

Presence of these species in other existing/proposed MPAs needs to be evaluated (e.g. offshore sand banks, Dogger Bank, Sabellaria reefs).

Discard survival from offshore fisheries required

Location of spawning grounds needed

#### OUTPUTS FROM SESSION 1

GROUP ELASMOBRANCHS RAPPOREUR J.Ellis

SPECIES/HABITAT (individual or grouped) LEAFSCALE GULPER SHARK, GULPER SHARK AND PORTUGUESE DOGFISH

Comments on **key** pressures/threats including any gaps

Have been targeted in fisheries, but reduced 2009 TAC and minimal TAC for bycatch for 2010. This may lead to discarding and discard mortality unknown.

Effects of ghost-fishing from discarded gillnets needs to be evaluated

Comments on key measures

ICES advised no target fishing and minimum bycatch

The species-complex is listed on the TACs and quotas regulations and the TAC for 2010 will allow 10% of the much-reduced 2009 TAC for bycatch.

Gillnet bans are in place for .... (SEE OTHER DEEPWATER TEXT)

Species-specific management has progressed to the full extent and so ecosystem management for the wider deep-water habitats are required.

Comments on effectiveness of existing measures

Reduced TAC may increase discarding in mixed fisheries, but will prevent target fishing (although IUU fishing may be an issue in international waters). Discard survival is unknown, but may be low.

Effectiveness of gill net ban is unclear. It should have stopped target fishing (but observer coverage and enforcement is low) and rates of bycatch in gillnet fisheries operating from 200-600 m unclear. Deep-water shark bycatch is meant to be <5%, but this could create a discard problem and enforcement is problematic.

The TACs are for the wider deep-water shark community and not species-specific

Due to short time of current measures, benefits to population growth are unknown.

Suggested areas for improvement.

Deep-water fisheries should be managed as a whole.

Given the OSPAR etc. initiatives for orange roughy and DW habitats etc., deep-water sharks may benefit from wider management initiatives.

The importance of ecologically important habitats (e.g. nursery areas and sites with a high abundance of gravid females) is partially known, but further studies are required. OSPAR should support the

planned PGNEACS initiative for internationally-coordinated surveys to better understand the distribution and life-histories of deep-water fishes etc.

Presence of these species in other existing/proposed MPAs needs to be evaluated. There may be some overlap with OSPAR habitats (e.g. sea mounts and other deep-sea habitats), but the movements of the species within such sites may be difficult to evaluate.

Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state

Improved observer coverage in all deep-water fisheries, and more innovative enforcement methods (e.g. deck cameras)

The taxonomy of the genus *Centrophorus* is problematic and needs to be addressed.

#### OUTPUTS FROM SESSION 1

GROUP ELASMOBRANCHS RAPPORTEUR J.Ellis

SPECIES/HABITAT (individual or grouped) ANGEL SHARK AND WHITE SKATE

Comments on **key** pressures/threats including any gaps

Bycaught in demersal fisheries (localised targeting probably stopped by the 1960s)

Now both subject to non-retention policies, discard mortality unknown

Impact of recreational angling unknown.

Both species occur in the Mediterranean (where they are threatened) and other parts of the Eastern Atlantic (threats and status unknown)

Comments on key measures

ICES advised zero fishing/strict possible protection, and this advice is unlikely to change in the short or medium term

Both species are listed on the TACs and quotas regulations as 'non-retention'. This should deter targeting, but survivorship of discards unknown. Degree of education for fishermen/fisheries officers and enforcement across their range unknown.

Some CP have protected species (angel shark) in national waters. Awareness of the protected status to relevant stakeholders unknown.

Within English & Welsh waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species and is of little benefit to white skate.

As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).

Comments on effectiveness of existing measures

Both species very heavily depleted and considered extirpated from former parts of range. Species-specific measures only brought in recently (e.g. under the CFP since 2009).

The non-retention policy has not been controversial with fishing industry. But discard survival unknown.

Angel shark is a unique looking species and so should be no identification problems, although in UK there may be confusion with the use of the common name 'monkfish' which can be applied to both

angel shark and anglerfish.
White skate is rare and there is the high possibility of mis-identification, which will affect release from fisheries. Better identification material is needed, and is being addressed in various initiatives.
Due to short time of current measures, benefits to population growth are unknown.
Suggested areas for improvement.
Education of how to identify white skate is needed (ID guides in prep. And need to be circulated in relevant languages)
Education on the need and how to release these species needed
Need to better understand current distribution (and the home range of any relic populations and site-specific threats) before any spatial management can be applied.
Dedicated and coordinated (e.g. through ICES) surveys to be able to identify current distributions could be usefully undertaken
Former habitats could be used as a rationale in wider MPA selection. Presence of these species in existing MPAs needs to be evaluated
Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state

OUTPUTS FROM SESSION 1		
GROUP	ELASMOBRANCHS	RAPPORTEUR J.Ellis
SPECIES/HABITAT (individual or grouped)		COMMON SKATE COMPLEX
Comments on <b>key</b> pressures/threats including any gaps		
Bycaught in demersal fisheries, with some localised targeting in recent years in EC waters and the extent of this in non-EC waters, e.g. Norway and Iceland is unknown.		
Now subject to non-retention policy, discard mortality unknown.		
Discard mortality of specimens taken at depth may be high, but should be lower when caught in shallower waters.		
Recreational angling locally important but impact unknown.		
This species (or parts of the complex) occur in the Mediterranean (where they are threatened) and other parts of the Eastern Atlantic (threats and status unknown)		
Comments on key measures		
ICES advised no target fishing and minimum bycatch		
The species-complex is listed on the TACs and quotas regulations as 'non-retention'. This should deter targeting, but survivorship of discards unknown. Degree of education for fishermen/fisheries officers and enforcement across their range unknown.		
Within English & Welsh waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species (e.g. thornback) and any benefit to common skate is questionable.		
As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).		

Comments on effectiveness of existing measures
<p>The species-complex is heavily depleted and considered extirpated from former parts of the inshore range. Species-specific measures only brought in recently (e.g. under the CFP since 2009).</p> <p>The non-retention policy has been controversial with the fishing industry. Degree of compliance is unknown and there may be some misreporting. It may have deterred target fishing but some vessels may land dead bycatch (e.g. as skinned wings). Discard survival unknown.</p> <p>Education to improve compliance and better enforcement needed</p> <p>Common skates and other long-nosed batoids can be mis-identified, which will affect release from fisheries. Better identification material is needed, and is being addressed in various initiatives.</p> <p>Due to short time of current measures, benefits to population growth are unknown.</p>
Suggested areas for improvement.
<p>Education of how to identify common skate is needed (ID guides in prep., and need to be circulated in relevant languages and distributed). These guides will need to be updated for the various species. Education on the need and how to release these species needed</p> <p>The importance of some inshore grounds is known, but we need to collate and verify the offshore areas of critical importance to the species complex (e.g. mating, spawning and nursery grounds) before any species-specific spatial (temporal) management can be applied. This information will apply to the species-complex, and more detailed species-specific information needs to be evaluated.</p> <p>Presence of these species in other existing/proposed MPAs needs to be evaluated. There may be some overlap with OSPAR habitats (e.g. sea mounts and other 'deep-sea' (down to 600 m) habitats, and sea-pen/burrowing megafauna, Modiolus beds on the continental shelf).</p> <p>Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state</p>

OUTPUTS FROM SESSION 1	
GROUP	ELASMOBRANCHS
	RAPPORTEUR J.Ellis
SPECIES/HABITAT (individual or grouped)	THORNBAC RAY AND SPOTTED RAY (NORTH SEA)
Comments on <b>key</b> pressures/threats including any gaps	
<p>Bycaught in demersal fisheries. Thornback ray subject to target fisheries in some areas.</p> <p>Recreational angling locally important (more so for thornback ray) but impact unknown.</p> <p>These species occur in the wider NE Atlantic and are not listed as threatened and declining</p>	
Comments on key measures	
<p>ICES advised that these stocks in the North Sea are currently stable/increasing, although thornback ray has decreased in area of abundance and the state of thornback ray stocks outside IVc is uncertain.</p> <p>These species are subject to a multispecies 'skates and ray' TAC with species-specific landings required since 2008. The TAC has reduced in recent years and is now in line with recent landings. Vessels over 15 m are also subject to bycatch restrictions (25% of weight).</p>	

<p>Within some English inshore waters, some SFCs have a MLS (all skates). This was brought in for the main commercial species (e.g. thornback).</p> <p>As a demersal species, they may benefit from more general management measures brought in for various fisheries (e.g. effort control).</p>
Comments on effectiveness of existing measures
<p>TAC may now be restrictive and so the effects of TAC to benefit population growth is unknown.</p> <p>The TAC is not species-specific, although species-specific quotas may be established in the future.</p> <p>Discard survival in UK inshore fisheries is considered high, but is unknown in other fisheries</p>
Suggested areas for improvement.
<p>Better species identification of landings is required (e.g. between thornback and starry ray, blonde and spotted ray). ID guides in prep., and need to be circulated in relevant languages and distributed).</p> <p>The importance of inshore nursery grounds (e.g. Greater Thames Estuary) is known. The Thames stock needs to be managed appropriately as it the main concentration of thornback ray. OSPAR and RFMO's should examine the benefits of, e.g. size restrictions, spatial/temporal gear restrictions in spawning areas (e.g. as part of an MPA) etc. to ensure the sustainability of this fishery. This assessment should also consider sole and cod.</p> <p>Need to know more about other thornback ray stocks (e.g. Wash/NE England, inshore waters of mainland Europe).</p> <p>Presence of these species in other existing/proposed MPAs needs to be evaluated (e.g. offshore sand banks, Dogger Bank, Sabellaria reefs).</p> <p>Discard survival from offshore fisheries required</p> <p>Location of spawning grounds needed</p>

OUTPUTS FROM SESSION 1		
GROUP	ELASMOBRANCHS	RAPPORTEUR J.Ellis
SPECIES/HABITAT (individual or grouped)	LEAFSCALE GULPER SHARK, GULPER SHARK AND PORTUGUESE DOGFISH	
Comments on <b>key</b> pressures/threats including any gaps		
<p>Have been targeted in fisheries, but reduced 2009 TAC and minimal TAC for bycatch for 2010. This may lead to discarding and discard mortality unknown.</p> <p>Effects of ghost-fishing from discarded gillnets needs to be evaluated</p>		
Comments on key measures		
<p>ICES advised no target fishing and minimum bycatch</p> <p>The species-complex is listed on the TACs and quotas regulations and the TAC for 2010 will allow 10% of the much-reduced 2009 TAC for bycatch.</p> <p>Gillnet bans are in place for .... (SEE OTHER DEEPWATER TEXT)</p> <p>Species-specific management has progressed to the full extent and so ecosystem management for</p>		

the wider deep-water habitats are required.
Comments on effectiveness of existing measures
<p>Reduced TAC may increase discarding in mixed fisheries, but will prevent target fishing (although IUU fishing may be an issue in international waters). Discard survival is unknown, but may be low.</p> <p>Effectiveness of gill net ban is unclear. It should have stopped target fishing (but observer coverage and enforcement is low) and rates of bycatch in gillnet fisheries operating from 200-600 m unclear. Deep-water shark bycatch is meant to be &lt;5%, but this could create a discard problem and enforcement is problematic.</p> <p>The TACs are for the wider deep-water shark community and not species-specific</p> <p>Due to short time of current measures, benefits to population growth are unknown.</p>
Suggested areas for improvement.
<p>Deep-water fisheries should be managed as a whole.</p> <p>Given the OSPAR etc. initiatives for orange roughy and DW habitats etc., deep-water sharks may benefit from wider management initiatives.</p> <p>The importance of ecologically important habitats (e.g. nursery areas and sites with a high abundance of gravid females) is partially known, but further studies are required. OSPAR should support the planned PGNEACS initiative for internationally-coordinated surveys to better understand the distribution and life-histories of deep-water fishes etc.</p> <p>Presence of these species in other existing/proposed MPAs needs to be evaluated. There may be some overlap with OSPAR habitats (e.g. sea mounts and other deep-sea habitats), but the movements of the species within such sites may be difficult to evaluate.</p> <p>Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state</p> <p>Improved observer coverage in all deep-water fisheries, and more innovative enforcement methods (e.g. deck cameras)</p> <p>The taxonomy of the genus Centrophorus is problematic and needs to be addressed.</p>

OUTPUTS FROM SESSION 1	
GROUP	Diadromous fish species
	RAPPORTEUR A.Curd
SPECIES/HABITAT (individual or grouped)	Diadromous fish species
Comments on <b>key</b> pressures/threats including any gaps	
Chemical contamination	
Changes in natural estuarine processes	
Hydroelectric power plant turbines	
Obstacles to migration (both ways- downstream/upstream)	
Climate change :direct and indirect	



Comments on key measures
<p>Water Framework Directive</p> <p>Various SAPs: European eel and salmon SAP's</p> <p>International SAP Sturgeon (Bern Convention)</p> <p>* restocking is not necessarily a solution – dilution and decrease in diversity of the gene pool, pathogen/parasite issues, increased straying. The large-scale efficiency is unknown, yet it is an EC obligation.</p> <p>[E.g.: salmon homing strict on a regional scale, but not strict on a finer (river-by-river scale).]</p>
Comments on effectiveness of existing measures
Unable to assess: too early for results of WFD and national SAP's (except for Atlantic salmon)
Suggested areas for improvement.
<p>COMMON ISSUE: lack of knowledge on marine data</p> <ul style="list-style-type: none"> <li>-EEL: experimental fisheries maintained to monitor populations</li> <li>-Improved marine data collection and dissemination for all species: increased fisheries observers – not just landings data but on-board observers (discards)</li> <li>-Improved connectivity in riverine habitats</li> <li>-Increased &amp; improved coordination at an international level</li> <li>-Salmon: increased cooperation with NASCO</li> </ul>

OUTPUTS FROM SESSION 1	
GROUP Other Commercially important species	RAPPORTEUR F. Gauthiez
SPECIES/HABITAT (individual or grouped) COD	
Comments on <b>key</b> pressures/threats including any gaps	
<p><b>For all stocks:</b> the main pressure is fishing; but ICES advice to OSPAR says that acidification of the oceans and the release of hazardous substances cause endocrine disruption that affects the reproductive capacity of the stocks.</p> <p><b>Situation of the different stocks w/r to the level of spawning biomass and fishing mortality:</b></p> <p>North Sea, Eastern Channel, Skagerrak - Reduced reproductive capacity, overfishing</p> <p>West of Scotland - Reduced reproductive capacity, status of fishing mortality unknown</p> <p>Irish Sea - Reduced reproductive capacity, overfishing</p> <p>Celtic Sea - Unknown :</p> <p>Gaps</p> <p>Lack of reliable data for some stocks, especially in the Celtic Sea</p> <p>Inaccuracy of available data (e.g. discards) that affects adversely the precision of stock assessment and then management measures</p>	

Other
Difficulty in providing multispecies advice (cod is taken in mixed fisheries with other species, like haddock, whiting, saithe, etc.)
Comments on key measures and on effectiveness of existing measures
<p>For North Sea, Eastern Channel, Skagerrak, West of Scotland, Irish Sea: Multiannual management plans were adopted in 2008 and entered into force in 2009. It is too early to assess the effectiveness of these plans. Concerning North Sea, ICES said that the management plan, if implemented, should allow recovery of the stock with a high level of probability.</p> <p>For Celtic Sea: a TAC is set (with no management plan). A management plan is currently discussed at EU level. Non reliability of data could be due to problems of compliance with respect to catch limits.</p> <p>MPAs are set in some cases.</p>
Comments on effectiveness of existing measures
Suggested areas for improvement.

OUTPUTS FROM SESSION 1	
GROUP Other Commercially important species	RAPPORTEUR F. Gauthiez
SPECIES/HABITAT (individual or grouped) orange roughy	
Comments on <b>key</b> pressures/threats including any gaps	
<p>Key pressure :</p> <p>direct effects of fishing (catches)</p> <p>indirect effects of fishing and surveys (fish stocks, oil and gas) on habitats that are critical to status of the stock</p>	
Comments on key measures	
<p>Existing measures</p> <p>EU : zero TAC from 2010 onwards</p> <p>Norway : zero TAC since 2007</p> <p>Iceland: ?</p> <p>Faroe / Russia: ?</p>	
Comments on effectiveness of existing measures	
Efficiency of bans : Not yet measurable	
Suggested areas for improvement.	
Bans should be extended to all countries fishing in the NEA	

OUTPUTS FROM SESSION 1	
GROUP	Other Commercially important species      RAPPORTEUR F.Gauthiez
SPECIES/HABITAT (individual or grouped)	bluefin tuna
Comments on <b>key</b> pressures/threats including any gaps	
Key pressure = fishing Stock overfished and depleted	
Comments on key measures	
New management plan adopted in 2008 by ICCAT	
Comments on effectiveness of existing measures	
Problems clearly identified: TAC levels different from levels recommended by SCRS Non-compliance with catch limits, IUU fishing Lack of measures concerning recreational fisheries Deficiencies in controls (fishing, farming, processing exports, transport, trade) – global problem Fleet overcapacity	
Suggested areas for improvement.	

OUTPUTS FROM SESSION 1	
GROUP	Deep sea      RAPPORTEURS: Phil Weaver, Mark Tasker
SPECIES/HABITAT (individual or grouped)	Deep water habitats
Comments on <b>key</b> pressures/threats including any gaps	
Fishing is key current pressure. Ocean acidification needs to be better addressed and will be a key pressure. Other pressures relatively minor.  Greater consistency in assessment needed across habitats  Insufficient knowledge of deep sea  Additional notes also provided by group	
Comments on {existing} key measures	
Greater consistency in assessment needed across habitats  Added measures:  VME measures  General Norwegian ban on deliberate <i>Lophelia</i> impact  Additional notes also provided by group.	

Comments on effectiveness of existing measures
<p>SEA/EIA for oil/cable industries. Guidance for scientific research. Generally effective</p> <p>NEAFC/national closures of fisheries. Application very patchy; Generally effective where permanent closure in place. Insufficient closures both in time and space. Probably less than 1% covered and often short term.</p> <p>National closures for biodiversity. Few exist (and very new), likely to be effective</p> <p>VME measures. Ineffective -</p> <p>OSPAR code of conduct. Very effective (for scientific research) (note this is new)</p> <p>[Mapping of habitats]</p> <p>General Norwegian ban on deliberate <i>Lophelia</i> impact. Effectiveness patchy (where <i>Lophelia</i> known to occur); effectiveness will increase as further areas mapped.</p>
Suggested areas for improvement.
<p>NEAFC/national closures of fisheries: Apply more broadly (following mapping) and made permanent and monitored/assessed</p> <p>National closures for biodiversity: Apply more broadly (following mapping) and made permanent and monitored/assessed</p> <p>VME measures. Replace with other measures (e.g. freeze on current fisheries footprint – problem with defining at small spatial scales).</p> <p>General Norwegian ban on deliberate <i>Lophelia</i> impact. Extend to other deep water habitats (needs mapping)</p>

OUTPUTS FROM SESSION 1	
GROUP Coastal & continental shelf habitats	RAPPORTEUR Cecilia Lindblad David Connor
SPECIES/HABITAT (individual or grouped) Sea-pen and burrowing megafauna communities	
Comments on <b>key</b> pressures/threats including any gaps	
<p>Eutrophication (e.g. from fish aquaculture) in general (especially in Kattegat) Organic pollution</p> <p>Bottom trawling</p> <p>(Additional notes provided by group in spreadsheet)</p>	
Comments on key measures	
Comments on effectiveness of existing measures	
Suggested areas for improvement.	

OUTPUTS FROM SESSION 1	
GROUP Coastal & continental shelf habitats Lindblad	RAPPORTEUR David Connor , Cecilia
SPECIES/HABITAT (individual or grouped) Intertidal mudflats	
Comments on <b>key</b> pressures/threats including any gaps	
Sea level rise Run off from land, point discharges from e.g. industries effluents, toxic substances Oil spill Eutrophication Land claim and constructions, ports etc. Changes in hydrodynamic due to constructions (bridges) Dredging, fishing, Non-native species Pacific oyster in Wadden sea (Additional notes provided by group in spreadsheet)	
Comments on key measures	
WFD should cover pollution measurements Habitat Directive SACs not covering shell fish	
Comments on effectiveness of existing measures	
Suggested areas for improvement.	

OUTPUTS FROM SESSION 1	
GROUP Coastal & continental shelf habitats	RAPPORTEUR David Connor, Cecilia Lindblad
SPECIES/HABITAT (individual or grouped) <i>Zostera</i> beds	
Comments on <b>key</b> pressures/threats including any gaps	
Eutrophication Trampling dredging Boating activity; fast leisure boats Anchoring Fishing gear Land claim dredging increased turbidity Wasting diseases (Additional notes provided by group in spreadsheet)	
Comments on key measures	
Comments on effectiveness of existing measures	
Suggested areas for improvement.	

OUTPUTS FROM SESSION 1	
GROUP Coastal and continental shelf habitats	RAPPORTEUR Cecilia Lindblad David Connor
SPECIES/HABITAT (individual or grouped) Flat oyster & flat oyster beds	
Comments on <b>key</b> pressures/threats including any gaps	
Water quality ; Toxic substances, e.g. TBT, Oil Physical damage habitat disturbance and seabed activity due to construction Demersal trawling ; Overfishing Non-native sp. Japanese oyster, competition for habitat Climate changes as acidification (Additional notes provided by group in spreadsheet)	

Comments on key measures
Comments on effectiveness of existing measures
Suggested areas for improvement.

## 1.2 Required new actions & priority listings (Session 2 outputs)

OUTPUTS FROM SESSION 2	
<u>GROUP</u>	BIRDS & MARINE TURTLES
<u>RAPPORTEUR</u>	Kate Tanner
<u>SPECIES/HABITAT</u> (individual or grouped)	<b>Balearic Shearwater</b>
Required new actions and measures	
<p>Species Action Plan – Not practical to have an OSPAR AP along with one from EC, Barcelona Convention (centred on breeding population) and ACAP eventually.</p> <p>Important for OSPAR and Barcelona Convention to interact and coordinate. Request for OSPAR Commission to cooperate and coordinate with the Barcelona convention on that species.</p> <p>All the relevant parties must be involved in the writing of the Action Plan – not just Spain. Needs to be relevant across the OSPAR Area.</p> <p>Workshop to bring all experts together and all relevant Conventions etc. people who have expertise in legal fields and other fields, international fora, fisheries. Very few people around the world have expertise on the species and very few have real data coming from the field. Should include fishermen as well. All who are feeling concerned. Timescale is an issue – sounds like this should happen now rather than in 1 or 2 years' time. A politically attractive measure but can we wait long enough for this to happen?</p> <p>Monitoring fisheries – observers on board. Bird bycatch must be landed and kept. Difficult maybe to observe Balearic shearwater bycatch as could be only rare mass mortalities that are causing the problem.</p> <p>Need to know where are the boats going, how many hooks are they using, what bait, what time of day do they fish, what other species are being put at risk. Many fishermen obliged to have GPS on board anyway so that information might be around? But longliners are generally smaller than those obliged to use GPS in at least Spain and France.</p> <p>Need to go out and accurately paint a picture of the fishing activities that are active in the area. About monitoring the risk. To understand for other species of concern e.g. Cory's shearwater and turtles. It is a regulated activity – they are issuing licences, but getting no feedback.</p> <p>Monitoring the birds themselves – strengthen and support existing programmes. Maintain what is being done at the moment.</p> <p>ACAP listing – OSPAR should encourage CPs to sign and ratify ACAP. OSPAR Recommendation? Especially key countries such as Portugal and Ireland.</p> <p>Maybe ACAP and OSPAR could collaborate? Action Plan – observers programme, all relevant to both. Seek ways of collaboration.</p> <p>Possibility to ratify ACAP based on the number of vessels you have operating in waters where the species occur.</p>	

Commitment to monitor fishery, commitment to take action if you discovery bycatch, commitment to protect the species on land, commitment to cooperate with other countries, reports for every meeting describing your activities in the field of conservation for this species.

EC POA – could OSPAR encourage this to come into being? Then CPs would have to have national POAs to reduce bycatch. Should be encouraged to draw up their own NPOA seabirds.

Whenever there is a new activity – impact assessment – they should take into account the OSPAR List of species. Whenever you do an impact assessment. Incorporate into impact assessments. OSPAR need to promote its list and the geographic distribution of these species. E.g. Balearic shearwater is not just a Balearic problem. Action for OSPAR.

MPAs – worth having on the list but the problem is that we don't know where they should be at the moment. Need a better understanding of the species. We have good information on the general distribution and general movements of the species. Problem lies with identifying the exact causes of mortality.

All go through the Straits of Gibraltar so we know that we could justify an MPA there even if they don't stay for very long. A key bottleneck.

Further research – electronic tracking (e.g. satellite or GIS tagging) of birds could help to locate the areas where they interact with fisheries, hence facilitating mitigation [would not want to prioritise resources into other things that are not very urgent]. We have very little information on heavy metal pollution – there is no protocol for this. Would be good to get hold of any dead bird outside the Med to have it analysed for heavy metals.

We still need to increase our knowledge on where the birds are – where they are feeding.

Something about decrease in availability of prey? Could link with the kittiwake.

List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (\*).

Measure	Lead	Objective	Priority
Action Plan – new harmonised and comprehensive	OSPAR? IUCN ACAP?	AC/SU/RT	?
Workshop on species			
Cooperation with Barcelona	OSPAR	AC	*
Monitoring fishing – observers	OSPAR	SU	*
Monitoring the birds	OSPAR & CPs	SU	*
ACAP Listing- support	OSPAR	AC/RT	*
Ratify ACAP	CPs – Portugal, Ireland (NL/BE?)	RT	*
EC POA – encourage	OSPAR	AC/RT	
NPOAs seabirds	CPs	AC/RT	
Awareness raising	OSPAR		*
MPAs	CPs		*
Further research (promote)	OSPAR & CPs		



OUTPUTS FROM SESSION 2				
<u>GROUP</u>	BIRDS & MARINE TURTLES		<u>RAPPORTEUR</u>	Kate Tanner
(individual or grouped) <b>Black-legged Kittiwake</b>				
Required new actions and measures				
<p>Monitoring – do not try and extend surveys all colonies. It will only be done roughly and might not be possible at all. Look at approach from SEAPOP in Norway and seabird monitoring in the UK. Target the monitoring to assess the data and understand the mechanisms behind it. Need to cover demographic data, monitor: Number of pairs, adult survival, reproduction rate.</p> <p>Do this for carefully selected colonies over the range of the geographical area of the different countries. Will put you in a much better position to monitor the fluctuations in the population.</p> <p>Generating information on wintering quarters. We need to know about geographical differences in adult mortality, reproduction rate etc. and tie that to geographical information on wintering quarters. E.g. can you tie rapid adult mortality in one area to wintering grounds in another area? Could be done with tags/data loggers (some of this work already going on). But could also be done with survey. Could be tied to Nordic Council of Ministers, Arctic Council (CAFF – CBird), ICES WGSE</p> <p>Not so much an action for OSPAR to do, but to support ongoing programmes and ask for their information, and to encourage undertaking of this kind of work.</p> <p>OSPAR's Seabird indicator – Seabird population trends as an index of seabird community health. Proposed single EcoQO on changes in breeding seabird abundance. This has been developed and should be implemented.</p> <p>Control hunting in west Greenland – still getting 10,000 – 20,000 birds a year which is a huge reduction but still a potential problem. OSPAR could recommend more controls on hunting in Greenland- but are Greenland likely to listen? Instead could be a less direct recommendation to Contracting Parties to reduce activities that are likely to be having a negative effect on kittiwake populations. This would cover hunting in Greenland.</p> <p>Control conditions in breeding colonies – protect from predators e.g. eagles. OSPAR Recommendation to the CPs. Could also include the need for OSPAR MPAs to protect the sea areas around the colonies that are known to be important for the birds (NB particularly relevant for non-EU countries that are not setting up SPAs).</p>				
List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (*).				
Measure	Lead	Objective	Priority	
Coordinated monitoring programmes – targeted at certain breeding colonies	OSPAR & CPs	SU	*	
Wintering quarter info: encourage further research	OSPAR [Nordic COM, CAFF CBird, ICES WGSE]	SU	*	

Implement EcoQO on seabird population trends	OSPAR & CPs	SU	*
Recommend reduction in some activities	OSPAR (to CPs)	RT	*
Recommend protection of breeding colonies (including MPAs)	OSPAR (to CPs)	RT	*

OUTPUTS FROM SESSION 2	
<u>GROUP</u> BIRDS & MARINE TURTLES	<u>RAPPORTEUR</u> Kate Tanner
<u>SPECIES/HABITAT</u> (individual or grouped)	<b>Leatherback Turtle</b>
Required new actions and measures	
<p>Aerial survey – effort based – in key areas – to produce a reliable population assessment in the OSPAR area, conducted e.g. every 3 years. Would want that to be combined with other species if possible – as could pick up cetaceans/birds as well. Airplane might only be able to take 2 or 3 observers and for most methodologies you'd want 2 observers for you animal, so there might be practical issues with combining the monitoring. July – Aug- Sept would be ideal for turtles. Should also look for prey (jellyfish).</p> <p>Prey survey - need to observe jellyfish from ships as well as adding them in to the aerial survey. Lower priority than the aerial survey programme though.</p> <p>Longline fisheries – all in the OSPAR Region should adopt turtle-friendly hooks. Replace J hooks with circle hooks. Completely reduced turtle bycatch but doesn't reduce the catch for the target species. NB Some studies that show it doesn't work always for loggerheads – so difficult to sell to the fishermen?</p> <p>Fisheries observers (on longliners) - would be ideal to have observers on the vessels. General coverage of the fishery. Not a specific turtle observer – someone who's trained in all species? Making sure that the data gets back to a single source/online database that has free access.</p> <p>Observer could collect data on the fishery – look at aggregation of birds, number of birds around boat, identify caught birds to species and age class – should use one observer. Need bird observer trained up to do turtle observation. Bycatch retention doesn't apply for turtles as they're too big. Also some turtles will still be alive so can be put back.</p> <p>Strengthen support for existing turtle sightings database and observatories. Coordination of data across the OSPAR area – into central database. At present there is a UK &amp; Ireland database, and a French one. Single online site would be useful (though issues of sharing databases).</p> <p>Especially need support for the work on strandings – need to know if we suddenly start recording more and more strandings (a sign that something's going wrong). Protocol put in place between all OSPAR CPs – if a turtle strands then you know exactly what data to collect and how to do it and all the information is put back into a single place. Need the relevant expertise in place – need a vet to help determine a cause of death. Need more information about putrefaction behaviour – how long have stranded turtles been dead? Could be very interesting to take the position of a leatherback stranded and time of death and use current information</p>	

etc. to see where they died?

Cover – species, size, age, cause of death, time of death, genetic analysis (population of origin)

Should apply to strandings & bycatch.

Need to ensure that the policy actually works. Bonn Convention meeting – an end to meetings where there is lots of talk and nothing happens – need concrete actions to come out of the meetings. Reporting duty on the CPs. Reporting from the Contracting Parties (would stretch across whole OSPAR list).

Tagging – we've only limited data on their movements in the north east Atlantic (5 or 6 tracks only so far). Need a big framework project. Tag them in La Rochelle? If you had an aerial survey programme in place that could inform the tagging team. Logistics behind that is huge. A lot of time and effort for little results. Can tag them off Canada? Would require a big framework research programme.

List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (\*).

Measure	Lead	Objective	Priority
Aerial Survey programme (Portugal Sp Fr UK Ir)	OSPAR & CPs	SU	*
Prey survey (jellyfish)	OSPAR & CPs	SU	
Longline fisheries circle hooks [needs clarification]	OSPAR, CPs?	RT	*?
Longline fisheries observers	OSPAR, EC, NEAFC	SU	*
Strengthen existing sightings and strandings work	CPs?	SU	*
Protocol for information from dead turtles	OSPAR		*
Future tagging	?		
Reporting from CPs	CPs (coord by OSPAR)	AC/RT	*

#### OUTPUTS FROM SESSION 2

GROUP ELASMOBRANCHS RAPPORTEUR JIM ELLIS

SPECIES/HABITAT (individual or grouped) **BASKING SHARK**

Required new actions and measures

Identify areas of high abundance and/or other critical habitat to delineate potential MPAs

Statutory protection by all CP

Continue strict regulation of trade (i.e. CITES)

Improve fisheries bycatch data and fate/discard survival (e.g. through logbooks)

<p>Coordinating best practice for releasing bycatch</p> <p>Coordinating best practice for boat users / nature tourism, and develop a coordinated code of conduct</p> <p>Scientific observer coverage for those fisheries with high probability of capture</p> <p>Coordinate potential offshore sighting schemes and extend existing (inshore/coastal) sighting schemes to wider OSPAR area</p> <p>Electronic tagging to better understand offshore movements and habitat use</p> <p>Coordinate the biological sampling of stranded basking sharks (including cause of death and the collection of biological material to be stored in national museums)</p> <p>Bern Convention: extend basking shark listing to wider OSPAR waters</p>			
<p>List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC &amp; CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (*).</p>			
Measure	Lead	Objective	Priority
Critical habitat	OC & CPs	SM, SU	*
Statutory protection	CPs	PT, AC	*
Trade regulation	EU & CITES	PT	
Improve fisheries data	ICES, STECF, NEAFC, CPs	PT, AC, SU	
Best practice for bycatch release	STECF, CPs, FPOs	RT, PT, AC	
Best practice for boat users	NGOs, CPs, IMO	RT, PT, AC, SM	*
Scientific observer coverage	EU, CPs	AC, SU, SM	
Coordinate offshore sighting schemes	OC	SM, AC, SU	
Electronic tagging	CPs	SU (SM, PT)	
Sampling of stranded individuals	CPs	SU	
Bern Convention listing	OC, EU	PT	
<p>OUTPUTS FROM SESSION 2</p> <p><u>GROUP</u> ELASMOBRANCHS      <u>RAPPORTEUR</u> JIM ELLIS</p> <p>SPECIES/HABITAT (individual or grouped) <b>ANGEL SHARK/ WHITE SKATE</b></p>			
<p>Required new actions and measures</p> <p>Coordinated surveys of former (inshore) range to identify any remaining populations, and collation of recent and historical information. These studies could also engage with recreational anglers</p> <p>Non-destructive ecological studies of relic populations to better inform on spatial dynamics (e.g. electronic tagging) and reporting of catch. If there are limited movements, then they would be prime candidates for species-specific MPA selection. These species should also be considered as a rationale for the OSPAR MPA networks.</p>			

Both species were recommended to have 'highest possible protection' and are now not to be retained in fisheries. Angel shark legally protected in one MS (UK). Other MS should consider similar protection

Education of how to identify white skate is needed (ID guides in prep. and need to be circulated in relevant languages)

Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state, and better knowledge of discard survival

Education on the need and best practice for release these species needs to be circulated

List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (\*).

Measure	Lead	Objective	Priority
Inshore surveys of former habitats	CPs, ICES, OC	SU, SM, RT, PT	**
Electronic tagging/spatial dynamics	CPs, ICES, OC	SU, SM, RT, PT	*
Full species protection in	OC, CPs	RT, PT, AC	**
Education of white skate ID	CPs, RFMOs, FPOs	AC, RT, PT	*
Collation of fisher knowledge	CPs, FPOs	SU, SM, RT, PT	*
Best practice for discard release	CPs, FPOs, OC	AC, RT, PT	

## OUTPUTS FROM SESSION 2

GROUP ELASMOBRANCHS

RAPPORTEUR JIM ELLIS

SPECIES/HABITAT (individual or grouped) **PORBEAGLE/ SPURDOG**

Required new actions and measures

Identification of aggregations/critical habitats and MPA selection

Obtaining fishery-independent data (POR)

Discard survivability studies

Best practice for how to handle and return any non-retained fish needs to be evaluated and fishermen informed.

Improved observer coverage in those fisheries with a high probability of capture

Electronic tagging to better understand movements

List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (\*).

Measure	Lead	Objective	Priority
Identification of critical habitats			
and MPA selection	OC, CPs, ICES	SM,RT,PT,SU	*
Obtaining fishery-independent data	ICES, CPs, FPOs	SU,AC	*
Discard survivability studies	STECF, CPs	RT,PT,SU,AC	*
Best practice for returning fish	CPs, FPOs	RT,PT,AC	
Improved observer coverage	EU, STECF, CPs	AC, SU,SM	
Electronic tagging to better understand movements	CPs	SU(SM,PT)	

## OUTPUTS FROM SESSION 2

GROUP ELASMOBRANCHS

RAPPORTEUR JIM ELLIS

SPECIES/HABITAT (individual or grouped) **COMMON SKATE COMPLEX**

### Required new actions and measures

Improved taxonomic studies, production and dissemination of identification material (and wider conservation information for the fishing industry) and collection of species-specific data

Need to be able to collate fishermen's observations on these species, and provide incentives for recording of discards and health state, and better knowledge of discard survival

Best practice for release to maximise discard survival

Identification of critical habitats/MPA selection and occurrence in other OSPAR habitats (including fisher knowledge as well as scientific field studies)

Research to better understand the life-history of these and closely related species

List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (\*).

Measure	Lead	Objective	Priority
Improved taxonomy/identification	CPs (ICES, STECF, FPOs to assist)	SU,AC	*
Better knowledge of discard survival	CPs, STECF	RT, PT, SU	*
Best practice for release to maximise discard survival	CPs, FPOs	RT, PT, AC	
Identification of critical habitats/MPA	OC, CPs, ICES	RT, PT, SM, SU	*
Research on life-history	CPs, ICES	SU,SM,AC	*

OUTPUTS FROM SESSION 2			
<u>GROUP</u>	ELASMOBRANCHS	<u>RAPPORTEUR</u>	JIM ELLIS
SPECIES/HABITAT (individual or grouped) <b>THORNBACK AND SPOTTED RAY</b>			
Required new actions and measures			
<p>Better species identification of landings is required (e.g. between thornback and starry ray, blonde and spotted ray).ID guides in prep., and need to be circulated in relevant languages and distributed).</p> <p>Identification and delineation of critical habitats (including spawning and nursery grounds (the latter known for some areas))</p> <p>Examine the benefits of size restrictions, spatial/temporal gear restrictions in spawning areas (e.g. as part of an MPA)</p> <p>Need to know more about thornback ray stocks outside the Greater Thames (e.g. Wash/NE England, inshore waters of mainland Europe).</p> <p>Occurrence of these species in other existing/proposed MPAs needs to be evaluated (e.g. offshore sand banks, Dogger Bank, <i>Sabellaria</i> reefs).</p> <p>Discard survival from offshore fisheries required</p>			
List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (*).			
Measure	Lead	Objective	Priority
Better species identification	CPs, ICES, STECF, FPOs	SU,AC,PT	*
Identification of critical habitats/MPA	OC, CPs, ICES	RT,PT,SM,SU	*
Examine the potential benefits of technical measures	ICES, STECF	PT,SM,SU	
More information outside the Greater Thames	CPs, ICES	SU,SM,PT	*

Evaluate role of existing/proposed		
MPAs for these species	OC, CPs, ICES	SM,PT,SU
Discard survival from offshore fisheries	CPs, FPOs, STECF	SU,AC,PT

OUTPUTS FROM SESSION 2			
<u>GROUP</u>	ELASMOBRANCHS	<u>RAPPORTEUR</u>	JIM ELLIS
SPECIES/HABITAT (individual or grouped) <b>PORTUGUESE DOGFISH, GULPER SHARK, LEAFSCALE GULPER SHARK</b>			
Required new actions and measures			
<p>Manage/protect deep-water ecosystems (and fisheries) more holistically and spatially (MPAs) and evaluate overall fishing regulations for deep-sea fisheries in the NE Atlantic</p> <p>Identification and delineation of critical habitats (sites of aggregation, pupping grounds, nursery grounds etc.) and ensure such sites are included as an important part of (1)</p> <p>Determine the presence of these species in other existing/proposed deep-water MPAs needs to be evaluated using non-destructive techniques (e.g. baited camera)</p> <p>Collection of fishery-independent data to inform on the wide spatial distribution of species, temporal changes in relative abundance and life-history information (such surveys should comply with the OSPAR code of conduct to minimise impacts)</p> <p>More information on stock identification of these and other deep-water stocks, as well as the taxonomy and species identification of problematic taxa (e.g. the genus Centrophorus)</p> <p>Improved dissemination of identification material to industry and fisheries organisations to ensure better species-specific reporting and verification of landings</p> <p>Collate fishermen's observations on these species, and provide incentives for recording of discards and health state. If the reduced TAC leads to high levels of dead discards, improved observer coverage will be required to determine fishing impacts</p> <p>Improved observer coverage in all deep-water fisheries, and more innovative enforcement methods (e.g. deck cameras)</p>			
List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (*).			
Measure	Lead	Objective	Priority
Manage deep-water ecosystems			
holistically/spatially	OC,EU,NEAFC,CPs	SM,RT,PT	**
Identification of critical habitats	OC,CPs,ICES,NEAFC	SU,SM,RT,PT	
Determine role of other			
existing/proposed MPAs	OC,CPs	SU,SM,RT,PT	
Fishery-independent data	EU,CPs,ICES	SU,SM	*
Stock identification and			



taxonomic studies	CPs	SU,PT	
Improved ID material/ species-specific data	CPs, ICES, FPOs	AC,RT	**
Analyse discarding levels	EU, CPs, STECF,ICES	RT,PT,SU,	
Improved observer coverage	EU, CPs, STECF,ICES	SU,AC,SM,PT,RT	*

OUTPUTS FROM SESSION 2	
<u>GROUP</u>	Diadromous fish
	<u>RAPPORTEUR</u> Amelia Curd
SPECIES/HABITAT (individual or grouped)	<b>Diadromous fish species</b>
Required new actions and measures	
<p>Evolutionary measures: Need to take into account future predicted changes in the marine environment in management plans. This applies to all species.</p> <p>Sturgeon: Taking into account the non-binding International Action Plan developed by the Bern Convention</p> <p>Common measure: necessary for increased knowledge on marine phase of all 5 species. We need to follow the evolution of the adult phase at sea, without which we cannot carry out protection plan. We lack observational data at sea: we must implement an international fishing observer scheme (Who? How? What policy vehicle....)</p> <p>Common measure: increased knowledge on the genetic diversity of Allis shad and salmon.</p> <p>MARINE DATA: How do we collect it?</p> <p>-landings data, on-board observers on commercial fishing vessels, recreational fishermen, tagging programmes, specific research cruises, awareness-raising with fishing industry. Keeping in mind the ecosystem approach (holistic views of interactions btw. trophic levels).</p> <p>Existing data: lots of handling issues which cause blockages in sharing. Policy workers are not necessarily aware of all the research/fishing initiatives already underway.</p> <p>WFD: Urge member states to REPORT back on OSPAR List: how has the WFD been used in relation to the OSPAR sp&amp;h? (NB; OSPAR reporting could also apply to non-Member States: Iceland &amp; Norway, and their national water management plans).</p> <p>FRESHWATER HABITAT RESTORATION: Lobbying for removal of barriers to migration</p> <p>(conflict of interest between WFD, Habitats &amp; Birds Directives and the Renewable Energy Directive – leading to more dams!)</p> <p>Salmon farming is a separate specific issue which shouldn't be lost in the session outcomes! NASCO request annual reports from CP's on implementing guidelines/habitat restoration.</p> <p>Surveying/cooperation outside the OSPAR region for salmon and eel (i.e. Greenland, Sargasso sea &amp; Mediterranean)</p> <p>Contamination on migratory species can affect species outside of the zones where they have been contaminated (e.g. altered migratory routes). How can we quantify the impact of pollution in similar ways to turbine or fishing?</p> <p>Knowledge transfer: missing link btw managers and scientific bodies. Gap in migration of information!</p>	

Role of MPAs not as obvious for diadromous fish, but it has a role. Ex: Marine N2000, annex II sp.

Ans: MPAs would surely be useful, but we don't know where. Need more knowledge at sea not just for their functional ecology/life cycle but also for ecological coherence of MPA network. We need a tool/network to compare different water bodies in different environments. Could produce a "typology" to link causes and consequences on fish "assemblages". In the UK, within the WFD there are local estuarine observatories which take into account local particularities, then survey & communicate on transient species. This could be extended to other CP's.

Network (FR, UK, SP) of aquatic river system observations which use migratory species as indicator species for the functioning of the ecosystem. With this network can identify the common factors and local particularities necessary to identify the ecological status of each river system.

(NB. observatories are a way to record environmental and functional parameters & develop long-term data sets). Key difference btw North American & European research. Particularly important for climate change.

List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (\*).

Measure	Lead	Objective	Priority
<b>Knowledge on marine phase:</b>			
-Increased international scientific cooperation			
-Long-term data sharing			
(accessibility/interoperability of existing data)			
-Collaboration with fishing industry			
- Monitoring of coastal/estuarine/river via a internationally coordinated network	EC, RFMOs, CPs, OC	SU	*1
Adaptive & evolutive measures			
(taking into account future changes)	ICES working groups		
	(WGEEL, WGNAS, WGDFC) SU, PT		3
Habitat restoration	EC (WFD),		
	OC can encourage CPs	SM,SU,PT,RT,AC	2
Knowledge on contamination			
and eutrophication impact	EC (WFD)	SU	
<b>Knowledge transfer:</b> interface between research/industry/policy/action			

(-Communication and engagement: Encourage awareness-raising campaigns. Getting the public and the recreational/commercial fishermen further involved.)			
	OC, CPs, INSPIRE EC directive	AC	3
Existing regulation enforcement measures against poaching & IUU)			
	CPs, RFMOs		

OUTPUTS FROM SESSION 2			
<u>GROUP</u> Deep Sea Habitats		<u>RAPPORTEUR</u> Mark Tasker	
SPECIES/HABITAT (individual or grouped) <b>Deep-sea habitats</b>			
Required new actions and measures			
<p>1. Map the habitat locations in detail throughout the OSPAR area. Mapping can be through direct detailed survey; gaining of information of environmental requirements to build models, observer schemes.</p> <p>2. Recommend that fisheries authorities “freeze the footprint”. The scale of footprint mapping is critical; needs to be very detailed; 2005-2009 VMS. Work with fishers to define these.</p> <p>3. Examine areas inside fished areas for “recovery sites” suitable for designation as MPAs and outside fished areas for new sites where fishing would have limited impact and could be allowed. Use SEA/EIA tools for any new activities.</p> <p>4. As an essential fallback, if 2 and 3 fails/is not acceptable, then designate large areas that include the five habitats in an ecologically coherent network of MPAs; ban deliberate damage to the five habitats.</p> <p>Others felt that 2 – 4 should be replaced with:</p> <p>A) Based on known occurrences of these five habitats, CPs should designate further MPAs for inclusion in OSPAR network of MPAs.</p> <p>B) Considering the severity of threats and the vulnerability of habitats, freezing the footprint of the current (deepwater) fishery is seen as the first step towards preventing further damage. The scale of footprint mapping is critical; needs to be very detailed; 2005-2009 VMS. Work with fishers to define these.</p> <p>C) Examine areas inside fished areas for “recovery sites” suitable for designation as MPAs and outside fished areas for new sites where fishing would have limited impact and could be allowed. Use SEA/EIA tools for any new activities.</p> <p>D) If B) fails, ban deliberate damage to the five habitats.</p>			
List of existing and proposed new actions and measures with an indication of who should take the lead; OC, OC & CPs, CPs, Other (specify). Group these under the following headings Reduce current level of threat (RT), Prevent future threats (PT), Spatial measures (SM), Awareness raising/communication (AC), Increasing scientific understanding (SU). Measures and actions that should have the highest priority to be taken forward within the OSPAR framework in preparation for OSPAR MM2010 to be highlighted (*).			
<b>Measure/Action</b>	<b>Lead</b>	<b>Objective</b>	<b>Priority</b>
Further mapping	CP	SU	1
- Provision of maps etc.	CP	AC	-

Freeze footprint	OC & CP, EC, NEAFC	RT, PT, SM	1
- Define footprint	CP		-
Designate protected areas	CP, OC	RT, PT, SM	1
SEA/EIA tools	CPs, ISA, EC, NEAFC	PT	1
Ban deliberate damage	CP, EC, NEAFC	PT	2

### 1.3 Elaborated actions and measures (Session 3 outputs)

GROUP Birds & Marine Turtles

RAPPORTEUR Kate Tanner

<b>Short name of the protective action or measure</b>
Cooperation with and ratification of ACAP, National/European Plans of Action and comprehensive fisheries observer programme.
<b>Species/habitat from the OSPAR List likely to benefit</b>
Balearic Shearwater <i>Puffinus mauretanicus</i>
<b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)
To help tackle the low adult at sea survival of the species and to quantify the threat from bycatch in the OSPAR Areas so that it can be effectively addressed.
<b>Description of the measure</b> (i.e. what practical steps are involved)
"Measures to address the low adult at-sea survival of the species Including a comprehensive fisheries observer programme to quantify the threat from bycatch in the OSPAR Area, calls for an EC Plan of Action as well as National POAs, support and ratification of ACAP."
ACAP: support the listing of Balearic shearwater under ACAP, cooperate with ACAP on its protection, and encourage more OSPAR Contracting Parties to ratify ACAP (especially Portugal and Ireland)
NPOA [National Plan of Action] Seabirds: Contracting Parties should develop their own NPOA Seabirds (the EC should introduce an EC POA).
Fisheries observation programme – General coverage of the different fisheries.
<b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)
OSPAR Area – Atlantic and western Channel
<b>Existing experience</b> (i.e. is there any existing experience of what is proposed)
Yes – other RFMOs have stopped population declines in seabirds using the same tools (ACAP, NPOA and fisheries observation) e.g. CCAMLR
Other countries have developed NPOA Seabirds – e.g. Brazil, South Africa, New Zealand, Australia.
<b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)

<p>ACAP has technical guidance – has a technical group on bycatch and the knowledge and tools for setting up a fisheries observer programme.</p> <p>FAO International Plan of Action for seabird bycatch (IPOA) would give the guidelines for setting up NPOA seabirds.</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>OSPAR cooperative work with ACAP</p> <p>OSPAR Recommendation to Contracting Parties to ratify ACAP and produce NPOA seabirds.</p> <p>Fisheries observer programme?</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Contracting Parties should report regularly to OSPAR on:</p> <p>Implementation of ACAP</p> <p>Development and implementation of NPOA</p> <p>Information from fisheries observation programme.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>More information on at-sea distribution of the species (including at sea surveys in key areas, electronic tracking) – need to integrate this work with the ongoing work on monitoring the species within the OSPAR Area.</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Birds & Marine Turtles

RAPPORTEUR Kate Tanner

<p><b>Short name of the protective action or measure</b></p> <p>Co-ordinated strategic development of a Species Action Plan which can then be implemented across the OSPAR and Mediterranean areas.</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Balearic shearwater <i>Puffinus mauretanicus</i></p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>Increase the effectiveness of conservation measures, and coordinate these measures across the Mediterranean and the OSPAR Areas.</p>

<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Coordinated, strategic development of a Species Action Plan for the OSPAR and Mediterranean areas Including OSPAR coordination with the Barcelona Convention and its signatories, other national and international authorities, NGOs and fishermen, and a workshop involving these parties to develop a coordinated Action Plan for the two regions</p> <p>OSPAR contact other competent authorities/bodies (especially the Barcelona Convention)</p> <p>Workshop to develop the updated and expanded Action Plan – needs to involve experts, international and national authorities, interest groups (NGOs, fishermen etc.)</p> <p>Implementation of the Action Plan across the OSPAR and Mediterranean regions</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Spain, Portugal, France, UK, Ireland (and other Mediterranean countries that are part of the Barcelona Convention).</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Plenty of action plans: EC Species Action Plan (1999), Barcelona Convention Action Plan, Balearic region Recovery Plans, National (Spain) Recovery Plans, National Strategy for the recovery of the species (Spain)</p> <p>- but these need to be brought together, coordinated, built upon and extended to cover the OSPAR Area.</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Information on what has happened to the population of Balearic shearwaters while the Action Plan has been in place is useful to set the context.</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Cooperation between OSPAR and other organisations, particularly the Barcelona Convention</p> <p>Future Recommendation from OSPAR to Contracting Parties to adopt and implement the updated Species Action Plan.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Report of workshop/ Action Plan itself</p> <p>When the Action plan is being implemented – regular reporting from CPs on the implementation of the relevant parts of the Action Plan.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Awareness raising – with international and national authorities, interest groups (NGOs, fisheries etc.), Barcelona Convention contracting parties.</p> <p>Need to identify the bodies that OSPAR needs to contact and cooperate with (alongside the Barcelona Convention). Also need to identify those that would need to be involved in the workshop.</p>

**Example/case study that could be used to explain the measure to a lay audience** (if possible indicate where more details could be found/contact person)

**Definition of any technical terms used in the above description.**

GROUP Birds & Marine Turtles

RAPPORTEUR Kate Tanner

**Short name of the protective action or measure**

Coordinated and improved demographic monitoring at the breeding colonies

**Species/habitat from the OSPAR List likely to benefit**

Black-legged Kittiwake *Rissa tridactyla* subsp *tridactyla*

**Purpose of the measure** (i.e. an explanation of the intention of the measure)

To draw monitoring information together at the OSPAR level, inform the Ecological Quality Objective (EcoQO) on seabird populations trends and to improve understanding of the population structure and its status.

To monitor population development/dynamics in selected colonies. The results from this monitoring would also inform the upcoming EcoQO on seabird population trends as an index of seabird community health.

**Description of the measure** (i.e. what practical steps are involved)

Coordinated and improved demographic monitoring at the breeding colonies. To draw monitoring information together at the OSPAR Level, inform the EcoQO on seabird population trends, and to increase the collection of demographic data

Extend breeding colony monitoring across the OSPAR Area to include not only collection of information on numbers of breeding pairs but also information on adult survival rates, reproduction rates, clutch sizes, % birds surviving to fledging. Population dynamics features that can then be used in finding out about general population.

**Geographic scope needed for implementation** (including which parts of the OSPAR area does the action or measure need to be implemented)

Breeding colonies in all parts of the OSPAR Area

**Existing experience** (i.e. is there any existing experience of what is proposed)

Yes – already implemented in Norway, UK. In France one colony has been monitored like this for 30 years.

Needs to be extended to other CPs.

**Basis for development of technical guidance** (what type of information should be included in the supporting technical guidance for this measure)

Technical guidance can be obtained from the above existing programmes (UK & Norwegian programmes).

Needs a careful consideration of which colonies you choose to monitor (to have a representative sample for the regions that we are talking about).

<p>Since you will typically count breeding numbers in more colonies than you would collect demographic data there must be careful selection of the colonies in which you choose to do the latter.</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>OSPAR Recommendation to the Contracting Parties to carry out this monitoring.</p> <p>Annual reports from individual Contracting Parties giving an overview of breeding numbers reproduction rates and key demographic parameters.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Referring to the above reports.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Important to identify the key areas and select the monitored colonies.</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Refer to Norwegian and UK examples.</p> <p>Also upcoming EcoQO for seabird population trends as an index of seabird community health.</p>
<p><b>Definition of any technical terms used in the above description</b></p>

GROUP Birds & Marine Turtles

RAPPORTEUR Kate Tanner

<p><b>Short name of the protective action or measure</b></p> <p>Increase knowledge on the wintering quarters of Black-legged kittiwakes</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Black-legged Kittiwake <i>Rissa tridactyla</i> subsp <i>tridactyla</i></p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To establish knowledge on the wintering dynamics of kittiwakes in order to better understand the mechanisms that cause population decline.</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Knowledge of the wintering quarters can be obtained from geolocation data loggers or from ship and air based surveys.</p>



Such knowledge will improve the understanding of the link between the density of birds and the availability of prey – and eventually to allow us to link climate change to the state of the population.

Data from geolocation data loggers will also allow us to link to geographical differences in breeding success to differences in wintering conditions given that we can demonstrate distinct wintering quarters.

**Geographic scope needed for implementation** (including which parts of the OSPAR area does the action or measure need to be implemented)

Entire OSPAR wintering area (defined in ESAS reports REF) but also W Greenland – as this is important for a lot of the breeding birds in the OSPAR area.

**Existing experience** (i.e. is there any existing experience of what is proposed)

ESAS database has historical data on the wintering distribution of kittiwakes.

Recent experience with geolocation data loggers has proven this method to be an efficient and safe way of obtaining data on bird locations throughout the wintering season.

**Basis for development of technical guidance** (what type of information should be included in the supporting technical guidance for this measure)

Technical guidance on the use of geolocation loggers is available from logger manufacturers.

Technical guidance for ship and air based line transect surveys is available from Camphuysen *et al.*

Towards standardised seabirds at sea census techniques in connection with environmental impact assessments for offshore wind farms in the UK (April 2004) Report commissioned by COWRIE.

**Optimum means of delivery** (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)

OSPAR Recommend that Contracting Parties should undertake this monitoring.

Annual summary reports on logger activity, brief description of general results from recaptures.

Annual report on line transect efforts by ship or air based surveys – should all be linked with ICES WK SEQUIN (seabird community health).

<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Referring to the above reports.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Careful consideration of the geographical spread of geolocation data loggers.</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Data loggers – examples of use available from Manx Shearwaters in Iceland and puffins in the UK – published or near published datasets.</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Birds & Marine Turtles

RAPPORTEUR Kate Tanner

<p><b>Short name of the protective action or measure</b></p> <p>Aerial surveys and sightings/strandings networks for leatherback turtle</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p><i>Dermochelys coriacea</i></p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To obtain accurate population estimates of leatherbacks in the OSPAR region so that trends in abundance can be determined and therefore the status of the species.</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Increased monitoring of the status of leatherback of leatherback turtle population in the OSPAR Area Including aerial surveys, and improved sightings and stranding networks to give an early warning system.</p> <p>Dedicated aerial surveys in targeted areas (both coastal and offshore)</p> <p>Strengthen, support and develop sightings/strandings networks and observatories</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Ireland, UK, France, Spain, and Portugal</p>

<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Aerial surveys for leatherbacks were conducted by University College Cork and Swansea University as part of an EU funded project called 'INTERREG Irish Sea Leatherback Turtle Project'.</p> <p>La Rochelle Aquarium coordinates a sightings and strandings network along the French Atlantic coast supported by the French Ministry of Environment</p> <p>Marine Environmental Monitoring coordinates a sightings and strandings network along UK coast</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Aerial surveys should be conducted in known coastal hotspots (e.g. Pertuis Charentais [La Rochelle, France], south and west coast of Ireland, Carmarthen Bay [Wales]) but also in offshore areas where it is thought likely that large numbers of leatherbacks are found. These surveys should be conducted in summer (July-September).</p> <p>Continue and develop existing sightings and strandings networks (and observatories) plus create new ones in OSPAR regions where there are none (Spain, Portugal, Ireland)</p> <p>Coordinate a single sightings/strandings database between all relevant OSPAR members whilst maintaining existing databases</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>A call for action from OSPAR that relevant OSPAR Contracting Parties set up and coordinate activities to assess the leatherback population</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Submit a report every three years on how CPs have addressed the above</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Need CPs to meet up and discuss methodology, timing, potential funding to address above measure</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Irish Sea Leatherback Sea Turtle Study</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP ELASMOBRANCHS    RAPPORTEUR JIM ELLIS

<p><b>Short name of the protective action or measure</b></p> <p>Research on discarding and discard survival</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p>

All elasmobranch species
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To better understand discarding patterns in light of existing and other potential management measures and the likelihood of discarded elasmobranchs surviving</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Better understanding of which species/life-history stages are discarded in various fisheries</p> <p>Probability of capture in various fisheries</p> <p>Spatial overlap between critical parts of the population with fisheries</p> <p>What is discarding practice and discard (short and long term) survival (including the use of survival tanks and tagging programmes)</p> <p>How are fish handled on board and would better practice improve discard survivorship?</p> <p>Improving awareness of wider species issues with fishing industry</p> <p>Consultation with fishing industry including potential for gear mitigation</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>In all OSPAR Areas where these species occur</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>In recent years there have been some inshore studies on discard survival of skates and lesser-spotted dogfish, and use of square meshes and other technical measures to reduce cod-end weight</p> <p>Type of hooks that can enhance survival of discarded sharks in longline fisheries (e.g. circle hooks improve discard survival c.f. j-hooks)</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Need to know extent of bycatch problem by fishery (over space and time)</p> <p>If there is a high discard bycatch of the listed species, are they surviving release?</p> <p>If they are not surviving release in current fishing practice, can changes in fisher behaviour or gear be used to improve survival?</p> <p>If there are no such changes, can spatial tools (e.g. MPAs) be better employed to protect the species in question?</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>CPs should take the lead, with ICES (e.g. WGEF and WGFTFB) and STECF coordinating overviews and incorporating the findings in relation to management</p> <p>OC (e.g. call for action), ICES, STECF, NEAFC should promote the need for the importance of such studies</p> <p>The fishing industry should be approached early on to better engage their ideas</p>

<b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)  ?
<b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)  Identification of those fisheries for which discarding and discard mortality are major problems
<b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)  ?
<b>Definition of any technical terms used in the above description.</b>

GROUP ELASMOBRANCHS    RAPPORTEUR JIM ELLIS

<b>Short name of the protective action or measure</b>  Fishery-independent surveys (please note: such surveys need not be annual, bi- or triennial surveys may be sufficient in some instances)
<b>Species/habitat from the OSPAR List likely to benefit</b>  Existing surveys are used by ICES to help advise on the status of thornback and spotted ray and spurdog, and there are some data for common skate. However:  Better coordination of deep-water surveys is required to better understand temporal and spatial dynamics of the three OSPAR listed deep-water sharks.  Dedicated (inshore) surveys in areas of search are required to inform on the locations of remaining populations of white skate and angel shark  Fishery-independent surveys for porbeagle (and other large pelagic fishes) are required to better inform on their status  Better coordination of existing basking shark sighting schemes is required, including the extension to offshore areas
<b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)  To better understand spatial and temporal dynamics of the various species, including sites of critical importance (e.g. for nursery, spawning, pupping, breeding grounds, relic populations) and so to allow more robust options in terms of their spatial management
<b>Description of the measure</b> (i.e. what practical steps are involved)  Internationally-coordinated inshore surveys using appropriate (non-lethal for species of concern) surveys in OSPAR regions III and IV, with emphasis on sites of recent sightings, in order to identify remaining habitats and delineate current range of white skate and angel shark.  Support efforts of ICES PGNEACS to maintain/expand internationally-coordinated surveys for deep-water species and associated biological sampling

<p>Initiate joint industry-scientific surveys of large pelagic fishes, including sharks, using commercially-designed gears but conducted with an appropriate spatial coverage and scientific protocols so as to provide fishery-independent estimates of distribution and relative abundance</p> <p>Provide a forum for the standardised reporting of sighting and strandings schemes (including levels of census effort where possible) and liaise with offshore industries to ensure better data collection in offshore areas</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>White skate/angel shark: Initially, in OSPAR areas III and IV (ICES sub-areas VII-IX)</p> <p>Deepwater surveys: along the edge of the continental shelf (OSPAR regions III-V, ICES sub-areas V-IX), possibly extending into parts of I and II</p> <p>Porbeagle: Initially in the Celtic Sea (ICES sub-areas VIIb-k, VIII) in OSPAR regions III and IV. Possibly extending into ICES sub-area VI and OSPAR area II (ICES sub-area IV)</p> <p>Basking shark: Whole of OSPAR/ICES area</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Need to know the spatial and temporal dynamics of these species using fishery-independent data sources, to complement fishery-dependent and other information</p> <p>Such data are needed for the assessment of these stocks, which are or have been of commercial importance. This will then inform on the need for any further management measures (including spatial measures) with which to ensure the sustainability of the fisheries and/or monitoring the status/recovery of depleted populations.</p>
<p><b>Optimum means of delivery</b> (I.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>The EC would need to ensure that funding was in place for CPs to undertake the necessary field investigations (e.g. as an extension of the DCF). The collaboration of the fishing industry would be required for optimal delivery</p> <p>Collating basking shark sighting/stranding schemes needs coordination but no new dedicated sampling, as it would be based on volunteer programmes, general public and relevant organisations supplying the data.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>If internationally-coordinated surveys are established, CPs would need to report to the coordinating body (e.g. ICES) and potential funding body</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Identification of the potential for funding, which would dictate the spatial coverage that could be surveyed.</p> <p>In the absence of EC funding, CPs could determine any national/OC priorities for improved scientific filed studies on these species</p>

<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Existing continental shelf surveys have been used to examine status of various demersal elasmobranchs</p> <p>Basking shark sighting schemes operating in various CPs</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Elasmobranchs    RAPPORTEUR Tom Blasdale & Jim Ellis

<p><b>Short name of the protective action or measure</b></p> <p>Implementation of ICES advice and incorporation of fisher knowledge</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All elasmobranch species on the OSPAR list.</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>ICES advice on the stock status should be followed and appropriate management strategies developed (in conjunction with STECF and the fishing industry) to allow depleted stocks to recover and to ensure sustainable fisheries.</p> <p>Gathering fisher information will complement ICES advice that can be used in fisheries management (e.g. Historic information from fishermen could improve knowledge of past range and ecologically important areas).</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>OSPAR should communicate to the Commission and EU MS the importance of following ICES advice for these species.</p> <p>Collect data from fishermen from fishing activities. Encourage participation of fishers in the ICES stock assessment process and encourage scientists to open up the scientific process to include fisher's data.</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>In all OSPAR Areas where these species occur</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>In recent years, the majority of ICES advice has been followed by the EC. It is too early to judge whether this has had any effect on stock status.</p>

French fisher POs have worked closely in recent years with scientists from IFREMER and ICES to provide haul by haul log book data on deep water fishing operations and catches. An industry initiative led by the Sea fish Industry Authority in the UK has developed a database of species specific landings of skates and rays by the UK fleet.
<b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)
<p><b>Optimum means of delivery</b> (I.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>OSPAR should communicate to the Commission and EU MS the importance of following ICES advice for these species.</p> <p>Organise workshops/meetings between scientists and industry representatives to discuss collection, use and dissemination of fisher's knowledge and data.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Fisheries managers (RFMOs, EC and other CPs) should report to OSPAR detailing how management imposed relates to ICES advice.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Identify the industry sectors that may have relevant information.</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Annual TAC and quota negotiations and measures adopted by the EC for white skate and angel shark.</p>
<b>Definition of any technical terms used in the above description.</b>

GROUP Elasmobranchs RAPPORTEUR Tom Blasdale & Jim Ellis

<p><b>Short name of the protective action or measure</b></p> <p>Life history studies</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All elasmobranch species on the OSPAR list.</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>Increase knowledge of biological parameters such as growth, maturity, reproductive potential, diet and relation with prey species. This will improve scientific advice underlying fisheries management measures.</p>



<p>To understand spatial distribution and migrations, identify populations/stocks, evaluate the potential effectiveness of MPAs, identify critical habitats for specific life history stages including spawning and juveniles as a basis for spatial measures.</p> <p>Tagging studies can further improve knowledge of survival of discarded individuals.</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Planning of tagging studies according to species and areas using conventional and electronic tags</p> <p>Develop sampling protocols for the collection of biological data on research surveys and by observers/market sampling in commercial fisheries.</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>In all OSPAR Areas where these species occur</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Conventional tagging programmes well-established for a variety of skates and sharks</p> <p>Biological sampling conducted by many fisheries laboratories and other institutes</p> <p>Numerous scientific papers detailing biology of the species</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Knowledge of life-history and movements needed for development for stock identification and for development of stock assessments.</p> <p>Need to know biological characteristics of each species, including their finer scale movements and habitat preferences</p> <p>Such studies should comply with the OSPAR code of conduct for marine research</p> <p>For the most depleted stocks, historical information could usefully be collated to better understand the life-history</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Biological sampling of some of these species (e.g. skates) is undertaken under the DCF and the data collated and analysed by ICES and STECF. CPs could be encouraged to collate data from any ad hoc sampling of other species where possible, especially for those species where there are gaps in our knowledge of their life history.</p> <p>Improved coordination of tagging studies could be undertaken on existing groundfish surveys (e.g. for skates and spurdog). Tagging of other species (e.g. porbeagle) would require dedicated projects to be undertaken by CPs.</p> <p>Responsible angler-based tagging programmes could be better employed, and CPs could consider this in certain areas for particular species.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>

CPs to ensure that relevant data are available to ICES Expert Groups and other appropriate fora, such as STECF, OSPAR.
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Identification of key habitats, areas to be sampled for life-history and most effective/relevant tagging programmes still need be prioritised.</p> <p>More life-history data could be collected from commercial fisheries (e.g. by observers or at the market), and should be undertaken when data from other sources are limited</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>There are several on-going tagging programmes for these (and other) elasmobranchs in the OSPAR area</p> <p>Biological sampling of some species in on-going as part of wider elasmobranch sampling</p>
<b>Definition of any technical terms used in the above description.</b>

GROUP Elasmobranchs

RAPPORTEUR Ingo Narberhaus

<p><b>Short name of the protective action or measure</b></p> <p>Identification of critical elasmobranch habitats and/or sites of aggregation and delineation of MPAs where appropriate and practicable.</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All OSPAR listed elasmobranch species to varying degrees.</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To protect aggregations from unsustainable fishing impacts</p> <p>To minimise impacts from boat strikes on basking sharks</p> <p>To enable recovery of populations of OSPAR listed elasmobranch species and supplying refuge areas with low pressure levels</p> <p>To protect the critical demersal habitat from direct damage</p> <p>To enable recovery of any critical demersal habitats which have been damaged in the past</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>1) Identification of aggregations and/or critical elasmobranch habitats by compiling existing data and habitat suitability models</p> <p>2) Delineation of species targeted Marine Protected Areas *where appropriate and practicable</p>

<p>3) Where information is insufficient for species specific MPAs make use of existing distribution data in wider site selection process of the OSPAR MPA network</p> <p>4) Raise awareness and communication to explain the value and role of MPAs for threatened and declining species</p> <p>5) Identification of and cooperation with key competent authorities who can implement MPA management measures in the respective areas and fields (e.g. temporal or permanent restrictions/closures for certain fishing gears)</p> <p>6) Development of research projects/initiatives on occurrence/distribution of rare elasmobranch species and unknown critical habitats (e.g. spawning/pupping grounds, nursery grounds, feeding habitats, mating grounds, migratory routes (e.g. by tagging studies, collation of fisher knowledge))</p> <p>* For the purposes of this report, we follow the OSPAR definition of a Marine Protected Area, which is <i>“an area within the maritime area for which protective, conservation, restorative or precautionary measures, consistent with international law have been instituted for the purpose of protecting and conserving species, habitats, ecosystems or ecological processes of the marine environment”</i>.</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>In all OSPAR Areas where OSPAR listed sharks and rays and their critical habitats aggregate/occur.</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Many examples of MPAs effectively protecting populations and habitats. There are several examples internationally where MPAs are used to protect elasmobranch populations/stocks.</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <ul style="list-style-type: none"> <li>- Agreed OSPAR MPA selection criteria</li> <li>- Coherent coverage of the respective elasmobranch populations and their critical habitats</li> <li>- Management measures within the MPAs must be developed on the basis of life history information on and ecological requirements of the species that the site may have importance for, including genetic diversity.</li> <li>- Measures may include no take zones, temporary/seasonal fishery closures, or restrictions for particular gears.</li> </ul>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>A variety of options. Could be promoted by OSPAR but also requiring co-operative action. In areas of national jurisdiction CPs should take the lead, in EEZs CPs, EU and OSPAR to promote collaboratively and on High Seas for OSPAR to work with relevant international bodies (e.g. NEAFC, ICCAT).</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <ul style="list-style-type: none"> <li>- Existing MPAs which include sites of ecological importance for the respective Elasmobranch species or their critical habitats</li> <li>- Implementation of existing obligations of CPs (e.g. CITES, CMS, Bern Convention, MSFD, CBD) to</li> </ul>

<p>protect OSPAR list elasmobranch species</p> <ul style="list-style-type: none"> <li>- Status of the species on national and international Red Lists and national species protection legislation</li> </ul>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <ul style="list-style-type: none"> <li>- Compilation of existing data</li> <li>- Identification of key areas</li> <li>- Integrative approach: What other protective features (species and habitats) overlap with ecologically important elasmobranch habitats?</li> <li>- Initiation of species specific survey where appropriate (fishery independent information)</li> <li>- Consultation with RFMOs and fishing industry on the potential benefits of spatial management</li> </ul>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <ul style="list-style-type: none"> <li>- German EEZ MPAs (or any other); stress problematic issue of management competences in protected areas e.g. fishery management in European EEZs (CFP) and OSPAR ABNJ (NEAFC)</li> <li>- Voluntary, industry led skate closure in parts of the Bristol Channel</li> </ul>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Elasmobranchs

RAPPORTEUR Ingo Narberhaus

<p><b>Short name of the protective action or measure</b></p> <p>Statutory nature conservation provisions</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Basking shark, Angel shark, (White Skate?)</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>Extension of the formal legal protection measures in some CP waters to elsewhere in the OSPAR area and providing additional support to existing fisheries measures.</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Makes it illegal to deliberately harm species and/or to trade products derived from these species. Measures usually require consultation with stakeholders.</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>National waters of relevant CPs.</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <ul style="list-style-type: none"> <li>- Basking shark and Angel shark listed in the Wildlife and Countryside Act (UK)</li> </ul>

<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <ul style="list-style-type: none"> <li>- Details of species depletions that make them candidates for legal protection (e.g. historic range, population decline).</li> <li>- Awareness raising</li> <li>- Potential for reducing other sources of mortality</li> </ul>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>CPs should take the lead. OSPAR could possible act as a catalyst by prompting/suggesting the measure to other CPs.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <ul style="list-style-type: none"> <li>- Implementation of existing obligations of CPs (e.g. CITES, CMS, Bern Convention, MSFD, CBD) to protect OSPAR list elasmobranch species</li> </ul>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <ul style="list-style-type: none"> <li>- Consultation with stakeholders and reporting on progress to OC.</li> </ul>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Basking shark and Angel shark listed in the Wildlife and Countryside Act (UK)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Elasmobranchs

RAPPORTEUR Ingo Narberhaus

<p><b>Short name of the protective action or measure</b></p> <p>Improvements to species identification and species-specific data collection</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Skates and Rays (<i>Dipturus batis</i> complex, <i>Raja</i> spp., <i>Rostroraja alba</i>)</p> <p>Deep water sharks (e.g. <i>Centrophorus</i> spp.)</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <ul style="list-style-type: none"> <li>- To have a correct identification in critical species complexes</li> <li>- To have a correct reporting of species on fish markets and in national landing statistics</li> <li>- Enforcement of reporting systems for species</li> <li>- User friendly guides for the fishing industry and enforcement officers</li> </ul>

<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <ul style="list-style-type: none"> <li>- Production of high quality field guides for the fishing industry</li> <li>- Training in species identification where relevant</li> <li>- Improvement of the accuracy for reporting systems for species specific landing statistics and other data. Decreasing use of generic reporting categories.</li> <li>- Development of taxonomic studies for problem taxa (using molecular systematic methods and morphology)</li> <li>- Application of molecular systematic methods in verifying fish identification (e.g. DNA barcoding)</li> </ul>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>All OSPAR regions where species occur and all ports where species are landed. In taxonomic studies all biogeographic areas should be included.</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Molecular barcode system is now established for species identification of all 11 OSPAR elasmobranch species.</p> <p>Training of fishery observers undertaken by various CPs.</p> <p>ID guides have been developed for various species.</p> <p>Improvements to quality checking of trawl survey data held by ICES.</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <ul style="list-style-type: none"> <li>- Accurate species specific data is fundamental</li> <li>- Focus on diagnostic morphological characters that can be clearly distinguished when appropriate training is provided</li> <li>- Use of standard protocols for molecular identification procedures (BOLD systems)</li> </ul>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <ul style="list-style-type: none"> <li>- National fish collections (e.g. in Natural History Museums) and appropriate scientific expertise in taxonomy and systematics need to be retained and/or enhanced by CPs. The importance of this should be recognised and promoted by OSPAR &amp; ICES.</li> <li>- ID guides should be user friendly as well as accurate to facilitate use and should be widely distributed in appropriate languages including regional use of common names.</li> </ul>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <ul style="list-style-type: none"> <li>- Success to be evaluated by surveys of the accuracy of species identification on the fish market.</li> <li>- Major problems in species identification may be highlighted by ICES WGEF.</li> </ul>

<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <ul style="list-style-type: none"> <li>- Current guides need to be more widely distributed and trialled in other nations.</li> <li>- These guides should be updated with more recent taxonomy where appropriate (e.g. Common skate complex).</li> <li>- CPs to ensure correct training of observer and enforcement staff.</li> </ul>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <ul style="list-style-type: none"> <li>- <i>Dipturus</i> complex has been subject to a recent taxonomic revision.</li> <li>- ID guides have been developed by various CPs to facilitate species identification</li> <li>- Molecular identification by BOLD system has been established and could be more widely applied.</li> </ul>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Diadromous fish RAPPORTEURS Jane Goodwin/Amelia Curd

<p><b>Short name of the protective action or measure</b></p> <p>Collect information about the marine phase in the life cycle of diadromous fish to provide the evidence base for improving conservation measures</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All 5 listed diadromous fish</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>We need to develop the evidence base in order to develop adapted measures to protecting species and their associated habitats. At present, the marine phase of the diadromous fish life cycle is poorly documented &amp; understood (i.e.: the role of the marine phase upon the overall biological cycle of the species).</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <ul style="list-style-type: none"> <li>-Increased international scientific cooperation (e.g. NASCO, other fora)</li> <li>-Sharing of existing data: accessibility                             <ul style="list-style-type: none"> <li>- fish trapping data exchange between fishermen &amp; researchers/observers</li> </ul> </li> <li>-Tools for MPA designation: utilizing existing knowledge in such a way as they bring added value to the ecological coherence.</li> </ul>

-Maximising the opportunity to obtain data from other sources

e.g.: -recreational fishing – find a way to engage them/log catches/licensing?

-commercial fishing (discards & scientific sampling) – awareness-raising, training for scientific sampling, incentives

-Recording of new data: making use of all opportunities –multifunction scientific cruises

-Furthering the international monitoring network of coastal/estuarine/river to obtain environmental & biological parameters: standardised protocol for long-term data series. (e.g. INDICANG (3yr Interreg), BUT monospecific).

-Due to their life cycle, the ecosystem approach must be taken (holistic views of interactions btw. trophic levels): this is the only way we will see the effects on the species community.

(this needs to be considered in light of existing reporting mechanisms, e.g. FAO, ICES & NASCO)

**Geographic scope needed for implementation** (including which parts of the OSPAR area does the action or measure need to be implemented)

In all OSPAR areas where these species occur, and beyond (migratory species: areas of interest include Greenland, the Sargasso sea –eel, and the Mediterranean)

**Existing experience** (i.e. is there any existing experience of what is proposed)

-Salmon: NASCO – tagging database and portal on website

-Sturgeon: [www.sturio.eu](http://www.sturio.eu) new portal and database and “exchange platform”

-Eel: INDICANG (Ifremer website), INDICANG2,– Interreg projects: FR, SP, PT, UK  
EELIAD

-Shad: Genetic study between FR & PT

-Lamprey - none

(There are a number of national initiatives between fishermen, policy makers and researchers. Some of these are coordinated nationally (e.g.: salmon recreational catches in France), but a number of these are often on a local scale or one-offs)

**Basis for development of technical guidance** (what type of information should be included in the supporting technical guidance for this measure)

- fish trapping data exchange between fishermen & researchers/observers

- tools for MPA designation: utilizing existing knowledge in such a way as they bring added value to the ecological coherence.



<p><b>Optimum means of delivery</b> (I.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>We want OSPAR to generally promote the need to improve our knowledge in the marine area in a widespread way (call for action).</p> <p>OSPAR must promote cooperative work at an international level at the distribution area scale for all 5 species.</p> <p>CPs must consider how they will improve their evidence base for the improved knowledge of the marine phase (resource implications).</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <ul style="list-style-type: none"> <li>-Stock assessments</li> <li>-New insights (ongoing research) on variables and marine habitats linked to these species</li> <li>-Reliable identification of marine habitats essential to these species</li> <li>-Communication/awareness-raising: ID guides, fishermen training etc...</li> </ul>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>No case studies: the lack of knowledge in the marine environment on these species is severe (there may be national programmes which the working-group was not aware of)</p> <p>Examples are either freshwater based or at a very short time-scale</p>
<p><b>Definition of any technical terms used in the above description.</b></p> <p>Diadromous: an aquatic organism which migrates between marine, estuarine and/or freshwater systems to carry out its life cycle.</p> <p>Ecosystem approach:</p>

GROUP Diadromous fish RAPPORTEURS Jane Goodwin/Amelia Curd

<p><b>Short name of the protective action or measure</b></p> <p>Restoration of freshwater &amp; estuarine habitat used by diadromous fish</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All 5 listed diadromous fish</p>

<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To improve the status of these species given that all need to have access to a range of riverine and estuarine habitats for their life cycle.</p> <p>Historically, insensitive waterway management has been the key pressure to affect these species. Some species have very specific habitat requirements. For salmon and lampreys, gravel and sandy beds for spawning are essential. All 5 listed species need to have access to a range of riverine &amp; estuarine habitats that are required for their life cycle.</p> <p>Some Member States are yet to fulfil their commitments in some areas of the WFD: the mechanisms have been developed however their implementation has in some cases been delayed.</p> <p>(We need to cross-check with the WFD objectives)</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <ul style="list-style-type: none"> <li>-OSPAR to encourage Member States to meet their commitments under the WFD, to make sure measures are not delayed and milestones are set.</li> <li>-Ensure connectivity between essential habitats e.g. by removing barriers or building fish passes. Before the WFD is fully implemented, there is still the possibility of constructing further impassable obstacles downstream from existing obstacles. This is not desirable.</li> <li>-Encourage the implementation of fish-friendly turbines in hydroelectric dams</li> <li>-Ensure join-up between the WFD and Renewables/Green Energy Directive to produce effective mitigation measures or an alteration in energy-production techniques</li> <li>-Identify equivalent measures in non-Member States and promote a consistent approach.</li> </ul>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>In all the connected inland waters within the OSPAR area where these species occur</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <ul style="list-style-type: none"> <li>-Electricity companies develop EIAs and subsequent mitigation measures e.g.: fish-friendly turbines, deflectors, halting turbines during key migration periods (examples of barrier removal currently unknown).</li> <li>- All studies on fish passes (i.e.: R&amp;D in Fishpass; species-specific due to different life traits)</li> </ul>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <ul style="list-style-type: none"> <li>-Using WFD technical guidance effectively</li> </ul>

<p><b>Optimum means of delivery</b> (I.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>FR: EDF, Fish-Pass (<a href="http://www.fishpass.fr">www.fishpass.fr</a>)</p> <p>(other examples likely to exist)</p>
<p><b>Definition of any technical terms used in the above description.</b></p> <p>Diadromous: an aquatic organism which migrates between marine, estuarine and/or freshwater systems to carry out its life cycle.</p> <p>Ecosystem approach:</p>

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<p><b>Short name of the protective action or measure</b></p> <p>Raise awareness of the status of bluefin tuna, cod and orange roughy</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All in group 4 : bluefin tuna, cod, orange roughy</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>Improve acceptability of and confidence in management measures</p> <p>Enable the consumer to make an informed choice about purchasing decisions</p> <p>Facilitate a public debate on the conservation of these species</p>

<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Fishermen :</p> <p>Priority should be given to field communication</p> <p>Partnership projects have a primary objective which is data collection but have also positive effects on awareness</p> <p>Sharing experiences, best practices, etc. is important e.g. to improve selectivity in order to reduce discards in cod fisheries</p> <p>Awareness should be raised on the past experience of orange roughy fishery, which is an example of management failure</p> <p>Recreational fisheries (bluefin tuna, cod)</p> <p>Others (the public including youth): OSPAR should develop guidelines (to CPs) and initiatives regarding information to the public</p> <p>Others (management authorities): initial and/or general training of civil servants could incorporate environmental issues, including marine environmental issues. OSPAR could contribute to that by providing guidelines, fact sheets...</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Not relevant</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>In all aspects, experience exists ; improvement is needed from existing tools</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>

<b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)
<b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)
<b>Definition of any technical terms used in the above description.</b>

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<b>Short name of the protective action or measure</b>
Co-operate with ICCAT and Barcelona Convention
<b>Species/habitat from the OSPAR List likely to benefit</b>
Bluefin tuna
<b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)
To have a consistent approach to the conservation and management of bluefin tuna
Since BFT also is present in the area of competence of the Barcelona Convention, this organisation could contemplate the possibility of adopting initiatives similar to those available to OSPAR
Bluefin tuna being on OSPAR list, there should be more cooperation between OSPAR and ICCAT
<b>Description of the measure</b> (i.e. what practical steps are involved)
MoU between OSPAR and ICCAT
Encourage Barcelona Convention to promote conservation of BFT in coordination with OSPAR
<b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)

<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>MoU with NEAFC</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>MoU with ICCAT</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<p><b>Short name of the protective action or measure</b></p> <p>Encourage the further collection of data and research work on bluefin tuna, cod and orange roughy</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All in group 4 : bluefin tuna, cod, orange roughy</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To provide the scientific underpinning for ecosystem-based management of the bluefin tuna, cod and orange roughy</p> <p>Partnerships with fishermen are essential</p>

<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Improve data collection schemes, including by cooperation between CPs, on fisheries, ecosystems, social and economic issues</p> <p>Develop partnership projects with the fishermen (positive effects on awareness also)</p> <p>Improve (or establish) applied research and coordinated advice on multispecies issues and marine ecosystems in order to implement Ecosystem approach to fisheries management (multispecies aspect are especially relevant for cod)</p> <p>Fishery-independent data should be collected to monitor future trends of the stock(s) : true for all stocks but particularly relevant in the case of OR where fishery data may soon fall to zero</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Not relevant</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>In all aspects, experience exists ; improvement is needed from existing tools</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>OSPAR recommendation and/or Ministerial commitment</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p>

**Definition of any technical terms used in the above description.**

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<p><b>Short name of the protective action or measure</b></p> <p>Consideration of orange roughy when establishing deep sea MPAs</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Orange roughy</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To help safeguard orange roughy aggregations when they are present in areas where MPAs are being established for the conservation of deep sea habitats.</p> <p>When developing MPAs in order to protect deep sea habitats, orange roughy aggregations should be also taken into account – where practicable</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Definition of the areas</p> <p>Definition of appropriate management measures</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p>



<b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)
<b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)
<b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)
<b>Definition of any technical terms used in the above description.</b>

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<b>Short name of the protective action or measure</b> Discussion with fisheries management authorities and stakeholders to identify appropriate tools to reduce and/or eliminate cod discards
<b>Species/habitat from the OSPAR List likely to benefit</b> Cod
<b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)  Reduce and/or eliminate cod discards and therefore cod mortality.
<b>Description of the measure</b> (i.e. what practical steps are involved)  continue discussion with fisheries management authorities and stakeholders (including through partnership projects) to identify appropriate tools to [reduce and/or] eliminate cod discards
<b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)  Not relevant

<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>In all aspects, experience exists ; improvement is needed from existing tools</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>OSPAR recommendation</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<p><b>Short name of the protective action or measure</b></p> <p>Ban on the removal of orange roughy from the OSPAR Area</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Orange roughy</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>Provide total protection to orange roughy from fishing activity in the OSPAR Area.</p>

<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Ban of catches to be decided by NEAFC</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>A ban is already in force for EU and Norway fleets</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Call for action from OSPAR to NEAFC</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Other Commercially important species

RAPPORTEUR François Gauthiez

<p><b>Short name of the protective action or measure</b></p> <p>To promote management of bluefin tuna, cod and orange roughy on the basis of best available scientific advice</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>All in group 4 : bluefin tuna, cod, orange roughy</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To ensure that any fisheries that are permitted have the best chance of operating sustainably. Since scientific advice is a key point to ensure sustainable fisheries</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>This should apply mainly to the definition of fishing opportunities (catch limits, effort limits) ;</p> <p>It may also concern other management measures (technical measures concerning gears, time-area closures, etc.)</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Not relevant</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>In all aspects, experience exists ; improvement is needed from existing tools</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Ministerial commitment and/or OSPAR recommendation</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>

**Example/case study that could be used to explain the measure to a lay audience** (if possible indicate where more details could be found/contact person)

**Definition of any technical terms used in the above description.**

GROUP Deep Sea Habitats      RAPPORTEUR Mark Tasker

**Short name of the protective action or measure**

Further mapping of deep sea habitats on the OSPAR List

**Species/habitat from the OSPAR List likely to benefit**

Coral gardens, deep-sea sponge aggregations, *Lophelia pertusa* reefs, Oceanic ridges with hydrothermal vents/fields, Seamounts, ++

**Purpose of the measure** (i.e. an explanation of the intention of the measure)

To have greater knowledge of the distribution, habitat extent and quality, and ecological requirements of each habitat

**Description of the measure** (i.e. what practical steps are involved)

1. Gather all existing information
2. Conduct surveys for further information
3. Map survey results and report
4. Model the ecological requirements to identify where further habitats likely to be located
5. Ensure information collated, curated and made available to public.
6. Ensure co-ordination etc. with other related initiatives

**Geographic scope needed for implementation** (including which parts of the OSPAR area does the action or measure need to be implemented)

Whole OSPAR area, but focussed on deep water for these habitats

<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Plenty with many EU wide and national projects.</p> <p>See particularly EU INSPIRE (<a href="http://inspire.jrc.ec.europa.eu/">http://inspire.jrc.ec.europa.eu/</a>) and EMODNET (<a href="http://ec.europa.eu/maritimeaffairs/eu-marine-observation-data-network-mission_en.html">http://ec.europa.eu/maritimeaffairs/eu-marine-observation-data-network-mission_en.html</a>) projects</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>See particularly EU INSPIRE and EMODNET projects</p>
<p><b>Optimum means of delivery</b> (I.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Call for action from OC; co-operative work and CP implementation</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Area of seabed surveyed/mapped at relevant level of detail</p> <p>Availability of reports/information for public</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Cash!</p> <p>Gap analysis (being conducted) to target most important areas</p> <p>(Start with the deep sea)</p> <p>Agree information storage facilities and ensure that it can be sustained</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>MAREANO (Lene Buhl-Mortensen, IMR)</p> <p>Nova Scotia mapping (Tony Costello, BIO; Brian Todd, BIO)</p> <p>Irish deep sea waters (contact Peter Heffernan, Marine Institute, Galway)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Deep Sea Habitats      RAPPORTEUR Mark Tasker

<p><b>Short name of the protective action or measure</b></p> <p>Freeze the footprint of fishing in the deep sea.</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Coral gardens, deep-sea sponge aggregations, <i>Lophelia pertusa</i> reefs, Seamounts</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To prevent further expansion of (damage from) fishing in currently unfished areas</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>OSPAR to define its role and co-ordinate with relevant fisheries authorities</p> <p>Define current footprint. The scale of footprint mapping is critical; needs to be very detailed using 2005-2009 VMS. Work with fishers to define the footprint. Focus on bottom-contacting gears (pelagic not relevant). Differentiate gears (bottom-trawling, long-line, nets)</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Whole OSPAR area, but focussed on deep water for these habitats</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>CCAMLR for Antarctic waters</p> <p>East coast of Canada? (Checking)</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>The scale of footprint mapping is critical; needs to be very detailed.</p> <p>Guidance needed on</p> <ol style="list-style-type: none"> <li>1. Use of VMS (2005-2009); best mapping format.</li> <li>2. Working with fishers</li> <li>3. What is a bottom-contacting gear (pelagic not relevant).</li> <li>4. Gear differentiation (bottom-trawling, long-line, nets)</li> <li>5. Enforcement?</li> </ol>

<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Call for action by OC to fishing authorities; co-operative work between CPs and fisheries authorities</p> <p>Work with fishers (e.g. distant waters RAC)</p> <p>Future development could include increase in VMS transmission frequency; transmission of more information (e.g. gear types)</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Report on activities of flagged fleet to demonstrate compliance (report on EU fleet needs to be negotiated)</p> <p>(non CP fleets would ?need to be reported on by fishing authorities)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>See above</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>See existing experience above?</p>
<p><b>Definition of any technical terms used in the above description.</b></p> <p>Fishing footprint – where vessels have fished using bottom-contacting gear in 2005-2009.</p> <p>CCAMLR – Convention on the Conservation of Antarctic Marine Living Resources</p> <p>VMS – satellite-based Vessel Monitoring System</p> <p>RAC – Regional Advisory Council (under CFP)</p>

GROUP Deep Sea Habitats      RAPPORTEUR Mark Tasker

<p><b>Short name of the protective action or measure</b></p> <p>Designate further MPAs for deep sea habitats on the OSPAR List</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p>



<p>Coral gardens, deep-sea sponge aggregations, <i>Lophelia pertusa</i> reefs, Oceanic ridges with hydrothermal vents/fields, Seamounts</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To provide protection to areas of suitable habitat</p> <p>To implement international commitments</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>1, 2, 3. For “frozen fisheries” – identify areas within current fishing footprint that are suitable for restoration</p> <p>Work with fishing authorities</p> <p>If frozen footprint does not occur, continue current MPA process.</p> <p>A, B, C. Continue current process (use data that exists, map new areas, define critical habitat, designate, co-ordinate with relevant authorities for management measures)</p> <p>Both: Define how SEA/EIA to be used particularly for areas not presently fished (and ?for changes of gear/ intensification in areas that are fished)</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Whole OSPAR area, but focussed on deep water for these habitats</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Much CP experience in own waters</p> <p>OSPAR ABNJ</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>OSPAR MPA guidance etc.</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Cooperative work between OSPAR and other organisations</p>

Existing OSPAR decision on MPA network Possible OSPAR formal measure for designation of specific MPAs in ABNJ
<b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)  Numbers and location of MPAs Habitat extent and quality inside and outside MPAs Compliance with management measures
<b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)
<b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)  Norwegian reefs El Cachucho Many more MPAs globally Azores Marine Park
<b>Definition of any technical terms used in the above description.</b>  ABNJ – Areas beyond national jurisdiction (high seas beyond national EEZs or their equivalent) MPA – Marine Protected Area SEA – Strategic Environmental Assessment – carried out by regulatory authorities to inform taking of measures/licensing etc. EIA – Environmental Impact Assessment – carried out by operator/industry to avoid damage to environment.

GROUP Deep Sea Habitats      RAPPORTEUR Mark Tasker

<b>Short name of the protective action or measure</b>  Ban deliberate damage to deep sea habitats on the OSPAR List
<b>Species/habitat from the OSPAR List likely to benefit</b>  Coral gardens, deep-sea sponge aggregations, <i>Lophelia pertusa</i> reefs, Oceanic ridges with hydrothermal vents/fields, Seamounts

<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To provide protection to areas of relevant habitat</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Map areas of habitat to be protected</p> <p>Inform fishers and other users/provide maps</p> <p>Introduce legislation</p> <p>Ensure feedback from fishers occur</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Whole OSPAR area, but focussed on deep water for these habitats</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Ban on deliberate damage to Norwegian <i>Lophelia</i>.</p> <p>Bans on damage to active vents (by miners) in Papua New Guinea</p> <p>Code for environmental management of marine mining (International Marine Minerals Society)</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Maps (including modelled results)</p> <p>(Review efficiency of move-on rule)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Call for action from OSPAR to appropriate authorities</p> <p>Cooperative work between OSPAR and other organisations (e.g. fishers organisations, mining companies)</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Difficult! VMS might help</p> <p>Laws passed</p>

<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Prepare maps (including modelled information) – update fisheries charts Information campaign for fishers and others (including control agencies)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Norwegian case – see above (contact Egil Lekven)</p>
<p><b>Definition of any technical terms used in the above description.</b></p> <p>Move on rule – rules that currently apply to fishermen encountering unexpected amounts of corals or sponges as bycatch. Threshold levels apply that require fishers to move 2 NM aiming to reduce further damage to the habitat VMS – satellite-based Vessel Monitoring System</p>

GROUP Deep Sea Habitats      RAPPORTEUR Mark Tasker

<p><b>Short name of the protective action or measure</b></p> <p>Use Strategic Environmental Assessment/Environmental Impact Assessment tools</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>Coral gardens, deep-sea sponge aggregations, <i>Lophelia pertusa</i> reefs, Oceanic ridges with hydrothermal vents/fields, Seamounts</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To reduce effects and prevent further damage from human activities, including fishing.</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>SEA periodically for all activities, carried out by fisheries authorities EIA for any new activities (or in new areas) carried out by industry Note that neither of these is extension of existing legislation, but use of these tools in appropriate way.</p>

<p>Both tools are a public process.</p> <p>Both tools need description of environment, description of (proposed) activity, interaction between activity and environment, mitigation measures for adverse interactions and decision-taking on residual effects.</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>Whole OSPAR area, but focussed on deep water for these habitats</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Much experience in other marine industries</p> <p>Some experience in fisheries (e.g. inshore UK shellfish industry; US fisheries-ecosystem plans; Australian fisheries ecosystem assessments, Norwegian ocean management plans)</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Sources of information and examples for description of environment, description of (proposed) activity, interaction between activity and environment, mitigation measures for adverse interactions and decision-taking on residual effects.</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>call for action from OSPAR by fisheries authorities, (</p> <p>(unsure if OSPAR can ask for this directly from authorities/industry?)</p> <p>cooperative work between OSPAR and other organisations e.g. ISA</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Number of SEA/EIA completed (or geographic extent) – information sought from management authorities</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>OC/CP to draw up best practice guidance in relation to fisheries</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Existing usage – particularly in other industries (e.g. Norway oceans plan – Anne Langaas, DNM; UK oil and gas, renewables – Kevin O'Carroll, DECC)</p>

**Definition of any technical terms used in the above description.**

SEA – Strategic Environmental Assessment – carried out by regulatory authorities to inform taking of measures/licensing etc.

EIA – Environmental Impact Assessment – carried out by operator/industry to avoid damage to environment.

GROUP Coastal and continental shelf habitats

RAPPORTEURS David Connor /Cecilia Lindblad

**Short name of the protective action or measure**

Reducing fishing including mutual benefits of closed areas and through improved gears and practices

**Species/habitat from the OSPAR List likely to benefit**

Sea-pen /mega fauna, Arctica islandica, Modiolus Sea-pens and burrowing mega fauna

**Purpose of the measure** (i.e. an explanation of the intention of the measure)

Better knowledge of habitat can improve efficiency of fisheries

**Description of the measure** (i.e. what practical steps are involved)

Develop sound understanding of the habitat and recruitment process, to help determine most suitable area to be closed.

**Geographic scope needed for implementation** (including which parts of the OSPAR area does the action or measure need to be implemented)

Coastal and shelf habitats

**Existing experience** (i.e. is there any existing experience of what is proposed)

UK, Isle of Man scallop fishery

UK, Razor clams in the Wash

Wadden sea Cockle fishery

FR, seasonal closures for oysters

DK, Blue mussel fishery in Wadden sea

Sweden, Koster fjord for shrimp fishery

<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Characteristics of habitat occurrence and quality</p> <p>Understanding of characteristics of fisheries</p> <p>Establishing research and monitoring program for assessing recover and resilience on community level.</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Involvement of fishermen and other stakeholders to develop proposals and monitoring progress is critical to success</p> <p>Adaptive management as delivery progress and build upon experience</p> <p>Offshore – RAC's</p> <p>Inshore – CP Fishery competent authorities</p> <p>Need input to MSFD delivery mechanisms regarding biodiversity assessment of GES</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>Best compliance from early involvement with fishermen.</p> <p>Monitoring habitat – improved quality (progress towards desired targets )</p> <p>Monitoring consequences ( including potential benefits) to fishery</p> <p>Monitoring compliance with closure (using appropriate technology)</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p> <p>Evaluate resilience (optimum size, location and duration for are to be closed)</p> <p>Identify pilot areas (possibly with benefits to several habitats) and fishery</p> <p>Developing technical information on habitats/areas. Work with CP's and stakeholders to identify possible pilot areas.</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>See the previous “<b>Existing experience</b> (i.e. is there any existing experience of what is proposed)”</p> <p>Great Barrier Reef Australia example</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Coastal and continental shelf habitats

RAPPORTEURS David Connor /Cecilia Lindblad

<b>Short name of the protective action or measure</b>
Marine Spatial Planning
<b>Species/habitat from the OSPAR List likely to benefit</b>
all
<b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)
Develop overall strategy for management of large areas to better manage relationship between activities and biodiversity. Needs to happen at different scales (e.g. whole sea, MPA). Develop zoning schemes.
<b>Description of the measure</b> (i.e. what practical steps are involved)
<p>Incorporate participation of stakeholders in overall development of regional plans, to ensure good cooperation in developing plans. This will build confidence in developing objectives, contribution of information, etc.</p> <p>Bring together existing information on distribution of activities and habitats. Increase knowledge of the distribution of the habitats and activities, and their interaction.</p> <p>Development of objectives (quality targets) for the OSPAR habitats for the region.</p> <p>Identify reference conditions/sites.</p> <p>Prepare zonal plans about which activities are possible in each zone - to incorporate fisheries with other activities.</p> <p>Define the scale appropriate for overall management of each habitat.</p>
<b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)
Coastal and shelf waters (for these 6 habitat types!).
<b>Existing experience</b> (i.e. is there any existing experience of what is proposed)
<p>Project on MSP in Irish Sea.</p> <p>German raumordnung (national plan for EEZ) - doesn't deal equally with all sea users.</p> <p>EU Maritime Strategy Policy provides principles.</p> <p>Lyme Bay reefs, UK - good and bad experiences.</p> <p>Barents Sea Management Plan</p> <p>Great Barrier Reef Plan.</p> <p>French work on Natura to develop risk models of habitats and activities.</p> <p>Wadden Sea Trilateral Plan.</p> <p>Belgian project on spatial planning (Gent University)</p>



<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>UNESCO Guidelines on MSP</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Pilot study across CPs - possibly via EU project - needs to input to Maritime Strategy and link to MSFD - should be one tool of MSFD marine strategies.</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>CPs reporting on effectiveness of plans in protected OSPAR habitats.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p>
<p><b>Definition of any technical terms used in the above description.</b></p>

GROUP Coastal and continental shelf habitats

RAPPORTEURS David Connor /Cecilia Lindblad

<p><b>Short name of the protective action or measure</b></p> <p>Impact assessments</p>
<p><b>Species/habitat from the OSPAR List likely to benefit</b></p> <p>all</p>
<p><b>Purpose of the measure</b> (i.e. an explanation of the intention of the measure)</p> <p>To ensure new, and if possible existing, regulated activities take account of the need to protect the OSPAR features in Impact Assessments</p>
<p><b>Description of the measure</b> (i.e. what practical steps are involved)</p> <p>Most industries and new activities are subject to Impact Assessments before they are given permission to proceed. A straightforward way to ensure protection of OSPAR List features in the vicinity of such activities is to include the need to fully protect the OSPAR List features at the Impact</p>

<p>Assessment stage. The IA would need to undertake suitable environmental assessment to determine which OSPAR List features occur in the area and to assess whether the proposed activity will have any adverse effects on the features. The Regulatory Authority should ensure the activity does not cause further deterioration in the status of the features present. During implementation phase of the activity, suitable monitoring/assessment should be undertaken by the developer to demonstrate that the activity is not having any adverse effects on the features (as predicted in the IA). The data on such monitoring should be submitted to the Regulator. The outcomes of all IAs and follow-on monitoring should be aggregated into a national report for communication to OSPAR.</p> <p>To be fully effective in preventing future deterioration to OSPAR features, such IAs would need to be applied to all activities, including those under the control of international authorities (fisheries, shipping).</p>
<p><b>Geographic scope needed for implementation</b> (including which parts of the OSPAR area does the action or measure need to be implemented)</p> <p>All OSPAR regions</p>
<p><b>Existing experience</b> (i.e. is there any existing experience of what is proposed)</p> <p>Existing IA processes which take account of Habitats Directive features.</p>
<p><b>Basis for development of technical guidance</b> (what type of information should be included in the supporting technical guidance for this measure)</p> <p>Review existing IA mechanisms (guidance) and develop model example which incorporate the necessary procedures (initial IA, follow-on monitoring, reporting)</p>
<p><b>Optimum means of delivery</b> (i.e. through a formal OSPAR measure, call for action from OSPAR, cooperative work between OSPAR and other organisations, other)</p> <p>Recommendation for CP implementation</p>
<p><b>Compliance issues that Contracting Parties could report on</b> (means of implementation/ particular success criteria etc.)</p> <p>CPs to deliver through their normal regulatory authorities for each sector (or via Marine Spatial Planning where implemented). Annual reporting of outcomes to be aggregated by CP (common reporting format) and submitted to OSPAR.</p>
<p><b>Further work required to prepare this measure and supporting technical guidance</b> (in order of priority)</p>
<p><b>Example/case study that could be used to explain the measure to a lay audience</b> (if possible indicate where more details could be found/contact person)</p> <p>Select suitable Habitats Directive examples</p>
<p><b>Definition of any technical terms used in the above description.</b></p>



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**OSPAR's vision is of a healthy and diverse North-East Atlantic ecosystem**  
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