

TITLE: Monitoring and Protection of the Marine Environment

1. SUMMARY

- 1.1. This report provides the Environment PPG with an update on the monitoring and protection of the Marine Environment. The report summarises both the drivers and work streams at an International, European, UK and Scottish level which seek to manage and protect the marine environment.

2. RECOMMENDATIONS

- 2.1 Members are asked to note the contents of this update and respond with views accordingly.

3. INTERNATIONAL LEVEL

3.1 OSPAR Convention

The OSPAR Convention is the current legal instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic. Work under the Convention is managed by the OSPAR Commission, made up of representatives of the Governments of 15 Contracting Parties and the European Commission.

3.2 OSPAR Quality Status Report 2010

The Quality Status Report 2010 is a milestone for evaluating the quality status of the North-East Atlantic and for taking forward OSPAR's vision of a clean, healthy and biologically diverse sea. It follows up on the previous quality status report in 2000. The 2010 report reflects the collective effort made by Contracting Parties over the period 1998 to 2008 to manage, monitor and assess the many pressures on the diverse ecosystems of the North-East Atlantic and the impacts that they bring.

The report includes summaries for regions with the North East Atlantic, with the Celtic Seas region (Region III) encompassing Argyll and Bute. The regional analysis concluded that the quality status of Region III was generally good. Issues of high importance were: effects of pollution localised in urban estuaries; some fish stocks critically depleted; hormone disruption due to hazardous substances, including tributyltin (TBT) pollution; extensive coastal development; effects of climate change. Climate change has remained an ongoing concern. A summary of the Celtic Seas region is detailed in **Annex 1** of this report.

4. EUROPEAN LEVEL

4.1 Marine Strategy Framework Directive (MSFD)

The aim of the European Union's ambitious Marine Strategy Framework Directive (adopted in June 2008) is to protect more effectively the marine environment across Europe. It aims to achieve good environmental status of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. The Marine Strategy Framework Directive constitutes the vital environmental component of the Union's future maritime policy, designed to achieve the full economic potential of oceans and seas in harmony with the marine environment.

The Marine Strategy Framework Directive complements OSPAR's work on protection of the North-East Atlantic and the Quality Status Report 2010 forms an important regional contribution to the initial assessments of national marine waters that most OSPAR countries will submit in 2012 under the Marine Strategy Framework Directive.

The Marine Strategy Framework Directive establishes European Marine Regions on the basis of geographical and environmental criteria. Each Member State - cooperating with other Member States and non-EU countries within a marine region - are required to develop strategies for their marine waters. Scotland is part of the North East Atlantic Region.

The goal of the Marine Strategy Framework Directive is in line with the objectives of the Water Framework Directive and requires Member States to take measures to achieve or maintain Good Environmental Status (GES) by 2020. GES will be defined at the scale of a Marine Region or sub-region (such as the North Sea) and will be based on a series of 'qualitative descriptors' which are listed in annex 1 of the Directive. These descriptors are listed in **Annex 2** of this report.

Member States have to prepare and implement marine strategies to protect the marine environment, prevent deterioration and, where possible, restore damaged marine ecosystems. The Directive also seeks to phase out marine pollution to protect the marine environment, human health and sustainable use.

4.2 Common Fisheries Policy

The EU objective of new Common Fisheries Policy (CFP) is to ensure sustainable exploitation of marine living resources. At the same time it is meant to contribute to the Europe 2020 Strategy by working towards robust economic performance, inclusive growth and enhanced coastal cohesion. The Commission's aim is to have "a fishing industry that provides better jobs and livelihoods and that operates on principles, such as low environmental impact".

A package of proposals for CFP reform is expected at the end of May 2011 and should include a new basic regulation replacing the regulation from 2002, and a new regulation on a market management mechanism.

4.3 Integrated Maritime Policy

The Commission's intention is to coordinate current and future policies and initiatives, within the broader field of maritime policy, notably the CFP, the implementation of the MSFD and future development of Integrated Coastal Zone Management while respecting the principle of subsidiarity and the existing competences and jurisdictions of the relevant authorities.

5. UK LEVEL

5.1 UK Marine Policy Statement

The Scottish Government is working towards adoption of a UK wide Marine Policy Statement, to be agreed jointly with the UK Government, Welsh Assembly and Northern Ireland Executive. The Statement will set the high level policy context within which marine plans will be developed within each of the administrations - this will include a Scottish national marine plan and regional planning for Scottish seas. The Statement builds on previously agreed High Level Marine Objectives and, when finalised, will impact on authorisation and enforcement decisions made by public authorities.

5.2 Charting Progress 2

Charting Progress 2 is the second assessment of UK Seas which reported in mid 2010. It is a comprehensive report on the state of the UK seas and is published by the UK Marine Monitoring and Assessment community. The report is based on a peer-reviewed evidence base and describes progress made since the publication of Charting Progress in 2005. It provides key findings from UK marine research and monitoring for use by policy makers and

others to realise the UK vision of clean, healthy, safe, productive and biologically diverse oceans and seas. Further details can be found at <http://chartingprogress.defra.gov.uk/>

6. SCOTTISH LEVEL

6.1 Marine Nature Conservation Strategy

The Council responded to the consultation on a draft Marine Nature Conservation Strategy in 2010 and a final document is due to be published in March 2011. The draft document can be viewed at <http://www.scotland.gov.uk/Topics/marine/marine-environment/Conservationstrategy/draftconstrategy>

This strategy sets out the vision, purpose, aims and objectives for protecting marine biodiversity and is designed to facilitate co-operation in pursuit of shared marine objectives in the UK and to meet national and international obligations. These include the achievement of Good Environmental Status under the MSFD, and the promotion of sustainable economic growth, including development of new marine industries.

The strategy outlines Marine Scotland proposals for a 3 pillar approach to marine nature conservation and how this fits with wider marine planning and other work under the Marine (Scotland) Act.

3 pillar approach Priority Marine Features		
Species Wildlife legislation EC Birds & Habitats Directives Biodiversity Action Plans	Site protection Natura Sites (EC Directives) New MPAs	Wider seas measures Marine planning Sectoral policies. e.g. fisheries closures

6.2 Priority Marine Features

Almost 40,000 marine species are known to occur in Scotland's inshore waters, out to 12 nautical miles. The Marine Working Group of the Scottish Biodiversity Forum, responsible for the coordination of action in Scottish waters, was keen that the work already through the UKBAP review be developed further. Scottish Natural Heritage has reviewed a large number of marine habitats and species to identify those considered to be of greatest marine nature conservation importance in Scottish territorial waters - Priority Marine Features (PMF).

The draft PMF list contains 53 habitats and species which are believed to be of greatest conservation importance in Scottish territorial waters (see **Annex 3**). The list will be used to support the advice SNH give on marine biodiversity, playing a role in the delivery of new marine planning and licensing systems set out in the Marine (Scotland) Act. The list will also be used to guide future research.

Guidance outlining the existing legislative protection and management requirements of each of the Priority Marine Features is currently being prepared by [MarLIN](#). The guidance will include an assessment of known feature 'sensitivities', together with maps of Scottish distribution. The results of that work will be made available on the [Biodiversity Scotland](#) website sometime in 2011.

6.3 Marine Protected Areas

The Marine (Scotland) Act established a new power for Marine Protected Areas in the seas around Scotland, to recognise features of national importance and meet international commitments for MPAs.

MPAs are an important mechanism for protecting Scotland's seas. Scotland has international commitments to establish an ecologically coherent network of MPAs under OSPAR and the World Summit on Sustainable Development. Together with existing Natura sites, the new MPA power will help Scotland to meet these commitments.

MPAs will protect important marine habitats and wildlife, geology and geomorphology, as well as features of cultural importance such as shipwrecks and submerged landscapes. The Act also allows local communities to put forward proposals for Nature Conservation and Demonstration and Research MPAs. A subset of the draft PMF list will be identified for which it will be appropriate to designate Nature Conservation MPAs.

A target date of 2012 for completion of a Marine Protected Area network has been set in order that it might contribute towards the achievement of Good Environmental Status under the MSFD. Completion by 2012 will also meet obligations under the EC marine Natura programme and OSPAR. The MSFD target for publishing area based measures, contributing to coherent and representative networks of MPAs, is 2013 at the latest.

Scottish MPA project

Marine Scotland and SNH are working on this project and the focus of the initial stages has been on the collation and analysis of data regarding the location and status of MPA search features. This is being achieved through analysis of existing data, data-mining projects in collaboration with other bodies and new marine surveys. It is recognised that the confidence that can be attached to different results varies and this will be taken into account in decisions.

Stakeholder engagement on the MPA project to date has been mainly through the Marine Strategy Forum which also has a key role in the development of the National Marine Plan for Scotland. The membership of this Forum is detailed in **Annex 4**. Marine Scotland propose to develop a stakeholder engagement strategy which will provide detail on how stakeholders can engage in the process of development of the MPA network.

SNH are considering the potential to provide data and analysis of PMFs for each Scottish Marine Region once they are defined. It is possible that the State of Scotland's Seas Atlas may also include regional analysis at this scale.

6.4 Marine Scotland Science

There are currently five areas of research being undertaken by Marine Scotland Science:

- [Clean Seas](#): Analysing and researching the most appropriate ways to maintain and improve the cleanliness of the seas.
- [Safe Seas](#): Researching and developing the most appropriate ways to measure and improve the quality of Scotland's seas.
- [Biologically diverse marine and coastal environments](#): Researching and exploring marine wildlife of Scotland to examine how species are evolving and changing.
- [Productive Seas](#): Recognising the value of the seas to the economy, whilst also considering any associated human activity impacts on the state of them.
- [Healthy Seas](#): Collating evidence and examining ways to ensure the long-term health of the marine ecosystem in Scotland's seas.

The Aquatic Environment Programme is one of four science programmes at Marine Scotland Science. Scientific monitoring and research underpins the advice provided to the Scottish Government, other government departments and stakeholders. The main activities of this group are listed in **Annex 5**.

6.5 Assessment and reporting on the state of Scotland's Seas

Scotland's Seas: Towards Understanding their state

Published in 2008 this report summarises the detail of the work already being carried out to protect and understand the Scottish marine environment. It is the first step to a more comprehensive and detailed report on the state of the marine environment, due in 2010.

The report was commissioned by the Scottish Government and has been jointly produced by Fisheries Research Service (FRS), Scottish Environment Protection Agency (SEPA) and Scottish Natural Heritage (SNH) with assistance from the wider marine scientific community across Scotland and the UK. Further information can be found at <http://www.scotland.gov.uk/Publications/2008/04/03093608/0>

The main findings were:

- Scotland's seas are generally clean and safe, with a trend towards reduction of most pollutants over the past 20 years
- The seas are generally healthy and biologically diverse, with around 40,000 species of plants, animals and microbial forms living in Scottish waters
- The seas are productive and generate around £2.2 billion of marine-industry activity (excluding oil and gas activity) and provide approximately 50,000 jobs in Scotland

State of Scotland's Seas Atlas

Scottish Government through Marine Scotland has established a project to develop a State of Scotland's Seas Atlas for publication in early 2011. The purpose of the Atlas is to:

- Report on the progress with achieving the vision for the seas of "clean, healthy, safe, productive and biologically diverse marine and coastal environment, managed to meet the long term needs of nature and people".
- Contribute towards the knowledge base required for marine planning and represent the information spatially.

This report was due to be published in February but is behind schedule with a latest estimation of completion in March 2011.

7. ARGYLL AND BUTE

7.1 Integrated Coastal Zone Management Plans

ICZM Plans have been developed by the Council for Loch Fyne and Loch Etive. In addition the Council have adopted the Sound of Mull Marine Spatial Plan as Supplementary Planning Guidance. These non statutory plans take account of sensitive habitats and species and provide guidance for local authority Planners, regulators and stakeholders on the future use and development of the marine waters and surrounding coast.

7.2 Local Biodiversity Action Plan 2010-2015

The new LBAP sets out the projects which partners will deliver in the Council area over the next 5 years (2010-2015). The plan is divided into 6 Ecosystem Work Programmes, including a programme for Marine and Coastal Ecosystems, which identifies funded and potential projects which aim to contribute to the enhancement and better understanding of these environments. Full details can be found at <http://www.argyll-bute.gov.uk/sites/default/files/planning-and-environment/AandB%20BAP%20Draft.pdf>

8. IMPLICATIONS

Legal: None.

Policy: The Council seeks through its Corporate policy, Structure Plan and Argyll and Bute Local Plan to support the sustainable management of our marine and coastal area. The Council should seek to influence the development of maritime policy at a

European, UK and Scottish level and will need to consider this policy in the preparation of the Local Development Plan and Supplementary Planning Guidance.

Personnel: Officer time will be required to respond to consultations relating to maritime policy and to represent the Council on relevant working groups and planning partnerships for marine management and marine planning at the local level.

Financial: None.

Equal Opportunities: None.

Main acronyms used in this report

OSPAR - Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic

MSFD – Marine Strategy Framework Directive

GES – Good Environmental Status

CFP – Common Fisheries Policy

UKBAP – UK Biodiversity Action Plan

PMF – Priority Marine Feature

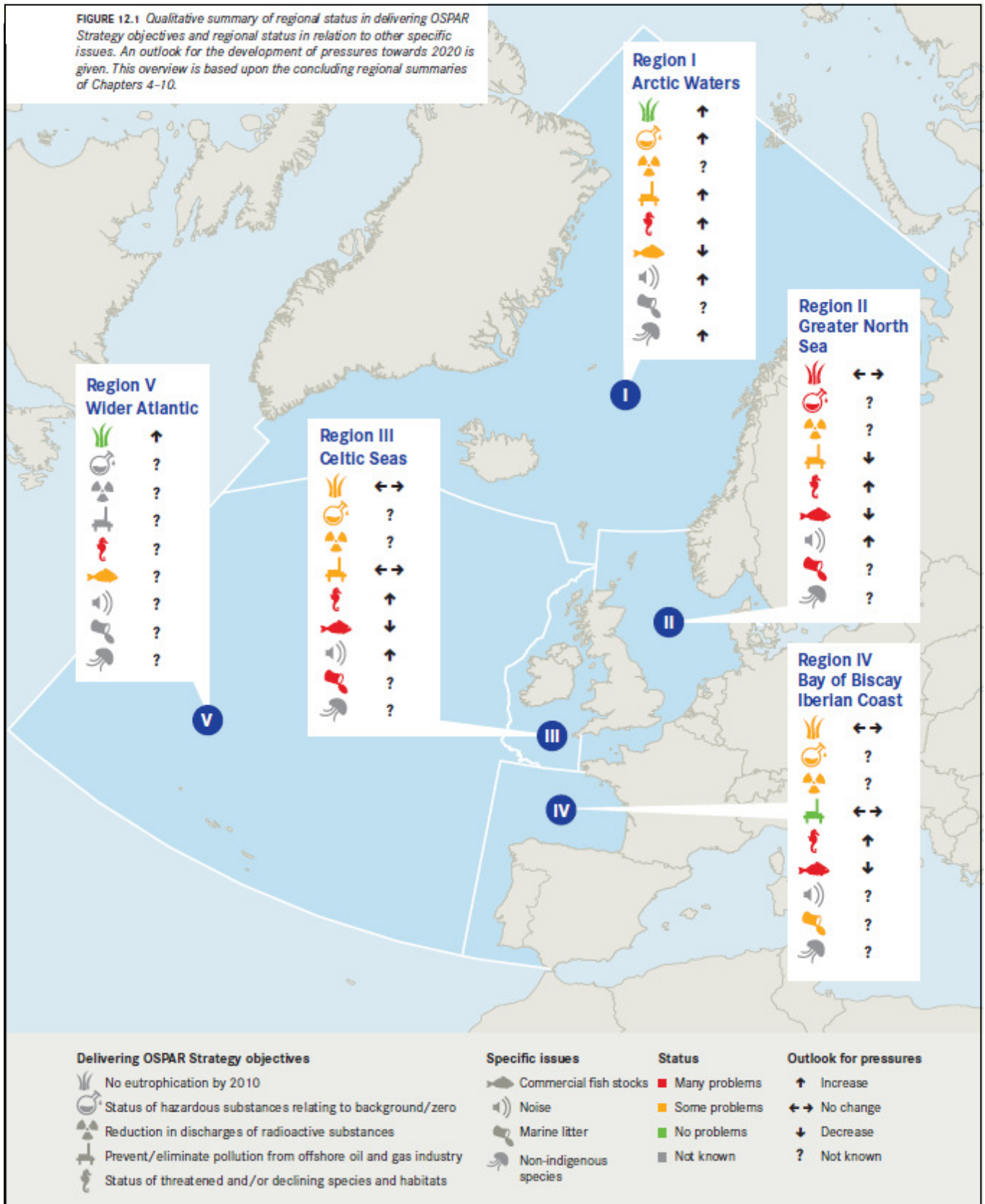
ICES – International Council for Exploration of the Sea

BERR - Department for Business, Enterprise & Regulatory Reform

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Annex 1 – OSPAR Regional Assessment (Region III – Celtic Seas)

FIGURE 12.1 Qualitative summary of regional status in delivering OSPAR Strategy objectives and regional status in relation to other specific issues. An outlook for the development of pressures towards 2020 is given. This overview is based upon the concluding regional summaries of Chapters 4–10.



Eutrophication problem area extent	0.1%
Monitored sites with unacceptable status	
– Mercury	24%
– PAHs	61%
Species under threat	23
Habitats under threat	11
MPA coverage	3.5%

Successes

Radionuclides down. Region III has benefited from a reduction in the discharge of radionuclides from the nuclear sector. In particular, there have been drastic reductions in the discharge of radioactive technetium from nuclear reprocessing activities at [Sellafield \(UK\)](#).

TBT down. Region III is the Region with the greatest proportion of monitored sites where the impacts of TBT are now at acceptable levels, but there are still some problem areas close to harbours and busy shipping lanes.

Recovery for some fish communities. [Recent trends](#) show an improvement in the structure of fish communities that live on or near the seabed, particularly in the north of Region III. Following the adoption of a [long-term management plan](#), the northern hake stock recovered and is now classed as sustainable.

Ongoing concerns

Damage to seabed habitats. The seabed in shallow areas of Region III, including areas of sediment, rock and some biogenic reefs, has been significantly damaged by benthic trawling.

Increasing pressure from human activities. Pressures on species and habitats in Region III are expected to rise as coastal and offshore engineering activities increase. Many more [offshore wind turbines](#) are expected to be installed in the coming years and wave and tidal power generation developments may be introduced. Little is currently known about the long-term effects of these activities on ecosystems because there are so few and they are all relatively new. Their construction can disturb marine mammals and their presence may displace seabirds, but they can also provide retreat areas for fish.

Some fish have low stocks. While [trawl effort](#) has fallen in the Irish Sea and to the west of Scotland, fishing effort is still high in Region III. Some beam trawlers have switched to otter trawling or scallop dredging, a fishery without quotas.

[Several fish stocks](#) are harvested unsustainably. Cod and whiting are depleted to the west of Scotland and in the Irish Sea. To date, [recovery plans](#) for cod have not been effective in rebuilding the Irish Sea stock.

The amount of fish caught and discarded in Region III must be addressed and by-catch is still a problem in some areas.

Poor knowledge of the status of marine mammals. At present, there are insufficient data on the populations of marine mammals in Region III. Harbour seals are counted every five or six years, the bare minimum to assess their status, and other marine mammals have little systematic recording.

[Hazardous substances unacceptable at some coastal locations.](#) Heavy metal, PAH and PCB concentrations in sediment, fish and shellfish have fallen, but are still above acceptable levels in some coastal areas of Region III, mainly around the Irish Sea. Concentrations of PAHs and PCBs are unacceptable at more than half the sites tested.

High levels of litter. On beaches around the Irish Sea there are unacceptable quantities of litter, reaching over 1000 litter items per 100 m beach in some areas. This can be dangerous to seabirds, and to turtles and marine mammals when washed into the sea. Much of this litter probably comes from sources on land.

What should be done?

- **Develop coordinated spatial planning**

Demand for space from human activities is increasing, especially for marine renewable energy developments, so improved marine spatial management is particularly urgent.

- **Reduce marine litter**

Monitoring of marine litter must continue. OSPAR needs to promote efforts to stop litter entering the marine environment.

- **Promote sustainable fishing**

OSPAR needs to promote fisheries management plans that address depleted stocks, and encourage the adoption of rules to prevent fishing from damaging the seabed

Annex 2 – Descriptors for Good Environmental Status under the Marine Strategy Framework Directive

Good Environmental Status is determined at the level of the marine region or sub-region on the basis of 11 qualitative descriptors:

1. **Biological diversity** – the quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.
2. **Non-indigenous species** – non-indigenous species introduced by human activities are at levels that do not adversely alter ecosystems.
3. **Fisheries** – populations of commercially exploited marine species exhibit a population age and size distribution indicative of healthy stocks.
4. **Food webs** – all elements of marine food webs (to the extent they are known) occur at abundance, diversity and levels capable of ensuring long-term abundance and retention of full reproductive capacity.
5. **Eutrophication** – human-induced eutrophication is minimised with respect to losses in biodiversity, ecosystem degradation, harmful algal blooms and oxygen deficiency.
6. **Sea floor integrity** – sea floor integrity is at a level that ensures the structure and function of its ecosystems are safeguarded.
7. **Hydrographical conditions** – Permanent alterations of hydrographical conditions does not adversely affect ecosystems.
8. **Contamination** – Concentrations of contaminants do not give rise to pollution effects.
9. **Seafood contamination** – Contaminants in seafood for human consumption do not exceed levels established by EU legislation or standards.
10. **Marine Litter** – the properties and quantities of marine litter do not cause harm to marine environments.
11. **Noise** – the introduction of energy, including noise, do not adversely affect the marine environment.

Annex 3 – Priority Marine Features List

Priority Marine Features - Habitats

PMF name	Specific important biotopes and species included within this (common name)	Specific Important biotopes and species included within this (scientific/biotope name)
Blue mussel beds	<i>Mytilus edulis</i> beds on reduced salinity infralittoral rock	IR.LIR.IFaVS.MytRS
	<i>Mytilus edulis</i> beds on sublittoral sediment	SS.SBR.SMus.MytSS
	Intertidal <i>Mytilus edulis</i> beds on mixed and sandy sediments	LS.LBR.LMus.Myt
	<i>Mytilus edulis</i> and <i>Fabricia sabella</i> in littoral mixed sediment	LS.LSa.St.MytFab
Burrowed mud	Sea-pen and burrowing megafauna communities	SS.SMu.CFiMu.SpMmeg
	Burrowing megafauna and <i>Maxmuelleria lankesteri</i> in circalittoral mud	SS.SMu.CFiMu.MegMax
	Tall sea pen	<i>Funiculina quadrangularis</i>
	Amphipod	<i>Maera loveni</i>
	Fireworks anemone	<i>Pachycerianthus multiplicatus</i>
Coldwater coral reefs	<i>Lophelia</i> reefs	SS.SBR.CrI.Lop
Sea loch egg wrack beds	<i>Ascophyllum nodosum</i> ecad <i>mackayi</i> beds on extremely sheltered mid eulittoral mixed substrata	LR.LLR.FVS.Ascmac
Flame shell beds	<i>Limaria hians</i> beds in tide-swept sublittoral muddy mixed sediment	SS.SMx.IMx.Lim
Horse mussel beds	<i>Modiolus modiolus</i> beds with <i>Chlamys varia</i> , sponges, hydroids and bryozoans on slightly tide-swept very sheltered circalittoral mixed substrata	SS.SBR.SMus.ModCvar
	<i>Modiolus modiolus</i> beds with fine hydroids and large solitary ascidians on very sheltered circalittoral mixed substrata	SS.SBR.SMus.ModHAS
	<i>Modiolus modiolus</i> beds with hydroids and red seaweeds on tide-swept circalittoral mixed substrata	SS.SBR.SMus.ModT
Inshore deep mud with burrowing heart urchins	<i>Brissopsis lyrifera</i> and <i>Amphiura chiajei</i> in circalittoral mud	SS.SMu.CFiMu.BlyrAchi
Intertidal mudflats	Intertidal mudflats	LS.LMu
Kelp and seaweed communities on sublittoral sediment	Kelp and seaweed communities on sublittoral sediment	SS.SMp.KSwSS
Low or variable salinity habitats	Faunal communities on variable or reduced salinity infralittoral rock	IR.LIR.IFaVS
	Kelp in variable or reduced salinity	IR.LIR.KVS
	Submerged fucoids, green or red seaweeds (low salinity infralittoral rock)	IR.LIR.Lag
	Sublittoral mud in low or reduced salinity (lagoons)	SS.SMu.SMuLS
	Mollusc	<i>Hydrobia neglecta</i>
	Bird's nest stonewort	<i>Tolypella nidifica</i>
	stonewort	<i>Chara baltica</i>
Foxtail stonewort	<i>Lamprothamnium papulosum</i>	

PMF name	Specific important biotopes and species included within this (common name)	Specific Important biotopes and species included within this (scientific/biotope name)
Maerl beds	Maerl beds	SS.SMp.Mrl
Maerl or coarse shell gravel with burrowing sea cucumbers	Neopentadactyla mixta in circalittoral shell gravel or coarse sand	SS.SCS.CCS.Nmix
Native oyster beds	Ostrea edulis beds on shallow sublittoral muddy mixed sediment	SS.SMx.IMx.Ost
	Native oyster	Ostrea edulis
Northern seafan communities	Caryophyllia smithii and Swiftia pallida on circalittoral rock	CR.MCR.EcCr.CarSwi
	Mixed turf of hydroids and large ascidians with Swiftia pallida and Caryophyllia smithii on weakly tide-swept circalittoral rock	CR.HCR.XFa.SwiLgAs
	Northern sea fan	Swiftia pallida
Seagrass beds	Zostera marina/angustifolia beds on lower shore or infralittoral clean or muddy sand	SS.SMp.SSgr.Zmar
	Zostera noltii beds in littoral muddy sand	LS.LMp.LSgr.Znol
Serpula vermicularis reefs on very sheltered circalittoral muddy sand	Serpula vermicularis reefs on very sheltered circalittoral muddy sand	SS.SBR.PoR.Ser
Shallow tideswept coarse sands with burrowing bivalves	Moerella spp. with venerid bivalves in infralittoral gravelly sand	SS.SCS.ICS.MoeVen
Submarine structures made by leaking gases	Submarine structures made by leaking gases	No code
Tide-swept algal communities	Furoids in tide-swept conditions	LR.HLR.FT
	Halidrys siliquosa and mixed kelps on tide-swept infralittoral rock with coarse sediment	IR.HIR.KSed.XKHal
	Kelp and seaweed communities in tide-swept sheltered conditions	IR.MIR.KT
	Laminaria hyperborea on tide-swept, infralittoral mixed substrata.	IR.MIR.KR.LhypTX

Priority Marine Features - Species

PMF name (Common name)	Taxon group	Scientific name
Burrowing sea anemone	Cnidarian	<i>Arachnanthus sarsi</i>
Pink soft coral/pink sea fingers	Cnidarian	<i>Alcyonium hibernicum</i>
White cluster anemone	Cnidarian	<i>Parazoanthus anguicomus</i>
crayfish, crawfish, spiny lobster	Crustacean	<i>Palinurus elephas</i>
Leptometra celtica (feather star)	Echinoderm	<i>Leptometra celtica</i>
Iceland cyprine	Mollusc	<i>Arctica islandica</i>
Fan mussel	Mollusc	<i>Atrina pectinata</i>
Heart cockle	Mollusc	<i>Glossus humanus</i>
Otter	Otter	<i>Lutra lutra</i>
Eastern Atlantic harbour seal/common seal	Seal	<i>Phoca vitulina</i>
Grey seal	Seal	<i>Halichoerus grypus</i>
Harbour porpoise	Cetacean	<i>Phocoena phocoena</i>
Minke whale	Cetacean	<i>Balaenoptera acutorostrata</i>
Killer whale	Cetacean	<i>Orcinus orca</i>
Short-beaked common dolphin	Cetacean	<i>Delphinus delphis</i>
Bottlenose dolphin	Cetacean	<i>Tursiops truncatus</i>
White-beaked dolphin	Cetacean	<i>Lagenorhynchus albirostris</i>
Risso's dolphin	Cetacean	<i>Grampus griseus</i>
European river lamprey (<i>marine part of life cycle</i>)	fish	<i>Lampetra fluviatilis</i>
Basking shark	fish	<i>Cetorhinus maximus</i>
Common skate species complex	fish	Formerly <i>Dipturus batis</i> now split provisionally into <i>D. cf. flossada</i> and <i>D. cf. intermedia</i>
Atlantic herring (<i>juveniles and spawning adults</i>)	fish	<i>Clupea harengus</i>
Atlantic salmon (<i>marine part of life cycle</i>)	fish	<i>Salmo salar</i>
Angler fish (<i>juveniles</i>)	fish	<i>Lophius piscatorius</i>
Cod	fish	<i>Gadus morhua</i>
Whiting (<i>juveniles</i>)	fish	<i>Merlangius merlangus</i>
Ling	fish	<i>Molva molva</i>
Saithe (<i>juveniles</i>)	fish	<i>Pollachius virens</i>
Norway pout	fish	<i>Trisopterus esmarkii</i>
Sandeel complex	fish	<i>Ammodytes marinus</i> , <i>Ammodytes tobianus</i>
Sand goby	fish	<i>Pomatoschistus minutus</i>
Atlantic mackerel	fish	<i>Scomber scombrus</i>
Eel (<i>marine part of life cycle</i>)	fish	<i>Anguilla anguilla</i>
Spiny dogfish	fish	<i>Squalus acanthias</i>

Note on the inclusion of commercially fished species

A small number of commercially fished species are included on the list of Priority Marine Features. Inclusion on the list is a way of flagging up the conservation importance of these species, but it does not necessarily mean that SNH will be responsible for delivering any management which may be required. For the commercial species, Marine Scotland will be the lead organisation responsible for management in the seas around Scotland. This will largely be through existing fisheries management measures, rather than specific conservation ones such as Marine Protected Areas.

Annex 4 – Membership of Marine Strategy Forum

Association of Scottish Shellfish Growers

British Ports Association

CoSLA

David MacBrayne Ltd

Highland and Islands Enterprise/Scottish Enterprise

Historic Scotland

Joint Nature Conservation Committee

Marine Alliance for Science and Technology for Scotland

Maritime and Coastguard Agency

Northern Lighthouse Board

Oil and Gas UK

Royal Institute Town Planning Scotland

Scottish Boating Alliance

Scottish Coastal Forum

Scottish Environment Protection Agency

Scottish Fishermen's Federation

Scottish Natural Heritage

Scottish Renewables

Scottish Salmon Producers' Organisation

Scottish Sea Angling Conservation Network

Scottish Sustainable Management Environment Initiative

SE LINK

The Crown Estate

UK Chamber of Shipping

UK Major Ports Group

Visit Scotland

Walter Speirs

Nigel Mills

George Hamilton

Lawrie Sinclair

Calum Davidson

Philip Robertson

John Goold

Ian Boyd

Bill McFadyen

Phil Day

Mick Borwell

Graham U'ren

Mike Balmforth

Jim Simpson

Campbell Gemmell

Bertie Armstrong

Ian Jardine

David Cameron

Scott Landsburgh

Steve Bastiman

Isabel Glasgow

Lloyd Austin

Tom Mallows

Robert Ashdown

Derek McGlashan

David Adams McGilp

Annex 5 – Main activities of the Marine Scotland Aquatic Environment Programme

Activities undertaken and service provided includes:

- Investigating the physical changes in coastal, offshore and oceanic waters and the consequences for the productivity of our seas, the marine fish stocks and other forms of wildlife;
- Studying diversity of plants and animals in the marine environment, developing indicators of ecosystem health and assessing the impact of human activities on marine biodiversity;
- Monitoring the concentrations of contaminants, including phycotoxins, in the marine environment, studying their circulation, their eventual fate, and their biological effects;
- Assessing microbiological contamination of shellfish;
- Exploring the ecosystem effects of climate change on our marine waters;
- Developing bio-physical and numerical models to investigate, for example, the early life history of fish, shelf sea circulation and the environmental impacts of aquaculture;
- Regulation of potential sources of marine pollution;
- Provision of a 24 hour Emergency Response capability in respect of marine emergencies
- National and international representation at inter-Governmental organisations including ICES and OSPAR;
- Provision of advice to SG and BERR on the impact of offshore operations on the marine environment, including the risk assessment of chemical usage.