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Marine Strategy Part Three: UK programme of measures

Summary of responses

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Llywodraeth Cymru
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Introduction

1. This document contains the UK government response to the consultation on the Marine Strategy Framework Directive (2008/56/EC; MSFD) programmes of measures which was held between 30th January and 24 April 2015 (<https://consult.defra.gov.uk/marine/msfd-programme-of-measures>).
2. The MSFD requires Member States to put in place the necessary management measures to achieve Good Environmental Status (GES) in their marine waters by 2020. The UK's definitions of GES and the related targets and indicators are set out in the Marine Strategy Part One (www.gov.uk/government/publications/marine-strategy-part-one-uk-initial-assessment-and-good-environmental-status). Achieving GES involves protecting the marine environment, preventing its deterioration and restoring it where practical, whilst at the same time providing for sustainable use of marine resources. GES does not require the achievement of a pristine environmental state across the whole of the UK's seas.
3. The consultation set out proposals for the UK's implementation of its programme of measures and included: an explanation of the UK's approach to implementing the MSFD; how the programme of measures was developed; a list of generic measures that relate to more than one descriptor; and separate annexes for each descriptor or ecosystem component. See Annex A for a list of consultation questions.
4. The UK government and Devolved Administrations would like to thank everyone who contributed to our consultation. The proposals have been updated following the consultation exercise and the Marine Strategy Part Three: Programme of Measures has been published alongside this document.

Overview of responses

5. A total of 3425 responses to the consultation were received from a range of sectors including environmental Non-Governmental Organisations (eNGOs), marine industries, the fishing industry, the marine research community and members of the public. See Annex B for the list of respondents. Seven respondents merely acknowledged being consulted; the rest provided comments on either the proposals or on more general issues.
6. The majority of responses (over 3000) were from members of the public as part of a Marine Conservation Society campaign. This highlighted the opportunity that the MSFD provides to improve the status of our seas and focussed on marine litter, Marine Protected Areas (MPAs), fisheries, noise and invasive non-indigenous species (NIS). The campaign supported the role of existing measures and called for the effective implementation of planned measures (eg on fisheries and MPAs) and new measures to address marine litter, underwater noise and

invasive NIS. We also received over 200 responses as a result of a campaign by Surfers Against Sewage on marine litter.

7. The remaining responses covered a wide range of issues. Some of these concerned generic issues and others related to specific descriptors. Generally, responses from marine industries supported the approach set out in the consultation and did not think that there was a need for additional measures but that there was a need for greater clarity on the implications of the MSFD on marine developments. eNGOs were also generally supportive of the existing and planned measures but felt that the proposals were not sufficiently precautionary and lacked the ambition needed to secure a healthy marine environment. We have provided a summary of responses to the main issues below.
8. We also received a number of comments suggesting that we set additional MSFD targets. We have not addressed these as part of this exercise as the MSFD targets were not the subject of this consultation and are fixed for this MSFD implementation cycle. The targets will be considered, and updated where necessary, when we update our assessment of UK waters and our MSFD targets and indicators in 2018. There will be a public consultation as part of that review.

Summary of responses on general issues

9. A number of respondents commented on general issues that related to more than one descriptor or were of a more overarching nature. These have been noted and will, where relevant, be considered in any future work. Detailed comments on the drafting of the consultation document have been taken into account where relevant. We have provided a response to the more common general issues below.

Issue raised: use of the precautionary principle

10. *A number of respondents commented on the overall approach to developing the programme of measures. eNGOs felt that a more precautionary approach was needed if the UK is to reach GES and that given the current state of the UK seas we should be working towards significant improvement as a minimum. eNGO respondents also felt that there was an over-reliance on knowledge gaps, poor data or the need for more research as a reason for not taking a more precautionary approach. Conversely, some industry respondents urged a proportionate use of the precautionary principle, as they felt industry suffered when the precautionary approach was used in cases where data was lacking.*
11. The initial assessment of UK marine waters set out in the Marine Strategy Part One recognised that although many aspects of the UK's marine environment were improving, other aspects were degraded and continued to be affected by

human activity. The Marine Strategy Part One also noted that the UK had already implemented a number of major initiatives that would improve the state of our marine environment, as part of ensuring sustainable development, such as the UK Marine and Coastal Access Act (2009), the Marine (Scotland) Act 2010 and EU legislation, such as the Water Framework Directive (WFD) and the Birds and Habitats Directives. Since then further significant initiatives have been developed and are being implemented. For example, the Marine Act (Northern Ireland) 2013, marine plans, and the reformed Common Fisheries Policy (CFP). We consider that our priority at this stage is the continued implementation of these initiatives and the other measures set out in the programme of measures and that this will help us to achieve our vision of clean, healthy, safe, productive and biologically diverse oceans and seas, which underpins the 2011 UK Marine Policy Statement.

12. It is also worth noting that achieving GES is consistent with sustainable use of the seas and is not about achieving a pristine marine environment. We consider that we have adopted a proportionate approach which avoids gold-plating the Directive, but which is considered sufficient to meet its requirements. We believe the overall package of existing and planned activities represents an ambitious range of measures that will make a significant contribution to the achievement and maintenance of GES. To the best of our knowledge, our programme of measures is comparable to those being proposed by other Member States.
13. Where there is a lack of evidence, our approach is proportionate, based both on the likely risks to the marine environment and on cost effectiveness. If necessary, further research is underway to improve our level of knowledge. Our targets are considered sufficiently precautionary to drive the implementation of management measures where there are threats of serious or irreversible environmental damage. It should also be noted that implementation of the Directive is an on-going process. We will be assessing progress towards meeting our targets and updating the initial assessment of the status of UK seas in 2018. This will give us the opportunity to review progress, take into account new evidence and amend our approach where appropriate.

Issue raised: clarity on links between the MSFD and the Water Framework Directive (WFD)

14. *Some respondents called for greater clarity and guidance on the links between the MSFD and the WFD, including:*
 - *Highlighting the need to provide guidance to marine users on the implications of the MSFD programme of measures where the WFD and the MSFD overlap in Coastal Waters.*
 - *Requesting clarity on the links between MSFD measures and those in the WFD river basin management plans.*
15. There are close links between the WFD and the MSFD and we have worked closely with WFD colleagues and the relevant delivery agencies to ensure that

the MSFD programme of measures and river basin management plans are consistent and complementary. Where the WFD and the MSFD overlap in coastal waters, measures under the WFD apply except for those aspects of GES which are not covered by the WFD. The Environment Agency's guidance 'Clearing the waters' is being updated to reinforce this.

Issue raised: prevailing conditions and scale

16. *A number of respondents asked about how changes in prevailing environmental conditions, including climate change will be taken into account.*
17. The Directive explicitly acknowledges that the marine environment is a dynamic system and that there will be changes to prevailing conditions, including due to climate change. Progress towards GES, and the associated baselines, will be reviewed every six years (next in 2018) and this will be an opportunity to consider whether our targets, indicators and related measures need to be updated to account for changes in prevailing conditions. Our targets already make it clear that changes to prevailing conditions need to be taken into account when assessing the achievement of GES.
18. Work is also underway to improve our understanding of how prevailing conditions can affect the marine environment. This work will help inform our assessment of progress toward GES and whether we need to review our targets and measures.
19. *We also received comments about the scale at which the MSFD applies. These included comments on being clear about how to assess, and where necessary aggregate, impacts at a local scale and recognising that the MSFD applies at regional and subregional level.*
20. Our targets and characteristics of GES in the Marine Strategy Part One already make it clear that GES will be assessed at a regional and subregional scale. Where necessary, we will be developing clear methodologies for aggregating assessments to the relevant sub-/regional scale. Where they do not already exist, aggregation rules are being developed for the OSPAR Intermediate Assessment that is due in 2017 and for the updated assessment of our UK seas in 2018 (www.ospar.org).

Issue raised: understanding of, and guidance needed on, cumulative effects

21. *A better understanding of, and the need for guidance on, how to take account of cumulative or in-combination effects was raised by a number of respondents.*
22. We accept that we need to improve our understanding of cumulative and in-combination effects and that as our understanding improves this will need to be built into relevant guidance. Cumulative Effects Assessment (CEA) is already required under various EU directives including the MSFD, Environmental

Impacts Assessment Directive and Habitats Directive. This requirement is transposed into national regulation through the Marine Strategy Regulations 2010, Planning Act 2008 and Conservation of Habitats and Species Regulations 2010. There is also existing guidance, for example:

- Renewable UK developed guidance on CEA in offshore wind farms (www.renewableuk.com/en/publications/index.cfm/cumulative-impact-assessment-guidelines)
- Natural England developed guidance on CEA for MPAs (<http://publications.naturalengland.org.uk/publication/6341085840277504>)
- Marine Management Organisation evaluated current state of knowledge on CEA for offshore wind farms (<http://webarchive.nationalarchives.gov.uk/20140108121958/http://www.marinemangement.org.uk/evidence/1009.htm>) and developed a strategic approach to CEA (<https://www.gov.uk/government/publications/a-strategic-framework-for-scoping-cumulative-effects-mmo-1055>)

23. Going forward, the UK is leading work within OSPAR to develop indicators and approaches to CEA. Our intended approach is to see if it is possible to use existing data and approaches to meet the various legislative requirements (rather than developing and applying different methods and datasets). By doing so we hope to be able to rationalise and simplify CEA.

Issue raised: international and national coordination to deliver cost effective solutions

24. *A number of respondents commented on the importance of coordination with other countries. These included comments on the need to continue to work with neighbouring countries with common waters to identify cost effective measures and comments on extending existing measures to other areas. Others stressed the need to work collaboratively across the UK.*

25. We agree. The UK is strongly committed to enhancing coordination with other countries and has been proactive both at EU level and within OSPAR to try to ensure a coordinated approach to implementation of the MSFD. We have played a key role in developing EU level guidance on programmes of measures, ensuring a practical and coherent approach, and in the EU technical groups on noise and litter. In OSPAR, the UK is one of the co-convenors of the Intersessional Correspondence Group on the MSFD which looks to coordinate implementation of the MSFD across OSPAR. Through this we have contributed to the development of joint approaches and have held meetings with neighbouring countries to identify where similar measures are already in place and where there is scope for further coherence. Working with other OSPAR countries we are developing joint documentation that will identify examples of where coordination and coherence is taking place. The international remit of EU directives already leads to Member States taking similar approaches to a number of issues such as the application of Environmental Impact Assessments

and the development of MPAs. Further coordination of approach can be facilitated by sharing our plans and data with neighbouring countries and by actively working together on joint measures. For example, under the MSFD the UK has developed a Marine Noise Registry to better understand the sources and levels of impulsive noise in UK seas. By making our code available we are supporting other countries to develop their own similar national registers. We are also working together with other countries across OSPAR to develop a common European register which may in future support a common approach to managing noise in our seas.

26. At a national level, collaboration with industry, academia, universities and marine experts is encouraged and there are a number of joint initiatives aimed at pooling resources and bringing in the best expertise from all areas of the marine community. For example, the Marine Alliance for Science and Technology Scotland (MASTS) has a number of themes and forums operating across multiple academic and government bodies, focussing on specific marine science topics.
27. Coordination of marine science is facilitated under the leadership of the UK Marine Science Coordination Committee (MSCC) including oversight of monitoring through the UK Marine Monitoring and Assessment Strategy group (UKMMAS).
28. We will continue to make this work a priority to ensure that implementation of the MSFD is coordinated and that opportunities for joint measures, monitoring, reporting and research are exploited.

Issue raised: reliance on internationally coordinated and voluntary measures

29. *Some respondents questioned whether it was appropriate to rely on measures where we do not have direct control over their implementation, for example measures that are internationally coordinated or voluntary measures*
30. We believe that internationally coordinated and voluntary measures have an important role to play in achieving GES. Many issues facing our seas are trans-boundary and require action at an international level to be effective, for example our involvement in ASCOBANS promoting close cooperation between member countries with a view to ensuring coordinated effective protection of our cetaceans. Through our engagement in EU and OSPAR working groups and other international fora we can work collaboratively with other countries to encourage their effective implementation. Voluntary measures can also play an important role and are good ways of engaging the general public on marine issues. For example, volunteer programmes to collect litter from UK beaches not only reduce the amount of litter in the marine environment but also raise awareness of the risks of litter to marine wildlife. If we were to exclude international and voluntary actions from our programme of measures, it would

look as though no action was being taken where this is not the case. The need for additional measures will be assessed when we review progress towards GES.

Issue raised: data availability

31. *There were a number of comments about the availability of marine data. Some respondents felt that careful consideration needed to be given to how data was presented and made available, while others wanted to make sure that we made effective use of existing data.*

32. We agree that it is important to make the most of existing data and Defra will be making more of its data sets available to the public. Already, Defra makes its marine data publically discoverable through the Marine Environmental Data and Information Network (MEDIN) web portal. MEDIN also designs and promotes the use of data standards to ensure data comparability and facilitate data re-use, and is currently collaborating with other UK organisations on the issue of access to industry data. In Scotland there is the National Marine Plan interaction (NMPi) which has a range of data sets and additional information to assist with marine planning. In Wales we have the Evidence Portal to assist with marine planning which uses various data sets to present information in the form of an interactive map. Wales' Marine Evidence Report has been recently published (<http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en>). We are also grateful to those respondents who suggested other sources of relevant data, including the use of the Crown Estate's www.marinedataexchange.co.uk and initiatives under UK IMON to use industry data more widely.

Issue raised: use of exceptions

33. *There were a number of comments on the application of exceptions, including suggestions that industry and consumers should pay if their actions are the cause of a deterioration in GES rather than apply an exception on the basis of disproportionate cost; that exceptions should only be applied where there was evidence to support their use; and that action or inaction for which a Member State is not responsible should not be used as an excuse for not taking action.*

34. As we set out in the consultation document, Article 14 of the MSFD provides for instances which Member States may identify within their marine waters cases where, for certain specified reasons, the environmental targets or GES cannot be achieved through measures taken by the Member State, or that they cannot be achieved by 2020. These exceptions were included for good reasons and where we believe they apply we have indicated this in the relevant section of the programme of measures. We have only included an exception where we believe it is justified and meets the criteria set out in the Directive.

Issue raised: evidence and knowledge gaps

35. *Several respondents highlighted the fact that there remain gaps in our understanding of the marine environment and that funding research to address these gaps should be a priority. This related in particular to benthic habitats, invasive NIS, marine litter and underwater noise.*
36. Gaps in our evidence base were highlighted in the consultation document and we agree that these need to be addressed. The monitoring programmes set out in our Marine Strategy Part Two will contribute to this and enable us to assess progress towards GES. Since the monitoring programmes were published we have made progress on: developing the noise registry of impulsive sounds; funding the development of an ambient noise monitoring programme; developing a surveillance and monitoring programme for invasive NIS; and have secured funding for a seafloor litter monitoring programme.
37. The monitoring programmes and the assessment of our MSFD indicators will enable us to see whether the measures we have in place are having the expected or desired impact (although in some cases it will be too early to say whether a measure is having an effect). The OSPAR 2017 Intermediate Assessment and our updated assessment of UK waters in 2018 will provide the starting point for this work.

Descriptors 1, 4 and 6: Biodiversity

38. *The comments received on the programmes of measure for Descriptors 1, 4 and 6 related to a wide range of issues. The main ones are addressed below. Where necessary the programme of measures has been modified to take account of these comments.*
39. *We received a number of comments regarding the UK Marine Protected Area (MPA) Network. Where these related to English waters these were passed to the MPA policy team in Defra to answer as part of the UK government response to the MCZ consultation (<https://consult.defra.gov.uk/marine/tranche2mczs>) which ran concurrent with the consultation on the MSFD programme of measures. Any comments relevant to other Devolved Administrations were passed on for their consideration and addressed where appropriate.*

Issue raised: if marine plans are expected to contribute to the MSFD, a clearer system of statutory zonation and ‘ranking’ of the relative importance of different industries across the plan regions is necessary to ensure that current and future marine planning decisions do not encourage a level of cumulative exploitation likely to exceed the safe biological limits of benthic marine habitats and species

40. Across the UK, marine plans set out policies for sustainable development in line with the framework established by the Marine Policy Statement adopted by all UK Administrations in 2011 and by the Maritime Spatial Planning Directive (EU Directive 89/2014) and domestic legislation such as the Well-being of Future Generations (Wales) Act. One of the core aims of marine planning is to manage the various human impacts on marine ecosystems. The Marine Policy Statement clearly identifies the MSFD as one of the environmental legislative provisions that should be taken into account in marine planning and plans, as does the Maritime Spatial Planning Directive.
41. Marine plans will contribute to meeting the objectives of the MSFD, particularly in relation to any measures which have a spatial dimension. Marine plan authorities will need to consider how marine plans can shape activities within the marine area to support the goals of the MSFD, as well as those of other relevant pieces of EU legislation.
42. Objectives and policies in marine plans can set a more area-specific framework which ensures decision makers must take into account the economic, social and environmental impacts in relation to development and use of the marine environment. The importance of considering the cumulative effect of activities is also emphasised in the UK Marine Policy Statement and the Maritime Spatial Planning Directive, as is the need to consider potential for co-existence of compatible activities.
43. How each marine plan specifically contributes to delivery of MSFD descriptors and helps to achieve overall GES will depend on the planning process and subsequent consideration of the issues affecting the area, the evidence base, the local circumstances and views from a broad range of local and national stakeholders.

Descriptors 1 and 4: Fish

44. *The comments received on the programme of measures for Descriptors 1 and 4 Fish related mainly to concerns that several fish species are not covered by routine monitoring programmes. These issues are addressed below.*
45. We recognised in the draft programme of measures that there were evidence

gaps and explained that we will be working at both the national and regional level to address these.

46. Our overall approach to fish biodiversity is closely linked to both the monitoring and management measures put in place for the commercially exploited fish species under Descriptor 3. The management measures used to improve the status of demersal stocks will largely relate to fishing pressure and our assumption is that improving the status of the fish community that is sampled under the Data Collection Framework (the EU framework for the collection and management of fisheries data) as a result of fisheries management will also improve the status of other species that are not well sampled, but are impacted by the same pressure.

Issue raised: greater understanding should be developed of the scale of recreational fishing and its threat to fish biodiversity including identifying the extent of traditional recreational fishing, recreational fishing for financial gain and recreational fishing as a side-line to commercial fishing

47. The Sea Angling 2012 report (<http://webarchive.nationalarchives.gov.uk/20140108121958/http://www.marinemangement.org.uk/seaangling/finalreport.htm>), instigated by Defra, provided a comprehensive survey of recreational fishing activity in England. The report included how many sea anglers there are, how many fish are caught and returned and the economic and social value of sea angling. In response to the report, further evidence on catch data will be sought through the Data Collection Framework. Based on this information we will consider the need for further fisheries management measures for the recreational fisheries sector. Similar reports were also carried out by Scotland (www.gov.scot/resource/doc/280648/0084568.pdf), Wales (<http://fisheries-conservation.bangor.ac.uk/wales/documents/52.pdf>) and Northern Ireland (www.dardni.gov.uk/report-on-the-survey-of-recreational-sea-angling-in-northern-ireland.pdf).
48. The issue of sea angling was also raised in the report into Inshore Fisheries and Sustainable Development Strategy for NI Inshore Fisheries (www.dardni.gov.uk/index/fisheries/sea-fisheries-policy/inshore-fisheries-policy/inshore-fisheries-strategy.htm).

Issue raised: the vulnerability of non-commercial deep water fish species should be taken into account when assessing deep sea fisheries

49. All UK administrations are working to ensure that all commercial deep sea stocks are fished sustainably by restricting fishing exploitation. Some deep sea species are particularly vulnerable and we have taken further steps to protect these

species and minimise fishing exploitation through, for example, setting zero total allowable catches (TACs) or landings prohibitions (i.e. a vessel may not land these species).

50. Deep sea fisheries are also subject to the EU Deep Sea Access Regime which is intended to constrain the impact of such fishing, particularly using bottom gears, on deep sea species and Vulnerable Marine Ecosystems (VMEs). The Deep Sea Access Regime is subject to negotiations that will continue during 2015. The UK is pursuing an improved regime that uses a robust system of spatial management to limit the areas open to deep sea fishing, in order to ensure better protection for VMEs. We have amended the programme of measures document to reflect our actions to protect VMEs.
51. In addition, we acknowledge that deep sea fisheries are an identified gap and this was recognised in our monitoring programme. We are working to consider how best to utilise the data available and how to include them within our monitoring programme.

Issue raised: concern that the approach taken to achieve GES for fish under Descriptor 1 will exclude several species, particularly deep water species, that are slow growing and particularly sensitive to human pressures. The lack of data should not be used as an exception to exclude species from GES assessment, and we seek clarity on which, and how many, species will be included in this assessment

52. The list of sensitive species will vary depending on the data collected through the relevant monitoring programmes. The suite of sensitive fish species covered, including both commercially targeted and non-targeted species, are those which are least able to withstand additional mortality, and tend to be slow growing, large bodied species with low rates of reproduction. The species to be included in the assessment for these targets are chosen by identifying the 33% most sensitive species caught in existing research surveys and then excluding any for which data are too poor (eg because they are so rare that they are not routinely caught in research surveys) to allow robust statistical analysis. As the available data do not go back to periods when human activity was minimal, baselines will be set as the average value for each species throughout the entire time period. It is acknowledged that setting the targets in this way means that the rarest species (eg angel shark) will be excluded from the assessment of GES. However, it is not considered possible to set appropriate, technically defined indicators and targets for these species due to the lack of survey data to support assessments. The way in which the targets have been set ensures that a representative suite of sensitive species are assessed and they give an indication of the overall status of all sensitive species. Dealing with those particularly rare and vulnerable species will continue to happen on a case by case basis in line with the existing commitments to protecting vulnerable

species. The method of determining these species was laid out in Charting Progress 2 (<http://webarchive.nationalarchives.gov.uk/20141203181034/http://chartingprogress.defra.gov.uk/>) and the UK's initial assessment in the Marine Strategy Part One.

53. Fishing exploitation is the main direct impact humans have on fish species. For a number of important species we, along with our EU counterparts, have already set exploitation rates at sustainable levels (maximum sustainable yield, MSY). We will continue to work to move the rest of our fish stocks, including deep sea and sensitive fish, to sustainable levels as soon as possible, and by 2020 at the latest, as per our CFP commitment. We are taking action to protect our deep sea species via the Deep Sea Access Regime as detailed in para 50. Further protection is provided, via the UK Shark, Skate and Ray Conservation Plan and the current protection in place under existing fisheries regulations (Regulation 1367/2014) which sets a zero TAC for those species of deep sea sharks considered vulnerable to exploitation.

Descriptors 1 and 4: Marine mammals

54. *The comments received on the programme of measures for marine mammals related mainly to the impact and efficacy of the proposed measures. These issues are addressed below.*
55. *For many species of marine mammal we consider that the existing measures will support the maintenance or achievement of Good Environmental Status, but that there are some gaps in our knowledge. We will continue to address these gaps and develop suitable targets and indicators where necessary.*

Issue raised: the efficacy of measures for reducing mammal bycatch is uncertain and should be kept under review

56. As with all measures, we will review the effectiveness of them based on the results of the monitoring programmes set out in the Marine Strategy Part Two and the updated assessment of our marine waters that we are due to complete by 2018. In addition, the European Commission is currently reviewing Regulation 812/2004 on cetacean by-catch and is proposing to incorporate cetacean by-catch mitigation and monitoring measures within the future Technical Conservation Measures Framework and Data Collection Framework, both of which are being revised to implement recent reforms to the CFP. We will continue to engage closely in this to ensure appropriate and effective by-catch mitigation and monitoring measures are implemented equally across Member States.

Issue raised: the poor status of harbour seals in some areas and the knowledge gaps as to the causes of decline means that there is uncertainty regarding the sufficiency of measures to achieve GES

57. Effective measures to improve the status of harbour seals can only be considered once we have a better understanding of why their numbers are in decline. As acknowledged in our consultation document, regulation 812/2004 on cetacean bycatch is under review and we are working to ensure the most effective and appropriate measures are introduced for our marine mammals.

Issue raised: will the proposed measures fill gaps in the assessment of marine mammals and seabirds against targets for the 'biodiversity' and 'food-web' descriptors, as acknowledged in the UK Marine Strategy Parts One and Two?

58. Our Marine Strategy Part Two noted that research work is currently underway to develop options for a more cost effective, comprehensive biodiversity monitoring programme which will meet existing and future legal requirements including those under the Habitats Directive and the MSFD.

59. The aim of our monitoring programmes is to demonstrate progress towards our MSFD targets and, in combination with the assessment of our marine waters due in 2018, help us to assess the efficacy of our measures.

Issue raised: propeller corkscrew injuries

60. We have amended the programme of measures document to reflect that for seals, given recent research into sources of corkscrew injuries and its conclusions, ducted propellers are not the only factor involved as was previously thought.

Issue raised: Welsh and Cornish seal populations should be considered

61. The Welsh and Cornish grey seal populations are covered by the programme of measures. These populations make up a small proportion of the UK seal population, the majority of which is in Scotland. The grey seals occurring in Wales and Cornwall are part of a much larger and highly mobile north east Atlantic population and will be affected by the same pressures and measures in operation in other parts of the NE Atlantic.

Issue raised: recent studies indicate significant impacts of bioaccumulation of pollutants in cetaceans, which require urgent mitigation measures

62. This issue has been answered under Descriptor 8 which deals with pollutants.

Issue raised: noise related issues for marine mammals

63. The assessment of noise risk to seals is a standard component of the impact assessment processes for many noise-generating activities occurring in UK waters. The JNCC has produced statutory nature conservation agency guidelines for minimising the risk of injury to marine mammals from seismic activities, piling and explosive use. These guidelines are adhered to during geophysical surveys and other activities that generate impulsive noise that could cause auditory injury to marine mammals. Unmitigated impulsive noise that could cause injury to marine mammals is not permitted in UK waters. As set out in the programme of measures, guidance is already in place and is working well.

Issue raised: new measures are needed to reduce and minimise cetacean entanglement in priority areas. Approximately a third of cetacean strandings show signs of net entanglement, jeopardising the stability of populations in and beyond UK waters

64. We recognise that accidental bycatch in fisheries is one of the greatest threats faced by cetaceans, and we remain fully committed to tackling this issue. The UK has a comprehensive and well respected strandings and bycatch programme in place to meet obligations under EU Regulation 812/2004 which protects cetaceans against incidental catch and the Habitats Directive to monitor and reduce any potential fisheries impacts. We have worked closely with fishermen to bring bycatch levels down in the high risk areas identified in Annex I of the Regulation, and funded research into effective acoustic deterrent devices ('pingers') as important mitigation tools. The UK also works through the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) to collectively tackle bycatch and we continue to work across Member States to develop and refine appropriate environmental limits for cetaceans. Once agreed, these limits, in conjunction with our risk based programme of monitoring, can help ensure appropriate mitigation is identified and implemented where necessary.

Descriptors 1 and 4: Birds

Only 3 significant issues related to birds. These are addressed below.

Issue raised: the measures do not acknowledge the obvious gap in monitoring for wintering water birds and wintering seabirds. This is further exacerbated by the relatively sparse coverage of these species within the existing and proposed Special Protected Area (SPA) network on account of their high mobility

65. The programme of measures does include measures that will reduce pressure on marine birds while they are at sea. Indirectly, measures to protect benthic habitats will also benefit seabirds foraging on these habitats or in the water

column above. The Marine Strategy Part One does contain proposed indicators for the abundance and distribution of seabirds at sea. These indicators were included, dependent on the introduction of a systematic and coordinated programme of monitoring of at-sea aggregations of waterbirds and seabirds inshore and/or offshore. The JNCC-led Marine Biodiversity Monitoring R&D Programme is investigating the feasibility of monitoring, beyond 2014, inshore and offshore aggregations of seabirds and waterbirds. This may mean more species of marine bird could be included in the next assessment of GES in 2018.

Issue raised: inshore fisheries measures relating to bird bycatch should also be identified

66. A UK Seabird By-catch Plan of Action is under development. This will translate the Food and Agriculture Organization (FAO) and EU seabird by-catch plans of action into a UK-relevant action plan outlining measures and actions necessary to ensure seabird bycatch in UK waters is not having a detrimental impact on seabird populations. We will build this into our programme of measures when it comes under review in 2018.

Issue raised: consideration of the identification and safeguarding of priority migratory corridors for marine birds, either within marine plans or as a conservation-specific measure

67. The UK is obliged under the African-Eurasian Migratory Waterbird Agreement (AEWA) to work with other countries to protect migratory waterbirds and their habitats throughout their migration routes. There are no plans to identify 'migratory corridors', which we interpret as meaning continuous strips of habitat. However, in partnership with other countries, the UK contributes to a linking network of protected areas along the migratory routes or 'flyways' of marine birds.

Descriptors 1, 4 and 6: Pelagic habitats

68. *Only one significant issue was raised on the programme of measures for pelagic habitats. This is addressed below. This likely reflects the fact that on the whole plankton are considered to be in good status in UK waters.*

Issue raised: ensure that measures to tackle eutrophication (Descriptor 5) will also have benefits for the maintenance and restoration of food webs, for example, by reducing adverse effects of anthropogenic nutrients on planktonic assemblages.

69. We believe that the measures we are taking to tackle eutrophication under Descriptor 5 will reduce nutrients and will decrease eutrophication pressure on plankton assemblages.

Descriptors 1 and 6: Benthic habitats

70. *Two linked significant issues relating to the programme of measures on benthic habitats were raised. These are mostly related to the proposed measures (MPAs) rather than issues about benthos itself. These are addressed accordingly within our response. Comments were also made in relation to targets and research and development which, while valid, are not directly linked to the questions raised in the consultation.*

Issues raised: there is an over-reliance on measures relating to the MPA network, particularly for benthic habitats. More evidence is needed to support the position being taken in light of the most recent assessments that indicate a number of habitats to be in unfavourable condition. Additional measures are needed to ensure that habitats are protected against activities that have been displaced from other protected areas

71. As set out in the consultation document, we consider that the combination of measures linked to coastal development, marine licensing and planning, shore line management plans, river basin management plans, MPAs and inshore fisheries byelaws will be sufficient to ensure that our targets on habitat distribution and extent are achieved. These measures and those under the CFP such as technical measures which govern how, where and when fishermen may fish; specifications for design and use of gears; requirement for selective gears to reduce unwanted catches; closed areas and seasons; and measures to minimize the impact of fishing on the marine ecosystem and environment all contribute to reducing impacts and the achievement of our targets on habitat condition and physical damage. However, we do recognise that we will need to assess the overall contribution of these measures at a regional level to determine the effectiveness of the existing measures in protecting habitats both within and outside protected areas.
72. Wales is currently assessing progress towards the development of a network of MPAs in Welsh waters. The Welsh Government considers that this process will ensure sufficient coverage and protection of a broad range of habitats. For habitats outside that network the Welsh Government considers that the existing management measures are sufficient where protection is required. Should further protection be required the Welsh Government, working with key partners will consider the best approach for this.

Descriptor 2: Non-indigenous species

73. *The comments received on the programme of measures for Descriptor 2 covered the following main issues. Overall it was felt that as appropriate targets and monitoring programmes are still under development it is not possible to*

understand sufficiently the adequacy of proposed measures and that while the measures identified would contribute to GES additional measures will be needed.

74. *The project to develop a target species list for monitoring and surveillance of NIS for MSFD reporting has now been completed. A follow on project to establish a baseline for the distribution of NIS of concern has now begun. Work to extend the remit of existing monitoring programmes to include relevant NIS and to establish a risk based surveillance programme is continuing with the aim to have a programme established for 2016/17.*

75. *There were a number of useful suggestions about what should be considered as we continue to develop the NIS programme of measures; the main ones are listed below. We consider that existing and planned measures set out in the consultation document will help to achieve GES by 2020. As we continue to develop our understanding of the abundance, distribution and impacts of invasive NIS we will be able to review whether any additional measures will be necessary. We are grateful for all of these suggestions and will consider all of the points raised as we develop our approach further.*

76. *The programme of measures has been refined to take on board some of the comments received, mainly around points of clarification. However at this time there are no substantive changes to the proposals.*

Issue raised: entry into force of the Ballast Water Management Convention (BWMC) would be a positive step towards addressing commercial shipping as a pathway of introduction and the UK should ratify it

77. The UK continues to play an active role at the International Maritime Organization (IMO) in order to address outstanding issues regarding the enforcement of the BWMC. The outstanding issues relate to the sampling and analysis of ballast water and the ability to take a representative sample. As these issues remain and it is unlikely they will be resolved prior to entry into force, the UK will become a party to the Convention once it enters into force rather than ratify it prior to the entry into force criteria being met.

78. The UK has, in co-operation with a number of other North Sea States, designated voluntary ballast water exchange areas in the North Sea. We continue to encourage UK operators to make arrangements to comply with the Convention at the earliest opportunity and have approved two treatment systems that are now available on the market.

Issue raised: concerns over the fact that the measures for Descriptor 2 largely involve voluntary measures

79. See general comment on use of voluntary measures. It is true that several of the

measures for Descriptor 2 are voluntary. However, we believe that these voluntary measures can play a significant role in reducing the risk of new introductions and their spread. The nature of the invasive NIS threat is such that we need to see an increase in awareness of the issues and a cultural change leading to all individuals taking responsibility for minimising the risk associated with their actions. Promoting good biosecurity throughout relevant sectors and encouraging all sea users to act responsibly is essential to help prevent the introduction and spread of invasive NIS. The voluntary approach fits with UK Invasive NIS policy more generally, where specific statutory responsibilities only exist where they could be most effective and enforceable.

Issue raised: biosecurity protocols, codes of practice, training on prevention of introduction of invasive NIS, pathway action plans and improved information are needed for all pathways

80. Until our understanding improves we do not believe we should introduce any further measures at this point. The examples included in the programme of measures table are not the only ones. Biosecurity guidance and codes of practice already exist and more are being developed. A number of awareness raising campaigns have taken place throughout the UK, involving stakeholders and other interested parties eg marine operators, sailing clubs etc. These workshops have also included ID training. Posters and leaflets are widely available.
81. Work will be conducted to create pathway action plans under the GB Invasive Non-Native Species Strategy (GB INNS Strategy) and the EU regulations on the prevention and management of the introduction and spread of invasive alien species (1143/2014).
82. The GB Non-Native Species Secretariat (GBNNS) provides information on the impact of species and this is available through their website.

Issue raised: the GB Invasive Non-Native Species Strategy should be fully implemented and include a focus on marine species

83. The strategy has been revised and published on the GBNNS website (www.nonnativespecies.org/index.cfm?sectionid=55). There are high level actions for priority species (including marine) and pathways within the revised document.

Issue raised: applying the HELCOM bio-pollution index

84. The Bio-Pollution Level index (BPL) is based on the classification of the abundance and distribution range of alien species; and the magnitude of their impacts on native communities, habitat and ecosystem functioning. The BPL is used to assess the impact of NIS already present within the waters being assessed, and therefore may provide a useful tool for the assessment of ecological quality. However, the BPL is not directly linked to the assessment of

new introductions or spread of NIS, although this will be detected once the species starts to have an impact (but not before). Application of the BPL requires the collation of a considerable amount of information on the NIS, native species and ecosystem at each monitoring location, in order for the assessment to be conducted. The amount of additional monitoring effort required to use the BPL is not considered necessary in assessing the rate of introduction of invasive species. In addition, as the UK proposes the monitoring of invasive NIS (i.e. NIS which have already been demonstrated to have an impact) then the further assessment of their impact in relation to the management of their introduction and spread is not required.

Issue raised: financial support for dealing with invasive NIS should be introduced. This could be used to assist with the cost of a rapid response system, research and citizen science initiatives

85. The GB INNS strategy already provides the framework for a more coordinated and structured approach to dealing with non-native species and any potential invasive threat in or to Great Britain. It includes better coordinated and strategic prevention measures aimed at reducing the introduction of damaging non-native species into Great Britain. The Invasive Species Ireland Project provides the framework for a coordinated approach at an all-Ireland level. Cross-border cooperation will continue.
86. Its implementation enables more rapid detection of potentially invasive non-native species through improved and better targeted monitoring and surveillance. We believe its implementation will lead to targeted and efficient control, mitigation and, where both necessary and feasible, eradication of established invasive non-native species. For marine invasive NIS our current focus is the development of appropriate monitoring and surveillance programmes.

Issue raised: central recording system for NIS sightings and reporting apps

87. The GB non-native species information portal (NNSIP) provides a central data system for NIS alongside the National Biodiversity Network (NBN). There are already a number of mobile apps available for reporting invasive NIS. The public can also report species directly to the GBNNSS and various other websites. Most of these 'ways in' feed reports into one central data warehouse, from which it is extracted for the NNSIP. They are tailored to different audiences to encourage reporting but they are all linked to allow for nationwide analysis across all sectors. In Northern Ireland, the Centre for Environmental Data and Recording (CEDaR) has promoted recording of invasive NIS and has an alert system for any records submitted (Ireland and Northern Ireland waters covered).

Issue raised: marine planning authorities should look at high risk species and pathways in their region and take steps to prevent or manage the spread accordingly

88. Scotland's National Marine Plan sets out policy to ensure opportunities to reduce introduction of NIS and improve the practice of existing activity when decisions are made for the marine environment. Subject to the consultative process the draft Marine Plan for Northern Ireland includes a policy on invasive alien species. The policy, as drafted, requires public authorities to consider any potential risk of introducing and / or spreading invasive alien species with due regard being given to the Invasive Alien Species Strategy for Northern Ireland. A precautionary approach will be applied to the decision-making process. The Welsh Government intend for the draft Welsh National Marine Plan to include a policy on invasive alien species that will address this issue with similar being considered by the Marine Management Organisation as they prepare the draft South of England Marine Plans.
89. There is a programme of work led by the GBNNSS which will do this through the GB non-native species strategy. If this work identifies species or pathways that are an issue for a particular marine plan area, then this would be the point at which a marine plan might be used to help mitigate the issue.

Descriptor 3: Commercially exploited fish

90. *For commercially exploited fish, our approach is to rely on the mechanisms under the Common Fisheries Policy (CFP). The key objective is to fish sustainably and achieve sustainable stock levels. The comments we received covered the following main issues. Opinion was split over whether the CFP would be sufficient, some saying that this would if it was implemented effectively and others considering that there was an over reliance on it.*
91. *Some new measures which are subject to EU competence were identified in the consultation responses and it was recommended that the UK government should adopt appropriate positions on these during the relevant EU discussions and negotiations. The UK position on this is to support the streamlining of EU-wide regulations, with more decisions on technical measures being taken through the new regionalisation process. We also recognise the potential value of the sorts of measures identified and will take decisions about whether to support these in EU negotiations on a case-by-case basis.*

Issue raised: there are some commercially exploited stocks for which there are insufficient data to estimate what their MSY may be

92. We recognise that our levels of understanding of different species vary with some species being classified as data poor. For many of these data poor species MSY reference points or proxies are not yet known.

93. We strongly support the development of MSY reference points or proxies for data limited and non-quota species as a matter of urgency. In conjunction with international scientists, we are leading the development of science within ICES through the co-chairing of ICES' WKLIFE (workshop on the development of quantitative assessment methodologies based on life-history traits, exploitation characteristics, and other relevant parameters for data-limited stocks). Importantly, within the EU progress is being made, with more stocks than ever now with MSY assessments.

Issue raised: implementation of the landing obligation needs to be phased in as quickly as possible and no quota uplift should be applied to a species until all catches are covered by the landings obligation

94. We strongly support the introduction of the landing obligation, which bans the wasteful practice of discarding fish after capture. It is essential that it is implemented in a practical and effective way.
95. As per the reformed CFP the landing obligation will be phased in between 2015 and 2019. This phasing in process allows all those involved (fishing industry and fishery managers) to adapt to this radical change. For example, it allows for adequate time to collect the necessary scientific evidence to support the use of appropriate exemptions. Implementation also needs to be compatible with the new legal framework. A species approach to the introduction of the landing obligation was confirmed by the Commission to be incompatible with the legislative framework contained within the reformed CFP and was therefore rejected by all Member States.
96. We have been working closely with other Member States and Advisory Councils at a regional level to develop discard plans to ensure the landing obligations are brought in effectively and proportionately between 2015 and 2019. These plans set out which species and fleets are subject to the landing obligation and whether scientifically robust exemptions are applicable. Individual Member States are also looking closely at their own quota management systems, fisheries management rules and financial support in order to support their fleets to transition to the new rules as smoothly as possible.
97. Quota uplifts are one of a range of important tools that will allow the discard ban to be properly implemented. Quota uplifts allow industry to land and sell the proportion of their catch which they previously discarded and should not lead to an increase in fishing mortality. The scale of any uplift will be determined using the best available international science and will need to be agreed by all EU ministers during the annual negotiations to set fishing limits.

Issue raised: fishing at Maximum Sustainable Yield (F_{MSY}) must be a limit not a target

98. The reformed CFP contains a legally binding commitment to manage exploitation rate at the level consistent with achieving MSY (F_{MSY}) by 2020 at the latest. The We strongly support the sustainable management of our fisheries, aiming to manage stocks at F_{MSY} as early as possible, and by 2020 in all cases, maintaining at this level thereafter.
99. In common with other Member States and the Commission, we are also pursuing the development of regional mixed fishery multi-annual management plans that include targets in the form of ranges around an F_{MSY} point value. The use of ranges in such plans will enable necessary trade-offs to be made between inter-related stocks based on stock biology, fishery characteristics and environmental conditions, to optimise MSY across the fishery. The UK supports these F_{MSY} ranges being based on the available scientific advice.

Issue raised: fisheries management within a mixed fishery should be based on the most at-risk stock and long-term management should aim towards an ecosystem based approach to management with Multi-Annual Plans (MAP)

100. Delivery of the reformed CFP requires steady progress towards mixed fishery MAPs and, in the longer term, ecosystem-based management. We support the development of strong, effective regional mixed fishery MAPs, which will help deliver healthy fish stocks and contribute to achieving GES by 2020.
101. Mixed fisheries are complex systems and as such need to be considered on a case by case basis. In the short term, given current limitations in the available science, the first generation of MAPs are likely to focus primarily on the main commercially exploited stocks, with the understanding that managing exploitation of these species will positively impact on other species in the fishery. Such plans will not necessarily include MSY targets for the most sensitive or at-risk species, but they should include safeguards in the form of conservation reference points for non-target species as required; and additional management measures can be applied to protect them. As our knowledge base improves plans will evolve to take a wider ecosystems approach.

Issue raised: the proactive implementation of Article 17 of the CFP, requiring Member States to allocate fishing opportunities based on transparent and objective criteria, including those of an environmental, social and economic nature

102. We are confident that the methods currently used to allocate fishing opportunities to the fishing industry are compliant with these new provisions. The systems used for the allocation and management are however constantly

evolving. We are currently considering how to allocate additional quota received in light of the introduction of the landing obligation and amendments in the quota management rules. Work has begun to rebalance quotas.

Issue raised: it would be useful to provide a list of species covered under these proposals

103. Annex C contains the preliminary list of species which fall within the UK commitment to achieve GES by 2020. These are stocks that are covered by the Total Allowable Catches (TACs) under the TAC and Quotas Regulations **and** for which the UK has an obligation to provide biological sampling data under the Data Collection Framework (DCF), minus those stocks for which the UK has a derogation not to sample. These are stocks for which ICES provides assessments to which the UK contributes through the DCF. The list is based on the minimum list of stocks which are required under the DCF. In practice, in the past the UK's sampling plan has included commitments to sample a rather wider range of stocks.

Descriptor 3: Commercially exploited shellfish

104. *Many respondents considered that that the measures identified would make a positive contribution to GES, but there were some doubts as to whether these would be sufficient to meet the UK's targets. There was support for our approach to conduct additional research into the regional stocks of edible crab and lobsters. We will assess existing and planned measures for sufficiency and new measures will be introduced in the future if they are considered necessary. The programme of measures has been amended to take on board some of the comments received. The comments covered the following main issues:*

Issue raised: only considering edible crabs, lobsters and king scallops will limit likelihood of achieving GES

105. Although not specifically assessed for MSFD purposes in the UK, a number of other shellfish species do come under the jurisdiction of local management authorities, and are therefore subject to local management measures to ensure they are fished sustainably. Edible crabs, lobsters and king scallops were chosen for the first round of MSFD assessments as they represent the main national shellfish stocks. Defra are exploring whether additional shellfish species should be assessed in the future.

Issue raised: a number of suggested new measures including, spatial and effort management of the scallop fishery, use of creel limits, addressing latent capacity in the over 10m and over 15m

shellfish fleet and EU-wide measures on v-notching were suggested.

106. At this stage we are considering a number of management measures for the crab and lobster fisheries in collaboration with delivery partners, stakeholders and industry. We are grateful to those who have put forward suggestions and will include them as part of our considerations.
107. Latent capacity is a broad subject and we need to consider the views of all sectors when addressing capacity. A consultation was held earlier this year on reducing latent capacity in the English 10 metre and under fishing sector in combination with the finfish sector. The responses to the consultation are still being fully analysed, and possible measures will be considered as a result. A formal response is being developed which we intend to publish in autumn 2015; an initial summary of the responses can be found here: <https://www.gov.uk/government/consultations/reducing-unused-licences-latent-capacity-in-the-english-10-metre-and-under-fishing-fleet>. Defra will continue to look into the issue of capacity for the wider shellfish sector. Marine Scotland has suspended latent scallop entitlements and will monitor the issue of capacity for other parts of the shellfish sector.

Issue raised: national approaches need to take into account existing local management

108. The proposed management approach for crab and lobster fisheries is designed to take into account existing management, including local management, in order to determine if any additional management is necessary. This will be done in collaboration with the local regulators as well as with other interested parties.

Issue raised: there is a question over how powerful MSY is for modelling shellfish stocks

109. We accept that defining what MSY is for a given stock, along with all other types of fishery modelling, contains a degree of uncertainty and is dependent upon the parameter estimates for the stock biology. Despite these limitations MSY is the common benchmark being used for all other commercially exploited stocks as it is specified under the reformed CFP. A number of our current research projects aim to improve the robustness of our monitoring and MSY estimates to help us meet this commitment. ICES WKLIFE (see para 93 above) are developing methods applicable to a range of stocks including crustaceans and molluscs.

Descriptor 5: Human-induced eutrophication

110. *Eutrophication in UK waters is restricted to a number of small estuaries, embayments and coastal waters. As we set out in the consultation document, eutrophication is addressed mainly through measures under other Directives and in particular the Water Framework Directive (WFD). The responses we received reflect this and mainly relate to the timing and implementation of the river basin management plans.*

Issue raised: WFD river basin management plans (RBMPs) will not achieve the environmental targets or GES by 2020

111. We estimate that by 2020 it may be possible to confirm that human induced eutrophication in coastal and marine waters and the adverse effects thereof will have been minimised in UK coastal and marine waters and that GES will have been achieved at the subregional scale. The Charting Progress 2 assessment already showed that eutrophication problems did not occur in marine waters, and we expect that assessments to be set out in the forthcoming RBMPs will show that eutrophication problems occur in only a handful of WFD coastal water bodies. In such cases, it makes sense that they are best addressed by WFD measures. This is explicitly stated in the MSFD. If it is not possible to achieve GES in marine waters by 2020, we will flag up this situation by referring to the relevant Article 14 exceptions rule. These provide for Member States to identify instances where GES cannot be achieved within the prescribed timeframe.

Issue raised: most measures identified under the RBMPs are voluntary in nature, and therefore the uptake and effectiveness are likely to be low

112. In our view, the main measures needed for tackling eutrophication problems in coastal waters under the Nitrates and Urban Wastewater Treatment Directives are statutory and not voluntary. Furthermore, voluntary measures have generally been developed following extensive consultation through the RBMPs, the liaison panels and location specific workshops with stakeholders. We therefore feel that where measures included in the RBMP are voluntary, they are deliverable and achievable within the next MSFD cycle and will complement the basic measures that are in place.

113. In Scotland the Water Environment (Controlled Activities) (Scotland) Regulations (CAR) give powers to implement WFD which also include legislative controls on mitigating diffuse pollution. In Northern Ireland this is managed under the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003.

Issue raised: there is a particular wider lack of basic measures in the RBMPs to deal with diffuse pollution from agriculture, which will directly influence the UK's ability to meet GES for Descriptor 5 and Descriptor 8 under the MSFD

114. See above answer. Several of the UK Environment Agencies have developed 'Diffuse Pollution Action Plans'. Also, as mentioned in the Descriptor 5 Annex, there are also more general measures to tackle diffuse agricultural pollution including codes of good agricultural practice, agri-environment schemes and Catchment Sensitive Farming (CSF). A significant number of catchments in England and Wales are covered by CSF.

Descriptor 7: Hydrographical conditions

115. *For hydrographical conditions we believe that the current consenting regimes are sufficient to ensure that our targets for this descriptor are achieved. We received 8 responses related to Descriptor 7. Some minor clarifications on the text were requested and these have been addressed in the updated Descriptor 7 annex. The major issues raised in the consultation are covered below.*

Issue raised: request for guidance on: how to make assessments, including the meaning of 'permanent change'; how to determine the scale of impact; and how to address cumulative effects

116. See comments under generic issues. While existing measures are considered sufficient to ensure that GES is maintained, we recognise that our understanding of the impacts of developments on hydrographical conditions could be improved. As set out in the consultation document, the issues include prevailing conditions, cumulative impacts, aggregation of subregional impacts into a regional assessment and climate change. The need for additional guidance on issues including the definition of 'permanent changes' and a common and agreed methodology for monitoring and assessment is being considered by EU experts. This need for ongoing consideration is also recognised within the UK context and it is expected that these issues will be addressed over the next MSFD implementation cycle. In the meantime, assessments will continue to be agreed with regulators within the existing consenting process.

Issue raised: request for guidance on the bodies responsible for different measures, particularly at the overlap between different legislative tools (the WFD and the MSFD)

117. The existing measures which contribute to Descriptor 7 apply across coastal waters, offshore waters, or both. They may therefore apply in areas covered by both the WFD and the MSFD. The WFD applies to both surface waters and groundwater. Surface waters include all waters in a river basin catchment from lakes to rivers to estuaries and coastal waters within 1 nautical mile of the coast

(3 nautical miles in Scotland). There is an overlap with the MSFD in coastal waters. The competent authorities predominantly responsible for implementing measures within WFD waters are the Environment Agency (England), Natural Resources Wales, the Scottish Environment Protection Agency and Department of the Environment (Northern Ireland). The MSFD includes coastal waters (as defined by the WFD). It does not include WFD transitional waters but coastal developments covered by the MSFD may impact on these areas. Measures within MSFD waters will be implemented predominantly by marine licensing authorities. In England and Wales, the Planning Inspectorate will play a role in particularly large developments.

118. 'Impact fluxes' between WFD and MSFD areas (where impacts on hydrographical conditions originate in the limits of one directive but manifest themselves in the limits of another) have been identified as a potential issue by the Descriptor 7 experts and will be considered over the next MSFD cycle.

Issue raised: request to clarify whether measures which contribute to Descriptor 7 must also address the consequent impacts of human activities on species, habitats and their interactions, as well as impacts on the physical nature of the hydrography itself

119. Descriptor 7 considers the impact of permanent changes in hydrographical conditions on habitats and ecosystems. Measures which contribute to Descriptor 7 may also contribute to other descriptors. For example, Environmental Impact Assessments may address the impacts of human activities on both habitats and species. Impacts on habitats are considered under Descriptor 7 but impacts on species are mainly considered under Descriptors 1, 4 and 6. Descriptor 7 will also consider larger scale background changes to the physical environment associated with prevailing conditions such as seasonal changes and longer term climate trends.

Descriptor 8: Concentrations of contaminants

120. *The UK's targets on contaminants in the marine environment are set so as to achieve conditions in which contaminants do not adversely affect marine life. In UK waters most issues related to contaminants are local and relate to historic pollution, particularly in industrialised estuaries and coasts. Most of these historic contaminants have already been largely phased out. The main issues raised in response to the consultation are addressed below.*

Issue raised: a number of respondents from various industries (eg offshore oil and gas, shipping, ports and infrastructure) pointed out

that the development of any future or new measures should take into account the international nature of how they are regulated

121. We agree that it is important to work within existing frameworks of the international organisations which govern particular activities (eg International Maritime Organization which covers shipping) and not unilaterally impose additional burdens on UK industries. We will also continue to work in close contact with all government departments which regulate marine industries.

Issue raised: in localised areas of known historic contamination, measures which specifically prevent sediment extraction, dredging or disturbance would help ensure GES is achieved. Also, existing techniques to minimise the dispersal of re-suspended contaminants (eg silt curtains) are not consistently effective and should not be relied upon in contaminated areas

122. We believe the current arrangements for issuing permits for sediment extraction and dredging provide an adequate level of protection for the marine environment and ensure compliance with our international obligations on dumping of wastes and other matter under the OSPAR Convention and London Protocol. As a result of the Marine and Coastal Access Act and similar legislation in the Devolved Administrations, all forms of dredging, including dispersive dredging techniques, are licensable and regulated under the Act or local harbour Acts. An exemption exists for minor dredging activity so long as it is compliant with WFD and other environmental standards. Any mitigating measures, such as silt curtains, are only recommended where they are considered to be effective.

Issue raised: the Descriptor 8 Annex makes no reference to the OPSAR guidelines for dredged materials, and this raises concerns that different parameters might be used for dredging to meet the MSFD requirements

123. We agree that the OSPAR Guidelines for Dredged Materials should be mentioned in the Annex and have added them to the document. The relevant authorities will continue to take these guidelines into consideration in their authorisation or regulation procedures for dredged material, so that it can be managed in ways that will prevent and reduce pollution of the marine environment.

Issue raised: recent studies by Jepson *et al.* in the paper ‘Toxic legacy - Severe PCB pollution in European dolphins’ show that the bioaccumulation of PCBs are posing significant threats to cetaceans, which require urgent mitigation measures and that

inclusion of monitoring PCB concentrations in marine mammals should be included as an indicator under Descriptor 8

124. We recognise that PCBs still pose a potential threat to the health of cetaceans due to their bioaccumulation through the food chain. This is the result of the considerable reservoirs of these chemicals which built up in marine sediments when they were widely used in electrical and hydraulic equipment prior to the 1970s and 80s when the main uses were banned and their disposal controlled. This is why Defra and the Devolved Administrations have been funding the UK Cetacean Strandings Investigation Programme (CSIP) for a number of years. This programme provided the monitoring data for the paper cited above.
125. As the main uses have been banned and disposal of equipment containing them has been regulated through European legislation which the UK implements, the government believes that the key measures which can prevent exposure to this toxic legacy are already in place. The only other option would be to physically remove the marine sediments containing PCBs and safely dispose of them. However, given the scale this is regarded as being technically infeasible and disproportionately expensive.
126. Regarding the suggestion to include the monitoring of PCBs in marine mammals as an indicator under Descriptor 8 of the MSFD it should be noted that regular coordinated monitoring of PCBs in biota and sediment already takes place in the Celtic Seas and the Greater North Sea by OSPAR Contracting Parties, and this already provides an indicator to determine the effectiveness of the bans and legislation that have been put in place.

Descriptor 9: Contaminants in fish and other seafood

127. *We received very few responses in relation to contaminants in fish and seafood. The consultation document explained that contaminant levels rarely exceed maximum levels established in Community legislation and that we considered that GES for this descriptor is broadly achieved in UK waters.*

Issue raised: address the issue of micro-plastics as contaminants in fish and other seafood

128. At this stage we know very little about the possible health implications which might arise from micro-plastics in seafood and recognise that we need to better understand this potential risk. We have added this issue to the section on gaps and issues in the programme of measures document to highlight this.

Descriptor 10: Marine litter

129. *We received over 3425 responses on the programmes of measures for*

Descriptor 10, including 3051 from a Marine Conservation Society campaign. These related to a wide range of issues and included a number of suggestions about what could be considered as we continue to develop the marine litter programme of measures; the main issues are addressed below. Overall it was felt that, while the measures identified would contribute to GES, additional measures would be needed. Where necessary the programme of measures has been modified to take on board some of the comments received, mainly around points of clarification.

130. *As recognised in the programme of measures, we currently have a limited understanding of the sources, types, levels and impacts of floating litter and litter on the seafloor. We require further information before we are able to determine our proximity to GES and whether we will achieve it by 2020. We are aware that a great deal of research is ongoing across Europe and other parts of the world and we have also commissioned research and developed a monitoring programme that will contribute to providing this information. Meanwhile there are a range of measures in place, including legislation, guidance and voluntary schemes, which we consider will contribute towards the achievement of GES. It is generally agreed that most of the material entering the marine environment comes from terrestrial sources and this is reflected in the range of measures related to terrestrial litter.*

131. *We are grateful for the information we received about the variety of initiatives by individual businesses and wider industries to collect marine litter data and/or minimise litter entering the marine environment and/or remove it from the environment. These included business/industry delivery plans, citizen science programmes, protocols and guidance documents, and UK government-funded research. We are unable to list every measure that may contribute towards achieving and maintaining GES but recognise and welcome the important contribution that such initiatives collectively make to protecting our environment.*

Issue raised: set binding targets for marine litter

132. As set out in our Marine Strategies Part One and Two, we consider the evidence we have on the current levels and impacts of marine litter is insufficient to create a baseline on which to set targets.

Issue raised: improve the removal of litter from the marine environment through beach cleans, fishing for litter schemes and marine debris harvesters

133. The UK position is, where possible, to prevent litter from reaching the marine environment. However, the UK programme of measures also contains a number of measures to remove litter from the marine environment, including beach clean schemes and other environmental improvements. Since the consultation we have secured funding to continue our current programme of beach monitoring and cleaning for the next 3 years.

134. The UK is signed up to the OSPAR Regional Action Plan (RAP) on Marine Litter and to the recent G7 Action Plan on Marine Litter which is closely aligned to the OSPAR RAP. The OSPAR RAP promotes Fishing for Litter (FFL, action 53) as a method to remove litter from the marine environment by supporting fishermen to retain the litter they catch and bring it to shore for disposal. Defra and the Devolved Administrations have been involved in the establishment of several FFL schemes around the UK coast. The number of schemes continues to grow as local communities embrace the idea and develop funding structures. For example, the scheme has recently been established in Yorkshire and Keep Wales Tidy has been investigating a further roll out of the scheme in Wales (currently being piloted in Milford Haven dock). In addition, the OSPAR RAP promotes best practice in the fishing industry such as Seafish's Responsible Fishing Scheme (RFS) which in turn promotes FFL as well as other measures to reduce and address lost or discarded fishing gear. The number of vessels signed up to the RFS is rising.
135. Methods to remove litter from the marine environment must be technically feasible, cost effective and have minimal adverse environmental impacts of their own. For example, the potential to use harvesters to catch floating debris in rivers is currently on the agenda of the OSPAR Intersessional Correspondence Group on Marine Litter and the EU Technical Group on marine group, but these systems can often lead to unwanted bycatch.

Issue raised: introduce new measures to reduce sources of terrestrial litter, including: reducing the use of plastics and plastic packaging, such as through a levy on plastics; improved eco-design standards; and a ban on balloon and sky lantern releases

136. *Over 3000 respondents proposed some form of levy on plastics, including an extension to the single use carrier bag charge scheme to include small and medium enterprises (SMEs) and the introduction of a charge on plastic bottles.*
137. Packaging and eco-design are already managed by various legislative means that seek to minimise packaging waste, restrict the use of certain substances and promote the recovery, recycling and re-use of packaging. We have added details of these to the programme of measures.
138. Similarly, there are a number of existing measures in place which are effectively levies on the use of plastics. Single use carrier bag charges have already been implemented in Wales, Scotland and Northern Ireland and have significantly reduced their use (eg <http://news.scotland.gov.uk/News/Bags-of-difference-1b68.aspx>). A 5p minimum charge was also introduced in England earlier this year (www.legislation.gov.uk/ukxi/2015/776/contents/made). The charge in England is for large businesses in order to avoid placing a disproportionate burden on small and medium enterprises (SMEs), although small businesses can charge on a voluntary basis if they wish.

139. Other levies or similar measures include the requirement for obligated producers (businesses handling more than 50 tonnes of packaging per year and with a turnover of more than £2 million) to fund the recycling and recovery of a proportion of the packaging they place on the market, and landfill tax which applies to the disposal of waste at landfill (<https://www.gov.uk/landfill-tax-rates-exemptions-and-taxable-activities>). These levies and measures effectively encourage a reduction in packaging being placed on the market and sent to landfill or being littered.
140. Over 250 respondents proposed making the release of balloons and sky lanterns a criminal offence. A 2013 study commissioned by Defra and the Welsh Government found the contribution from balloons and sky lanterns to overall environmental littering was small, with impacts being highly localised rather than a widespread problem. We have concluded that the issue does not warrant legislative action. Instead we have developed a voluntary approach that has and is producing results. For example, in Scotland guidance is in place for the release of balloons and sky lanterns through Zero Waste Scotland. Again, details are now included in the programme of measures.

Issue raised: concern over ghost fishing, and suggestions for measures including research, development of guidance and gear adaptations

141. Ghost fishing is when abandoned, lost or discarded fishing gear continues to catch and harm or kill fish and other marine life. The review of MARPOL Annex V, which prohibits the discharge of garbage at sea, noted that fishing gear is a large contributor to marine litter. To address this, amendments were made to Annex V so as to cover fishing gear debris. There is still considerable uncertainty over the extent of lost gear in UK seas. It is not believed to be a major problem in UK waters because fishing gear are expensive items, highly vessel specific and individual gear setups are commercially sensitive. Technology such as GPS has also improved recovery rates of lost nets. However, there could be localised areas where this is a concern.
142. Current measures address many issues relating to lost gear but recognise that boat and crew safety is paramount and therefore losses may occur in order to secure the safety of the ship and its crew. Measures include gear marking requirements, restrictions on the discharge of synthetic fishing nets at sea and the requirement for certain classes of vessels to retrieve and/or report lost gear.
143. The UK beach monitoring programme and proposed seafloor monitoring programme both monitor ghost fishing items such as fishing nets, monofilament lines, crates and pots to increase our understanding of the issue. This will add to knowledge gained through earlier EU studies which have led to a tightening of controls on certain fishing activities. In addition Defra, with support from Cefas, is working with World Animal Protection (WAP) to draw together the results of a number of studies together with seabed marine litter monitoring data. Emerging

trends suggest there could be localised areas of concern around the UK. If this proves to be the case, we will build on ongoing discussions with a range of stakeholders how they could be addressed appropriately. However we have also seen significant decreases across the Greater North Sea. There are already statutory requirements in place for the use of certain gear types in some of the highest risk areas, several IFCA's require pots to be fitted with escape hatches and the MMO will only grant-fund storm replacement pots if they have escape hatches fitted. International organisations such as the FAO and recently launched Global Ghost Gear Initiative (GGGI) are also working to tackle the problem of lost or discarded fishing gear.

Issue raised: reduce marine litter by improving education, training and awareness across schools, industry and communities

144. Approximately 250 respondents suggested improving public and industry awareness of litter issues through training and education and some suggested that funds raised from a plastic levy could be used to fund such campaigns. There are many such schemes in place. For example the UK signed up to MARLISCO, a recently-completed EU-led project to drive behavioural change. It produced educational materials, best practice guidelines, video games, exhibitions and national fora. Individual industries, such as the water industry and the plastics industry, promote their own guidelines. The Celtic Seas Partnership Marine Litter task group is exploring the use of the international Eco-Schools programme and framework to deliver educational materials throughout the Celtic Seas area. The Responsible Fishing Scheme, promoted under the OSPAR RAP, covers waste and litter management and training for crew members.

Issue raised: improve rates of correct disposal of waste by improving disposal and recycling facilities and providing incentives to recycle

145. The UK government is committed to delivering a more circular economy and making the best use of our materials and resources, preventing and dealing with waste and recycling properly. This is essential to boost economic growth and productivity, while protecting the environment and human health. Scotland is currently consulting on a new Circular Economy strategy.

146. Keeping public land, including coastal areas, and highways clear of litter comes under the remit of local authorities and councils already have a number of powers to help them do this including the use of Public Space Protection Orders or Community Protection Notices (in England and Wales), the designation of Litter Control Areas (in Scotland) and Litter Clearing Notices (in Northern Ireland). We do not think it would be appropriate to impose a general legal requirement on fast-food outlets to supply and empty bins, as suggested by several respondents, because this would represent an additional burden on these businesses. Research by Keep Britain Tidy shows that, even where bins

are provided in areas prone to a lot of fast-food litter, they are not always effective in reducing it. In fact, the Local Environment Quality Survey (<http://howcleanisengland.keepbritaintidy.org/report.pdf>) for England 2013-14 found that likelihood of observing fast food-related litter was significantly higher on sites where a bin is provided; in particular, where the bin was a standard litter bin.). This does not mean that the presence of a bin increases fast food-related litter, as bins are often placed in areas of the greatest need. However, the data does indicate that where a bin has been provided, it is not always being used. Nonetheless, we strongly encourage all businesses to recognise the benefits to their own business of helping to ensure that the streets remain clean. We welcome voluntary approaches which help to reduce the burden on the taxpayer-funded services provided by local councils.

147. Over 3000 respondents suggested implementing a deposit return scheme to encourage recycling of plastic bottles and/or other recyclable cans and bottles. We are aware such schemes operate in other countries but so far, the feasibility of a scheme to suit the UK has not been demonstrated. Schemes have been investigated in the past and found to be too costly to implement in the UK. There are also concerns that such schemes may affect the viability of existing recycling streams such as local authority collections. The Scottish Government recently consulted on a possible scheme and is currently reviewing responses. The UK, Welsh and Northern Ireland ministers have asked officials to keep a watching brief and if appropriate it will be reconsidered in the future.
148. At sea, waste must be managed in line with legislation. Details of the relevant measures are included in the programme of measures. Port authorities or local authorities have control over the provision and location of waste facilities at port or inland and inadequate facilities can be reported to the IMO. In England, Defra is working with partners to investigate opportunities for no-cost or income generating disposal routes for marine litter including redundant fishing nets. We welcome initiatives through which fishermen work with the relevant organisations to establish suitable recycling facilities for end-of-life fishing gear.
149. The Waste & Resources Action Programme (WRAP) provides general advice and support to Local Authorities and householders on recycling, including through their postcode locator to help identify places to recycle items. Zero Waste Scotland provides this advice and support in Scotland.

Issue raised: reduce littering via legislation, including introducing new or improved legislation and litter action plans or strategies, increased enforcement, heavier fines and a review of legislative efficacy to determine where best to focus efforts

150. The programme of measures document lists the main pieces of legislation that act to reduce littering. A number of these are under review, or have reviews planned, and these reviews may include assessing the potential to increase fines or enforcement measures. For example a review is currently underway of the

Port Waste Reception Facilities regime in the EU. All aspects of the regime will be considered with a particular emphasis on cost recovery systems, and a recast of the directive is expected to follow.

151. Enforcement activities should be carried out on a risk-based approach and fines should, where possible, be proportional to the offence. Existing legislation, as set out in the programme of measures, gives police officers and designated local authority officers the power to issue fixed penalties for littering. Each UK administration is responsible for setting and reviewing these penalties. Defra will consult later this year on proposals to increase the fines for littering in England and to introduce additional actions to tackle fly-tipping. In 2014, Scotland increased the fixed penalties for litter and fly-tipping, from £50 each to £80 and £200 respectively. In other UK administrations the current penalties are considered to be sufficiently robust at this time.
152. At sea, the Merchant Shipping (Prevention of Pollution by Sewage and Garbage from Ships) Regulations (SI 2008 NO.3257) are awaiting amendment to bring them into line with the revised MARPOL Annex V, which came into force internationally on 1st January 2013. These regulations set the penalties and offences for contravention of the regulations.
153. Scotland and Northern Ireland have dedicated marine litter strategies and some respondents called upon England and Wales to do the same. Defra and the Welsh Government consider that the regional approach to reducing litter entering the marine environment through the OSPAR Regional Action Plan (RAP) on marine litter is a cost effective way of dealing with this trans-boundary issue. In England we will also seek to work with local government and relevant stakeholders to develop a strategy which clarifies the contributions that different sectors can make to tackling terrestrial litter, and to set the context for ongoing anti-litter activity.
154. Marine plans will contain core policies representing the general issues, such as addressing underwater noise and marine litter, to be considered by public authorities when determining proposals. All plans undergo a Sustainability Appraisal (SA) which ensures the policies are sustainable and the requirements of the Strategic Environmental Assessment Directive are addressed.

Issue raised: introduce systems to increase producer responsibility

155. Over 200 respondents suggested extending producer responsibility regimes. Producer responsibility regimes for packaging, batteries, waste electrical and electronic equipment and end-of-life vehicles are already covered by existing policy and legislation, whereby producers have financial responsibility for the end of life of items they place on the market. As part of its consultation on a new Circular Economy strategy, the Scottish Government is exploring using producer responsibility to influence product design as well as increasing recycling and reuse.

Issue raised: methods to reduce loss of plastics into the environment via sewage and waste water treatment works, including banning microplastic beads in cosmetics and domestic cleaning products, removing microplastic fibres released from clothing during washing and improved sewage treatment

156. We continue to work with the water industry to reduce the amount of litter entering the environment from sewage and waste water systems. In recent years there has been significant investment in providing measures to improve coastal sewage treatment works and collecting systems, including adding screening to and/or reducing volumes from overflows to limit polluting events. This investment includes over £8 billion in England and Wales between 1990 and 2010 and further investment is planned between now and 2020. Water companies are promoting behaviour change in their customers to reduce sewer misuse. As part of this, water companies are working with manufacturers to change the way products are marketed and reduce the amount of material flushed away. Work is ongoing to ensure that what is disposed of in sewers can break down in the sewage treatment system to reduce impact on the environment. Defra is seeking to publish an action plan to tackle a range of water pollutants from the urban environment; measures such as sustainable drainage systems would help to prevent the transportation of litter through the sewerage network.
157. Scottish Water's 'keep the cycle running' campaigns have, through television, radio, local advertising and social media, sought to highlight the consequences to the environment from putting inappropriate material such as fats, oils and greases, as well as sanitary products and other material, into the sewer. So far, Scottish Water has invested significantly in developing and delivering the campaigns, and will continue to support campaign delivery in the coming years. The benefits from this are expected to be a reduction in the instances of sewer chokes and hence a reduction in release of sewer debris to the environment. Along with other activities such as sewer maintenance there has been a reduction in sewer blockages of around 10%.
158. We also recognise the valuable contribution other organisations such as the Marine Conservation Society and Surfers Against Sewage make to raising awareness of this issue and of appropriate disposal methods.
159. Microplastic beads and particles from cosmetics and domestic cleaning products represent a small proportion of the plastic in the sea, but are nonetheless an item that we are seeking to address. The OSPAR RAP includes a specific action, to work with industry to seek a voluntary phasing out of micro plastics as a component in personal care and cosmetic products. Should a voluntary agreement prove insufficient, OSPAR could call on the EU to introduce appropriate measures to achieve a 100% phasing out of their use.
160. A number of leading manufacturers and retailers have already announced

voluntary removal of these materials from their products and the British Plastics Federation believes that such microplastics should not be used in those products. There are a number of consumer guides available that list products containing plastic microbeads including: Beat the Microbead application www.beatthemicrobead.org; the Good Scrub Guide: www.fauna-flora.org/initiatives/the-good-scrub-guide; and MCS Microplastics in your Products: www.mcsuk.org/forms/plastics).

Issue raised: increase monitoring and research on marine litter, including microplastics

161. See general comments section. The UK government strives to identify the most cost effective way to use its available research funding and has developed an appropriate and proportionate marine litter monitoring programme. Defra has also commissioned research into the potential effects of marine litter, including sources and effects of microplastics, which will help to determine whether monitoring is necessary for this additional category of marine litter. Zero Waste Scotland are developing a new approach to capturing instances of littering behaviour to allow accurate monitoring, separate of any other potential influencing factors, of this primary source of terrestrial and marine litter for the first time.
162. We will also continue to work with partners and industry to support initiatives which address marine litter issues (eg volunteer beach clean schemes) and we welcome opportunities to make use of robust, peer reviewed data from other sources.

Descriptor 11: Underwater noise

163. *We received 3067 responses which mentioned Descriptor 11 (including 3051 from a Marine Conservation Society campaign). Requests for clarifications on text, particularly the use of the Noise Registry and assessment of noise in consenting decisions, have been addressed in the updated Descriptor 11 annex.*
164. *Existing measures already place controls on underwater noise. Our current position on underwater noise is that more information is needed to better understand levels of noise and their impacts on marine life so until our understanding improves it would be premature to introduce new measures. Our responses reflect this position. The major issues raised and our responses are set out below.*

Issue raised: additional uses of the UK Marine Noise Registry and requests for clarity on the OSPAR noise registry

165. The UK Marine Noise Registry has been developed to record data from a wide range of sources and where appropriate submission of data will be a condition of licensing. Operators of specified activities will be required to provide

estimated noise data in advance of the activity and, in most cases, actual data once the activity is complete. Further data will be collected on a voluntary basis. Military activities are specifically excluded from the MSFD, but the MoD is providing data on a voluntary basis.

166. Inclusion of activities in the Marine Noise Registry does not necessarily mean that those activities will be restricted in future; it will provide a quantitative assessment of the spatial and temporal distribution of noise activities and will help to determine a baseline and trends in impulsive underwater noise. Permissible thresholds of noise may be set in future, once we have a better understanding of the spatial and temporal distribution of noise and its impacts.

167. The aim of the OSPAR noise register is to provide a similar assessment to the UK Marine Noise Registry but at a regional seas level. It is still under development. The UK is an active partner in its development and the UK Marine Noise Registry is being developed to collect data that are anticipated to be required under the OSPAR register.

Issue raised: restricting consents in certain areas (exclusion zones) or under certain conditions (eg that consents should only be given for impulsive noise where the operator has demonstrated effort to find alternative options)

168. There are already many measures in place to manage underwater noise in UK seas. Marine mammals, which are sensitive to noise, are highly mobile and present throughout UK seas. They are already protected from harm and disturbance wherever they occur under the Habitats Directive and therefore consents are only issued when appropriate mitigation has been identified to minimise any risk, including from noise (as necessary). In addition, developers must carry out a Habitat Regulations Assessment (HRA) under the Habitats Directive if their project is likely to impact on the integrity of a European Marine Site, either individually or in combination with other projects, with regard to the sites conservation objectives. Where adverse impacts are likely to occur, mitigation options would be identified. If these are not considered to be sufficient then the development would not normally be permitted and alternatives may then be proposed which secure the objectives of the project whilst avoiding the adverse impacts.

Issue raised: reduce noise-related impacts of industry by using new quieter technology (for wind power by using floating or gravity based turbines; for ships by using quietening technology)

169. When assessing applications for wind power, alternative foundation types are usually considered but there are other environmental impacts associated with these and case specific assessments need to look at the overall impact using a risk based approach. Currently, alternative foundations are not commonly used (eg floating has not yet been used on commercial scale).

170. In the case of ship-quietening technology, International Maritime Organization (IMO) guidelines are already in place to improve new vessels and have been fully supported by the UK government. It is considered impractical to address existing vessels, first because the UK would only be able to apply requirements to the UK fleet few of which are noisy, and secondly because it would constitute an unreasonable burden to existing vessels in the absence of strong scientific evidence that noise from shipping is causing harm at the population level.

Issue raised: concern over role of underwater noise in stranding events.

171. Precautionary measures are already in place to limit the use of noise where it may cause problems. For example, there are regulations on the use and power of pingers on fishing nets, Environmental Impact Assessments are used to identify likely noise-related problems of marine developments and marine licensing bodies have the capacity to attach licence conditions for the management of underwater noise impacts. There are also guidelines to limit the impact of noise-generating activities on marine mammals.

Issue raised: introduce a noise levy

172. We currently have only a limited understanding of the spatial and temporal distribution and impacts of underwater noise in UK seas. It is not appropriate to charge operators a noise levy when we are unable to determine the impact of the noise they are generating. It may be appropriate to consider such a 'polluter pays' scheme once we have increased our understanding of the levels and impacts of underwater noise in UK seas. However certain industries, including the oil and gas, seismic and renewables industries and the Navy, are already funding and have committed to funding further noise research (see www.soundandmarinelife.org).

Annex A: List of consultation questions

Question 1: Are the proposed measures for the Descriptor sufficient to meet the requirements of the Directive, bearing in mind the current limitations in our knowledge base?

Question 2: Are there any additional existing or planned measures for this Descriptor we have not identified that might also contribute to the achievement of the relevant environmental targets and the achievement or maintenance of GES?

Question 3: Are there any new measures that are needed? If so please provide details and evidence to show how they would contribute towards the achievement or maintenance of GES or the environmental targets as set out in the Marine Strategy Part One.

Question 4: Are there any measures proposed that you think are not justified or that will not contribute towards the achievement or maintenance of GES or the environmental targets set out in the Marine Strategy Part One?

Question 5: Do you agree with the justifications provided for the use of exceptions under Article 14?

Question 6: Are there any significant human activity-related pressures that are not addressed by the proposed measures?

Annex B: List of respondents

Atlantic Energy
British Marine Federation
British Ports Association
Carmarthen Bay and Estuaries European Marine Site Relevant Authorities Group
Celtic Seas Partnership
Chartered Institute of Ecology and Environmental Management
Climate Vision
Coastwise North Devon
Cornwall Council
COSLA Spokesperson for Development, Economy and Sustainability
Disability Action
East Riding of Yorkshire Council
Eastern Inshore Fisheries and Conservation Authority
EDF Energy
Energy UK
Environmental Investigation Agency
Fauna & Flora International
Flamborough Head European Marine Site Management Scheme
Gloucestershire County Council
HiDef Aerial Surveying Limited
Individual (39)
Joint response from Wildlife and Countryside Link, Scottish Environment LINK,
Wales Environment Link and the Northern Ireland Marine Task Force
Keep Britain Tidy
Keep Scotland Beautiful
Law Society of Northern Ireland
Local Government Association (LGA) Coastal Special Interest Group (SIG)
Marine Biological Association
Marine Conservation Society
Marine Conservation Society campaign (3051)
Marine Litter Action Network
Mersey Docks and Harbour Company Ltd and Heysham Port Ltd
National Federation of Fishermen's Organisations
National Oceanographic Organisation
Natural Resources Wales
Neal's Yard Remedies
North Devon Coast Areas of Outstanding Natural Beauty
North West Coastal Forum

Northern Ireland Marine Task Force
Northumberland Inshore Fisheries and Conservation Authority
Oil & Gas UK
Plastic Planet facebook
Police Service of Northern Ireland
Port of London Authority
Project Aware
Rame Peninsula Beach Care
Royal HaskoningDHV
Royal Yachting Association
RSPB
RWE Innogy UK Ltd
Scottish Fishermen's Federation
Scottish Natural Heritage
Scottish Power Renewables
Scottish Renewables and RenewableUK
Scottish Water
Seabed User and Developer Group
Seafield view campaign (18)
Seafish
Shellfish Association of GB
South Devon and Channel Shellfishermen
Southern Water
Surfers Against Sewage campaign (231)
The Beach Clean Network Limited
The Crown Estate
The Wildlife Trusts
Tidal Lagoon Power
UK Chamber of Shipping
Welsh Water
World Animal Protection campaign (14)
World Animal Protection UK
WWF UK

Annex C: Preliminary list of species which fall within the UK commitment to achieve GES by 2020

The Marine Strategy Framework Directive establishes a requirement for populations of all commercially exploited stocks to be within safe biological limits. The scope of the MSFD is based on those stocks covered by the Data Collection Framework. The complex and evolving nature of the DCF, and of the UK's sampling commitments under the DCF, mean that **it is not possible to define a single, unambiguous list of stocks and/or species which fall under the UK's DCF sampling commitment.** Therefore, as a starting point, a preliminary list of species has been prepared. This is based on the overall list of stocks for which biological variables are required to be collected under the DCF, minus those stocks for which the UK has a derogation not to sample. The determination of the state of a stock relative to Maximum Sustainable Yield/MSFD criteria will normally require a stock assessment so in principle the MSFD commitments are likely to be limited to those subject to an analytical TAC. In practice, this is not always the case so the preliminary list also includes information on the type of TAC, if any, which applies to each species and area.

A preliminary species list

The preliminary UK list is given in Table 1, below. Some caveats are necessary in interpreting this list. Firstly, there is room for flexibility in interpreting precisely what the UK's sampling commitments are. Here, the list is based on the minimum list of stocks which are required under the DCF. In practice, in the past the UK's sampling plan has included commitments to sample a rather wider range of stocks. Some oddities also arise from the area strata used here. For instance, the commitment to sample sole and plaice applies in the Eastern channel but not in the much larger North Sea stocks. This is because the UK has derogations not to sample these species in the North Sea: plaice because it is sampled through a bilateral agreement with the Netherlands, and sole, because UK has less than 10% of the EU TAC.

Given these issues, this preliminary species list is probably best regarded as a starting point that can be refined as required once there is more clarity about how the information will be used.

Table 1: Preliminary list of species which fall within the UK commitment to achieve GES by 2020. Species are listed by area and Total Allowable Catch (TAC) type.

Celtic Sea & Western Channel		
Analytical TAC	Precautionary TAC	No TAC
Anglerfish	Blonde ray	Brill
Cod	Cuckoo ray	Cuttlefish
Haddock	Pollack	Edible crab
Ling	Saithe	Grey gurnard
Megrim	Small eyed ray	Lemon sole
Norway lobster	Spotted ray	Lobster
Plaice	Thornback ray	Pouting
Sole		Sea bass
Whiting		Smooth-hound
		Sprat
		Turbot

Irish Sea		
Analytical TAC	Precautionary TAC	No TAC
Cod	Cuckoo ray	Brill
Haddock	Thornback ray	Edible crab
Herring		Lobster
Plaice		
Sole		
Whiting		

NE Arctic & Norwegian Sea		
Analytical TAC	Precautionary TAC	No TAC
Herring		

North Sea & Eastern Channel		
Analytical TAC	Precautionary TAC	No TAC
Anglerfish	Blonde ray	Common scallop
Cod	Cuckoo ray	Grey gurnard
Haddock	Lemon sole	Lesser spotted dogfish
Herring	Spotted ray	Sea bass
Ling	Thornback ray	
Megrim	Witch	

Norway lobster
Plaice
Saithe
Sole
Spurdog
Whiting

West of Scotland

Analytical TAC	Precautionary TAC	No TAC
Anglerfish	Cuckoo ray	Edible crab
Cod		Lemon sole
Haddock		Lobster
Herring		
Ling		
Megrim		
Norway lobster		
Saithe		
Whiting		

Widely distributed stocks

Analytical TAC	Precautionary TAC	No TAC
Blue whiting		
Hake		
Mackerel		
