



Marine Strategy Framework Directive consultation: UK Initial Assessment and Proposals for Good Environmental Status

Summary of Responses

December 2012



**Northern Ireland
Executive**

www.northernireland.gov.uk



**The Scottish
Government**



**Llywodraeth Cymru
Welsh Government**

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Introduction

1. This document contains the summary of responses and Government response to the consultation¹ on the initial stages of implementation of the Marine Strategy Framework Directive (2008/56/EC) which was held between 27 March 2012 and 18 June 2012.
2. The Marine Strategy Framework Directive (MSFD) requires Member States to put in place the necessary management measures to achieve Good Environmental Status (GES) in their marine waters by 2020. GES is defined in the Directive and described in more detail by 11 high-level Descriptors which set out what Member States must achieve in their marine waters. 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 included the Initial Assessment of the current state of the UK's seas. For each of the 11 descriptors the consultation included proposals on UK characteristics of GES and detailed targets and indicators. A draft Impact Assessment was published alongside the consultation which set out potential implications of the proposed GES targets and indicators. 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 final UK Initial Assessment and GES characteristics and targets have been published alongside this document. Together these form the UK Marine Strategy Part One: UK Initial Assessment and Good Environmental Status, which was submitted to the European Commission in December 2012.

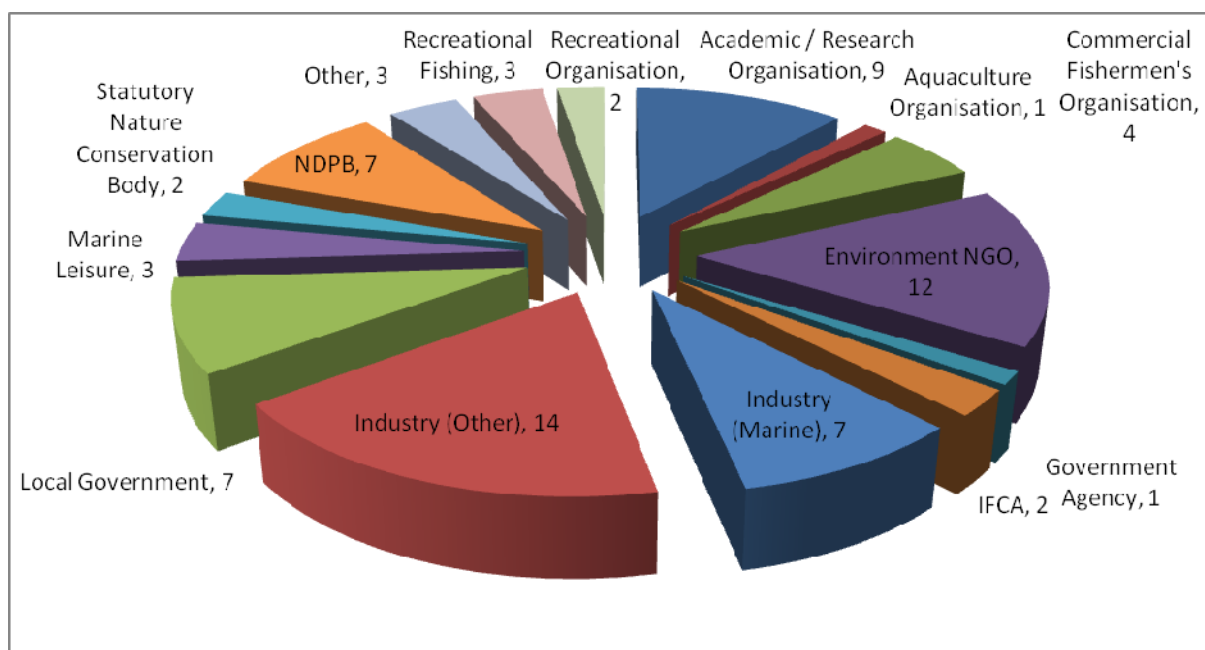
Overview of responses

5. A total of 77 responses to the consultation were received from a range of sectors including environmental Non-Government Organisations (eNGOs), marine industries, the fishing industry, the marine research community, Government Agencies and Non-Departmental Public Bodies (NDPBs). See Annex B for the list of respondents and Figure 1 for a breakdown by sector. Seven respondents merely acknowledged being consulted, the rest provided comments on either the proposals or on more general issues.
6. The majority of responses were broadly supportive of the proposals and commented on the fact that they build on existing approaches. However, there were some key areas of concern:

¹ www.defra.gov.uk/consult/2012/03/27/marine-strategy-framework-1203/

- eNGOs were critical of the proposals for biodiversity, marine litter and underwater noise in particular, suggesting that the proposals were not sufficiently precautionary and lack the ambition needed to secure a healthy marine environment.
- The fishing industry had concerns about the potential impact on fishing of the proposals for biodiversity targets, and a concern about how the proposals for commercial fisheries targets would work for mixed fisheries.
- Some respondents challenged elements of the Initial Assessment. In particular, organisations based in the Devolved Administrations had concerns that Devolved Administration specific issues were not addressed clearly enough in the Initial Assessment or target proposals.

Figure 1 – Breakdown of respondents



Summary of responses on general issues

7. 23 respondents commented on general issues, all of which have been noted and will be taken on board during any relevant future work. All detailed comments on the drafting of the consultation document have been taken into account when producing the UK Marine Strategy Part One. We have provided a response to some of the general issues below.

Issue 1: Use of the precautionary principle

8. A number of respondents commented on the overall approach to developing the proposals. Some felt that the approach was overly long and cautious. Many wanted to see the UK take a leading role within Europe. 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 recipients also felt that there was an over-reliance on knowledge gaps, poor data or the need

for more research as a reason for not setting sufficiently precautionary GES characteristics, baselines and targets. 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.

9. Achieving GES is not about achieving a pristine marine environment, and is consistent with sustainable use of the marine environment. Government has adopted a proportionate approach which avoids gold-plating the Directive, but which is considered sufficient to meet its requirements. Government is already implementing an ambitious range of measures to improve the marine environment, as part of ensuring sustainable development.
10. Where possible the targets and indicators are based on targets and monitoring commitments set out in existing legislation agreed at an EU level (e.g. the Habitats Directive, the Water Framework Directive (WFD), the Environmental Impact Assessment Directive (EIA)). The targets and indicators also stick closely to the requirements set out in the Directive and the Commission Decision 2010² and do not cover any elements not included in those documents. For example, targets have not been put forward to protect the marine historic environment as this is not something which is covered by the Directive. As far as we know at this stage, the targets and indicators do not go beyond what is being proposed by other Member States.
11. Where there is a lack of evidence, the approach to target setting taken by Government is proportionate based on the likely risks to the marine environment and cost effectiveness, further research is underway to improve our level of knowledge. The targets being put forward are considered sufficiently precautionary to drive the implementation of management measures where there are threats of serious or irreversible environmental damage, in line with the precautionary principle as defined in the 1992 Rio Declaration³. It should also be noted that the development of GES targets and indicators is an on-going process which will be reviewed every six years, taking into account new evidence.

Issue 2: Links between MSFD and other marine environment policies and legislation

12. **A number of respondents commented on the need to ensure consistency with other Government policies. It was felt that the amount and type of marine legislation is confusing and has the potential to be contradictory. It was felt that there is a need for clear links to be established between different marine legislation (e.g. the Habitats and Birds Directives, the WFD, the Common Fisheries Policy (CFP), the Marine Acts) and for policy to determine the exact purpose and scope for all of the different legislation**

² Commission Decision of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters 2010/477/EU <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:232:0014:0024:EN:PDF>

³ The precautionary principle as defined by the 1992 Rio Declaration states that '*Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environmental degradation.*'

to avoid contradictory targets being set. eNGO respondents, although they also wanted clarity about links with existing legislation, felt that current policy initiatives were not sufficient to meet GES and were concerned that the proposed GES targets and indicators rely too much on targets from existing legislation.

13. Government agrees that a consistent and coordinated approach needs to be developed across the different pieces of marine legislation. The MSFD is a framework Directive, intended to bring together and build on existing legislative requirements. Where appropriate targets already exist in current legislation (e.g. the Habitats Directive and WFD) these have been used for MSFD. This approach will help avoid duplication of effort and minimise confusion for marine stakeholders. However, the UK approach acknowledges that additional targets and indicators are necessary to monitor progress towards GES and new targets have been developed for a number of Descriptors and biological components.
14. It is difficult to assess exactly how far existing policies will take us towards achieving the GES targets. There are a significant number of new marine policies currently being developed or implemented (e.g. the reformed CFP, the Marine and Coastal Access Act, other EU measures), and although the outcome of these is not yet clear they are expected to play a significant role. Government will carry out further work to improve our understanding of the role of existing policies in achieving GES and consider where additional measures may be needed as part of the development of the MSFD Programmes of Measures which need to be in place by the end of 2016.
15. **There were some specific concerns expressed on the timescales for introducing new primary legislation within Northern Ireland to complement the Marine and Coastal Access Act, 2009.**
16. The Northern Ireland Marine Bill has now been through the Committee Stage and will soon be brought back to the Assembly for the Consideration Stage. It is likely that the new Northern Ireland Marine Act will be enacted in 2013, ensuring that Northern Ireland has the same powers on Marine Planning and Marine Conservation Zones (MCZs) as in the rest of the UK. Teams are already completing the preparatory work on a Northern Ireland Marine Plan and MCZs in anticipation of the new legislation.

Issue 3: Clarity on links between MSFD and Water Framework Directive (WFD)

17. **Some respondents had specific comments or queries about links between MSFD and WFD, including:**
 - **Highlighting the need to provide clarity to marine users by ensuring that the determination of good status is consistent across WFD and MSFD where they overlap in Coastal Waters⁴.**

⁴ The requirements of the WFD and MSFD overlap in WFD Coastal Waters. These extend from Mean High Water (Springs) out to 1 nautical mile in England, Wales and Northern Ireland, and 3nm in Scotland.

- **Requesting clarity on how MSFD would influence measures in the WFD River Basin Management Plans and whether the MSFD Programmes of Measures will be expected to be reflected within those for WFD.**
18. Efforts have been taken during the development of the GES characteristics, targets and indicators to ensure alignment between the two Directives wherever possible, including aligning the MSFD target proposals with WFD assessment tools and criteria where appropriate. For issues that are covered both by WFD and MSFD (such as eutrophication and contaminants) we are confident that the MSFD targets and indicators are compatible with existing requirements of the WFD.
 19. Government will work closely with the relevant delivery agencies to ensure that there is close alignment between the development of the MSFD Programme of Measures and the next phase of River Basin Management Planning. The aim will be to ensure that the programmes and plans developed under each Directive are consistent and complementary, with appropriate cross references to ensure links between the two processes are clear for developers and other stakeholders.
 20. **A number of issues were raised on monitoring and assessment, including the need for alignment of assessments and the timing of reporting.**
 21. All comments on monitoring and assessments will be taken into consideration as part of the development of MSFD monitoring programmes which need to be in place by July 2014. At present Government is undertaking analysis of MSFD monitoring needs and by July 2014 a programme should be in place that will address both MSFD and WFD obligations in Coastal and Transitional Waters⁵. It is acknowledged that it would be desirable to align assessment and reporting timescales to prevent duplication of effort. The European Commission is aware of these issues and plans to address them.

Issue 4: Links to Marine Planning

22. **An eNGO provided comments and queries related to how marine planning and MSFD will work together. There was a desire to see a stronger emphasis on the fact that marine planning and licensing must work together and specifically that marine plans should not compromise the ability of the UK to implement measures for GES. They asked for detail on the monitoring arrangements and highlighted the importance of having a feedback mechanism between marine planning and GES.**
23. Over the next eight years, the marine planning processes in the UK will contribute towards the achievement of GES as well as wider sustainable development objectives, particularly in relation to any measures which have a spatial dimension. The nature and scale of that contribution to GES will become more evident as marine planning matures and as the contribution of other key

⁵ WFD Transitional Waters cover estuaries. Transitional Waters are not covered by the requirements of the MSFD, but monitoring programmes for Coastal and Transitional Waters are dealt with in a coordinated way.

policies becomes clearer, but is likely to be more relevant for some Descriptors than others, such as those covering seafloor integrity, noise and biodiversity. A more detailed analysis of the role marine planning and licensing and other existing policy measures will play will be carried out as part of the development of the Programme of Measures for achieving GES.

24. In the short term, marine planning can be expected to highlight the requirements and any known implications of MSFD at a local plan level, whilst recognising issues of scale. Over the longer term, the intention is that marine plans will move towards a greater degree of prescriptive policies and decisions, for example allocating areas to particular sectors (subject to project-level assessment), and that will include reflecting the requirements of MSFD. Progress with clarifying any additional management measures needed under the MSFD will feed into the future marine planning process.
25. Marine plans will be subject to regular review and, where appropriate, the data collected as part of the monitoring of GES will be used as part of this process. Equally, relevant evidence from the marine planning process will be fed back into the monitoring programme for GES. The Marine Management Organisation (MMO) are closely involved in the development of MSFD monitoring programmes which will help ensure optimal use of data and supporting research for both marine planning and assessment of GES.

Issue 5: Marine Protected Areas

26. **eNGOs and fisheries stakeholders made a number of detailed comments about the designation and implementation of Marine Protected Areas (MPAs). eNGOs felt that a stronger approach to implementing management measures was needed for European Marine Sites and voiced concern that the current Marine Conservation Zone designation process in England may falter due to the significantly higher level of evidence required. Fishing industry respondents felt that insufficient attention had been paid to finding the best ways to accommodate marine use within Marine Conservation Zones (MCZs) and suggested that the effects of fisheries displacement caused by MCZs could increase pressure on seabed habitats.**
27. The implementation of spatial protection measures is a specific requirement of the MSFD and the establishment of MPAs will be a key tool to support the achievement of GES for many Descriptors but particularly Descriptors 1, 3, 4 and 6. The Government has a programme of MPA designation, including sites designated under national legislation, which is expected to meet the MSFD's requirements for spatial protection measures.
28. Procedures for the management of European Marine Sites (EMS) are set out in the Habitats and Wild Birds Directives and transposing legislation. Management of sites has been recently reviewed and recommendations for improving management are currently being considered for both European Marine Sites and marine conservation zones (MCZs). In August this year Defra announced that it was modifying the approach taken for managing commercial fisheries in English

⁶. Further research is underway, some jointly funded with the fishing industry, to improve understanding of the implications of displacement.

Issue 6: Research, monitoring and measures

29. **A number of respondents, including eNGOs, academic organisations and local authorities called for increased monitoring and a commitment to undertake further research on areas where we have not been able to develop clear GES targets. It was felt that more resources and better co-operation was required between Government departments, state-owned marine research institutions, the commercial sector and academic research institutions in order to deliver efficient and cost-effective monitoring programmes, as well as making use of volunteer assets where suitable.**
30. The UK Government and the Devolved Administrations are currently funding a number of research programmes which will support the implementation of MSFD and fill gaps in our understanding of the GES Descriptors. These include continued research on seabed integrity, ecosystem health and functioning, the impacts of underwater noise and litter, and the introduction of invasive non-native species. This is a mixture of applied and fundamental research. The UK Marine Strategy Part One explicitly acknowledges the gaps in our evidence base and decisions on future research will take these into account.
31. Collaboration with academia and universities is encouraged and there are a number of joint strategic research programmes, aimed at pooling resources and bringing in the best expertise from all areas of the marine community. Co-ordination of marine science is facilitated under the leadership of the UK Marine Science Co-ordination Committee (MSCC) including oversight of monitoring through the UK Marine Monitoring and Assessment Strategy group (UKMMAS). The UK Government will also continue to co-ordinate at a European level by sharing needs and outputs with other bodies within the EU and OSPAR.
32. **A number of respondents, both industry and eNGOs, requested further details on the development of the MSFD programme of measures and monitoring programmes. Industry respondents felt that the lack of detail on monitoring and measures left them in an uncertain position and hoped that when the measures are devised there will a commitment to productive and sustainably used oceans and seas. Some respondents, a Statutory Nature Conservation Body and an eNGO, felt that budgets needed to be**

⁶ www.defra.gov.uk/consult/2012/12/13/marine-conservation-zones-1212/

established to achieve the MSFD programme of measures, and there was particular concern that at present there are not the resources in Wales needed to adequately deliver the next stages of the Directive.

33. Monitoring programmes are currently being developed to meet MSFD requirements and need to be in place by July 2014. This is being carried out on a Descriptor by Descriptor basis in the framework of the UK Marine Monitoring and Assessment Strategy. MSFD monitoring programmes will build on existing monitoring programmes to the extent possible. It will also be important to ensure that monitoring is coordinated with other countries and work is currently being carried out in OSPAR to coordinate the monitoring carried out by Member States sharing the North East Atlantic region. The European Commission has also set up specific technical advice groups on litter and underwater noise which will provide advice on monitoring for those aspects of GES. There will be a public consultation in autumn 2013 to enable interested stakeholders to provide views on the proposed UK monitoring programmes.
34. The comments relating to the development of the MSFD Programmes of Measures have been noted and they will be taken into consideration during the next phases of the implementation process. Relevant stakeholders will be engaged throughout the process of developing the UK Programmes of Measures and the proposals will also be subject to a formal public consultation exercise.
35. The Welsh Government will work with the other UK administrations, the new Natural Resources Body for Wales and other partners to establish proportionate and risk-based monitoring and management measures.

Issue 7: Prevailing conditions and scale within the GES characteristics and targets

36. **A number of industry (energy) respondents and one fishing industry respondent commented that the GES characteristics, targets and indicators are not sufficiently flexible to take into account changes in prevailing environmental conditions, including climate change. They felt that some targets may be impossible to achieve if prevailing conditions change.**
37. 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. GES characteristics, targets and indicators, and their associated baselines, have to be reviewed every six years and this will be an opportunity to consider whether they need to be updated due to changes in prevailing conditions. Some amendments have been made to the GES characteristics and targets to try to make it clearer that changes to prevailing conditions need to be taken into account when assessing the achievement of GES.
38. **A number of industry (energy) respondents also commented that the GES characteristics and targets were not clear enough that MSFD is to be applied at a regional scale, rather than a local scale.**

39. Some amendments have been made to the GES characteristics and targets to make it clearer that GES will be assessed at a regional and sub-regional scale. However, when developing MSFD Monitoring Programmes it will be important that species, habitats and pressures are monitored at the appropriate scale, and that there are clear methodologies for aggregating such assessments to the sub-regional scale. It may well be the case that local management measures are needed to support the overall achievement of GES at the sub-regional scale.

Issue 8: Coordination with other countries

40. **A number of respondents commented on coordination with other countries. These included comments on the need to continue to work with neighbouring countries with common waters to ensure a workable system is achieved which provides a level playing field for all. It was also felt that we should work with countries that share the same sub-regions as the UK to present analysis and reports at the sub-regional level. It was felt that the UK Government needed to continue to improve on regional coordination.**
41. The UK is strongly committed to enhancing coordination with other countries and has played a proactive role both at EU level and within OSPAR during this phase of the implementation process to try to ensure a coordinated approach to the Initial Assessment and the GES characteristics and targets. A number of guidance documents have been developed at EU level to help guide the implementation process, and within OSPAR the relevant Committees and Working Groups have developed specific guidance on the development of GES characteristics and targets for each Descriptor. The UK has led work within OSPAR to compare approaches to target and indicator development across countries, with the aim of improving coordination. This has culminated in an OSPAR publication, Finding Common Ground⁷, which summarises the outcome of the regional coordination process and sets the direction for future coordination. Due to the very tight timescales imposed by the Directive coordination between countries has been a real challenge and more work is needed between now and 2018 to improve alignment of GES characteristics, targets and indicators across OSPAR and the wider EU. The UK will make it a priority that countries work together during the next phases of implementation to ensure that the development of MSFD Monitoring Programmes and Programmes of Measures are well aligned, and opportunities for joint monitoring, reporting and research are exploited.

Issue 9: Stakeholder engagement

42. **One eNGO acknowledged that efforts had been made to engage with stakeholders, but felt that the future engagement process for implementing the Directive should be set out in a stakeholder engagement plan. It also**

⁷ http://www.ospar.org/documents/dbase/publications/p00578_msfd%20report.pdf

suggested that coordination of MSFD could be improved by the creation of stakeholder fora at a sub-regional level.

43. The UK Government agrees with the need for early and continued engagement with stakeholders in the next phases of the implementation process, particularly the development of MSFD Programmes of Measures. Current MSFD stakeholder engagement plans will be updated to reflect the next stages of the MSFD implementation process and consideration will be given on how best to disseminate this to inform stakeholders how and when they can input into MSFD implementation.
44. The Devolved Administrations will also continue their specific programmes of engagement with stakeholders in Scotland, Wales and Northern Ireland. The Marine Strategy Forum will continue to be the main conduit for engagement around the implementation of MSFD in Scottish waters and the need for broader engagement will continue to be considered. The Wales Coastal and Maritime Partnership (WCMP) will continue to be the main channel for engagement around implementation of MSFD in Welsh inshore waters, and the need for broader engagement will also be considered. In June 2012, the Minister of the Environment for Northern Ireland launched a Statement of Public Participation on the development of a Marine Plan for Northern Ireland. http://www.planningni.gov.uk/index/policy/common_policy-northern-ireland-marine-plan-home.htm. The Department for Environment recognises that marine stakeholders have a wide interest in all the current developments and is committed to integrated marine stakeholder engagement on all issues, whether these are on the Marine Plan, the Northern Ireland Marine Bill and MCZs or on MSFD implementation.
45. The creation of stakeholder fora at sub-regional level, such as the Pisces Project, may provide particularly useful mechanisms for engaging groups of stakeholders on issues which cross national boundaries. Defra and the Devolved Administrations will continue to support such initiatives where they provide clear added value.

Issue 10: Clarification on borders

46. **One respondent asked for clarification on the sub-regional borders for the North Sea and Celtic Seas. The map in the consultation document showed that the Western Channel is included in the Celtic Seas sub-region. This is consistent with the boundaries used in Charting Progress 2, but not with a recent map of the MSFD sub-regions produced by the European Environment Agency (EEA).**
47. It is worth noting that the map produced by the EEA and presented in EC working groups has not yet been finalised and approved by Member States. Earlier versions did, incorrectly, depict the UK Marine Strategy area as mentioned by the respondent. However more recent versions of the map show the delineation of the Celtic Seas/Greater North Sea boundary in the Western Channel that the UK has adopted. The final version of this map is yet to be published by the EEA.

Summary of responses to consultation questions on the Initial Assessment Cover Paper

48. There were two questions in the consultation document specifically related to the Initial Assessment Cover Paper:
- Are the overall conclusions of the UK Initial Assessment an accurate summary of the evidence base provided by Charting Progress 2 (and its feeder reports), the Scottish Marine Atlas and the Northern Ireland State of the Seas Report?
 - Is there any substantive new peer reviewed evidence which should be taken into account which may affect the conclusions of the UK Initial Assessment?
49. A total of 25 responses were received relating to these two questions on the Initial Assessment Cover Paper. Many responses gave the view that there is no substantial new evidence that has become available recently that would substantively change the conclusions of the assessment. We are also grateful for several responses that provided very constructive comments and additional information which has been taken into account in the finalisation of the Initial Assessment Cover Paper. Key comments and responses are set out below.
50. **In commenting on assessments in relation to Descriptors 1, 4 and 6 (biodiversity), several eNGOs reiterated points made in a critique of Charting Progress 2 issued by Wildlife and Countryside Link (WCL) in September 2011⁸. This criticised the way that some of the Charting Progress 2 assessments had been taken up or summarised particular in the short separate Overview of the findings and Government Commentary which were published alongside Charting Progress 2.**
51. The Government and Devolved Administrations recognise that summarising the conclusions from complex technical assessments in an accurate and synthesised way is a particular challenge. However, given the extensive body of evidence provided by Charting Progress 2 and its comprehensive thematic feeder assessments, the Government and Devolved Administrations do not consider that the points raised in the WCL critique justify the overall conclusion that the Charting Progress 2 assessment is misleading. The Initial Assessment Cover paper aims to provide an updated summary of the evidence base provided in Charting Progress 2, Scotland's Marine Atlas, Northern Ireland's State of the Seas Report and new evidence that has become available since the publication of these reports where it has a substantive bearing on the conclusions to be drawn. In preparing the Initial Assessment Cover Paper the Government and Devolved Administrations had already sought to address points raised in the WCL critique. Following the consultation, further scrutiny has been given to the need to amend the Initial Assessment Cover Paper and some adjustments to wording have been made, for example, in relation to how recent overall trends in the abundance of waterbirds and seabirds are expressed.

⁸ http://www.wcl.org.uk/docs/2011/Link_CP2_Statement_31Aug2011.pdf

52. **Some responses from eNGOs were critical of the assessment of eutrophication, particularly the statement that there are few eutrophication problem areas at present. Several responses pointed out that the inclusion of a map indicating where the problems were would make the situation clearer.**
53. The Initial Assessment refers to two assessments relevant to Descriptor 5. The first covers the eutrophication status of UK coastal and marine waters set out in Charting Progress 2, which is based on a peer-reviewed report using methodology agreed by all countries in the North East Atlantic. The second covers nitrogen concentrations in coastal waters designated under the WFD published in the first River Basin Management Plans by the Environment Agency which concluded that nitrogen concentrations in a number of coastal areas exceeded thresholds that may be indicative of eutrophication problems. It was pointed out that further work was underway to clarify this situation. We believe that the Initial Assessment conclusions on eutrophication status are correct, considering the scale of waters covered by the MSFD. We agree that maps showing where the problem areas are located would be useful and references to the relevant maps have been included in the updated Initial Assessment Cover Paper.
54. **Several respondents felt that there was a lack of specific evidence from Wales, which to some extent results from the fact that the seas around Wales have been assessed as part of larger assessment areas.**
55. The issues raised will be looked at as part of an examination of marine evidence needs by the Welsh Government over the next phase of MSFD implementation.
56. **There was some concern that Northern Ireland specific issues had not been adequately addressed in the Initial Assessment.**
57. It has been clarified to the respondent that the Northern Ireland State of the Seas report will be submitted to the Commission as part of the evidence base for the initial assessment.

Summary of responses to consultation questions on the proposals for GES characteristics and associated targets and indicators for each Descriptor

58. The Directive sets out 11 high-level Descriptors of GES, for each there were seven consultation questions:
- Are the proposed characteristics of GES for this Descriptor consistent with the definition of GES and the overarching aims of the Directive, whilst at the same time acknowledging gaps in our knowledge base?
 - Are the proposed characteristics of GES for this Descriptor consistent with other Government policies and commitments on the UK marine environment?

- Are the proposed GES targets for this Descriptor sufficient to guide progress towards the achievement of GES?
- Are the proposed GES targets feasible to implement (i.e. can appropriate management measures be put in place to achieve them)?
- Are the proposed GES targets for this Descriptor consistent with other Government policies and commitments on the UK marine environment?
- Are the proposed GES targets and indicators feasible and cost effective to monitor?
- Where gaps have been identified in the proposed GES targets and indicators for this Descriptor do you have suggestions for how these could be filled?

Summary of responses on the proposals for Descriptors 1 (Biodiversity), 4 (Food webs) and 6 (Sea floor integrity)

59. The consultation document outlined the proposals for the biodiversity Descriptors (1, 4 & 6) together due to the significant degree of overlap. The responses have also been dealt with together.
60. A total of 32 responses were received on the proposals for Descriptors 1, 4 and 6. A number of general comments were made in relation to the development of GES characteristics, targets and indicators for these Descriptors. eNGO respondents felt that the characteristics and targets needed to be more precautionary and felt there was an over-reliance on existing policies and legislation in both setting and achieving the targets. A number of respondents from a variety of sectors commented on the need to carry out further monitoring and research relating to these Descriptors. In particular, the challenges of putting in place robust, cost-effective monitoring programmes for biodiversity were highlighted, and Government was encouraged to use innovative technology and work collaboratively with academia, industry and community sectors to achieve this. These issues have all been dealt with in the 'General Issues' section above. A number of other general comments were raised in relation to these Descriptors, as set out below.
61. **Some respondents had questions about the way in which baselines were developed for these targets, with eNGOs suggesting that baselines were insufficiently precautionary and the fishing industry commenting that baselines needed to take account of the fact that we are not trying to restore the ecosystem to a pristine state. Several respondents also questioned why baselines were set in different ways across the set of targets.**
62. Comments relating to the baselines for each of the biodiversity components are dealt with in more detail in the individual sections below. The choice of baselines for the different targets has been driven primarily by data availability. Ideally, baselines would be based on conditions which represent minimal impact from human activities, and targets would be set in relation to the baseline, but recognising that GES is consistent with sustainable use of the marine environment. In reality, there is insufficient knowledge to be able to set baselines in this way and baselines will therefore be set using a mixture of past

data, current data and expert judgement. Further research is being undertaken to help improve the development of reference condition baselines for benthic habitats.

63. **eNGO respondents commented that successful reform of the CFP was vital for the achievement of GES for these Descriptors. However, they also cautioned against over-reliance on the CFP.**
64. The Government and Devolved Administrations agree that successful reform of the CFP will be crucial to supporting the achievement of GES for these Descriptors. The UK's negotiating position on the CFP acknowledges this. We continue to call for a quick, effective process which will allow Member States, subject to a period of consultation, to introduce conservation measures that are necessary to protect the marine environment throughout their waters and apply those measures to fishing vessels from all Member States.
65. **eNGOs and one local government respondent felt that the species targets were too heavily focussed on top predators and that other trophic levels in the food chain are not covered, particularly benthic species.**
66. If the full set of targets and indicators for species and habitats are considered together, these include representative species from all levels of the food web. Benthic species are included as part of the targets and indicators for habitats, reflecting scientific recommendations that assessment of a habitat and its associated species should be assessed together⁹.

Characteristics of GES

67. A number of responses made comments on the draft characteristics of GES for Descriptors 1, 4 and 6, and based on these a number of amendments have been made to improve their clarity, to make clearer references to the Directive's requirements in relation to restoration of biodiversity, and to provide improved references to the scale at which GES is to be achieved and the need to take account of prevailing environmental conditions.

Targets for Marine Mammals

68. A number of respondents had comments in relation to the targets and indicators for marine mammals. These included questions about the way in which the baselines for the targets are being developed, coverage of cetacean species, and the way in which targets and indicators for mammal by-catch and productivity had been developed. A factsheet will be produced with the aim of answering these questions and making the purpose of the targets clearer. Key comments and responses are set out below.
69. **One industry (energy) respondent questioned whether there is sufficient evidence to set targets for marine mammals at this time.**

⁹ European Commission Task Group on Biodiversity Report 2010 <http://ec.europa.eu/environment/marine/pdf/1-Task-group-1-Report-on-Biological-Diversity.pdf>.

70. The Government and Devolved Administrations recognise that there is currently insufficient data to be able to develop robust indicators for the abundance and distribution of many cetacean species, and therefore the targets for cetacean abundance and distribution will not be made operational until further work has been carried out to enable the definition of baselines and the detection of trends in monitoring data (see below). For seals there is a very extensive dataset which is considered to provide a strong evidence base for setting targets and indicators.
71. **eNGOs respondents felt that the proposed targets and baselines maintain the status quo rather than requiring recovery of marine mammal populations.**
72. The targets for marine mammals are aimed at ensuring that populations are not decreasing as a result of human activity. They have been designed to ensure consistency with the requirements of the Habitats Directive which requires Favourable Conservation Status to be achieved for all marine mammal species. For this reason the baselines for the targets are the same as the baselines for the Habitats Directive (i.e. 1992 or the closest best estimate). Experts from across the North East Atlantic have acknowledged that ‘although the most robust way to set baselines for marine mammals is based on historical data, these are not available at the appropriate spatial and temporal scale. Moreover, the historical abundance of many cetacean species (i.e. pre-commercial hunting) is unknown and cannot realistically be restored (where it is known to have declined) as today’s marine environment is very different.’¹⁰
73. **eNGOs respondents commented that the proposed targets and indicators do not adequately cover cetacean species.**
74. Cetacean species are already covered by commitments under ASCOBANS and the requirements of the Habitats Directive. The MSFD targets are consistent with these requirements, but it has not been possible to include indicators for many cetacean species in the current set of targets because work needs to be completed to enable the definition of baselines and the detection of trends in monitoring data. It is our firm intention to develop specific indicators for distribution and abundance of cetaceans as soon as possible, covering all those species for which there is sufficient data to enable detection of trends in abundance and distribution over time. Given the issues surrounding the development of robust cetacean indicators for abundance and distribution it is not considered feasible at this time to construct productivity indicators for cetaceans.
75. **eNGOs respondents commented that a target should be included for the creation of MPAs for marine mammals.**

¹⁰ ICG-COBAM advice manual –

http://www.ospar.org/documents/dbase/publications/p00581_advice%20document%20d1_d2_d4_d6_biodiversity.pdf

76. It is felt to be more appropriate to consider the potential need for this kind of operational management related target as part of the development of the MSFD Programme of Measures between now and 2015. In general the targets which are being developed at this stage in the implementation process are either state targets (referring to the desired state of the environment) or pressure/impact targets (referring to the acceptable level of pressure or impact). Specific pressure targets have been included for marine mammals, related to reducing the incidence of by-catch. These will cover a wider range of species than previous by-catch targets, including not only harbour porpoise but also dolphins and seals. However, the value of MPAs for protection of highly mobile species is something which is currently being investigated.

Areas where changes have been made:

77. In summary, there have been no significant amendments to these targets and indicators as a result of the consultation, although some presentational changes have been made to make the purpose of the targets clearer. Analysis of proposals being put forward by other key countries in the North East Atlantic suggests that the UK targets for marine mammals are well aligned, with most countries making links to existing commitments under the Habitats Directive and ASCOBANS.

Targets for Birds

78. A number of respondents had comments in relation to the targets and indicators for birds. These included questions about the way in which the baselines for the targets are being developed, coverage of different bird species, and the way in which the targets will be monitored. A factsheet will be produced with the aim of answering these questions and making the purpose of the targets clearer. Key comments and responses are set out below.
79. **Fishing industry and energy industry respondents queried whether targets and indicators for birds were really necessary and whether there is sufficient evidence to set targets for birds at this time.**
80. Seabirds are an important component of biodiversity in the UK and are directly impacted by the effects of human activities. As top predators, birds are also considered to be useful indicators of the wider state of our seas. Marine bird populations have been monitored since the late 1960s and of all the marine biodiversity components, seabirds are one of the most data rich, giving a strong evidence base to use in setting targets. Despite this there are still gaps in knowledge, particularly in relation to understanding whether changes in bird populations are caused by human impacts or climate change. The targets and baselines try to take into account this uncertainty as far as possible, but as we better understand the drivers of change in bird population we will adjust the baselines and targets accordingly.
81. **Several respondents commented on the two Options put forward for targets for bird distribution and abundance, with respondents from academic organisations and eNGOs suggesting that the targets for bird**

82. Two options were put forward in the consultation for targets related to bird distribution and abundance. Option 1, the Government's preferred option, would require 75% of bird species to meet their individual indicator targets for GES to be achieved. Option 2 would require 90% of bird species to meeting their individual indicator targets. Option 1 was supported by a number of respondents, including industry and local government. eNGOs supported Option 2 as they felt that Option 1 is insufficiently precautionary. Having considered eNGO concerns and discussed them with the scientists who helped develop the targets it is felt that no specific new evidence has been put forward to justify the application of Option 2.
83. Bird abundance and distribution can be affected by a number of factors, including natural environmental factors, climate change and other pressures caused by human activities, and impacts of these different factors are not currently understood. For this reason, long-term declines in some species may be entirely consistent with the achievement of GES and the targets should reflect this. However, it is acknowledged that continual population declines that are caused by human activity are not consistent with GES and follow-up action will be taken for any species which is consistently missing its individual thresholds to try to establish the cause, leading to management measures where appropriate.
84. **eNGO respondents commented that the Option 1 targets for bird abundance do not promote recovery of species which have suffered historic declines.**
85. The Option 1 targets are considered to promote species recovery where this is necessary. The baselines for species will be set individually, based on historic data (usually the highest known population size during the available time series of the last 40 years), and species thresholds will be set as a deviation from this, promoting recovery where this would be consistent with prevailing environmental conditions. For example, roseate tern will only reach its threshold if populations increased to reach 70% of the numbers there were in 1970, after which there was a dramatic decline.
86. **eNGO respondents commented that the targets should be applied to all species and all functional groups, and found it disappointing that indicators for seabirds at sea, and non-breeding waterbirds will only be added in 2018. They also felt that targets relating to breeding success should be broadened to cover other species.**
87. The indicators for birds will be made up of species whose sub-regional populations rely on the marine environment and are therefore likely to be affected by the impacts of human activities in the marine environment. Of these species, all those that can be cost effectively monitored at the appropriate frequency will be included. It is not possible to develop indicators for seabirds at sea and inshore waterbirds until there is robust, reliable and representative data

from monitoring of these species. Work is underway to develop monitoring schemes for these species with the aim of including MSFD indicators in 2018.

88. For the target related to breeding success, there are two indicators being developed. The first indicator is derived solely from data on kittiwakes because it is based on a correlation between breeding success and sea-surface temperature which is yet to be found in other species. The second indicator is derived from breeding failure rates in a number of species that, like kittiwakes, are sensitive to changes in the availability of their prey i.e. small shoaling fish.
89. **One eNGO suggested that the targets should also cover the terrestrial habitats which support marine bird species.**
90. The targets being put forward for bird population abundance already imply action being taken in relation to terrestrial habitats if the condition or extent of those habitats are considered to be causing abundance/distribution targets not to be met. Changes to the targets to specifically mention terrestrial habitats are therefore not considered necessary. One of the key pressures on seabirds from the terrestrial environment is thought to be predation by non-indigenous mammals. The targets have been amended to include a specific pressure target related to reducing the risk to seabirds from non-indigenous mammals.
91. **One industry (energy) respondent queried the potential implications of these targets for local licensing decisions for marine developments.**
92. Impacts of marine developments on the environment are already managed through the licensing process, mainly through EIAs. Localised impacts of developments are only likely to be relevant for the achievement of GES if their impacts are large enough to affect bird populations on a sub-regional scale.

Areas where changes have been made:

93. Following the consultation the Government and Devolved Administrations still believe that the Option 1 targets for bird abundance and distribution are the most appropriate, and no significant changes are proposed for these targets. The proposed target for bird population condition has been revised to improve its clarity, and an additional target has been added, based on comments from eNGOs, relating to reducing the risk to island seabird colonies from non-native mammals. Some presentational changes have been made to make the purpose of the targets clearer. In terms of consistency with other Member States, the fact that most of these targets are based on targets developed within OSPAR gives us confidence that the UK approach will be broadly in line with that of other Member States in the North East Atlantic. Analysis of other key OSPAR countries suggests that they will make use of the OSPAR targets in some form.

Targets for Fish

94. A number of respondents had comments in relation to the targets and indicators for fish. These included questions about which species will be covered by the targets and indicators, how the targets will protect very vulnerable fish species,

how the targets for fish-length had been developed, and the way in which baselines will be developed. A factsheet will be produced with the aim of answering these questions and making the purpose of the targets clearer. Key comments and responses are set out below.

95. **A range of respondents queried which fish species are covered by the targets for fish distribution and abundance. In particular, concerns were raised about lack of coverage of rare and vulnerable species, pelagic species, deep sea species, coastal species and commercial species.**
96. The targets for fish distribution and abundance apply to suites of sensitive fish species, including both commercially targeted and non-targeted species. Sensitive 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 (e.g. the North Sea International Bottom Trawl Survey) and then excluding any for which data is too poor to allow robust statistical analysis¹¹. More information on the way in which species are identified for the targets can be found in a factsheet on the Defra website (www.defra.gov.uk/environment/marine/msfd/).
97. Whilst it is acknowledged that setting the targets in this way means that the rarest species (e.g. angel shark) will be excluded from the assessment of GES, 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 sensitive species. Dealing with these particularly rare and vulnerable species will continue to happen on a case by case basis. The UK is committed to taking action to protect rare fish species and significant action is already being taken in relation to the protection and restoration of elasmobranchs.
98. It is also acknowledged that these targets will not cover coastal, deep-sea or pelagic fish species. Although the methodology can be applied to these groups of species, there is currently limited data availability. Data sets have been identified that cover deep water and coastal fish species, but they still do not provide comprehensive coverage of all areas and further work is needed to consider how these could be used for the purposes of GES assessment.
99. **Some eNGO and academic respondents questioned whether continuing declines in the populations of some species was consistent with GES.**
100. The UK Government and Devolved Administrations agree that continual declines that are caused by human activity are not consistent with GES and follow-up action will be taken for any species which are consistently missing their individual indicator thresholds to try to establish the cause, leading to

¹¹ To support robust statistical analysis species are only carried forward into the assessment if they are recorded in 50% of the surveys undertaken.

management measures where appropriate. The UK Government is already taking a proactive approach to the management of key sensitive species, such as elasmobranchs, and will continue to do so. However, fish species may decline for a number of reasons, including climate change or natural environmental factors. For this reason it is considered that long-term declines in some species may be consistent with the achievement of GES, and this has been taken into account when setting the targets, which require a proportion of the suite of sensitive species to be meeting targets for recovery.

101. **A number of respondents questioned the way in which the baselines for the targets were set, including comments from eNGOs suggesting that using data from the 1980's represents an already heavily impacted ecosystem.**
102. The baselines for fish abundance and distribution will be set as the average value across the whole available data time series, because the available data do not go back to periods when human activity was minimal. The targets for fish abundance and distribution assume that GES is not currently being met and require substantial year on year increases in a statistically significant proportion of species (relative to the baselines) in order that fish populations progress towards achieving GES.
103. For the targets relating to fish length, the baselines vary depending on the area being assessed and represent a time when the exploitation of the fish communities in that region was generally deemed to be at sustainable levels (for example the baseline for the North Sea is the early 1980s and the baseline for the Celtic Seas are the late 1980s). No data are available to allow the development of baselines equivalent to pristine conditions. Further information on baselines is provided in a factsheet on these targets available on the Defra website.
104. **A number of respondents questioned the targets for fish community length, including comments from eNGOs questioning the coverage of the targets and the rationale behind the percentages for different regions, and comments from the fishing industry questioning the robustness of the targets and the consistency with current policies to target larger fish.**
105. There is strong evidence to support the fact that fish community length indicators can provide a robust indicator of the health of the fish community. This has been acknowledged by the European Commission, which explicitly includes fish length indicators within the Commission Decision on Good Environmental Status, and by OSPAR which has developed a length-based Ecological Quality Objective for the North Sea as an indicator of the health of the fish community.
106. The targets look at the size structure of the fish community as a whole and measure the relative proportion (by weight) of large fish to small fish observed in a survey. The assessment covers most fish species caught by bottom-trawl research surveys, including non-commercial species, elasmobranchs and

smaller species¹². Nonetheless, these targets do require interpretation in order to draw reliable conclusions and inform management decisions (e.g. to determine whether change is happening due to increases in small fish or decreases in large fish).

107. The percentage of the fish community which need to meet the specified length threshold will vary between regions depending on the ecological characteristics of that region, and between surveys depending on the survey design and gear used. This is why the target uses different percentages for the North Sea and the Celtic Seas. The percentages used are based on robust, peer-reviewed evidence.

108. **eNGOs suggested the inclusion of a range of operational targets including real time closures, protection of spawning and nursery grounds at key locations/times, on board cameras etc.**

109. In general the UK Government and Devolved Administrations have avoided setting these kind of operational, management-based targets at this stage in the MSFD implementation process as it is considered more appropriate to do this as part of the development of the MSFD Programme of Measures for 2015. We would encourage eNGOs and other interested stakeholders to engage in the development of the MSFD Programme of Measures between now and 2015.

Areas where changes have been made:

110. The targets and indicators for fish abundance and distribution have been amended on the advice of the experts involved in developing the original proposals so that these targets no longer use the fish community length indicator as a switch to indicate whether or not GES is being achieved. Instead the targets now require a positive trend in fish distribution and abundance indicators between now and 2020. This is because the link between the fish community length indicator and the condition of individual species within the community are not fully understood. Some presentational changes have also been made in order that the purpose of the targets clearer. In terms of consistency with other Member States, analysis of other key countries in the North East Atlantic suggests that most countries will focus on the assessment of sensitive fish species, although the way in which the targets have been developed appears to be quite varied across countries.

Targets for Pelagic Habitats

111. A number of respondents had comments in relation to the targets and indicators for pelagic habitats. These included a number of questions about how the targets would work, how the baselines would be set, and how human impacts would be differentiated from natural fluctuations. A factsheet will be produced with the aim of answering these questions and making the purpose of the targets clearer. Key comments and responses are set out below.

¹² Exceptions to this include species which are rarely caught in demersal surveys, and young individuals of each species due to the highly variable levels of young fish recruitment that can occur.

112. **A number of respondents felt the targets were too vague and would be difficult to measure because they were not quantitative.**
113. Although the targets are qualitative they are underpinned by a number of specific, quantitative indicators which will be used to assess whether or not the overall target is being achieved. The approach being taken involves grouping different species of plankton and comparing changes in coastal waters (which tend to be the most impacted by human activity) with changes in the offshore area (which tend to be far less impacted in comparison). Further research is being carried out to develop the indicators and validate the approach. Indicators and targets have not been developed for individual plankton species because there are no plankton indicator species that adequately characterise our coastal seas.
114. **A number of respondents were concerned that it would not be possible to differentiate changes in plankton driven by human impact from changes driven by climate change.**
115. Detecting changes in plankton and relating this to human and climate change pressures is challenging. However, the proposed approach is specifically designed to address this by comparing changes in plankton in coastal waters which are more likely to be impacted by human activity, with changes in off-shore regions which are less likely to be impacted by human pressure. Being able to differentiate between climate driven changes and human induced changes should indicate whether management measures need to be considered.

Areas where changes have been made:

116. In summary, the UK Government and Devolved Administrations have not made any significant changes to these targets and indicators as a result of the consultation – although some presentational changes have been made so that the purpose of the targets clearer. Analysis of the approach being taken by other key countries in the North East Atlantic suggests that the UK is further ahead in its thinking about the assessment of pelagic habitats than other countries. Few other countries are likely to set specific targets or indicators for plankton at this time, but further work is planned within OSPAR to develop a regional approach and the UK is in a good position to lead this work.

Targets for Rock and Biogenic Reef Habitats

117. The most significant comments relating to the proposed targets for these habitats came from the fishing industry, who questioned whether there is sufficient evidence to set targets for these habitats at this time, and from eNGOs who questioned whether the targets and baselines were sufficiently precautionary. A number of questions were raised relating to how these targets would be applied in practice. Key comments and responses are set out below.
118. **Fishing industry respondents questioned whether there was sufficient evidence to set characteristics and targets for rock and reef habitats.**

119. The UK Government acknowledges that there is a lack of comprehensive data and information relating to these habitats; however, given the conclusions of Charting Progress 2, which identified widespread impacts on these habitats, it would be a significant gap in our GES targets if these were not covered. The targets for these habitats are entirely consistent with the requirements of the Habitats Directive, which already covers the vast majority of rock and biogenic reef habitats.
120. **eNGOs respondents commented that they felt that the targets tend towards preserving the status quo and did not promote recovery of rock and reef habitats. They were concerned that linking the baselines to those for the Habitats Directive will mean that these are based on current conditions, rather than reference conditions as recommended by OSPAR. They were also concerned that action being taken under the Habitats Directive will not be sufficient to achieve GES for these habitats.**
121. Apart from some areas of rock habitat, all rock and biogenic reef habitats are covered by the requirements of the Habitats Directive to achieve Favourable Conservation Status. Given the degree of overlap between MSFD and the Habitats Directive for these habitats it is felt that achieving the Habitats Directive requirements will be sufficient to achieve GES and therefore the targets have been aligned accordingly. The UK's network of Marine Protected Areas, including sites designated under national legislation, will form the basis of moving towards GES for these habitats.
122. The issue of baselines is complicated. The UK Government accepts that the most robust way to set baselines for these habitats is to use reference conditions equivalent to a time when there were negligible human impacts, or failing that, to set baselines using past data. However, given current lack of data, the use of current baselines, based on best available data, may be the only practical option for many habitats at the present time. In acknowledgement of this issue, research is being commissioned which should help lead to the development of ecologically meaningful baselines for these habitat types in the future, at which point targets may need to be reviewed.
123. **eNGO respondents suggested the addition of a specific pressure target for rock and biogenic reef habitats to ensure that pressure on seafloor habitats is reduced.**
124. The targets for rock and reef habitat condition already include specific pressure indicators relating to assessment of the vulnerability and exposure of habitats to different pressures. These indicators, when operational, will be used as part of the assessment of whether the habitat condition targets are being achieved. It is not considered appropriate to set a specific, criterion-level pressure target for these habitats at this time because the indicators still require some significant development work and pressure data for these habitats is not currently available on a scale which would allow a pressure-based assessment at the scale of the MSFD sub-regions.

125. **eNGOs respondents felt that these targets should not be used as a justification for the creation of artificial habitats, and that any increases in habitat extent should be due to naturally occurring processes.**
126. It is unlikely that engineered habitats will have entirely the same characteristics as natural habitats and the UK Government and Devolved Administrations agree that these targets should not be used to drive the creation of artificial substrates. However, it would be unwise to rule-out the use of environmental engineering to mitigate habitat loss and degradation for some habitats in the future.
127. **One respondent queried the application of the target for the area of rock and reef habitat being ‘stable or increasing’, asking whether this means that any development proposals involving habitat loss should be rejected unless there is evidence for habitat expansion.**
128. It is envisaged that this target would be applied in the same way as the Habitats Directive is currently applied for these habitats. This allows for some loss to habitats at a local scale, provided there is no significant effect on habitat integrity. This is applied in practice through the licensing process when carrying out Environmental Impact Assessments.

Areas where changes have been made:

129. In summary, no significant changes have been made to these targets following the consultation. Analysis of proposals being put forward by other key countries in the North East Atlantic suggests that the UK targets are well aligned, with most countries making links to existing commitments under the Habitats Directive.

Targets for Sediment Habitats

130. The main comments relating to the proposed targets for these habitats came from the fishing industry, who questioned whether there is sufficient evidence to set targets for these habitats at this time, and eNGOs who felt that the Government’s preferred option for predominant sediment habitats was not sufficiently precautionary. Key comments and responses are below.
131. **Fishing industry respondents questioned whether there was sufficient evidence to set characteristics and targets related to sediment habitats at this time.**
132. The UK Government and Devolved Administrations acknowledge that there is a lack of comprehensive data and detailed information relating to these habitats. However, given the conclusions of Charting Progress 2, which identified widespread impacts on these habitats, it would be a significant gap in our GES targets if these were not covered. For those sediment habitats which are covered by the Habitats Directive the targets are entirely consistent with existing

requirements. For widespread, predominant¹³ sediment habitats, the current lack of evidence to support specific quantitative targets has been recognised in the approach to target setting (see below).

133. **There were a number of comments relating to the two Options put forward for targets for predominant sediment habitat condition. Option 1, the Government's preferred option, was a qualitative option which would require a general improvement in the condition of sediment habitats, with action taken to reduce impacts where these are identified as unacceptable. Option 2 was a quantified option which identified a specific percentage of the habitat which must be in good condition (85%). Option 1 was supported by a number of respondents, including industry and local government. eNGOs supported Option 2 as they felt Option 1 was insufficiently precautionary. In some cases eNGOs felt that Option 2 should be even more precautionary (i.e. more than 85% of the habitat should be in good condition).**
134. Having considered eNGO concerns it is felt that no new evidence has been put forward to support the kind of quantitative target proposed under Option 2. Instead, a slightly revised version of the Option 1 target has been developed, requiring a reduction in damaging human activities on predominant sediment habitats. This is effectively a trend-based, pressure target which acknowledges, based on assessments made in Charting Progress 2, that current human impacts on sediment habitats are not consistent with achieving GES. This is very similar to the original Option 1 target, but is formulated in such a way that it should be easier to monitor and assess. It is acknowledged that we are not currently able to describe what level of reduction is needed in quantitative terms and will have to rely on expert judgement to make this assessment in the short term. However, research and development work will be taken forward with the aim of being able to apply a quantitative approach to the assessment of sediment habitats as soon as possible.
135. **One respondent asked what listed habitat types were included for sediments and whether these would include things like Biodiversity Action Plan habitats and regional lists such as the Wales Section 42 Habitats.**
136. The special and listed sediment habitats covered by these targets include OSPAR habitats and Habitats Directive listed habitats. No specific references have been made to other nationally listed habitats because it was agreed within OSPAR that national lists should not be considered for the purposes of regional and sub-regional assessments. However, if specific nationally listed habitat types are thought to be an important sub-component of a predominant habitat type on a UK scale, they could be monitored and incorporated into an assessment of the predominant habitat type overall.

¹³ Predominant habitats are broadscale habitats which are not specifically covered by the requirements of existing legislation.

137. **Several respondents questioned the use of WFD tools for seagrass and saltmarsh as indicators for MSFD on the basis that these are still under development.**

138. It is acknowledged that these tools are still under development, but it is felt that it makes sense to develop these with both the WFD and MSFD in mind to help ensure consistency of assessments across both Directives in coastal waters.

139. **There were comments from fishing industry respondents regarding the use of pressure/sensitivity indicators for seafloor habitats, including concerns that the methodology still requires development.**

140. It is acknowledged that the methodology for applying pressure/sensitivity indicators requires further development. Work is currently on-going to improve the methodology for these indicators and interested stakeholders will be engaged in this process.

Areas where changes have been made:

141. In summary, the main changes which have been made to these targets involve strengthening the Option 1 target for predominant sediment habitats, requiring a reduction in damaging human impacts on these habitats. No significant changes have been made to any of the other proposed targets. Analysis of proposals being put forward by other key countries in the North East Atlantic suggests that UK targets are relatively well aligned, with most countries setting pressure targets requiring a reduction in the current level of pressure on these habitats.

Summary of responses on the proposals for Descriptor 2 (Non-indigenous)

142. There were a total of 22 responses received on the proposals for Descriptor 2. No fundamental concerns were raised regarding the proposed GES characteristics or the underpinning targets and indicators. There was support for the pragmatic approach taken with very few suggested amendments.

Characteristics of GES

143. The main comment on the characteristics of GES came from an eNGO respondent and suggested that the UK should take a more precautionary approach, similar to the German authorities, requiring the number of new introductions of non-indigenous species (NIS) to be reduced to zero. Following discussion with experts in Cefas and the Devolved Administrations it was decided that such an approach would be unrealistic and incompatible with sustainable use of the marine environment. It was felt that the original proposals, which focus on taking the necessary management action to reduce the risk of NIS introduction and spread, remain the most appropriate approach. A number of small, presentational amendments have been made in response to specific comments.

Targets and Indicators

144. **A number of respondents commented that targets should refer to the UK's international commitments through the International Maritime Organization (IMO), such as those relating to ballast water exchange and biofouling.**
145. It is recognised that action being taken through the IMO will be crucial in tackling the movement of NIS in the marine environment, and IMO guidelines for ballast water exchange and biofouling will be particularly important in the interim period before the ratification of the IMO Ballast Water Convention. However, having considered these suggestions it was felt that the proposed targets already reflect the need to take action to manage high risk pathways and vectors of introduction (such as ballast water) and there is no need, at this stage, to name each pathway or the measures for managing them. Further work on the risk management of pathways and vectors of NIS introduction and spread will be carried out as part of the development of the MSFD Programme of Measures over the next three years.
146. **eNGO respondents suggested replacing the proposed targets with differentiated targets depending on whether an area is at a high or low risk of NIS introduction and spread.**
147. An initial study has been carried out by Cefas to model high, medium and low risk areas of NIS introduction based on a number of factors such as pathway intensity and the probability of certain species surviving in new environments which vary with geographical location. However, further research and understanding is needed before such models could be used to inform the MSFD Programme of Measures. This is something which will be considered again in the future as part of a risk-based approach to tackling NIS in the marine environment.
148. **eNGO respondents suggestions additional targets for aquaculture and improved management of disease vectors.**
149. The targets proposed in the consultation already cover the need to manage all high risk pathways and vectors of NIS introduction and spread and it is not considered necessary to mention individual pathways and vectors in the targets. Specific legislation already exists for aquaculture and disease vectors, but the effectiveness of this in managing NIS introduction and spread will be given further consideration as part of the development of the MSFD Programme of Measures.
150. **Several respondents suggested that the target developed under Descriptor 1 (Biodiversity) to reduce the risk to island seabird populations from non-indigenous mammal species, should also be included under this Descriptor.**

151. The UK Government and Devolved Administrations' interpretation of Descriptor 2 is that it should apply only to non indigenous species found in the marine environment. The pressure target developed under Descriptor 1 is intended to reduce the risk to island seabird colonies from terrestrial non-indigenous mammal species (e.g. rat and mink) and is, therefore, not included in the targets under Descriptor 2. In regard to population condition and terrestrial NIS preying on bird colonies. This suggestion has not been considered as the scope of Descriptor 2, which considers NIS in the marine environment.
152. **eNGO respondents felt that the targets failed to cover the management of existing NIS in the marine environment, with the focus being on new introductions.**
153. The GES characteristics and underpinning targets focus both on preventing new introductions and reducing the spread of existing NIS. A specific target has also been put forward focusing on the need to develop action plans for the management of key high-risk species which become established in UK waters.
154. **Concerns were raised over the lack of coordination at European level, which could prevent GES being achieved.**
155. The UK Government recognises the need for cooperation at the regional and international level to ensure NIS are tackled effectively. Coordination work is ongoing within the European context, including aligning the implementation of the MSFD with other legislation such as the Alien Species in Aquaculture Regulations and the upcoming EU Strategy on invasive alien species. The UK continues to work proactively within OSPAR to ensure a consistent and coordinated approach to the implementation of this Descriptor.
156. **A number of respondents raised concerns over the different approaches taken across Europe regarding Pacific Oysters, which are considered to be NIS within the UK but have been granted a naturalised status in other Member States.**
157. This species has a high commercial value with an established fishery. A review is ongoing regarding Pacific Oysters in the aquaculture cultivation sector which is due to publish a report in early 2013 which will provide an evidence base to enable effective decision making.
158. **Concerns over the Initial Assessment summary of NIS were raised by eNGO's, with suggestions that the precautionary approach could be used to establish baselines regarding the number of high risk NIS in the marine environment.**
159. The Initial Assessment and subsequent advice from experts in Cefas and the Devolved Administrations highlights the lack of information and understanding of NIS in the marine environment, and at this stage it is not considered possible to accurately assess numbers of NIS or rates of new introductions. A specific indicator has been put forward which will look at the abundance, distribution and number of new introductions of NIS in areas which are at a high risk of new

introductions, with a view to being able to develop robust baselines for NIS introduction rates in the future.

Areas where changes have been made:

160. As a result of the responses received in the consultation there has been some minor rewording of the characteristics of GES and the associated targets and indicators, but no significant changes have been made. In terms of consistency with other Member States, analysis of other key countries in the North East Atlantic suggests a mixture of approaches to target setting for this Descriptor and a need for further coordination in the future. A number of Member States are taking a similar approach to the UK, with targets focussed on reducing the risk of NIS introduction and spread. Other Member States are proposing that the number of new NIS introductions should be reduced to zero, something which the UK Government and Devolved Administrations believe to be unrealistic and inconsistent with sustainable use of the marine environment.

Summary of responses on the proposals for Descriptor 3 (Commercial Fish and shellfish)

161. A total of 26 responses were received on the proposals for Descriptor 3. Key comments and responses are set out below.

162. **eNGO respondents felt that the proposed targets for fishing mortality were not sufficiently precautionary and, in particular, that the interim (2015) target was inconsistent with Government commitments already undertaken within European and international agreements on sustainable fish stock levels. Some eNGO respondents specifically called for targets which aim to maintain fishing mortality at levels which are lower than those required to achieve Maximum Sustainable Yield.**

163. The UK Government and Devolved Administrations recognise the need to amend the proposed targets for fishing mortality to ensure consistency with the approach the UK is taking to CFP reform. The original characteristics of GES and targets were developed prior to the CFP reform negotiations and before ICES had provided advice to Member States on the implementation of Descriptor 3. Following the consultation the targets have been updated to reflect the current situation.

164. The proposed targets now require stocks to be exploited at, or below, Maximum Sustainable Yield levels (F_{MSY}) by 2015 where possible, and for all stocks by 2020. This is consistent with the UK's position on CFP reform and other international and European commitments. It is also in line with the Commission Decision on GES which requires fishing mortality to be 'equal to or lower than F_{MSY} ', and should therefore be consistent with the approach being taken by other European countries.

165. **Both eNGO respondents and respondents from the recreational fishing industry felt that focussing the assessment of GES for this Descriptor on a**

limited number of stocks was too narrow, and suggested that all stocks (including shellfish) should be included within remit of these targets.

166. The MSFD consultation document proposed that the assessment of GES for Descriptor 3 should use a selection of stocks which are representative of all commercial stocks, due to the lack of scientific assessments available for many stocks. Following advice from ICES and discussions between Member States, it is now proposed that the assessment of GES for this Descriptor will include all stocks for which the UK has an obligation to provide data under the European Data Collection Programmes (including shellfish and nationally important species). However the status of stocks will only be reported for the subset of stocks for which ICES provides assessments (see below). Additional stocks of national importance outside EU Data Collection Programmes may be included in the assessment depending on the availability of appropriate data.
167. **eNGO respondents raised concerns regarding the exclusion of stocks for which data is limited from the assessment of GES, and suggested that the precautionary approach should be used where scientific evaluation was incomplete.**
168. To enable a harmonised assessment of GES for Descriptor 3 within regional seas it is important to base the assessment on internationally agreed stock assessments; ICES assessments in the case of UK waters. The ability of ICES to provide quantitative stock assessments has been limited in the past due to lack of data. However, ICES has developed a series of approaches for assessing stocks for which limited data is available, allowing them to extend the coverage of quantitative catch advice. Use of these new approaches, which continue to be evaluated and developed by ICES, will increase the range of stocks that can be addressed under this Descriptor.
169. **eNGO respondents felt that the proposed target for stock biomass are not precautionary enough and suggested that targets should require the achievement of stock biomass levels consistent with Maximum Sustainable Yield (B_{MSY}).**
170. ICES currently does not define Maximum Sustainable Yield reference points for stock biomass (B_{MSY}) as this is more a theoretical concept than an actual value. MSY reference points for stock biomass will vary depending on the state of other stocks and environmental conditions. Given the potentially large changes in fish communities as fishing mortality is reduced in line CFP commitments it is not considered to possible provide accurate MSY reference points for stock biomass or to set targets on this basis. However, following discussion with experts, the proposed target for stock biomass has been amended to reflect the UK's position on CFP reform and the overall commitment to achieving the long-term exploitation of stocks at Maximum Sustainable Yield (F_{MSY}).
171. **A number of respondents commented on the lack of targets for fish stock age and size distribution, which are specific indicators in the Commission Decision on GES, suggesting that these are important**

indicators for stocks where robust fishing mortality assessments are not possible.

172. There is currently no strong scientific rationale for defining GES reference points in relation to indicators for stock age and size distribution, and there are no internationally agreed reference levels or ICES advice for these parameters. On this basis, it is not considered possible to set targets for age and size distribution at this time. The UK will support any work to develop a harmonised approach to the implementation of these indicators in the future.
173. **eNGO respondents commented on the need to make links between Descriptor 3 and other Descriptors, including the need for specific targets for bycatch and discards.**
174. Fishing activities impact on a range of ecosystem components including non-commercial fish species, other marine species, seafloor habitats and the wider marine food web. There are clear links between the targets for this Descriptor and the achievement of targets for biodiversity (Descriptor 1), food webs (Descriptor 4) and sea floor integrity (Descriptor 6). It will be particularly important to ensure that these links are recognised during the development of the MSFD Programme of Measures.
175. With regard to the possibility of including specific targets for by-catch and discards, the UK has generally avoided setting operational management targets at this stage of the implementation process. These kinds of targets will be considered as part of the development of the MSFD Programme of Measures. However, the UK aims to eliminate discards as soon as possible and is calling for a reformed CFP that sets out clear timelines for when this should happen. The General Approach agreed by Fisheries Ministers in June 2012 sets out a phased timetable for eliminating discards which would allow opportunity for investment in technology to allow more selective fishing, as well as the development of the necessary market infrastructure and landing facilities in ports. This Approach was supported by a detailed set of provisions to reduce unwanted catches and align quotas. It should be noted however that this dossier will be co-decided with the European Parliament. The UK will continue to work with others to improve the legal provision and guard against weakening of the Approach.
176. **Fishing industry respondents raised concerns regarding the scientific justification for the use of single stock assessment within mixed fisheries.**
177. Currently F_{MSY} is defined on a single species basis, and is very difficult, if not impossible, to target all stocks in a mixed fishery at F_{MSY} . The amended targets reflect this issue until such time that advice and management moves into a mixed fisheries/multispecies based definition of F_{MSY} .
178. **Several eNGO's suggested the development of single European definitions of Safe Biological Limits and Maximum Sustainable Yield.**

179. Both Safe Biological Limits and Maximum Sustainable Yield are scientifically defined terms developed and used by ICES for fisheries management.

Areas where changes have been made:

180. In light of the responses received, and the guidance developed by ICES regarding this Descriptor, fundamental changes have been made to both the characteristics of GES and the underpinning targets and indicators for this Descriptor (as detailed above). The amendments ensure that the proposed targets are consistent with the Commission Decision on GES and with the UK's approach to CFP reform. This will also help ensure a consistent approach to this Descriptor across EU Member States.

Summary of responses on the proposals for Descriptor 5 (Eutrophication)

181. A total of 18 responses were received on the proposals for Descriptor 5. No fundamental concerns were raised regarding the proposed GES characteristics or targets and in general there was support for the broad approach being taken. A number of specific issues were raised, these are dealt with below.

Characteristics of GES

182. A number of responses, primarily from eNGOs, commented on the characteristics of GES, suggesting that they should reflect the overall objective of the OSPAR Eutrophication Strategy, such that all Problem Areas should become Non-Problem Areas. In light of these comments, an additional overarching statement has been added to the characteristics of GES for this Descriptor.

183. In addition, a number of respondents requested that explicit reference was made to the 'underlying seabed' or 'higher forms of plant life'. It was not felt that these suggested changes added clarity to the GES characteristics, with organisms on the seabed also being in the water and higher forms of plant life already referenced in the characteristics (indirect effects).

Targets and Indicators

184. **A few industry (energy) respondents suggested that the current wording of the targets relating to nutrient levels and nutrient enrichment does not allow for any change in nutrient or chlorophyll levels and thus suggested some wording changes.**

185. Having considered these suggestions it is felt that the current wording already takes account of, for example, year to year variability in the weather driven inputs of nutrients and any specific hydrographic changes taking place, therefore it was not deemed appropriate to make the changes suggested.

186. **It was recommended that OSPAR Ecological Quality Objectives (EcoQOs) in the North Sea should be applied as minimum targets for GES and extended to cover the Celtic Sea.**
187. The current GES targets are already in line with the overall OSPAR EcoQO for eutrophication. It should also be noted that OSPAR Hazardous Substances and Eutrophication Committee (HASEC) 2012 concluded that it was no longer useful to maintain the OSPAR EcoQOs for eutrophication given the establishment of the MSFD targets and indicators for eutrophication.
188. **eNGOs respondents felt that that targets in addition to those under WFD are required to achieve GES, and new targets for indirect nutrient effects were proposed.**
189. Targets for indirect nutrient effects have been developed for Problem Areas, with such targets not being necessary in Non-Problem Areas where these effects do not occur. Some amendments to the text in the UK Marine Strategy document will be made to clarify how the targets for indirect nutrient effects have been set.
190. **eNGOs respondents also suggested that the UK should adopt the same targets as proposed by the German authorities.**
191. The proposed UK approach is already similar to that put forward by Germany, with the UK defining more specific indicators and differentiating between Problem and Non-Problem Areas. The only substantive difference relates to proposals by Germany for a reduction in atmospheric impacts. Such impacts are not thought to provide significant inputs for UK Problem Areas, so no changes to the UK targets are considered necessary.
192. In addition to specific comments relating to characteristics, targets and indicators highlighted above a number of additional substantive concerns were raised as set out below.
193. **eNGOs respondents questioned the efficacy of the analysis of nitrogen and phosphorus in determining eutrophication status.**
194. The analysis of nitrogen and phosphorus data is only one component of the assessment process for determining eutrophication status. The assessment methods used to come to the overall conclusion on eutrophication status are highlighted in the UK Marine Strategy Part One (Section 3.5).
195. **eNGOs respondents felt that additional measures will be required to achieve GES, particularly in the light of population growth, food production and land use.**
196. The Problem Areas identified by OSPAR and WFD assessments are all in waters which are covered by the WFD¹⁴. Adverse impacts arising from an

¹⁴ All Problem Areas are located in WFD Transitional and Coastal Waters. There are no Problem Areas identified in waters that are solely covered by the MSFD.

increase in land-based pressures will be addressed through action taken under the WFD, Nitrates Directive and Urban Waste Water Treatment Directive (UWWTD).

197. Concerns were raised that the OSPAR Comprehensive Procedure does not cover the majority of the Celtic Seas sub region, including several Problem Areas around Ireland.

198. The Celtic Seas sub region was considered using the OSPAR Common Procedure Screening Procedure based on knowledge of the area's hydrodynamic characteristics, proximity to nutrient sources and significant evidence on nutrient concentrations. Where nutrient concentrations were below the agreed thresholds scientists considered the risk of anthropogenic eutrophication to be low, therefore these areas were screened out of the more detailed assessment procedure required by the OSPAR Comprehensive Procedure. In most of the Celtic Sea areas nutrient concentrations are near to the relevant OSPAR background concentrations.

199. It was suggested that the assessment and reporting of MSFD should align with WFD and other overlapping Directives (including UWWTD and Nitrates Directive) and make use of WFD tools where possible.

200. The UK Government and Devolved Administrations agree that it would be highly desirable to align assessment and reporting timetables to prevent duplication of effort and to make use of existing WFD tools where appropriate. The European Commission is aware of these issues and a dedicated workshop was held in late 2012 to discuss how best to align assessment and reporting suitable for Descriptors 5, 8 and 9.

Areas where changes have been made:

201. In summary, no significant changes have been made to these targets and indicators as a result of the consultation. An additional overarching statement regarding the characteristics of GES has been added to reflect the overall objective of the OSPAR Eutrophication Strategy. In terms of consistency with other Member States, analysis of other key countries in the North East Atlantic suggests that there is a high degree of coordination, with countries linking their approach to GES with existing approaches in OSPAR and WFD.

Summary of responses on the proposals for Descriptor 7 (Hydrographical conditions)

202. A total of 19 responses were received on the proposals for Descriptor 7, of these 10 made substantive comments. Key comments and responses are set out below.

203. eNGO respondents felt the proposals lacked ambition, simply adopting current practices. They called for the establishment of more proactive targets requiring 'no significant changes' to hydrographical conditions.

204. MSFD is a framework Directive intended to bring together existing efforts contributing to the achievement of GES with new measures. It does not require more to be done where existing measures are already in place and considered sufficient. For Descriptor 7 there is no evidence to suggest that any impacts at the scale of the MSFD sub-regions have occurred or are occurring in UK waters. The UK has a strong licensing system in place which already requires developers and regulators to consider such impacts. Nonetheless we are not complacent, as illustrated by the intention to develop specific case studies to test the effectiveness of the licensing process and to review guidance to ensure clarity for developers and regulators where necessary. Furthermore, licensing systems across EU Member States differ in their maturity and approaches to managing changes to hydrographical conditions arising from human activities and this Descriptor should help address that.

205. **eNGO respondents felt that the existing licensing regime was insufficient to achieve GES because it is not able to capture and assess cumulative effects.**

206. The existing legal framework is considered sufficient and allows for decisions to be taken in a robust and evidenced based manner. Both marine plans and individual licence decisions must comply with EU legislation on environmental assessment and hence their requirements for the assessment of cumulative impacts. It is generally recognised however that there are limitations in the availability of tools and data to support this kind of assessment and work is currently being carried out, both within the UK (by the MMO and others) and within OSPAR to develop appropriate and consistent methodologies for assessment of cumulative and in-combination effects.

207. Organisations responsible for marine planning and licensing have a key role to play in ensuring compliance with the Directive. They will be closely involved in the work underway to develop case studies to test the current licensing framework and the review of guidance to ensure clarity in terms of duties for industry and regulators.

208. **Several respondents questioned the definition of 'significant long term effects' and asked how they will be measured?**

209. Further work will be undertaken to define such terms and to ensure it is made clear in the guidance for regulators and industry. However, 'long term' is generally taken as being "beyond the natural variability of the system" and this will vary depending on location i.e. in areas of high natural variability long term could be 2 or 3 years whilst other locations with a slow "metabolic rate" could be 15 to 20+ years.

210. **Industry respondents felt that it was felt that it was not appropriate to require every applicant to carry out a full regional sea 'in combination' assessment in support of a permit application.**

211. Any licence application must already ensure that appropriate consideration has been given to the project's potential for wider environmental impacts i.e.

through cumulative or in-combination effects. These requirements are already enshrined within existing legislation such as the EIA Directive, Habitats and Birds Directive, Strategic Environmental Assessment Directive etc. The MSFD is not requiring additional assessments to be undertaken above and beyond the considerations industry should already be giving to the wider environmental implications of their activities. The Marine Policy Statement provides clear statements on the use of the marine environment and this will be underpinned by the development of marine plans.

Areas where changes have been made:

212. No changes have been made to the characteristics and targets for Descriptor 7 as a result of the consultation. The UK Government recognises the concerns regarding the perceived level of ambition however, no new substantive evidence has been put forward in support of a more precautionary approach. It is believed that the current approach is pragmatic and sufficient to ensure GES is achieved. However, an assessment of the effectiveness of the current licensing regime in achieving GES is being carried out. In terms of consistency with other Member States, analysis of other key countries in the North East Atlantic suggests that there is a mixed approach to this Descriptor and further work is planned in OSPAR to improve coordination between now and 2018.

Summary of responses on the proposals for Descriptor 8 (Contaminants)

213. A total of 19 responses were received on the proposals for Descriptor 8. Many respondents were supportive of the proposed approach for this Descriptor. The only fundamental concern relating to the proposed characteristics and targets was from eNGOs who felt that the UK should be aiming to reduce contaminants below agreed levels. A number of more minor concerns, particularly relating to the links between MSFD and WFD were raised: these are dealt with below.

Characteristics of GES

214. While some respondents felt that the proposed characteristics were consistent with the aims of the Directive and other policies, eNGOs were suggested that the proposed characteristics were not sufficient to achieve GES.

215. Contaminant levels agreed within existing frameworks (e.g. WFD, OSPAR) are already developed on a very precautionary basis in order to ensure there is no significant risk to either the environment or human health. These agreed levels are considered to be consistent with the achievement of GES, and it is thought that achieving concentrations that do not exceed these levels provides sufficient protection for marine life. The final UK Marine Strategy document provides more clarity on what agreed levels are being used and how these are developed.

Targets and Indicators

216. **eNGO respondents felt that the targets were not sufficiently precautionary.**
217. As highlighted above, it is thought that the current approach by which target levels have been agreed is sufficiently precautionary and consistent with sustainable use of the marine environment. Any further reductions would be going significantly beyond what is required by the Directive and would be overly precautionary.
218. **Whilst industry (energy) respondents were content with the lack of a specific target for oil and chemical spills, eNGO respondents felt that a target should be applied.**
219. Having considered these concerns an operational target for oil and chemical spills has been added in line with text agreed by the relevant OSPAR Committee.
220. **A number of respondents also highlighted concerns regarding possible inconsistencies between the use of chemical thresholds developed under OSPAR and WFD to assess GES and the use of biological effects tools.**
221. It is recognised that there are apparent inconsistencies between these approaches which will have to be addressed. The need for join-up between WFD assessments and marine assessments has been recognised by the European Commission, with a European workshop taking place later in 2012 to discuss these issues, and plans to include a specific marine work stream within the WFD Common Implementation Strategy. OSPAR is also aware of the issues and is currently undertaking an exercise to see how and whether the Environmental Assessment Criteria (EACs) and biological effects tools it has developed can add value to the WFD assessment tools, which are also in development due to the revision of the Environmental Quality Standards Directive (EQSD).
222. In addition to specific comments relating to characteristics and targets and indicators highlighted above a number of additional concerns were raised as set out below.
223. **It was felt that monitoring was not sufficient under WFD for Transitional and Coastal waters to allow for the determination of GES.**
224. The MSFD does not require monitoring programmes to be in place until 2014. At present we are undertaking an analysis of MSFD monitoring needs and by July 2014 a programme should be in place that will address both MSFD and WFD obligations in Transitional and Coastal waters.
225. **Fishing industry respondents were concerned by the lack of mention of biological/microbial contamination and the loss of protection of shellfish waters when the Shellfish Waters Directive is repealed.**

226. The European Commission is clear that microbial contamination is outside the scope of Descriptor 8. Other issues relating to shellfish are addressed in a MSFD Shellfish Factsheet published on the Defra website (www.defra.gov.uk/environment/marine/msfd/)

Areas where changes have been made:

227. As a result of responses received in the consultation an operational target covering oil/chemical spills has been added. Some minor rewording of the targets associated with biological affects has also been made, to ensure alignment with other Member States. Other minor amendments may be required following a Commission workshop in late 2012 in relation to OSPAR/WFD assessment levels. In terms of consistency with other Member States, analysis of other key countries in the North East Atlantic suggests that there is a high degree of coordination, with countries linking their approach to GES with existing approaches in OSPAR and WFD.

Summary of responses on the proposals for Descriptor 9 (Contaminants in seafood)

228. A total of 11 responses were received on the proposals for Descriptor 9. eNGOs felt that both the characteristics of GES and targets and indicators should be strengthened and comments were also received regarding the compatibility of food standard and environmental thresholds.

Characteristics of GES

229. While few comments were received regarding the GES characteristics, eNGO respondents suggested they should be strengthened by requiring concentrations to be 'significantly lower' than relevant maximum levels. These levels have been developed with health considerations in mind and have built-in safety factors. Regulatory limits are under continual review and may be revised downwards between now and 2020, especially if the GES targets for Descriptor 8 lead to lower contamination levels in general, but also if the additional data generated by Descriptor 9 activities shows scope to reduce limits. As such, is not considered justified to set targets requiring contaminants to be significantly below these levels and no changes to the characteristics are proposed.

Targets and Indicators

230. **eNGO respondents suggested that targets should be strengthened to require that contaminant concentrations were decreasing, they also indicated that another target should be set requiring a downward trend in contaminants where regulatory levels have not been set, but where monitoring occurs.**

231. In relation to the first point, it is felt that existing maximum levels are already sufficiently precautionary to ensure that GES is achieved. On the second point, although it is not feasible to set targets for contaminants where regulatory levels have not been established, the Government will continue to investigate

unregulated contaminants. The Food Standards Agency (FSA) and equivalent bodies in the Devolved Administrations actively investigate emerging risks, including other contaminants in seafood and general food law provides for action to be taken to protect human health when there is potential risk associated with unregulated contaminants.

232. Several respondents questioned the compatibility of food safety levels with existing environmental thresholds for contaminants (e.g. for WFD).

233. The issue of compatibility of food safety levels with wider environmental thresholds for contaminants is likely to be covered during the regular review of food safety standards and during a workshop which is being held by the Commission later in 2012. There may be logical reasons for differences between food safety thresholds and those used for the wider environment, for example, if a contaminant is more toxic to shellfish than to humans.

Areas where changes have been made:

234. No changes have been made to the characteristics, targets or indicators for Descriptor 9 as a result of the consultation. Some small amendments may be required following a Commission workshop, which seeks to address any differences in assessment levels that currently exist between environmental and food standards. In terms of consistency with other Member States, analysis of the proposals from other key countries in the North East Atlantic suggests there is a good level of coordination, with all countries setting targets which are in line with existing food safety standards.

Summary of responses on the proposals for Descriptor 10 (Marine litter)

235. A total of 29 responses were received on the proposals for Descriptor 10. The main concerns regarding the proposals for this Descriptor came from eNGOs who felt that the proposed characteristics and targets were not precautionary enough. However, a substantial number of respondents were broadly supportive of the proposals and no respondents offered any new evidence or information regarding marine litter.

Characteristics of GES

236. Many respondents from a variety of sectors agreed with the proposed characteristics, recognising that there are large gaps in the knowledge base regarding litter. eNGOs considered the characteristics not to be sufficient to achieve GES. They suggested a number of changes to make the characteristics more aspirational, including that all forms of marine litter should be eradicated or at levels close to zero in the long term. Although there is a clear need to reduce current litter levels, there is no evidence to show what level of litter is consistent with GES and it is not felt to be justified from an environmental perspective to aim for zero litter. No changes have been made to the GES characteristics, which focus on reducing litter and minimising risk it poses to the marine environment.

Targets and Indicators

Litter on coastlines

237. **Many respondents agreed with the preferred (Option 2) target proposed for litter on coastlines, which requires an overall reduction in litter on coastlines by 2020. However, eNGOs favoured a more aspirational option, suggesting an interim target of a 50% reduction (by 2020).**
238. Experts have advised that there is currently no evidence to support a target for a specific percentage reduction in coastline litter from an ecological perspective and suggest that a trend-based target calling for a reduction over time is more appropriate. On this basis, the Option 2 target (overall reduction in litter on coastlines) has been included in the UK's set of GES targets. Analysis of the approach being taken by other countries in OSPAR suggests that they will all take a similar approach to setting targets for coastline litter and we are not aware that any other Member States will be setting specific percentage reduction targets.

Litter on the seafloor

239. **A number of industry respondents supported the Government's preferred approach of a surveillance indicator for seafloor litter (Option 1), recognising that a target will be developed, if appropriate, in 2018 when we have more data on trends and sources of this type of litter. eNGOs felt that a decreasing trend target (Option 2) should be considered at the very least, suggesting that a decrease in litter on coastlines, as required by the previous target, will also support a decrease in seafloor litter.**
240. There is currently a lack of information related to seafloor litter and there is no robust evidence to conclude that current levels of seafloor litter are causing harm to marine life at a population level. Experts also have doubts about how responsive seafloor litter levels would be to measures to reduce litter levels, questioning its usefulness as target for GES. On this basis it is still felt more appropriate at this stage to adopt an indicator for seafloor litter (Option 1) rather than a target. Including a specific indicator will allow the development of a robust baseline for seafloor litter and targets will be established in 2018 if levels are shown to be causing a significant impact on the marine environment.

Impacts of litter on marine life

241. **In the consultation document two options were put forward to address the impacts of litter on marine life based on an OSPAR EcoQO relating to the amount of plastic in the stomachs of fulmars. Option 1 (an indicator, but no target) was put forward as the Government's preferred approach and this was supported by a number of respondents, particularly from industry sectors. However, eNGOs felt that Option 2 (a decreasing trend in plastic levels in fulmars) should be considered at the very least and would prefer a more precautionary approach linked more directly to the OSPAR EcoQO.**

242. Following the consultation UK experts have reassessed the OSPAR EcoQO on plastic ingested by fulmars. Although some countries thought it to be a useful indicator of the impacts of litter on marine life, UK experts believe that further work is necessary to understand how this reflects harm to the birds. For this reason the UK is not putting this forward as an indicator of the impacts of marine litter on marine life, and further work will be carried out to develop an appropriate indicator of the impacts of litter. However, the OSPAR fulmar EcoQO is considered to be a potentially useful indicator of the levels of litter in the water column and has therefore been put forward as a surveillance indicator for this parameter (Commission Criterion 10.1). It was not considered appropriate to develop a target based around this indicator due to doubts about how responsive it would be to measures to reduce litter levels, questioning its usefulness as a target for GES.

243. eNGO respondents felt that a target should be set for micro-particles, which are caused by the degradation of litter (particularly plastics) into smaller and smaller pieces.

244. It is not currently possible to establish targets and indicators for micro-particles as there is insufficient scientific understanding, data and evidence. These gaps are being addressed through appropriate research. We are not aware of any Member States proposing specific targets for micro-particles at this stage.

245. In addition to specific comments relating to characteristics and targets and indicators highlighted above a number of additional substantive concerns were raised as set out below.

246. A number of respondents commented on monitoring, including comments related to consistency of monitoring methodologies, resource implications and co-ordination.

247. All points highlighted in the Consultation responses will be duly considered as monitoring programmes are developed. The MSFD requires monitoring programmes to be in place by 2014.

248. A number of respondents commented on inclusion of measures on litter within the GES programme of measures, including: the need to prevent litter entering the environment in the first place, with better coordination of litter and waste policies across the terrestrial and marine environments; the need for legislation to tackle specific forms of litter (e.g. plastic bag levies); and the need for improved enforcement of existing legislation (e.g. with regard to shipping litter).

249. Government agrees that preventing litter entering the marine environment in the first place is the best approach. Since much marine litter comes from land based sources, the role of terrestrial litter and waste policies is important. All these issues will be considered in more detail over the next three years as part of the development of the MSFD Programmes of Measures, recognising that action is

250. **One respondent questioned the apparent discrepancy between the assumption that litter levels will continue to increase, and the data provided showing stability in litter levels.**

251. It is difficult to predict future litter levels and draw conclusions from the current data because of the high variability between years. A few more years data would help to confirm the direction of any trend, ensuring a high degree of confidence. This apparent discrepancy should therefore be removed by stating apparent stability.

Areas where changes have been made:

252. No changes have been made to the GES characteristics. All of the Governments' preferred Options for targets and indicators will be adopted, as no new evidence was presented through the consultation process and we believe that these targets and indicators are commensurate with the knowledge and data that are currently available. In terms of consistency with other Member States, analysis of other key countries in the North East Atlantic suggests that the UK's approach is well aligned, with the exception of the use of the OSPAR EcoQO for fulmars, where the UK does not agree that this a useful indicator of the impacts of litter on marine life.

Summary of responses on the proposals for Descriptor 11 (Underwater noise)

253. A total of 31 responses were received on the proposals for Descriptor 11, of which 19 made substantive comments. Industry respondents were broadly supportive of the proposals and felt that they were proportionate, whilst eNGO respondents were critical and felt that the proposals were insufficiently precautionary. Key comments and responses are set out below.

254. **eNGO respondents felt that the proposals were insufficiently precautionary. They suggested that the proposed targets are not targets and should be revised to require a long-term reduction or a downward trend relative to current conditions. They also felt that other forms of energy should be considered.**

255. Due to the high level of uncertainty surrounding the effects of noise on the marine environment it has not been possible for experts to propose specific, quantitative targets which they believe to be equivalent to GES. For this reason, and based on advice from Cefas, JNCC, OSPAR, and the EU Technical Sub Group on Noise an operational target has been developed for impulsive sounds and a surveillance indicator developed for ambient noise.

256. The Government believes the proposals are a pragmatic approach to tackling the requirements of the Directive in light of our current knowledge gaps and we will continue to develop our targets as allowed for by the Directive's adaptive management approach. Work is underway within the EU Technical Sub Group on noise (co-chaired by the UK) to develop a quantitative approach based closely on that outlined in Option 2 of the consultation. The UK supports this work and believe that the UK targets and indicators will ensure critical information and evidence is collected so that we are able to understand current levels and distribution of noise in UK waters. Such information is essential if we are to make a robust assessment of GES in the future.

257. With respect to the inclusion of other forms of energy (such as electromagnetism, heat etc), these will be considered by the Technical Sub Group on Noise as part of their future programme of work. If considered appropriate they will then be included in future revisions of the Commission Decision on GES 2010, at which point we will address them. Going further than the Commission Decision at this point would be considered gold plating and would not reflect the approaches being taken by the majority of other Member States.

258. eNGO respondents felt that a more precautionary approach should be adopted, suggesting that the conclusion that no evidence exists of current and future impacts is wrong and it is clear we are not currently achieving GES.

259. The proposals have been developed through extensive and ongoing discussions with Government Departments, experts, stakeholders and more widely at a European level.

260. An Initial Assessment carried out by JNCC, Cefas, DECC, and a number of other stakeholders, based on a preliminary analysis of available spatial and temporal data and expert opinion, indicates that current and planned levels of noise should not result in the scale of impact this Descriptor is intended to address. As part of this it was considered whether serious or irreversible damage was currently occurring or likely to be caused in the future (given what is known about planned activities) to the environment and whether cost-effective measures should be implemented to prevent further environmental degradation.

261. It is acknowledged that there is still a degree of uncertainty surrounding our general understanding of marine noise and its impacts on marine life, however, the proposed targets for noise have been made on the best available evidence and we intend to continue to work within the EU Technical Sub Group on noise to develop a scientifically robust quantitative target in the future.

262. eNGO respondents felt that focusing on effects at a population level was inappropriate given little is known and it is difficult to measure and detect impacts within reasonable timeframes.

263. The advice to Member States provided by the EU Technical Sub Group on Noise has clarified that this Descriptor is intended to address the wider impacts of marine noise not necessarily effectively addressed within existing management

frameworks i.e. those impacts affecting behaviour or resulting population level effects. Negative/harmful effects at an individual level such as hearing loss, direct mortality etc are currently managed effectively in the UK within the marine licensing and consents framework.

264. At the scale of the MSFD i.e. UK/Regional seas, determining whether GES is achieved based on impacts seen at an individual level would not be appropriate. In order to take an ecosystem based approach to managing our seas, and hence meeting the aims of the Directive, we must ensure populations are healthy and not experiencing negative impacts, be that as a result of behavioural changes or direct mortality.

265. The UK Government recognises that the paucity of information available on behavioural and population level impacts makes this kind of assessment challenging. However, the UK Government is committed to addressing these knowledge gaps through on-going research. In addition, the GES characteristics for noise have been broadly agreed at an OSPAR level meaning they reflect a shared understanding and thus a common goal at a regional seas level. This is particularly important given the highly mobile nature of many noise sensitive species populations.

266. **A number of respondents commented that they felt proposed noise thresholds are too narrow and thus will not capture all potentially harmful noise.**

267. With respect to impulsive sounds, detailed discussions relating to the development of the noise registry will begin shortly and these will include further consideration of the most appropriate threshold to set. However the proposed 'thresholds' are not intended to reflect the level at which harm occurs but rather they are simply a 'cut off' for the inclusion of certain activities in the noise registry.

268. With respect to ambient noise, the frequencies referred to in the target are explicitly required in the Commission Decision which was based on advice from the ICES/JRC Technical Group (which later became the EU Technical Subgroup on Noise). The Technical Group was explicitly targeting the characteristic frequencies of shipping.

269. Cefas is currently carrying out research to help develop an appropriate programme of monitoring for ambient sound, including examining the options for measuring and assessing a wider range of frequencies than specified in the Commission Decision. Marine Scotland are also developing a programme of placement for noise monitoring devices in Scottish waters to monitor noise levels from anthropogenic activity.

270. **One respondent suggested that a third target should be set requiring the establishment of specific mitigation measures for the most common sources of noise.**

271. The consideration of mitigation measures specific to noise sources is already carried out at the licensing stage and such measures may be very project specific. For this reason such a target is unnecessary and at best difficult to apply.

272. One respondent suggested that sounds that are repetitive impulsive events, such as pile-driving, and those that are one-off impulsive events, such as explosions, should be separated due to their different potentials for cumulative effects.

273. The implications for marine life of 'one off events' compared to repeated noise inputs such as that arising from pile driving will be considered when making an overall assessment of GES. There is no need to make a distinction at this point since the objective of the noise registry to facilitate an assessment of the potential for cumulative or in-combination impacts will be achieved through the collation of all human activities which generate noise at potentially harmful levels. However, it is likely that the nature of the sources will be recorded as part of the information in the noise registry.

274. One respondent commented that the proposed targets seem to be solely directed at marine mammals.

275. The proposed targets are not intended to be solely restricted to marine mammals but rather 'noise sensitive species'. Given the evidence base is more developed for cetaceans they have been used within the Impact Assessment to illustrate how the targets may work in practice, however, it is recognised that the effects of noise may also extend to some fish and invertebrate species. UK Government continues to fund research to further our understanding of such impacts on other species.

276. One respondent commented that because the main source of anthropogenic sound is shipping, efforts to reduce this factor will be difficult or impossible.

277. It is recognised that efforts to control the noise arising from shipping will be challenging and unilateral action is unlikely to be effective. The next stage of implementing the Directive allows for the careful consideration of the management measures necessary to achieve GES during which time we will review the options available.

278. One respondent commented that Ministry of Defence activities do not appear to have been considered.

279. Military activities are exempted under the Directive. However, the MoD has been engaging closely in the process in order to ensure their activities reflect the need to achieve GES to the greatest extent possible.

Areas where changes have been made:

280. No significant changes have been made to the GES characteristics and targets for Descriptor 11 as a result of the consultation process and the preferred

options from the consultation have been put forward. One minor change has been made to the GES characteristics to improve alignment with other countries in OSPAR.

281. Although eNGO respondents raised concerns about what they considered to be a lack of precaution in the proposed approach, no substantive new evidence was brought forward against the expert assessment carried out by JNCC, Cefas, DECC and others. The targets reflect a pragmatic approach to this Descriptor, laying the foundations for the continued development of more quantitative targets in the future.

Summary of responses to consultation questions on the Impact Assessment

282. For each of the GES descriptors we consulted on three key questions:

- Are the illustrative measures considered for this Descriptor a reasonable assessment of the additional measures which might be needed to achieve the proposed GES targets?
- Are there any other potential measures which might be necessary in order to achieve the proposed GES targets for this Descriptor?
- Are you able to provide any more specific information on the likely costs of the illustrative measures considered for this Descriptor?

283. A total of 12 responses were received on the Impact Assessment. Key comments and responses are set out below.

284. **eNGO respondents were concerned that the baseline scenario used as the basis for the Impact Assessment is overly optimistic in terms of what will be delivered by existing measures.**

285. As a number of key policies in the baseline scenario, such as the Common Fisheries Policy and the designation of Marine Conservation Zones, are currently in the process of being negotiated or implemented, it has been necessary to make assumptions on the effectiveness of these existing policies. These assumptions and limitations have now been made clearer in the final version of the Impact Assessment.

286. **A number of respondents made comments relating to the illustrative measures used to assess potential costs, including questions about the assumptions used to assess the costs of a number of the measures (particularly those for Descriptor 2) and questions about whether certain measures should be included as part of the baseline.**

287. Based on improved information about the likely outcomes of a number of existing policies the baseline assumptions have been updated and a number of illustrative measures have been removed because it has become clear that these are likely to be delivered anyway under existing policy commitments. This has meant lower additional costs and benefits in comparison to the consultation Impact Assessment. This is particularly the case for:

- CFP reform - the direction of the reform process is now much clearer;
- International shipping - the direction of internationally managed measures to reduce introduction and spread of non-indigenous species is now clearer;
- MCZs - there is now more information about the site designation process;
- Litter - it has become clearer that existing policies on terrestrial litter will play a significant role in supporting the proposed GES targets for litter.

288. The costs associated with a number of the illustrative measures have been removed compared to the consultation Impact Assessment (e.g. measures for reducing seabird by-catch) because the consultation process indicated that the figures used were insufficiently robust to be included. Instead the impact of these measures has been described qualitatively. A number of other illustrative measures have been changed or removed based on further information collected during the consultation, particularly those for Descriptor 2.

289. Further detailed consideration of the actual measures necessary for achieving GES will be carried out as part of the development of the MSFD Programme of Measures over the next three years, with involvement from all key stakeholders. This will include a full cost-benefit assessment of any additional measures which are identified.

290. **Comments related to the potential monitoring costs, questioning some of the estimates put forward, particularly for Descriptor 2.**

291. **Comments relating to the assessment of benefits, including: that the modelling of the benefits for fisheries was too simplistic; that the benefits assessment fails to take into account long term benefits beyond 10 years and; that the assessment significantly underestimates the benefits of achieving GES because many of the improvements to ecosystem services have not been monetised.**

292. The analysis of benefits from increased fish stocks has been significantly improved compared to the consultation Impact Assessment, based on much more sophisticated assumptions and scenarios of changes in fish stock dynamics. The improved assessment also looks at 'net benefits' to the fishing industry by taking into account the cost implications of reduced catches in the immediate in order to achieve the benefits of higher stocks levels in the future. This has led to a reduction in the fisheries benefits compared to the consultation Impact Assessment.

293. The Impact Assessment has acknowledged that it was not possible to quantify the majority of the other ecosystem service benefits. Defra is in the process of commissioning research to address these evidence gaps.

The way forward

294. Having considered the responses to this consultation the UK Government has finalised the initial package of requirements (an Initial Assessment of UK waters and a determination of Good Environmental Status for UK waters, including

associated targets and indicators) and reported them to the EU Commission. The UK Marine Strategy (the updated consultation document) was published at the same time, along with the updated Impact Assessment.

295. Government will continue to work with interested parties and other Member States to develop the subsequent stages of the MSFD implementation process, including the development and resourcing of programmes of measures and monitoring programmes.

Annex A: List of consultation questions

Consultation Questions on the Initial Assessment Cover Paper

- 1 Are the overall conclusions of the UK Initial Assessment an accurate summary of the evidence base provided by Charting Progress 2 (and its feeder reports) the Scottish Marine Atlas and the Northern Ireland State of the Seas Report?
- 2 Is there any substantive new peer reviewed evidence which should be taken into account which may affect the conclusions of the UK Initial Assessment?

Consultation Questions on the proposals for GES characteristics and associated targets and indicators

For the proposals on GES characteristics and associated targets and indicators the UK Government would like to seek views from stakeholders on the following questions. The questions should be applied to each individual GES Descriptor:

- 3 Are the proposed characteristics of GES for this Descriptor consistent with the definition of GES and the overarching aims of the Directive, whilst at the same time acknowledging gaps in our knowledge base?
- 4 Are the proposed characteristics of GES for this Descriptor consistent with other Government policies and commitments on the UK marine environment?
- 5 Are the proposed GES targets for this Descriptor sufficient to guide progress towards the achievement of GES?
- 6 Are the proposed GES targets feasible to implement (i.e. can appropriate management measures be put in place to achieve them)?
- 7 Are the proposed GES targets for this Descriptor consistent with other Government policies and commitments on the UK marine environment?
- 8 Are the proposed GES targets and indicators feasible and cost effective to monitor?
- 9 Where gaps have been identified in the proposed GES targets and indicators for this Descriptor do you have suggestions for how these could be filled?

Consultation Questions on the Impact Assessment

For the analysis on each of the GES Descriptors stakeholders should consider the following key questions:

- 10 Are the illustrative measures considered for this Descriptor a reasonable assessment of the additional measures which might be needed to achieve the proposed GES targets?
- 11 Are there any other potential measures which might be necessary in order to achieve the proposed GES targets for this Descriptor?
- 12 Are you able to provide any more specific information on the likely costs of the illustrative measures considered for this Descriptor?

Annex B: List of respondents to the consultation

Aquaculture Initiative (EEIG)
Associated British Ports
Baker Consultants
Bass Anglers Sportfishing Society
BP Exploration Operating Company Limited
British Association for Shooting and Conservation
British Geological Survey
British Marine Federation
British Ports Association
Campaign to Protect Rural England
Canoe England
Carbon Capture & Storage Association
Cardigan Bay SAC (check)
Cefas
Chamber of Shipping
Coastwise North Devon
Community of Arran Seabed Trust (COAST)
Countryside Council for Wales
Dwr Cymru Welsh Water
Ealing Council
EDF Energy
Energy UK
English Heritage
Environment Agency
General public
Institute for Archaeologists
Institute of Fisheries Management
Institution of Civil Engineers and PIANC
Irish Federation of Sea Anglers
Joint Nature Conservation Committee (JNCC)
Joint Nautical Archaeology Policy Committee
Lancashire Law School
Langstone Harbour Board
Leeds City Council
LGA Coastal Issues SIG
Marine biological Association
Marine Conservation Northern Ireland
Marine Conservation Society
Marine Management Organisation

MARINET
Member of public
National Federation of Fishermen's Organisations
National Mullet Club
National Oceanography Centre
Natural England
NIFPO-Kilkeel
North Eastern Inshore Fisheries & Conservation Authority
Northern Ireland Electricity Ltd
Northern Ireland Marine Task Force
Northern Ireland Tourist Board
Northern Ireland water
Northumberland County Council
Northumberland Inshore Fisheries & Conservation Authority
Oil & Gas UK
Pembrokeshire Coast National Park Authority
Pembrokeshire County Council
Queen's University Marine Laboratory
Redcar and Cleveland Borough Council
Royal Society for the Protection of Birds
Royal Yachting Association
Scottish Fishermen's Federation
Scottish Natural Heritage
Scottish Oceans Institute
Scottish Water
ScottishPower Renewables
Seafish
Shellfish Association of Great Britain
Southern Water
Taw Torridge Estuary Forum
The Crown Estate
The Wildlife Trusts
Trinity House (General Lighthouse Authority)
UK Major Ports Group
United Utilities
West Cornwall Lugger Industry Trust Ltd
Wildlife and Countryside Link (check)
WWF-UK
Yorkshire Water