

1. Introduction

WWF Scotland welcomes the opportunity to contribute to the development of Scotland's National Marine Plan (NMP). WWF Scotland strongly believes that this is a unique opportunity to establish not only a vision for the future planning, management and protection of Scotland's seas but also a ground-breaking and progressive tool to aid the delivery of marine planning throughout Scotland's seas.

WWF Scotland has been involved in campaigning for greater marine protection and a new approach to the planning and management of Scotland's seas for many years, but believes that despite the importance of Scotland's marine environment we are still failing to manage its use sustainably. It is clear that management needs to deliver sustainability in line with international commitments and to deliver a marine environment where economic interests can operate and not undermine the health of our seas. WWF Scotland is keen to see the full implementation of the Marine (Scotland) Act, to ensure that Scotland's valuable fisheries have a sustainable future, and ensuring Scotland captures its full offshore renewable potential.

WWF Scotland works closely as a member of Scottish Environmental LINK towards effective implementation of the Marine (Scotland) Act. WWF Scotland is hopeful that Scotland can lead the way in the governance of our marine environment and that Scotland's National Marine Plan can be an example that can be exported and replicated in other sea areas. WWF will continue to work with the Scottish Government to strengthen and improve future iterations of the plan and we look forward to working with all stakeholders on developing the forthcoming regional plans

This response from WWF Scotland to the Scottish Government's consultation on Scotland's National Marine Plan summarises our key points of feedback and recommendations and then follow the structure of the consultation and the questions posed. It is complementary to the Scottish Environment LINK response to which WWF Scotland contributed.

2. Overview of WWF Scotland feedback

To deliver Scotland's vision for the marine environment it is essential for the national marine plan to be a practical "fit for purpose" tool which will provide guidance and assist and support future planning in the marine environment. It should facilitate decision-making on the integration of sustainable use and conservation, address conflict resolution, and advise on management at the land / sea interface and across sea-boundaries (inshore / offshore and nation to nation).

WWF Scotland is part of a global network with many of our offices in other parts of the world also actively considering the future planning and management of the marine environment. Currently, decision making today tends to be undertaken on an ad hoc basis and is often led by specific sectors seeking growth and development rather than seeking to include other users or conserving marine ecosystems. WWF believes that marine planning should analyse and allocate space and resources in the most appropriate way to minimize conflicts and find synergies among sectors. Based on the experiences worldwide, WWF has prepared a number of recommendations for marine planning.

WWF's Recommendations for Marine Planning:

WWF Recommendation	Draft NMP
<p>Marine planning should be based on an ecosystem approach with the goal to maintain or restore the structure and functioning of marine ecosystems. This is critical as the ecosystem approach is a prerequisite for sustainable development and must be respected to ensure that ecosystems are not only inherently sustainable but that they are capable of providing humankind with the goods and services they depend on, now and in the future.</p>	<p>Inadequately addressed in the draft NMP which places economic growth ahead of sustainable development, fails to recognise the need for marine planning to be grounded in an ecosystem-based approach, and does not fully consider maintaining or restoring (enhancing) the structure and functioning of Scotland's marine ecosystems.</p>
<p>The objectives for marine planning should be measurable and sector-wide (all users of marine space and resources must be covered) and ensure that the total use of the sea does not exceed the capacity of the ecosystem to deliver essential goods and services.</p>	<p>The objectives are extensive and broad, but some aspects are inadequately addressed, particularly objectives relating to mitigation of and adaptation to climate change. There is no attempt to ground-truth to ensure that the total use of the sea does not exceed the capacity of the system to deliver essential goods and services, nor is there a requirement for such ground-truthing to take place.</p>
<p>Marine planning should take into account existing environmental objectives for the conservation, management and exploitation of marine biological resources. It should also deliver an ecologically coherent, representative and well-managed network of marine protected areas.</p>	<p>The draft NMP adopts the EC Good Environmental Status targets as objectives and also adopts high level marine objectives too, but it fails to acknowledge the importance of an ecologically coherent, representative and well-managed network of marine protected areas within marine planning.</p>
<p>Community and indigenous leadership and participation are essential for the development and implementation of marine planning. Ideally marine planning is a top down / bottom up process that reflects the values and uniqueness of any given marine ecosystem, economy and people.</p>	<p>The draft NMP has involved communities in the development of the national marine plan. It is too soon to assess implementation of marine planning or the extent of a top down / bottom up approach.</p>
<p>Socioeconomic factors should be fully integrated and are an essential part of marine planning. Political considerations, social values and public attitudes are part of a living and dynamic ocean. Understanding their interactions with biophysical components of the ecosystem is important to effective decision making in any marine region.</p>	<p>Socioeconomic factors are well represented in the objectives and principles of the draft NMP, however sustainable economic growth is set as the over-riding priority – this is impossible to achieve and undermines the balance between social, economic and environmental factors in delivering sustainable development in Scotland's seas.</p>
<p>Marine planning should provide clear directions and goals to be achieved, and a timeframe for these to be met. Coherent direction, goals and procedures must be defined as these are crucial for sea basins shared by numerous countries to plan in a more integrated approach. This is important as many marine and coastal activities</p>	<p>The draft NMP does not have a clear goal, and has not set timeframes for the objectives to be achieved. The general policies and sectoral policies do not provide sufficiently clear guidance for marine planning in Scotland's seas.</p>

occur not only at the national level but on regional and international scale, for example, shipping, ports and harbours, pipelines, and tourism. Coherent direction, clear goals, and procedures will make it easier to develop marine plans in a collaborative way across regions.	
Marine planning should be regulatory and enforceable	The requirement for marine planning is regulatory but as yet it is unclear how regional marine plans will be developed, implemented and enforced. Regulatory regimes exist for most activities / developments to be considered as part of marine planning.
Guidelines and incentives are needed to establish governance systems that ensure coordination between sectors as well as within and between national and regional seas.	The draft NMP contains little guidance to ensure coordination between sectors and well as within and between national and regional seas. The provision of incentives has not been addressed.
Marine planning should be considered as a proactive and iterative process, and not simply produce a static zoning plan, but to provide long term foundations for cooperation among sectors and levels of management to achieve a more integrated decision making and more efficient and sustainable use of resources.	The draft NMP does not address the detailed development of marine plans, and does not provide guidance on future cooperation among sectors and levels of management in order to achieve a more integrated decision-making and more efficient and sustainable use of resources.
Marine planning should be issue-led and not dominated by administrative boundaries. Better governance systems are essential to support cross-border collaboration between stakeholders, scientists and national administrations. There needs to be coherent coordination between different levels of planning and where possible joint consultative bodies or joint decision-making procedures.	The draft NMP is issue-led although administrative boundaries are clearly delineated. The recommendation will be better addressed once the NMP is developed and regional plans are in development. It doesn't address cross-border collaboration, though in some respects it is recognised that there is a need for it.
Marine planning is a critical process to achieve an integrated approach to sea use management. It is not sufficient just on its own to achieve ecosystem-based management and must be supported and complemented by integrated coastal management and marine protected area management.	The land-sea interface is considered in the draft NMP, but not integration with marine protected area management.

WWF Scotland's vision for Scotland's National Marine Plan includes:

1. a new forward-looking approach to the future planning of Scotland's seas focused on delivering sustainable development and protection and enhancement of the health of the Scottish marine area and mitigation and adaptation to climate change,
2. adoption of a goal based on the two general duties of the Marine (Scotland) Act which supports an ecosystem-based approach,

3. a framework of objectives based on the high level marine objectives (of the Marine Policy Statement), the achievement and maintenance of good environmental status (of the EU Marine Strategy Framework Directive) and explicit strategic objectives relating to the need to tackle climate change by reducing emissions of greenhouse gases and addressing mitigation and adaptation to climate change,
4. marine planning policies which clearly support delivery of the goal and objectives and are:
 - complementary (ensuring no contradictions or conflicts),
 - address the potential for cumulative impacts of activities / developments,
 - ensure that environmental protection and nature conservation are integrated within the planning system,
 - integrate socio-economic factors including valuing the goods and services provided by coastal and marine ecosystems, and
 - support the recovery of the health of the ecosystem where it is impaired, and
5. provides practical guidance for the future integration of policies, development of plans, decision-making and conflict resolution, delivery of marine plans and the development of monitoring and evaluation practices.
6. Adds value by providing a clear framework for decision-making through the spatial expression of priorities for the Scottish marine area, thereby providing a clear steer for decision-makers.

3. WWF Scotland response to the draft National Marine Plan (Chapters 2 – 4)

This section responds to Chapters 1 – 5 and some of the specific questions asked therein. It is divided according to the draft NMP chapters and where appropriate the response to a specific question is indicated. Much of the response relates to marine planning generally and in particular to Question 1 “Does the NMP appropriately guide management of Scotland’s marine resources?”

Chapter 2 Marine Planning in Context

Q1. Does the NMP appropriately guide management of Scotland’s marine resources?
Q3. Does the NMP appropriately guide development of regional marine planning? What, if any, further guidance is required for regional marine planners in terms of implementation and how to interpret the NMP?
Q5. Are the objectives and policies in the NMP appropriate to ensure they further the achievement of sustainable development, including protection and, where appropriate, enhancement of the health of the sea?
Q7. Do you have any other comments on Chapters 1 -3?

3.1 A new approach to planning in Scotland’s seas

WWF Scotland is concerned that the draft NMP is largely a statement of the status quo and feels that it does not provide appropriate guidance for the future planning and management of Scotland’s

marine resources as it fails to address decision-making and conflict resolution where there are competing demands on marine resources.

The Marine (Scotland) Act sets out two general duties – the sustainable development and protection and enhancement of the health of the Scottish marine area and mitigation and adaptation to climate change. The National Marine Plan does not currently establish its own goal, though it establishes a wide range of objectives based on existing frameworks. The goal of the NMP should be directly linked to the implementation of the Marine (Scotland) Act and the delivery of both general duties.

The NMP must provide for a new approach to the future management of planning in Scotland’s Seas in order to deliver against these two general duties. It is imperative that the NMP be clear how the new approach to marine planning differs from what has gone before, i.e. it is not going to be a case of “business as usual”, and sets out how marine planning will work in the future.

In addition, to goals, objectives, and planning policies, the NMP should include the development of new practices and measures that will be required for a comprehensive system of marine planning to work effectively e.g. in particular mechanisms for developing regional plans, for decision-making and conflict resolution will be required. A roadmap for delivery and timelines will be useful to help ensure the success of the NMP. A roadmap with appropriate timelines, can ensure that policies are implemented and new practices are developed and become operational so that objectives can be met in a timely manner and goals can be achieved.

A further aspects not adequately addressed in the draft NMP and considered essential for marine planning is the need for effective performance monitoring and evaluation of management measures. Marine planning is not a one-off exercise with the production of national guidance and development of regional plans, but should be an iterative process with feedback mechanisms and the possibility of refinement of national guidance and adaptation of plans and management.

Recommendation: The National Marine Plan should establish a “goal” based on the two general duties set out in the Marine (Scotland) Act, the sustainable development and protection and enhancement of the health of the Scottish marine area and mitigation and adaption to climate change.

Recommendation: The National Marine Plan should provide practical guidance on mechanisms for regional marine planning, and should address in more detail decision-making for marine planning and conflict resolution where there are competing demands on marine resources. A roadmap for delivery and timelines should be included. It should also require effective performance monitoring and evaluation of plans and management measures along with feedback mechanisms to allow adaptation as necessary.

3.2 Sustainable economic growth versus sustainable development

The draft NMP indicates that it is the Scottish Government’s intention that sustainable economic growth is the top priority for marine planning. WWF Scotland is deeply concerned at the focus on sustainable economic growth in the draft NMP, which at times even refers to the need for “increasing sustainable economic growth” and ”sustaining sustainable economic growth”. The term is contradictory – many resources are finite and sustaining economic growth indefinitely is simply not possible. Working within the environmental limits of the ecosystem so as to achieve sustainable development, should be the aim i.e. an ecosystem-based approach to planning. It is important that the draft NMP should not represent economic policy guidance, and that the focus should be on delivery of

the general duties of the Marine (Scotland) Act i.e. sustainable development and protection and enhancement of the health of the Scottish marine area, and the mitigation of and adaptation to climate change.

Recommendation: The National Marine Plan should not place ‘sustainable economic growth as the overriding purpose, instead it should take its purpose from Scotland’s Marine Act and work to support truly sustainable development in our marine environment. Only then can sustainable activity, prosperity and opportunities for all be achieved “now and in the future” (HLMO 2). An ecosystem approach and working within the constraints of the environment in which development and activities are taking place must be respected.

3.3 Importance of environmental protection and nature conservation within an ecosystem-based planning system

WWF Scotland is concerned with the low profile given to the protection and enhancement of the Scottish marine area within the draft NMP. The importance of environmental protection and nature conservation is covered within a number of the objectives (in particular HLMO 11, 12, 13, GES 1,4, 6 and others are relevant too) but this is not carried through effectively to the general policies 11 and 12, (which refer to the need to deliver Good Environmental Status (GES), the need to comply with legal requirements for protected areas and protected species, and a requirement to not have a significant adverse effect on the national conservation status of other habitats or populations of species of conservation concern) or to the sectoral chapters.

By way of explanation the draft NMP refers to the need of development or activities to only take into account the possible impacts and to *consider* mitigation actions, and *consider* opportunities to enhance biodiversity, including recovery and / or enhancement of degraded habitats or species populations. There is no requirement beyond “take into account” or “to consider”. This will not be adequate to ensure the protection and enhancement of the health of the Scottish marine area and while recognising that it isn’t the role of the draft NMP to deliver this general duty in isolation of other measures within the Marine (Scotland) Act it is imperative that the NMP contributes to the delivery of the general duties of the Marine (Scotland) Act.

An ecosystem-based approach to the management of the use of the marine environment requires working within the environmental limits of the ecosystem so as to achieve sustainable development. A variety of techniques and tools are available and already in wide scale use to deliver national and international responsibilities for environmental protection and nature conservation within an ecosystem-based approach. In Scotland, these include species conservation measures, site protection measures, and wider seas policies and measures, including marine planning and together these form the three pillars of Scotland’s Marine Nature Conservation Strategy. Marine plans should contribute to the delivery of environmental protection and nature conservation as part of the wider seas policies and measures, and include measures, particularly spatial measures such as site protection measures or closed areas and temporal measures which could allow two activities within the same location but on differing timescales. Spatial and temporal measures in particular must form essential elements of marine plans.

It isn’t clear how consideration of nature conservation should be addressed within marine plans as a component of marine planning. Integration is fundamental to the future planning of our use of Scotland’s marine environment. However, it is important that the delivery of statutory requirements

for environmental protection and nature consideration isn't lost or subsumed within sectoral detail. Achieving clean, healthy, safe, productive and biologically diverse oceans and seas which are managed to meet the long term needs of nature and people requires specific consideration of the requirements of the marine environment. It will not be enough to simply consider nature conservation as a component of sectoral planning in the development of marine plans. The role of the NMP in delivering responsibilities and commitments for environmental protection and nature conservation should be recognised throughout the NMP, not just on a sector by sector basis. Clearer guidance is necessary on the need to safeguard environmental protection and nature conservation measures within the context of marine planning and also as a contribution to mitigation of and adaptation to climate change.

Recommendation: The NMP (Chapter 2) should include further detail on the delivery of an ecosystem based approach to marine planning and the delivery of Scotland's Strategy for Nature Conservation three pillars (species conservation, site conservation and wider seas policies and measures).

Recommendation: Nature conservation and environmental protection should be recognised and included as a component of marine plans, to support the delivery of the general duties of the Marine (Scotland) Act on both sustainable development and enhancing the health of the Scottish marine area and on mitigation of and adaptation to climate change.

Recommendation: The draft NMP should refer to the need of development or activities to actively *adopt* mitigation actions, and *identify and then secure* opportunities to enhance biodiversity, including recovery and / or enhancement of degraded habitats or species populations.

Recommendation: Clearer guidance is needed to facilitate decision-making within the context of marine plans.

Chapter 3 Key Objectives and Approach to Policies

Q5. Are the objectives and policies in the NMP appropriate to ensure they further the achievement of sustainable development, including protection and, where appropriate, enhancement of the health of the sea?
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Q6. Chapter 3 sets out strategic objectives for the NMP and Chapters 6 – 16 sets out sector specific marine objectives. Is this the best approach to setting economic, social and marine ecosystem objectives and objectives relating to the mitigation of and, adaptation to climate change?

Q7. Do you have any other comments on Chapters 1 – 3?

3.4 Marine Policy Statement goals not equally reflected in draft NMP

WWF Scotland welcomes the adoption in the National Marine Plan of the shared UK Marine Policy Statement (MPS) vision for the marine environment - “clean, healthy, safe, productive and biologically diverse oceans and seas, managed to meet the long term needs of nature and people”. It should be noted that in 2002, when this vision was first adopted for the UK's seas, it was envisaged

that a difference would be seen within one generation¹. While one generation is not an explicit length of time it has been frequently considered to be 25 years. It is the intention of the MPS to facilitate and support the formulation of marine plans, ensuring that marine resources are used in a sustainable way in line with the high level marine objectives (also adopted as objectives within the National Marine Plan) with the intention of:

1. promoting sustainable economic development,
2. enabling the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects,
3. ensuring a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets, and
4. contributing to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.

WWF Scotland is concerned that these four goals – promoting sustainable economic development, moving towards a low carbon economy, ensuring a sustainable marine environment and contributing to the societal benefits of the marine - are not adequately reflected in Scotland's draft National Marine Plan.

Recommendation: WWF Scotland proposes that the National Marine Plan should not only share the vision encompassed by the UK Marine Policy Statement (MPS) but that it should also make explicit how it contributes to the delivery of the MPS goals. This could be done by making specific linkages between the Vision, goals, objectives, and policies and setting out a roadmap or action plan with timeframes for delivery of marine planning which supports and the delivery of the vision, goals and objectives and contributes to the delivery of, for example, the GES objectives by 2020 (deadline set by the EU Marine Strategy Framework Directive).

3.5 Draft NMP Vision should focus on general duties of the Marine (Scotland) Act

WWF Scotland is concerned that in the proposed vision for the marine environment the five guiding principles of sustainable development are described as an important element of “increasing sustainable economic growth”. Sustainable development cannot be subsumed in this way by an economic priority, it must provide the context for any economic strategy. The pursuit of continuous economic growth is not consistent with the duties of the Marine Act and if it were to be elevated into the vision for the marine environment would simply serve to exacerbate the impacts described by Scotland's Marine Atlas.

Recommendation: WWF Scotland recommends that the Vision for the NMP should remain focused solely on the UK-wide vision for UK seas, and supporting the general principles of the Marine (Scotland) Act on sustainable development, protection and enhancement of the health of the marine environment and mitigation and adaptation to climate change.

3.6 Linkage between draft NMP objectives and policies and sectoral policies

¹ Safeguarding Our Seas. A Strategy for the Conservation and Sustainable Development of our Marine Environment. Defra, 2002.

WWF Scotland welcomes the adoption of the twenty-one Marine Policy Statement (UK-wide) High Level Objectives (HLMO) and nine Marine Strategy Framework Directive (MSFD) Good Environmental Status (GES) descriptors as the strategic objectives for the National Marine Plan. It is not clear however, how Scotland's National Marine Plan is going to support the delivery of these wide-ranging objectives. Currently the Plan appears to describe the maintenance of the status quo for planning and management in Scotland's waters and does not identify clear linkages between the objectives, strategic policies and the sectoral policies. It is also incongruous in seeking a significant increase in the level of activity of many of the sectors while acknowledging that Scotland's marine area is already subject to a wide range of pressures.

Recommendation: WWF Scotland proposes that the National Marine Plan should identify linkages between the objectives, (for example GES 8 on concentrations of contaminants is directly related to HLMO 7 on resources safe to use), and develop a roadmap with timelines for the delivery of the objectives through the implementation of the national marine plan policies and the sector policies. Note, the EU deadline for delivery of GES is 2020.

3.7 Climate change objectives

The Marine Atlas cites human activity contributing to climate change as one of two greatest impacts on Scotland's seas². At the same time the marine environment is a critical space in which activities could be pursued that either contribute to climate change or play an important role in mitigating climate change. Both the Climate Change (Scotland) Act 2009 and the Marine (Scotland) Act 2010 require Scottish Minister and public bodies to act in a way best calculated to mitigate climate change.

The recent publication of the 5th IPCC Report reinforces the already established scientific evidence regarding climate change, increasing the levels of confidence and providing more detailed understanding of climate change than previous reports. In particular:

- Scientists are now 95% to 100% certain that humans have caused the majority of climate change since the 1950's. This is an increase in certainty from 2007 (90% to 100%) and a significant increase since 2001 when scientists were at least 66% certain.
- Without an aggressive mitigation strategy that sees greenhouse gas emissions stabilize this century, global temperature looks set to significantly exceed 2°C warming above pre-industrial levels by 2100 – crossing a threshold into catastrophic warming with devastating global consequences.
- The area covered by Arctic sea ice has shrunk in every season and every decade since 1979. The climate models predict that with continuing high emissions, we can expect nearly ice-free Arctic summers by 2050.
- The oceans are acidifying and have been since the beginning of the industrial era, with devastating consequences for coral reefs and millions of people who rely on reef fish for protein.

The recently published State of the Oceans report³ states that oceans are becoming more acidic at the fastest rate in 300m years, due to carbon dioxide emissions from burning fossil fuels, and a mass extinction of key species may already be almost inevitable as a result.

² Baxter, J.M., Boyd, I.L., Donald, A.E., Malcolm, S.J., Miles, H., Miller, B., Moffat, C.F. 2011. Scotland's Marine Atlas, Information for the National Marine Plan. Marine Scotland, Edinburgh

³ See <http://www.stateoftheocean.org/research.cfm>

In addition to the HLMO and GES objectives, the draft National Marine Plan also states that it includes objectives relating to the mitigation of, and adaptation to, climate change, which would be in keeping with the purpose of marine plans foreseen in the Marine Policy Statement. However, WWF Scotland is extremely concerned that these climate change objectives are not fully elaborated in Chapter 3 (the key objectives and policy), and nor are they “embedded throughout the sectoral chapters” as claimed. Although Chapter 3 does refer to the responsibilities of public bodies in Section 44 of the Climate Change (Scotland) Act 2009 and the Marine (Scotland) Act 2010, including the need for public bodies to contribute to the delivery of the emissions targets, to help deliver the Government’s climate change adaptation programme, and to act in a way best calculated to mitigate and adapt to climate change, there are no specific objectives and policies identified at the strategic level. The result is that climate change objectives are less clear and are not on an equal footing to other strategic objectives.

In addition, there are policies that actively act directly against this legal duty, for example, GEN 1 establishes a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of the NMP, and goes on to explain that this is relevant to all marine activities but highlights that it is of particular importance for sectors identified by the Scottish Government’s Economic Strategy as key growth sectors including oil and gas development. The continued development of the oil and gas sector is simply not compatible with Scotland’s targets to reduce greenhouse gas emissions and move towards a low carbon economy and nor is it consistent with the objectives of the NMP, particularly HLMO 8 and 18 that relate to responding to and mitigating the impacts of climate change. As a result, there is a question as to whether or not this document really complies with the climate change duty placed on all public bodies:

Climate Change: In exercising any function that affects the Scottish marine area under this Act, the Climate Change (Scotland) Act 2009 (asp 12), or any other enactment— (a) the Scottish Ministers, and (b) public authorities, must act in the way best calculated to mitigate, and adapt to, climate change so far as is consistent with the purpose of the function concerned.

Part 4 of the Climate Change (Scotland) Act 2009 places duties on public bodies relating to climate change (as set out in the draft NMP), and in accordance with the Climate Change (Scotland) Act 2009 (Commencement No. 1) Order 2009, these duties came into force on 1 January 2011.

The law as set out in Chapter 3 is not fully reflected in GEN 19 (Chapter 4) and nor is it carried through properly to the various sectors most of which fail to set objectives or policies relating to climate change. A further major omission is the fact that there are no objectives for business with respect to emissions targets and moving towards a low carbon economy. This is considered to be a major gap in the Plan, particularly as the Plan actively promotes increased development and use of Scotland’s seas.

The lack of strategic and sectoral objectives relating to climate change, undermines the role and value of marine planning in contributing to delivering the general duty of the Marine (Scotland) Act on mitigation and adaptation to climate change. There are a number of marine species and habitats already struggling to adapt to the warming climate, and many more will face similar problems in the near future. The Plan should therefore help to remove additional human induced pressures on these sensitive features, enabling them to build resilience and better adapt to the impacts of climate change. In addition, there is a need to protect and manage habitats, such as salt marsh and sea grass that act as critical natural carbon sinks. The objectives relating to the mitigation of, and adaptation to, climate

change should reflect these issues. Every aspect of the final National Marine Plan must be consistent with the requirements of the Marine and Climate Change Acts to mitigate and adapt to climate change if Scotland is to play its part in the global response to climate change.

Recommendation: WWF Scotland proposes that specific objectives and policies relating to the mitigation or, and adaptation to, climate change should be set out up front as well as “embedded throughout the sectoral chapters”, along with linkages to specific policies identified to ensure that the objectives are met.

Recommendation: In addition, maritime sectors should be set specific objectives with respect to reducing their emissions and identifying opportunities to improve the resilience and adapt to climate change (these might best be addressed in the sectoral chapters).

3.8 Precautionary approach & adaptive management

When looking to the future (p19), WWF Scotland supports the commitment to “adaptive management” to allow appropriate response to the gathering of new or updated information, however it is also important to highlight the need for precautionary approaches in light of the absence of necessary knowledge, information or data in line with HLMO 21, and the need to focus future research and monitoring to address such gaps. The need to apply precaution is referred to in general policy (GEN 10) but it should be emphasised more strongly in both Section 3 and in the general principles (see below).

Recommendation: Strengthen the commitment to adopting a precautionary approach in the absence of necessary information or data.

3.9 Guidance on planning decision-making and conflict resolution

WWF Scotland welcomes the acknowledgement in Chapter 3 that “sustainable development is achieved when the pressures and impacts on ecosystems do not cause a reduction in goods, services and benefits to society”. Through the provision of a national planning framework which provide appropriate direction and guidance to planning, decision-making and regulation, it is possible that the collective pressure of human activities can be managed to ensure that marine ecosystems can respond to human induced change, that levels of activity can be compatible with the achievement of GES, and use of marine goods and services can be sustainable and the seas can continue to be productive. In order for the draft NMP to be successful, it is essential that integration of planning marine activities is addressed at the outset, along with decision-making and conflict resolution. It is inevitable that the desires and needs of maritime users will at times conflict, and therefore prioritisation will be required, but essential too that opportunities for co-location of activities are fully exploited. Currently the draft NMP notes that both general and sectoral marine planning policies will inform the content of regional marine plans and be a consideration in decision-making, but no guidance or direction is offered on mechanisms for decision-making, identification of opportunities or mechanisms for considering co-location, or on conflict resolution when competing demands on the coastal and marine environment are not compatible. It is essential that the NMP identifies mechanisms and provides guidance on decision-making and conflict resolution.

Public consultation by the Marine Management Organisation (MMO) on the draft East Inshore and East Offshore marine plan (England) has recently concluded, including consultation on a “Policy Implications table”. This identified individual policies and the implementation mechanism for each policy, and furthermore identifies the implications of each policy for marine activities, public

authorities and for Government, and includes policies addressing conflict and compatibility of activities / developments. WWF Scotland believes that there could be value in undertaking a similar exercise in the development of the Scottish National Marine Plan.

Recommendation: The NMP must provide more detailed guidance on decision-making and conflict resolution in order to facilitate planning in Scotland’s seas.

Chapter 4 General Policies

Q8. Are the general policies in Chapter 4 appropriate to ensure an approach of sustainable development and use of the marine area? Are there alternative policies that you think should be included? Are the policies on integration with other planning systems appropriate?

Q10. Are there alternative general policies that you think should be included in Chapter 4?

3.10 Sustainable economic growth

WWF Scotland is very concerned that Chapter 4 starts off by stating that a presumption in favour of sustainable development and use is presented along with other policies which are considered important in achieving a sustainable approach to sustainable economic growth. This statement indicates that it is the Scottish Government’s intention that sustainable economic growth is the top priority for marine planning and by implication this is at the expense of the development within the environmental limits of the marine system. It is imperative that the NMP must be clear that only sustainable development is possible within the environmental limits of the marine and coastal resources, and not sustainable economic growth. Sustainable development should sit alongside the other Marine (Scotland) Act duties of protection and enhancing the health of Scotland’s seas and mitigating and adapting to climate change. Furthermore, the NMP must recognise that in some respect a reduction in development and / or activity might be necessary to achieve some of the HLMO, GES or (to be elaborated) climate change objectives.

This concern is further reflected in a number of the general policies set out in Chapter 4.

The first three general policies give a clear signal that sustainable development and use of the marine area are presented as the top priority for marine planning. In effect the first group of policies break down the constituent parts of sustainable development and draw out the economic and social aspects, but no such focus is afforded to the environmental aspect of sustainable development. There is no effort to place these policies within the context of the environmental limits of the marine system or to recognise that Scotland’s marine area is already degraded in some respects (see Scotland’s Marine Atlas). A major omission is the lack of a general policy on the need for ecosystem-based management which takes account of climate change, and the recognition that businesses need to develop and use the marine environment in a way which respects environmental limits and is socially responsible. A new general policy should be introduced which addresses the need for the future planning and management of Scotland’s seas to be founded in an ecosystem-based approach.

Recommendation: WWF Scotland proposes that the draft NMP should focus on policies relevant to the development and delivery of marine planning in Scotland’s waters. Marine planning should be based on ecosystem-based management and should contribute to the delivery of the Marine (Scotland) Act’s general duties of sustainable development, protection

and enhancement of the health of Scotland's seas and mitigating and adapting to climate change.

3.11 Additional general policies

The draft NMP includes many important general policies, but not necessarily framed appropriately (see above) to provide guidance for future planning and planning decision-making. Further general policies should be developed including delivering ecosystem-based management and working within the environmental limits of the marine system, and recognising the importance of protecting and valuing environmental goods and services. A policy of explicit support for activities which lead to the protection and enhancement of the health of our seas and biodiversity is required. Furthermore, a general policy recognising the potential for cumulative or synergistic impacts from developments and activities and on the need for precautionary approaches in the absence of certainty should be included. Greater emphasis is needed on the need for developments and activities to reduce greenhouse gas emissions and support the move to a low carbon economy (see comments in paragraph 3.19 below on strengthening GEN 19).

Recommendation: Additional policies should be included in the NMP addressing the need for support for activities which lead to the enhancement of the health of our seas, ecosystem-based management (see below) including working within the environmental limits of the marine system and protecting and valuing environmental goods and services, recognising the potential for cumulative or synergistic impacts from developments, and reducing greenhouse gas emissions while supporting a low carbon economy.

3.12 Lack of ecosystem-based approach policy

Currently, a major omission is the lack of recognition and policy on the importance of ecosystem-based approaches to planning and management in Scotland's seas. WWF Scotland proposes refocusing the general policies for marine planning to provide a clearer framework of policies which ensure that sustainable development is possible only if based on an ecosystem approach. It is widely recognised that marine planning should be undertaken within an ecosystem-based approach.

Such an approach would ensure that:

- the environmental limits of the marine system are respected (HLMO 4),
- the importance of protecting environmental goods and services is recognised and that the economic value of environmental goods and services is acknowledged,
- the ecological health of Scotland's marine environment is protected and enhanced, and
- existing degradation of the marine environment has opportunity for recovery (see Scotland's Marine Atlas).

This should also recognise that not only environmental recovery (of habitats, wildlife populations, pollution status) is needed in order to achieve a number of the strategic objectives set in Chapter 3 (both HLMO and GES objectives), but also that it is necessary to increase the resilience of the marine and coastal environment to withstand and adapt to the impacts of climate change by reducing human pressure (HLMO 12 & 18). In addition the structure of general policies should include the need for developments and activities to be socially responsible (HLMO 4) and to recognise that the marine environment plays an important role in mitigating climate change (HLMO 8).

Recommendation: The National Marine Plan should include a general policy focused on the delivery of sustainable development via the implementation of an ecosystem-based approach to the future planning and management of Scotland's sea area.

3.13 Lack of a clear precautionary approach policy

WWF Scotland strongly supports the general policy on using sound evidence (GEN 10), but feel the reference to the need to apply precaution could be strengthened to ensure a precautionary approach is consistently adopted wherever appropriate.

3.14 Lack of policy to address decision-making in reconciling conflicts

A major concern that has not been addressed in terms of the general policies, is compatibility and integration of policies (see earlier comments above). How will decisions be made when there appears to be a conflict between general policies? For example, a presumption in favour of sustainable development and use of the marine environment may not be compatible with the maintenance and recovery of biodiversity (GEN 11 & 12, plus HLMO 11 & 12, GES 1). While it is recognised that the sustainable development policy will only be acceptable when it is consistent with the policies and objectives of the NMP, how will the assessment be undertaken and decisions be made? Furthermore, it is important to address how decision-making is going to address conflict resolution, for example if two activities, both compatible with the policies and objectives of the NMP, are unable to co-locate.

Recommendation: The NMP should include a general policy addressing decision-making and conflict resolution coupled with practical guidance on decision support tools, sharing of information, mapping conflicts and compatibilities, etc.

3.15 Framework of general policies

WWF Scotland proposes that specific linkages between the strategic objectives (HLMO, GES and climate change objectives set out in Chapter 3) and the general policies (set out in Chapter 4) are identified, and that the general policies are developed as a framework which makes it clearer that sustainable development and use is only achievable if the environmental limits of the marine system are respected (HLMO 4), and the importance of protecting environmental goods and services is recognised. The framework should also recognise that environmental recovery (of habitats, wildlife populations, pollution status) is needed in order to achieve a number of the strategic objectives set in Chapter 3 (both HLMO and GES objectives), and that it is necessary to increase the resilience of the marine and coastal environment to withstand and adapt to the impacts of climate change by reducing human pressure (HLMO 12 & 18). In addition the framework of general policies should include the need to socially responsible (HLMO 4) and to recognise that the marine environment plays an important role in mitigating climate change (HLMO 8). It is also imperative that a general policy on the precautionary approach is set as part of the limiting framework, alongside policies to address knowledge / information gaps and adaptive management.

Once the framework of general policies within which planning should take place is set, then general policies relating to sustainable development and marine activities and economic and social benefits can be elaborated, along with policies on co-location, engagement with public and stakeholders, compatibility with other statutory plans, compliance with legal requirements, fairness and transparency in decision-making, and more specific policies addressing protection of heritage assets, visual impacts, air and water quality, noise, coastal processes and flooding, etc.

Recommendation: WWF Scotland proposes that a framework of general policies is developed which also link back to the strategic objectives (in Chapter 3). The example of the East Coast Marine Plan’s Policies Implications Table might prove a useful model.

3.16 Concerns specific to general policies - Policy GEN 1 on presumption in favour of sustainable development

WWF Scotland welcomes the identification of marine renewables as a key growth sector, but is particularly concerned that GEN 1 – the presumption in favour of sustainable development and use of the marine environment - asserts that oil and gas development is also a key growth sector. WWF Scotland believes that a stated objective of sustainable development and use is appropriate provided it is within the environmental limits of the system (i.e. an ecosystem based approach), however to identify oil and gas development as a key growth sector is at odds with the stated objectives of the draft NMP, in particular the objective for marine businesses to act in a way which respects environmental limits and be socially responsible (HLMO 4) and the objective for functioning of healthy, resilient and adaptable marine ecosystems (HLMO 12). It is also entirely incompatible with the MPS’s intention of enabling the UK’s move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects, contradicts Scottish Government ambition to create a low carbon economy. It is also in contradiction with the duty under the Climate Change (Scotland) Act that all public bodies are required to act in the way best calculated to contribute to the delivery of the emissions targets in the Act and in a way that it considers most sustainable.

The recent IPCC Physical Science Basis Summary for Policymakers⁴ has essentially set a carbon budget, however we have already emitted over half that budget by the end of 2011. A strategy of continued development of additional oil & gas extraction cannot be considered to be sustainable.

Recommendation: Oil & gas development should not be identified as a key growth sector in the NMP, instead a planned and time limited transition out of oil and gas sector should be made explicit so that Scotland plays its part in ensuring the world does not exceed the carbon budget described by the IPCC.

3.17 Policy GEN 11 on GES

WWF Scotland believes that the general policy on good environmental status (GEN 11) is currently vague and should be sharper and more focused. It isn’t sufficient that marine development and use simply take account of the achievement or maintenance of GES. If the GES descriptors are considered to be strategic objectives it would be more appropriate for decision-making around development and use to have to contribute to the maintenance and achievement of GES, or at an absolute minimum not compromise the ability for GES objectives to be achieved. It is also important that there is recognition of the potential for cumulative or synergistic impacts as a result of developments and / or activities.

Recommendation: WWF Scotland proposes that the GEN 11 is focused more clearly on the delivery of the GES objectives, with the potential for cumulative or synergistic impacts acknowledged and developers and users of the coastal and marine environment actively required to contribute to the delivery of the GES objectives.

3.18 Policy GEN 12 on nature conservation

⁴ http://www.climatechange2013.org/images/uploads/WGIAR5-SPM_Approved27Sep2013.pdf

WWF Scotland believes this policy to be essential to the delivery of an ecosystem based approach to the planning and management of the development and use of Scotland's seas. Given the ministerial duty within the Marine (Scotland) Act 2010 to protect, and where appropriate enhance, the health of the marine environment, this policy must provide more clarity and robustness over the requirements of environmental nature conservation legislation and policy. Reference to these requirements will provide a greater steer to marine planning practitioners and will also provide certainty to developers and users of the marine environment, thus reducing risks.

The draft Scottish Planning Policy (SPP) provides suitable description of the various designations and protected species which must be considered as part of any proposed activity. This includes the Natura network and need for appropriate assessment of proposals, including regional plans and marine activities, where they are likely to have a significant effect on the network and are not directly connected with or necessary to their conservation management (see paragraphs 136-151 of the draft SPP for a good reference). Newly designated MPAs under the Marine (Scotland) Act shall be included in this hierarchy of nature conservation designations and protection for the marine area. Note, the network of marine protected areas is not yet complete and contextual information is required to inform and guide planning practitioners.

Reference is made to the national status of 'other habitats or population of species of conservation concern' (which we presume refers to Priority Marine Features) and the need to take these into account when preparing regional plans and appraising proposals. However, the Marine Scotland guidance on safeguarding these features is not yet available. This paragraph should be strengthened to give a better steer, outlining examples of what measures or considerations will be required at the plan preparation and project appraisal stages. Clarity is also required over which features this relates to and whether "other Priority Marine Features" refers to features already included in MPA, SAC and SPA designations.

The potential for cumulative environmental impacts from proposed development and use of the marine area must be stipulated as requiring consideration at the regional marine plan and project levels. It remains unclear how the Plan will ensure that existing and future developments are within the carrying capacity of the environment

The policy described in GEN 12 pertains to authorities not to break the law regarding protected areas and species, and not to sanction developments that will significantly adversely affect the conservation status of non-protected features of conservation concern. The Scottish Government's duty to enhance the marine area is not addressed. The policy states that planners should ensure development "does not result in a significant adverse effect on the national conservation status" of species and habitats. This neglects the legislative duty to enhance Scotland's seas where the Marine Atlas indicates this is necessary. It is important that recovery and restoration focuses on returning habitats and species populations to their natural extent or status and the overall recovery of health of ecosystems (bearing in mind the constraints of a changing environment due to climate change).

It is not clear why reducing marine litter, in particular, is highlighted under this general policy when a range of polluting or destructive activities could be highlighted. While relevant in terms of protecting and where appropriate enhancing the health of the marine environment, efforts to reduce other forms of marine pollution such as nutrients, oils and chemicals are also relevant.

Recommendation: GEN 12 should, in addition to being sharpened up and focused more clearly with respect to nature conservation policy, clearly address the duty to enhancement the health

of the marine area and identify the need for recovery and restoration of marine habitats and species to natural extent or status.

3.19 Policy GEN 19 on climate change

GEN 19 is disappointing in its ambition, seeking to minimise emissions of greenhouse gases really means very little and indeed might not mean that emissions need to be reduced if it is considered that they cannot be minimised any further or if a sector is undergoing expansion. This policy should be brought into line with the duties under the Scottish Climate and Marine Acts and should be amended to read:

“Developers and users of the marine environment should act in a way best calculated to mitigate, and adapt to, climate change.”

The current text is simply too weak as to provide any meaningful guidance to planners, decision makers and those seeking to use Scotland’s marine environment. This section and policy should provide support and guidance to planners, decision makers and those responsible for Regional Marine Plan preparation on a topic that is one of the major challenges facing marine and terrestrial planning at Scottish and international levels. A robust and tangible framework must be established with examples or suggestions made to provide real support to the Marine Planning Partnerships. The Plan can act as a driver for concerted effort on this topic to ensure future management of the marine area is undertaken in a way that is robust to the challenges posed by climate change and playing its part in reducing greenhouse gas emissions.

In preparing the Plan, Scottish Government has a duty to act in a way best calculated to mitigate and adapt to, climate change. Policy GEN 19 should be explicit not just about mitigation but also about the measures for adaptation, specifically referring to the importance and role of an effectively managed, ecologically coherent network of marine protected areas and other measures which reduce the pressure and increase the resilience of the marine environment to future climatic changes. This is acknowledged by the document on page 49; “a healthy benthic community may be able to support the recovery of impacted habitats in other areas of the sea and ecosystem resilience will be an important asset in the face of climate change” but does not feature in policies or objectives.

Recommendation: The policy should be amended to read *“Developers and users of the marine environment should act in a way best calculated to mitigate, and adapt to, climate change.”*

4. WWF Scotland Response to Sectoral Chapters (Chapters 6 – 16)

The following feedback focuses on a number of the sectoral chapters of particular significance to WWF Scotland, it does not attempt to respond to each sectoral chapter, however initially some comments are provided which are relevant to all the sectoral chapters.

General comments

Generally the sectoral chapters do not provide guidance for the sector within the context of marine planning but rather encourage the status quo of ad hoc decision making led by sectors seeking growth and development rather than seeking to include other users or conserving marine ecosystems.

4.1 Objectives

As the purpose of a National Marine Plan is to set out the goals, objectives and policies for delivery of marine planning in Scotland's sea area, then sectoral objectives should focus on the role of the sector in the delivery of sustainable marine planning. Currently this is not the case, and generally the focus of the sectoral chapters is on the development of the sector. Sectoral development should be a primary objective for economic development policy in Scotland, not for marine planning where instead it should be taken into consideration in the pursuit of the duties set out Marine (Scotland) Act and in the marine plan i.e. sustainable development, protection and enhancement of the marine area and mitigation of and adaptation to climate change.

In most chapters the objectives are focused solely on the sector in question and take no account of other sectors / users and the potential for cooperation or compatibility including co-location, or the possibility of conflict and the potential for avoidance of conflict.

4.2 Part 2: Key Issues for Marine Planning

A number of the sectoral chapters do not adequately address the full range of issues that should be covered in Part 2, in particular the interaction of a sector with nature conservation interests is frequently inadequately addressed, while a number of sectoral chapters do not consider or inadequately consider the contribution of the sector to climate change and the carbon footprint, but rather focus on the likely consequences of climate change for the sector. The statement in Chapter 2 that objectives and policies relating to the mitigation of, and adaptation to, climate change are embedded throughout the sectoral chapters is not accurate, most chapters do not include objectives or policies relation to the mitigation of and adaptation to climate change.

4.3 Effective governance

At the heart of delivery of the NMP and marine plans including the management of the range of sectors operating in the Scottish marine area will need to be effective governance. There needs to be a major shift in the governance of Scotland's marine environment with increased transparency, better communication / interaction across the sectors, a better understanding of other interests, and a sense of shared goals and objectives.

Chapter 6 Fisheries

Q12. Do you have any comments on Sea Fisheries, Chapter 6?
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WWF Scotland welcomes the consideration of fisheries management within the context of the draft NMP. It is unfortunate, but a number of marine plans developed in other regions of the world, have separated the development and implementation of marine planning from the management of marine fisheries. The result is that this has led to conflict and undermining of marine planning. WWF Scotland feels that this is one of the better sectoral chapters in that it does refer to the interaction between fisheries management and nature conservation as well as interactions with other sectors, and it also considers both the impacts for climate change on fish stocks and fisheries management and the contribution of the sector to climate change. However, WWF Scotland does feel that further work is necessary to focus the chapter on the future management of fisheries within the context of ecosystem-based management and marine planning.

Objectives

A number of the objectives are in our view pitched incorrectly, either too high or in the wrong direction. The main focus of the objectives needs to be on the role of Scotland's fisheries in the context of marine planning and not on maximising economic returns and delivery of EU fisheries policy. Clearly objectives for the sector within the context of marine planning will need to be supportive of the delivery of EU fisheries policies, but neither Scotland's National Marine Plan, nor regional plans will be responsible for delivering management of fisheries on a regional sea-basin basis and empowering the sector in the decision-making process. Nor will the National Marine Plan be able to ensure that fish stocks are harvested sustainably leading to the exploitation of Scotland's commercial fish stocks at or below maximum sustainable yield and with increased long term stability. It can only be supportive of these policy objectives. Long term fisheries management plans, which in themselves need to take account of marine planning processes, need to be developed for the delivery of fisheries management and should be taken account of in the planning process alongside other sectoral interests.

Part 2: Key issues for Marine Planning – Supporting economically productive activities

The recognition that fishing's interactions with other marine sectors and interests are managed in a transparent manner is strongly supported. This will be key to the successful delivery of the NMP and regional marine plans.

It is also worth reflecting the Scottish government's support for Scottish fisheries to achieve Marine Stewardship Council (MSC) certification.

Part 2: Key issues for Marine Planning – Interactions with other users.

WWF Scotland welcomes the fact that this chapter recognises both the positives and negatives of possible interactions between marine conservation and fisheries.

Part 2: Key issues for Marine Planning – Living within Environmental Limits

The recognition of vulnerable marine ecosystem closures and real time closures is welcome. Spatial and temporal management will be a vital component of the overall the NMP and regional marine plans in relation to fishing activity. Greater clarity on the maps included in the draft NMP would be helpful – what do all the restrictions mean in practice? It should be clear that spatial and temporal management as a whole is assessed and found to be effective, capable of meeting sustainable policy objectives and that the right governance models are in place to deliver it.

The sub-section on spatial management measures should also recognise the role and possible interaction with marine protected areas (both existing MPAs under the Habitats and Birds Directives, and new MPAs under the Marine (Scotland) Act) which will form a network contributing to the ecologically coherent network of MPAs under development throughout UK waters.

WWF Scotland welcomes the recognition that environmental change is likely to have an impact on fisheries, and the importance of ecosystem resilience.

Part 2 Key Issues – Climate Change

WWF Scotland welcomes the recognition that climate change has the potential to have significant impacts on fish stocks and fishing activities and also the statement that improving knowledge of the impacts on fish stocks in an important objective. It should be considered important therefore to include an objective relating to climate change and a better understanding of the likely impacts in this

chapter, particularly in light of the assurances in Chapter 3 that climate change objectives would be integrated within the sectoral chapters. It is also very welcome that this sector recognises the potential for its own activities to contribute to greenhouse gas emissions.

Part 3 Marine Planning Policies

While there is clearly still considerable uncertainty about the specific impacts of climate change, it is clear that the marine environment is changing and that there will be consequences for marine habitats and wildlife including fish stocks. It is usual in the face of uncertainty to adopt a precautionary approach, and while recognising that for many of the fisheries this needs to be addressed at the level of the European Commission, in inshore waters there is scope for action and the adoption of precautionary approaches by the Scottish Government. Furthermore, the Marine (Scotland) Act has adopted a general duty on mitigation and adapting to climate change and the draft NMP has acknowledged the importance of building resilience. WWF proposes that this chapter should include objectives and policies focused on the need to understand better the consequences of climate change for fisheries in the context of marine planning, on the need to mitigate and adapt to the changing environment, including resilience building and also on the role of the sector in addressing its own contribution to climate change.

The Future

It is stated that in a previous section the government has identified Fisheries as a growth sector. It is noted here that the size of the offshore and inshore fleets has gradually reduced over the last 10 – 15 years and that this could stabilize. Clearer consideration of whether the Scottish fleet is of a sustainable size and nature relative to current and near future projected fishing opportunities would be welcome, particularly as this in itself has a clear impact on sustainable marine management.

Chapter 7 Aquaculture

Q14. Does Chapter 7 appropriately set out the relationship between terrestrial and marine planning for Aquaculture? Are there any planning changes which might be included to optimise the future sustainable development of aquaculture?
Q15. Do you have any comments on Aquaculture, Chapter 7?

Objectives

The objectives are overly focused on economic growth and fail to address the objectives for aquaculture in the context of marine planning including the interaction with other users, including opportunities for co-location, and the interaction with nature conservation. So for example, zones designated as suitable for marine energy production should also be considered for their potential as sites for aquaculture. Not only does this reduce the pressure on space in the marine environment, but it can help to reduce conflicts with conservation areas.

A marine plan cannot ensure an appropriate and proportionate regulatory framework within which the industry can achieve sustainable growth targets – this is simply not the role of a marine plan.

Part 2: Key issues for marine planning – Living within environmental limits

While it is welcome that the chapter does recognise the potential for environmental impact of some aspects of aquaculture e.g. introduction of pests and diseases and nutrient loadings, but does not

address the interaction with nature conservation in a comprehensive manner e.g, the development of an ecologically coherent network of MPAs. Marine plans should include identification of areas best suited to aquaculture development, those areas unsuited for aquaculture development and other spatial designations such as the identification of areas to be protected as part of an ecological coherent network.

Part 2: Key issues for marine planning – Climate change

The chapter considers the consequences of climate change on aquaculture and also recognises that there are some issues around the carbon footprint of some aspects of the aquaculture sector, however there are no objectives or policies of relevance to addressing either the impact of climate change or the footprint of the sector. The main issue in regard to greenhouse gas emissions in Scottish aquaculture is the energy requirements of land-based recirculating systems for smolt production, WWF has advocated the removal of smolt production from cages in freshwater in accordance with aquaculture stewardship certification standards, and replacement by land-based recirculating aquaculture systems (RAS).

Part 3: Marine planning policies

A wide range of policies are outlined (13 aquaculture policies compared to a single paragraph in the following chapter on wild salmon and migratory fish), however they are either focused on the economic development of the sector or are insular. There is no consideration of policies relevant to the interaction with most aspects of nature conservation (other than interaction with seals) or with other sectors, and there is no policy relevant to the likely impact of climate change or to the contribution of the aquaculture sector to climate change.

Q16. Are there alternative planning policies that you think should be included in this chapter?

Primarily the potential for co-location of activities, so zones designated as suitable for marine energy production can also be considered for their potential for sites for aquaculture. Further emphasis could also be put on on farm area management, separation of management areas, and the inclusion of MPAs within zones designated as level 3.

Chapter 9 Oil & Gas

Q19. Do you have any comments on Oil and Gas, Chapter 9?
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Objectives

First objective: The objective to ‘maximise the recovery of oil and gas reserves’ significantly contradicts Scottish Government ambition to create a low carbon economy. In addition this objective is a clear contradiction with the duty under the Climate Change (Scotland) Act that all public bodies are required to act in the way best calculated to contribute to the delivery of the emissions targets in the Act and in a way that it considers most sustainable. There must be recognition in this objective that maximising extraction of oil and gas is incompatible with the need to bring down global carbon emissions, and therefore there is a need for a transition to a low carbon economy. This is not covered through the use of the term ‘minimum environmental cost’ which is more likely to be understood as

referring to direct environmental impacts. It is not satisfactory to only mention the need to move to a low carbon economy in the background section.

Recommendation: The first objective should be amended to read:

“To support a planned and time limited transition out of oil and gas extraction so that Scotland plays its part in ensuring the world does not exceed the carbon budget described by the IPCC and ensures it reduces its own exposure to the financial risk of stranded assets that will result from the continued pursuit of fossil fuels in a carbon constrained future.”

For the first time, in its Fifth Assessment Report the IPCC presents an assessment of our remaining 'carbon budget'. To have a two-thirds chance of staying below 2⁰C of global warming, we cannot add more than one trillion tonnes of carbon to the atmosphere, relative to preindustrial levels, the report says. By 2011 we had *already* used up half of that budget. The report also warned that the budget may be smaller than we think. 'Known unknowns' in the climate system, like methane emissions from permafrost, may mean the budget is tighter. Current annual global human emissions are approx. 31 gigatonnes, on current projections of emissions increase the world will exhaust this budget in approximately 30 years.

By placing an objective to maximise fossil fuel extraction alongside the requirements of Scottish legislation to cut emissions, the current draft presents a missed opportunity to move towards a framework where decision makers are better able to balance social, environmental and economic considerations to make positive planning decisions. Instead it simply ignores that the contradiction exists and pulls decision makers in opposite directions.

Scottish Ministers must agree a mechanism to limit oil and gas extraction levels, guided by scientific evidence on what fossil fuel reserves are 'un-burnable' in order to keep within safe environmental limits, avoiding dangerous levels of climate change, at the same time as robustly pursuing measures to decarbonise the economy. Oil and gas reserves are only a positive economic resource if extracted within those limits. If we extract resources beyond that limit, they represent an economic liability. This is a challenging, but inevitable task that government must face up to.

These limitations will only increase over time as understanding of levels of un-burnable fossil fuels increases. Planning authorities and decision-makers need to receive guidance to give strong preference to low carbon activities.

Second Objective: The objective should make clear there is a presumption to remove infrastructure from the sea bed and water column.

Third objective: The 'not exceeding excessive cost' element of BATNEEC is no longer relevant within the terms of sustainable development obligations. These principles should simply refer to the use of Best Available Technique (BAT) to prevent and minimise emissions of substances and protection of human health as set out in the Pollution Prevention and Control (Scotland) Regulations 2012, in addition to the principles of Best Environmental Practice (BAP).

Fourth Objective: WWF Scotland supports this objective which should clearly recognise that the need to transfer skills from the fossil fuel industries is driven by the need to transition employment and economic benefits away from the fossil fuel industries into a lower carbon economy.

Background & Context

This section, whilst recognising the tension that exists between maximising oil and gas extraction and moving away from fossil fuel based energy consumption, provides an unconvincing rationale for essentially dismissing the issue. The argument that oil and gas reserves are needed in an interim period whilst Scotland moves to a low carbon society is not an argument for maximising extraction. In fact, it is an argument for limiting extraction. As it stands, the planning framework provided essentially chooses to ignore the issue of what are safe environmental limits of fossil fuel extraction. This is further demonstrated as climate change is not mentioned in the 'Living within environmental limits' section and fossil fuels are not identified in the 'climate change' section that follow.

Interactions with other users

Renewables: Where ever there is overlap in the footprint of renewable generation and fossil fuel extraction the balance of support should fall clearly in favour of renewables and the transition away from fossil fuel extraction.

Key Issues for Marine Planning

There is a need to recognise the significant environmental risks posed by exploitation of 'hard-to-reach' oil from the North Sea and the need to reduce these risks by providing a clear steer to decision makers and planners using the NMP to prevent new exploration in new search areas presenting significant challenging environments.

Chemical Pollution

There exists significant localised contamination risks associated with existing oil and gas extraction facilities in the North Sea. These are presenting issues at the decommissioning phases, where total removal of infrastructure could be hampered by re-suspension of chemical pollutants. Furthermore, a lack of evidence is not sufficient justification suggesting there is no effect on the food chain.

Climate Change

This section is inadequate in addressing the implications of further oil and gas extraction, as it somewhat ironically mentions only the potential impacts of climate change on oil and gas extraction, not the impacts of oil and gas extraction on climate change. This section should either be expanded to include description of the impacts of oil and gas extraction on climate change, or this should be added to the 'Living Within Environmental Limits' Section and the climate change section should be re-titled e.g. to 'Future-Proofing for Climate Change' to clarify its scope. It is noted that the scope of this section is not consistent with other sectoral areas, for example CCS or renewables, which both describe the expected impacts of the technology on climate change.

Policy

Oil & Gas 1: See our comments on BATNEEC principles and on maximising oil and gas exploration noted above. Policy can be strengthened to stipulate which legislative requirements must be met in considering key environmental risks, including environmental impact assessment, Strategic Environmental Assessment and Habitats Regulations Appraisal.

Oil & Gas 2: Support. However, policy could specify which legislation is relevant for consideration during decommissioning to provide a steer to planning practitioners.

Oil & Gas 5: Support, within context of WWF Scotland's position on new oil and gas exploration and extraction.

Oil & Gas 6: Support.

Chapter 10 Carbon Capture and Storage (CCS)

Q21. Do you have any comments on Carbon Capture and Storage, Chapter 10?
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Objectives

The first objective should include the words 'sustainable' or 'environmentally sensitive' deployment of CCS, alongside safe, cost effective and timely.

The second objective should also include the word sustainable in front of development.

The fifth objective does not specify who shall initiate an environmental assessment of CCS, nor does it provide an indicative timeframe. Further detail is required here to provide adequate guidance. The objective should be to initiate and complete a robust environmental assessment in advance of commercial deployment.

Part 1: Background and Context

Scottish Government policy is that a minimum of 2.5 GW baseload capacity is required to meet our energy needs. WWF does not think this is the case and is concerned that a presumption that CCS will be both technically and economically proven by the mid 2020s is underpinning a policy in support of new thermal power. This massive assumption leaves the public sector exposed to either costs of retrofitting with state funded CCS or breaching carbon targets because if lock in to high carbon infrastructure. Under no circumstances should CCS demonstration be used to justify new coal power stations, or power stations that are only 'CCS ready', which would risk 'lock-in' to high emissions infrastructure, and perpetuate other environmental impacts associated with fossil fuel extraction.

Part 2: Key Issues for Marine Planning

A strong regulatory framework is needed to ensure that transport and storage of CO₂ is safe, environmentally benign, and does not lead to additional emissions through the use of CO₂ in Enhanced Oil Recovery (EOR), where captured carbon dioxide is used to assist in the extraction of oil from wells that otherwise be uneconomic. This should be subject to strong independent scrutiny by an appropriate body.

Key elements of a regulatory framework must include robust storage site monitoring and aftercare, and mechanisms to manage liability for CO₂ leakage. A clear understanding is needed of how the development of CCS in Scotland might be linked to EOR. It would be a grave concern if CCS development was linked to increased fossil fuel extraction which would drive further climate change (a highly perverse policy outcome). It is not credible to pursue CCS as a climate mitigation measure at the same time as pursuing opportunities for EOR to maximise fossil fuel extraction, without transparent information being available about the full life cycle emissions of CCS combined with EOR.

It is agreed that failure must be planned for including risk of leakage of CO₂ into the marine environment from pipelines and storage facilities. It is also agreed that use of existing infrastructure should be prioritised where this is the most environmentally sensitive option.

Part 2: Key Issues for Marine Planning – Climate change

The assumption that CCS will reduce emissions overall is overly simplistic. Whilst CCS, successfully deployed, would reduce emissions at an individual project level, disregarding how the captured CO₂ is used, the assertion that ‘CCS will reduce the levels of CO₂ release into the atmosphere and is therefore a mitigation measure to address climate change’ is only true at a national level if:

- Availability of CCS technology is not used to justify prolonged use of fossil fuels through lock-in to fossil fuel infrastructure, given it is not certain or proven that 100% capture can be delivered at a commercial scale
- CCS is not used in combination with Enhanced Oil Recovery to extract additional oil from wells that would otherwise be uneconomic, resulting in a higher overall emissions scenario.

This section is also inconsistent with the equivalent climate change section on oil and gas, as it considers both the impacts of deployed CCS on climate change and the potential impacts of climate change on CCS deployment. The oil and gas section on climate change only discusses the latter. It is not credible to only describe the climate impacts of development if they are considered to be positive.

Q22. Are there alternative planning policies that you think should be included in this chapter?

It is suggested CCS1 should read, “CCS demonstration projects or developments should be supported where they can be delivered environmentally sensitively and deliver genuine emissions reductions”. The point about re-use of existing infrastructure is already covered in CCS2.

Chapter 11 Offshore Renewable Energy

Q23. Should the NMP incorporate spatial information for Sectoral Marine Plans?

Reference to the sectoral marine plans will help maintain consistency of policy and in due course there is merit in considering the incorporation of sectoral plans within the NMP; not least to ensure the system is Plan led. Had the Plan been in place earlier, then it would have been logical to include the offshore renewable sites within it.

Q24. Do you have any comments on Offshore Renewable Energy, Chapter 11?

Objectives

The first objective is supported. The second objective is not supported. Sustainable economic growth does not have an internationally recognised meaning and places economic growth above social and environmental objectives and aspirations, thus acting to counteract the first objective. Furthermore, this objective increases the environment risks unnecessarily. This objective should be removed.

The third objective provides little to no guidance to marine or terrestrial planners. It should be strengthened to better guide the achievement of ‘*joined up marine planning and efficient licensing processes to facilitate sustainable offshore energy.*’

Fourth, fifth and sixth objectives are supported.

Seventh objective is supported, however it should be strengthened, firstly by placing the word sustainable ahead of development and by stipulating that test and demo projects will be facilitated where they meet the requirements of the general policies of the plan (i.e. the appropriate environmental assessments are undertaken and unacceptable impacts are avoided).

Part 2: Key Issues for Marine Planning - Living within Environmental Limits

The requirement of planning authorities and users/ developers to undertake robust and statutory environmental assessment of their proposals must be made explicit in this section, in order to ensure unacceptable harm to the natural environment is avoided.

Part 2: Key Issues for Marine Planning - Climate Change

Reference should be made here of the necessity to deploy offshore renewables in as sustainable manner as possible. Whilst offshore energy generation will make a very important contribution towards emissions reductions, it should be progressed with due regard to the potential environmental impacts. .

Q25. Are there alternative planning policies that you think should be included in this chapter?

There is a recognition that coordinated national, regional and project specific environmental monitoring is required to better inform marine spatial planning and decision making. An additional objective encouraging industry wide monitoring packages that integrate and coordinate government, industry and project level programmes would provide a driver and focus to prioritise and deliver much needed monitoring. This monitoring data will ultimately contribute to the sustainable development of the offshore renewables industry by informing decision makers, increasing certainty and reducing risk.