Ministerial Foreword

We are at a monumental point in the history of Scotland’s seas. This consultation provides everyone with an interest in our marine environment to help us develop a network of Marine Protected Areas to ensure that our marine ecosystems are resilient and can continue to support our society’s needs for generations to come. At the same time we are also consulting on the draft National Marine Plan, draft sectoral marine plans for offshore renewable energy and priority marine features.

Protecting rare, representative and productive species and habitats on the basis of sound science means we can keep on getting these benefits and enjoying the rich diversity of life in the waters around us.

Scotland’s seas are extraordinary, and we are only just starting to get to know what is in them and how much we rely on them.

Our seas provide nurseries and feeding grounds for species that are critical to the marine ecosystem including fish species that we rely upon for food. Kelp and seagrass forests and offshore reefs help reduce the impacts of storms by acting as a physical buffer. Healthy seas also assist in protecting us from climate change. So it is important not just to protect rare, threatened, declining, or nationally representative species and habitats for their own sake, but also for these benefits we take for granted.

Before 2007 control of our seas did not extend further than 12 nautical miles, nor did we have community-led protected areas. Since 2007 we taken on lead responsibility for offshore conservation and Special Areas of Conservation in Scottish offshore waters have been designated, one of which is the largest in Europe. We have also been able to protect important marine habitats for seabirds and designate our only inshore Lophelia cold water coral reef as a Special Area of Conservation.

The Marine (Scotland) Act and Marine and Coastal Access Act delivered new powers to protect other habitats and species of national and international importance through the designation of Marine Protected Areas. Our aim is to achieve a well-managed network of Marine Protected Areas by 2016. You can help by providing your views on the case for designation of the possible Nature Conservation MPAs included in this consultation. We are also seeking views on other aspects of the proposals including management options to protect the features.

Finally I would like to take the opportunity to thank everyone who has been involved in the last two years to get to where we are today.

Richard Lochhead MSP
Cabinet Secretary for Rural Affairs and Environment
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Planning Scotland’s Seas - Summary of the Marine Protected Areas (MPAs) Network Proposals

Thank you for taking the time to consider this consultation paper. We would welcome your views on the development of the network of Nature Conservation Marine Protected Areas for Scottish waters.

Possible Nature Conservation MPAs (pMPAs) have now been developed (see Figure 1 and Table 1, and in more detail in Appendices A & B) and a further 4 MPA search locations remain to be fully assessed. These 4 search locations will be assessed next year in 2014 when SNH have gathered the relevant evidence to support their designation.

The MPA consultation would like to invite views on:

1. the case to develop a network of MPAs;
2. the case for designation for each of the pMPAs;
3. preferred management options for each of the pMPAs;
4. preferences with regards to science based alternatives;
5. preferences with regards to ecologically equivalent options;
6. the potential environmental and socio-economic impacts of individual MPAs;
7. the potential environmental and socio-economic impacts of the MPA network;
8. whether the addition of these pMPAs, plus the 4 search locations, to existing protected areas constitute an ecologically coherent network.

What documents should I read to answer the questions?

In addition to this overview, which includes summaries of each pMPA, the MPA consultation consists of the following documents which provide further detail on the pMPAs, the evidence supporting them, potential management options, as well as possible environmental and socioeconomic costs and benefits.

For each of the pMPAs SNH\(^1\) and JNCC\(^2\) have produced:

- A Site Summary Document
- A Data Confidence Assessment (which sets out the scientific evidence)
- A Detailed assessment of the MPA through the MPA Selection Guidelines
- A set of management options in relation to each relevant activity.

Marine Scotland\(^3\) have also produced:

- A set of Business and Regulatory Impact Assessments (BRIAs) that cover the pMPAs
- And a Sustainability Appraisal of the network as a whole, combining environmental and social economic impacts
- A Management Handbook which describes the processes of how the network will be managed in greater detail.

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\(^1\) [www.snh.gov.uk/mpa-consultation](http://www.snh.gov.uk/mpa-consultation)
\(^2\) [www.jncc.defra.gov.uk/scottish-mpa-consultation](http://www.jncc.defra.gov.uk/scottish-mpa-consultation)
\(^3\) [www.scotland.gov.uk/marineconsultation](http://www.scotland.gov.uk/marineconsultation)
For more information on existing protected areas please refer to the Report to the Scottish Parliament on Progress to identify a Scottish Network of Marine Protected Areas, or for full details please refer to Scottish Natural Heritage and Joint Nature Conservation Committee’s comprehensive Advice to the Scottish Government on the Selection of Nature Conservation Marine Protected Areas (MPAs) for the Development of the Scottish MPA Network.

For more details of how the possible Nature Conservation MPAs and MPA search locations interact with current protected areas please visit NMPi (National Marine Plan Interactive). The downloadable GIS data on MPAs in the NMPi is open access and subject to Ordinance Survey license agreements.

How do I respond and get involved in the consultation?

We are inviting views on individual pMPAs, their possible impacts and management, as well as on the overall network, on the Marine Scotland website: www.scotland.gov.uk/marineconsultation

Further details on how to respond can be found in Appendix C and the Consultation Response forms can be found in Appendices D& E and at the above address. A summary of the questions follow on the next page.

Thank you for taking the time to respond.
Summary of the Questions for your response in Appendix D at the end of this document

1. Do you support the development of an MPA network in Scotland’s Seas?

Individual possible Nature Conservation MPAs

2. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Clyde Sea Sill* possible Nature Conservation MPA?

3. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *East Caithness Cliffs* possible Nature Conservation MPA?

4. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *East of Gannet and Montrose Fields* possible Nature Conservation MPA?

5. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Faroe-Shetland sponge belt* possible Nature Conservation MPA?

6. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Fetlar to Haroldswick* possible Nature Conservation MPA?

7. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Hatton-Rockall Basin* possible Nature Conservation MPA?

8. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Creran* possible Nature Conservation MPA?

9. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Sunart* possible Nature Conservation MPA?

10. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Sunart to the Sound of Jura* possible Nature Conservation MPA?

11. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Sween* possible Nature Conservation MPA?

12. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Lochs Duich, Long and Alsh* possible Nature Conservation MPA?

13. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Monach Isles* possible Nature Conservation MPA?

14. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Mousa to Boddam* possible Nature Conservation MPA?

15. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *North-east Faroe Shetland Channel* possible Nature Conservation MPA?

16. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *North-west Orkney* possible Nature Conservation MPA?
17. Do you have any comments on the case for designation, management options and socioeconomic assessment for the North-west sea lochs and Summer Isles possible Nature Conservation MPA?

18. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Noss Head possible Nature Conservation MPA?

19. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Papa Westray possible Nature Conservation MPA?

20. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Rosemary Bank Seamount possible Nature Conservation MPA?

21. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Small Isles possible Nature Conservation MPA?

22. Do you have any comments on the case for designation, management options and socioeconomic assessment for the South Arran possible Nature Conservation MPA?

23. Do you have any comments on the case for designation, management options and socioeconomic assessment for The Barra Fan and Hebrides Terrace Seamount possible Nature Conservation MPA?

24. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Turbot Bank possible Nature Conservation MPA?

25. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Upper Loch Fyne and Loch Goil possible Nature Conservation MPA?

26. Do you have any comments on the case for designation, management options and socioeconomic assessment for the West Shetland Shelf (formerly Windsock) possible Nature Conservation MPA?

27. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Wyre and Rousay Sounds possible Nature Conservation MPA?

**Choices to represent features in the MPA Network**

28. Recognising the scientific advice from JNCC included alternatives for representing offshore subtidal sands and gravels, ocean quahog and shelf banks and mounds in the Southern North Sea, do you have a preference or comments on the following combinations to represent these features, bearing in mind Turbot Bank will need to be designated to represent sandeel in this region:

- Firth of Forth Banks Complex
- Turbot bank and Norwegian Boundary Sedimentary Plain
- Or Firth of Forth Banks Complex, Turbot bank and Norwegian Boundary Sedimentary Plain

29. Do you have any comments on the case for designation, management options and socioeconomic assessments for the preference you have indicated in the question above, regarding alternatives for representing offshore subtidal sands and gravels, ocean quahog and shelf banks and mounds in the Southern North Sea?
30. Recognising the scientific advice from JNCC included alternatives for representing the burrowed mud feature in the Fladens, do you have a preference or comments on the following combinations to represent these features, bearing in mind the part of Central Fladen (known as Central Fladen (Core)) containing tall seapen (*Funiculina quadrangularis*) will need to be designated to represent tall seapen in this region:

- Central Fladen pMPA only
- The tall sea-pen component of Central Fladen, plus Western Fladen
- Or the tall sea-pen component of Central Fladen, plus South-East Fladen

31. Do you have any comments on the case for designation, management options and socioeconomic assessments for the preference you have indicated in the question above, regarding alternatives for representing the burrowed mud feature in the Fladens?

32. Recognising the scientific advice from JNCC included alternatives for representing offshore subtidal sands and gravels, offshore deep sea mud, and burrowed mud in OSPAR Regions III and V, do you have a preference or comments on the following combinations to represent these features:

- South-West Sula Sgeir and Hebridean slope
- Or Geikie slide and Hebridean slope

33. Do you have any comments on the case for designation, management options and socioeconomic assessments for the preference you have indicated in the question above, regarding alternatives for representing offshore subtidal sands and gravels, offshore deep sea mud, and burrowed mud in OSPAR Regions III and V?

**Sustainability Appraisal**

34. Do you have any comments on the Sustainability Appraisal of the MPA network as a whole?

**Final Thoughts**

35. On the basis of your preferences on which pMPAs should be designated, do you view this to form a complete or ecologically coherent network, subject to the completion and recommendations of SNH’s further work on the 4 remaining search locations?

36. Do you have any other comments on the case for designation, management options, environmental or socioeconomic assessments of the pMPAs, or the network as a whole?

Further details on how to respond can be found in Appendix C and the Consultation Response forms can be found in Appendices D & E.
### Table 1: Possible Nature conservation MPAs and MPA search locations in Scottish waters (an asterisk denotes an area that is still at search location stage)

Appendices A& B provide more detail on the pMPAs and features for protection.

<table>
<thead>
<tr>
<th>OSPAR Region(s)</th>
<th>Possible MPA /MPA search location</th>
<th>Code</th>
<th>Territorial / Offshore</th>
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<tbody>
<tr>
<td>I</td>
<td>Faroe-Shetland sponge belt</td>
<td>FSS</td>
<td>Offshore</td>
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<tr>
<td>I &amp; II</td>
<td>North-east Faroe Shetland Channel</td>
<td>NEF</td>
<td>Offshore</td>
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<td>II</td>
<td>Central Fladen</td>
<td>CFL</td>
<td>Offshore</td>
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<td>East Caithness Cliffs</td>
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<td>East of Gannet and Montrose Fields</td>
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<td>Fetlar to Haroldswick</td>
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<td>Firth of Forth Banks Complex</td>
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<td></td>
<td>Mousa to Boddam</td>
<td>MTB</td>
<td>Territorial</td>
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<td></td>
<td>North-west Orkney</td>
<td>NWO</td>
<td>Both</td>
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<td></td>
<td>Norwegian boundary sediment plain</td>
<td>NSP</td>
<td>Offshore</td>
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<td></td>
<td>Noss Head</td>
<td>NOH</td>
<td>Territorial</td>
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<td>Papa Westray</td>
<td>PWY</td>
<td>Territorial</td>
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<td></td>
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<td>Offshore</td>
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<td></td>
<td>Southern Trench*</td>
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<td>Territorial</td>
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<td></td>
<td>Turbot Bank</td>
<td>TBB</td>
<td>Offshore</td>
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<td>Western Fladen</td>
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<td>Wyre and Rousay Sounds</td>
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<td>Territorial</td>
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<tr>
<td>II &amp; III</td>
<td>West Shetland Shelf (formerly Windsock)</td>
<td>WSS</td>
<td>Offshore</td>
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<tr>
<td>III</td>
<td>Clyde Sea Sill</td>
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<td>Eye Peninsula to Butt of Lewis*</td>
<td>EPL</td>
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<td>Monach Isles</td>
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<td></td>
<td>Skye to Mull*</td>
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<td>The Barra Fan and Hebrides Terrace Seamount</td>
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<td>Hatton-Rockall Basin</td>
<td>HRB</td>
<td>Offshore</td>
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<td></td>
<td>Rosemary Bank Seamount</td>
<td>RBS</td>
<td>Offshore</td>
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Consultation questions 2-27, 29, 31 and 33, of Appendix D at the end of this document ask for your views on the case for designation, management and impacts of these Nature Conservation pMPAs.
Figure 1: Possible Nature Conservation MPAs and search locations in Scotland’s seas
What is a Marine Protected Area (MPA) Network?

A Marine Protected Area network in Scotland’s Seas is designed to conserve a selection of marine biodiversity (species and habitats) and geodiversity (the variety of landforms and natural processes that underpin the marine landscapes), offering long-term support for the services our seas provide to society.

We are developing Nature Conservation MPAs in Scotland to either protect a range of biodiversity or geodiversity features in their current state for the future, or to allow them to recover to the state they should be to remain healthy and productive. The benefits our seas provide are not limited to the natural environment; Historic MPAs can also add to the protection of Scotland’s outstanding marine cultural heritage.

In Scotland there are already many existing protected areas in our seas. These range from Special Protection Areas (SPAs) for seabirds such as puffins and kittiwakes, Special Areas of Conservation (SACs) for features such as bottlenose dolphin, coral reefs and seals, and Sites of Specific Scientific Interest (SSSIs) for the further protection of seabirds and seals to sea caves and rocky shores. There are also other area based measures, predominantly for fisheries management, that are considered to make a contribution and their continued contribution to the network.

Nature Conservation MPAs are being identified for features (the collective term for species, habitats and geology we are looking to protect in the MPA network) that we believe require more protection than what is offered by existing protected areas.

Today every type of protected area has a different name; from the SACs and SPAs, to the new MPAs we are working on now. The aim is once we have completed a well-managed MPA network, every site in Scotland offering some sort of spatial protection to species, habitats or geology, be it an SAC, SPA or SSSI or Nature Conservation MPA, will be known as an MPA, and collectively as the MPA network.

An FAQ and Glossary can be found on the Marine Scotland website.

What is the MPA consultation asking?

The Scottish Government received advice from Scottish Natural Heritage and Joint Nature Conservation Committee on 33 MPA proposals and 4 search locations in December 2012. SNH and JNCC have advised that between 29 and 33 of these locations should be included in the network.

The Scottish Government is proposing in this consultation that these original 33 MPA proposals now be considered as possible Marine Protected Areas (pMPAs) for designation to supplement existing protected areas for marine species and habitats, to create a wider network of Marine Protected Areas (Table 1 and Figure 1, and in more detail in Appendices A & B).

The consultation seeks views on the pMPAs, their management and impacts, and the overall network, including 4 remaining search locations to be assessed in 2014. Final decisions will be taken in accordance with the powers and duties in the Marine Act.

4http://www.scotland.gov.uk/Topics/marine/marine-environment/mpanetwork
Why do we need Marine Protected Areas?

Scotland's seas support a huge diversity of marine life and habitats, with around 6,500 species of plants and animals, with plenty more no doubt to be found in the undiscovered deeps of the north and west of Scotland. These include species such as:

- Deeper water habitats comprising species such as cold water corals, sea fan communities. Off the Sound of Canna can be found the largest aggregation of fan mussels in UK waters and one of the deepest and most unusual examples of a horse mussel bed;
- 24 species of seabird living in breeding colonies around the Scottish coast;
- Sharks, rays and skates, including the world's second-largest fish, the basking shark, which can reach 8m long;
- In the past 25 years, 23 species of whales, dolphins and porpoises have been spotted around the Scottish coastline, of which 8, including minke and killer whale, are permanent residents;
- Many seals are also residents here, such as harbour and grey seals, and they spend most of their time at sea, sometimes coming ashore to breed, moult or simply to languish on rocks after a hard week's fishing;
- And, in proportion to its size, Scotland is the Earth's most geologically diverse country. Almost every period of geological time is captured in the rock record, and many of these can be found in our coastal waters.

The seas around Scotland are among the richest in Europe for marine mammals. Scotland holds about 74% of Europe's population of grey seals, over 100,000 individuals, and over 21,000 common seals or 24% of the EC population, emphasising the important role that seals have in Scottish waters. 14 SACs have so far been designated for grey and common seals.

Scotland is home to the most northerly pod of bottlenose dolphins which are found within the Moray Firth, which was designated an SAC in March 2005. These are larger and more blubbery than tropical bottlenose dolphins to survive the bitter cold of the North Sea, and the Moray Firth is one of only 3 SACs found in the UK for bottlenose dolphins.

Loch Creran is the only SAC in Europe designated to protect the delicate and colourful serpulid reefs built by the tube worm serpula vermicularis, and this is the largest discovery of this habitat in the world. And a survey in Loch Alsh commissioned by Marine Scotland in August 2012 for the identification of MPAs found what appear to be the most extensive and best developed flame shell beds in the UK.

Scotland’s seas are also home to 45% of Europe’s breeding seabirds with internationally important numbers of 24 breeding species. We have SPAs for the protection of seabird species, such as the great skua, of which more than half of the world’s population return to Scotland each year to nest. With approximately 5 million seabirds in Scotland, all foraging in our seas, there is approximately one seabird per person in Scotland!

Our seas account for 61% of UK waters and remain at the forefront of our food and energy needs, through fishing, aquaculture, oil and gas, and new industries such as renewables, as well as recreation activities and eco-tourism.
We already have a network that includes existing protected areas for many of these species and habitats such as Special Protection Areas (SPAs) for almost every specie of seabird found in our seas and coastlines. Special Areas of Conservation (SACs) offer protection for features like bottlenose dolphin, coral reefs and seals. These protected areas are ones we are required by law under European Union Directives.

However we do not believe we currently have enough protection in the marine environment to protect all the pieces of the complex marine ecosystem. We decided, with the aid of the Marine (Scotland) Act and the Marine and Coastal Access Act, to offer conservation measures to those features that needed protection through the designation of new MPAs. And these MPAs are for features which are considered by the country’s leading marine scientists and international studies to most deserve our protection, either because they are rare, threatened or declining, representative or because they are almost only found here.

An ecologically coherent network of well-managed marine protected areas is therefore vital to conserve and regenerate our seas, in turn protecting the many goods and services they provide now, and for generations to come.

Scotland’s coasts and seas also preserve a rich cultural heritage dating from early prehistory to the recent past including remains of coastal settlement (submerged landscapes) and thousands of wrecks of ships and aircraft. The marine cultural heritage helps us to appreciate the importance of our coasts and seas throughout Scotland’s history, contributes to our sense of place and wellbeing, enhances the distinctiveness of coastal areas and helps attract visitors to Scotland. Historic Scotland have identified Historic MPAs to ensure the protection of this cultural heritage.

The first consultation question in Appendix D asks whether you support the development of an MPA network in Scotland’s Seas.
What else can MPAs do?

While the main aim is to protect rare, threatened or declining, or representative species, habitats and geological features for their own sake under the principle of sustainable use, there are a number of other reasons we should work towards a well-managed network of MPAs in the wider context. Some of these reasons are harder to be certain of as we are constantly learning about the natural and ecological processes of our seas, but we believe that MPAs as a whole can contribute in other ways to maintain or develop things we either depend upon or take for granted.

Take for example the direct benefits we gather from the sea. These are things that can be harvested, like the fish and shellfish we eat and export, or enjoyed, such as the already important and growing wildlife tourism sector. MPA networks can help protect the complex, biologically diverse habitats that provide hiding places or nurseries for juvenile fish and shellfish to grow and feed, without which there would be less of a foundation for life to continue in the sea as we know it. The same applies to protecting important areas for critical lifecycle stages of mobile species, such as basking sharks and cetaceans. Many people are also attracted to a sea that is rich and healthy enough to support resident or migrant populations of majestic creatures such as whales, dolphins and basking sharks. A direct benefit is that we can visit these species in the wild, through responsible wildlife tourism operators who can earn money for taking people on nature watching trips out to sea or on the coast.

Valuing and protecting places in the sea that are functionally important as part of the ecosystem, often created by other living organisms, can offer a two-fold benefit to the seas. By protecting reefs and sea beds we not only provide breathing space for threatened or declining species and habitats but also give refuge for other species, some of which are commercially important, such as sandeel and herring. By protecting these areas we increase the chances that our seas continue to supply us with enough fish and shellfish to eat and export, thus supporting coastal communities by helping ensure there will always be enough fish to fill the nets.

The seas also offer us indirect benefits, such as nutrient cycling or reducing the effects of climate change. These are benefits that we currently gain no direct economic output from, but which provide services that would be very costly to manage ourselves if these services disappeared.

Habitats such as kelp forests, seagrass beds and saltmarshes are not only again important habitats for juvenile fish, but all are also recognised by the United Nations Environment Programme as important carbon sinks. Carbon sinks store carbon dioxide or CO$_2$, helping to regulate climate and contribute to mitigating change, much as peat bogs do on land.

Species like the burrowing sea cucumber or sea urchin stimulate nutrient cycling by digging burrows into the sea bed. The holes they dig bring nutrients down into the sediment that would otherwise not be reached, much like earthworms in a garden. This helps release plankton larvae and nutrients into the water column which support the entire ecosystem, from small fish and corals to huge filter feeders like the 10 metre minke whale.

Other things we might forget is that some reefs and kelp beds also help protect the coast from storms, much like coral reefs and mangroves in the tropics, but these kelp forests and offshore reefs are much closer to home. Also some of these areas may
contain organisms that have important biopharmaceutical uses yet to be discovered by science; if they disappear then we will never know if we could have benefitted from them.

Ecosystems are very complex, and it is thought that the more complex an ecosystem is the more resilient it is to change. Therefore, if it is damaged or if a species or habitat is removed from that ecosystem, the chances of survival for those services reduce as the ecosystem becomes weaker. However by conserving or allowing the species and habitats that make up that ecosystem to recover, we can be more confident of the continuation of the long term benefits the marine environment provides.

Finally there are what are known as non-use benefits. These are more to do with cultural values, protecting places simply to know that they are there to be enjoyed enriches us all. We take for granted many of the things we read about or watch, such as bright, colourful fish or reefs, or strange shaped deep sea curiosities, and to lose them would be a loss to future generations that will not be able to experience them. It is difficult to put a true value on this, but the high quality experience and increasing knowledge of Scotland’s seas can be better preserved through measures such as MPAs.

The final consultation question (number 36) in Appendix D asks whether you have any further thoughts on the network as a whole.
Overview of the MPA network proposals

The evolving MPA network in Scotland’s seas includes 46 Special Areas of Conservation (and another possible SAC), 45 seabird colony Special Protected Areas, 61 Sites of Specific Scientific Interest, and 8 fisheries management areas. For more information on these please refer to the Report to the Scottish Parliament on Progress to identify a Scottish Network of Marine Protected Areas, or for full details please refer to Scottish Natural Heritage and Joint Nature Conservation Committee’s comprehensive Advice to the Scottish Government on the Selection of Nature Conservation Marine Protected Areas (MPAs) for the Development of the Scottish MPA Network.

33 Nature Conservation possible MPA have now been developed and a further 4 MPA search locations remain to be fully assessed. These 4 search locations will be assessed next year when SNH have gathered the relevant evidence to support their designation.

27 of the Nature Conservation pMPAs and 4 of the MPA search locations are for multiple species and habitats. Were every one of these proposals taken forward for designation, the new MPAs would represent 11% of the area of Scotland’s seas, taking the total of all types of marine protected area to over 23%.

Of the 41 MPA search features listed in the MPA Selection Guidelines at the start of the process, 38 would be accounted for by the Scottish Natural Heritage and Joint Nature Conservation Committee proposals. Work to offer suitable spatial protection to the three remaining features, basking shark, white-beaked dolphin and common skate, will continue.

The key overall objective of the MPA network is to safeguard our most important natural and cultural heritage features in Scottish waters based on the principle of sustainable use. Further sections outline management options and the findings of the Sustainability Appraisal.

The 2 final consultation questions (35 & 36) of Appendix D ask questions regarding the network as a whole.
The MPA consultation

Nature Conservation possible MPAs have now been developed and a further 4 MPA search locations remain to be fully assessed. These 4 search locations will be assessed next year when SNH have gathered the relevant evidence to support their designation.

SNH and JNCC’s advice is that a minimum of 29 of the 33 pMPAs would be needed to adequately represent features in the network. Discussions with stakeholders led to the identification of science based alternatives and ecologically equivalent options which provide choices to stakeholders as to the representation of features. Following the consultation Scottish Ministers will make a decision on how best to represent features in the network.

The consultation would therefore like to invite views on:

- the case for designation for each of the pMPAs;
- preferred management options for each of the pMPAs;
- preferences with regards to science based alternatives;
- preferences with regards to ecologically equivalent options;
- the potential positive and negative environmental and socio-economic impacts of individual MPAs;
- the potential positive and negative environmental and socio-economic impacts of the MPA network;
- whether the pMPAs, plus the 4 search locations, would constitute an ecologically coherent network.

The questions to answer all of these can be found in the Summary at the start of the document and the response form in Appendix D at the end of the document.

To inform responses the following accompanying materials are available:

For each of the pMPAs SNH\(^5\) and JNCC\(^6\) have produced:

- A Site Summary Document
- A Data Confidence Assessment (which sets out the scientific evidence)
- A Detailed assessment of the MPA through the MPA Selection Guidelines
- A set of management options in relation to each relevant activity

Marine Scotland\(^7\) have also produced:

- A set of Business and Regulatory Impact Assessments (BRIAs) that cover the pMPAs
- And a Sustainability Appraisal of the network as a whole, combining environmental, social economic impacts.

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\(^5\)www.snh.gov.uk/mpa-consultation
\(^6\)www.jncc.defra.gov.uk/scottish-mpa-consultation
\(^7\)www.scotland.gov.uk/marineconsultation
Choices available for representation of certain features

For certain features there are options and alternatives to represent them in the network. The consultation seeks views on the following choices.

*Science-based alternative: Offshore subtidal sands and gravels, ocean quahog and shelf banks and mounds in OSPAR Region II*

JNCC identified science-based alternatives to the features being considered for protection within the Firth of Forth Banks Complex pMPA.

Two pMPAs were identified to provide alternative representation of the features within Firth of Forth Banks Complex. JNCC identified Turbot Bank as a pMPA alternative for the representation of the offshore subtidal sands and gravels feature and shelf banks and mounds within OSPAR Region II in Scotland’s seas. Norwegian Boundary Sediment Plain is considered to adequately represent an alternative for the representation of ocean quahog within OSPAR Region II in Scotland’s seas.

The alternative proposal (Turbot Bank and Norwegian Boundary Sedimentary Plain pMPAs) does meet the Guidelines for consideration as Nature Conservation MPAs as together these possible MPAs provide an adequate alternative for the representation of the features. However, the lesser evidence-base for the two alternatives, and the lack of diversity indicated on the basis of available evidence, has led to JNCC’s conclusion that that alternative is of lower biodiversity and geodiversity conservation value than the Firth of Forth Banks Complex pMPA, and is therefore not considered as ecological equivalent.

Therefore the following are the choices as to the representation of the Offshore subtidal sands and gravels, ocean quahog and shelf banks and mounds in OSPAR Region II:

1. Firth of Forth Banks Complex;
2. Turbot bank and Norwegian Boundary Sedimentary Plain;
3. Or Firth of Forth Banks Complex, Turbot bank and Norwegian Boundary Sedimentary Plain

Irrespective of decisions on alternative representation of offshore subtidal sands and gravels, ocean quahog, and shelf banks and mounds in OSPAR Region II, Turbot Bank remains a possible MPA recommended for the protection of sandeels.

*Ecologically equivalent options: Burrowed mud in OSPAR Region II*

JNCC identified science-based alternatives to the Central Fladen proposal for the representation of the burrowed mud search feature in the Fladen Grounds in OSPAR Region II. The Central Fladen proposal represents two component features of the burrowed mud habitat; seapens and burrowing megafauna, and the tall seapen (*Funiculina quadrangularis*). Western Fladen and South-East Fladen options have been identified as science-based alternative proposals for the representation of the seapens and burrowing megafauna component only.

All three pMPAs for the seapens and burrowing megafauna component of burrowed mud habitat have been assessed and are considered to be of equivalent ecological value. The tall seapen component of the burrowed mud feature within the Central
Fladen pMPA is the known location that adequately represents that component within the Fladen Grounds.

JNCC concluded that representation of the burrowed mud search feature in offshore waters in OSPAR Region II could be achieved by either taking forward the Central Fladen proposal in its entirety, or taking forward just the part of Central Fladen containing the tall seapens together with one of the two alternative locations for the seapens and burrowing megafauna component.

Therefore the following are the choices as to the representation of the burrowed mud feature in the Fladens:

1. Central Fladen pMPA only;
2. The tall sea-pen component of Central Fladen, plus Western Fladen;
3. Or the tall sea-pen component of Central Fladen, plus South-East Fladen.

Ecologically equivalent options: offshore subtidal sands and gravels, offshore deep sea mud, burrowed mud in OSPAR Regions III and V

In offshore waters JNCC identified pMPAs with the potential to make an equivalent contribution to the network for representation of features. Atlantic-influenced slope offshore subtidal sands and gravels, offshore deep sea mud, burrowed mud, and an area of the Hebridean continental slope at the northern extent of the range of these features in OSPAR Regions III and V could be represented by either the South-West Sula Sgeir and Hebridean slope or the Geikie slide and Hebridean slope.

Therefore the following are the choices as to the representation of the offshore subtidal sands and gravels, offshore deep sea mud, and burrowed mud in OSPAR Regions III and V:

1. South-West Sula Sgeir and Hebridean slope;
2. Or Geikie slide and Hebridean slope

Search Locations

Four areas that have yet to be assessed fully against the Scottish MPA Selection Guidelines remain as MPA search locations (see Figure 2). This is to enable further work to be completed on one or more of the relevant MPA search features before SNH provides its formal advice to Scottish Ministers in 2014. These areas are Southern Trench, Eye Peninsula to Butt of Lewis, Shiant East Bank and Skye to Mull. The remaining work relates primarily to mobile species features including minke whale, Risso’s dolphin and basking shark. The Southern Trench MPA search location also encompasses the burrowed mud feature.

Shiant East Bank has been identified for the shelf banks and mound feature and finer resolution seabed habitats. Survey work was carried out within the MPA search location in November 2011; however further information is required before the detailed assessment against the Scottish MPA Selection Guidelines can be completed. This will include information on the habitats and species associated with the shelf bank and mound but also on the functional role that it plays within the North Minch. SNH will provide its formal advice on the Shiant East Bank MPA search location in 2014.
Work on cetaceans and basking sharks

In July 2012 SNH and the University of Exeter launched a basking shark tagging project\(^8\), focused on the Skye to Mull MPA search location. The aim of the project is to understand more about the fine-scale use of the search location by these animals. Some results from this work have already been made available on the Wildlife Tracking webpages along with background and up to the minute tracking of basking shark behaviour, with the rest by the end of 2013. Alongside this, habitat modelling is underway for basking sharks and the three cetacean MPA search features, minke whale, Risso’s dolphin and white-beaked dolphin.

The aim of the habitat modelling is to help understand more about the importance of the Eye Peninsula to Butt of Lewis, Skye to Mull and Southern Trench MPA search locations. The focus in identifying these search locations was on areas considered to be essential to key life stages (e.g. as nursery or feeding areas), based on the use of effort-corrected sightings data complemented by information on species behaviour/use of these areas. The habitat modelling will combine the sightings/tagging data with relevant environmental data to improve our understanding of what is driving the use of these areas by the different species.

Following completion of this work, SNH will consider the results and provide advice to Scottish Ministers on whether these areas should be taken forward as Nature Conservation pMPAs.

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Figure 2  The 4 areas that have yet to be fully assessed against the MPA Selection Guidelines and remain as MPA search locations
MPAs in the wider context and the process of identification

MPAs are an internationally recognised tool, helping to contribute to Scottish Government’s vision for “clean, healthy, safe, biologically diverse marine and coastal environments, managed to meet the long-term needs of both people and nature” and help meet international commitments to establish networks of MPAs under:

- the OSPAR convention;
- the World Summit on Sustainable Development;
- the Convention on Biological Diversity;
- the EU Marine Strategy Framework Directive

Sites designated in Scotland will contribute to UK and international networks of MPAs, forming a system of MPAs operating together, with a range of protection, to meet their conservation role more effectively than individual sites could alone.

Based on this vision and these international commitments The Scottish MPA Selection Guidelines were developed and consulted upon, providing guidance on the identification of the network. It contains the 41 MPA search features representing a range of important features to Scotland, for which MPAs are considered to be a suitable measure, and for which sufficient data was considered likely to be available.

The identification of the MPA proposals was done on a regional basis based on OSPAR sub-regions. Scotland’s seas fall into four OSPAR sub-regions: Region I (Arctic waters), Region II (Greater North Sea), Region III (Celtic Seas), and Region V (Wider Atlantic).

What did we look for?
The Scottish MPA Selection Guidelines set out a five-stage process for the selection of Nature Conservation MPAs in Scotland’s seas:

- Stage 1 - Identification of search locations based on presence of key features
- Stage 2 - Prioritisation of search locations based on the qualities of their features
- Stage 3 – Assessment of the size an MPA needs to be effective
- Stage 4 – Assessment of the ability to manage features effectively
- Stage 5 - Prioritising potential areas according to their contribution to the network

Before applying these more detailed stages across Scotland’s seas a series of reviews were undertaken that highlighted opportunities to recognise and develop the contribution of a number of existing protected areas and other area-based measures. The reviews also determined the potential contribution of locations that were assessed as being Least Damaged/More Natural by comparing these with existing data on the distribution of MPA search features.

An initial series of MPA search locations were derived from these existing measures and from within locations identified as Least Damaged/More Natural. Of the 33 MPA proposals and 4 search locations, 20 are based on existing measures, and 12 are derived from Least Damaged/More Natural locations. Additional MPA search locations were subsequently identified to encompass remaining MPA search features.

9 www.scotland.gov.uk/Topics/marine/marine-environment/mpanetwork/mpaguidelines
10 http://www.ospar.org/content/regions.asp?menu=00020200000000_000000_000000
Adequacy of the MPA network for representing the MPA search features against Stage 5 of the Selection Guidelines is based upon existing OSPAR principles for the development of an ecologically coherent network. These principles are as follows:

- **Representation** - Does representation of the feature reflect the OSPAR regions considered to be important for the feature?
- **Replication** - Is there more than one example of each feature within the Scottish MPA network? If yes, is there replication across the OSPAR regions in which the feature is recorded?
- **Geographic range and variation** - Does protection for the feature reflect what is known about the geographic range and ecological variation of the feature in Scotland’s seas?
- **Linkages** – Does the network provide adequate linkages between species and habitats and their interdependent marine ecosystems? This will only be assessed where there is a good understanding of the relationship between features in different areas to help build connectivity into the network. The focus has been on areas of importance to the life histories of mobile species.
- **Resilience** - Is it considered necessary to include a greater proportion of some particularly threatened and/or declining features within the network?

The advice from [SNH](https://www.snh.gov.uk/mpa-consultation) and [JNCC](https://www.jncc.defra.gov.uk/scottish-mpa-consultation) on whether the guidelines have been met for each MPA search feature, and the evidence that was used to support these assessments, are in the *Detailed Assessment against the MPA Selection Guidelines document* for each pMPA.

The approach for establishing Historic MPAs is set out in [Historic Scotland’s MPA Guidelines](https://www.historic-scotland.gov.uk/historic-mpa-guidelines.pdf).

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11. [www.snh.gov.uk/mpa-consultation](https://www.snh.gov.uk/mpa-consultation)
12. [www.jncc.defra.gov.uk/scottish-mpa-consultation](https://www.jncc.defra.gov.uk/scottish-mpa-consultation)
Roles and Responsibilities

Marine Scotland coordinates the development of the MPA network, looking to SNH and JNCC to provide guidance and scientific advice on the selection of Nature Conservation MPAs and the development of an ecologically coherent network. SNH advise on Nature Conservation MPA proposals in Scottish territorial waters (within 12 nm) and JNCC advise on proposals within offshore waters adjacent to Scotland (outside 12 nm).

Marine Scotland Science has played an important role in providing scientific advice.

Marine Scotland has a lead role in considering environmental and socio-economic impacts of the MPA network. SNH and JNCC have not taken into account socio-economic factors in their recommendations but have identified areas they consider to have equivalent ecological value.

Historic Scotland provide advice separately on Historic MPAs to Scottish Ministers.

The final decision as to designations and management rests with Scottish Ministers, along with the final choice with regards to ecologically equivalent options and science based alternatives.
The Sustainability Appraisal

Nature Conservation MPAs in Scotland are being identified using a science-led approach, with provision for Scottish Ministers to have regard “to any social or economic consequences of designation”\(^\text{14}\) when considering whether it is desirable to designate an area as a Nature Conservation MPA.

A science-led approach has been adopted to ensure we are getting the best environmental benefit from the network. The Selection Guidelines support the consideration of socio-economics where there are 2 or more sites assessed as being of equal ecological value in their contribution to the network.

A Strategic Environmental Assessment and a Socio-Economic Assessment have been combined to form an overall **Sustainability Appraisal**\(^\text{15}\) to accompany the 2013 public consultation. In addition, individual BRIAs have been developed to capture site-specific socio-economic impacts for each pMPA where the decision is designate/don’t designate, and also a BRIA for each of the sets of sites deemed to make an Equal Ecological Contribution, or to be Science-Based Alternatives.

The purpose of the Sustainability Appraisal is to inform the scientific recommendations with the social, economic and wider environmental considerations, without losing sight of the overall benefits of the network ahead of the public consultation. The Sustainability Appraisal also considers questions of displacement and the approach to the use of search location alternatives.

The social and economic analyses in the Sustainability Appraisal are based on the findings of a socio-economic study which was commissioned by Marine Scotland and undertaken by ABPmer and eftec (**The Scottish Marine Protected Area Project – Developing the Evidence Base for Impact Assessments and the Sustainability Appraisal**\(^\text{15}\)). The study aimed to assess the potential economic and social effects of the proposed suite of MPAs in Scottish offshore and territorial waters. It investigated the potential economic benefits and costs, and associated potential social impacts, of designating each individual proposed MPA. It also considered the potential economic benefits and costs, and associated potential social impacts of designating the suite of MPAs as a whole.

The project was steered by a Project Steering Group, comprising members of the Scottish Government, JNCC and SNH, and advised by a Project Advisory Group, which included national representatives of potentially affected marine industries, environmental NGOs, and other national and strategic stakeholders.

**Summary of national impacts and benefits**

Potential quantified and non-quantified costs have been identified for nine activities/sectors (Table 2) - the figures are not annual costs impacts, they are discounted costs spread over 20 years. The ranges represent the possible variation in cost impact depending on which site options might be selected. The most significant potential costs may be incurred by the oil and gas sector, the commercial fisheries sector (note costs are expressed in terms of impacts to direct GVA, based

\(^{14}\text{Marine (Scotland) Act 2010}\)

\(^{15}\text{www.scotland.gov.uk/marineconsultation}\)
on the estimated value of landings affected), and the energy generation sector. The estimates do not take account of mitigation or adaptation that could be put in place

The most likely outcome is the intermediate option which is the ‘best guess’ estimate.

Table 2: Present value (PV) in £ millions for national cost impacts to human activities. (costs discounted over assessment period, 2012 prices)

<table>
<thead>
<tr>
<th>Human Activity</th>
<th>Scenarios</th>
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<tbody>
<tr>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>Aquaculture - finfish</td>
<td>0.36</td>
</tr>
<tr>
<td>Aquaculture - shellfish</td>
<td>0.14</td>
</tr>
<tr>
<td>Commercial fisheries (direct GVA)</td>
<td>0.64</td>
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<tr>
<td>Energy generation</td>
<td>0.13 – 0.20</td>
</tr>
<tr>
<td>Military activities</td>
<td>0.19</td>
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<tr>
<td>Oil and gas</td>
<td>1.38 – 1.49</td>
</tr>
<tr>
<td>Port and harbours</td>
<td>0.14</td>
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<tr>
<td>Recreational boating</td>
<td>Not quantified</td>
</tr>
<tr>
<td>Telecom cables</td>
<td>0.01</td>
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</tbody>
</table>

Please Note: the figures are not annual costs impacts, they are discounted costs spread over 20 years

For many of the activities and sectors affected – finfish and shellfish aquaculture, military activities, ports and harbours, recreational boating and telecom cables - both the site-level and combined impacts are likely to be very small therefore no significant combined impacts are expected.

For commercial fisheries, significant cost impacts are identified for most of the offshore sites and some inshore sites under the intermediate and upper scenarios, reflecting the impact of the management measures applied. Impacts are expected to be greatest in the North-east region (predominantly on over-15m nephrops and whitefish trawls) and West and North-west inshore regions (predominantly on over-15m and under-15m nephrops trawls, and over-15m dredges and whitefish trawls).

For the energy generation sector, the majority of cost impact under the upper scenario relates to proposed development within the Firth of Forth Round 3 Offshore Wind Zone which overlaps with the Firth of Forth Banks Complex proposed MPA. On this basis the combined impact is unlikely to be any greater than the sum of the impacts on individual developments. However, should the additional costs deter some of the investment in the Firth of Forth Round 3 Offshore Wind Zone, it is possible that this could affect investment decisions in the wider offshore wind supply chain. However, such impacts are unlikely because JNCC’s current advice is that the intermediate scenario represents their best view on potential management requirements.

For oil and gas, significant cost impacts are identified under the intermediate and upper scenarios, based on the draft management measures proposed by JNCC. In the intermediate scenario, significant costs could be associated with required management measures to microsite infrastructure to avoid sensitive features for The Barra Fan & Hebrides Terrace Seamount and Western Fladen proposed MPAs.
Under the upper scenario, a number of further proposed MPAs could also experience cost impacts, particularly associated with the requirement to microsite new infrastructure and to skip and ship drill cuttings. While the scale of the potential impacts is large, the overall scale of investment in oil and gas projects is also large. The extent to which such additional costs might compromise individual investments under the upper scenario is currently unclear. This is likely to vary on a site by site basis depending on the scale of the potential oil and gas resource and the overall costs of its exploitation. Should a number of potential developments be deferred or cancelled, this could have the potential to give rise to more significant combined impact on the oil and gas sector as a whole. However, such impacts are unlikely because JNCC’s current advice is that the intermediate scenario represents their best view on potential management requirements.

Each of the sectors for which quantified impacts have been identified above are looked at in more detail in the Sustainability Appraisal.

The benefits generated by the MPAs would mostly accrue to services dependent on healthy and productive seas, such as fisheries, ecotourism, and recreational activities. It is not possible to quantify the benefits of individual MPAs, but the value to Scottish households of marine conservation in Scottish waters generated by the MPA network as a whole is estimated within the range of £239–583 million over 20 years.

**Summary of Strategic Environmental Assessment (SEA)**

The SEA\(^{17}\) has considered the potential effects of the pMPAs on the environment. In the main, the pMPAs will have benefits for biodiversity (including flora and fauna) and geodiversity.

There is potential for displacement of fishing activities to other areas of the sea, which may result in increased pressure on biodiversity interests in these areas. At this stage there is uncertainty as to where these areas may be, and work is being considered to better understand these areas. There is also potential for an increase in greenhouse gas emissions from the fishing fleet, as a consequence of such displacement. At this stage the significance of these potential increases remains uncertain; further information on displacement will assist in clarifying.

**Summary of Equality Impact Assessment**

A draft EQIA\(^{18}\) has also been developed and its assessment is that the draft MPA network does not negatively impact on equality and does not, therefore, require mitigation or introduction of an alternative policy. This can be assessed further as the network is developed.

Consultation questions 2-27, 29, 31, and 33 of Appendix D, at the end of this document, ask for your views on the case for designation, management and socioeconomic impacts of the Nature Conservation pMPAs. Consultation question 34 invites comments on the Sustainability Appraisal that informs the environmental and socioeconomic assessment of the network as a whole.

\(^{17}\) \(^{18}\) [www.scotland.gov.uk/marineconsultation](http://www.scotland.gov.uk/marineconsultation)
How will the network be managed

The MPA Management Handbook describes the processes of how the network will be managed in greater detail.

MPAs will be managed to achieve their conservation objectives, using the principle of sustainable use. This means that only activities that present a risk of hindering the achievement of the conservation objectives will have specific management measures implemented.

To facilitate stakeholder understanding of the likely management implications a management options paper has been produced for each possible Nature Conservation MPA. These papers use a risk-based approach by considering of the protected features, the conservation objectives, and the activities which could affect their condition that take place in, adjacent to, or near the Nature Conservation MPA proposal.

The consideration of management will be undertaken at a site level on a case by case basis, recognising the unique variation of protected features and activities that exist within each Nature Conservation MPA proposal. This process will provide opportunities for stakeholders to present their view, including their practical environmental knowledge and activity data, through bi-lateral meetings, regional workshops and responding to formal consultation. The level of engagement for each MPA will depend on the complexity of the issues that need to be resolved.

The extent to which in the opinion of the Scottish Ministers the stated conservation objectives have been achieved are required to be reported on every six yearly cycle, and appropriate monitoring will inform this opinion. The results of monitoring will also be used to inform future decisions on management of MPAs. Site-based measures may therefore change over time as our knowledge evolves with any new evidence being considered during the 6 year cycle as required.

Conservation Objectives
Conservation objectives will describe the current and desired ecological/geological state (or quality) of every protected feature(s) within a Nature Conservation MPA. They will be to “conserve” or “recover” the protected feature(s) as described below.

The objective will be to “conserve” where;

- evidence exists that the feature is in good condition; or
- limited evidence exists and therefore there is uncertainty concerning the condition of a feature, and qualified to express this uncertainty. This will be determined on a case by case basis, especially for cases where there is limited evidence due to the rarity of a feature.

The objective will be to “recover” where evidence exists that the feature is declining and/or damaged, to the point where it is not considered to be in good condition.

Consultation questions 2-27, 29, 31, and 33 of Appendix D, at the end of this document, ask for your views on the management options of the Nature Conservation pMPAs.

19 www.scotland.gov.uk/marineconsultation
Principle of Best Available Evidence

The best available scientific evidence has been used to identify proposals for Nature Conservation MPAs in Scotland’s seas. What constitutes ‘best available data’ varies by feature and by possible Nature Conservation MPA, and is more detailed for areas closer to the coast than for offshore areas. The age, the source, and the type of data and its coverage will all contribute to an evaluation of data quality. At the start of the project SNH, JNCC and Marine Scotland identified the following principles for using evidence:

1. We will use the best available evidence.
2. We will seek evidence from stakeholders, including users, of areas being considered as Nature Conservation MPAs and we will build on their knowledge where possible.
3. For some sites the requirement for detailed evidence could increase through, from selecting Nature Conservation MPAs to designation and management.
4. The level of evidence required to progress search locations to MPA proposals will vary depending on the nature of the search location and the features it supports.
5. More detailed data will be required for those features being used to delineate the boundary of a MPA.
6. The achievement of conservation objectives for protected features of Nature Conservation MPAs will be assessed through the implementation of a monitoring and surveillance strategy.
7. We will make our evidence available to others so as to ensure as much transparency as possible and maintain public confidence.
8. All evidence used to support Nature Conservation MPA selection will be subject to quality review before being incorporated into GeMS20 (the Scottish MPA Project geodatabase).
9. We will use independent expert review at intervals during the project to examine the quality of the evidence and the scientific integrity of our gathering, synthesis and interpretation of evidence.
10. We will routinely publish background material and consultants’ reports, to show how evidence has been gathered, analysed and applied.

The advice from SNH21 and JNCC22 on whether the guidelines have been met for each MPA search feature, and the evidence to support these assessments, are Detailed Assessment against the MPA Selection Guidelines and the Data Confidence Assessment documents produced for each pMPA. The Data Confidence Assessments also provide a description and evaluation of the type, age, source and extent of evidence used to support each of the possible Nature Conservation MPAs.

SNH and JNCC used the best available evidence and supporting guidance on MPA search features, applying expert judgement when assessing against the MPA Selection Guidelines.

Consultation questions 2-27, 29, 31, and 33 of Appendix D, at the end of this document, ask for your views on the case for designation of the Nature Conservation pMPAs. The 2 final consultation questions ask questions regarding the network as a whole.

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20. Geodatabase of Marine features in Scotland (GeMS)
22. www.jncc.defra.gov.uk-scottish-mpa-consultation
Stakeholder Engagement

While the identification of Marine Protected Areas (MPAs) is a science-led project, it necessarily involves a large degree of stakeholder engagement. Marine Scotland and the project partners are committed to engaging with stakeholders throughout the process, particularly those who have interest in or may be affected by MPA proposals. Stakeholder input is and will continue to be sought in providing information used to support the recommendations on the location of MPAs and conservation objectives, as well as highlighting options for potential management measures for any MPAs in their activity area.

The development of the MPA network and use of powers to designate MPAs is being undertaken in dialogue with marine stakeholders. The Marine Strategy Forum, which represents national marine interests, is the main forum for strategic level engagement on MPA network development. Further discussions with marine sectors provide opportunities to discuss the network design process in more detail.

In the early stages of network development, work focused on data collection, awareness raising and provision of updates. Existing forums, sectoral meetings and various media were used to reach a range of organisations and other interested parties and to encourage feedback. A series of 5 national level stakeholder workshops (for which you can read the reports\(^23\)) provided over 18 months an opportunity for stakeholder interests to input information and influence the design of the network, including proposed alternatives.

During the consultation we will be encouraging members of the public to respond online to the consultation, answer questions and provide information on what is being proposed and how it may impact them.

Details of events, which will be a combination of public events and drop in sessions can be found on the consultation pages of the Marine Scotland website\(^24\).

Third party Proposals

The Marine (Scotland) Act provides for anyone, referred to in this context as a third party, to submit proposals for Demonstration & Research and/or Nature Conservation MPAs within territorial waters.

A total of 27 proposals for third party Nature Conservation MPAs were received. Many of the third party Nature Conservation MPA proposals overlap with existing search locations and others are being taken forward as part of the overall process and have been put through the same guidelines. 12 proposals met all the relevant guidelines and have been recommended for further consideration, and have contributed to the development of eight Nature Conservation MPA proposals. 12 proposals were not recommended for further consideration as these proposals could not meet the test of importance or were not considered to make a significant contribution to the network for the features they were proposed for. Another 3 proposals have had their assessment delayed / deferred to enable completion of further work by SNH in 2013.

\(^{23}\)http://www.scotland.gov.uk Topics/marine/marine-environment/mpanetwork/engagement

\(^{24}\)www.scotland.gov.uk/marineconsultation
A map of the Third-Party Proposals and their status is below in Figure 3.

Any future proposals from a third party will be accepted but may not be considered until the next review of the network in 2018.

2 Demonstration & Research MPAs have been received, and will be assessed for inclusion in the network in 2014 at the same time as the 4 remaining search locations.

Figure 3: Map of Third-Party MPA proposals
How the existing network protects Scotland’s marine life

Existing protected areas along with other area-based conservation measures in Scotland’s seas already make a significant contribution to the protection of our marine natural heritage and include, Special Areas of Conservation (SAC), Special Protection Areas (SPA), Sites of Special Scientific Interest (SSSI) and fisheries management areas. Figure 4 below shows all existing protected areas, which already make up 12% of Scotland’s seas. Consideration of the contribution that these areas already make to the protection of the Scottish MPA search features was one of the first assessments in the selection of the possible MPAs.

The new Nature Conservation MPAs are being designed to build on this, thus maximising the possible conservation value from the network of protected areas.

For more information on existing protected areas please refer to the Report to the Scottish Parliament on Progress to identify a Scottish Network of Marine Protected Areas, or for full details please refer to Scottish Natural Heritage and Joint Nature Conservation Committee’s comprehensive Advice to the Scottish Government on the Selection of Nature Conservation Marine Protected Areas (MPAs) for the Development of the Scottish MPA Network.

Special Protection Areas (SPA)

Special Protection Areas (SPAs) are identified under the EU Wild Birds Directive. SPAs provide spatial protection for species listed in Annex I of the Directive as well as all migratory species. The significance of a site for migratory species is based on the proportion of the biogeographic population that depend on the habitat. For non-migratory species, the national population is used. Scotland’s seas, especially the coastal waters, are hugely important for many groups of species such as the auks, northern gannet, Manx shearwater and black-legged kittiwake. For some, such as the Manx shearwater, storm petrel and great skua Scotland hosts a very significant part of the world population.

85 Special Protection Areas (SPAs) support bird species that are dependent upon Scotland’s marine environment (marine associations/components). Of these, 45 SPAs are either estuarine or truly coastal (i.e. they contain intertidal habitats upon which one or more of the qualifying bird species depend) and these 45 are considered to contribute to the MPA network.

31 of our existing breeding colony SPAs for species such as guillemot, Atlantic puffin, northern gannet, northern fulmar and Manx shearwater have been extended into the marine environment to include the adjacent waters, important for behaviours such as preening, loafing and feeding.

We are confident that work to identify other marine SPAs will deliver adequate protection for iconic bird species such as kittiwake, skua and puffin. Proposals for black guillemot have been added to the MPA network design as
this species is not covered by the SPAs (as the species is not a migratory species and is not listed on Annex 1 of the Birds Directive). Other measures being taken that assist in the conservation of seabirds in addition to identifying new SPAs include the control of non-native species, surveys of seabirds at sea and continued monitoring of sites.

**Special Areas of Conservation (SAC)**
Special Areas of Conservation (SACs) provide protection for a number of habitats and species of European Importance in Scotland's seas under the EU Habitats Directive. This includes reef habitats that make Scotland's marine environment special and distinctive such as the impressive biogenic reef formations of the cold water-coral *Lophelia pertusa*ain waters to the north and west of Scotland.

The Moray Firth SAC provides protection for our most northerly population of bottlenose dolphin and there are 14 SACs for grey and harbour seals for which Scotland is an important stronghold, which have also been designated. In total at present, there are 46 SACs and one more possible SAC in Scotland’s Seas.

**Sites of Special Scientific Interest (SSSI)**
At the national level, SNH has statutory powers to notify Sites of Special Scientific Interest (SSSIs). SSSIs have been used to protect nationally important species, habitats and geological features in Scotland’s seas down to mean low water spring mark (see Table 6.2).

There are 188 SSSIs contributing to the protection of habitats and species dependent upon Scotland’s marine environment. Of these, 61 have some overlap with the Scottish marine protection area and are considered to contribute to the MPA network. The remainder are for bird interests associated with the marine environment.

A map illustrating the coverage of existing protection measures in Scottish waters is shown on the next page (Figure 3), and a list of all the SACs, SPAs SSSIs and existing area based measures that contribute to the network are provided in annexes B to E.

**River Basin Management Plans**
By contributing to management of human induced pressures on water quality, a MPA network can contribute to the effectiveness of River Basin Management Plans and related action under the EU Water Framework Directive to protect and improve the water environment out to 3 nautical miles. In turn River Basin Management Plans are already contributing to the standards and objectives for protected areas. SEPA’s register of protected areas and the on-going monitoring of these areas are further examples of how SEPA’s work can contribute to a well-managed MPA network.
Figure 4: Existing protected areas and other area-based measures contributing to the protection of Scotland’s marine environment
Historic MPAs

Scotland’s first Historic Marine Protected Area (HMPA) was designated on 18 March 2013 under the urgent procedures in the 2010 Act, in order to protect an historic wreck of a probable 17th-century merchant vessel discovered by scallop divers close to the harbour of Drumbeg, Sutherland. This designation remains in force for a period of 2 years. On the same day, Historic Scotland launched a consultation to make the Drumbeg designation permanent, and to designate a further six HMPAs comprising historic wreck sites currently designated under section 1 of the Protection of Wrecks Act 1973, such as HMS *Campania* (Firth of Forth) and the 17th-century wrecks of the *Kennemerland* and *Wrangels Palais* (Out Skerries, Shetland).

Further information on this consultation may be found at [http://www.historic-scotland.gov.uk/index/about/consultations.htm](http://www.historic-scotland.gov.uk/index/about/consultations.htm).

In 2013-14, Historic Scotland is progressing consideration of an HMPA for Scapa Flow’s outstanding underwater heritage. This will involve review and transition to HMPA status for the seven intact wrecks of the German High Seas Fleet scuttled in Scapa Flow in 1919, currently scheduled monuments, and consideration of any other underwater sites relating to Scapa Flow’s wartime naval heritage which should be included in an HMPA proposal for consultation in 2014. A small number of other high priority sites may be considered for designation as HMPAs before 2015. More information on strategy in relation to HMPAs is set out in [Historic Scotland’s Marine Heritage Strategy 2012-15](http://www.historic-scotland.gov.uk).

Figure 5 – HMPA Designations
Appendix A

Summaries of the 33 Possible Nature Conservation MPAs

(Maps produced by Scottish Natural Heritage and Joint Nature Conservation Committee)
**Offshore pMPAs**

**Clyde Sea Sill**

The Clyde Sea Sill possible MPA stretches from the Mull of Kintyre to Corsewall Point on the Rhins of Galloway. Below the surface in this region, the water shallows dramatically where the northern channel (between Scotland and Northern Ireland) becomes the Firth of Clyde at a distinctive sill on the seabed.

The seawater in the northern channel is much cooler than that of the Firth of Clyde due to the significant difference in the depth of these two water bodies. The boundaries between water bodies of different temperature or salinity often lead to the occurrence of fronts. Fronts can concentrate nutrients and plankton creating feeding hotspots for fish which in turn attract marine predators such as whales and seabirds.

The cliffs of Sanda Island, an existing Site of Special Scientific Interest (SSSI) for breeding birds, are home to over 400 breeding black guillemots. Unlike other auks the black guillemot is typically found feeding close inshore, rarely dispersing far from its breeding area even in winter. Black guillemot breeding areas therefore rely on the continuing productivity of rich feeding grounds such as the Clyde Sea Sill nearby.

The seabed within the pMPA contains areas of coarse sandy sediment. The sediment is very mobile moving twice a day on every tide but numerous animals are adapted to live here. Clam shells and polychaete worms live beneath the sediment while fish, starfish, brittle stars and hermit crabs roam the surface looking for food.

**Protected Features**

**Biodiversity:** Black guillemot, fronts, and circalittoral sand and coarse sediment communities.

**Geodiversity:** Marine Geomorphology of the Scottish Shelf Seabed.

The aim is to **conserv**e these features at this pMPA.
Offshore pMPAs

East Caithness Cliffs

Nearly 1,000 black guillemot live on the rocky crevices and ledges of the sea cliffs between Wick and Helmsdale. The East Caithness Cliffs possible Marine Protected Area (MPA) includes the cliff nesting areas of these striking birds as well as adjacent coastal waters where they feed. The sandstone cliffs which rise to 150 m at Berriedale have been weathered by the action of the sea to provide ideal nesting conditions for breeding seabirds and the black guillemots jostle for space amongst an estimated 300,000 other tenants.

The possible MPA will provide protection for an estimated 2.5% of the British population of black guillemot. This is the most important area on the east coast of the UK for this charismatic Scottish seabird. The possible MPA builds on the East Caithness Cliffs Special Protection Area (SPA), designated for internationally important numbers of other seabirds including razorbill, black-legged kittiwake, northern fulmar and common guillemot.

Away from the coast, the seabed within the possible MPA drops away gradually and the black guillemot feed in these rich tide-swept waters. Using their wings to propel them through the water they forage for fish and crabs on the seabed to depths of about 50 m, holding their breaths for up to 2½ minutes.

Protected Features
Biodiversity: **Black guillemot**.
The aim is to **conserve** this feature at this pMPA
Offshore pMPAs

Fetlar to Haroldswick

Fetlar to Haroldswick pMPA sits where the North Sea and the Atlantic Ocean meet, creating a turbulent mixing of waters and strong tides. The complex mosaic of islands, open coastline, high energy waters and more sheltered bays and voes results in a wide range of habitats that support a remarkably diverse array of animal and plants, particularly maerl beds, kelp and seaweed communities, shallow tide-swept sands with burrowing bivalves, and horse mussel beds. The towering cliffs are also home to one of Scotland’s largest colonies of breeding black guillemots, (also known as tysties), which forage over the rich and diverse seabed habitats.

The possible MPA overlaps the Fetlar Special Protection Area (SPA) for various breeding birds including Arctic tern, Arctic skua and fulmar, with the inclusion of the large (greater than 2000 individuals) breeding colony of black guillemots.

The clear shallow waters in the inner part of the pMPA are ideal for maerl, a hard, free-living nodular red seaweed that carpets the seabed in places. Maerl beds provide shelter and protection to a wide range of other animals and plants including some important commercial fish species. In some of the narrows between the islands tide swept coarse gravelly sands support an abundance of bivalves such as tellins and surf clams. Horse mussel beds are found in the deeper tide-swept areas supporting the dense brittlestar communities that form mesmerising seas of waving arms, together with starfish, sea urchins, feather stars, and dead man’s fingers.

Protected Features

Biodiversity: Black guillemot, circalittoral sand and coarse sediment communities, horse mussel beds, kelp and seaweed communities on sublittoral sediments, maerl beds, and shallow tide-swept coarse sands with burrowing bivalves.

Geodiversity: Marine Geomorphology of the Scottish Shelf seabed.

The aim is to conserve these features at this pMPA
Offshore pMPAs

Loch Creran
This sheltered sea loch was carved from rock by glaciers during the last Ice Age and consists of two deep basins separated by narrow, shallow sills. The tide entering and leaving the loch creates contrasting conditions, deep dark stillness at the bottom of the basins and rushing tides over the sills at Eriska Narrows and Creaggan Narrows. These two areas of tidal flow supply the necessary food and aeration for two flame shell beds. The largest is 18 square kilometres and lies just east of Eriska Narrows and the smaller is about 1 km$^2$ and is to the west of Creaggan Narrows.

Flame shells are bivalve molluscs meaning they have two shells like a mussel. Their shells are white in colour and oval shaped with lengthwise ridges and grow to around 4cm long. They have a thick fringe of red and orange tentacles which protrudes from between their shells. Flame shells build nests by binding together gravel, stones and kelp with their beard or byssus. This stabilises the seabed creating habitat for other plants and animals, increasing overall biodiversity.

The pMPA builds on Loch Creran Special Area of Conservation (SAC), designated for reefs, bedrock reefs and biogenic reefs of horse mussel and serpulid worms.

Protected Features
Biodiversity: Flame shell beds
Geodiversity: Quaternary of Scotland
The aim is to conserve these features at this pMPA.
Offshore pMPAs

Lochs Duich, Long and Alsh

Home to a huge bed of elusive yet brightly coloured shellfish known as flame shells, the Lochs Duich, Long and Alsh possible Marine Protected Area (MPA) covers a group of sea lochs on the west coast. When viewed from the air, they form a distinctive Y-shape. The sea lochs lie amongst the jagged mountains of Kintail, Lochalsh, Glenelg and Skye. The steep sides of the mountains continue down underwater to form deep basins carpeted with burrowed mud, home to many animals that would usually only be found in deeper waters, much further offshore.

The possible MPA builds on the Lochs Duich, Long and Alsh Special Area of Conservation (SAC), designated for extensive areas of tide-swept reefs, extremely sheltered rocky reefs and horse mussel beds. Parts of the deep basins of the three lochs are blanketed with soft burrowed mud. The chambered burrows and mounds of Norway lobsters pepper the seabed and all three types of Scottish sea pens are found including forests of the scarce tall seapen. The flamboyant white tentacles of the fireworks anemones flare out over the dark mud, particularly within Loch Duich where this animal is recorded in large numbers.

Further out to sea in the shallow tide-washed waters of Kyle Akin and through the mouth of Loch Alsh under the Skye Bridge, the flame shell (Limariahians) bed covers an area of 75 ha. With at least 100 million shells, but possibly up to as many as half a billion, this is the largest known bed in Scotland and possibly the world.

Protected Features
Biodiversity: Burrowed mud and flame shell beds. The aim is to conserve these features at this pMPA.
Loch Sunart

Loch Sunart is long narrow sea loch at the head of the Sound of Mull interrupted by numerous small islands. The incoming and outgoing tide is squeezed around the islands forming fast tidal flows. These fast flowing currents deliver the perfect amount of food and air for extensive flame shell beds the largest of which is at Laudale Narrows.

A surprise discovery was made in 2006 when small serpulid worm aggregations around 260mm high and 190mm across were found in the shallow waters of Loch Teacuis, a small arm off Loch Sunart. Although not yet at the reef building stage it is likely the worm aggregations in Loch Teacuis will develop into reefs.

Northern feather stars normally inhabit deep water (40-100m) but the sheltered sea lochs of west Scotland contain examples of the species in depths of only 20m. They have slender arms in a variety of colours including yellow, white, pink, red or stripes, and position themselves in strong currents fanning out their arms to filter out organic matter floating by. Where feeding conditions are good northern feather stars can form dense beds creating a bristling carpet of vivid colour on the sea floor.

The Sunart Special Area of Conservation (SAC) is designated for oak woodlands and reefs. The possible MPA overlaps and builds on with the marine part of the SAC.

Protected Features
Biodiversity: Flame shell beds, northern feather star aggregations on mixed substrata and serpulid aggregations.
The aim is to conserve these features at this pMPA.
Offshore pMPAs

Loch Sunart to the Sound of Jura

The common skate is the largest skate in the world. It was once found around the entire British coastline but unsustainable levels of fishing throughout the 19th and 20th centuries have reduced the species to only the west coast of Scotland and Orkney. The common skate has been shown by angler led and scientific studies to remain in a relatively small geographical area year round and this is one of those areas. They lay large eggs, are slow growing and take a long time to reach sexual maturity therefore the rate of any recovery of the population is likely to be slow and would therefore benefit from spatial protection in addition to the existing ban on fishing vessels landing them.

During the last ice age, glaciers scoured the surface of Scotland eroding areas of soft rock to create glens and leaving harder rock behind creating mountains. When temperatures rose and the ice retreated some areas were flooded by the sea but the pattern we see on land of glens and mountains still exists on the coastal seabed. The most deeply eroded channels have become submarine glaciated channels or troughs. There are several of these in Loch Sunart to the Sound of Jura possible MPA in the Sound of Mull, Loch Linnhe, the Firth of Lorn (due West of Kerrera and between the Garvellachs and Lunga) and the Sound of Jura.

The northern part of the possible MPA overlaps and builds on the Sunart Special Area of Conservation (SAC). The SAC is designated for oak woodlands and reefs.

Protected Features

Biodiversity: Common skate.

Geodiversity: Quaternary of Scotland.

The aim is to conserve these features at this pMPA.
Offshore pMPAs

Loch Sween

Loch Sween is complex in shape with a number of arms extending from a single large basin. Tidal movement through the main body of the loch and these narrow arms creates a variety of different physical conditions in which a diversity of habitats thrive. Deep still waters throughout the loch are home to dark, quiet mud habitats. Here large green volcano worms live in burrows beneath the seabed. The only physical evidence of their presence are impressive dome-shaped mounds on the surface of the mud created when they excrete the sediment they have ingested. The volcano worms share their muddy domain in the loch with other burrowing animals including Norway lobsters, shrimps, worms and burrowing gobies.

The tidal narrows at Taynish and Caol Scotnish provide the perfect environment for maerl beds. Maerl is a free-living, calcareous red seaweed. There are two types found in Scottish waters described as either pink branched twiglets or pink hedgehog stones. Both types occur at Taynish Narrows and Caol Scotnish in Loch Sween. The branched structure of the maerl creates a complex habitat in which many other species such as feather stars, scallops, sponges, crabs and fish can shelter. The rapids also support luxuriant stands of seaweeds interspersed amongst the maerl.

Native oyster are sprinkled throughout Loch Sween, as can be seen by the shells left on the beach by feasting otters. Once common in Scotland and supporting a grand shellfish industry, native oyster beds now only exist in a few scattered locations. The population within Loch Sween is considered to be of national importance.

Protected Features

Biodiversity: Burrowed mud, maerl beds, native oysters, and sublittoral mud and mixed sediment communities.

The aim is to conserve these features at this pMPA.
Monach Isles

The Monach Isles also known as Heisker are an island group west of North Uist in the Outer Hebrides where the signs of glacial erosion are still clearly visible in the landscape today. During the ice age, the Monach Isles were completely covered by a sheet of ice unconstrained by topography resulting in extensive surface erosion which has left behind a large, flat area or region of areal glacial scour. Only subtle surface undulations remain in the landscape, where harder rocks were more able to withstand the extensive erosion forming slightly higher ground.

The Monach Isles are an important breeding area for black guillemots. Black Guillemots lay two eggs, usually in about mid to late May. They are almost exclusively cliff nesters utilising crevices, holes under rocks and other concealed locations like rabbit burrows to nest. Unlike other auks which feed offshore the black guillemot is typically found feeding close inshore, and rarely disperses far from its breeding areas, even in winter. An estimated 820 breeding birds are present within the possible MPA, approximately 2.2% of the British population.

The possible MPA overlaps and builds on the Monach Isles Special Area of Conservation (SAC) for dunes, machair and grey seal. The islands are also a SPA for breeding birds including common tern, little tern and greenland barnacle goose.

Protected Features
Biodiversity: **Black guillemot.**
Geodiversity: **Marine Geomorphology of the Scottish Shelf Seabed, and Quaternary of Scotland.**
The aim is to **conserve** these features at this pMPA.
Offshore pMPAs

**Mousa to Boddam**

The Mousa to Boddam pMPA encompasses two discrete regions which are the most consistent and reliable sandeel recruitment areas and the preferred areas for young of the year around Shetland even in years of low recruitment.

Sandeels are eel-like fish blue to yellow in colour. They have a close association with sandy substrates into which they bury to protect themselves from predators. Sandeels are an important food source for seabirds and marine mammals and are critical to many North Sea food webs, so it is no coincidence that the area around Mousa is one of the best in Shetland to see whales and dolphins.

The possible MPA is also within an internationally important carbonate production area. This is an area where seabed sediments are high in calcium carbonate because they are made of the eroded shells of animals that lived on or in the seabed. These sediments supply the carbonate sands of the coastal machair around Shetland. Machair supports specific and diverse grassland vegetation which flowers in spring creating a beautiful display. It is one of the rarest habitats in Europe.

The northern part of the MPA overlaps and builds on the Mousa Special Area of Conservation (SAC) designated for reefs, sea caves and common seal.

### Protected Features

**Biodiversity:** Sandeels.

**Geodiversity:** Marine Geomorphology of the Scottish Shelf Seabed.

The aim is to **conserve** these features at this pMPA.
North-west sea lochs and the Summer Isles

The North-west sea lochs and Summer Isles possible MPA encompasses seabed features that not only offer valuable insights into Scotland’s glacial past but are also home to an amazing array of plants and animals. Burrowed mud, flame shell beds, maerl beds and northern feather star aggregations to name but a few, all find a place to thrive in the mosaic of sea lochs, bays and near shore island channels. This complex landscape is a legacy from the end of the last ice age, when the ice sheet that once covered most of Scotland retreated.

The deeper parts of the possible MPA are covered by extensive areas of burrowed mud. Norway lobsters can be seen guarding the entrances to their burrows amongst dense forests of seapens. All three species of seapen found in Scottish coastal waters are present including substantial numbers of the scarce tall seapen. Increased tidal flow in shallower waters between the coastal islands and on the sills of the sea lochs supplies the necessary food and aeration for beds of flame shells and maerl to form. These habitats provide a stable home for a myriad of other plants and animals, from beautiful burrowing sea cucumbers burying their bodies in the maerl and gravel, to northern feather stars gripping onto the mixed sediments.

Protected Features
Biodiversity: Burrowed mud, circalittoral muddy sand communities, flame shell beds, kelp and seaweed communities on sublittoral sediments, maerl beds, maerl or coarse shell gravel with burrowing sea cucumbers, and northern feather star aggregations on mixed substrata.
Geodiversity: Marine Geomorphology of the Scottish Shelf Seabed, Seabed Fluid and Gas Seep, Submarine Mass Movement, Quaternary of Scotland. The aim is to recover the flame shell beds and maerl beds, and to conserve the other features at this pMPA.
**Offshore pMPAs**

**Noss Head**

The Noss Head pMPA off the coast at Wick in the north of Scotland supports the largest known horse mussel bed in Scottish waters at depths of between 35-45m.

Horse mussels resemble the perhaps more familiar blue mussels of the seashore, but are much larger at 10-20 cm long. The shell is very thick and dark blue to black in colour, with a glossy brown covering. In Gaelic, horse mussels are called ‘clрабaidh-dubha’ (‘clabbydoos’), meaning big black mouths! This describes perfectly how they appear on the seabed, the gaping shells lined with pale lips of the living mussel surrounding the deep, dark mouth.

Horse mussels are long-lived, many survive for more than 25 years and some may live for more than 50 years. The mussels’ large shells provide a solid foundation for many other animals, including soft corals, tubeworms, barnacles, sea firs, and sea mats. Between the live shells, and inside dead ones, brittlestars, crabs, worms, molluscs and many other small animals find shelter which attracts young fish to feed. Young mussels are a favourite meal for crabs and starfish, but once the mussels grow to more than 6 cm long, they are relatively safe from these predators.

**Protected Feature**

Biodiversity: Horse mussel beds.

The aim is to conserve the feature at this pMPA.
Papa Westray

The Northern Isles are a stronghold for the black guillemot. Over 400 of them breed within this pMPA every year. Locally called “tysties”, from an Old Norse word for their thin piping calls, they raise their young in crevices and burrows along the shores of Papa Westray and the Holm of Papa Westray.

Typically only travelling up to 2 km from their nest sites to forage during the breeding season black guillemot eat a variety of marine fish so breeding sites can only persist if there are healthy productive seas nearby. They have a varied diet although butterfish are a particular favourite in Orkney. Black guillemot are cousins of the now extinct Great Auk, which last nested in Britain at North Hill on Papa Westray in 1812. The Holm of Papa Westray is an ideal tystie nesting ground; safe from predators and close to rich feeding grounds.

The possible MPA also lies within the Orkney carbonate production area. This is an internationally important example of a shelf carbonate system. The sand here consists primarily of calcium carbonate, formed by the erosion of the shells and skeletons of the animals that lived on or in the seabed long ago. Carbonate sands supply the sandy beaches around Orkney and are essential for the development of coastal machair, a rare habitat supporting a unique mix of grasses and wildflowers.

The boundary of the pMPA represents a 2 km marine extension around the North Hill and Holm of Papa Westray terrestrial Sites of Special Scientific Interest (SSSI), designated for breeding black guillemots.

Protected Features

Biodiversity: Black guillemot.

Geodiversity: Marine Geomorphology of the Scottish Shelf Seabed.

The aim is to conserve these features at this pMPA.
Offshore pMPAs

Small Isles

Home to the only known aggregation of fan mussels in UK waters, the Small Isles pMPA encompasses waters around the west coast islands of Canna and Rum. The fan mussel is one of the UK’s most threatened molluscs. It grows to 30 cm in length and as the name suggests is a narrow fan shape. It lives with the pointed end buried in mixed muddy sands, with only the straight lips of the shell exposed at the seabed so the animal can filter the sea water for food. As well as the large aggregation of fan mussels, the central section of the Sound of Canna supports the deepest known horse mussel bed in Scotland at depths of between 160-250 m.

The Small Isles pMPA overlaps the Rum, Canna and Sanday SPAs designated in part for their breeding seabirds. The large breeding colony of over 1,200 individual black guillemots present around the islands is a proposed protected feature.

The topography of the seabed within the possible MPA is complex, with a large U-shaped valley formed by a glacier during the last ice age extending from the Sound of Canna north towards Skye. The near vertical sides of this shelf deep support a diverse fauna of northern sea fans, dead man’s fingers, white cluster anemones and sponges. The base of the underwater cliffs is covered in muddy sediments with scattered phosphorescent seapens and the burrow entrances of Norway lobsters.

Protected Features

Biodiversity: Black guillemot, burrowed mud, circalittoral sand and mud communities, fan mussel aggregations, horse mussel beds, northern feather star aggregations on mixed substrata, northern sea fan and sponge communities, shelf deeps, and white cluster anemones.

Geodiversity: Quaternary of Scotland.

The aim is to conserve these features at this pMPA.
The waters around the southern end of Arran are home to a diversity of habitats and species characteristic of the more exposed areas of the Clyde Sea. A patchwork of maerl beds, kelp and seaweeds on sediments, burrowed mud, coarse shell gravels with burrowing bivalves, and seagrass beds to name but a few. The possible MPA encompasses the waters from just north of Drumadoon Point on the west coast, to Corriegills Point on the east and includes the current Lamlash Bay closure.

The maerl beds, which are made up of a free-living calcified red seaweed that looks like pink branched twiglets, support an amazing array of other seaweeds as well as various sea anemones, starfish and juvenile fish and shellfish. Where the maerl is interspersed with coarse gravel a variety of tube building worms are to be found as well as sea cucumbers which bury their bodies in the maerl and gravel extending only their white or orange feathery tentacles up into the water column to feed. The seagrass beds that provide shelter and protection here to a range of associated species also help stabilise sediments as well as trapping and storing carbon dioxide.

Burrowed mud is widely distributed around the outer regions of the possible MPA and supports a range of animals including Norway lobster, squat lobster, crabs, worms, ocean quahogs and the slender seapen.

Protected Features

Biodiversity: Burrowed mud, herring spawning grounds, kelp and seaweed communities on sublittoral sediments, maerl beds, maerl or coarse shell gravel with burrowing sea cucumbers, ocean quahog, seagrass beds, and shallow tide-swept coarse sands with burrowing bivalves.

The aim is to recover the maerl beds and conserve the other features at this pMPA.
Offshore pMPAs

Upper Loch Fyne and Loch Goil

The sea lochs of the Clyde are long and narrow. The differences in water movement and salinity from the entrance to the head of the lochs results in a range of interesting habitats where an amazing diversity of plants and animals thrive.

The quiet waters of these sea lochs are the ideal environment for a range of muddy seabed habitats to develop. Loch Shira is home to spectacular fireworks anemones that seem to explode from the mud. They extend their crown of long, white, pink and green striped tentacles up into the water to capture particles of food as it falls down from the surface layers. At Castleton there is a flame shell bed which helps stabilise the underlying sediment creating a habitat for a wide range of other plants and animals that would otherwise not be able to survive in the area.

Large aggregations of brightly coloured sea cucumbers are scattered in mixed muddy sediments at the entrance to the mouth of Loch Goil, alongside clumps of horse mussels and sea squirts. Throughout the pMPA ocean quahog, a thick-shelled, long-lived bivalve hides in the mud. The quahogs can live for more than 400 years - they are the longest living species on the planet! On the surface of the mud, slender seapens stand guard while squat lobsters roam in search of food amongst tube dwelling sea anemones that snap quickly back into their tubes if disturbed.

Protected Features
Biodiversity: Burrowed mud, flame shell beds, horse mussel beds, ocean quahog, and sublittoral mud and mixed sediment communities.
The aim is to recover the flame shell beds and conserve all other features at this pMPA.
Wyre and Rousay Sounds

Wyre and Rousay Sounds pMPA sits at the margin of the Atlantic and the North Sea. The tides squeeze between the islands of Rousay, Wyre and Egilsay creating perfect conditions for maerl beds and seaweed communities to thrive on the sandy seabed.

Maerl is a red seaweed with a hard, chalky skeleton. Where conditions are good, dense beds of maerl can form covering a large area and growing tens of centimetres deep. Larger animals such as gobies and crabs roam the maerl bed hunting for prey, and are themselves rich pickings for larger fish and diving seabirds. Kelps and red seaweeds anchor themselves to the maerl creating a mosaic of algal habitats. The seaweed coverage varies with the seasons just like the cover of plants on land, dying back in winter and being dislodged by storms. The kelps and seaweeds provide shelter for other small plants and animals. Sponges and sea squirts attach to the kelp holdfasts, claw like structures which anchor them to the seabed.

Maerl beds also have a strong link to coastal habitats of the Orkney Islands. The pMPA lies within the Orkney carbonate production area, an internationally important example of a non-tropical shelf carbonate system. Here the seabed habitats are high in calcium carbonate because they are made up of the dead eroded shells and skeletons of plants and small animals that once lived in or on the seabed such as bivalve molluscs and maerl. These sediments supply the sandy beaches around Orkney and are essential for the development of coastal machair; a rare habitat that supports diverse grassland vegetation which flowers in spring.

Protected Features

Biodiversity: Kelp and seaweed communities on sublittoral sediment, and maerl beds.
Geodiversity: Marine Geomorphology of the Scottish Shelf Seabed.
The aim is to conserve these features at this pMPA.
Offshore pMPAs

Central Fladen

The Central Fladen pMPA lies within the Fladen Grounds, a large area of mud in the northern North Sea named after the German word “fladen” meaning “flat cake”. Central Fladen includes a particular type of mud habitat, called burrowed mud, which is characterised by feather-like soft corals called sea pens, and the burrows made by crustaceans such as mud shrimp and the Norway lobster. Burrowed mud is an interesting and important marine habitat that supports a rich community of animals. Burrowing species can be found living within the mud itself, including the Norway lobster and mud shrimp. Their burrowing activity plays an important role in supporting life in the area; the constant churning of the mud releases nutrients and helps to mix oxygen into the mud. Longer lasting burrows also provide shelter to other marine life from the starfish and sea urchins that patrol the muddy surface looking for food.

Several different types of seapen can be found anchored in the muddy seabed. The southern “Core” part of the Central Fladen possible MPA includes examples of the nationally uncommon tall seapen, which can grow up to 2m in height. Brittlestars use the tall seapen as an elevated perch to filter food from passing currents. The possible MPA has also been shaped to include an unusual tunnel valley, known as the Fladen Deeps or ‘The Holes’. It is thought these valleys were created by erosion of melt water under an ice sheet in former ice ages. In places, the sea floor depressions can stretch for 40km and be 4km wide, reaching depths of 150m.

Protected Features
Biodiversity: Burrowed mud
Geodiversity: Quaternary of Scotland - sub-glacial tunnel valley
The aim is to conserve these features within this pMPA.

Site options in the network
Representation of burrowed mud within the Fladen Grounds could be achieved by either taking forward Central Fladen pMPA in its entirety, or just the tall seapen “Core” part of Central Fladen with either the South-east Fladen or Western Fladen pMPA option.
Offshore pMPAs

East of Gannet and Montrose Fields

The East of Gannet and Montrose Fields pMPA lies within a shallow sediment plain to the south-east of Scotland. The sandy seabed is an ideal home for ocean quahog, a type of large clam that normally lives buried in the sand. Ocean quahog filter food from passing currents, using their shovel-like 'foot' to bury into the sediment.

The majority of the seabed within the pMPA is dominated by sands and gravels, which are the preferred habitat of the ocean quahog. Ocean quahog is an important food source for several species of fish. They can live for more than 400 years and are one of the longest living creatures on Earth.

The southern part of the pMPA includes one of very few examples of deep-sea mud on the continental shelf in the North Sea. It is too dark for plants to grow at this depth; instead conditions are favoured by deep sea animals such as sea urchins, sea cucumbers, worms and bivalves (animals protected by a pair of shells).

Protected Features
Biodiversity: Ocean quahog aggregations (including sands and gravels as their supporting habitat) and offshore deep sea muds
The aim is to conserve these features within this pMPA.
Faroe-Shetland Sponge Belt

The Faroe-Shetland Channel is a huge rift basin that separates the Scottish and the Faroese continental shelves to the north of Scotland. The Faroe-Shetland Sponge Belt p MPA falls on the Scottish side of the channel. Warmer North Atlantic water flowing over sub-zero Norwegian Sea deep water drives a diversity of sea life in the area, including fields of slow-growing deep-sea sponges known as “Ostebund” or “cheese-bottoms” by local fishermen owing to their appearance. The sponges provide shelter for a range of small sea life and an elevated perch for animals such as brittlestars that filter food from the passing water currents.

The seabed within the Faroe-Shetland Sponge Belt possible MPA is characterised by iceberg “ploughmarks”, scars in the seabed caused by the scouring action of icebergs during past glacial ice ages. Over time these scars have been partially filled with sediments, creating a mosaic of habitats which are home to animals such as squat lobsters and burrowing heart urchins. The only example in UK waters of ‘boreal ostur’, a special type of deep-sea sponge aggregation is also found here.

Within the possible MPA, the seabed descends into the deep sea and the changing environmental conditions with depth create zones that support different types of animal communities, such as the ocean quahog, a large and slow growing clam which can live up to 400 years and is one of the oldest living animals on Earth.

Protected Features

Biodiversity: Deep-sea sponge aggregations, ocean quahog aggregations, offshore subtidal sands and gravels, and continental slope.

Geodiversity: Quaternary of Scotland - continental slope channels, iceberg ploughmark fields, prograding wedges, Submarine Mass Movement - slide deposits, Marine Geomorphology of the Scottish Deep Ocean Seabed - sand wave field, sediment wave field

The aim is to conserve these features within this pMPA.
Offshore pMPAs

Firth of Forth Banks Complex

The Firth of Forth Banks Complex pMPA is located in offshore waters to the east of Scotland, and includes the Berwick, Scalp and Montrose Banks and the Wee Bankie. Strongly influenced by currents, the mosaic of different types of sands and gravels create a unique mixture of habitats that overlie the underwater banks and mounds.

The Firth of Forth Banks Complex pMPA covers a highly productive and therefore biologically rich area. The sand and gravel banks are considered significant to the health of Scotland’s seas, supporting populations of small fish and creating conditions ideal for several types of fish to breed. This source of food attracts many larger types of fish, seabirds, and marine mammals such as dolphins. A mosaic of sand and gravels are present, from coarse gravel to finer-grained sands, supporting a variety of animals, including those that live buried in sand, growing on gravel and small rocks, or flatfish, starfish and crabs roaming the surface looking for their next meal. Ocean quahog, one of the longest living animals on Earth also live buried under sandier areas.

The Wee Bankie includes an area of unusual seabed, formed from underwater glacial ridges deposited during the last Ice Age. This feature is scientifically important for its role in improving understanding of the history of glaciation around Scotland.

Protected Features
Biodiversity: ocean quahog aggregations, offshore subtidal sands and gravels and shelf banks and mounds.
Geodiversity: Quaternary of Scotland-moraines
The aim is to conserve these features within this pMPA.

Site options in the network
Together, Norwegian Boundary Sediment Plain and Turbot Bank possible MPAs provide an alternative option for the representation in the network of the features in the Firth of Forth Banks Complex possible MPA.
Offshore pMPAs

Geikie Slide and Hebridean Slope

Located off north-west Scotland, the Geikie Slide and Hebridean Slope pMPA follows the descent of seabed from a depth of 200m into the deep-sea. The Slide is a submarine landslide, named after the famous Scottish geologist, Sir Archibald Geikie. The continental slope is believed to be significant for the health of Scotland’s seas because of the way it influences the movement of water currents which bring a plentiful supply of food to the area.

Habitats within the possible MPA vary down the slope with the descent into deeper, calmer water. The sand and gravel habitat on the continental shelf continues down the continental slope. As the depth increases, the habitat changes to burrowed mud, characterised by the burrows formed by animals such as mud shrimp and deep sea crabs. Along the bottom of the slope, a range of animals are present that can tolerate the environmental conditions of the deep. Sea life can be found living in and on the mud, including sea urchins, sea spiders, and deep-sea worms. The area is also a breeding ground for commercially important fish, such as blue ling.

Protected Features
Biodiversity: Burrowed mud, offshore deep-sea muds, offshore subtidal sands and gravels, and continental slope
Geodiversity: Submarine Mass Movement- slide deposits, slide scars
The aim is to conserve these features within this pMPA.

Site options in the network
The Geikie Slide and Hebridean Slope possible MPA is an alternative option to the South-west Sula Sgeir and Hebridean Slope possible MPA. Both possible MPAs would make an equal contribution to the network and only one need be designated.
Offshore pMPAs

Hatton-Rockall Basin

The Hatton-Rockall Basin pMPA is located in the far west of Scotland’s offshore waters. Rockall Bank lies to the east, Hatton Bank to the west, and George Bligh Bank to the north. At about 1.1km depth, this muddy basin hosts a range of animals adapted to living in the deep-sea. The seabed in this area is criss-crossed with unique examples of polygonal faults, an intriguing geological feature considered to be of scientific importance. The structure of the faults resembles the cracks found on a sun scorched desert, creating a unique relief on the seabed.

Different types of animals can be found living in, and on, the muddy seabed within the Hatton Rockall Basin. A group of animals that often have five-starred symmetry, called echinoderms, are some of the most common animals found here, including sea cucumbers, starfish and sea urchins. The pMPA also includes aggregations of deep-sea sponges, including the aptly named birds-nest sponge. Associated with the harder edges of the polygonal faults, the sponge aggregations are biodiversity hotspots, supporting many other species. The spine-like ‘spicule’ remnants left behind by dead sponges cover the seabed, preventing burrowing animals from establishing, which enables seabed surface animals thrive, including mats of brittlestars that wave their arms in the passing currents in pursuit of food.

Protected Features
Biodiversity: Deep-sea sponge aggregations and offshore deep-sea muds
Geodiversity: Marine Geomorphology of the Scottish Deep Ocean Seabed – sediment drifts, Polygonal fault systems
The aim is to conserve these features within this pMPA.
Offshore pMPAs

North-east Faroe Shetland Channel

Located to the far north-east of Scotland, this p MPA includes a large part of the north-eastern reaches of the Faroe-Shetland Channel in Scottish waters. The habitats are strongly influenced by the significant range of environmental conditions present, from the upper continental slope to the depths of the channel, and include a dynamic zone of mixing where warmer Atlantic waters flow over cold Arctic waters. The continental slope plays an important role in funnelling ocean currents that bring valuable food and nutrients to the region, which in turn support a wide diversity of life. The channel is believed to be a corridor for migrating marine mammals, including the fin whale ("razorback"), and sperm whale.

At depths of 400-600m, the combination of seabed type and plentiful supply of nutrients are ideal for the establishment of deep-sea sponges. Up to 50 sponge species can be found within the sponge fields, many of which are different to those found in the surrounding areas. Below 800m, the muddy seabed is home to those species that can tolerate the cold Arctic-influenced waters, such as deep sea worms.

The pMPA includes several different features of geological importance, including the Pilot Whale Diapirs. The Diapirs are a series of deep-water mounds which measure 2 to 3 km across and rise to more than 70m above the surrounding seafloor.

Protected Features
Biodiversity: Deep-sea sponge aggregations, offshore deep-sea muds, offshore subtidal sands and gravels, and continental slope
Geodiversity: Quaternary of Scotland - prograding wedge; Submarine Mass Movement - slide deposits; Marine Geomorphology of the Scottish Deep Ocean Seabed - contourite sand/silt; Cenozoic Structures of the Atlantic Margin - mud diapirs
The aim is to conserve these features within this pMPA.
**North-west Orkney**

Lying to the north and west of Orkney, this pMPA is recommended as an area of importance for sandeels, a fish that burrows into the sand to escape from predators.

Sandeels are a key source of food for a range of marine wildlife, including many types of larger fish and seabirds, such as puffins. Fishing for sandeels has occurred in many coastal and offshore areas around Scotland in the past but is now limited to occasional fishing off the east coast of Scotland. This pMPA has been recommended for sandeels because of the important role the area plays in supporting wider population of this fish in Scottish waters. Specifically, newly hatched sandeel larvae produced from this area are exported by currents to sandeel grounds around Shetland and south of the Moray Firth.

The pMPA includes important seabed features, such as sand wave fields. Study of these features can help improve our understanding of the relationships between currents and seabed sediments.

**Protected Features**

Biodiversity: Sandeels  
Geodiversity: Marine Geomorphology of the Scottish Shelf Seabed - sand bank, sand wave field, and sediment wave fields  
The aim is to conserve these features within this pMPA.
Offshore pMPAs

Norwegian Boundary Sediment Plain

Located to the east of Scotland in offshore waters, the Norwegian Boundary Sediment Plain pMPA lies adjacent to the boundary line with Norwegian waters.

A sandy plain in relatively shallow waters, the pMPA has been recommended as it is important for ocean quahog. This thick-shelled clam-like animal can live more than 400 years, making it one of the longest-living creatures on Earth. Like tree rings, the age of ocean quahog can be determined by counting the shell layers that they form each year, which also provide information on how our climate has changed over time. Ocean quahog filter food from passing currents, and use a shovel-like ‘foot’ to bury into the sand and mud. To escape predators, they can burrow even deeper into the sediment and live for long periods without food or oxygen. Ocean quahog are an important food source for several species of fish, including cod. Although they are not specific to one type of habitat, sands and gravels are the oceans quahog’s preferred habitat.

Protected Features
Biodiversity: Ocean quahog aggregations (including sands and gravels as their supporting habitat)
The aim is to conserve these features within this pMPA.

Site options in the network
Together, Norwegian Boundary Sediment Plain and Turbot Bank possible MPAs provide an alternative option for representation in the network for the features in the Firth of Forth Banks Complex possible MPA.
Rosemary Bank Seamount

The Rosemary Bank Seamount pMPA is located to the north-east of the Rockall Trough, in the deep waters off western Scotland. An extinct volcano, Rosemary Bank towers over 1000 metres above the seafloor and is one of three seamounts present in Scotland’s seas. The seamount is a hotspot for sea life and significant to the health of Scotland’s seas because of the way it influences underwater currents that bring valuable nutrients to the region, as well as providing nursery and foraging areas for several types of fish.

Rising up from the surrounding flat seabed, the Rosemary Bank Seamount is an imposing extinct volcano that now provides a hard surface on which sea life abounds. The size and shape of the seamount influences underwater currents, which bring a plentiful supply of food to the area. The conditions enable the establishment of seamount communities, which include deep-sea sponge aggregations and cold water corals. Deep-water fish also live here; including orange roughy and blue ling. The migratory route of larger animals such as sperm and pilot whales passes the area, attracted by the high levels of productivity.

Protected Features

Biodiversity: Deep-sea sponge aggregations, seamount communities and seamount features

Geodiversity: Quaternary of Scotland- iceberg ploughmark field; Submarine Mass Movement - slide scars, Marine Geomorphology of the Scottish Deep Ocean Seabed - scour moats, sediment drifts, sediment wave fields, Cenozoic Structures of the Atlantic Margin - Rosemary Bank Seamount

The aim is to conserve these features within this pMPA.
South-east Fladen

The South-east Fladen pMPA lies within the Fladen Grounds, a large area of mud in the northern North Sea named after the German word “fladen” meaning “flat cake”. The pMPA includes a particular type of mud habitat called burrowed mud which is characterised by feather-like soft corals called sea pens, and the burrows made by crustaceans such as mud shrimp and the Norway lobster. Burrowed mud is an interesting and important marine habitat that supports a rich community of animals. Delicate feather-like sea pens anchor themselves in the mud surface, and filter the passing currents for food. Burrowing species can be found living within the mud itself. Their burrowing activity plays an important role in supporting life in the area; the constant churning of the mud releases nutrients and helps to mix oxygen into the mud. Longer lasting burrows also provide shelter to other marine life from the starfish and sea urchins that patrol the muddy surface looking for food.

The possible MPA includes an exceptional example of ‘pockmarks’ or craters formed by methane seeping from the seafloor. The unique communities associated with these methane derived structures are protected within a Special Area of Conservation (SAC). The pockmarks have been well studied and are considerably bigger than other pockmarks found within the North Sea. They are considered to be geologically important.

Protected Features
Biodiversity: Burrowed mud
Geodiversity: Seabed Fluid and Gas Seep - pockmarks
The aim is to conserve these features within this pMPA.

Site options in the network
Representation of burrowed mud within the Fladen Grounds could be achieved by either taking forward Central Fladen pMPA in its entirety, or just the tall seapen “Core” part of Central Fladen with either the South-east Fladen or Western Fladen pMPA option.
Offshore pMPAs

South-west Sula Sgeir and Hebridean Slope

Located to the north-west of the Western Isles in offshore waters, the South-west Sula Sgeir and Hebridean Slope p MPA descends down the continental slope into the relatively cold and dark depths of the Rockall Trough. The slope is covered by several different habitats, including sandy sediments, deep sea mud and examples of burrowed mud. The possible MPA also includes several internationally important seabed forms, notably ‘iceberg ploughmarks’ – the scars created by fast flowing streams of ice in the last glacial period.

A range of different habitats are present within the pMPA, influenced by the changing water depths. The seabed on the slope is dominated by important sand and gravel habitats. Here, crabs shelter under small rocks and urchins, rays and starfish roam the surface looking for their next meal. Pockets of burrowed mud are present, characterised by the burrows formed by animals such as mud shrimp and deep sea crabs. At the dark depths of 1.3 km along the bottom of the slope, marine plants are unable to grow; however, the mud supports a rich array of animals that can tolerate the environmental conditions. Sea life is found living in and on the mud, including sea urchins, sea spiders, and deep sea worms.

Protected Features
Biodiversity: Burrowed mud, offshore deep-sea muds, offshore subtidal sands and gravels, and continental slope
Geodiversity: Quaternary of Scotland- iceberg ploughmark fields, prograding wedges, Submarine Mass Movement- slide deposits
The aim is to conserve these features within this pMPA.
Offshore pMPAs

The Barra Fan and Hebrides Terrace Seamount

To the west of Scotland, adjacent to the boundary with Irish waters, the Barra Fan and Hebrides Terrace Seamount possible MPA follows the seabed as it descends into the deep Rockall Trough. The ‘Fan’ was created when a large build-up of sediments underwent a series of submarine landslides. They have subsequently been modified by water currents, and were long ago gouged by icebergs grounding on the seabed during past ice ages.

The pMPA includes the Hebrides Terrace seamount – a remnant of an ancient volcano. The seamount supports a diverse range of sea life, including cold-water corals, deep sea sponges, and fish species such as orange roughy. The eastern part of the pMPA descends into the deep sea. The area is characterised by sands and gravels, as well as pockets of burrowed mud. The deep-sea mud habitat on the slope is home to worms and other creatures adapted to living on and buried in the seabed.

The Hebrides Terrace seamount at the west of the pMPA rises to almost 1km above the surrounding seabed. The seamount is thought to be significant to the health of Scotland’s seas due its effect on the movement of underwater currents, which bring a good supply of food to the area. The resulting rich diversity supports many fish species, which in turn attract larger marine animals, such as sharks and whales.

Protected Features
Biodiversity: Burrowed mud and offshore deep-sea muds, offshore subtidal sands and gravels, orange roughy, seamount communities, continental slope and the seamount
The aim is to conserve these features within this pMPA.
Offshore pMPAs

Turbot Bank

The Turbot Bank pMPA is located off the east coast of Scotland, to the south-west of the Fladen Grounds. It lies within an area of sandy sediment and includes part of the shelf bank and mound known as ‘Turbot Bank’. Turbot Bank is important for sandeels which are closely associated with sand habitats, living buried in the sand for months at a time. Sandeels are particular about where they live. The Turbot Bank pMPA encompasses areas where high numbers of sandeels have been found, and includes the type of sandy sediment they prefer to bury themselves in. Sandeels play an important role in the wider North Sea ecosystem, providing a vital source of food for larger fish, seabirds and marine mammals such as dolphins. The aim is to conserve part of the Turbot Bank that has the potential to act as a source of young sandeels for surrounding areas.

The Turbot Bank pMPA also focuses on the shelf bank and mound that was formed by the action of currents on the sediment. The sandy seabed that makes up the Turbot Bank is home to many animals living in and on the surface. This includes sandeels and in other areas, urchins, crabs and anemones can be found.

Protected Features

Biodiversity: Sandeels

The aim is to conserve this feature within this pMPA.

Site options in the network

Together, Norwegian Boundary Sediment Plain and Turbot Bank possible MPAs provide an alternative network option for the features in the Firth of Forth Banks Complex possible MPA. If the Firth of Forth Banks Complex possible MPA is not designated, offshore subtidal sands and gravels and shelf banks and mounds would also be conserved within the Turbot Bank possible MPA.
Offshore pMPAs

West Shetland Shelf

Lying to the north of Scotland, the West Shetland Shelf pMPA overlaps with the Windsock Fisheries Area which is managed for the recovery of cod.

The pMPA has been chosen for the wide variety of sand and gravel habitats present in the area, providing an important example of the northern extent of their range on the continental shelf in Scotland’s seas. From coarse gravels to fine-grained sands, the different habitats provide conditions suitable for a diverse range of animals to thrive in and on the seabed. Although a relatively common habitat in Scotland seas, the range of different types of sand and gravel habitats present within the possible MPA support a particularly rich diversity of wildlife. On the surface, anemones and several types of crab can be found living between small rocks, whilst urchins and starfish roam the surface looking for their next meal. Sea snails, bivalves (shellfish with a pair of shells) and sand mason worms (so named for the tube they build by cementing together grains of sand and shell) are adapted to living buried in the sand to avoid passing predators.

The area within the pMPA is also important for several species of fish, including cod, plaice, bass, skate and rays. Certain types of fishing are already managed in the overlapping Windsock Fisheries Area to help cod populations recover.

Protected Features
Biodiversity: Offshore subtidal sands and gravels
The aim is to conserve this feature within this pMPA.

![Map of West Shetland Shelf possible MPA](image-url)
Offshore pMPAs

Western Fladen

The Western Fladen pMPA lies within the Fladen Grounds, a large area of mud in the northern North Sea named after the German word “fladen” meaning “flat cake”. The pMPA includes a particular type of mud habitat called burrowed mud, which is characterised by feather-like soft corals called sea pens, and the burrows made by crustaceans such as mud shrimp and the Norway lobster. Burrowed mud is an interesting and important marine habitat that supports a rich community of animals. Delicate feather-like sea pens anchor themselves in the mud surface, and filter the passing currents for food. Burrowing species can be found living within the mud itself. Their burrowing activity plays an important role in supporting life in the area; the constant churning of the mud releases nutrients and helps to mix oxygen into the mud. Longer lasting burrows also provide shelter to other marine life from the starfish and sea urchins that patrol the muddy surface looking for food.

The possible MPA also includes an unusual tunnel valley in the seabed, known as the ‘Fladen Deeps’ or the ‘Holes’. It is thought these valleys were created by erosion of melt water under an ice sheet in former ice ages.

Protected Features
Biodiversity: Burrowed mud
Geodiversity: Quaternary of Scotland - sub-glacial tunnel valleys
The aim is to conserve these features within this pMPA.

Site options in the network
Representation of burrowed mud within the Fladen Grounds could be achieved by either taking forward Central Fladen pMPA in its entirety, or just the tall seapen “Core” part of Central Fladen with either the South-east Fladen or Western Fladen pMPA option.
## Appendix B - Nature Conservation pMPAs and protected features

List of pMPAs and protected features

<table>
<thead>
<tr>
<th>Name</th>
<th>Code</th>
<th>Protected features</th>
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<td><strong>Territorial waters</strong></td>
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</tbody>
</table>
| Clyde Sea Sill                 | CSS  | *Biodiversity protected features* - Black guillemot, circalittoral sand and coarse sediment communities, fronts  
                                  |      | *Geodiversity protected features* - Marine Geomorphology of the Scottish Shelf Seabed - sand banks, sand ribbon fields, sand wave fields  |
| East Caithness Cliffs          | ECC  | *Biodiversity protected features* - Black guillemot  
                                  |      |                                                                                                                                                   |
| Fetlar to Haroldswick          | FTH  | *Biodiversity protected features* - Black guillemot, circalittoral sand and coarse sediment communities, horse mussel beds, kelp and seaweed communities on sublittoral sediment, maerl beds, shallow tide-swept coarse sands with burrowing bivalves  
                                  |      | *Geodiversity protected features* - Marine Geomorphology of the Scottish Shelf Seabed (components to be confirmed)  |
| Loch Creran                    | LCR  | *Biodiversity protected features* - Flame shell beds  
                                  |      | *Geodiversity protected features* - Quaternary of Scotland (components to be confirmed)  |
| Loch Sunart                    | LSU  | *Biodiversity protected features* - Flame shell beds, northern feather star aggregations on mixed substrata, serpulid aggregations  |
| Loch Sunart to the Sound of Jura| SJU  | *Biodiversity protected features* - Common skate  
                                  |      | *Geodiversity protected features* - Quaternary of Scotland - glaciated channels/troughs (other components to be confirmed)  |
| Loch Sween                     | LSW  | *Biodiversity protected features* - Burrowed mud, maerl beds, native oysters, sublittoral mud and mixed sediment communities  |
| Lochs Duich, Long and Alsh     | DLA  | *Biodiversity protected features* - Burrowed mud, flame shell beds  |
| Monach Isles                   | MOI  | *Biodiversity protected features* - Black guillemot  
                                  |      | *Geodiversity protected features* - Marine Geomorphology of Scottish Shelf (components to be confirmed); Quaternary of Scotland - landscape of areal glacial scour  |
| Mousa to Boddam                | MTB  | *Biodiversity protected features* - Sandeels  
<pre><code>                              |      | *Geodiversity protected features* - Marine Geomorphology of the Scottish Shelf Seabed (components to be confirmed)  |
</code></pre>
<table>
<thead>
<tr>
<th>Name</th>
<th>Code</th>
<th>Protected features</th>
</tr>
</thead>
</table>
| North-west sea lochs and Summer Isles     | NWS  | *Biodiversity protected features* - Burrowed mud, circalittoral muddy sand communities, flame shell beds, kelp and seaweed communities on sublittoral sediment, maerl beds, maerl or coarse shell gravel with burrowing sea cucumbers, northern feather star aggregations on mixed substrata  
*Geodiversity protected features* - Marine Geomorphology of the Scottish Shelf Seabed - banks of unknown substrate; Quaternary of Scotland - glaciated channels/troughs, megascale glacial lineations, moraines; Seabed Fluid and Gas Seep - pockmarks; Submarine Mass Movement - slide scars |
| Noss Head                                 | NOH  | *Biodiversity protected features* - Horse mussel beds                                                                                                                                                     |
| Papa Westray                              | PWY  | *Biodiversity protected features* - Black guillemot  
*Geodiversity protected features* - Marine Geomorphology of the Scottish Shelf Seabed - sand wave field                                                                                               |
| Small Isles                               | SMI  | *Biodiversity protected features* - Black guillemot, burrowed mud, circalittoral sand and mud communities; fan mussel aggregations, horse mussel beds, northern sea fan and sponge communities, northern feather star aggregations on mixed substrata, shelf deeps; white cluster anemone  
*Geodiversity protected features* - Quaternary of Scotland - glaciated channels/troughs, glacial lineations, meltwater channels, moraines, rock basins, streamlined bedforms |
| South Arran                               | ARR  | *Biodiversity protected features* - Burrowed mud, herring spawning grounds, kelp and seaweed communities, maerl beds, maerl or coarse shell gravel with burrowing sea cucumbers, ocean quahog (species), seagrass beds, shallow tide-swept coarse sands with burrowing bivalves |
| Upper Loch Fyne and Loch Goil             | LFG  | *Biodiversity protected features* - Burrowed mud, flame shell beds, horse mussel beds, ocean quahog (species), sublittoral mud and mixed sediment communities |
| Wyre and Rousay Sounds                    | WYR  | *Biodiversity protected features* - Kelp and seaweed communities on sublittoral sediment, maerl beds  
*Geodiversity protected features* - Marine Geomorphology of the Scottish Shelf Seabed (components to be confirmed) |
<table>
<thead>
<tr>
<th>Offshore waters</th>
<th>Code</th>
<th>Biodiversity protected features</th>
<th>Geodiversity protected features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Fladen</td>
<td>CFL</td>
<td>Burrowed mud</td>
<td>Quaternary of Scotland - sub-glacial tunnel valley</td>
</tr>
<tr>
<td>East of Gannet and Montrose Fields</td>
<td>EGM</td>
<td>Ocean quahog aggregations, offshore subtidal sands and gravels, offshore deep sea muds</td>
<td></td>
</tr>
<tr>
<td>Faroe-Shetland sponge belt</td>
<td>FSS</td>
<td>Continental slope, deep sea sponge aggregations; ocean quahog aggregations; offshore subtidal sands and gravels</td>
<td>Marine Geomorphology of the Scottish Deep Ocean Seabed - sand wave field, sediment wave field; Quaternary of Scotland - continental slope channels; iceberg ploughmark fields, prograding wedges; Submarine Mass Movement - slide deposits</td>
</tr>
<tr>
<td>Firth of Forth Banks Complex</td>
<td>FOF</td>
<td>Ocean quahog aggregations, offshore subtidal sands and gravels; shelf banks and mounds</td>
<td>Quaternary of Scotland - moraines</td>
</tr>
<tr>
<td>Geikie Slide and Hebridean slope</td>
<td>GSH</td>
<td>Burrowed mud; continental slope, offshore deep sea muds, offshore subtidal sands and gravels</td>
<td>Submarine Mass Movement - slide deposits, slide scars</td>
</tr>
<tr>
<td>Hatton-Rockall Basin</td>
<td>HRB</td>
<td>Deep sea sponge aggregations; offshore deep sea muds</td>
<td>Marine Geomorphology of the Scottish Deep Ocean Seabed - sediment drifts; Polygonal fault systems</td>
</tr>
<tr>
<td>North-east Faroe Shetland Channel</td>
<td>NEF</td>
<td>Continental slope, deep sea sponge aggregations; offshore deep sea muds; offshore subtidal sands and gravels</td>
<td>Cenozoic Structures of the Atlantic Margin - mud diapirs; Marine Geomorphology of the Scottish Deep Ocean Seabed - contourite sand/silt; Quaternary of Scotland - prograding wedge; Submarine Mass Movement - slide deposits</td>
</tr>
<tr>
<td>West Shetland Shelf</td>
<td>WSS</td>
<td>Offshore subtidal sands and gravels</td>
<td></td>
</tr>
<tr>
<td>North-west Orkney</td>
<td>NWO</td>
<td>Sandeels</td>
<td>Marine Geomorphology of the Scottish Shelf Seabed - sand bank, sand wave field, sediment wave fields</td>
</tr>
<tr>
<td>Norwegian boundary sediment plain</td>
<td>NSP</td>
<td>Ocean quahog aggregations, offshore subtidal sands and gravels</td>
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<tr>
<td>Location</td>
<td>Code</td>
<td>Biodiversity protected features</td>
<td>Geodiversity protected features</td>
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<tr>
<td>Rosemary Bank Seamount</td>
<td>RBS</td>
<td>Deep sea sponge aggregations; seamounts; seamount communities</td>
<td>Cenozoic Structures of the Atlantic Margin - Rosemary Bank Seamount; Marine Geomorphology of the Scottish Deep Ocean Seabed - scour moats, sediment drifts, sediment wave fields; Quaternary of Scotland - iceberg ploughmark field; Submarine Mass Movement - slide scars</td>
</tr>
<tr>
<td>South-east Fladen</td>
<td>SEF</td>
<td>Burrowed mud</td>
<td>Seabed Fluid and Gas pockmarks</td>
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<tr>
<td>South-west Sula Sgeir and Hebridean slope</td>
<td>SSH</td>
<td>Burrowed mud; continental slope; offshore deep sea muds; offshore subtidal sands and gravels</td>
<td>Quaternary of Scotland - iceberg ploughmark fields, prograding wedges; Submarine Mass Movement - slide deposits</td>
</tr>
<tr>
<td>The Barra Fan and Hebrides Terrace Seamount</td>
<td>BHT</td>
<td>Burrowed mud; continental slope; offshore deep sea muds; offshore subtidal sands and gravels; orange roughy; seamounts; seamount communities</td>
<td>Cenozoic Structures of the Atlantic Margin - continental slope, Hebrides Terrace Seamount; Marine Geomorphology of the Scottish Deep Ocean Seabed - scour moat; Quaternary of Scotland - iceberg ploughmark field, prograding wedges; Submarine Mass Movement - continental slope turbidite canyons, slide deposits</td>
</tr>
<tr>
<td>Turbot Bank</td>
<td>TBB</td>
<td>Burrowed mud</td>
<td>Sandeels, offshore subtidal sands and gravels, shelf banks and mounds</td>
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<tr>
<td>Western Fladen</td>
<td>WFL</td>
<td>Burrowed mud</td>
<td>Quaternary of Scotland - sub-glacial tunnel valleys</td>
</tr>
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</table>
Nature Conservation MPA search locations in Scottish territorial waters with proposed protected features

<table>
<thead>
<tr>
<th>Name</th>
<th>Code</th>
<th>Protected features</th>
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</thead>
<tbody>
<tr>
<td>Eye Peninsula to Butt of Lewis</td>
<td>EPL</td>
<td><em>Biodiversity protected features</em> - Risso’s dolphin, sandeels</td>
</tr>
<tr>
<td></td>
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<td><em>Geodiversity protected features</em> - Marine Geomorphology of the Scottish Shelf Seabed - longitudinal bedform field; Quaternary of Scotland - glaciated channel/troughs, landscape of areal glacial scour, megascale glacial lineations</td>
</tr>
<tr>
<td>Shiant East Bank</td>
<td>SEB</td>
<td><em>Biodiversity protected features</em> - Circalittoral sands and mixed sediment communities, northern sea fan and sponge communities, shelf banks and mounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Geodiversity protected features</em> - Quaternary of Scotland (components to be confirmed)</td>
</tr>
<tr>
<td>Skye to Mull</td>
<td>STM</td>
<td><em>Biodiversity protected features</em> - Basking shark, fronts, minke whale</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Geodiversity protected features</em> - Marine Geomorphology of the Scottish Shelf Seabed (components to be confirmed)</td>
</tr>
<tr>
<td>Southern Trench</td>
<td>STR</td>
<td><em>Biodiversity protected features</em> - Burrowed mud, fronts, minke whale, shelf deeps, white-beaked dolphin</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Geodiversity protected features</em> - Quaternary of Scotland - sub-glacial tunnel valleys and moraines; Submarine Mass Movement - slide scars</td>
</tr>
</tbody>
</table>
Figure 6  Nature Conservation pMPAs and search locations in Scotland’s seas
Appendix C – How to Respond

Responding to this consultation

You are invited to respond to this consultation by 13 November 2013 using the form in Appendices D & E which is also .

Please send your response with the completed Respondent Information Form (see ‘Handling your Response’ below) to:

Responses can be sent by email, by post or by online electronic response form:

Email: Marine_Environment_Mailbox@scotland.gsi.gov.uk

Post: MPA Network Consultation
Scottish Government
Marine Planning and Policy Division
Area 1-A South
Victoria Quay
Edinburgh
EH66QQ

On line: www.scotland.gov.uk/consultations

If you have any enquiries please send them to Marine_Environment_Mailbox@scotland.gsi.gov.uk or call Sebastian Howell on 0131 244 5301, Michael McLeod on 0131 244 5562 or Paul Cook on 0131 244 0381.

We would be grateful if you would use the consultation questionnaire provided in your response as this will aid our analysis of the responses received. This consultation, and all other Scottish Government consultation exercises, can be viewed online on the consultation web pages of the Scottish Government website at http://www.scotland.gov.uk/consultations.

The Scottish Government has an email alert system for consultations, http://register.scotland.gov.uk. This system allows stakeholder individuals and organisations to register and receive a weekly email containing details of all new consultations (including web links). It complements, but in no way replaces SG distribution lists, and is designed to allow stakeholders to keep up to date with all SG consultation activity, and therefore be alerted at the earliest opportunity to those of most interest. We would encourage you to register.

Handling your response

We need to know how you wish your response to be handled and, in particular, whether you are happy for your response to be made public. Please complete and return the Respondent Information Form which forms part of the consultation questionnaire as this will ensure that we treat your response appropriately. If you ask
for your response not to be published we will regard it as confidential, and we will treat it accordingly.
All respondents should be aware that the Scottish Government are subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

Next steps in the process

Where respondents have given permission for their response to be made public and after we have checked that they contain no potentially defamatory material, responses will be made available to the public in the Scottish Government Library and on the SEConsult web pages. You can make arrangements to view responses by contacting the SG Library on 0131 244 4552. Responses can be copied and sent to you, but a charge may be made for this service.

What happens next?

Following the closing date, all responses will be analysed and considered to help us make a decision on the shape of the MPA network. We aim to issue a report on this consultation process in early 2014.

Comments and complaints

If you have any comments about how this consultation exercise has been conducted, please send them to Sebastian Howell. (0131 244 5301 or Sebastian.howell@scotland.gsi.gov.uk).

The Scottish Government Consultation Process

Consultation is an essential and important aspect of Scottish Government working methods. Given the wide-ranging areas of work of the Scottish Government, there are many varied types of consultation. However, in general, Scottish Government consultation exercises aim to provide opportunities for all those who wish to express their opinions on a proposed area of work to do so in ways which will inform and enhance that work.

The Scottish Government encourages consultation that is thorough, effective and appropriate to the issue under consideration and the nature of the target audience. Consultation exercises take account of a wide range of factors, and no two exercises are likely to be the same.

Typically Scottish Government consultations involve a written paper inviting answers to specific questions or more general views about the material presented. Written papers are distributed to organisations and individuals with an interest in the issue, and they are also placed on the Scottish Government web site enabling a wider audience to access the paper and submit their responses.

Consultation exercises may also involve seeking views in a number of different ways, such as through public meetings, focus groups or questionnaire exercises.
Copies of all the written responses received to a consultation exercise (except those where the individual or organisation requested confidentiality) are placed in the Scottish Government library at Saughton House, Edinburgh (K Spur, Saughton House, Broomhouse Drive, Edinburgh, EH113XD, telephone 0131 244 4565).

All Scottish Government consultation papers and related publications (e.g. analysis of response reports) can be accessed at: Scottish Government consultations (http://www.scotland.gov.uk/consultations) The views and suggestions detailed in consultation responses are analysed and used as part of the decision making process, along with a range of other available information and evidence. Depending on the nature of the consultation exercise the responses received may: indicate the need for policy development or review; inform the development of a particular policy; help decisions to be made between alternative policy proposals; be used to finalise legislation before it is implemented. Final decisions on the issues under consideration will also take account of a range of other factors, including other available information and research evidence.

**While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.**
Appendix D – CONSULTATION QUESTIONS

1. Do you support the development of an MPA network in Scotland’s Seas?
   Yes ☐ No ☐

   Comments

Individual possible Nature Conservation MPAs

2. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Clyde Sea Sill possible Nature Conservation MPA?

   Designation: Yes ☐ No ☐

   Comments

   Management Options: Yes ☐ No ☐

   Comments

   Socioeconomic Assessment: Yes ☐ No ☐

   Comments

   All of the above: Yes ☐ No ☐

   Comments
3. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *East Caithness Cliffs* possible Nature Conservation MPA?

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<td><strong>Socioeconomic Assessment:</strong></td>
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<td><strong>Comments</strong></td>
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4. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *East of Gannet and Montrose Fields* possible Nature Conservation MPA?

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5. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Faroe-Shetland sponge belt* possible Nature Conservation MPA?

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6. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Fetlar to Haroldswick* possible Nature Conservation MPA?

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7. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Hatton-Rockall Basin* possible Nature Conservation MPA?

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8. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Creran* possible Nature Conservation MPA?

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<td><strong>Comments</strong></td>
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</table>
9. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Sunart* possible Nature Conservation MPA?

**Designation:**

- Yes [ ]
- No [ ]

Comments

**Management Options:**

- Yes [ ]
- No [ ]

Comments

**Socioeconomic Assessment:**

- Yes [ ]
- No [ ]

Comments

**All of the above:**

- Yes [ ]
- No [ ]

Comments

10. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Sunart to the Sound of Jura* possible Nature Conservation MPA?

**Designation:**

- Yes [ ]
- No [ ]

Comments

**Management Options:**

- Yes [ ]
- No [ ]

Comments

**Socioeconomic Assessment:**

- Yes [ ]
- No [ ]

Comments

**All of the above:**

- Yes [ ]
- No [ ]

Comments
11. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Loch Sween* possible Nature Conservation MPA?

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12. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Lochs Duich, Long and Alsh* possible Nature Conservation MPA?

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<th>Yes ☐ No ☐</th>
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13. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Monach Isles* possible Nature Conservation MPA?

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14. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Mousa to Boddam* possible Nature Conservation MPA?

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15. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *North-east Faroe Shetland Channel* possible Nature Conservation MPA?

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16. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *North-west Orkney* possible Nature Conservation MPA?

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17. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *North-west sea lochs and Summer Isles* possible Nature Conservation MPA?

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18. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Noss Head* possible Nature Conservation MPA?

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19. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Papa Westray* possible Nature Conservation MPA?

**Designation:**
- Yes [ ]
- No [ ]

**Comments**

**Management Options:**
- Yes [ ]
- No [ ]

**Comments**

**Socioeconomic Assessment:**
- Yes [ ]
- No [ ]

**Comments**

**All of the above:**
- Yes [ ]
- No [ ]

**Comments**

20. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Rosemary Bank Seamount* possible Nature Conservation MPA?

**Designation:**
- Yes [ ]
- No [ ]

**Comments**

**Management Options:**
- Yes [ ]
- No [ ]

**Comments**

**Socioeconomic Assessment:**
- Yes [ ]
- No [ ]

**Comments**

**All of the above:**
- Yes [ ]
- No [ ]

**Comments**
21. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Small Isles possible Nature Conservation MPA?

Designation: Yes ☐ No ☐

Comments

Management Options: Yes ☐ No ☐

Comments

Socioeconomic Assessment: Yes ☐ No ☐

Comments

All of the above: Yes ☐ No ☐

Comments

22. Do you have any comments on the case for designation, management options and socioeconomic assessment for the South Arran possible Nature Conservation MPA?

Designation: Yes ☐ No ☐

Comments

Management Options: Yes ☐ No ☐

Comments

Socioeconomic Assessment: Yes ☐ No ☐

Comments

All of the above: Yes ☐ No ☐

Comments
23. Do you have any comments on the case for designation, management options and socioeconomic assessment for The Barra Fan and Hebrides Terrace Seamount possible Nature Conservation MPA?

Designation: Yes ☐ No ☐

Comments

Management Options: Yes ☐ No ☐

Comments

Socioeconomic Assessment: Yes ☐ No ☐

Comments

All of the above: Yes ☐ No ☐

Comments

24. Do you have any comments on the case for designation, management options and socioeconomic assessment for the Turbot Bank possible Nature Conservation MPA?

Designation: Yes ☐ No ☐

Comments

Management Options: Yes ☐ No ☐

Comments

Socioeconomic Assessment: Yes ☐ No ☐

Comments

All of the above: Yes ☐ No ☐

Comments
25. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Upper Loch Fyne and Loch Goil* possible Nature Conservation MPA?

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26. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *West Shetland Shelf (formerly Windsock)* possible Nature Conservation MPA?

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27. Do you have any comments on the case for designation, management options and socioeconomic assessment for the *Wyre and Rousay Sounds* possible Nature Conservation MPA?

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Choices to represent features in the MPA Network

28. Recognising the scientific advice from JNCC included alternatives for representing offshore subtidal sands and gravels, ocean quahog and shelf banks and mounds in the Southern North Sea, do you have a preference or comments on the following combinations to represent these features, bearing in mind Turbot Bank will need to be designated to represent sandeel in this region:

- Firth of Forth Banks Complex
- Turbot bank and Norwegian Boundary Sedimentary Plain
- Or Firth of Forth Banks Complex, Turbot bank and Norwegian Boundary Sedimentary Plain

29. Do you have any comments on the case for designation, management options and socioeconomic assessments for the preference you have indicated in the question above, regarding alternatives for representing offshore subtidal sands and gravels, ocean quahog and shelf banks and mounds in the Southern North Sea?

   Yes ☐ No ☐

30. Recognising the scientific advice from JNCC included alternatives for representing the burrowed mud feature in the Fladens, do you have a preference or comments on the following combinations to represent these features, bearing in mind the part of Central Fladen (known as Central Fladen (Core)) containing tall seapen (*Funiculina quadrangularis*) will need to be designated to represent tall seapen in this region:

- Central Fladen pMPA only
- The tall sea-pen component of Central Fladen, plus Western Fladen
- Or the tall sea-pen component of Central Fladen, plus South-East Fladen.

Comments
31. Do you have any comments on the case for designation, management options and socioeconomic assessments for the preference you have indicated in the question above, regarding alternatives for representing the burrowed mud feature in the Fladens?  

[ ] Yes  [ ] No

Comments

32. Recognising the scientific advice from JNCC included alternatives for representing offshore subtidal sands and gravels, offshore deep sea mud, and burrowed mud in OSPAR Regions III and V, do you have a preference or comments on the following combinations to represent these features:

- South-West Sula Sgeir and Hebridean slope
- Or Geikie slide and Hebridean slope

[ ] South-West Sula Sgeir and Hebridean slope
[ ] Or Geikie slide and Hebridean slope

Comments

33. Do you have any comments on the case for designation, management options and socioeconomic assessments for the preference you have indicated in the question above, regarding alternatives for representing offshore subtidal sands and gravels, offshore deep sea mud, and burrowed mud in OSPAR Regions III and V?

[ ] Yes  [ ] No

Comments
Sustainability Appraisal

34. Do you have any comments on the Sustainability Appraisal of the MPA network as a whole?

Yes ☐ No ☐

Comments

Final Thoughts

35. On the basis of your preferences on which pMPAs should be designated, do you view this to form a complete or ecologically coherent network, subject to the completion and recommendations of SNH’s further work on the 4 remaining search locations?

Yes ☐ No ☐

Comments

36. Do you have any other comments on the case for designation, management options, environmental or socioeconomic assessments of the pMPAs, or the network as a whole?

Yes ☐ No ☐

Comments

Thank You.
Appendix E - Marine Protected Areas Network Proposals Consultation

RESPONDENT INFORMATION FORM

Please Note this form **must** be returned with your response to ensure that we handle your response appropriately.

1. **Name/Organisation**
   Organisation Name

   **Title**
   Ms □ Mrs □ Miss □ Dr □ *Please tick as appropriate*

2. **Postal Address**

   **Surname**

   **Forename**

   **Postcode**

   **Phone**

   **Email**

3. **Permissions** - I am responding as...

   **Individual** / **Group/Organisation**

   (a) Do you agree to your response being made available to the public (in Scottish Government library and/or on the Scottish Government web site)?

   *Please tick as appropriate* □ Yes □ No

   (b) Where confidentiality is not requested, we will make your responses available to the public on the following basis

   *Please tick ONE of the following boxes*

   Yes, make my response, name and address all available

   or

   Yes, make my response available, but not my name and address

   or

   Yes, make my response and name available, but not my address

   (c) The name and address of your organisation **will be** made available to the public (in the Scottish Government library and/or on the Scottish Government web site).

   Are you content for your response to be made available?

   *Please tick as appropriate* □ Yes □ No

   (d) We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so.

   Are you content for Scottish Government to contact you again in relation to this consultation exercise?

   *Please tick as appropriate* □ Yes