



Consultation on proposal to designate a deep sea marine reserve in Scottish waters

Consultation analysis report



1. Executive summary

1.1. Background

This report provides a summary of the analysis of responses submitted on the designation of a deep sea marine reserve, the West of Scotland possible Marine Protected Area. The consultation opened on the 27 September 2019 and closed on 31 December 2019.

Following the collection of consultee responses, a mixed method approach was adopted for the consultation analysis. This ensured a comprehensive review of the qualitative and quantitative data.

Additionally, responses to comments raised through the consultation are given to provide clarification or further information where possible.

1.2. Responses received

In total, 44 respondents provided responses for the consultation. Respondents were identified in different categories to allow for further analysis. The respondent categories are as follows:

- Environmental;
- Fishing Group or Organisation;
- Individual;
- Other Industry Association; and
- Regulator or Local Authority.

1.3. Summary of responses

In total, 38 (86%) respondents stated that they support the designation of the deep sea marine reserve. One (2%) respondent said that they did not support the proposed designation. A further one respondent (2%) did not know whether they supported the designation and four (10%) respondents did not provide an answer.

When asked whether they believed that the scientific evidence justified the designation of the proposed deep sea marine reserve, 37 (82%) respondents answered 'Yes' and three (7%) respondents answered 'No'. The remaining respondents either did not know (7%) or did not provide an answer (4%).

The most frequent issue raised by respondents in support of the proposed deep sea marine reserve was that the designation will help to protect and/or enhance biodiversity. This comment was raised by 14 (32%) respondents.

The most frequent issue raised by respondents with concerns relating to the proposed deep sea marine reserve related to their opposition to or reservations about the upper level management scenario of the designation. This comment was raised by 13 (30%) respondents.

Table of contents

1. Executive summary	2
1.1. Background	2
1.2. Responses received	2
1.3. Summary of responses	2
2. Introduction.....	5
2.1. Background to the consultation	5
2.2. Format of the consultation	9
2.3. Respondents to the consultation	10
2.4. Format of this consultation report.....	10
3. Analysis of consultation responses	11
3.1. Introduction	11
3.2. Consultation approach	11
3.3. Consultation responses.....	15
3.4. General Theme analysis	16
3.5. Response analysis.....	18
3.6. Question One	20
3.7. Question Two.....	26
3.8. Question Three	27
3.9. Question Four	29
3.10. Question Five	30
3.11. Key findings.....	32
4. Comments on key themes	34
4.1. Science and data	34
4.2. Protected features.....	35
4.3. Environmental benefits.....	37
4.4. Site selection.....	38
4.5. Conservation objectives and management advice	40
4.6. Management scenarios and future management	44
4.7. Social and economic impacts.....	45
4.8. Site monitoring	47
4.9. Other environmental issues.....	48
5. Conclusions.....	49

6. References	50
Annex A: Organisations who submitted responses to consultation	53
Annex B: Coding framework.....	54
Annex C: Satisfaction with consultation	60
Annex D: Acronyms	61

2. Introduction

2.1. Background to the consultation

2.1.1. Roles and responsibilities

Under the Marine and Coastal Access Act 2009, Scottish Ministers are able to designate Marine Protected Areas (MPAs) in Scottish offshore waters. Scottish Ministers are also obliged to contribute to the UK MPA network. This consultation fulfilled obligations under section 119 of the [Marine and Coastal Access Act 2009](#).

The Joint Nature Conservation Committee (JNCC) is the Statutory Nature Conservation Body (SNCB) for the Scottish offshore waters (beyond 12 nautical miles). JNCC provides advice on options for developing site management with the aim of ensuring that the conservation objectives for the protected features are met.

Marine Scotland is a Directorate of the Scottish Government, and considers JNCC's advice and leads on the development of specific measures and discussions with stakeholders. Marine Scotland is responsible for making recommendations to Scottish Ministers on these measures.

Final decisions on site designations and management rest with Scottish Ministers.

2.1.2. Background

The Scottish Government's vision is for a marine environment that is clean, healthy, safe, productive and biologically diverse; managed to meet the long term needs of nature and people.

The seas around Scotland and the spectacular wildlife they support are one of our best kept secrets, one that only a very few have had the privilege to explore first hand, but upon which we all depend for our quality of life.

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 renewable energy, as well as recreation activities and eco-tourism.

Scotland's MPA network is being developed to help safeguard our most important natural and cultural heritage features on the principle of sustainable use. By doing so we are protecting the natural goods and services they provide for current and future generations to enjoy.

The MPA network, as shown in Figure 1, consists of sites designated for nature conservation. In addition to MPAs the network includes areas that: provide nature conservation benefits (called Other Area Based Measures), protect the historic environment (Historic MPAs), and areas for demonstrating or researching marine management. The network currently consists of over 230 sites which protect more than 22% of our seas.

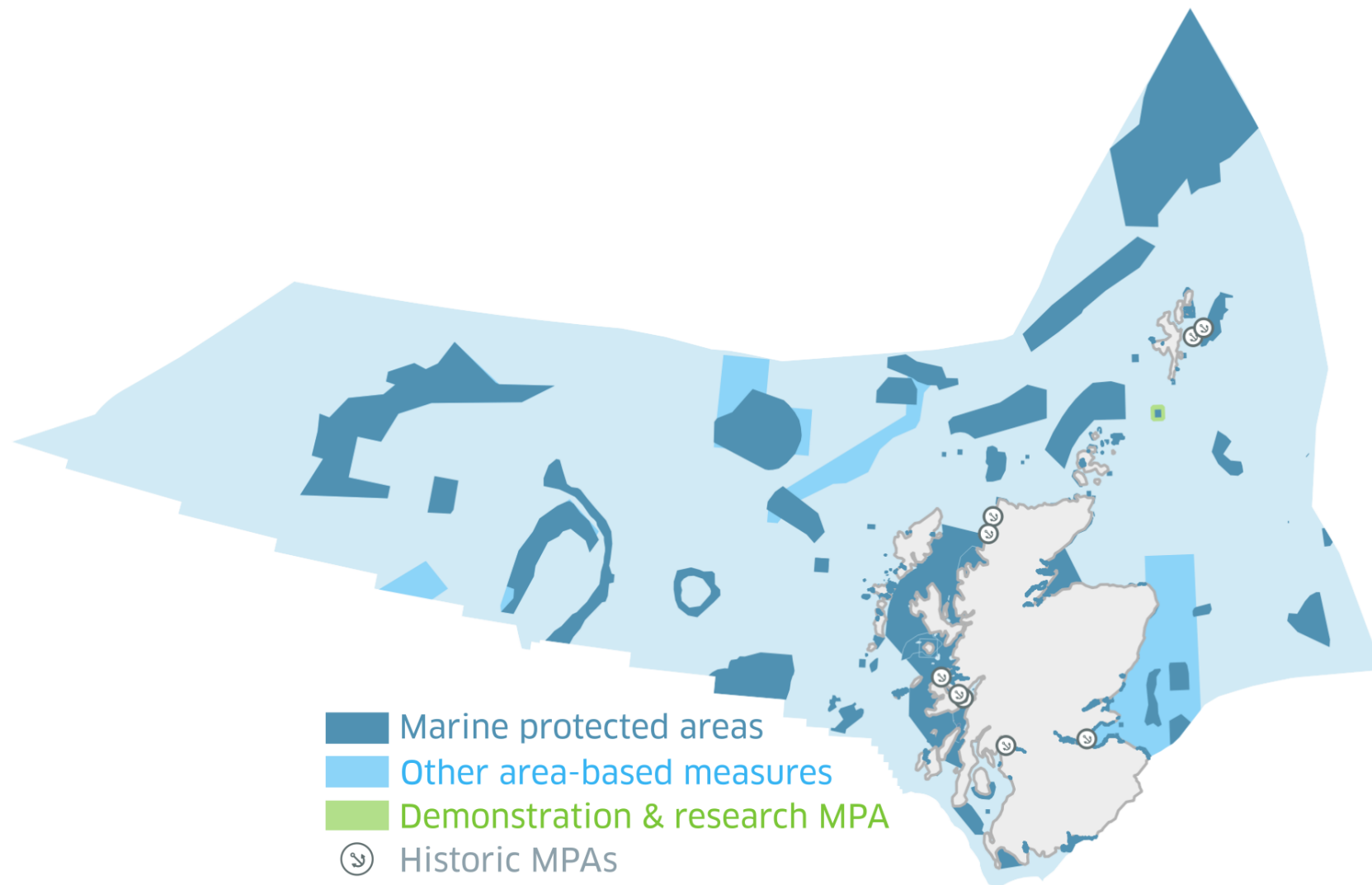


Figure 1 The existing MPA network in Scottish waters. Contains information from the Scottish Government (Marine Scotland), Scottish Natural Heritage, and Historic Environment Scotland licensed under the Open Government Licence v3.0

Scottish Ministers have national and international commitments to create a network of MPAs which:

- Contributes to conservation or improvement of the marine environment;
- Represents a range of features present in Scottish waters; and
- Reflects that the conservation of a feature may require the designation of more than one MPA.

2.1.3. The proposal

The deep seas around Scotland are home to some of the most vulnerable habitats and species on earth. Deep-sea ecosystems provide a range of benefits to society, including nutrient cycling and carbon storage. In early 2017 the European Union implemented a new deep-sea fishing regulation which prohibited trawling at depths of greater than 800 metres.

A feasibility assessment looked at two areas of search (West of Scotland and Faroe-Shetland) where water depths are greater than 800 metres. The Scottish MPA Selection Guidelines were applied by JNCC resulting in scientific advice on the two areas. Based on this information, which showed that West of Scotland would increase the number of vulnerable species in the Scottish MPA network and make a significant contribution to the OSPAR MPA network, Scottish Ministers decided to proceed with consultation on the West of Scotland site only. The Faroe-Shetland area is not under any further consideration.

The West of Scotland site was termed a 'deep sea marine reserve' during the consultation. If designated under the Marine and Coastal Access Act 2009 the site will be an MPA, therefore it was a possible MPA (pMPA) at consultation. In this report, the terms 'deep sea marine reserve' and 'West of Scotland pMPA' are both used to refer to the site.

The West of Scotland pMPA covers 107,718 km² of a diverse marine landscape to the west of Scotland; from the steep gradient of the continental slope across the sediment plains of the Rockall Trough, to the slopes of George Bligh Bank and Rockall Bank, with two isolated seamounts (Anton Dohrn and Rosemary Bank) as shown in Figure 2 below. The proposed protected features of the site are;

Biodiversity

- Burrowed mud (including sea pens)
- Coral gardens
- Cold-water coral reefs (including *Lophelia pertusa* reefs)
- Deep sea sponge aggregations
- Offshore deep sea muds
- Offshore subtidal sands and gravels
- Seamount communities
- Seamounts
- Blue ling (*Molva dypterygia*)

- Leafscale gulper shark (*Centrophorus squamosus*)
- Gulper shark (*Centrophorus granulosus*)
- Orange roughy (*Hoplostethus atlanticus*)
- Portuguese dogfish (*Centroscymnus coelolepis*)
- Roundnose grenadier (*Coryphaenoides rupestris*)

Geodiversity

- Scour moats
- Sediment drifts
- Sediment wave field
- Bioherm reefs
- Biogenic sediment mounds
- Parasitic cones
- Slide scars
- Cliff
- Slide deposit
- Seamount (Palaeogene igneous centre)
- Erosional scour fields
- Iceberg ploughmarks
- Large bank (Palaeogene igneous centre)
- Small scale ridges
- turbidite accumulations
- Prograding wedge
- Ice-proximal and ice-contact facies (e.g. mega-scale glacial lineations)
- Sub-glacial tills
- Ice-distal and glacimarine facies.
- Continental slope turbidite canyons

If the West of Scotland pMPA were designated it would protect all the features currently protected in the Rosemary Bank Seamount MPA. Therefore Rosemary Bank Seamount MPA would be revoked. However the Anton Dohrn Seamount Special Area of Conservation (SAC), designated under the EU Habitats Directive, would be left in place as it protects rocky reef habitats (which are not a feature of the West of Scotland pMPA). The extent of the Anton Dohrn Seamount is within the West of Scotland pMPA.

Deep Sea Marine Reserve: West of Scotland area

Scottish Government (Marine Scotland) 2019. © Crown copyright. Contains data from JNCC and EMODnet

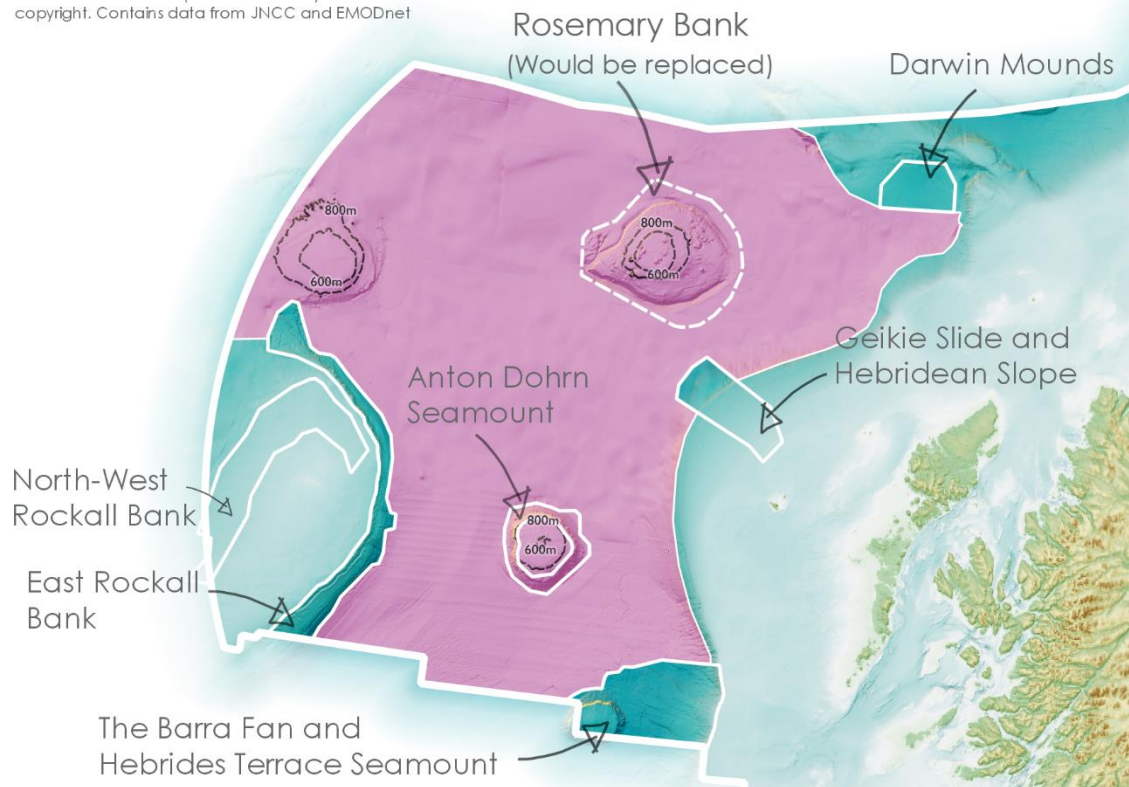


Figure 2 West of Scotland pMPA as consulted upon

2.2. **Format of the consultation**

Scottish Government held a [public consultation](#) on the proposals from 27 September 2019 to 31 December 2019. Views were invited on five questions in relation to the West of Scotland pMPA. These questions were:

1. Do you support the designation of the West of Scotland deep sea marine reserve?
2. Do you agree that the scientific evidence presented justifies the case for the designation?
3. Do you have any comments on the Conservation objectives and management advice?
4. Do you have any comments on the Business and Regulatory Impact Assessment?
5. Do you have any comments on the Sustainability Appraisal, including the Environmental Report and the Socio-Economic Impact Assessment?

In order to help respondents answer these questions, the following supporting information was available:

- Ecological overview;
- Data confidence assessment of the scientific evidence;
- Methods document: the shore list of proposed protected features;

- Conservation objectives and management advice;
- Business and Regulatory Impact Assessment (BRIA).
- Strategic Environmental Assessment (SEA);
- Socio-Economic Impact Assessment (SEIA); and
- Sustainability Appraisal, combining environmental, social and economic effects.

2.3. Respondents to the consultation

In total, 44 official consultation responses were received, either through email or through the Citizen Space consultation portal.

A breakdown of the respondent categories can be found in section 3.2.1. and a full list of organisations which responded is in Annex A.

2.4. Format of this consultation report

This consultation report comprises of two parts; a quantitative and qualitative analysis of the consultation responses (section 3), and a discussion of the main themes contained within responses including the Scottish Government response (section 4).

The quantitative analysis work was commissioned by Scottish Government to provide clear information about the themes contained within the responses and the expectations of the Scottish people about these proposals.

The discussion section allows Scottish Government and JNCC to provide background and additional information on points requiring clarity, explain changes made because of responses, and explain areas which are outwith the scope of this consultation. The discussion section does not include consideration of every comment made however the most relevant themes mentioned by multiple responses are included.

3. Analysis of consultation responses

3.1. Introduction

3.1.1. Scope

Arup were appointed by Scottish Government to provide consultation analysis.

3.1.2. Aim

The aim of this report is to provide comprehensive analysis and a summary of key findings of the comments received from the 44 respondents who provided responses for the consultation.

3.1.3. Ensuring data protection compliance

To provide a comprehensive picture of the consultation undertaken, some quotes have been provided from responses received.

To ensure compliance with data protection regulations, respondents were asked by the Scottish Government if their responses could be published online. The appropriate data redaction has been implemented dependent upon the respondents answer to this question.

Where respondents have stated that 'Publish response only (without name)', quotations have been provided with the appropriate data redacted. To provide context to the response, the appropriate respondent category associated with the respondent is provided.

No quotations have been provided from respondents who provided an answer 'Do not publish response'. These responses were still analysed and contributed towards the consultation analysis. An overview of publishing permissions provided by respondents is outlined in Table 1.

Quotations can be identified as the text italicised and in a text box with a blue outline.

Table 1 Publishing permissions

Publish response with name	20
Publish response only (without name)	23
Do not publish response	1

3.2. Consultation approach

3.2.1. Wider approach

A mixed method approach was adopted for the consultation analysis, providing a comprehensive review of the qualitative and quantitative data.

For the purposes of this report, the following terms were defined as explained in Table 2. The table explains the difference between the person or persons who provided the response, and the content of the response provided.

Table 2 Response and Respondent definition

Response	The individual comments received from a respondent for the consultation.
Respondent	The business group, individual, organisation or sector that submitted the response for the consultation.

As part of the consultation analysis, Arup categorised the respondents into the relevant business group, individual, organisation or sector that they relate to. The respondent categories are as follows:

- Environmental;
- Fishing Group or Organisation;
- Individual;
- Other Industry Association; and
- Regulator or Local Authority.

3.2.2. Quantitative data approach

The quantitative data were identified as the tick box ‘Yes/No/Don’t know’ responses for questions one and two. This included the responses received via the online consultation and email. Where a ‘Yes/No/Don’t Know’ answer was not explicitly given in an email response; the response was counted as “not answered”.

The quantitative data were analysed by reviewing the tick box ‘Yes/No/Don’t know’ responses received for questions one and two. The responses for question one were analysed in greater detail, with analysis by respondent category being undertaken. This helped to identify the differences in the responses received for each respondent category.

3.2.3. Qualitative data approach

For the purpose of this report, qualitative data have been identified as responses received within the ‘free text’ section for each question. Qualitative responses included the responses received via the online platform or the emails sent directly to Marine Scotland regarding the consultation.

3.2.3.1. Coding framework

A coding framework was developed and used to analyse the qualitative data received for the consultation, helping to ensure consistency across responses received.

A coding framework is a way of indexing or categorising the text to establish and identify key themes and issues in qualitative comments. This involves reviewing the qualitative comments received, searching and identifying concepts and finding relations between them. The coding framework allows for data to be examined and analysed in a structured way.

Creating the coding framework involved reviewing the questions asked in the consultation, to identify potential key themes and issues that were likely to be raised in the responses. Technical input from specialists within Arup helped to identify the potential key themes and issues. A sample of responses were then used to develop the coding framework, and to gain an understanding of content within responses.

The coding framework was designed to reflect the level of detail that is expected in this report to allow for useful grouping of responses.

The coding framework was a 'live document' which was regularly updated; both in content of existing codes and the addition of new codes, throughout the analysis of the consultation responses. This helped to ensure the analysis was flexible yet reliable, capturing all issues raised in the consultation.

Responses were individually analysed against the coding framework drawing out the range of positive, neutral and negative comments relating to the various questions set out in the consultation. Responses were not restricted to one code per response. There was no limit on the number of codes that could be assigned per response.

The consultation responses included generic comments or observations that did not directly relate to the questions set out. The coding framework has made provisions for this.

Some of the codes used overlap both in content and wording. This is due to the nature of the responses received. Responses that share similar overlapping themes but are different in content were coded separately from one another.

Below is a sample of the codes used to undertake the consultation analysis. The full coding framework is provided in Annex B.

- The deep sea marine reserve will help to protect and/or enhance biodiversity.
- The deep sea marine reserve will help to reduce carbon emissions and/or pollution.
- The deep sea marine reserve will help to ensure a good quality of human life.
- The deep sea marine reserve will have a negative effect on the quality of human life.
- The deep sea marine reserve will have a negative economic impact at a local, regional and/or national level.

3.2.3.2. Coding quality assurance

To ensure the appropriate quality assurance of the coding analysis occurred, a primary, secondary and final review was completed.

Three different persons were used to undertake each review for the five questions.

The final review was undertaken by a senior Arup consultant.

3.2.3.3. 'General Themes' raised

The General Theme responses provide an overview of the content of the response received regarding the level of support for the deep sea marine reserve. General

Themes were identified by reviewing the qualitative responses and categorising them as they best fit the following categories.

- Respondent is supportive of the creation of the deep sea marine reserve.
- Respondent has reservations in relation to the creation of the deep sea marine reserve.
- Respondent supports the creation of the deep sea marine reserve but raises some concerns and/or makes additional recommendations or comments regarding the designations.
- Respondent is against the creation of the proposed deep sea marine reserve but raises comments in support of the principle of an MPA and/or some aspects of the proposed deep sea marine reserve.
- No comment.
- Respondent provides a response, but it is unclear whether it supports or opposes the deep sea marine reserve.

Each response received for each question was coded once against the categories identified above.

The General Theme analysis has not been included in the wider response analysis. The purpose of the General Theme analysis is to provide an overview of the content of the responses received. This was identified as necessary upon an initial review of the responses, and it being identified that many of the responses did support the designation but raised concerns and/or made additional recommendations or comments regarding the deep sea marine reserve designation.

3.2.3.4. *Assumptions and limitations of the coding framework*

Assumptions of the coding framework include:

- Multiple perspectives including voices of the analysts, the respondents and the readers interpreting the coding framework result;
- Coding analysis is context-bound; and
- Categories of interest emerge from the respondents, rather than set by the researcher before conducting the analysis.

Limitations of the coding framework include:

- Using quantitative methods to analyse qualitative responses. Some qualitative researchers are against the principle of coding in qualitative research, because “*counting conveys a quantitative orientation of magnitude and frequency contrary to qualitative research.*” (Creswell, 2013).
- Coding risks the possibility of overlooking the significant and interesting minority data. Saldaña (2016) warns of the possibility that a unique code or one that appears a limited number of times may be key to the outcome of a report’s findings.

3.2.4. Limitations and quality of responses

When comments were received that made no clear or obvious point relating to the consultation questions, best efforts were made to identify the purpose of the response. Where a meaning could not be identified they were counted as 'No Comment'. These were included in the overall count of 'No Comment' consultation responses (see section 3.4. for further information about No Comment responses).

Respondents who did not provide a written response or their response was incomplete and lacked clarity in its content were considered and counted as 'No Comment'. This occurred between 11 and 33 occasions for each question as shown in Table 3.

Table 3 Number of 'No Comment' responses by question

Question number	'No Comment' responses
Question One	11
Question Two	21
Question Three	19
Question Four	24
Question Five	33

When undertaking the qualitative analysis of free text comments¹, it was decided to exclude 'No Comment' responses from the total counts for each question. This was done so that more meaningful responses could take precedent during the analysis. However, it should be noted that for all five questions, 'No Comment' was within the top three responses given.

3.3. Consultation responses

In total, 44 respondents provided responses for the consultation. 39 of the respondents provided their responses through the online consultation. Five of the respondents provided an email response to the consultation for the five questions.

Responses received by email provided a response to every question similar to the online consultation or provided a general comment on the deep sea marine reserve. Responses that were structured in the same way as the online consultation were broken down and analysed per question in the same way as the online consultation responses received. The email responses that provided a more over-arching comment on the deep sea marine reserve that did not make specific reference to any one question, were included in the analysis of question one. This is because such comments were general and overarching in nature regarding their support of the deep sea marine reserve. This helped to ensure a consistent approach was adopted for the consultation analysis.

¹ This includes the free text comments received for Question One and Two, and the entire response received for Question Three, Four and Five.

A breakdown of the number of the responses to the consultation per respondent category is provided in Table 4.

Table 4 Numbers of respondents by category

Respondent category	Total
Environmental	6
Fishing Group or Organisation	3
Individual	30
Other Industry Association	4
Regulator or Local Authority	1

3.4. General Theme analysis

A total of 44 respondents provided a response for the five questions contained in this consultation. Thereby 220 responses were received from the 44 respondents.

Responses that did not provide a comment were still considered in the total number of responses received. Of the 220 responses, 108 were coded as 'No Comment'.

An analysis of the General Themes raised is shown in Figure 3.

- 57 responses were supportive of the creation of a deep sea marine reserve.

"I think it's a great chance to let naturally resources from the area replenish for years to come." (Individual)

- Nine responses highlighted reservations in relation to the creation of the proposed deep sea marine reserve.

"It is unclear why under the intermediate and upper management scenarios outlined in the proposal, all future oil and gas activity should be excluded from the site. It is recommended that the existing approach to licensed activities on the UKCS permitted following assessment of the potential effects through EIA and with agreed management measures in support of conservation objectives is used in the deep sea marine reserve." (OGUK)

- 33 responses supported the creation of a deep sea marine reserve but raised some concerns and/or made additional comments regarding the designation.

"[Redacted] believe that the boundary of the Deep-Sea Reserve needs to be amended prior to designation, particularly on the eastern edge where the proposed boundary encompasses areas of fishing activity in waters less than 800m in depth." (Fishing Group or Organisation)

- Two responses were against the creation of the proposed deep sea marine reserve but raised comments in support of the principle of an MPA and/or aspects of the proposed deep sea marine reserve.

“We believe, as proposed, it seemingly represents subjective assumptions resulting in a broad overreach without more detailed discussion of management measures that might otherwise pragmatically address marine environmental concerns.” (International Association of Drilling Contractors)

- 108 responses were identified as a ‘No Comment’ response².
- One response was unclear as to whether the respondent supported or opposed the creation of a deep sea marine reserve.

² See Table 3 for a breakdown of the No Comment responses received.

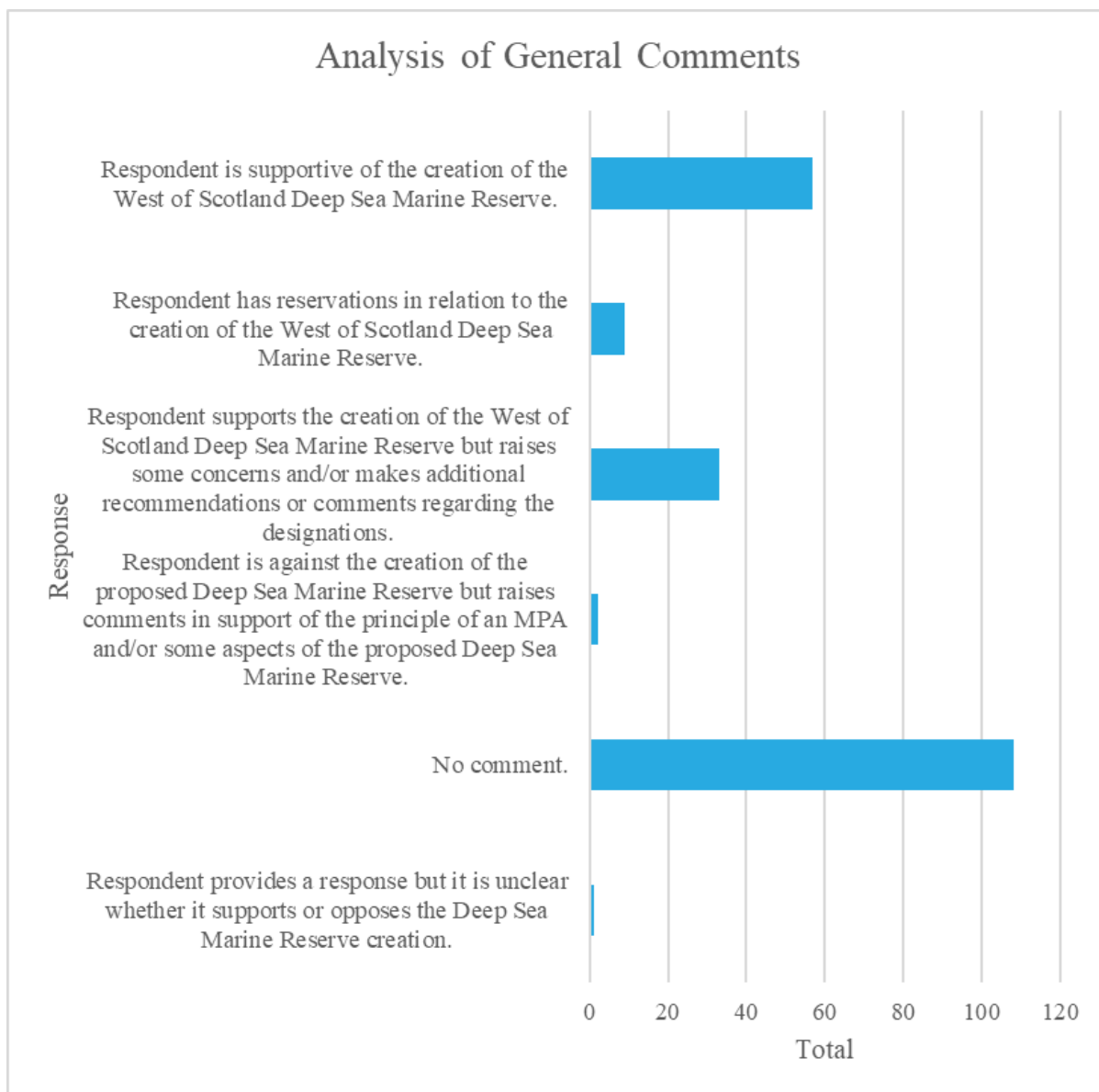


Figure 3 Analysis of General Themes

3.5. Response analysis

The same methodology in analysing the 220 responses was adopted to identify the responses received specifically for each of the five questions.

A summary of the comments raised on the greatest number of occasions across the five questions question is shown in Figure 4.

- 14 respondents indicated that the proposed deep sea marine reserve will help to protect and/or enhance biodiversity.

“Any protection put in place is a benefit and having seen the devastation left behind after some of our more destructive fishing techniques (scallop dredging), I dread to think of the long-term and possibly irrecoverable damage done to these important deep sea habitats.” (Individual)

- 13 respondents indicated opposition/reservations with regard to the upper level management scenario of the proposed deep sea marine reserve.

“On the Conservation Objectives, we would like to highlight that, none of the proposed protected feature objectives’ rational refer to vulnerability of any sort towards pelagic fishery, hence we would reiterate the need of disregarding the references to the upper level management scenario from any further consideration.” (Fishing Group or Organisation)

- 11 respondents requested additional management and greater restriction of industrial activity than what is currently proposed in the deep sea marine reserve area.

“Functioning and actionable data from GPS devices on board ALL fishing vessels, linked to gear deployment is in my opinion, the only way to ensure that fishing vessels act within the law.” (Individual)

- 10 respondents supported the scientific evidence for the proposed deep sea marine reserve, including support for the benefits that the deep sea marine reserve will create and the protection it will provide.

“The scientific evidence provides a substantial case for the designation, which it would be foolhardy and short-sighted to ignore.” (Individual)

- 10 respondents referred to a lack of full confidence in the content of the evidence presented.

“We feel that lack of full confidence in relation to data and extent of features suggest that it would be inappropriate to apply restrictions on mid-water fishing activity (on migratory stocks), particularly when this activity has no detrimental impact on the Conservation Objective for the proposed protected features, indeed, restrictions on pelagic activity would be unlikely to provide any additional benefits to the habitats and species proposed for designation within West of Scotland Deep-Sea Reserve.” (Fishing Group or Organisation)

- 10 respondents stated that the proposed deep sea marine reserve should be monitored appropriately.

“My hope is that this will be adequately monitored and QA'd. I'd hate to see any allowance for fisheries or farms in the designated areas.” (Individual)

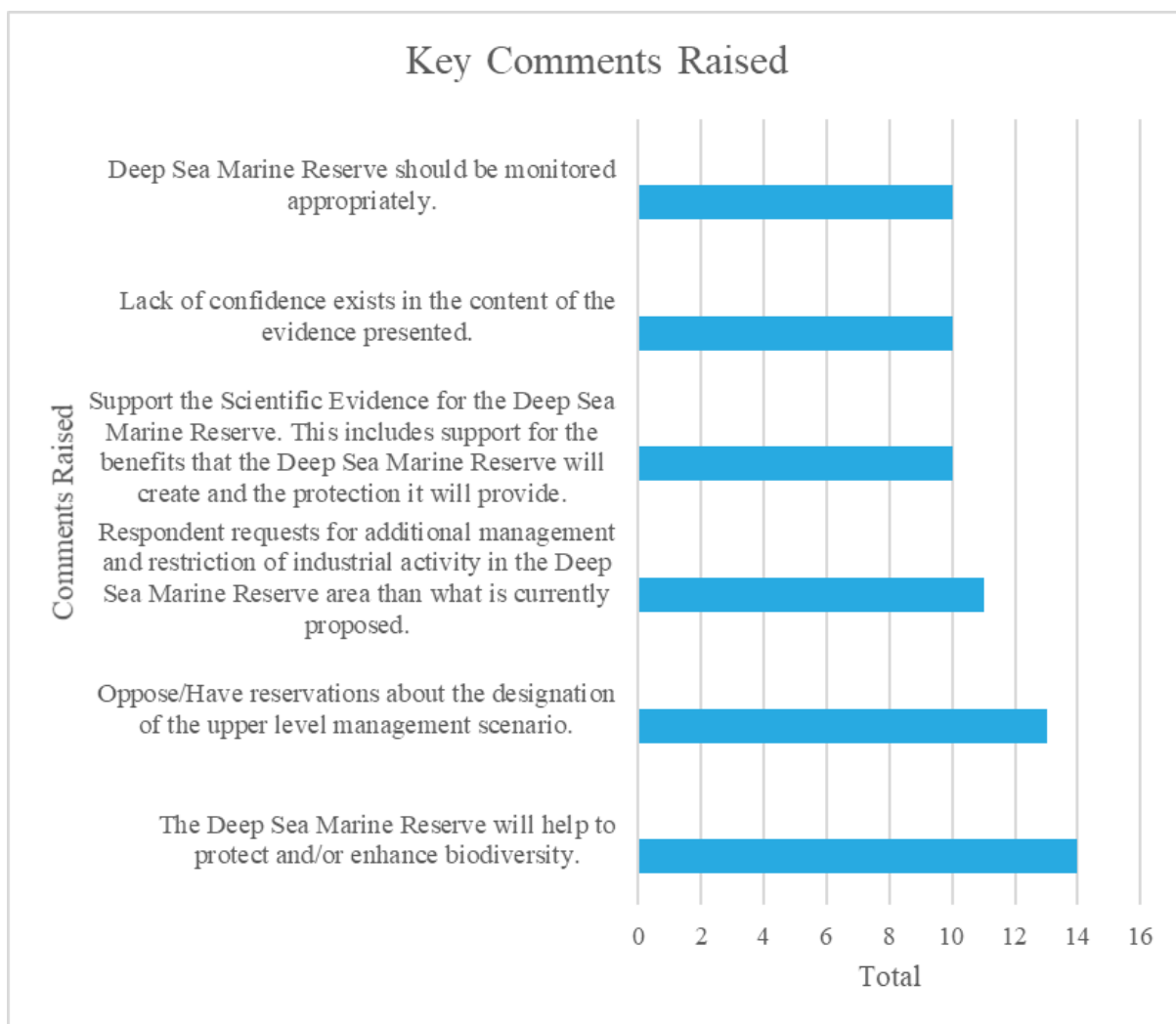


Figure 4 Key Comments raised

3.6. Question One

“Q1) Do you support the designation of the West of Scotland deep sea marine reserve?”

Question One asked respondents to show their level of support for the proposed deep sea marine reserve. A summary of responses received is shown in Figure 5.

38 respondents said that they support the proposed deep sea marine reserve, with only one respondent opposing the designation outright. The remaining respondents either did not know (1) or did not provide a response (4).

Links to each of the figures relevant to Question One are contained in Table 5.

Table 5 Question One figures

Question One figure references

Figure 5 Question One – support for deep sea marine reserve

Figure 6 Question One – respondent category

Figure 7 Question One – environmental responses

Figure 8 Question One – regulator/Local Authority responses
Figure 9 Question One – other industry association responses
Figure 10 Question One – individual responses
Figure 11 Question One – fishing group or organisation responses

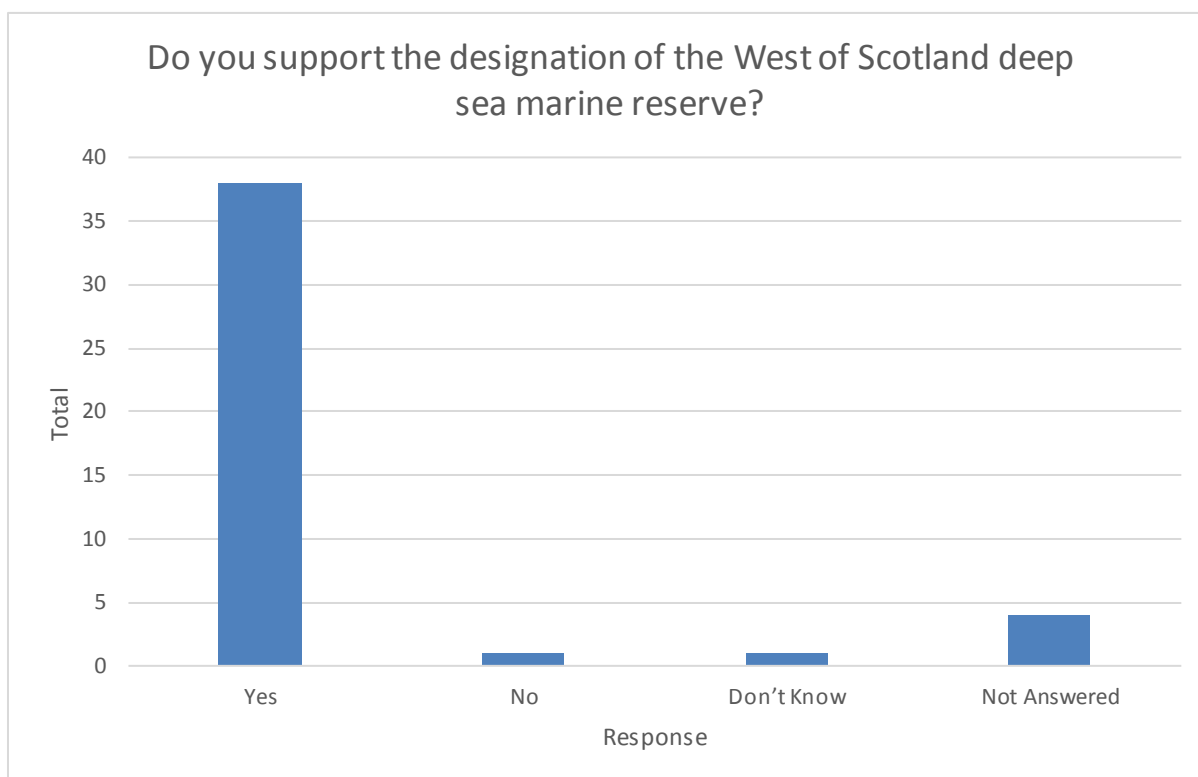


Figure 5 Question One – support for deep sea marine reserve

A summary of the answers received for each category of respondent and details of their response are outlined in Figure 5 to Figure 11.

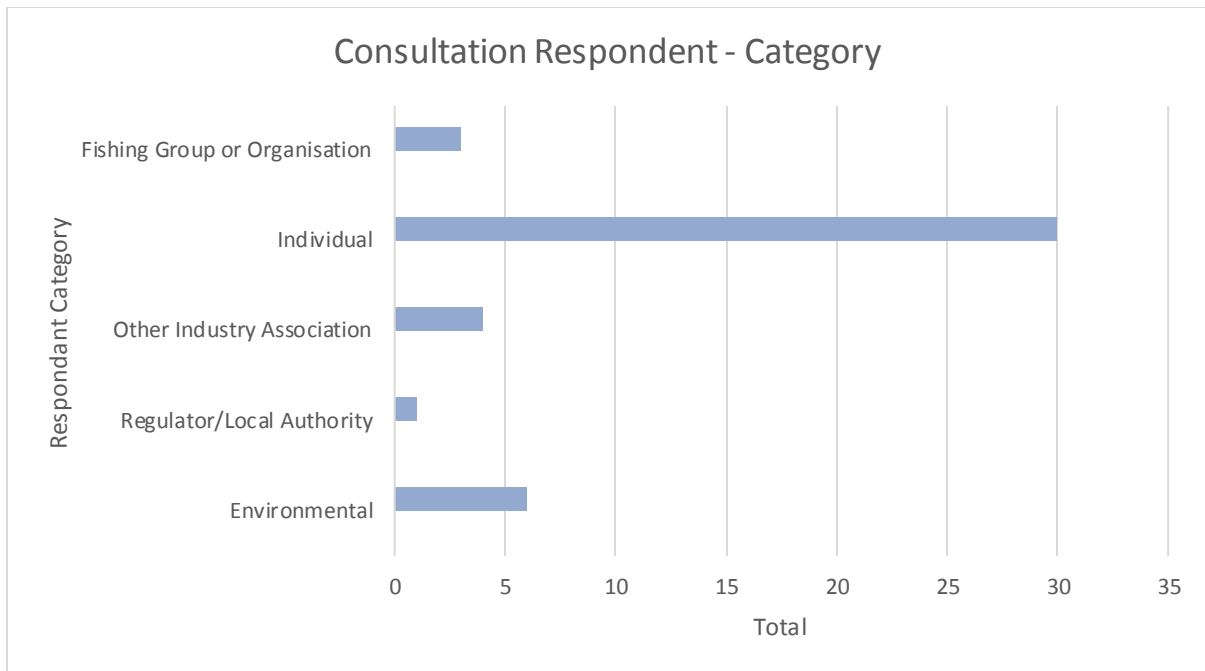


Figure 6 Question One – respondent category

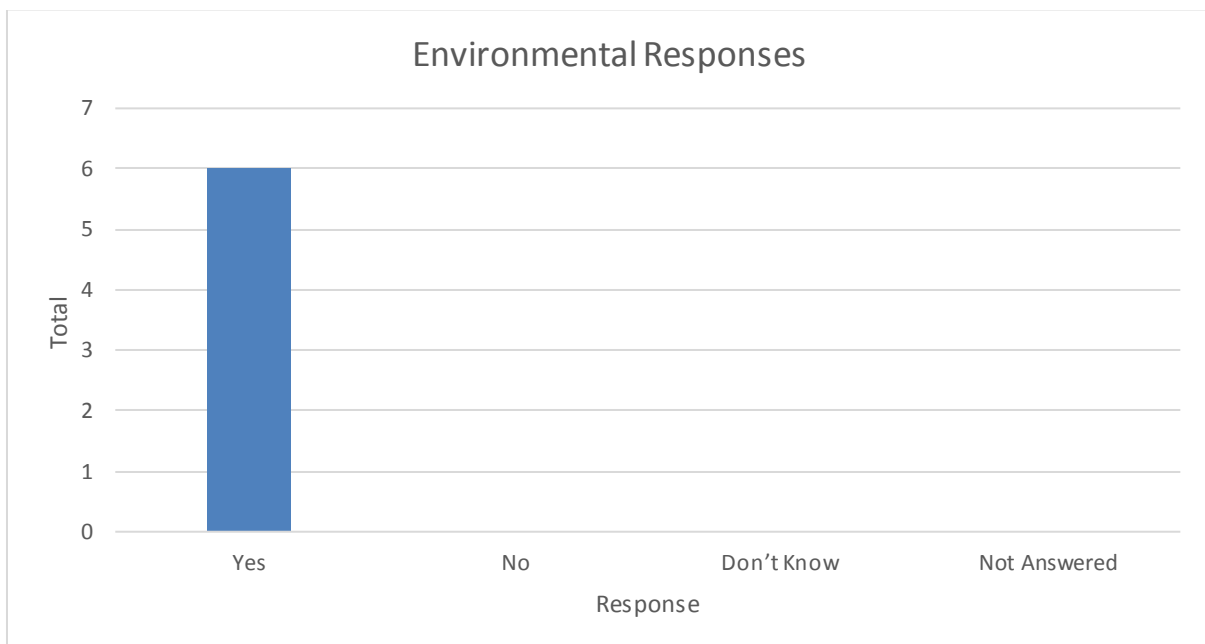


Figure 7 Question One – environmental responses

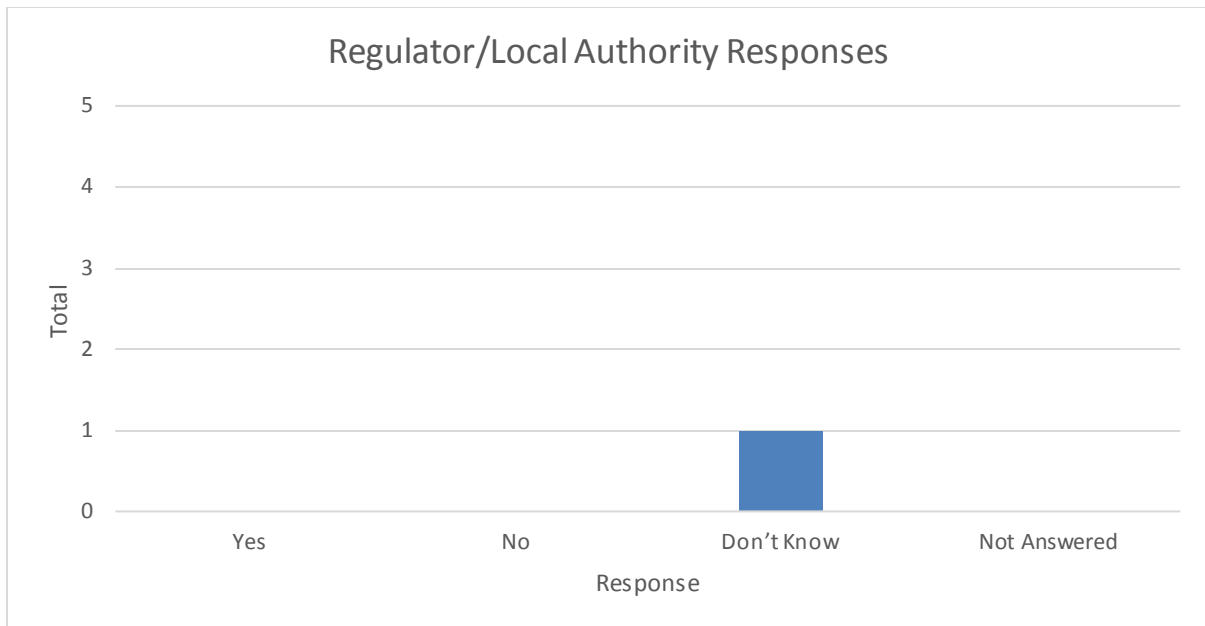


Figure 8 Question One – regulator/Local Authority responses

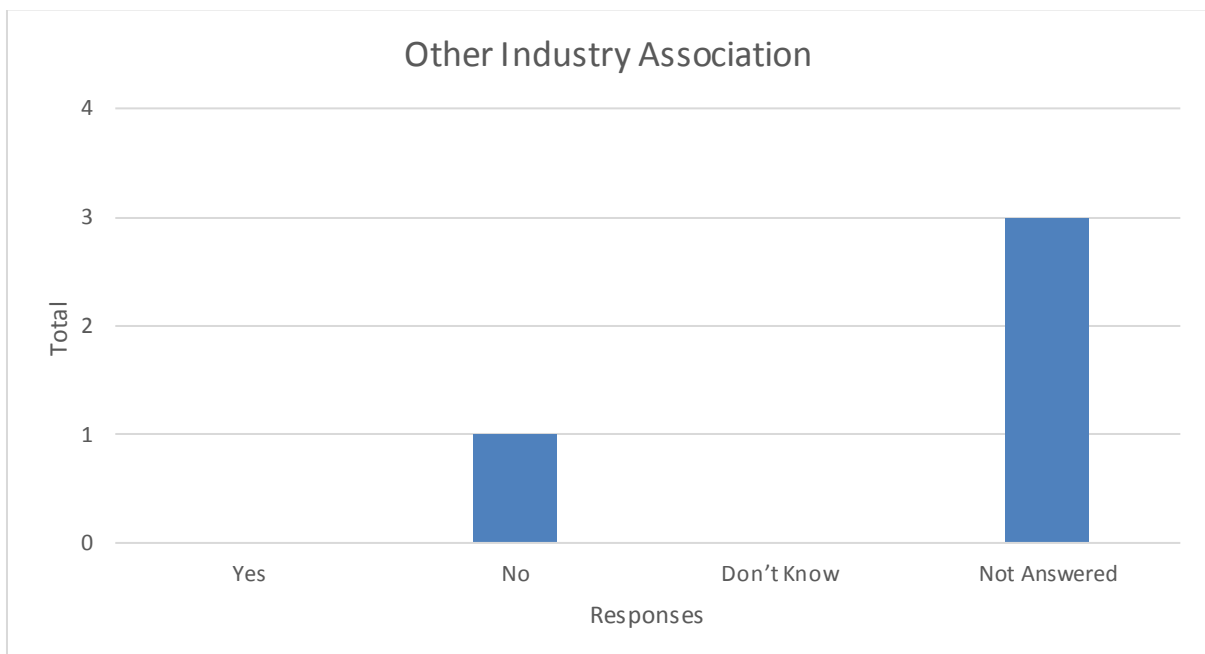


Figure 9 Question One – other industry association responses

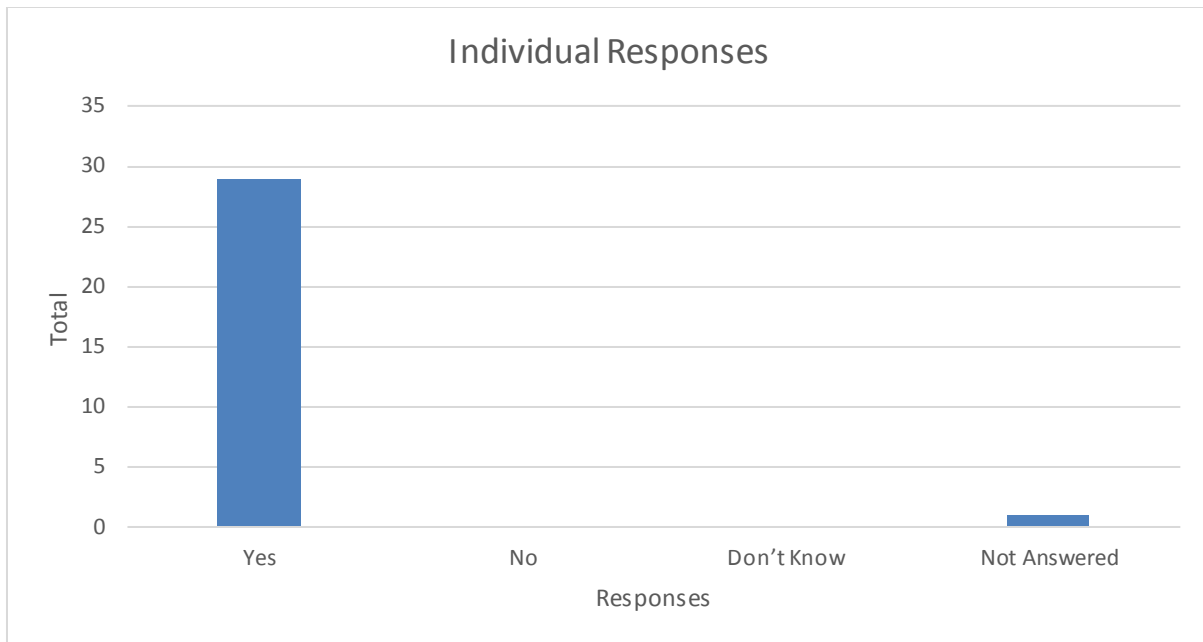


Figure 10 Question One – individual responses

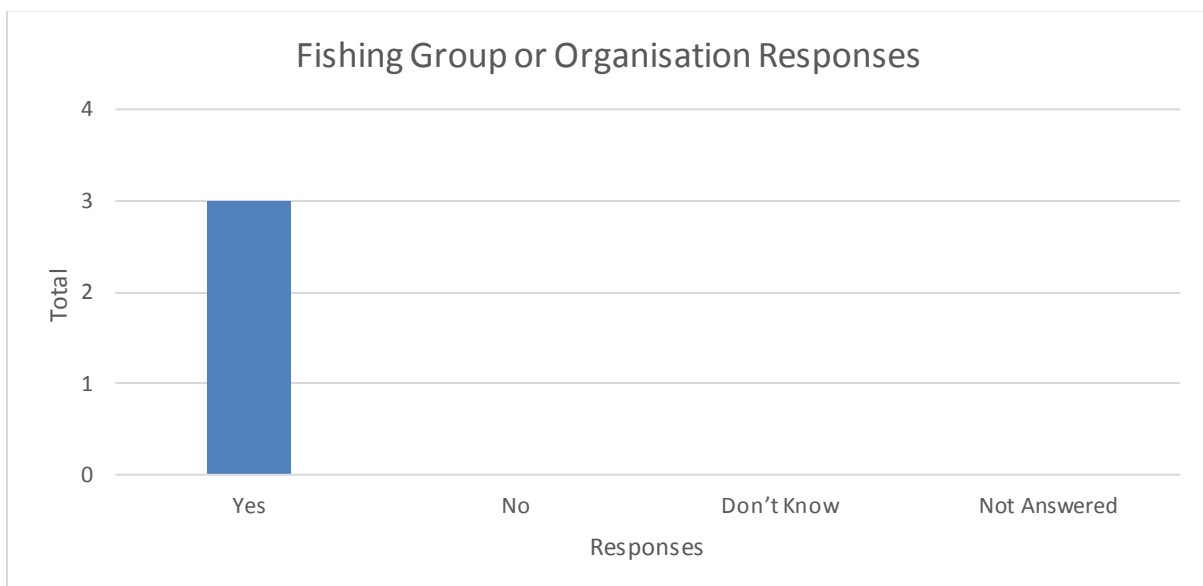


Figure 11 Question One – fishing group or organisation responses

Of the 44 respondents who answered Question One, 34 provided a response to support their answer.

- 11 respondents indicated that the proposed deep sea marine reserve will help to protect and/or enhance biodiversity.
- Seven respondents indicated that the proposed deep sea marine reserve will help to provide required environmental protection.

“We need to stop destroying our natural heritage and being protecting it against over-exploitation and destruction.” (Individual)

- Five respondents stated that sea areas around Scotland are crucial areas for many species and features.
- Five respondents indicated that the proposed deep sea marine reserve will help to protect areas from the negative environmental effects created by industrial activity.
- Four respondents claimed that the proposed deep sea marine reserve will help to meet national, regional and local environmental targets.

“[Redacted] welcome this proposal and can see a strong case for designating this site based on the information provided and:

- *the contribution it would make to meeting OSPAR targets / requirements;*
- *the protection and recovery of rare and threatened species and habitats, not currently covered within the Scottish or UK MPA network;*
- *the contribution it would make to the climate and biodiversity crises;*
- *the precautionary approach to management of future risks such as deep-sea mining.” (Environmental Organisation)*

A summary of the comments raised in the free text section for Question One is provided in Figure 12.

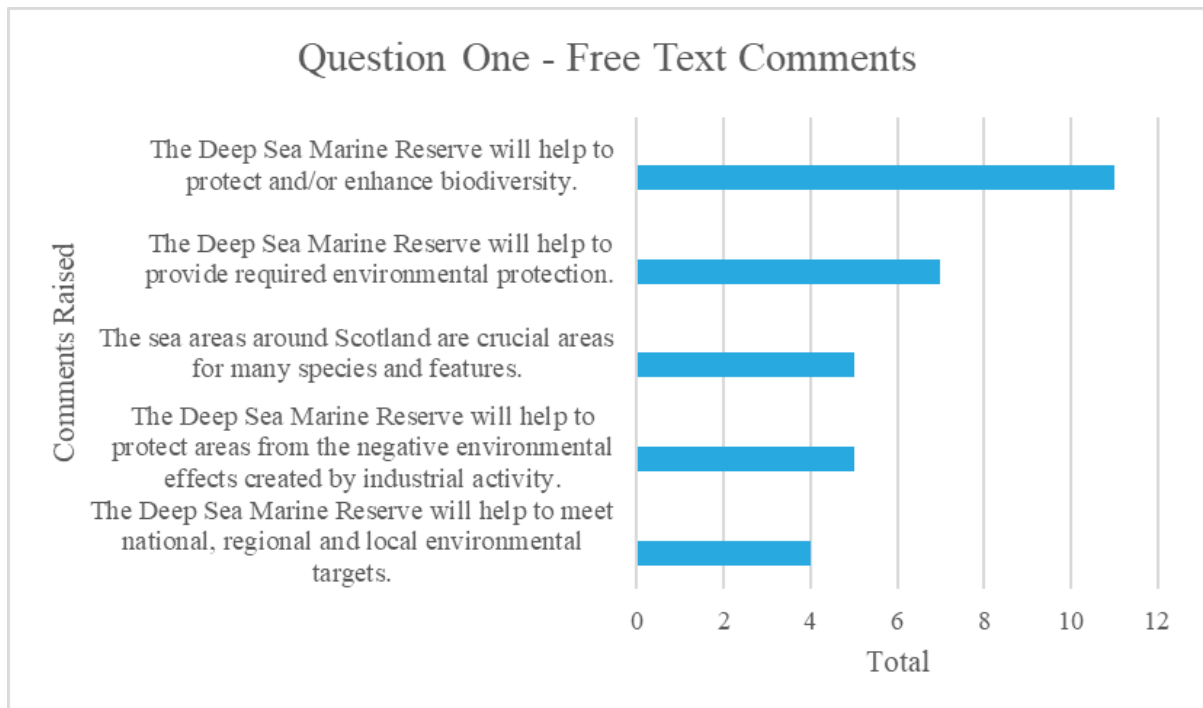


Figure 12 Question One – free text comments

3.7. Question Two

“2) Do you agree that the scientific evidence presented justifies the case for designation?”

Question Two asked respondents if they agree that the scientific evidence presented justifies the case for the designation of each site.

Figure 13 shows the responses received for Question Two.

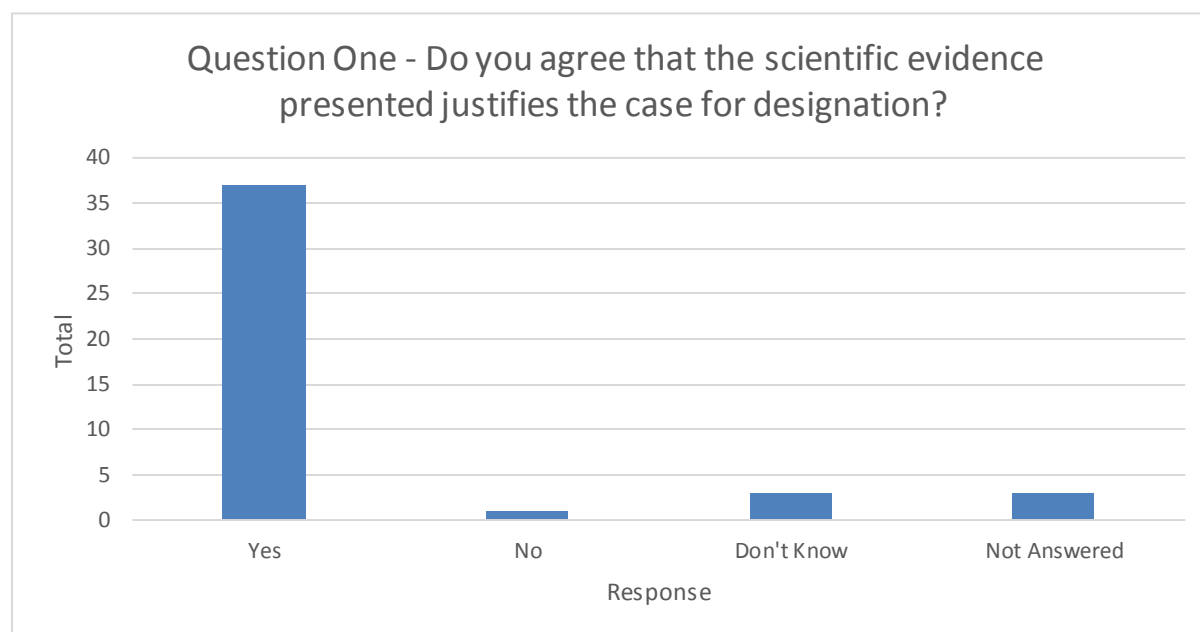


Figure 13 Question Two responses

Of the 44 respondents who answered Question Two, 43 provided a response to support their answer.

- 10 respondents expressed support for the scientific evidence provided for the creation of the proposed deep sea marine reserve, including support for the benefits that a deep sea marine reserve will create and the protection it will provide.

“Based on the JNCC and Marine Scotland documents we consider that a meaningful procedure based upon best available science has been followed leading to the collection of necessary scientific evidence [...] In addition, all the short-listed proposed protected biodiversity features of the pMPA are habitats and species considered to be of conservation priority in Scotland’s seas [...]” (H2020 iAtlantic Projects)

- Four respondents raised concerns/issues in relation to the scientific evidence for the proposed deep sea marine reserve.

“[...] It appears that assumptions are being made on a precautionary all-inclusive basis rather than reliable evidence. Therefore, at this time, we respectfully disagree that the scientific evidence represents a preponderance of justification for designation.” (International Association of Drilling Contractors)

- Three respondents referred to a lack of confidence in the content of evidence provided.
- Three respondents raised concerns and/or asked questions regarding why a number of species have not been included in the assessments undertaken.

A summary of the key comments raised in the free text section for Question Two is provided in Figure 14.

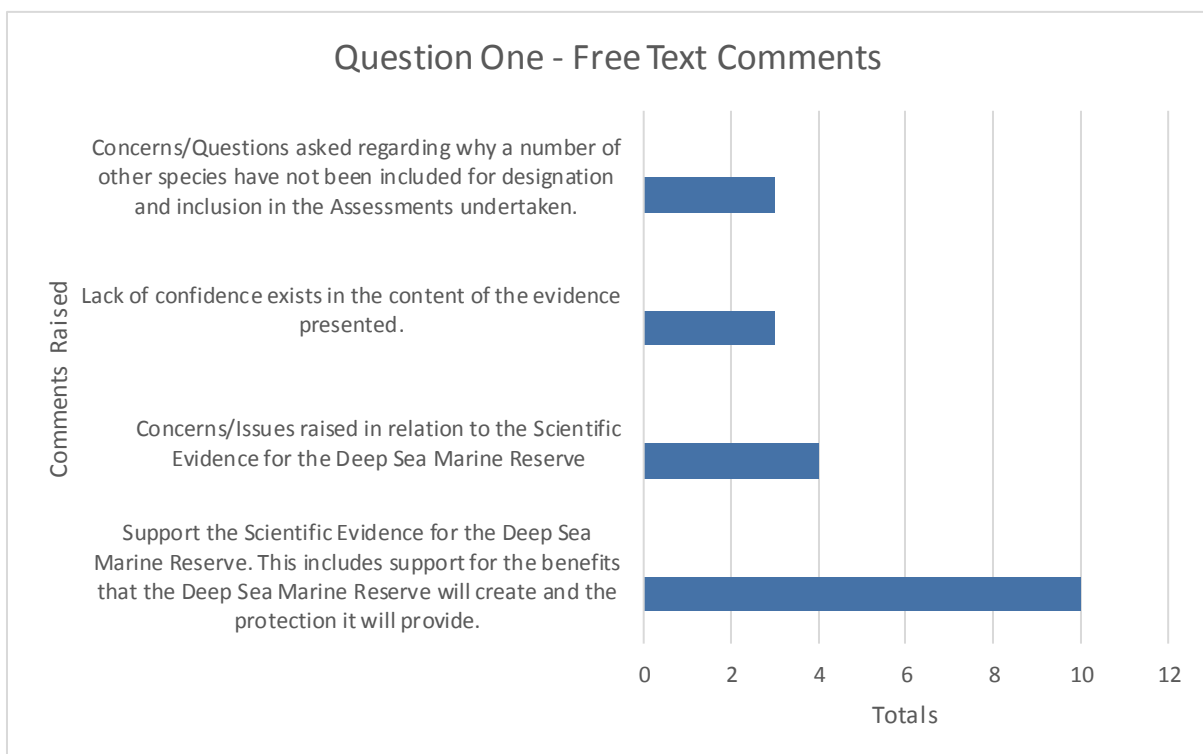


Figure 14 Question Two - free text comments

3.8. Question Three

“3) Do you have any comments on the conservation objectives and management advice?”

Question Three asked respondents if they had any comments on the conservation objectives and management advice for each site.

Of the 44 respondents who answered Question Three, 26 provided further comment.

- Eight respondents requested for additional management and of industrial activity in the proposed deep sea marine reserve area than what is currently presented.

“In general, we support the management advice although we would suggest that the advice related to further oil and gas exploration within the deep sea marine reserve area needs strengthened. Given the contribution of fossil fuels to climate change and the stated impacts of climate change on these vulnerable deep sea species and habitats we suggest that there should be a presumption against further exploration within the deep sea marine reserve boundary.” (Environmental Group)

- Seven respondents expressed concerns/issues in relation to the conservation objectives and management advice for the proposed deep sea marine reserve.

“The oil and gas exploration industry is certainly in opposition to the Intermediate and Upper management scenarios that appear to arbitrarily discount the industry’s ability to responsibly develop offshore energy resources in a complimentary manner to sustaining Scotland’s marine environment.” (International Association of Drilling Contractors)

- Six respondents expressed support for the conservation objectives and management advice for the proposed deep sea marine reserve.
- Six respondents stated that if created, the deep sea marine reserve should be monitored appropriately.
- Five respondents expressed opposition/reservations over the designation of the upper level management scenario.
- Four respondents referred to a lack of confidence in the evidence presented.

A summary of the respondent’s comments in the free text section for Question Three are summarised in Figure 15.

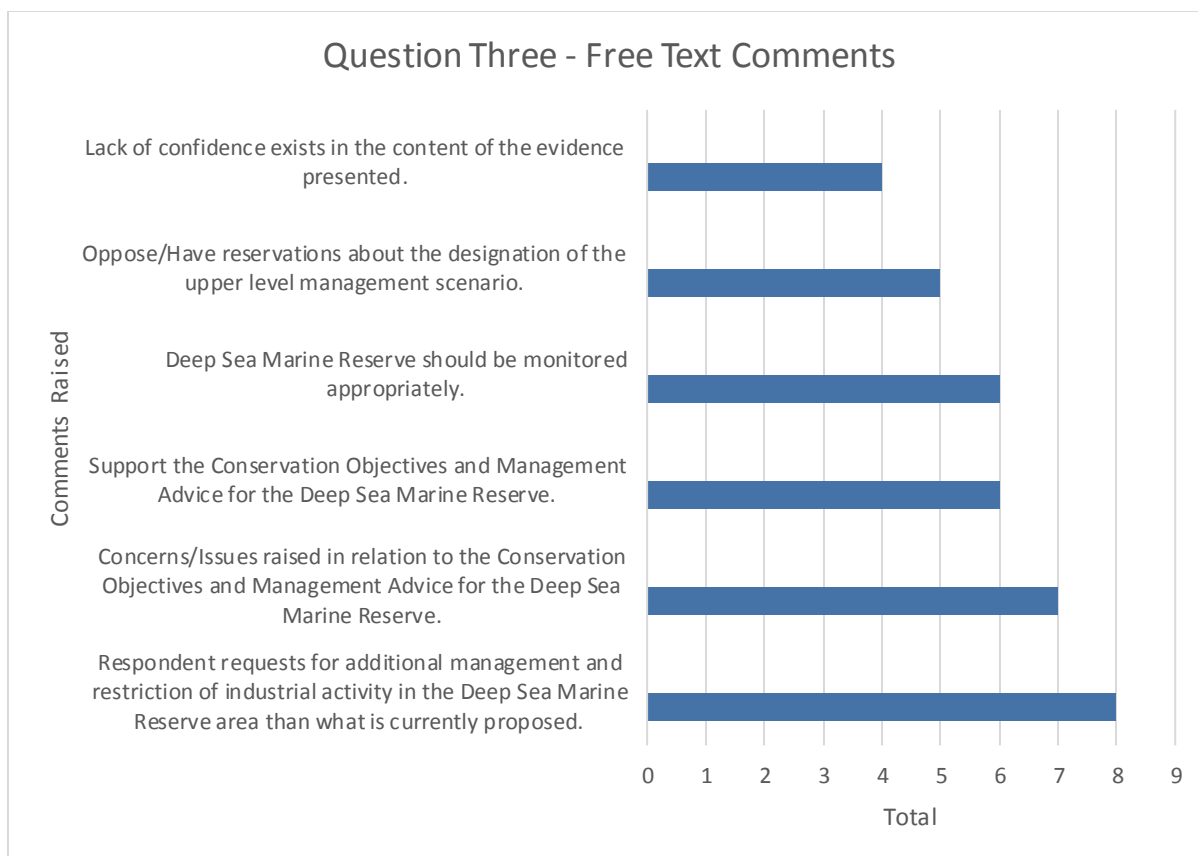


Figure 15 Question Three - free text comments

3.9. Question Four

“4) Do you have any comments on the Business and Regulatory Impact Assessment?”

Question Four asked respondents if they had any comments on the Business and Regulatory Impact Assessment (BRIA).

Of the 44 respondents that provided responses for Question Four, 19 provided further comments in the free text section for Question Four.

- Five respondents opposed or had reservations about the designation of the upper level management scenario.

“[Redacted] is generally supportive of designation of the site under the Marine & Coastal Access Act 2009. With regard to the impact on fishing, [Redacted] is supportive of the intermediate scenario which would result in no bottom fishing activity.

[...] We believe that it is not possible to fully quantify potential loss or costs (to fishing) associated with option 3 (upper scenario) as the migratory patterns of fish that tend to occupy the water column are subject to adaptation, depending on many unknown factors.” (Fishing Group or Organisation)

- Four respondents claimed that a lack of confidence exists in the content of evidence presented.
- Four respondents raised concerns/issues on the BRIA for the proposed deep sea marine reserve.

“At this stage, IADC and our members are quite suspect of this consultation as it relates to consideration for Business and Regulatory Impacts. An expected level of due diligence appears lacking where quantitative specifics such as detailed assumptions, calculations, and sensitivity analysis might be illustrated to better inform stakeholder concerns.” (International Association of Drilling Contractors)

- Three respondents expressed support for BRIA for the proposed deep sea marine reserve.
- Three respondents mentioned that it is not possible to fully quantify the potential loss or costs (to industrial activities) associated with the upper level management scenario.

A summary of the respondents’ comments in the free text section for Question Four are summarised in Figure 16.

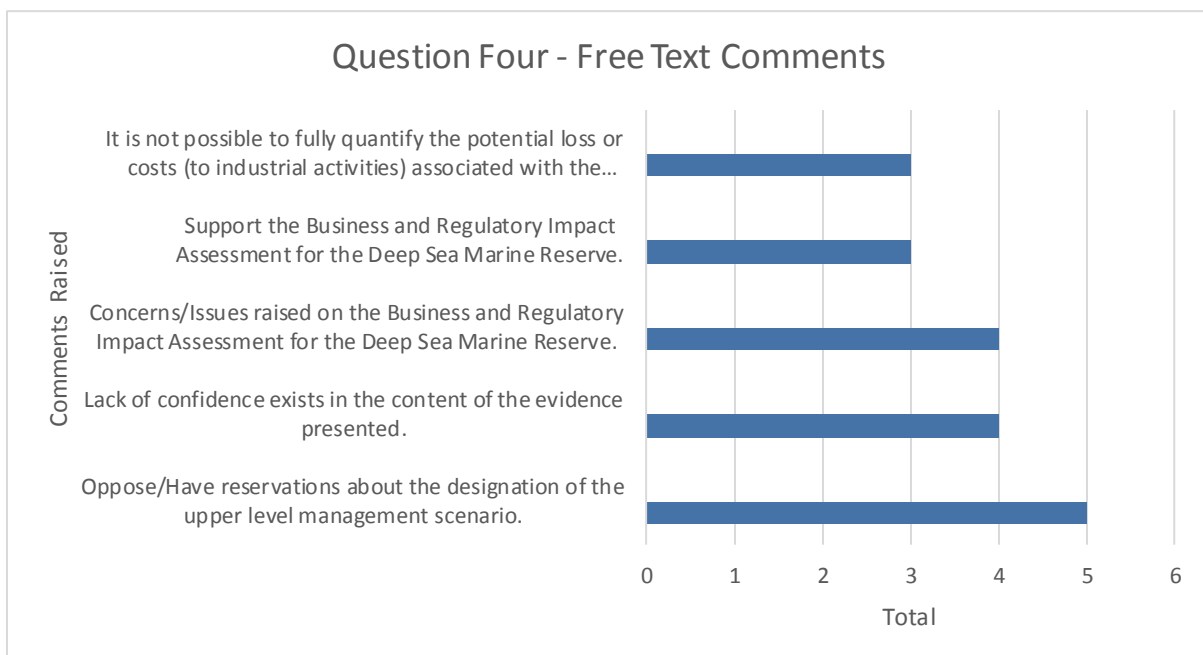


Figure 16 Question Four - free text comments

3.10. Question Five

“5) Do you have any comments on the Sustainability Appraisal, including the Environmental Report and the Socio-Economic Impact Assessment?”

Question Five asked respondents if they had any comments on the Sustainability Appraisal, including the Environmental Report and the SEIA.

Of the 44 respondents for Question Five, 11 provided further comments in the free text section for the question.

- Three respondents indicated that the Sustainability Appraisal had gone into exhaustive, and questionable detail on the costs to commercial fisheries sector and made false claims about the costs to others.

“The Sustainability Appraisal has exhaustively detailed costs to commercial fisheries sector, with additional claims about the costs to other sectors. In contrast, faced with a level of uncertainty about the benefits in Ecosystem Services, including non-use values, it has not proposed any valuations, despite the fact that several techniques and statistics are already available.” (Marine Conservation Society)

- Three respondents mentioned that the Sustainability Appraisal made no attempt to quantify benefits to carbon storage even though workable figures are available.

“[...] In contrast, faced with a level of uncertainty about the benefits in Ecosystem Services, including non-use values, it has failed to come up with any valuations, in spite of the fact that several techniques and statistics are already available (e.g. Brander et al., 2015. The benefits to people of expanding Marine Protected Areas. VM Institute for Environmental Studies.)” (Environmental Organisation)

- Two respondents opposed or had reservations about the designation of the upper level management scenario.
- Two respondents mentioned that it is not possible to fully quantify the potential loss or costs (to industrial activities) associated with the upper level management scenario.
- Two respondents raised concerns/issues in relation to the Sustainability Appraisal for the proposed deep sea marine reserve.

A summary of the respondent’s comments in the free text section for Question Five are summarised in Figure 17.

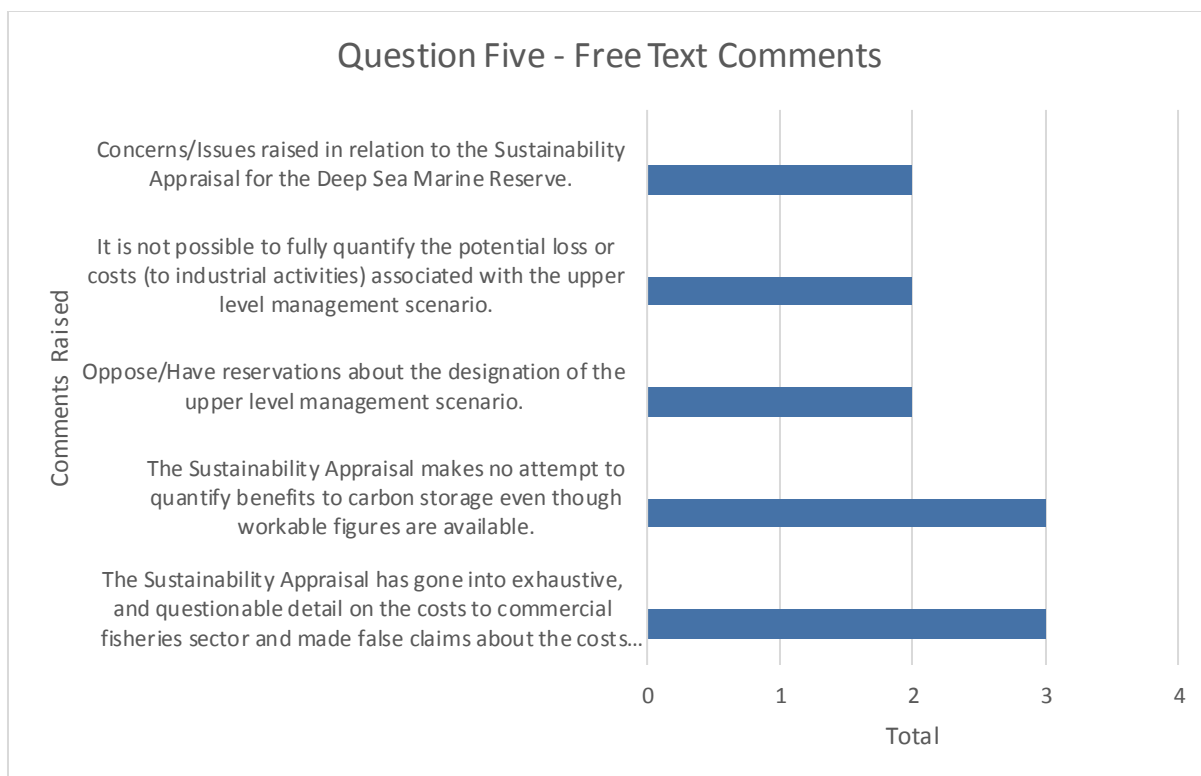


Figure 17 Question Five - free text comments

3.11. Key findings

In total, 44 respondents submitted answers and comments for the five questions asked as part of this consultation. The majority of respondents were identified as Individuals (30), with other respondents categorised as Environmental Organisations (6), Fishing Groups/Organisations (3), Other Industry Associations (4) or Regulatory/Local Authorities (1)

Responses received for the consultation varied significantly in length, detail and technical content.

The five most commonly raised responses by the respondents in support of the deep sea marine reserve in the free text sections across the five questions were:

- 14 respondents believed that the proposed deep sea marine reserve will help protect and / or enhance biodiversity.
- 10 respondents supported the scientific evidence for the proposed deep sea marine reserve including support for the benefits that the deep sea marine reserve will create and the protection it will provide.
- Nine respondents claimed that the proposed deep sea marine reserve will help to protect areas from the negative environmental effects created by industrial activity.
- Seven respondents mentioned that the sea areas around Scotland are crucial areas for many species and features.

- Seven respondents believed that the deep sea marine reserve will help to provide required environmental protection.

The five most commonly raised comments identifying concerns regarding the deep sea marine reserve were:

- 13 respondents oppose/have reservations about the designation of the upper level management scenario.
- 10 respondents raised concerns/issues in relation to the conservation objectives and management advice for the deep sea marine reserve.
- 10 respondents referred to the lack of confidence in the content of the evidence presented.
- Six respondents mentioned that the boundary of the deep sea marine reserve needs to be amended.
- Five respondents raised concerns/issues in relation to the Business and Regulatory Impact Assessment for the deep sea marine reserve.

Overall, 38 (86%) respondents of the 44 that took part in the consultation, supported the proposed deep sea marine reserve.

Respondents expressed a belief that the designation will help to protect biodiversity and to protect the sea from the negative environmental effects of industrial activity.

Four respondents (10%) did not provide answer and one (2%) respondent did not know whether they supported the proposed designation.

Only one respondent (2%) opposed the proposed deep sea marine reserve when asked in question one.

The greatest level of concern was registered in relation to the upper level management scenario for the proposed designation.

4. Comments on key themes

In this section, written responses (through email and Citizen Space) have been categorised according to the major themes. This section is intended to provide explanation or background to the Scottish Government's decision making process, JNCC's advice or the assessments produced as part of the consultation. Numbers of responses under each theme are not quantified as this is covered under section 3 of this report. As with section 3, a single response may include multiple themes. Most comments raised by one or more response have been included, as long as the comment was relevant to the consultation and requires clarification or answer. General comments with no specific theme or query have not been included.

4.1. Science and data

4.1.1. Respondents were concerned about the baseline evidence supporting the proposal being insufficient across the region, resulting in difficulties in assessing the current condition of the proposed protected features of the West of Scotland pMPA. The partial confidence indicated by JNCC (notably in relation to the extent of the proposed protected features) resulted in respondents querying the suitability of evidence to underpin their proposition as proposed protected features and in establishing conservation objectives, as well as concern around use of the 'precautionary principle'. Responses highlighted the need for further monitoring and research to understand the impact of proposed management and track recovery.

A lack of baseline evidence and challenges facing regular data collection in the deep sea are a recurring theme in deep-sea conservation globally. Despite new advances, our understanding of deep-sea ecosystems is still limited with many questions yet to be addressed. Some of the key knowledge gaps include the ecology, taxonomy and distribution of deep-sea sponges and corals in the Scottish waters (McIntyre et al., 2016), the effects of climate change on deep-sea biodiversity, and how deep-sea ecosystems are connected (Chaniotis et al., 2019).

The Data Confidence Assessment for the West of Scotland pMPA establishes our levels of confidence in the presence and extent of the proposed protected features of the site. Whilst a prescriptive methodological approach was not used to establish the level of overall confidence for each of the proposed protected features, confidence was assessed based on two broad parameters for all proposed protected features: 'presence' (assessed based on three sub-parameters relating to age of the data, source or provenance of the data and appropriateness of survey technique to detect records of each of the proposed protected features) and 'extent' (based on data coverage within the site). Overall, JNCC considers there is sufficient evidence to support our understanding of the presence of all the proposed protected features of the West of Scotland pMPA due to considerations based on the age, source and appropriateness of survey techniques employed for the data records used to support the proposal as documented in the Data Confidence Assessment. However, with the West of Scotland pMPA being of significant size and deep-sea surveillance work still

in its infancy we have needed to rely on data products such as predictive habitat models and point records of some features (notably deep-water fish) to determine our understanding of the extent of the proposed protected features of the West of Scotland pMPA. Accordingly, we have only been able to affirm partial confidence in the extent of numerous proposed protected feature records and note that further surveillance work is required to build on this understanding should the West of Scotland pMPA be designated.

Evidence suggests that despite their remoteness, deep-sea ecosystems are highly vulnerable to human activities and many features are considered under threat and subject to decline as a result of anthropogenic activities such as fishing practices (OSPAR, 2008). Fishing activities such as trawling can cause mortality to some deep-sea species (Kaiser et al., 1996; Jennings et al., 2008; Clark & Tittensor, 2010; ICES, 2010) and recovery from such damage is estimated to be measured in decades (Clark et al., 2010; ICES, 2010). Similarly, impacts can arise from hooks, lines, nets and ropes becoming entangled with corals and other fragile species, including 'plucking' them from the seabed during hauling (ICES, 2010; Mortensen et al., 2005; Muñoz et al., 2010; OSPAR, 2010). The proposed protected features of the West of Scotland pMPA are exposed to pressures associated with activities taking place to which the proposed protected features are considered sensitive. Moreover, there is direct evidence (through OSPAR and ICES datasets) to support regional decline in many of the proposed protected deep-water fish species. Therefore, on a precautionary basis, JNCC have recommended a 'recover' conservation objective for all the proposed protected features of the West of Scotland pMPA (using evidence such as that highlighted above) with the exception of blue ling, where JNCC have greater confidence that the species is in favourable condition.

The proposal has been based upon the best available scientific evidence and understanding of regional and global deep-sea ecosystems. However, building the evidence base to support effective conservation measures in the deep sea is an ongoing challenge, in order to address knowledge gaps and ensure high-standard evidence-based management. Moving forward, should the West of Scotland pMPA be designated, partnerships between policy makers, scientific advisers, research and academia should be expanded to continue to further our understanding of deep-sea ecosystems located in the West of Scotland site and enable monitoring to evaluate measures and track recovery.

4.2. Protected features

4.2.1. Respondents highlighted the need for further clarification on the formation of the proposed protected feature list and the thresholds for assessing the sufficiency of evidence. In particular, concerns were raised around the omission of mobile species and areas such as the Hebrides Terrace Seamount from the proposed site boundary. There is also a specific query around omission of the inclusion of the recently discovered cold-water seep feature to the west of Scotland. Some

respondents strongly supported the addition of pelagic deep-water fish species and cetacean species to the list of proposed protected features.

The methods document produced to underpin the consultation on West of Scotland pMPA outlines JNCC's approach to shortlisting the proposed protected features for consideration for the main feature types known to be present within the area under consideration: habitats (such as cold-water coral reefs), low or limited mobility species (such as northern feather star), large scale features (such as seamounts), geological/geomorphological features (such as Rosemary Bank and adjacent sea floor key geodiversity area), fish/elasmobranchs (such as Orange roughy and Leafscale gulper shark), marine mammals (such as long-finned pilot whale) and seabirds (such as northern gannet). The key question considered (for mobile species in particular) was the sufficiency of evidence supporting the ecological significance of particular areas of the deep waters to the west of Scotland to the life history traits of these features, and namely would spatial protection and associated management under an MPA deliver value to the conservation of these species. By ecological significance, we mean spatially important areas for the life histories of the species, e.g. important breeding or nursery areas. The results suggested insufficient evidence for the majority of mobile species to be considered further at this time, with the exception of a number of deep-water fish/elasmobranch species. The majority of all other feature categories did however pass through this initial screening exercise. The resulting proposed protected feature shortlist was then taken forward and considered further under the data confidence assessment process.

None of the 14 species of marine mammals assessed met the evidence standards set to be considered as proposed protected features of the site. This was due to insufficient evidence of persistent use of the area or its importance to the life history of these species to merit inclusion. However, if data became available (from further monitoring for instance) to support inclusion of these species, the feature list can be reassessed and possibly revised.

Data from a variety of sources were reviewed to assess bird species, including the seabird maps generated from boat-based data and used before for the identification of possible SPAs (Kober et al., 2010), more recent tracking data (Wakefield et al., 2013 and 2017; and Cleasby et al., 2018), and data on foraging ranges during the breeding season (Thaxter *et al.*, 2012). Following the precedent of the Birds Directive (2009/147/EC) within the UK and the identification of MPAs for black guillemot (*Cepphus grylle*) (SNH, 2012), MPAs would only be considered for seabird species if they occur with more than 1% of their populations on a regular basis in the proposed area. When analysing all available data for the site, none of the considered seabird species met these guidelines and consequently, none of the seabird species became a formally proposed protected feature of the site.

The cold-water seep referred to be one of the respondents discovered by Marine Scotland is situated beyond British Fisheries Limits in the Hatton-Rockall Basin (see Neat *et al.*, 2019) and is outside the scope of the West of Scotland pMPA.

Finally, the boundary of the West of Scotland pMPA has been drawn to compliment and not duplicate existing protection measures within the same geographical area. As such, areas such as the Hebrides Terrace Seamount, which are already afforded protection within existing MPAs (in this case The Barra Fan & Hebrides Terrace Seamount MPA), were omitted from the proposal.

4.3. Environmental benefits

4.3.1. Many respondents noted that contribution that the designation of the site would make to Scotland's MPA network.

The Scottish Government believes that these proposals will help achieve the Scottish Government's vision for clean, healthy, safe, productive and diverse seas; managed to meet the long term needs of nature and people, as well as making a significant contribution to the coverage and representativeness of the Scottish MPA Network.

Designation of the site as an MPA would make sure that activities which the protected features are sensitive to can only proceed where they are shown to have no significant impact.

4.3.2. Respondents recognised the importance of the West of Scotland pMPA in safeguarding fragile deep-sea ecosystems, including the role of seamounts as refugia for cold-water corals against ocean acidification, but some requested further detail be included in the supporting site documentation on the benefits of conserving the deep-sea ecosystems.

The biodiversity within West of Scotland pMPA performs key functions that subsequently provide important ecosystem services. This includes climate regulation, habitat provision, and food provision in the form of deep-water fisheries. Large-scale features such as seamounts are known to disrupt the oceanographic currents to create dynamic hydrographic environments increasing food availability to suspension feeders such as sponges and corals. Fox *et al.* (2016), found coral on seamounts and offshore banks within the West of Scotland pMPA may play a critical role in connectivity and maintaining larval supply, and act as refugia from ocean acidification for cold water corals (Tittensor *et al.* 2010). Deep-sea ecosystems also support biotechnological advances, for example, a microbe taken from deep-sea sediment samples has been shown to fight the antibiotic-resistant disease MRSA (Kurata, 2017). Willingness to pay for deep-sea species protection and the option to harvest medicine in the future has been estimated at £70–77 per person in Scotland (Jobstvogt, *et al.*, 2015). In addition, less tangible, educational and research services, aesthetic services, and the sense of 'awe' towards the deep sea (cultural and spiritual services) are also of importance (Chaniotis *et al.*, 2019) and should be

considered when evaluating the value and benefits of conserving the deep sea. We thank the respondents for raising additional potential data sources to help improve our understanding of the ecosystem services provided by the biodiversity associated with this deep sea area. We have contacted NatureScot (the operating name of Scottish Natural Heritage) and SAMS in response to this and both organisations have indicated we should look at the EU-funded ATLAS project (A transatlantic assessment and deep-water ecosystem-based spatial management plan for Europe); specifically work package 5 of [deep-sea ecosystem services](#). JNCC have used resources produced by the ATLAS project, as well as additional literature, to enhance the content of the Ecological Overview document as one of the underlying materials supporting the West of Scotland pMPA.

4.4. Site selection

4.4.1. Respondents from the fishing industry identified an error in the eastern boundary of the site, where it did not follow the 800m depth contour as intended.

As there are already measures in place across European waters (including Scotland) to prohibit trawling below 800 metres. Following discussions with the Scottish Government, records of fishing activity were supplied which showed fishing activity within the proposed site boundary, suggesting the site included areas of depths shallower than 800 metres along an area with steep seabed slope. As inclusion of areas shallower than 800 metres, other than vulnerable seamount habitats was not the intention of the proposals, the fishing records were used to amend the site boundary. The change has had very little effect on the size or extent of the site overall, in fact the areas removed are 2km at their widest part and the size of the site is still 107,718km², only 55km² smaller than the original proposal.

4.4.2. Respondents noted that there are no marine mammals included as proposed protected features of the site. It was noted that certain species, in particular beaked whales and Risso's dolphin, are likely to be present within the site, utilising area for foraging, and could be impacted by underwater noise created by various activities.

Scotland's seas are internationally recognised as being important for whales and dolphins (which are collectively known as cetaceans). Cetaceans are protected under national and international legislation wherever they occur throughout Scottish waters. Cetaceans are European Protected Species (EPS) meaning they are protected by the Conservation (Natural Habitats, &c.) Regulations 1994 which makes it an offence to deliberately disturb, capture or kill any cetacean in Scottish waters. Work is also ongoing on the UK Dolphin and Porpoise Conservation Strategy which will provide benefits to small cetaceans in Scottish waters.

Scottish Ministers recently consulted on four MPAs including the North-east Lewis MPA, of which Risso's dolphin is a proposed protected feature, which was chosen due to the long-standing data demonstrating the importance of this area for key life stages of Risso's dolphin. At present, there are insufficient data to determine if the

site supports important life history stages of any cetaceans (JNCC, 2020). However the environmental benefits of a healthy ecosystem from the designation of the site would be likely to benefit any cetaceans present.

4.4.3. Some respondents asked why the Faroe-Shetland proposal was not being consulted upon and whether this will be progressed in the future. Others noted that the consultation documents were confusing where the Faroe-Shetland proposal was included in the assessment but not part of the consultation.

The Faroe-Shetland proposal was identified, alongside West of Scotland, as an area of search for the deep sea marine reserve due to having waters below 800m in depth. Following an assessment of the habitats and species within each site, JNCC provide advice to Scottish Ministers. The Faroe-Shetland site contained four habitats and species suitable for protection (with one on the OSPAR list), of which all four are already represented in the Scottish MPA network. The West of Scotland site contained 14 habitats and species (with 10 on the OSPAR list). Over half the Faroe-Shetland proposal is already covered by the North East Faroe-Shetland Channel MPA. The Scottish Ministers are therefore no longer considering the Faroe-Shetland area.

4.4.4. Respondents asked why the decision was made to include waters 800 metres deep or greater and exclude shallower areas and the species and habitats which reside in these shallower waters.

The Scottish Government asked JNCC to consider proposals for a site below 800m due to the existing ban on deep sea trawling below these depths. The site does include shallower areas such as Rosemary Bank and Anton Dohrn Seamounts, but follows 800m on the continental slope.

4.4.5. Respondents noted that the boundary of the proposed site does not extend to the edge of UK Continental Shelf (UKCS) limits and should be larger to include all UK offshore waters.

The site extends to the limit of the Exclusive Economic Zone (EEZ) (200 nautical miles) because from the end of the EU Exit transition period (01 January 2021) the UK will have competence for all activities in the site. Going beyond this would limit Scotland's powers for fisheries management, although there is already considerable restriction on fishing in the region between UK EEZ and UKCS limits within the NEAFC regulatory area.

4.4.6. One respondent suggested that the site should be extended to the Scottish west coast and encompass the Western Isles.

Scotland already has 116 MPAs in inshore waters covering 24% of the seas within 12 nautical miles of shore. The west coast and Western Isles are some of the most protected of Scotland's seas. The purpose of the West of Scotland pMPA is to provide additional protection to the important deep sea areas of Scotland's water which is why all the waters of the West of Scotland pMPA are greater than 800 metres deep. Therefore bringing the boundary to the coastline would not meet the

objectives of the site and also would overlap with a large number of sites already in place.

4.4.7. One respondent queried why there was no option to keep the Rosemary Bank Seamount MPA in place until management measures were implemented with the West of Scotland pMPA.

There are currently no management measures for fisheries at the Rosemary Bank Seamount MPA, except more general EU wide deep sea fisheries regulations. Existing protections as required under the Marine and Coastal Access Act 2009 relating to the regulatory decisions will be in place if the West of Scotland pMPA is designated so the features within the Rosemary Bank Seamount MPA will receive the same level of protection as is currently in place.

4.4.8. One respondent noted that no seabirds are included as protected features of the site where they may be at risk of bycatch from long-lining.

When analysing all available data for the site, none of the considered seabird species met the guidelines for inclusion as protected features and consequently, none of the seabird species became a formally proposed protected feature of the site. The Scottish Government is leading on the development of the Scottish Seabird Conservation Strategy. The strategy is looking to optimise the conservation prospects of seabirds in Scotland through effective management of existing and emerging threats. Bycatch is one potential pressures that is being considered through the developing strategy. The Scottish Government is also working with the UK Government and the other devolved administrations on a national Plan of Action for bycatch. At the moment the plan is reviewing fisheries observer data to identify areas where bycatch is a potential issue as well as the gear type being used. Actions taken forward by the Scottish Strategy will be informed by the plan of action.

4.5. Conservation objectives and management advice

4.5.1. Respondents highlighted the importance of considering supporting features within the conservation objectives in order to inform accurate assessments, as well as a definition of 'natural processes' within the context of the conservation objectives themselves. It was also suggested that the wording around objectives for Leafscale gulper shark, Gulper shark, Orange roughy, Portuguese dogfish, and Round-nose grenadier are phrased more explicitly as supporting population recovery in the first instance and sustaining populations in the future. Respondents raised concerns that the conservation objectives are too open-ended and need to be better quantified to ensure that change can be assessed consistently and objectively. Respondents also noted that there is a necessity to collect baseline information from which area, structure, function, community composition and trend objectives can be set in a more quantifiable and consistent manner.

JNCC would agree that further refinements are needed to articulating the conservation objectives of the site and this is part of ongoing work following designation. Supplementary advice on conservation objectives is produced after the designation of a site such as West of Scotland pMPA as part of JNCC's statutory conservation advice package development. This best ensures that any ecological characteristics, including supporting processes of a feature or 'attributes', are considered when assessing impacts (to condition and progress towards the conservation objective) from an activity. In addition to this, information is provided about the factors which influence a habitat or species' capacity to recover from impacts. The current objectives will be amended to include text on sustaining populations into the future. Moreover, further clarification will be made in the context of sustaining/recovering populations within the context of the West of Scotland pMPA versus the wider environment and range of the species themselves.

Quantitative conservation objectives and associated thresholds would be beneficial, however the current evidence available is insufficient to develop thresholds. The complexity of the marine environment, including species-habitat interactions, species-species interactions and behaviour make it difficult to predict how, when and to what degree species will respond to management. Difficulty disentangling the impacts of human activities and natural processes further hinder this. As suggested, better baseline data would support more quantitative objectives, but this is not currently available. The conservation advice and objectives will be further refined as the evidence-base develops (such as after a period of monitoring).

Although we agree that further information on natural processes and supporting features is required, a high level conservation objective is set only at this stage of the designation process. In the context of deep-sea ecosystems, natural processes could be processes such as movements in the deep-sea thermocline, for example. This level of detail is typically provided as supplementary advice on the conservation objectives as part of JNCC's statutory conservation advice should a site such as the West of Scotland pMPA be designated. It is also important to acknowledge that the impairment of any of the supporting processes on which a feature relies can result in changes to its overall condition and progress towards the conservation objective. As such, should the West of Scotland pMPA be designated, supplementary advice on the conservation objectives is produced to ensure that any ecological characteristics, including supporting processes, of a feature, or 'attributes' are considered when assessing impacts from an activity. JNCC's conservation objectives and management advice describes the ecological characteristics or 'attributes' of the site's qualifying feature(s) and the ecological characteristics or 'attributes' which define condition as set out in the conservation objectives for the MPA e.g. extent, structure and function and supporting processes. This is provided to support users in better assessing the duration and therefore significance of any impacts associated with their proposed activity.

4.5.2. Some respondents requested a ban on all bottom trawling within the West of Scotland pMPA and fisheries targeting deep-sea pelagic

fish species. Proposals for an extension of a ban on demersal trawl gear from below 600m as opposed to 800m were also received including calls to exclude pelagic gear. It was also suggested that a licensing regime could be explored, for pelagic gears solely targeting what are considered to be continental shelf species, which are not as vulnerable as true deep-sea species. Concerns were also raised about future potential industrial activities and mining.

Demersal trawling is already prohibited across the entirety of West of Scotland pMPA in waters deeper than 800m ([Regulation \(EU\) 2016/2336](#)). The same regulation also restricts bottom trawling below 400m where Vulnerable Marine Ecosystems (VMEs) are present or are likely to occur. Fishing with bottom-set gillnets, entangling nets and trammel nets below 600m is also prohibited, and there are restrictions on their use between 200m and 600m, according to [Regulation \(EU\) 2019/1241](#). Moreover, JNCC advise in the context of the West of Scotland pMPA that there is a prohibition of demersal mobile gears in areas shallower than 800m within the site, and the prohibition of all bottom-contacting static gears where aggregations of VME features occur. To support recovery of the sedimentary features of the West of Scotland pMPA, JNCC advise that bottom-contacting static gears should also be restricted or more ideally removed from the extent of these features. An existing suite of proposals for offshore fisheries management within existing MPAs is due for development and public consultation in due course and, if designated, measures for the West of Scotland pMPA will be considered alongside these.

Statutory advice on management of pelagic fisheries will only be considered where there are risks to achieving the conservation objectives of the proposed protected features of the West of Scotland pMPA. Extractive activities operating in the water column would not be expected to impact the habitat features of the proposal such that the conservation objectives for these features would not be met.

In JNCC's advice on Conservation Objectives and Management for the West of Scotland pMPA, it is recommended that a precautionary approach is taken towards managing deep-sea mining, whereby no licenses should be granted for deep-sea mining intended to take place within the West of Scotland pMPA should there be interest in the future; essentially recommending a moratorium on any deep-sea mining activities. Similarly, the proposal also recommends significant restrictions on any further industrial activities. JNCC's advice on management of oil and gas exploration stipulates that additional mitigation measures may be required on a case-by-case basis to avoid hindering the achievement of the conservation objectives for the West of Scotland pMPA. However, it is notable that limited activity currently takes place.

4.5.3. In contrast, other respondents stated that none of the proposed protected feature conservation objectives provided a rationale that referred to vulnerability towards pelagic fisheries, and thus suggested the need to disregard the upper management scenario proposed in the Strategic Environmental Impact Assessment (SEIA). Concerns were

also raised around the current understanding of distribution and impacts of bottom-contacting fisheries on proposed protected features. The need to gather further evidence to increase understanding and inform management measures was highlighted recurrently.

The management scenarios assessed under the SEIA are for all sectors and are intended to look at the range of possible impacts on management to industry. These can help inform management decisions but are not formal management options. JNCC have provided management advice for activities operating/likely to operate in the pMPA, with recommendations to limit or remove pressures on the proposed protected features. Although the upper management scenario does not correspond directly with this advice, it represents a worst-case scenario of precautionary measures. JNCC share the same views as the respondent with regards to the importance of gathering more evidence to inform our own advice and management going forward should the West of Scotland pMPA be designated.

4.5.4. Respondents also raised concerns about the impacts of military activities on marine mammals in the area.

Underwater noise resulting, for example, from military activities and possible exploration of deep-sea resources may pose a threat to the conservation status of marine mammals in the region. However, marine mammals are not a proposed protected feature of the West of Scotland pMPA, due to insufficient evidence of persistent use of the area or its importance to the life history of these species (as foraging areas, or important breeding grounds for example). If data became available to support inclusion of these species, the feature list could be reassessed and possibly revised. As such, the current management advice does not consider the impacts of noise on marine mammals. Nevertheless, the Ministry of Defence seeks to manage its activities in a manner that minimises environmental impact. As part of its Marine Environment and Sustainability Assessment Tool (MESAT), the Royal Navy produce a layer for its electronic charts to provide advice to personnel on how military activities in the vicinity of designated MPAs may impact features. These electronic charts are used by Navy Commanders and other operational planners to ensure that military activities in the marine environment minimise their environmental impact. In addition, all cetaceans are strictly protected throughout their range under Annex IV of the [EU Habitats Directive](#).

4.5.5. One respondent noted that the management advice and future site management should take into consideration the potential future impacts of climate change upon the site.

The Scottish Government recognises the role our ocean plays in mitigating and adapting to climate change. It is important to recognise the need to protect key marine carbon stores, but this can only be achieved by recognising the existence of such stores and implementing the appropriate management measures.

4.6. Management scenarios and future management

- 4.6.1. Respondents noted that the intermediate and upper management scenarios included exclusion of oil and gas activities within the site. Some noted that this is not in line with the management advice from JNCC and others noted that management advice on for oil and gas suggests a risk to the proposed protected features without evidence. In general, respondents from the oil and gas industry were opposed to these scenarios being implemented. One respondent was in favour of oil and gas being excluded from the site.**

The management scenarios are indicative to allow appraisal of the socio-economic and environmental impacts from the designation, relevant to the different levels of management. For oil and gas, the lower management scenario represents the 'status quo'. The intermediate and upper scenarios are generalised approaches where all activities impacting the seabed and water column, respectively, are removed. If the site is designated, management of oil and gas activities will continue to be managed on a case by case basis by the regulator, as is currently the case, however regulators and developers will be required to take the advice from JNCC into account and take part in early discussions with JNCC regarding proposals for oil and gas exploration and exploitation.

- 4.6.2. Respondents supported the intermediate management scenario (exclusion of bottom contacting fishing gear) with regard to fishing but some did not support the upper scenario (exclusion of pelagic fisheries) due to the migratory nature of pelagic fish species.**

Fisheries management measures for this site will be considered in future and will take into account the potential risks to the protected features posed by different types of fishing activity, and existing management measures (for example the existing restriction on demersal trawling below 800 m). If fisheries measures are considered necessary, proposals will be based on best available scientific evidence and socio-economic factors will be taken into account. We will engage with stakeholders on the development of any fisheries measures and proposals would be subject to a public consultation.

While measures will be considered more fully as they are developed, it is likely that further monitoring will inform our understanding of the risk to pelagic species. At this stage, there is no evidence to indicate that pelagic measures would be required.

- 4.6.3. Respondents asked that the sites should be appropriately monitored for compliance with management measures.**

Trawling at depths below 800m is already prohibited within the site, however the need for any further management measures will be considered after designation. The Scottish Government takes the enforcement of sustainable fisheries management and protection of the marine environment extremely seriously. We recognise the enforcement challenges that exist in covering a significant area of sea and large number of fishing vessels, therefore a risk-based approach is used to prioritise monitoring activities. MPAs are consistently a high priority.

4.6.4. Some respondents queried the advice that no further management would be required for Ministry of Defence (MOD) activity within the site, particularly noting the potential for disturbance to marine mammals from underwater noise created by these activities.

The MOD uses the Maritime Environmental and Sustainability Assessment Tool (MESAT) to implement its agreed guidelines on environmental impacts at sea. These protocols are referred to within JNCC's Management Advice. In addition, regular liaison occurs between all Statutory Nature Conservation Bodies and the MOD to discuss any additional mitigation that may be required.

4.6.5. One respondent queried how the Management Advice would be translated into management of activities other than fishing within the site.

Before consenting any activity with the potential to have an impact of the protected features of the site, regulators and developers will be required to ensure that the activity will not hinder the conservation objectives of the site. Regulatory authorities may consider JNCC's Management Advice when applying conditions to regulated activities.

4.6.6. One respondent welcomed the advice from JNCC on deep-sea mining within the site.

JNCC advice noted that deep-sea mining would be capable of damaging the proposed protected features of the site although it is not thought that any mining currently occurs within the site. The advice advocates a precautionary approach to deep-sea mining whereby no licences should be issued within the site.

4.7. Social and economic impacts

4.7.1. Respondents noted that despite the intermediate and upper management scenarios including complete exclusion of oil and gas activities, the cost impacts to the industry from these scenarios were estimated as nil.

The potential cost impacts for the oil and gas industry were calculated based on the number of active or licensed blocks within the West of Scotland pMPA which overlap with an 'undeveloped discovery'. In the West of Scotland proposals, there is one licensed block which overlaps with an 'undeveloped discovery'. Based on the assumptions of the assessment, which are based on the likely timescales of oil and gas development, this block is unlikely to reach exploitation within the assessment period. The assessment does note that there may be costs associated with lost opportunity under the intermediate and upper scenarios however these costs cannot be quantified due to the multiple sources of uncertainty. It is however recognised that these costs could be significant. As explained in section 4.6.1, the scenarios represent worst-case for the industry and in reality, oil and gas development would continue to be considered on a case-by-case basis by the regulator and JNCC.

4.7.2. A few respondents noted that designation of the site could boost the tourism industry within Scotland.

The Scottish Government recognizes the importance of marine tourism as part of the Scottish economy and to the livelihoods of coastal communities. National designations such as MPAs are thought to have a positive impact on tourism by increasing visitor awareness of the local wildlife.

4.7.3. Several respondents noted the potential economic benefits which could arise from designation of the site, and highlighting that although these benefits are potential large they have not been quantified in the assessments.

We recognise the value that marine habitats and species can provide in terms of ecosystem services, particularly regarding functions they provide, e.g. habitat for commercial fish species, and opportunities for wildlife tourism and research. MPAs also provide benefits through the non-use value which is the value which people derive from simply being aware of the marine environment. Although it is very difficult to quantify these values it has estimated that the benefits to people from MPAs outweigh the costs (Brander et al. 2015).

4.7.4. A few respondents queried the reason for economic impacts being considered at all. These respondents felt that economic interests should not come above environmental protection. One respondent felt that the economic impacts had been overstated.

The Scottish Government assesses a number of factors as part of proposals to designate new MPAs. This includes having regard to the social and economic impacts that the designation could have (both positive and negative). These factors are taken into account alongside other considerations including environmental impacts (positive and negative) and our legal obligations to protect the natural environment.

The cost impacts in the SEIA represent a worst-case scenario for each of the levels of management possible (lower, intermediate, upper). The need for and scale of any future management measures has not yet been decided and will be subject to future discussions with stakeholders and public consultation. In general the cost impacts are considered to be low in comparison to the value of industries assessed. Ecosystem services and other benefits from MPAs are assessed in the SEIA. The final decision on the designation of a site is made based on these economic costs and benefits, the environmental benefits and stakeholder views. The SEIA represents only part of the supporting evidence which forms the basis of the site proposal.

4.7.5. One respondent noted that non-use value for deep sea habitats has not been quantified in the BRIA with reference to a study which has quantified this value.

The BRIA is informed by the SEIA undertaken for the proposal. The SEIA does include reference to the paper suggested and reports the findings of that study alongside many others. As outlined in the SEIA, the lack of public familiarity with

deep sea systems and their services is a serious challenge for conducting, and in particular interpreting, the results of stated preference surveys.

4.7.6. One respondent noted that the environmental assessment found that there would ‘no immediate benefit’ to the environment under the lower scenario, despite cost impacts to the oil and gas industry.

The SEA states that there will be no immediate benefit under the lower scenario (designation alone) however there is potential for future environmental benefits, depending on site management. The potential costs to oil and gas are based on increased assessment costs for future consents under that scenario. Increased scrutiny under the Marine and Coastal Access Act 2009 and in EIAs for future activities will provide the potential future environmental benefits described in the SEA.

4.8. Site monitoring

4.8.1. Respondents raised concerns that the proposed monitoring of the West of Scotland pMPA outlined in the supporting documentation is not sufficient in order to assess features and identify temporal patterns. The need for more detailed and specific survey plans was highlighted.

Difficulties around a lack of baseline evidence and challenges to regular data collection are a recurring theme in deep-sea conservation (Chaniotis et al. 2019; Levin et al. 2019; Vinde Folkersen, Fleming & Hasan 2018). These constraints result in the partial confidence in proposed protected feature extent throughout the West of Scotland pMPA, which is something that will be advanced and improved through future research and monitoring. Overall, there is a need to improve our capacity to monitor the deep sea but the costs of new technologies and a limited ability to share data in a timely and efficient manner across sectors, are a barrier to furthering understanding. Difficulties can be overcome by supporting collaborative research efforts and engagement with industry to share knowledge and resources (Chaniotis *et al.*, 2019). Utilising such solutions will be essential moving forward to ensure advancement in the understanding of deep-sea ecosystems and to develop evidence to support advice and management. JNCC fully support this aspiration for the West of Scotland pMPA if designated.

The Scottish Government, in partnership with NatureScot and JNCC, has developed a Scottish MPA Monitoring Strategy. This ensures the necessary information is collected from the Scottish MPA network to underpin assessment and reporting obligations. The strategy details the methods and principles for monitoring the MPA network as well as details of planned surveys when available. If designated, the West of Scotland pMPA will be incorporated into the rolling offshore MPA survey plan. Every six years, Scottish Government reports to the Scottish Parliament on the status of the MPA network which includes the results of MPA monitoring.

4.9. Other environmental issues

- 4.9.1. Respondents raised concerns about the presence of toxic chemicals, specifically Polychlorinated biphenyls (PCBs) in the West of Scotland pMPA possibly resulting in killer whale infertility and further management was requested to reduce the impacts on killer whale breeding.**

JNCC's advice does not consider the risk of persistent organic pollutants (POPs) including Polychlorinated biphenyls (PCBs) as these are outwith the scope of MPA management.

5. Conclusions

Based on the responses to this consultation, there is substantial public support for the designation of the West of Scotland deep sea marine reserve as an MPA. The majority of respondents to the consultation felt positively about the proposals and scientific evidence presented. Most also agreed with the findings of the Sustainability Appraisal and BRIA.

Issues and questions raised during the consultation are discussed in section 4 of this report. Most of these have been addressed or answered where possible. The majority of these questions related to how the site was selected and how it might be managed in the future, if designated.

The site was selected following a two stage selection process. To coincide with existing regulations prohibiting trawling below 800m, the Scottish Government to look at features within two areas of search. Based on the number and distinctness of the features within the two areas, the West of Scotland was chosen for progression.

Management of the site, if designated, will involve two elements. Fishing management requires further consideration of what measures might be necessary and further consultation on these measures. Activities other than fisheries will be subject to management as soon as the designation comes into force, if the site is designated. This will be through existing regulatory process where regulators and developers will need to consider JNCC's management advice for their activity. Developers may need to carry out additional evidence gathering prior to applying for consent and regulators may need to undertake additional assessment before making decisions.

Many of the consultation responses identified the environmental benefits designation of the site could provide, in addition to possible economic benefits in the form of ecosystem services, providing greater resources for industries such as fishing and tourism.

Although some responses asked for additional protected features to be included in the site, the site would provide protection for 14 species and habitats, including 10 on the OSPAR Threatened and / or Declining list.

As a result of the consultation, the eastern boundary of the site has been slightly amended to ensure that it follows the 800 metre depth contour as intended.

6. References

- Brander, L., Baulcomb, C., van der Lelij, J.A.C., Eppink, F., McVittie, A., Nijsten, L. & van Beukering, P. 2015. The benefits to people of expanding Marine Protected Areas. IVM Institute for Environmental Studies.
- Chaniotis, P.D., Robson, L.M., Lemasson, A.J., Cornthwaite, A.L., Bower, R. & Howell, K.L.. 2019. UK deep-sea conservation: Progress, lessons learned, and actions for the future. *Aquatic Conservation: Marine and Freshwater Ecosystems*. 2020; 30, 375– 393.
- Clark, M. & Tittensor, D. 2010. An index to assess the risk to stony corals from bottom trawling on seamounts. *Marine Ecology* 31. 200-211.
- Clarke J., Milligan R.J., Bailey D.M. & Neat F.C. 2015. A Scientific Basis for Regulating Deep-Sea Fishing by Depth. *Current Biology* 25, 2425–2429.
- Cleasby I.R., Owen E., Wilson L.J & Bolton M. 2018. Combining habitat modelling and hotspot analysis to reveal the location of high density seabird areas across the UK: Technical Report. RSPB Research Report no. 63.
- Creswell, J. 2013. Qualitative inquiry and research design: Choosing among five approaches. Los Angeles, CA, SAGE. 448pp.
- Cunningham, S., Chaniotis, P.D., Gillham, K. & James, B. 2015. Assessment of the adequacy of the Scottish MPA network for MPA search features: summary of the application of stage 5 of the MPA Selection Guidelines post consultation. Assessing risk to Scottish MPA search features at the MPA regional scale. Final report produced by the Joint Nature Conservation Committee, Scottish Natural Heritage and Marine Scotland for the Scottish Marine Protected Areas Project. Available at: <https://www.nature.scot/marine-protected-area-assessment-adequacy-scottish-mpa-network-mpa-search-features-summary>
- Garthe, S., Camphuysen, K.C.J. & Furness, R.W. 1996. Amounts of discards by commercial fisheries and their significance as food for seabirds in the North Sea. *Marine Ecology Progress Series* 136: 1 – 11.
- ICES. 2010. Report of the ICES Advisory Committee. Books 1-11, 11,928pp.
- Jennings, S., Mélin, F., Blanchard, J., Forster, R., Dulvy, N. & Wilson, R. 2008. Global-scale predictions of community and ecosystem properties from simple ecological theory. *Proceedings of the Royal Society* 275:1641.
- JNCC. 2020. Ecological Overview: West of Scotland MPA. Online, available at: <https://hub.jncc.gov.uk/search>
- Jobstvagt, N., Hanley, N., Hynes, S., Kenter, J & Whitte, U. 2015. Twenty thousand sterling under the sea: Estimating the value of protecting deep-sea biodiversity. *Ecological Economics*, 97,10-19.

- Kaiser, M. & Spender, B. 1996. The effects of beam-trawl disturbance on infaunal communities in different habitats. *Journal of Animal Ecology* 65:3, 348-358.
- Kober, K., Webb, A., Win, I., Lewis, M., O'Brien, S., Wilson, L.J. & Reid, J.B. 2010. An analysis of the numbers and distribution of seabirds within the British Fishery Limit aimed at identifying areas that qualify as possible marine SPAs. JNCC report No. 431.
- Kurata, A., Sugiura, M., Kokoda, K., Tsujimoto, H., Numata, T., Kato, C., Nakasone, K. & Kishimoto, N. 2017. Taxonomy of actinomycetes in the deep-sea Calyptogena communities and characterization of the antibacterial compound produced by *Actinomadura* sp. DS-MS-114, *Biotechnology & Biotechnological Equipment*, 31:5, 1000-1006.
- Levin, L.A., Bett, B.J., Gates, A.R., Heimbach, P., Howe, B.M., Janssen, F. & Weller, R.A. 2019. Global Observing Needs in the Deep Ocean. *Frontiers in Marine Science*, 6, 241.
- McIntyre, F., Drewery, J., Eerkes-Medrano, D. & Neat, F. 2016. Distribution and diversity of deep-sea sponge grounds on the Rosemary Bank Seamount, NE Atlantic. *Marine Biology*. 163:143.
- Mortensen, P.B., Buhl-Mortensen, L., Gordon, D.C.J., Fader, G.B.J., McKeown, D.L. & Fenton, D.G. 2005. Effects of fisheries on deepwater gorgonian corals in the Northeast Channel, Nova Scotia. In: Barnes, B.W. & Thomas, J.P. Benthic Habitats and the Effects of Fishing. American Fisheries Society 369-382.
- Muñoz, R. D., Murillo, F. J., Sayago-Gil, M., Serrano, A., Laporta, M., Otero, I. & Gomez, C. 2010. Effects of deep-sea bottom longlining on the Hatton Bank fish communities and benthic ecosystem, north-east Atlantic. *Journal of the Marine Biological Association of the United Kingdom*. 91: 939-952.
- OSPAR. 2008. OSPAR List of Threatened and/or Declining Species and Habitats (Reference Number: 2008-06) [online]. Available from: <https://www.ospar.org/work-areas/bdc/species-habitats/list-of-threatened-declining-species-habitats>
- OSPAR, 2010. Background document for seamounts [online]. Available from: <https://www.ospar.org/documents?d=7222>
- Rogers, A. D., Brierley, A., Croot, P., Cunha, M. R., Danovaro, R., Devery, C., Hoel, A.H., Ruhl, H., Sarradin, P.-M., Trevisanut, S., van den Hove, S., Vieira, H., Visbeck, M., McDonough, N., Donaldson, K. & Larkin, K.. 2015, Delving Deeper: Critical challenges for 21st century deep-sea research. In: Larkin, K.E., Donaldson, K., McDonough, N. (Eds.), Position Paper 22 of the European Marine Board. Ostend, Belgium, 224, (ISBN 978-94-920431-1-5).
- Saldaña, J. 2016. The coding manual for qualitative researchers. London, UK, SAGE. 368pp.
- SNH. 2012. Marine Protected Areas and black guillemot (*Cephus grylle*).

Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W. & Burton, N.H.K. 2012. Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156, 53–61.

Trueman, C.N., Johnston, G., O'Hea, B. & MacKenzie, K.M. 2014. Trophic interactions of fish communities at midwater depths enhance long-term carbon storage and benthic production on continental slopes. *Proceedings of the Royal Society B*, 281, 1787.

Vinde Folkersen, M., Fleming, C.M. & Hasan, S. 2018. The economic value of the deep sea: A systematic review and meta-analysis. *Marine Policy*, 94, 71-80.

Wakefield, E., Bodey, T., Bearhop, S., Blackburn, J., Colhoun, K., Davies, R., Dwyer, R., Green, J., Grémillet, D., Jackson, A., Jessopp, M., Kane, A., Langston, R., Lescroel, A., Murray, S., Nuz, M., Patrick, S., Péron, C., Soanes, L. & Hamer, K. 2013. Space Partitioning Without Territoriality in Gannets. *Science* 341.

Wakefield, E.D., Owen, E., Baer, J., Carroll, M.J., Daunt, F., Dodd, S.G., Green, J.A., Guilford, T., Mavor, R.A., Miller, P.I. & Newell, M.A. 2017. Breeding density, fine-scale tracking, and large-scale modelling reveal the regional distribution of four seabird species. *Ecological Applications*, 27, 2074-2091.

Annex A: Organisations who submitted responses to consultation

The following organisations submitted a responses to the consultation.

- H2020 ATLAS- H2020 iAtlantic projects
- International Association of Drilling Contractors (IADC)
- International Association of Geophysical Contractors (IAGC)
- Law Society of Scotland
- Mallaig and North West Fishermen's Association Limited
- Marine Conservation Society
- National Trust for Scotland
- Offshore Petroleum Regulator for the Environment and Decommissioning (OPRED)
- Oil & Gas UK (OGUK)
- Scottish Environment LINK
- Scottish Fishermen's Federation
- Scottish Seabird Centre
- Scottish White Fish Producer's Association
- The Royal Society for the Protection of Birds Scotland

Annex B: Coding framework

General	
G1	Respondent is supportive of the creation of the West of Scotland deep sea marine reserve.
G2	Respondent has reservations in relation to the creation of the West of Scotland deep sea marine reserve.
G3	Respondent supports the creation of the West of Scotland deep sea marine reserve but raises some concerns and/or makes additional recommendations or comments regarding the designations.
G4	Respondent is against the creation of the proposed deep sea marine reserve but raises comments in support of the principle of an MPA and/or some aspects of the proposed deep sea marine reserve.
G5	No comment.
G6	Respondent provides a response, but it is unclear whether it supports or opposes the deep sea marine reserve creation.
The Site	
S1	The deep sea marine reserve will help to protect and/or enhance biodiversity.
S2	The deep sea marine reserve will help to reduce carbon emissions and/or pollution.
S3	The deep sea marine reserve will help to ensure a good quality of human life.
S4	The deep sea marine reserve will help to meet national, regional and local environmental targets.
S5	The deep sea marine reserve will help to protect areas from the negative environmental effects created by industrial activity.
S6	The deep sea marine reserve will have a positive economic impact at a local, regional and/or national level.
S7	The deep sea marine reserve will have a negative effect on the quality of human life.
S8	The deep sea marine reserve will have a negative economic impact at a local, regional and/or national level.
S9	The deep sea marine reserve will not create any positive environmental benefits.
S10	Action is required to stop destroying local, regional and/or national designated natural heritage and/or assets.
S11	Action is required to protect local, regional and/or national heritage against over-exploitation and destruction.
S12	The sea areas around Scotland are crucial areas for many species and features.
S13	The deep sea marine reserve will help to provide required environmental protection.
S14	The deep sea marine reserve is a good addition to the Scottish MPA network.
S15	The deep sea marine reserve will help to protect areas from the negative environmental effects created by the tourism industry.

S16	The deep sea marine reserve/Scottish oceans must be protected for future generations.
S17	The deep sea marine reserve will help to support and control tourists and visitors in the area. The designation will create clear guidelines for what actions and activities are acceptable in the deep sea marine reserve.
S18	The sea is important for carbon storage.
S19	Action is required to preserve wildlife.
S20	Industrial practices have had a negative effect on Scottish animal species and ecosystems.
S21	The deep sea marine reserve will create socio-economic benefits.
S22	The deep sea marine reserve is a shift in attitude in seeing our seas as a source of benefit to ourselves.
S23	Scotland's oceans benefit human life and the climate.
S24	The boundary of the deep sea marine reserve needs to be amended.
S25	The proposed boundary encompasses areas of fishing activity in waters less than 800m in depth.
S26	Concerns raised regarding the legal and legislative powers that govern Scottish waters.
S27	Necessary legal powers and practical resources are required to ensure adequate protection is in place before the UK's withdrawal from the EU.
S28	Support the recovery objectives identified within the deep sea marine reserve.
S29	The existing approach to management measures in support of conservation objectives should be used in the deep sea marine reserve.
S30	Support all the documents provided for the deep sea marine reserve designation.
S31	Transparency of the deep sea marine reserve assessment of the designation should be improved.
S32	Additional comments made regarding the species and habitat assessments.
S33	There should be higher consideration for ecosystem components in the pelagic zone and for marine mammals.
S34	The benefits of establishing the deep sea marine reserve outweigh the socio-economic impacts identified.
S35	In the Sustainability Appraisal, it is not clear how the "three scenarios" have been conceived as "reasonable alternatives".
S36	Conflicting guidance and information regarding the Intermediate and Upper management scenarios presented is provided.
S37	Clarification is required to better understand the valuation figures assumed under the Lower Scenario.
S38	Respondent has undertaken their own public consultation on the designation and it was found to be strongly in favour of the designation.
S39	Deep sea marine reserve is a good precedent for other fisheries protections to be included in the network allowing for a more coherent approach to protective measures in the future.
S40	Alternative management measures are already in place meaning that the deep sea marine reserve designation is not required.

S41	The designations that the deep sea marine reserve look to protect are already protected by existing MPAs.
Scientific Evidence	
SC1	Concerns/Issues raised in relation to the Scientific Evidence for the deep sea marine reserve
SC2	Support the Scientific Evidence for the deep sea marine reserve. This includes support for the benefits that the deep sea marine reserve will create and the protection it will provide.
SC3	Respondent does not understand the Scientific Evidence presented.
SC4	Respondent provides a response, but it is unclear whether it supports or opposes the Scientific Evidence presented.
SC5	The deep sea marine reserve designation combined with other designations can support the protection of Scotland's natural assets.
SC6	Respondent provides a positive comment regarding Scotland's natural heritage and environment.
SC7	Marine Protected Areas help to protect ecology and the wider environment including, but not limited to habitats, ecosystems etc.
SC8	Respondent supports Scientific Evidence presented but raises some concerns and/or makes additional recommendations to support the evidence.
SC9	Scientific evidence presented does not quantify the benefits of preserving seabeds at such a depth.
SC10	Lack of confidence exists in the content of the evidence presented.
SC11	Oppose/Have reservations about the designation of the upper level management scenario.
SC12	An appropriate literature review was undertaken in preparation of the different Assessment's for the proposed Deep Sea Marine reserve designation.
SC13	The deep sea marine reserve may act as a refuge from ocean acidification for cold-water corals.
SC14	It is not clear and transparent how areas for protection were chosen.
SC15	It is not clear what the thresholds used for assessing the sufficiency of evidence were for the different documents provided.
SC16	Clarification is required regarding the definition of "functional significance" in the Methods document provided.
SC17	Clarification is required regarding how the boundary for the deep sea marine reserve was set.
SC18	Concerns/Questions asked regarding why a number of other species have not been included for designation and inclusion in the Assessment's undertaken.
SC19	Respondent raises awareness of the latest guidelines for applying the IUCN protected area management categories to MPAs.
SC20	Whilst wider seas measures targeted at whale conservation are absolutely vital, bans on commercial and spurious scientific whaling, added area-based protection from the cumulative impacts of fishing, noise, and deep-water extractive activities could further benefit their conservation status.
SC21	Concerns raised regarding the fact that decisions are being made on assumptions rather than reliable evidence.

SC22	The data has been collected through appropriate structured and verified data gathering programmes.
Conservation Objectives and Management Advice	
C1	Concerns/Issues raised in relation to the Conservation Objectives and Management Advice for the deep sea marine reserve.
C2	Support the Conservation Objectives and Management Advice for the deep sea marine reserve.
C3	Respondent does not understand the Conservation Objectives and Management Advice presented.
C4	Respondent provides a response, but it is unclear whether it supports or opposes the Conservation Objectives and Management Advice presented.
C5	Respondent requests for additional management and restriction of industrial activity in the deep sea marine reserve area than what is currently proposed.
C6	Deep sea marine reserve should be monitored appropriately.
C7	The deep sea marine reserve designation should reduce, restrict or remove all damaging commercial vessel action.
C8	Noise pollution should be prevented/ considered as part of the management measures.
C9	There are several considerations regarding the deep sea marine reserve designation, but environmental conservation and/or enhancement should be prioritised.
C10	Species have been negatively affected because of pollution and/or human activity in Scotland's oceans.
C11	Further information and/or action is required to support the implementation of the proposed practices.
C12	Support the management measures on mobile bottom fishing activity in waters >800m.
C13	Inappropriate to apply restrictions on mid-water fishing activity.
C14	Marine Scotland should consider and take account of instances where fishing operations enter the deep sea marine reserve to allow safe working.
C15	Support the case for the gathering of further evidence to support the deep sea marine reserve designation.
C16	Oppose/Have reservations on the designation of the intermediate level management scenario.
C17	Impacts created by industrial activity do not merit the management measures proposed.
C18	A definition of 'natural processes' should be provided.
C19	Propose changes to the Conservation Objectives outlined in the information provided.
C20	Propose to extend the prohibition of industrial activity in seas greater than >600m.
C21	It'd be beneficial to present information about the current status of features in the vicinity of overlapping with human activities.
C22	Concerns raised regarding the data sources used to help inform the Assessment's and Guidance documents.
C23	Support the management measures but believe there are several points that warrant further consideration.

C24	Climate induced vulnerability and impacts on the marine environment should be emphasised in the management advice for the deep sea marine reserve.
C25	Intersectoral collaboration should form an important part of the management strategy for the deep sea marine reserve.
C26	Further use of GIS is encouraged.
C27	Seabirds will not benefit from the proposed management measures as outlined by the JNCC.
C28	Support the addition of the slopes shallower than 800m.
C29	Support the designation of the upper level management scenario.
C30	The JNCC management advice underestimates the pressure of demersal fishing activity on species on habitats that currently range from “moderately to highly vulnerable”.
C31	The information contained in this consultation lacks the sufficient detail necessary to fully understand the entirety of impacts experienced by the affected stakeholders if the deep sea marine reserve was to take effect.
C32	Respondent interested to continue a dialogue regarding the consultation to fully appreciate if the objectives of the designation could be achieved with more engagement.
Business and Regulatory Impact Assessment	
B1	Concerns/Issues raised on the Business and Regulatory Impact Assessment for the deep sea marine reserve.
B2	Support the Business and Regulatory Impact Assessment for the deep sea marine reserve.
B3	Respondent does not understand the Business and Regulatory Impact Assessment presented.
B4	Respondent provides a response, but it is unclear whether it supports or opposes the Business and Regulatory Impact Assessment presented.
B5	Assets should be considered more in environmental value than financial.
B6	The deep sea marine reserve will have a positive effect on Scotland’s tourism industry.
B7	The Deep Sea Marine Reservation could have a negative economic impact on smaller businesses but changes for the purposes of environmental protection and/or sustainability are required.
B8	Supportive of the intermediate management scenario.
B9	It is not possible to fully quantify the potential loss or costs (to industrial activities) associated with the upper level management scenario.
B10	The Business Regulatory Impact Assessment and assessment of economic costs would benefit from engagement with stakeholders.
B11	It is recommended that the Business Regulatory Impact Assessment is revisited following the designation of the MPA and the agreement of the site-specific management measures.
B12	Concerns raised that despite EU regulations having banned bottom trawling in areas deeper than 800m water depth, it is not clear why priority was given to areas below and not above 800m depth.

B13	Value of the ecosystem services benefits for research and education in the deep sea marine reserve should be classified as “High” and not “Moderate”.
B14	The societal benefit of the deep sea marine reserve has been undervalued.
B15	It is not always appropriate or possible for biodiversity and ecosystem services to be traded off against social and economic considerations.
B16	Additional information provided to inform the Assessment’s completed for the consultation.
B17	The Business Regulatory Impact Assessment fails to consider the wider area of the deep sea marine reserve affected by the proposed designation.
B18	Management scenarios developed by Marine Scotland for the management of the deep sea marine reserve have been noted as being incomplete.
B19	The potential cessation of oil and gas developments within the West of Scotland area would result in both material social and economic impacts in terms of employment.
Sustainability Appraisal; including the Environmental Repot and Socio-Economic Impact Assessment	
SA1	Concerns/Issues raised in relation to the Sustainability Appraisal for the deep sea marine reserve.
SA2	Support the Sustainability Appraisal for the deep sea marine reserve.
SA3	Respondent does not understand the Sustainability Appraisal presented.
SA4	Respondent provides a response, but it is unclear whether it supports or opposes the Sustainability Appraisal presented.
SA5	The proposals will totally restrict industrial activity in the deep sea marine reserve Area.
SA6	It would be reasonable to expect a graduated approach between the management scenarios for all affected industries.
SA7	The respondent notes the challenging nature of assessing deep-sea ecosystem goods and services has not enabled a detailed assessment of effects on ecosystem services.
SA8	The respondent notes the Sustainability Appraisal contains an uncertainty assessment about the impacts of the deep sea marine reserve on human activities.
SA9	The Sustainability Appraisal has gone into exhaustive, and questionable detail on the costs to commercial fisheries sector and made false claims about the costs to others.
SA10	The Sustainability Appraisal makes no attempt to quantify benefits to carbon storage even though workable figures are available.
SA11	There is a danger that reading this report policy makers will focus on the costs, because monetary values have been assigned, and ignore the benefits which may be far greater.
SA12	Conflicting guidance in the consultation overview document in comparison to the Sustainability Appraisal.

Annex C: Satisfaction with consultation

How satisfied were you with this consultation?

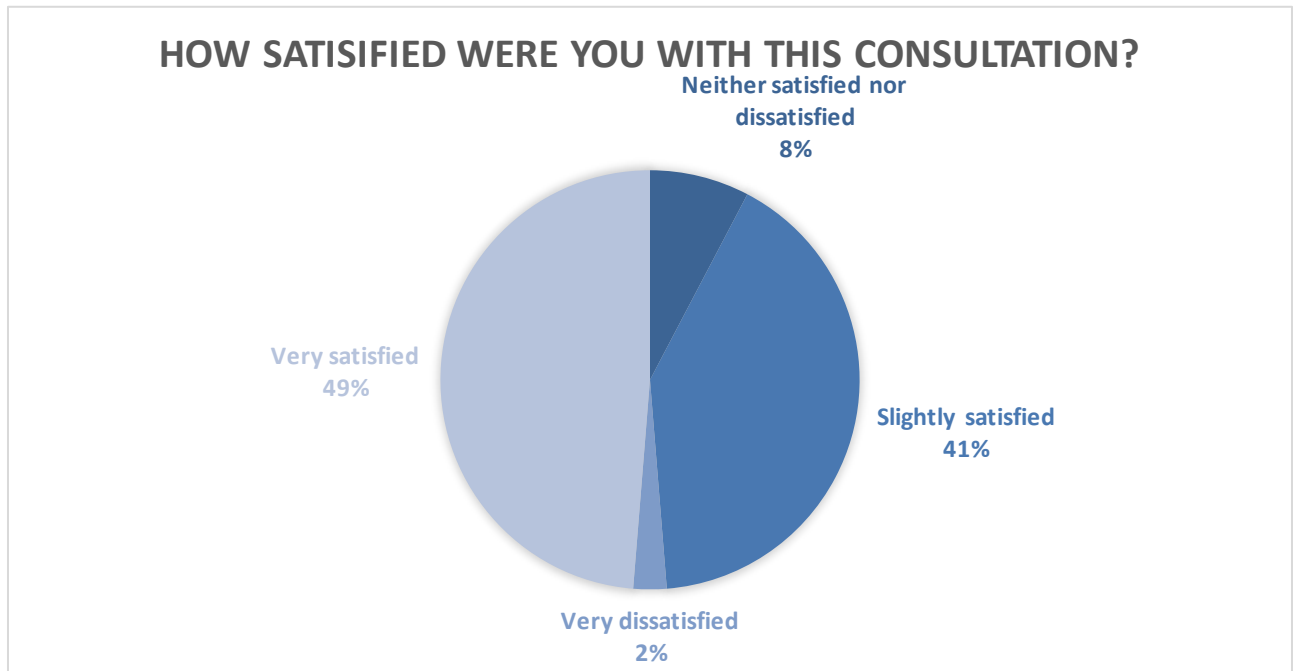


Figure 18 Satisfaction with the consultation

How would you rate your satisfaction with using this platform (Citizen Space) to respond to this consultation?

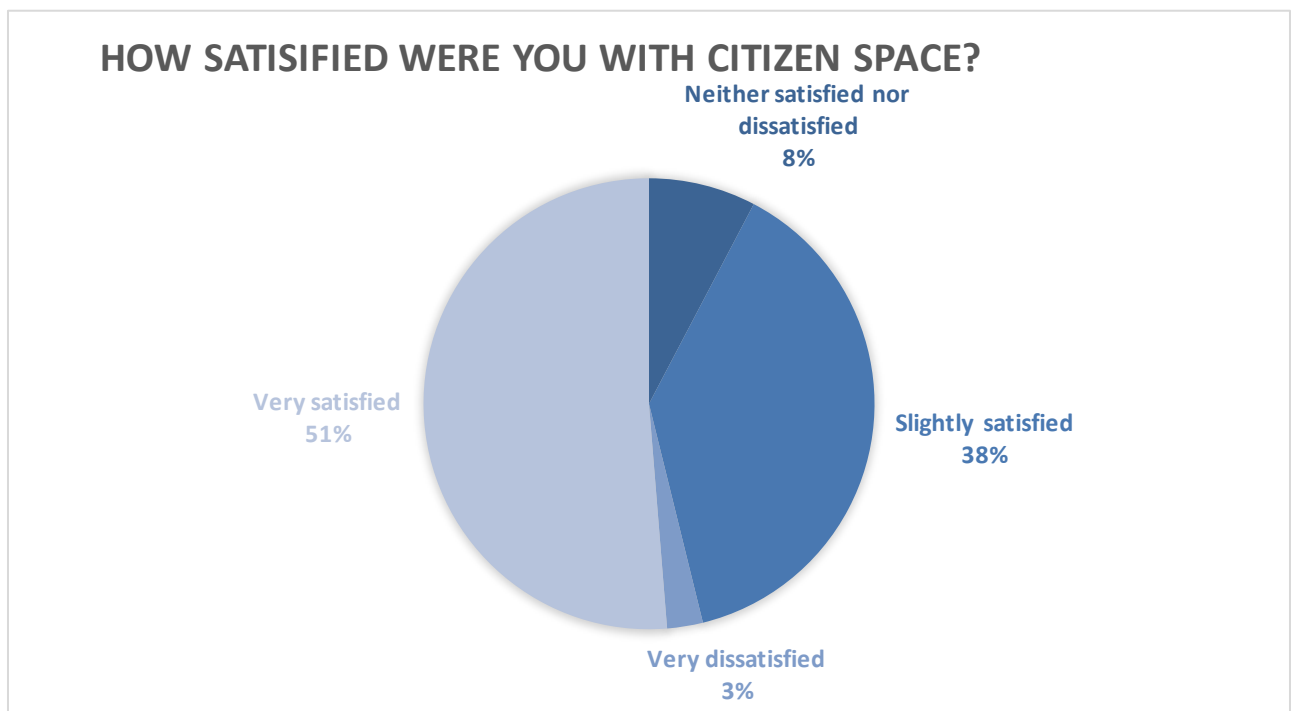


Figure 19 Satisfaction with Citizen Space

Annex D: Acronyms

Acronym	Definition
BRIA	Business and Regulatory Impact Assessment
EEZ	Exclusive Economic Zone
EPS	European Protected Species
JNCC	Joint Nature Conservation Committee
MESAT	Maritime Environmental and Sustainability Assessment Tool
MOD	Ministry of Defence
MPA	Marine Protected Area
pMPA	Possible Marine Protected Area
PCB	Polychlorinated biphenyl
POP	Persistent Organic Pollutant
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEIA	Socio-Economic Impact Assessment
SNCB	Statutory Nature Conservation Body
UKCS	UK Continental Shelf
VME	Vulnerable Marine Ecosystem



© Crown copyright 2020



This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit **nationalarchives.gov.uk/doc/open-government-licence/version/3** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: **psi@nationalarchives.gsi.gov.uk**

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at **www.gov.scot**

Any enquiries regarding this publication should be sent to us at
The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

ISBN: 978-1-80004-061-8 (web only)

Published by The Scottish Government, September 2020

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA
PPDAS757266 (09/20)