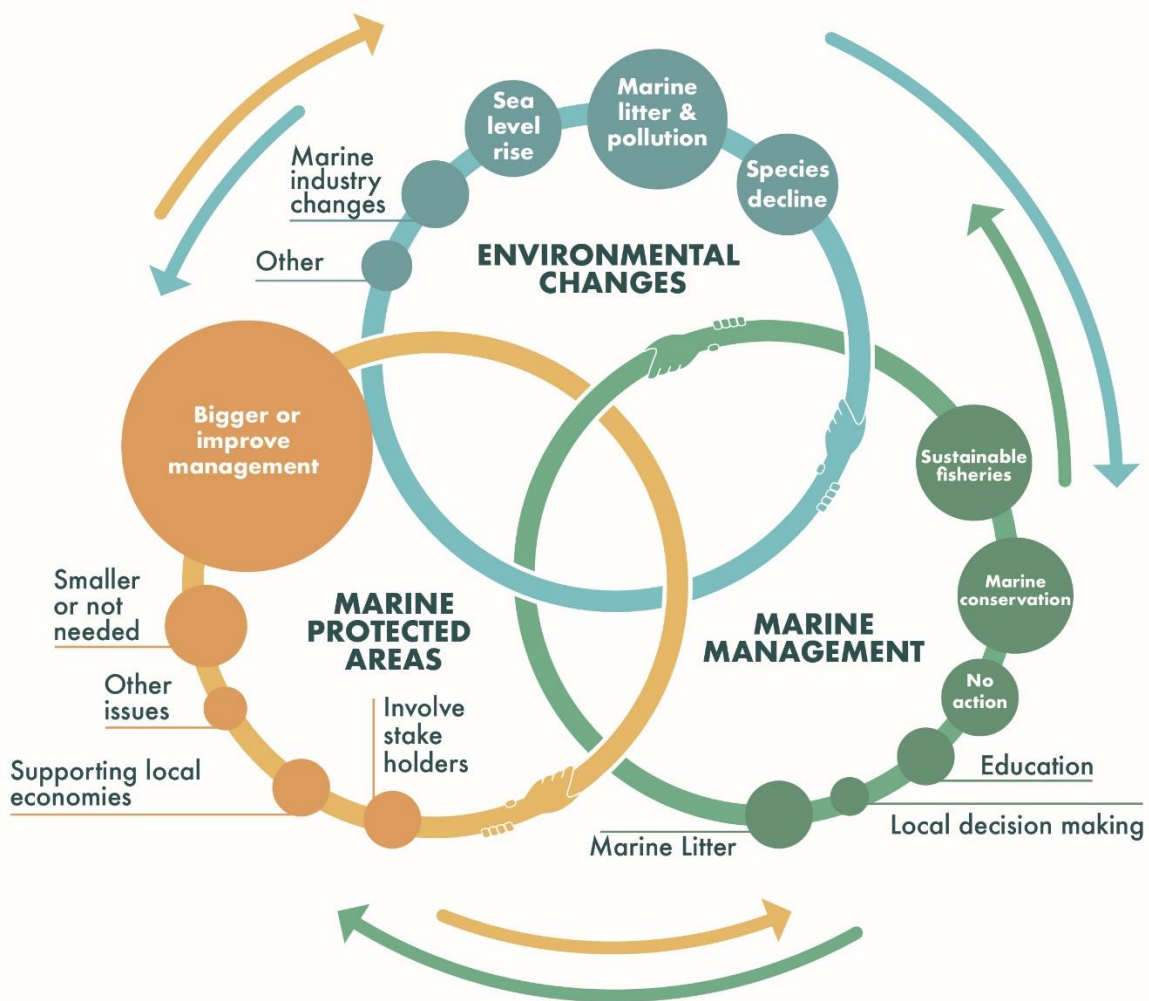


Community stakeholder views on Marine Protected Areas of the Outer Hebrides, their management and benefits.

Results from the evidence gathering phase of MarPAMM – SEASOH



The infographic shown here illustrates views received through free-text responses to our online survey on the three key areas of environmental changes observed, marine management priorities and changes wanted to MPAs. Full details can be found in the report text

Contents

Section	Page number
Overall Summary	3
1 Introduction	4
2 Methods	5
Face-to-face workshops	5
Online survey	5
Data collation and processing	6
3 Results	7
Winter workshops	7
Online survey	9
Survey results – Environmental changes observed	11
Survey results – Marine management priorities	13
Survey results – Marine Protected Areas	15
4 Summary and Interpretation	17
5 Conclusion and next steps	20
Acknowledgements	20
Appendix A – summary tables from survey scoring questions	21
Appendix B – tables including themes identified by non-resident survey participants	26



Overall Summary

Stakeholder views on marine management, conservation, and Marine Protected Areas (MPAs) were collected across the Outer Hebrides during 2020 as part of the MarPAMM – Seas of the Outer Hebrides (SEASOH) project.

A series of face-to-face workshops was held during February and early March 2020 (prior to any restrictions as a result of the Coronavirus pandemic), with events held at six locations across the Outer Hebrides. Creative activities, delivered with the help of local artists, were designed to create a fresh format for community engagement and provide space for all stakeholders to express their views.

An online survey was run between March and June 2020 and was open to all but aimed primarily at capturing views of adult stakeholders from all communities of the Outer Hebrides. The survey questions were available in either English or Gaelic and were designed to collect a mix of quantitative (scoring) and qualitative (free-text) data indicating views on marine management and MPAs of the Outer Hebrides.

The results described here provide valuable insights into the issues and priorities defined by the workshop participants and survey respondents who took part. It will be important to seek community feedback on our interpretations as shown in this report, to ensure that an accurate representation of community views has been achieved.

Key findings were:

- Many of the workshop and survey participants had observed undesirable environmental changes at the Outer Hebrides.
- The environment and its successful management are important to participants.
- Jobs and the economy are also important, with emphasis placed on the need for environmental sustainability of marine jobs.
- Managing the balance between achieving environmental protection while sustaining economic prosperity seem important to many.
- Many residents have a strong sense of pride linked to place, home, or cultural identity, which may be channelled through participants' appreciation of nature, or through making a successful living in the environment; for example from fishing, island tourism or other marine jobs.

From the comments and conversations we have had so far it seems clear that in general, Outer Hebrides island communities need to sustain marine jobs while also preserving biological diversity, reducing or removing pollution, adapting to and addressing climate change and allowing communities to feel the benefits of having a healthy environment. The effectiveness of MPAs as tools to help successfully deliver environmental protection remains uncertain to many communities and there have been calls for information about Outer Hebrides MPAs to be made more accessible to the public.



1. Introduction

The Marine Protected Areas Management and Monitoring (MarPAMM) project is a four year, cross border initiative taking place in two marine regions of Scotland, one of Northern Ireland and one of Ireland. The project is funded by the European Union's INTERREG VA programme, with match funding provided by the Department of Agriculture, Environment and Rural Affairs in Northern Ireland and the Department of Housing, Planning and Local Government in Ireland.

One of the tasks of MarPAMM is to put communities at the heart of the process of delivering a new regional Marine Protected Areas (MPAs) management plan (hereafter, the "plan") for the Outer Hebrides Marine Region (OHMR)². This work, known as "Seas of the Outer Hebrides" (SEASOH) is being overseen by a working group partnership of representatives from Comhairle nan Eilean Siar, Scottish Natural Heritage (now re-branded as NatureScot), Marine Scotland and the University of the Highlands and Islands.

For the plan, a total of 39 MPA sites³ have been scoped in for inclusion in the plan by the SEASOH working group. These sites were chosen to reflect marine habitats and species across the Outer Hebrides island chain, which has a rich wealth of biological diversity ranging from intricate seabed habitats to wetland birds and seabirds, marine mammals and sharks. The protected sites include a range of designations types, but for the purposes of our work we refer to all of these sites as "Marine Protected Areas" (MPAs⁴).

Stakeholder engagement over the winter and spring of 2019-2020 as part of the initial "evidence gathering" phase of SEASOH was designed to address key questions around: i) what is important to communities of the Outer Hebrides about the sea and any changes noticed in the marine environment; ii) priorities for marine management and who should be involved in delivering it, and iii) benefits and disadvantages of MPAs in the Outer Hebrides. The information was collected to inform subsequent work carried out as part of MarPAMM – SEASOH.

This document summarises what was learned from this evidence-gathering phase of the project. Our chosen methods are described in the next section, and then the results are split into the three key areas of i) environmental changes; ii) marine management and iii) views on MPAs.

² More information on the work that MarPAMM is doing is available at the website <https://www.mpa-management.eu/>

³ You can explore the MPA sites of the Outer Hebrides on an interactive storymap here: <https://arcg.is/Ov55G1>

⁴ For more general information on Marine Protected Areas in Scotland see this link: www.nature.scot/mpas

2. Methods

A central aim of MarPAMM – SEASOH is to deliver a regional MPAs management plan for the Outer Hebrides, putting communities at the heart of the process by considering a broad range of views at every stage. Here we describe the engagement methods employed to start the conversation about what is important to stakeholders when it comes to the Outer Hebrides seas. We listened to community views on broad topics and also brought the focus of conversations to MPAs.

Evidence gathering: Face-to-face workshops

A series of family-oriented face-to-face workshops were delivered around the major islands of the Outer Hebrides during the February 2020 schools break. The project team worked with Creative Carbon Scotland⁵ and two local artists to deliver an innovative and fresh format for community engagement that was designed to appeal to adults and families: including children in the process, but not directly eliciting their views so as to remain ethically responsible with a potentially vulnerable group. So, while there were creative activities on offer for both children and adults, space was also made for some detailed conversations (with the adult attendees) about management priorities for the Outer Hebrides and its MPAs. Conversations at these events were not recorded formally. Instead, workshop staff for the project reflected together afterwards on the themes that were brought up. Comments made on a short paper survey, or on large pieces of paper affixed to walls were transposed to electronic format. All of the comments and conversations were reflected upon in relation to comments gathered through an online survey to assess whether any themes of importance emerged from face-to-face conversations in addition to anything that was brought up in the online survey.

The workshop events were delivered during extreme weather conditions at locations on all of the main islands of the Outer Hebrides. A further trip was made to Barra in early March because weather had become too severe to reach the islands during the February workshop series. The events were open to everyone and were run in the daytime and evenings.

Evidence gathering: Online survey

An online survey, with versions in English and Gaelic was launched on 9th March 2020: roughly two weeks before Scotland entered a 'lockdown' as a result of the emergent Coronavirus pandemic. The survey was promoted for 13 weeks and was closed on 8th June 2020. Electronic links to the online survey were distributed widely around the Outer Hebrides in order to elicit participation from a wide stakeholder group. Survey links (accessed from the SEASOH web page on the MarPAMM project website) were promoted through a locally published press release; on social media (the MarPAMM Twitter account and SEASOH Facebook account) and by means of emails to key stakeholders known to the project. Flyers were printed to highlight the survey and distributed to a limited number of local locations (this was not pursued once lockdown restrictions were imposed). These flyers had printed QR codes which could be scanned to take the user directly to either the English or the Gaelic version of the survey.

Questions in the survey were initially developed in English. The questions comprised a mix of scoring/ranking questions to elicit quantitative data (all with comments text boxes for any further information relating to participants' responses) and also free text answers to open-ended questions. With every question, space was provided for any further comments.

⁵ Creative Carbon Scotland believes that the arts and culture have an essential role in achieving the transformational change to a sustainable future. See: <https://www.creativecarbonscotland.com/>

Before being launched, the English version of the survey was tested by emailing an initial draft of questions to twenty colleagues from project partner organisations. Views were sought on the language used in the survey, ease of interpretation, length of the survey and relevance/appropriateness of questions being asked in relation to MarPAMM – SEASOH aims. The survey questions were slightly re-worked in light of feedback from this testing. A final draft of the survey was then reviewed by the University of the Highlands and Islands (UHI) Research Ethics Committee, and granted approval by that Committee on 21st February 2020.

The final, approved version of the survey was translated into Gaelic by an official Comhairle nan Eilean Siar translator. Both language versions of the survey were delivered online using the Bristol Online Surveys (BOS) package.

Data collation and processing

Materials gathered from the face-to-face workshops were appraised, with any written information that was retrieved collated on a spreadsheet. Although formal analysis was not carried out in relation to conversations held at workshops, all of the themes brought up by participants were noted.

Data from the online survey were extracted in full and saved to an Excel spreadsheet. Participants were asked whether they associated with a list of sectors, with the opportunity to tick more than one sector, and add a comment describing their sector if preferred. Additional information provided by comment was used to assign each participant to one of ten sectors, including one “unspecified” and “multiple sectors” for participants ticking more than one sector.

Where questions elicited a numerical response or score, these quantitative data were processed in a spreadsheet with average scores calculated for all participants and by sector. Free-text, or qualitative data were not analysed by sector.

Free-text responses to the online survey were analysed by coding into themes that were raised by the respondents. This was done by first reading the comment carefully, and then transferring the response text into a spreadsheet column relating to the assigned theme. The responses were read through sequentially and new themes were identified when three or more responses mentioning the theme had been noted. Subsequent relevant responses were assigned to these themes. Responses that did not fit into the identified themes but were mentioned by fewer than three participants were listed separately in another theme described as “other.”

3. Results

Assimilating what we learned from the various conversations at workshops, from quantitative data and free-text comments from the online survey led us to interpretations that we will seek to check with Outer Hebrides community stakeholders.

Using free-text responses to the online survey an infographic summarising the main findings in three key areas was created (Figure 1). This infographic summarises what we learned from survey participants, but also captures the main themes we heard at workshops.

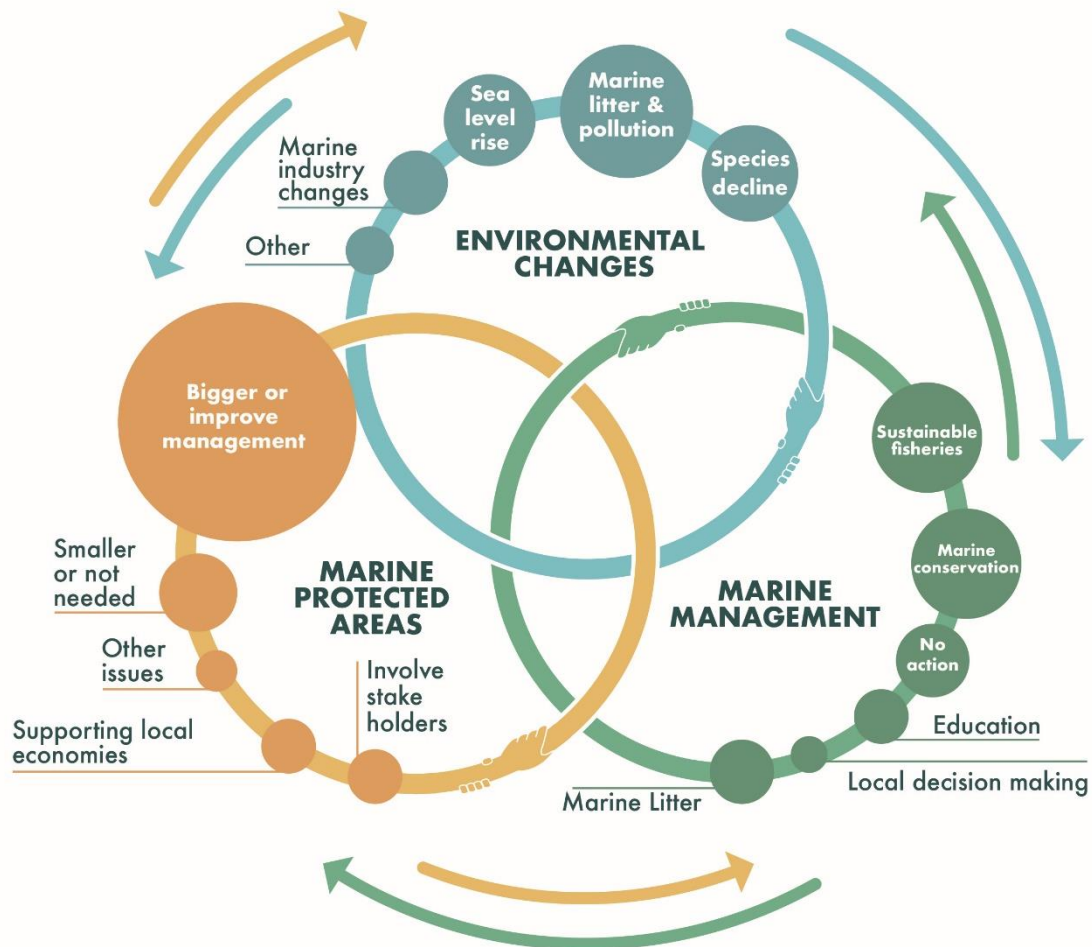


Figure 1. Infographic created following analysis of survey free-text comments from Outer Hebrides residents on three key areas. Each large open circle relates to a theme, and the solid circles are scaled in proportion to the total number of comments relating to the theme. The total number of comments received in each area were: environmental changes = 281 comments; marine management = 37 comments; Marine Protected Areas = 66 comments. Arrows indicate linkage between the three main themes.

Winter workshops

Although challenging weather conditions affected attendance at the February 2020 events, a range of stakeholders did manage to come along, and recurring themes were brought out during the conversations and activities. There were a total of 68 adult participants at the face-to-face workshops (Table 1).

Table 1. Adult attendees at workshop events

Workshop location	Number of participants	Proportion of workshops total
Barra (Castlebay)	13	19%
South Uist (Lochboisdale)	13	19%
North Uist (Lochmaddy)	4	6%
Harris (Leverburgh)	14	21%
Stornoway	12	18%
Rural Lewis (Uig)	12	18%

All workshop participants were Outer Hebrides residents, except for three attendees at the Lochboisdale event and four at the Stornoway event. Proportions of the region’s total population over 16 years of age are approximately as follows: Barra and Vatersay: 5%; South Uist: 7%; Benbecula: 5%; North Uist: 6%; Harris: 7%. Around 71% of residents of the Outer Hebrides live on the Isle of Lewis (source: 2011 population census data published by Comhairle nan Eilean Siar). A range of visual materials were produced by participants engaging with creative activities on offer at the winter workshops (Figure 2).



Figure 2. A selection of creative materials produced at family-friendly winter workshops (Feb 2020).

Online Survey

A total of 260 responses to the online survey were received: 257 in English and three in Gaelic. Responses in Gaelic were translated by an official Comhairle nan Eilean Siar translator.

Of the survey participants, 237 (91%) were permanent residents of the Outer Hebrides. Eleven participants owned property but were not permanent residents. Eight respondents were island visitors and four had declined to answer this. Survey results presented here focus primarily on responses given by island residents, with additional comment relevant to non-resident responses provided when describing qualitative (free-text) answers to survey responses.

Participants had answered the survey from each area of the Outer Hebrides (Table 2) and represented each age group (Figure 3). Overall, 102 participants (43%) were female, 131 (55%) were male, one was of another gender and three declined to indicate gender.

Table 2. Survey respondents' home locations

Home location	Number of participants	Proportion of survey participants
Barra	13	6%
South Uist	22	9%
Benbecula	9	4%
North Uist	24	10%
Harris	34	14%
Stornoway	40	17%
Rural Lewis	94	40%

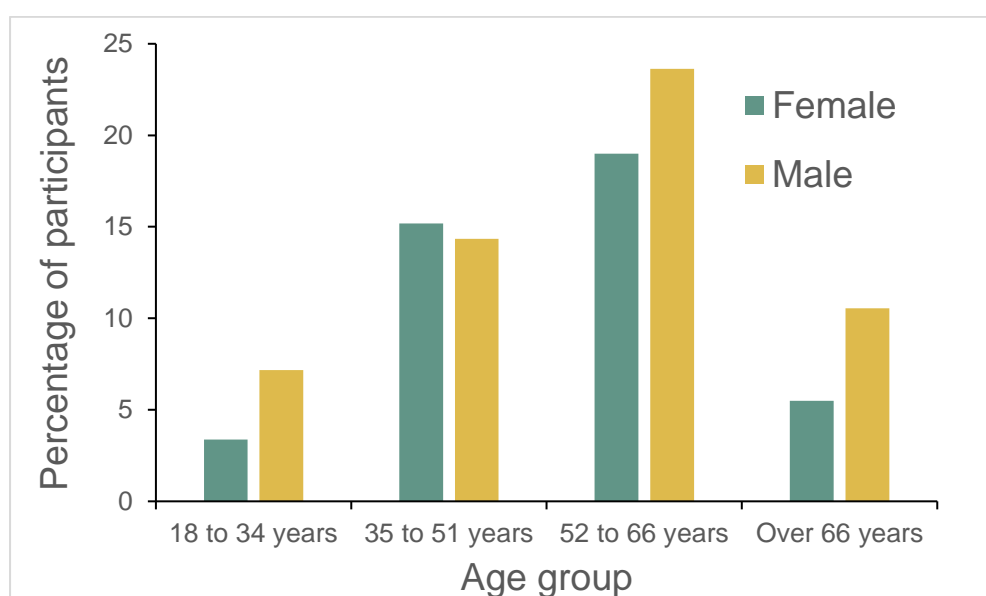


Figure 3. Age groups of island resident participants. Data not shown for age groups of another gender (to preserve anonymity) or of those skipping question.

As well as considering the overall response from participants, some of the quantitative results presented here consider sector-linked responses. Fifty five participants (23%) skipped the question asking about sector. Many (42 participants, 18%) provided more than one sector. Many also provided more information about their sector as a comment. When applied to analysis, sectors, including those provided by comment were assigned as shown in Table 3.

Table 3. Participants from a range of sectors took part in the survey

Sector (for analysis)	Sectors included	Number of participants	Percentage of total
Commercial fisheries and fish processing	Commercial fisheries Fish processing (or both)	22	9.3 %
Academia, education or science	Academia or science Education Teaching	14	5.9 %
Another industry: marine	Another industry – marine Harbours Marine planning	8	3.4 %
Another industry: not marine	Another industry – not marine Crofting Quarrying Joinery Oil Pharmaceuticals	14	5.9 %
Another sector not otherwise listed	Maritime and Coastguard Agency Artist Community or voluntary sector Health Social care Social services Development/creative Software development Work abroad	13	5.5 %
Environmental organisation	Environmental organisation	13	5.5 %
Local Government	Local Government	11	4.6 %
Recreation or tourism	Recreation or tourism Tourism	45	19.0 %
Multiple sectors	Any combination of more than one of the sectors of first column	42	17.7 %
Sector unspecified	Question left blank or “skip question” selected	55	23.2 %

Survey results from quantitative (scoring) and qualitative (free-text) data

We were interested in learning from stakeholders’ lived experiences in the Outer Hebrides, and so asked whether any environmental changes had been noticed at these islands. Stakeholders were also asked about what they value about the sea in an Outer Hebrides context, what the

management priorities should be for the next 30 years and who should be involved in management of the sea. Finally we turned the focus to MPAs, asking whether we already realise any benefits from these sites, and any changes that stakeholders might like to see to MPAs.

A series of ranking questions, with participants asked to score between one (low) and 5 (high) led to summary tables showing average scores for all participants, and by the various sectors identified (these summary tables are mentioned in the text and are provided at the end of the report in Appendix A, Tables A1 to A5). Additional space was provided to leave any further comments following the scoring questions: these comments were read and analysed with free-text responses to other questions, which were intended to remain open-ended. The free-text responses and additional comments received indicated that participants had generally engaged actively with the survey questions in order to provide their views.

The remaining results are described here in sections dealing with three main areas under the headings of “Environmental changes observed,” “Marine management priorities” and “MPAs.”

i) ***Environmental changes observed***

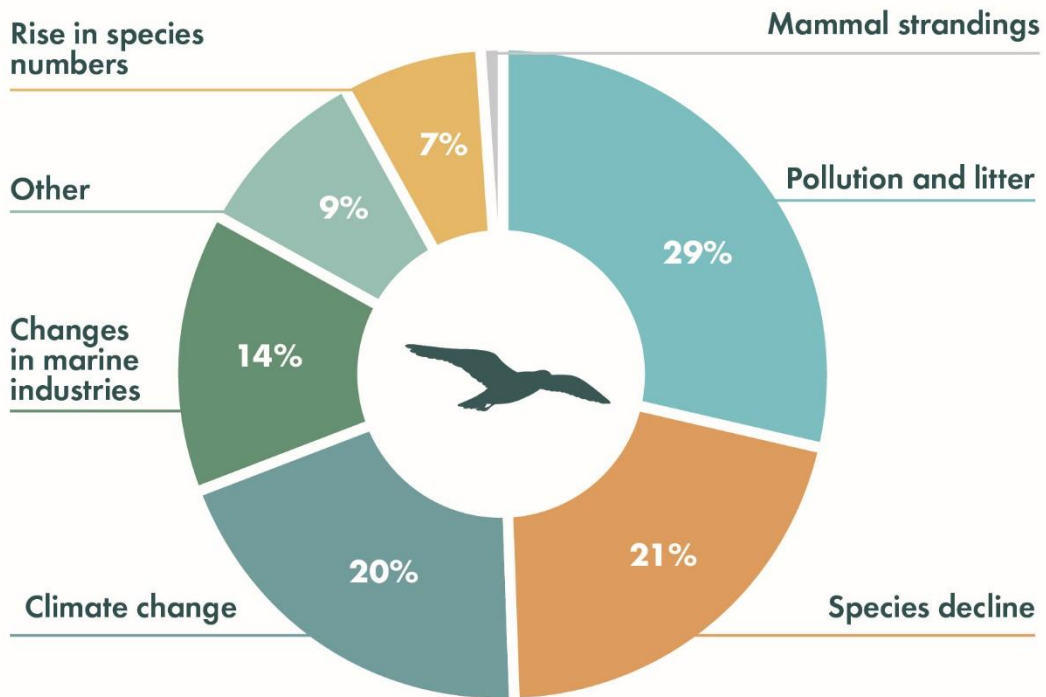
When asked about environmental changes that they had observed, a high proportion of participants (72% overall, 71% of resident participants) reported that they had observed environmental changes at the Outer Hebrides (Table 4). There were 281 comments from 169 resident participants reporting environmental changes (Table 5; the number of comments reported here is greater than the number of participants because many participants mentioned several types of environmental changes. Therefore, comments on different themes were separated out in this analysis).

Table 4. Number of participants reporting on changes /no changes / not sure

Number of respondents	Residents	Non-permanent residents
Number of respondents reporting that they have observed changes (English responses)	166	18
Not sure (English responses)	56	5
No changes observed (English responses)	12	0
Number of respondents reporting that they have observed changes (Gaelic responses)	3	0

Table 5. Number of separately-themed comments on environmental changes

Number of comments	Residents	Non-permanent residents
Number of different-themed comments (changes seen)	281	26
Number of different-themed comments (not sure if changes seen)	54	5
Number of different-themed comments (no changes seen)	0	0



ENVIRONMENTAL CHANGES SEEN

Figure 4. Environmental changes grouped by themes, from a total of 281 comments provided by Outer Hebrides resident survey participants.

Survey participants had observed an appreciable range of changes in both the natural marine environment and also the commercial use of the sea and its management (Figure 4; Non-resident comments by theme shown in Table B1 in Appendix B). Respondents were most concerned about: (mainly plastic) litter (29% of comments); species declines or redistributions (21%) and sea-level rise or coastal erosion (20%). Changes observed in the fishing industry, aquaculture or other marine industries were also reported (14% of comments). Most of the changes were reported as undesirable, and connected to human-induced pressures in the ocean. Some changes were reported as positive, such as perceived increases in sightings of some species, such as whales. Not all observed increases in species were welcomed by some, with increases in seal numbers being one issue that was brought up in relation to environmental changes. Reasons included the view that seals remove excessive amounts of fish from the marine food chain, or that higher numbers of seals result in the spread of (seal-borne) disease.

ii) Marine management priorities

As well as asking more directly about management priorities, we wanted to understand broadly what is important to communities of the Outer Hebrides about the islands’ seas. Both of these questions were aimed at developing an understanding of community-defined priorities for the scope of a MPA management plan for the region.

What is important to communities?

In terms of importance to all stakeholders, the highest average scores of five out of five were assigned to “wildlife and the natural environment” and “the beauty of marine landscapes and seascapes” (Appendix - Table A1).

A total of 74 additional comments were provided in relation to what is important to communities about the sea: 67 from island residents and 8 from non-residents (Table 7). These comments provided valuable nuance and insight into views in addition to the scoring responses.

Table 7. Number of free-text comments provided on importance to communities.

	Residents	Non-residents
Total number of free-text comments in English	65	8
Total number of free-text comments in Gaelic	2	0
Total	67	8

Table 8. Themes identified on community importance from free-text

Theme	Residents: proportion stating as important	Non-residents: count
Protecting the environment and managing human impacts	28%	0
Sustainable marine jobs (in addition to fishing)	27%	3
Sustainable fisheries and seaweed (commercial and non-commercial)	15%	0
Sustainable wildlife watching, tourism and recreation	12%	2
Supporting island communities	12%	3
Local decision making on management of sea	6%	0

The most commonly-identified themes identified here were balanced between environmental protection (28%) and sustainable marine jobs (27%; Table 8). Sustainable fishing was mentioned by 15% of participants. Other identified themes of importance were: sustainable wildlife watching, tourism and recreation (12%) and the need for local decision-making (6%).

The comments provided on importance indicated a similar balance between views as the subsequent marine management priorities, and both sections could provide insight into the scope of an Outer Hebrides MPA management plan.

Community priorities for management of the sea

From scoring questions, although all of the listed management priorities were scored highly (at least 4 out of 5) by participants overall, the highest priorities in this scored question were: sustainable future use of marine resources; protecting and enhancing marine wildlife, and cleaning up marine pollution and litter (Table A2, see also results from qualitative data, in following section).

Generally, participants thought that each of the suggested groups should be involved in management, with a great deal of common ground between sectors (e.g. each sector agreed equally, with a score of four out of five, that scientists should be involved in management, Table A3). While involvement by people who make their living from the sea scored highly across most sectors, some sectors had less desire to see local government or non-governmental organisations involved in management (Table A3).

Overall, and in most of the identified sectors, the effectiveness of liaison with those who work on the sea was scored as three out of five. The commercial fisheries and fish processing sector scored effectiveness of liaison with those who work on the sea slightly lower on average (two out of five).

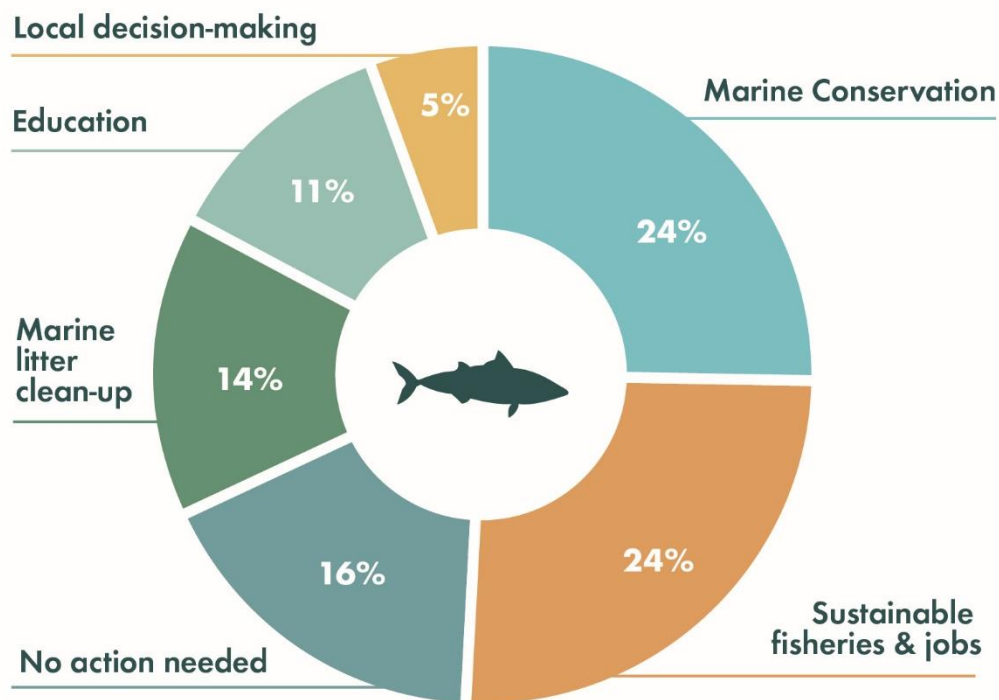
In general, where sector-linked differences in the survey's ranking questions were seen, these were not so different as to illustrate clear sector-linked differences in opinion. There appears to be much commonality of opinion across different sectors, and strong opinions on management priorities and MPAs could be found in all sectors.

Comments collected on marine management priorities (40 comments, Table 9) were in companion with the quantitative/scoring data leading to table A2 in the Appendix.

Table 9. Number of received comments on management priorities

	Residents	Non-residents
Total number of free text responses in English	35	3
Total number of free text responses in Gaelic	2	0
Total overall	37	3

Echoing the results from the previous section, the most commonly reported marine management priorities were equally balanced between environmental conservation/protection and the need for sustainable fisheries, fisheries management and alternative marine jobs (both themes identified by 24% of resident participants, Figure 5; Appendix Table B2 includes also non-resident comments by theme).



MARINE MANAGEMENT PRIORITIES

Figure 5. Marine management priorities identified from a total of 37 comments from Outer Hebrides residents

iii) *Marine Protected Areas*

A total of 187 (79%) of resident survey participants felt that they understood what Marine Protected Areas are for, with 47 (20%) remaining unsure and three (1%) answering that they did not know what these areas are for.

There were views expressing the need for both expansion and reduction in the size of MPAs. Around 50% of survey participants overall thought that Outer Hebrides MPAs are too small, while 20% stated that they are about right in terms of size and 30% stating that they are too large. The strongest opinions on size came from those identifying as Local Government as sector (where half of respondents said that MPAs are too small), while around half of those from the commercial fishing and fish processing sector maintained that they are far too big (Appendix Table A4). Around 35% of resident participants were clearly in favour of no-take marine reserves; 14% were against this idea, while 51% were either unsure or did not answer the question on no-take reserves.

In terms of benefits realised from MPAs, average scores (Appendix Table A5) were generally lower here, than ranking scores given to areas of importance (Appendix Table A1) or management priorities (Appendix Table A2). The highest ranked benefits that are being delivered by MPAs were

“protecting and enhancing marine habitat and species.” While subtle sector-linked difference in opinion were discernible, the opinions of specific sectors were not radically different from the average score when all participants were considered together (See Appendix Table A5).

A total of 41 comments were received on the benefits wanted from MPAs were collected (37 comments from islands residents and four from non-residents). It was clear that participants most commonly did not feel that there was enough information on MPAs to be able to comment (Table 10).

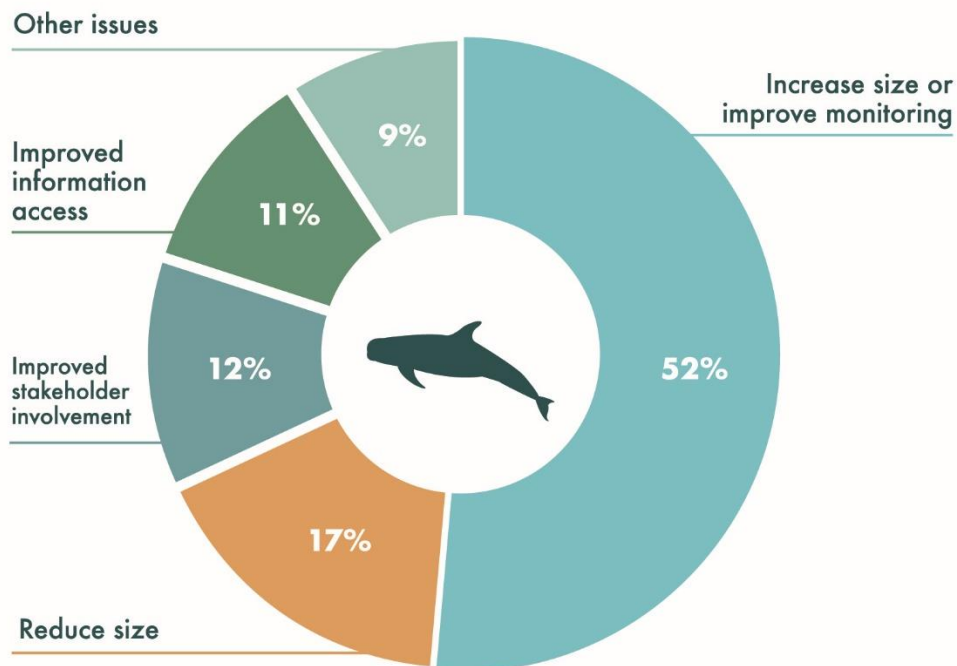
Table 10. The benefits to island communities wanted from MPAs

Theme	Residents: proportion of free- text responses	Non-residents: count
Don't know, not enough info available on MPAs or not enough data	31%	1
Better or increased management or increased number/size of MPAs	18%	0
Sustaining local communities, education or cultural use	15%	0
Addressing environmental problems	15%	0
No benefits wanted or MPAs not wanted	11%	0
Supporting local fisheries or the local economy	5%	0
Wildlife tourism	4%	0
Other comments or topics not otherwise coded	2%	3

Changes wanted to MPAs

There was a total of 72 comments received on changes wanted to MPAs (67 from island residents; 6 from non-residents).

Most (52%) comments were about improving management to MPAs, or in some cases, increasing their size. The next most common theme (17%) was on the need to reduce size of MPAs, or either not manage or do away with these sites (Figure 6; Table B3 in the Appendix includes non-resident comments by theme).



WHAT CHANGES WANTED TO MPAS

Figure 6. Changes wanted to MPAs, from a total of 66 comments from Outer Hebrides survey participants

4. Interpretation and summary

Having collated the data, and analysed responses carefully, we have interpreted the following from our findings.

Survey respondents had in many cases witnessed an appreciable range of changes in the natural marine environment, commercial use of the sea and the sea’s management, and these changes were often reported as undesirable. Regarding environmental changes, respondents were most concerned about marine litter, species declines (or distributional changes), coastal erosion, the sustainability of existing fisheries and the expansion of aquaculture at the islands. There were also notable concerns over observed increases of some species, for example seals. For some respondents, accelerating coastal erosion poses an immediate threat to their community and livelihoods. Many are concerned about the health of the seas around the Outer Hebrides.

It was thought that best practice and environmental sustainability should be at the core of any existing marine industry such as fishing and aquaculture. There was the view that local communities could be sustained into long-term through the support of low impact or environmentally-focused

employment in a range of activities and industries relating to the sea, including fishing and seaweed collection, tourism, science and education.

A comment submitted in Gaelic to the survey, and translated here, well-represents the general view that livelihoods and wellbeing depend on a healthy environment:

"Tha iasgach coimearsalta cudromach don aite is feumaidh sinn a dhion. Ach chan eil cail cho cudromach 's gum faod sinn ar arainneachd a mhilleadh air a shon. Feumaidh sinn an uallach a ghabhail airson ar aite fhein agus na h-aireamhan de dh'eisg a' chumail slàn, fallain msaa. 'S e ar arainneachd a tha sonraichte don aite, tha daoine a' paigheadh torr airgead gus sin fhaicinn."

"Commercial fishing is important to the place and we need to protect it. But there is nothing so important that we need to ruin our environment for it. We have to take responsibility for our own place and keep fish numbers up, healthy, etc. Our environment is what makes our place special, people pay a lot of money to see it."

Some respondents had witnessed a relocation in decision-making on marine management away from the islands. Respect for traditional ways and the role for communities in decision-making was brought out by some, and was present with a more general call for improved management. It is not certain whether communities in general might opt for more input into decision making when it comes to the sea, but this theme could be explored further as we work towards recommendations to improve marine management across the islands. Bringing decision making back to the islands and finding a new decision making framework is illustrated by the following response:

"I think it is the important for local people, in particular those whose lives are directly involved with the sea to have ownership and management of the sea around our island. Decisions should not be imposed from outside."

In terms of involvement in marine management, existing relationships between management organisations, scientists and stakeholders could usefully be strengthened to the benefit of all. Collaborations between commercial stakeholders, scientists, the wider community and management organisations could therefore be considered valuable to inform decision-making. For example, the comment:

"Community managed/localism/informed by science in partnership close on the ground."

A message that came through from respondents on the changes they would make to MPAs also was to involve people and communities far more than is currently achieved. There was quite a bit of dissatisfaction among respondents, that the current management framework is not delivering benefits for either the natural environment or for local communities.

In terms of the main priorities for management, strong and diverse themes emerged, including furthering efforts on marine protection and conservation and ensuring that the future use of the seas in the Outer Hebrides is sustainable. This view was contrasted with others suggesting that the marine environment is either already managed sustainably or is in no need of human management or intervention. A small proportion of the community would regard an increase in active seal management as relevant. In contrast with other sections of the survey and our face-to-face conversations, far fewer respondents identified lack of information as a barrier to participating in the topic of management priorities, than when considering MPAs and benefits associated with MPAs.

There were calls for information on MPAs to be made more widely accessible, as many respondents did not feel able to comment on the benefits that these conservation tools either already are or may be able to deliver. For example:

“I would like to see all these benefits from MPAs but I don't know if they already provide this or not.”

Of those who did feel they could make a response about the benefits or disadvantages of MPAs, improving management effectiveness was identified as the main way to realise more benefits from MPAs with some adding that expanding the network would also bring more benefits.

“It seems to me that the MPAs at present are not doing enough to make a significant difference. MPAs if done right and expanded can make a real difference to sustainability, the local economy and fisheries”.

Some respondents supported the idea of no-take zones, but expressed that these should still be designed to work in support of both people and the natural environment.

“Involve local people, especially those whose livelihood depends on the sea, to stress that conservation is not against people making a living but that they can work together for the good of everyone as well as nature.”

Some participants saw an opportunity to expand the marine tourism sector to gain benefits from that as a source of marine employment. This view has been somewhat challenged in conversations at our face-to-face events, where some attendees were concerned about tourism being identified as a “benefit” or “opportunity” as it is a seasonal and weather dependent operation available mainly in the summer, when marine wildlife is often more abundant in our waters, or when people are more likely to be seeking opportunities to see wildlife. This means that there is a limit to that opportunity in terms of year round income and the number of operators who could take advantage of this benefit.

A small scale approach was cited by some as being beneficial when it comes to benefits from the sea, which could be linked to the need to sustain local communities. This might be thought of as the need for a more traditional ‘crofting’ approach:

“Crofting and fishing is a traditional native way of life. There must be provision for local households and communities to be able to follow those traditional practices, to harvest from the sea according to their need and not have those rights over-shadowed by commercial fishing or exploitation.”

The involvement of local communities and marine users in the management and monitoring of MPAs was again highlighted through both our conversations and the survey as being vital to realising more benefits from MPAs and the seas around the Outer Hebrides.

“Without local community buying into them they will not succeed. If MPAs are to achieve the protection of coastal communities and their environment then they need to be full participants.”

Respondents also identified MPAs as a way to address environmental problems including the balance of fishing pressures highlighted as one area where the greatest benefit could be realised. There is a counter view to this held by many local residents: that traditional and cultural knowledge shared between operators enables them to keep things in balance and continue to support employment in the fishing sector on the islands. With a focus on fishing and the interaction with MPAs, again additional communication is needed about what MPAs in Scotland are designed to do

and the limitations to achieving benefits (such as increased fish stocks) that do not directly relate to their core purpose.

5. Conclusion and next steps

The MarPAMM – SEASOH project has been created to bring communities and managers closer together to work on the management of MPAs for the benefit of all.

We would like to gain feedback on our initial findings to do with management priorities as presented here – so please get in touch with us if you have any comments at charlie.main@uhi.ac.uk and especially if you would like to bring up any further management priorities if we have not yet heard and presented what is important to you in this document.

Our next steps will be to explore the following questions with communities, through local or thematic focus groups, outreach and meetings. We would then like to draft a series of recommendations to put out for public consultation.

Where do we share a vision about what we need in order to create better managed MPAs while maintaining sustainability of livelihoods and the natural environment?

How could MPAs deliver more on what is important to you in relation to the concerns you have about the marine environment or the communities in the Outer Hebrides?

How would you like to be involved with local management of MPAs?

How do we collectively benefit from the sea, and share the benefits of a healthy marine environment to support management of MPAs?

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Appendix A. Tables showing average scores from survey responses from questions relating to management and benefits of MPAs

Table A1. Importance to communities of various aspects of the marine environment and its uses. Average scores are shown for different sectors and for all participants.

	Providing jobs and income from commercial fishing	Providing other marine jobs	Natural resources, including food, fuel, minerals and energy	Opportunities for recreation, sport and wider health benefits	Wildlife and the natural environment	Cultural heritage and the historic marine environment	The beauty of marine landscapes and seascapes
Commercial fisheries and fish processing	5	4	5	4	4	4	4
Academia, education or science	3	3	3	4	5	4	5
Another industry - marine	4	5	4	5	5	5	5
Another industry - not marine	4	3	4	4	4	4	4
Recreation or tourism	4	4	4	4	5	4	5
Environmental organisation	3	3	3	4	5	4	5
Local Government	4	4	4	4	5	4	5
Another sector not otherwise listed	4	4	4	4	5	4	5
Multiple sectors	4	4	4	4	5	4	4
Sector unspecified	4	4	4	4	5	4	5
All participants	4	4	4	4	5	4	5

Table A2. Management priorities for the next thirty years. Average scores assigned to each category by each sector and by all participants.

	Protecting marine jobs or income from marine resources	New jobs or income from the marine environment / resources	Sustainable future use of our marine resources	Reducing human impacts on climate change	Communities adapting to climate change	Protecting marine recreation and health benefits	Protect and enhance marine wildlife	Prevent or clean up marine pollution and litter	Protect historic marine heritage
Commercial fisheries and fish processing	4	4	5	4	4	4	4	5	4
Academia, education or science	3	4	5	5	5	4	5	5	4
Another industry - marine	4	4	5	5	5	4	4	4	4
Another industry - not marine	4	4	4	5	4	4	5	5	4
Recreation or tourism	4	4	5	5	4	4	5	5	4
Environmental organisation	3	3	4	5	4	4	5	4	4
Local Government	4	4	5	4	4	4	5	5	4
Another sector not otherwise listed	4	4	5	5	5	4	5	5	4
Multiple sectors	4	4	5	4	4	4	5	5	4
Sector unspecified	4	4	5	4	4	4	5	5	4
All participants	4	4	5	4	4	4	5	5	4

Table A3. Who should be involved in management? Average scores assigned to each category by each sector and by all participants.

	Local community groups e.g. community land trusts or community councils	People who make their living from marine resources	Statutory Government agencies e.g. Scottish Natural Heritage or Marine Scotland	Local Government e.g. Comhairle nan Eilean Siar	Environmental Non-Governmental Organisations e.g. the Marine Conservation Society	Scientists
Commercial fisheries and fish processing	4	5	3	3	3	4
Academia, education or science	4	4	4	3	4	4
Another industry - marine	3	4	4	3	3	4
Another industry - not marine	4	4	4	4	4	4
Recreation or tourism	4	4	4	4	4	4
Environmental organisation	3	3	4	4	4	4
Local Government	4	5	4	5	4	4
Another sector not otherwise listed	4	4	4	4	4	4
Multiple sectors	4	4	4	4	3	4
Sector unspecified	4	4	4	4	4	4
All participants	4	4	4	4	4	4

Table A4. Participants views (proportion of responses in each category) on the size of Marine Protected Areas in the Outer Hebrides.

	Far too small	Too small	About right	Too big	Far too big	Skip question
Commercial fisheries and fish processing	0.0	0.1	0.1	0.2	0.5	0.1
Academia, education or science	0.2	0.4	0.2	0.1	0.0	0.1
Another industry - marine	0.1	0.3	0.4	0.3	0.0	0.0
Another industry - not marine	0.4	0.1	0.2	0.1	0.1	0.1
Recreation or tourism	0.2	0.3	0.2	0.0	0.2	0.2
Environmental organisation	0.4	0.4	0.2	0.1	0.0	0.0
Local Government	0.0	0.5	0.3	0.0	0.1	0.2
Another sector not otherwise listed	0.2	0.2	0.4	0.0	0.0	0.2
Multiple sectors	0.2	0.2	0.2	0.1	0.2	0.0
Sector unspecified	0.2	0.3	0.3	0.0	0.1	0.1
All participants	0.2	0.3	0.2	0.1	0.1	0.1

Table A5. Benefits already realised from Marine Protected Areas. Average scores assigned to each category by each sector and by all participants.

	Protecting and enhancing marine habitats	Protecting and enhancing populations of marine species	Contributing habitat to support productive fisheries	Providing opportunities for sustainable marine tourism	Sustaining fisheries jobs in rural areas	Providing space for marine wildlife to adapt to climate change
Commercial fisheries and fish processing	3	3	3	2	3	2
Academia, education or science	4	4	4	4	4	4
Another industry - marine	4	4	3	4	3	3
Another industry - not marine	3	3	3	2	3	3
Recreation or tourism	4	4	3	4	3	4
Environmental organisation	4	4	4	3	3	4
Local Government	4	4	4	4	3	4
Another sector not otherwise listed	4	4	4	4	4	4
Multiple sectors	3	3	3	3	3	3
Sector unspecified	4	4	3	3	3	3
All participants	4	4	3	3	3	3

Appendix B. Tables indicating non-resident comments by theme for the three areas of results on environmental changes observed, marine management priorities and changes wanted to MPAs

Table B1. Themes identified by comments reporting environmental changes

Themes from the observed changes	Residents comments: proportion in each coded theme	Non-permanent residents comments (count)
Pollution, litter (especially plastic)	29%	6
Species declines or distributional changes to fish stocks, seabirds, wildlife	21%	8
Sea level rise, coastal erosion, climate change, temperature or weather changes	20%	1
Changes in the fishing industry, aquaculture industry or other marine industry	14%	6
Other (not otherwise listed)	9%	4
Rise in numbers of seals, whales or other species	7%	2
Whale/other mammal strandings or entanglements	1%	0

Table B2. Summary of management priorities identified by qualitative data

Management priority	Residents: proportion of responses	Non-residents: count
Marine conservation and environmental protection (including from climate change)	24%	0
Sustainable fisheries, fisheries management and alternative marine jobs	24%	0
Leave alone / no action needed on environmental management	16%	1
Marine litter	14%	1
Education	11%	0
Local decision making on management of sea	5%	0
Other additions or comments	5%	1

Table B3. Changes wanted to MPAs

Theme	Residents: proportion of free-text responses	Non-residents: count
Increase size, improve management or enforcement or improve monitoring	52%	4
Reduce size or MPAs not needed	17%	0
Improve local stakeholder involvement	12%	1
Don't know, or improve access to information on MPAs	11%	0
Other issues that need attention	9%	1