Enabling Markets for Marine Natural Capital: Facility for Investment Ready Nature in Scotland (FIRNS): Semi-structured interviews

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Executive summary

Overall, the interviews raised a wide range of useful points and opinions around the idea of developing marine natural capital markets, and the role these could play in the conservation of marine environments. In terms of the current state of play, participants highlighted a number of key challenges for conservation. These included climate change, biodiversity loss and negative impacts from marine industries. They highlighted trade-offs and contestations between different sectors or user groups, and in particular, conflicting interests between balancing economic and ecological values. Other challenges included incoherent and insufficiently resourced governance featuring reactive short-term thinking. The top-down nature of governance was seen to disempower communities, which were thought to lack capacity to effectively take part in marine conservation. Research was seen as insufficiently funded, enforcement of marine protection lacking, and challenges were highlighted around both standardizing measurements for biodiversity loss and measuring impact.

Participants varied in whether they perceived the use of natural capital concepts to be potentially beneficial, were sceptical that natural capital concepts would produce positive benefits or were confused about what natural capital was. Amongst the benefits that participants thought marine natural capital markets might provide for communities were the potential for profits to be channelled back into conservation of the marine environment, boosting tourism, recreational activities and marine industries. It was thought profits could invested in local infrastructures, training and capacity building and diversification for local businesses. Providing opportunities for community ownership and inclusion in decision making processes around marine natural capital markets was seen to be key. For the marine environment, benefits might include enabling the profitability of managing nature for nature's sake, which could positively impact on marine resilience and biodiversity. Marine natural capital markets could incentivise marine conservation and profits could be invested in enforcement of marine protection, strengthening local capacity to engage in it and funding the building of local, collaborative networks and infrastructures to prevent harm to marine environments. For investors, participants saw the main benefits as being the potential for them to legitimise their activities through social licence, and the eventual creation of a 'joined up strategic approach to conservation management and environmental management across Scotland'.

Participants were broadly concerned about the lack of clarity and transparency regarding the development and implementation of marine natural capital markets. Amongst risks highlighted for communities were concerns that coastal communities may be excluded from decision making around

issues which would affect them, that benefits may be distributed unevenly, and that marine natural capital schemes may be captured by the interests of large businesses. Several highlighted current lack of capacity for enforcement of marine protection. More broadly, many participants expressed discomfort at the idea of privatising nature, perceived as a 'common good', and of creating unequal access to it which may act to displace and exclude communities. Trade-offs and contestations between the interests of coastal communities and other stakeholders were highlighted as having the potential to negatively impact livelihoods and degrade intangible values held in marine environments. For the marine environment itself, it was feared that 'greenwashing' would result in short-term, ineffective commitments to conservation. Natural capital concepts more widely were seen by some as having the potential to reduce ecosystems to quantifiable units, removing any onus to consider wider complex environmental interactions and thus having the potential to place environmental goals at risk or to cause harm. For investors, participants saw risks as minimal, although the difficulties of proving the benefits of natural capital markets or achieving economies of scale were pointed out.

A number of suggestions were raised as to how to minimise risks and improve the chances of marine natural capital markets being beneficial. From a governance perspective, participants felt standardised objectives and expectations for delivery and for social, environmental and financial integrity would be key, necessitating the creation of an effective interface between different sectors and interests. Engaging in marine natural capital markets could be enabled by ensuring simple application procedures and providing units of different sizes for investment. Proper allocation of roles and focus on regulation, enforcement and accountability were seen to be important, while research and data should underpin marine natural capital markets. Social licence, including the building of relationships between stakeholders and seeking consent or allocating control to local communities was crucial, some participants expressing that it was essential that marine environments should remain common goods. Practical measures to increase community capacity building to enable their participation were suggested, as was the potential for channelling profits to communities. Community cooperatives were suggested as a way of enabling communities to invest and accrue benefits. Most participants felt that they, or their organisations, may be able to contribute to the development and implementation of marine natural capital markets in some way.

Overall, these findings emphasise the importance of the following key themes:

- Communities should be empowered to help shape decision making around and control over the management of marine natural capital markets, ensuring they retain access to the marine environment as a 'common good'.
- Efforts should be made to balance trade-offs between different interest groups, fairly, and particularly those between economic and ecological interests, to mitigate inequality, protect nature and maintain the intangible values of marine environments.
- Financial benefits generated by marine natural capital markets should flow to communities, to boost coastal economies, and to conservation of marine ecosystems, rather than being captured by large business interests and 'greenwashing' exercises.
- Governance of marine natural capital markets should be collaborative, transparent and accountable, properly resourced, and based on research, long-term thinking and consideration of complex ecosystem service flows, while marine protection should be properly enforced.

- It should be acknowledged that, while these themes may be helpful in guiding the future development of marine natural capital markets, most participants expressed reservations about the privatisation of nature that this would entail. It is important that these views are carefully considered before any plans to marketize marine natural environments are embarked upon.

Introduction

The FIRNS project "Enabling Markets for Marine Natural Capital" was conceived with the goal of proposing ideas for the formulation of responsible markets for goods and services associated with marine habitat restoration projects, following the Scottish Government's Interim Principles of Responsible Investment in Natural Capital. This study, conducted through a partnership between Kaly, the Scottish Association for Marine Science (SAMS), and the James Hutton Institute (JHI) explored the economic, legal, and social conditions that could help to enable such markets, as well as their potential benefits, risks and constraints. The findings from this study can be used to help guide development of a roadmap for operating these markets in a way that generates shared benefits between the general public, private investors, and coastal communities, and contributes to a Just Transition.

In this report we made a summary of the main themes which emerged from a series of semi-structured interviews carried out by JHI and SAMS. The interviews were held with a selection of stakeholders from a list of more than 100 key players, identified during the stakeholder mapping process and that we considered relevant to shape the governance of future marine natural capital markets (as described in the "Stakeholder mapping approach adopted in the FIRNS project Enabling Markets for Marine Natural Capital").

Because of time constraints, we refined the full stakeholder lists to 16 key stakeholders, some of whom were already working with, or aware of, ideas about marine natural capital. These stakeholders were contacted because they offered the opportunity to cover a breadth of sectoral areas such as marine policy, conservation, research, and industry. In total, participants from eleven organizations agreed to participate.

Seeking the point of view of stakeholders, particularly those with links to coastal communities, is essential, since community benefits from nature restoration projects are not always considered when measuring projects' impacts. The current proliferation of marine restoration projects may soon cause conflict with stakeholders using the marine natural environment for other uses, and, as such, marine restoration activities with links to approaches which commodify nature may be challenged.

The research team followed an agreed interview protocol (see Appendix), and recorded, transcribed and anonymised all data which emerged. The targets of these interviews were stakeholders working in policy, marine industry, conservation, recreation, and public administration. From the answers provided, several ideas emerged around the opportunities and risks that marine natural capital markets may provide. In particular, the stakeholders interviewed revealed that they were keen to discuss and help shape the governance of marine natural capital markets. This is necessary because stakeholders felt that transparency and accountability are essential for enabling the benefits and

mitigating the risks associated with marine natural capital markets, not least because of the potential spatial constraints they could impose upon existing activities. Furthermore, they felt the planning of marine restoration projects should happen within the marine spatial planning process.

Methodology

In this section of the research, we conducted a set of semi-structured interviews with stakeholders who have interests in Scotland's marine natural capital. The interviews followed a pre-prepared set of themes and questions for discussion (see the Appendix), but we used open-ended questions to stimulate conversations, and allowed for flexibility to respond to unanticipated or surprising aspects that emerged from participants' responses (Bryman, 2008). The discussions concentrated on interviewees' perceptions of the following broad themes: their relationships with the marine environment, conservation challenges in the marine environment, benefits and risks of marine natural capital schemes, and suggestions for conscientious approaches to potential marine natural capital schemes.

In total we conducted 11 interviews with 12 stakeholders (one interview included two interviewees together). The stakeholders represented a range of different sectors and related perspectives on the marine environment. This included representatives of coastal communities, researchers, fisheries, conservationists, recreationists, and public and private sector organisations. Often these categories were not mutually exclusive, and respondents spoke from more than one perspective. Notably, although we included private sector representatives, the sample for these interviews did not include prospective investors in marine natural capital market schemes, as we were more interested in exploring the perspectives of those with existing interests in the marine environment. Furthermore, the perspectives of potential investors, regarding the characteristics of marine environmental markets were explored in workshop organised by Kaly, with the aim of addressing the main problems that must be overcome to operationalise a marine environmental market.

All of the interviews were conducted online, using either Webex or Microsoft Teams and lasted between 20 and 50 minutes. The interviews were recorded and transcribed, using the recording and transcription functions of the Webex and Teams virtual communication platforms. The transcripts were subsequently uploaded to the NVivo qualitative analysis software and analysed using a thematic analysis. This involved reading through the interview transcripts and identifying themes in what the interviewees said. On the whole, the interviewees found the topic interesting and were able to discuss the questions in detail.

Contextual findings

What are participants' roles and relationships with the marine environment?

Current and past professional roles influenced the relationships some participants perceived they had with the marine environment. One participant, who worked in marine policy and marine spatial planning, described their experiences in exploring approaches to valuing marine natural capital with a focus on the inclusion of community social values, in marine conservation and the benefits of this

for Scottish communities, and in looking at marine biosecurity planning. Two participants worked in roles related to fishing. One, a marine biologist, worked for the Scottish Fisherman's Federation focusing on conservation, biodiversity and other policy and strategy areas relevant to fishing, and the other working for the Orkney Fisheries Association which represents and lobbies policymakers on behalf of fishers and considers sustainability as vital for the protection of fishing incomes. One participant worked for the Scottish Seaweed Industry Association focusing on value chains and on sector growth. Others were, or had been, involved with exploring payment for marine ecosystem services, marine archaeology, or roles supporting coastal community groups to safeguard the environment. One participant worked for the Royal Yachting Association Scotland and their role involved ensuring the yachting community experienced 'safe and rewarding' sailing, while another worked in a role that supported aquaculture, as well as place-based businesses and community rural or social enterprises, some of which related to the marine environment. Some participants described their relationships to the marine natural environment from academic perspectives due to their training or backgrounds in academic research. Disciplines ranged from marine ecology, biology, and marine coastal management to the social sciences.

For some participants, their relationships to the marine environment were primarily recreational – two divers, for example, saw it as providing opportunities to relax, escape day to day life and experience something 'novel'. They suggested that while some divers were interested in biodiversity and the environment, others preferred the technical aspects of the sport, or underwater photography, history, or archaeology, for example. One participant was involved in recreational sailing, while another participant undertook kayaking and wild swimming, highlighting the social aspects of interacting with others during these activities either via communities of interest or local coastal industries and communities.

Two participants viewed their relationships with the marine natural environment from stewardship perspectives, noting that protecting it fell within their job roles. For others, stewardship dimensions were more emotional or linked to personal passions for safeguarding the marine natural environment. For some, their personal experiences of living in coastal environments, growing up by the sea or childhood experiences on the beach made it an important aspect of their lives with connections to family and memory.

What are the challenges for conservation of the marine environment?

A number of key challenges for marine conservation were noted by the participants, including climate change and biodiversity loss resulting in negative marine ecosystem change. Others highlighted the challenges of pollution, of renewable energy developments, and the impacts of cruise ships which they felt undermined conservation efforts. These challenges often represented trade-offs and contestations between different sectors or user-groups seeking to use the marine environment for different purposes. Meanwhile, different conservation actions had the potential to

impact negatively on different sectors or groups of people, and it was seen as difficult to strike a balance between economic, recreational / tourism, community access, safety,- and conservation needs. Particularly difficult trade-offs were felt to exist between conservation and industry, where negative impacts on industry were seen to cause uncertainty, loss of income, loss of livelihood or displacement, while prioritising marine conservation over economic gains was seen as challenging due to a tendency for greater value to be placed on economic benefits.

Incoherent and insufficiently resourced governance was highlighted by several participants as challenging for the conservation of marine environments. In this view, the pace of environmental change was difficult for science or management to keep up with, partly due to insufficient, competitive funding and a focus on research projects with short lifespans. Participants suggested problems are rarely approached from joined-up perspectives, sometimes resulting in negative knock-on effects. Others suggested insufficient policing of marine protected areas led to negative impacts on the marine environment. One participant highlighted the challenges of measuring biodiversity loss due to a lack of standardisation for comparative indicators and lack of sufficient funding. This was seen as preventing properly informed decision-making around marine conservation and preventing the ability to demonstrate the impact of conservation efforts.

Institutional barriers for communities engaging in marine conservation were highlighted, with a 'top-down bureaucratic policy and legislative system' making it difficult for communities to participate. One participant described government imposition of 'policies and actions upon… rural communities' suggesting that it was rare that communities were asked to genuinely contribute to decision-making. Some participants felt communities lacked capacity to engage in marine conservation due to lack of access to knowledge, expertise, equipment and other resources, or lacked information around they could benefit from marine conservation.

The impact of political will to support marine conservation was also thought to be important, and it was noted that there has been a recent increase in political interest in oceans in Scotland. However, one participant saw political action around marine conservation as a tool to obtain votes, flagging the difficulty other organisations had in reaching members of the public with important, complex messaging around marine conservation within what they saw as a political landscape of quick and overly simplified emergency-driven messaging which tended to result in reactive, short-term actions rather than properly researched responses.

General awareness and perceptions of natural capital (high-level here, as there are more detailed things that can be added to the section on risks).

Some participants perceived natural capital to be potentially beneficial. One participant saw it, from a governance perspective, as a 'simplification of the ecosystem services framework' which broke discrete areas down into bounded units that may be perceived as easier to manage in practice than complex ecosystem service flows. Others speculated that the marketization of natural capital could be a potentially useful tool for raising money for vital conservation or restoration work, while another saw it as an 'interesting opportunity for a rural economy development'.

Several participants saw working with natural capital concepts as including and increasing understandings of how natural capital provides ecosystem services and of the different values ascribed to them. For one participant, natural capital classifications helped guide conservation to consider a wider set of impacts on marine natural resources, which they felt may help to maintain ecosystem service benefits and ultimately result in a wider understanding of what should be conserved and why. For others, the focus on natural capital helped highlight a greater range of values around natural resources and ecosystem services, beyond their intrinsic values. From this perspective, the health of marine natural capital was seen as important for maintaining tourism, recreational activities and livelihoods and in supporting coastal community economies.

For another participant, focusing on how natural capital feeds ecosystem services was useful in reframing conservations to include consideration of how people interact with, and are part of, ecosystem service flows. This was seen as useful in highlighting how humans are 'part of nature rather than separate from it'. They saw this as potentially leading to a different level of understanding around the importance of marine conservation.

Some participants expressed confusion around what natural capital concepts meant, several seeming to conflate natural capital and ecosystem services concepts. Others were sceptical that they would have positive impacts, several participants perceiving that natural capital concepts were linked to ideas related to the buying and selling of natural capital and ecosystem services. Some highlighted their discomfort around the idea of ascribing monetary values to natural resources or 'common goods'. These themes are elaborated further in the section on risks associated with marine natural capital markets, below.

Findings about the potential benefits of marine natural capital markets (include points about oyster restoration as examples, not a separate section, as it was difficult to distinguish in participants' responses).

What could be the benefits of marine natural capital markets for communities?

Participants considered that marine natural capital markets could be beneficial for communities in a number of ways. These included benefits for local ocean economies, if profits could be specifically directed into communities to increase community sustainability and resilience and compensate for negative impacts. One participant highlighted the importance of asking community members themselves what benefits they would wish to receive from marine natural capital markets.

Firstly, profits could be directed back into community efforts to restore and conserve the marine natural environment, removing the need for short-term grant funding and providing certainty of capital flows. This could result in improved water quality and encourage positive feedback loops by increasing the health and profitability of the marine natural capital assets. Increased profits could feed into building capacity for delivering further improvements to marine natural capital and encourage direct local engagement and stewardship of marine environments, helping to make the health of local marine natural environments visible and raising local awareness. Communities could also be offered ownership of marketized assets, or opportunities to feed into co-produced research

around the conservation of local marine natural capital. Participating in collaborative research processes could highlight local industries already working to protect the marine environment, helping them get 'a seat at the table' for related decision making, and draw out other pathways for local control over the protection of marine natural capital, for example by revealing locally embedded organisations who could be involved in monitoring and enforcement and providing them 'social licence' to act as wardens.

Restored, pristine marine natural environments may increase the attraction of local areas to international tourists interested in ocean recreational activities, attracting, for example, divers seeking 'exquisite marine wildlife' or historic shipwrecks, and communities could be supported with financial benefits to market themselves as 'ecological communities'. Profits from marine natural capital markets could also be used to invest in the infrastructures required to support increased tourism and increase community vibrancy, which could in turn boost revenues for local services and supply chains. Increases in tourism could then have the knock-on effect of generating new jobs.

Investment could help new local businesses or encourage outside businesses to set up in the area and employ local people. Money could be invested to help existing businesses diversify, to allow, for example, local fishing communities to purchase extra boats to provide trips for tourists, or for those in aquaculture to diversify into farming multiple species. Profits could also be used for capacity building around local enterprise, funding skills training, shoring up local supply chains and services, and increasing and upgrading community infrastructure. Contributions could be made to local charities, to boost local school funds and fortify food security.

Recreational activities could benefit from marine natural capital markets if investors fund local recreational clubs and facilities or shore developments. Marine oyster restoration projects could lead to natural filtration of water providing cleaner water for communities to swim or take part in other recreational activities such as boating or kayaking, providing uncontaminated fish stocks for fishing, and providing richer, healthier reefs for divers.

What could be the benefits of marine natural capital markets for the marine environment?

Participants drew attention to the possibility that marine natural capital markets might allow nature to be managed for nature's sake, by making it affordable to run oyster regeneration businesses that may otherwise not be profitable. This might mean the marine environment could be managed for the benefit of nature and for ecosystem service flows to improve water quality, protect fish stocks, increase biodiversity net gain, and protect and increase carbon storage. It was thought that oyster restoration projects could provide specific benefits to the marine environment such as cleaner water, carbon sequestration, enriched biodiversity, the development of trophic aquaculture systems, and marine resilience.

Marine natural capital markets could provide incentives for conservation, for example in the form of financial incentives for investors to fund conservation efforts. In this view they could act to

encourage or steer environmentally sustainable behaviours. A marine natural capital market could also act as a way of raising money for conserving marine environments and of opening conversations around marine conservation. This could lead to improvements in natural capital assets and in the health of ecosystem services. Money could be raised from the public and private sectors using tools such as carbon credits, biodiversity credits, a licensing system, marine net gain or strategic compensation, one participant suggesting that they saw market-based approaches as more efficient and easier and cheaper than creating new legislation. One participant, however, questioned how conservation or the success of natural capital markets for promoting conservation could be measured, and another said that it was important that any money raised for conservation must be directly channelled to the people who are delivering environmental restoration.

Provision of investment in enforcement of marine protection was also seen as a potential benefit of marine natural capital markets. One suggestion was to use funds to create a new body of power to enforce protection via the employment of public or private wardens. One participant highlighted that the provision of wardens alone may not lead to change, since they felt that misdemeanours, which should be reported to the Marine Directorate, are often not followed up with official investigations. As such, they suggested that investment should be made in national enforcement capabilities to improve investigation efforts. Another suggestion was that money could be utilised to strengthen local marine enforcement, with the employment of local wardens, patrol officers or rangers who already had local knowledge to undertake monitoring and local management. Funding could also provide tools such as new boats. New officers could also be funded to work collaboratively with local organisations to strengthen networks and infrastructures required to prevent harm to the marine environment (delineating specific areas for mooring boats, creating fishing only zones and spatially distributed dive sites and introducing permit systems, for example).

What could be the benefits of marine natural capital markets for investors?

Several participants considered the benefits that marine natural capital markets could have for investors, such as the potential for them to promote themselves as organisations with conscience. This was linked to ideas of corporate social responsibility which might legitimise and provide social licence for marine business activities. One participant drew comparison with the Scottish Marine Environmental Enhancement Fund (SMEEF), through which investors received the opportunity to have their names advertised as donors. It was suggested that the next step would then be for investors to be required to report on how activities funded have improved the health of the marine environment and that ultimately, this could then be linked to Scottish policy to develop a 'joined up strategic approach to conservation management and environmental management across Scotland'. Interestingly, none of the participants suggested that investors could, or should, benefit financially from their investments into marine natural capital markets, although one participant suggested that oyster regeneration projects might provide natural filtration systems which would benefit the seaweed industry.

Findings about the potential risks of marine natural capital markets (include points about oyster restoration as examples, not a separate section, as it was difficult to distinguish in participants' responses).

What could be the risks of marine natural capital markets for communities?

Interviewees representing fisheries, public sector and recreation were concerned about the potential for alienation and exclusion of coastal communities in the development and implementation of marine natural capital markets. In particular, there were concerns about coastal communities not being included in decisions that would affect them and their livelihoods. Representatives of the fishing industry, for example, felt they rarely, if ever, have a space at the table when it comes to decisions about the management of the marine environment, and were concerned that this would be no different in the design and implementation of marine natural capital markets. Others considered that decisions made by powerful actors, external to the community, might sideline community interests. One interviewee, who was a researcher, also suggested that communities might begin to feel fatigued by participation in initiatives that fail to really benefit them.

Relatedly, most of the respondents highlighted issues of inequality between different actors in potential marine natural capital markets. This included both recognition of inequality within communities, which could result in the benefits of marine natural capital markets being unevenly distributed among different members of coastal communities, as well as inequality between community organisations and large companies that might be involved in investment, which could result in community organisations being unable to compete if they were interested in investment in marine natural capital schemes. In addition to inequalities associated with the distribution of potential benefits, respondents were also concerned about power inequalities, particularly the possibility for marine natural capital schemes to be captured by the interests of large businesses, at the expense of communities. Associated with this were concerns around enforcement of protection and restoration of marine ecosystems. Two coastal community members, who were also recreational divers, highlighted that neither local communities, nor government bodies are perceived to have capacity for effective enforcement. They suggested private investment could support this, but simultaneously expressed reservations about the prospect of enforcement by private actors.

A major concern, that was mentioned in almost all of the interviews, was around the notion of privatising, and thus potentially losing access to the marine environment as a common good. Indeed, it could be argued that this concern underpins all of the risks mentioned above. Participants worried that marine natural capital schemes could create a situation in which there was unequal access to that common resource. Representatives of the fisheries were concerned that expansion of oyster restoration schemes could add to existing pressures on fisherfolk by further reducing their space to operate. Recreationists highlighted that such schemes could reduce their ability to access the sea for boating and diving. Researchers and representatives of community organisations had qualms about communities and their livelihoods potentially being displaced by having their access to the sea reduced.

In terms of the impacts that those risks could have, all of the respondents thought they could result in various trade-offs and contestation between the interests of coastal communities and those

associated with marine natural capital. For example, researchers, and representatives of fisheries, communities, and recreational users were concerned about communities losing their livelihoods, if large investors were able to "purchase large areas" of the sea and prevent communities from carrying out their normal livelihood activities in those spaces. There was also mention, by community and public sector representatives, of intangible values associated with community cohesion, sense of place, and spirituality, being degraded, if community access to the sea was reduced. This included a perception that coastal communities, and fisherfolk in particular, actually consider themselves to be custodians of the marine environment and would rather be included in protecting and enhancing it, than be excluded from carrying out their existing activities. Whilst most of the respondents did acknowledge the potential for marine natural capital markets to benefit communities, there were concerns among representatives of communities, conservation, and recreation, that these benefits would be indirect and unsolidified. As elaborated below, most respondents thought that, given the complexity of the marine environment, investors would not deliver on the promised benefits of marine natural capital. Some thought that this would be compounded by a perceived 'fleeting interest' of investors, and potentially that communities might even be left to clean up the damage left by poorly implemented schemes.

What could be the risks of marine natural capital markets for the marine environment?

Perhaps unsurprisingly, concerns about the notion of 'greenwashing' were prevalent. This included fears about companies investing in marine natural capital schemes in Scotland, to offset environmental damage they were doing in other parts of the world, which some informants regarded as undermining environmental objectives. It also included a perception among respondents that protection and restoration of marine ecosystems, under natural capital schemes, may not be implemented in a conscientious, sensitive and effective way. One informant also expressed concerns about what they perceived as fleeting interest from investors, and thought this could result in only short-term commitments to marine conservation.

Some informants, across the sectors of research, conservation, recreation and the public and private sectors also perceived the natural capital concept as a whole, as guilty of reducing highly complex ecosystems into easily quantifiable units for investors to buy. This perception gave rise to fears that this limited consideration of complexity could hinder the ability of natural capital schemes to meet their environmental goals, or even increase their likelihood of doing harm, for example by introducing invasive species, or creating new seagrass beds and oyster reefs instead of protecting existing ones, or creating ecosystem changes that could introduce new pathogens or have high mortality rates. Overall, the interviewees commonly thought there was a high risk of environmental goals not being achieved under marine natural capital schemes.

What could be the risks of marine natural capital markets for investors?

Most of the interviewees concentrated their responses on the risks posed to coastal communities, and to the natural environment, perhaps reflecting their roles and interests, or perhaps reflecting a perception that the risks for community and environment were greater than those for investors.

Indeed, one respondent explicitly stated that the risk to large investors would be minimal. However, some respondents did highlight potential risks associated with the effectiveness of marine natural capital schemes. One informant noted that the natural capital approach is not tried and tested in the marine environment, so there is a considerable risk that it simply will not work. Another respondent noted that the benefits of marine natural capital schemes will be difficult to prove, which could make it unattractive to investors. Yet another highlighted that achieving economies of scale would be difficult, raising the question of whether marine natural capital in Scotland will be profitable.

Overall lack of clarity and transparency

Overall, there was a strong feeling among all of the interviewees that there was a lack of clarity and transparency regarding the development and implementation of marine natural capital markets. Informants were unclear about the objectives of marine natural capital markets (especially balancing profit-making against environmental and community objectives). They were also unsure what marine natural capital markets would actually look like and who would be involved, what the benefits of them would be, for whom, and how both financial and environmental benefits would be realised. There were also questions about how the effects of marine natural capital schemes would be monitored, and how they would be enforced. Importantly, informants particularly wanted to know how decisions would be made, by whom, and what entry points would exist for different stakeholders to engage. There was a particular concern that people without detailed technical knowledge may be excluded.

What could be done to minimise risks and make marine natural capital markets beneficial?

When asked what could be done to minimise the risks and improve the chances of marine natural capital markets being beneficial, all of the interviewees mentioned aspects of how marine natural capital approaches would be governed. Setting appropriate roles for different actors was considered important. For example, one participant suggested that identification and selection of sites for marine protection and restoration should be conducted by existing environmental agencies, such as NatureScot. Some respondents highlighted the importance of standardisation. One explained that there are very different sectors with an interest in marine nature capital, who all have different objectives, standards and expectations. It would therefore be necessary for an effective interface to be set up between them, and for strategies on how to move forward to be agreed, including setting standards for delivery, assessment and monitoring, as well as social, environmental and financial integrity. For example, some suggested that investors in marine natural capital should be vetted to ensure they meet certain social, financial and environmental standards (such as not just trying to compensate for damage caused elsewhere). Several informants also mentioned the importance of regulation and enforcement, to ensure that such standards and promised benefits are met. However, as explained above, the interviewees were not clear on how marine natural capital schemes would be enforced, or by whom. Overall, there was an emphasis on the need for accountability in the implementation of marine natural capital markets, particularly for clear and transparent communication about their objectives and management.

Relatedly, interviewees across research, recreation, coastal communities, fisheries, and the public sector highlighted the importance of establishing social license, and building relationships with different stakeholders, before operationalising a marine natural capital market. One representative of fisheries stated that fishing communities should be engaged early, and in an authentic and constructive (not tokenistic) manner to avoid overlap and conflict with fishing. Another respondent, representing coastal communities, thought that consent from local people should be of utmost importance, whilst others emphasised the importance of marine natural capital schemes being under local control, or at the very least, developed with strong local input. Several participants stressed that it is essential that the marine environment remains as a common good, and that marine natural capital schemes do not prevent access to this. Participants thought these measures could help to ensure cooperation and complementarity between different actors and components of governance.

The importance of research and evidence was also mentioned, by most of the participants. Research and scientific data were considered essential for monitoring and regulation of marine natural capital schemes, ensuring that they are not causing harm and are achieving genuine net benefits. Four respondents, from the fisheries, public and private sectors stressed that monitoring and oversight should also include understanding the effects for communities, not just for the environment. One respondent also suggested that a full range of different options for managing the marine environment should be considered systematically, before committing to a particular direction.

There were few outright objections to the notion of marine natural capital markets, on the whole. The interviewees all acknowledged some potential benefits of such an approach. However, most participants were sceptical about the idea, largely for reasons associated with the risks outlined above, but also some were generally uncomfortable with the idea of viewing nature as a set of commodities to be bought and sold. One participant, who was a recreationist and community member, expressed a preference for relying on philanthropy for investment in marine conservation, and suggested that establishing standards of practice for actors operating in the marine environment could help to boost philanthropic investment.

The interviewees suggested a range of practical measures that could help improve the chances of marine natural capital markets being beneficial. Public and private sector respondents suggested that investors should pay to build the capacity of local communities to implement, maintain, monitor and enforce protection and restoration of marine ecosystems, rather than, or in addition to purchasing natural capital asset. One researcher suggested the potential for ‘non-linear income’, whereby investors would purchase the natural capital assets, but rather than investors receiving income associated with it, any income would be channelled to communities to help them generate associated businesses. Others suggested ways to remove barriers to engagement in marine natural capital markets, for example, ensuring there are simple application procedures for investing, and ensuring there are different sizes of units that investors of different sizes could invest in. There was also some suggestion that community cooperatives could be created, which could enable communities to invest and aggregate the benefits of a collection of different marine natural capital units or projects.

When asked, most of the interviewees thought their organisations, and the people they represent, should be able to contribute to the development and implementation of marine natural capital

markets. Participants variously suggested they could: provide data and evidence, inform strategies for marine natural capital, represent community voices, and provide constructive critique. However, there is a strong need for clear entry points to engagement, as well as for clear and transparent communication that enables people without technical expertise to engage.

Conclusion

These 11 semi-structured interviews were conducted with stakeholders of the marine natural environment, as part of a project exploring the potential for developing marine natural capital markets that buy and sell the goods and services associated with marine ecosystems. Interview participants were asked to discuss their relationships with the marine environment, current challenges in the conservation of marine ecosystems, the benefits and risks of marine natural capital markets, and opportunities for designing and implementing them in a conscientious way. Key themes that emerged include the importance of empowering communities to be involved in decision making around and control over the management of marine natural capital markets, ensuring they retain access to marine environments and are not excluded from their rights to utilise 'common goods' and maintain livelihoods. Identifying ways to fairly balance trade-offs between different interest groups, and particularly those between economic and ecological interests, to mitigate inequality, protect nature and maintain the intangible values of marine environments is likely to be important. Benefits should flow to communities to boost coastal economies, and to the marine environment, and not be captured by large business interests keen to engage in greenwashing. Governance should be collaborative, transparent and accountable, properly resourced, and based on research, long-term thinking and consideration of complex ecosystem service flows, while marine protection should be properly enforced. Finally, while these themes are helpful in guiding the future development of marine natural capital markets, it is also important to note that most participants expressed reservations around the privatisation of nature that this would entail. It is important that these views are carefully considered before any plans to marketize marine natural environments are embarked upon. The above findings from these interviews will subsequently be used to inform roadmaps, guidelines and best practices for the development and implementation of marine natural capital markets in a conscientious way.

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Appendix - Interview Guide

The aim of the research is to explore the potential for creating a market in marine natural capital (marine natural resources that people depend upon and benefit from), in a way that genuinely includes and supports local communities in Scotland. In particular, from the interviews, we wish to understand the interests and concerns of stakeholders in establishing marine natural capital markets in their local area, especially their perceptions of potential benefits, opportunities, drawbacks and risks of private sector investment in oyster restoration projects, for local communities. Data gathered from the interviews will be used to complement ideas emerging from a questionnaire survey, community outreach and a community workshop to guide the co-development of a proposed marine natural capital code that is influenced by, and represents, the interests of local communities.

Interviews will be qualitative / semi-structured. Interviews will be voice recorded if in-person (using a Dictaphone) or using recording options on Webex if online.

The following proposed questions may be refined, elaborated and added to, in line with the results of the online survey. It is widely acknowledged that good qualitative interviews often resemble natural conversations. Therefore, the exact wording and order of questions may change as the interviews progress, and the researchers may add additional follow-up questions relevant to the topics of discussion listed below.

Topics and questions guide

Discussion about marine natural capital:

Explain the context and purpose of the interview. The overall project aims to explore how the creation of markets for buying and selling services, provided by the marine natural environment, could include and support coastal communities in Scotland. By 'marine natural environment' we broadly mean the nature that exists around coastal, sea, and ocean areas, including people and wildlife, and the resources they depend upon for wellbeing and prosperity. The physical and biological resources we find in the marine natural environment (e.g. water, seafloor, fish, cetaceans, seabirds), and any so-called ecosystem services that may arise from them, (e.g. carbon sequestration, water pollution removal, oxygenation, recreation, human health etc.) can be thought of as 'marine natural capital'. It may be possible to create markets that buy and sell the services provided by marine natural capital. In this project we are exploring the potential benefits and risks, opportunities and drawbacks of creating markets for services provided by native oyster restoration projects. The goal is to create a road map for a new 'marine natural capital code' that will encourage conscientious investment in marine restoration projects. Given your expertise and experience, we would really value your insights on this topic.

- Ask the participant if they would like to ask any questions about the research, before we start.
- Explore the participant's role and interest in the marine natural environment.

- Please tell us a bit about your relationship with the marine natural environment.
- What are the challenges associated with conservation of the marine natural environment?
- What are your thoughts about viewing services provided by the marine environment as natural capital?

Discussion about perceived potential benefits of marine natural capital markets:

- What do you think about the notion of creating markets for buying and selling services provided by the marine environment? What about oyster restoration projects, specifically?
- Who or what might benefit from such markets?
- What do you think might be the benefits for the environment?
- What do you think might be the benefits for investors?
- How might local communities benefit from a marine natural capital market?
- Are there any ways in which you think you or your organisation might benefit?

Discussion about perceived potential risks of marine natural capital markets:

- Do you think there are likely to be any risks from establishing a marine natural capital market?
- Who or what might be at risk?
- What do you think might be the risks to the environment?
- What might be the risks for investors?
- How might local communities be at risk from the establishment of a marine natural capital market?
- Are there any ways in which you think you or your organisation might be at risk?

Discussion about potential strategies for maximising opportunities & benefits and minimising drawbacks & risks:

- What measures need to be taken to ensure markets are developed and operated in a beneficial and conscientious way?
- What measures could be taken to mitigate the potential risks of marine natural capital markets?

- What would need to happen for you or your organisation to realise the benefits of marine natural capital markets?
- Do you think your organization may play an active role (demonstrating power) in shaping the environmental markets mentioned above?

Wrap-up questions:

- Is there anything else you would like to add?
- Are there any further questions you would like to ask us, or clarifications?