

The Northern Ireland Marine Task Force (NIMTF) is a coalition of non-government environmental organisations – it includes RSPB, Ulster Wildlife, Wildfowl and Wetlands Trust, WWF Northern Ireland, National Trust, Friends of the Earth, Irish Whale and Dolphin Group, and Northern Ireland Environment Link. The NIMTF has the support of approximately 100,000 local people. We are working towards healthy, productive and resilient seas for Northern Ireland.

The Northern Ireland Marine Task Force response to:

‘The development of fisheries management measures for Marine Protected Areas and the establishment of Scallop enhancement sites in the Northern Ireland inshore region, (November 2020)’

Submitted 30th March 2021

General Comments:

The Northern Ireland Marine Task Force (NIMTF) welcomes the development of fisheries management options for NI Marine Protected Areas (MPAs). We recognise the importance of this process in furthering the completion of an ecologically coherent network of MPAs for Northern Ireland. In particular, we welcome recognition of the wider ecosystem benefits to be gained from effective management and the contribution this can deliver for the recovery of fish stocks, productivity and the marine environment.

We welcome and support the proposals made here to remove mobile gear pressures from the MPAs within the scope of this consultation. Many of the features for which these MPAs have been designated are known to be sensitive to mobile fishing practices, and we support measures that ensure such impacts are removed. The use of adaptive management is also welcome as a tool for monitoring the effectiveness of management measures and reacting accordingly. However, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

We generally support the measures proposed to introduce managed pot fisheries in a number of the MPAs in scope however, we note that the corresponding ‘Habitats Regulations Assessment - Commercial fishing within Marine Protected Areas (MPAs) in the Northern Ireland Inshore Region’ states that for static gear, impacts on features such as reef habitat, sandbanks and mearl beds are assessed as ‘significant’. Therefore, we urge that management measures introduced for static gear address the conservation objective(s) of the site(s) and be effective in reducing impacts where applicable from ‘significant’ to ‘not significant’ and that they be reviewed frequently through the adaptive management process.

The NIMTF note that data are limited concerning some elements of the extent of inshore fishing activities. Many smaller inshore vessels (<12 m) are not equipped with Inshore Vessel Monitoring Systems (iVMS), and as such, activities may be underrepresented by the data presented here. The lack of adequate monitoring of activities within the inshore fleet remains an issue which may be resolved, in part, by a mandatory rollout of iVMS for all commercial vessels operating in NI waters. For reliable data collection, it must also be mandatory that iVMS be operational at all times when a vessel is commercially fishing. The NIMTF recognises that there are practical difficulties in installing iVMS for the inshore fleet. However, we recommend that dialogue be maintained to ensure that such technology is advantageous for the fishing industry while also expanding the evidence to support the sustainability of commercial fish stocks alongside the recovery of the marine environment.

As mentioned briefly in the consultation document, commercial fishing for wrasse species - for live sale as 'cleaner fish' to commercial salmon farming - is a recent practice of particular concern in NI inshore waters. Wrasse are a vital component of inshore reef habitats and therefore future pot fishing management, both inside and outside of MPAs, must include an assessment of wrasse targeting practises where they occur and review such activities in line with conservation and fisheries policies.

We recognise the commitment to enforcing management measures and we welcome the Department's foresight to bring additional resources to their team to manage this while developing a closer working relationship in enforcement between the sea fisheries and marine conservation teams. It is encouraging to see that traditional silos between fisheries management and marine conservation are being addressed. We would like to see this approach built upon, for example, scientific programmes designed to measure the impacts of MPA conservation management measures on commercial species, could also examine the extent of fish 'spillover effects' whereby well-managed MPAs benefit adjacent fisheries. We believe this would help secure further buy-in from the fishing industry on spatial protection measures. We also note the consultation suggests utilising commercial fishers to help collect additional data (e.g. bycatch) and welcome the exploration of such a scheme.

Scallop Enhancement Zones:

The NIMTF welcomes the proposed scallop enhancement sites, and their closure to mobile fishing gear. We note that the fishing industry has proposed these sites in response to their concerns about the sustainability of local king scallop stocks, and the four sites have been endorsed by the Northern Ireland Scallop Fishermen's Association. We recognise that the industry has worked with scientists at AFBI, funded by Seafish, to identify these sites where natural recovery of scallops can occur, which will then spill-over to supplement stocks on nearby commercial grounds. The sites will be a type of Marine Protected Area, feeding into the wider NI MPA network, and will have a range of benefits to local biodiversity in addition to scallop stocks.

Skerries and Causeway SAC

1.1 Do you support the preferred option (No 2), to prohibit demersal mobile gear fishing throughout Skerries and Causeway SAC?

Yes

1.2 If you answered no to question 1.1, do you support the minimum option (No.1) to prohibit demersal mobile gear fishing on reef and sandbank features within Skerries and Causeway SAC?

NA

1.3 Do you support the recommended option to prohibit static gear fishing, on the seagrass feature and to manage static gear fishing throughout the remainder of Skerries and Causeway SAC?

No

1.4 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear?

Yes

1.5 Do you agree with the assessment of the current value of fishing within Skerries and Causeway SAC?

The NIMTF note that data on the extent of inshore fishing may be limited as many of the inshore fleet (<12 m) do not have Inshore Vessel Monitoring Systems (iVMS) installed. Therefore it is possible that the assessment of the current value of fisheries may be underrepresented if all activities are not fully documented. The NIMTF continue to call for iVMS to be rolled out for the entire NI fishing fleet and for such systems to be used at all times when vessels are commercially fishing. We appreciate, however, that practical difficulties remain in installing such technology in some vessels and would encourage further dialogue to overcome such issues and realise the benefits iVMS can bring to commercial sustainability and also marine environmental recovery through improved monitoring and management.

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

Protecting the resilience and functioning of natural carbon stores and processes of blue carbon ecosystems such as seagrass meadows must be a priority. As seagrass meadows and the wider suite of blue carbon ecosystems are highly vulnerable to human activities that abrade, remove, or smother such ecosystems, and activities likely to cause such deterioration or disturbance predominantly involve bottom trawling and other seabed contact fisheries, we fully support the prohibition of demersal mobile and static gear fishing on the seagrass feature.

The Skerries and Causeway SAC is a mosaic of habitats, including sandbanks and reefs. In a healthy condition, this type of mixed habitat site has proven to be an essential fish habitat for many commercially important fish (e.g. whiting, cod and haddock) in juvenile stages.

Much of the reef in this area is sand scoured reef which is an unusual type of reef in a Northern Ireland context. This type of reef produces a close relationship between the reef and the adjacent sediments. The Annex I Reef is noted for its southern species, rare and priority species, and several species first described from the Skerries and Causeway area, including one nudibranch species that has not yet been found elsewhere. As stated in the Skerries and Causeway SAC UK0030383 Conservation Objectives report, there is potential for vessels without knowledge of the sensitive low-lying reefs' exact locations to cause damage¹.

Recent research from the Lyme Bay potting study providing evidence that potting is more damaging on reef features than previously thought. Furthermore, the MarESA results show that reefs are highly sensitive to biological pressures and moderately sensitive to physical pressures (Annex B Pg 93). Given the objective of the reef component of the site is to "maintain and enhance, [...] the extent of the reefs", and the site is a mosaic of feature habitats for which it is designated, we urge the Department to focus the management of static gear (1.4 Formulation of management options: Managed pot fishing, Pg 16) on achieving the conservation objectives of the site in order to effectively reduce the impact on designated site features where they are found. If proposed management is not effective in removing pressures to sensitive features (i.e. reefs, sandbanks, *Sabellaria spinulosa* reefs, submerged caves), then measures to remove the pressure completely should be considered.

1.6 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

¹<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Skerries%20and%20Causeway%20SAC%20Conservation%20Objectives%202017.PDF>

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities. However, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

We urge the Department to roll out mandatory iVMS for all inshore commercial fishing vessels operating in NI waters. This will improve monitoring, enforcement, and identify overall fishing pressure and vessels' compliance. We support investment in iVMS and mitigation measures to include geofencing software to help fishers navigate closed areas boundaries. It is also important to ensure that iVMS be used at all times when a vessel is fishing commercially.

We support the development of best practice in setting and hauling pots including proposals such as setting limits to numbers of strings and pots per string over specific habitats, number of fishing days/seasonal management options and gear design. We recognise the value of the static gear industry to rural coastal communities. We believe that effective management of this industry can allow MPAs to meet their conservation objectives while also helping to maintain healthy commercial stocks upon which the fisheries depend. There is evidence to support the management of potting within marine protected areas to maximise catch and minimise ecological damage simultaneously. The Lyme Bay Experiment Potting Study demonstrated a 'threshold' for commercial potting effort: high densities of pots (30+ pots per 500 m x 500 m) sustained over time damages the seabed ecosystem and reduced the quality and quantity of lobster and crab species².

To be a truly well-managed pot fishery that upholds the conservation objectives of a protected site, the pot fishery management plan must include the implementation, monitoring, enforcement and reporting of the following proposals:

- Mandatory vessel position monitoring for all vessels operating within the MPA
- All hobby and commercial gear to be marked as per the pot tagging scheme
- Limit to number of crab/lobster pots per commercial and recreational fisherperson
- Limit to the number of pots per string
- Development of gear modifications to reduce bycatch, such as escape hatches fitted to all parlour pots and soft-eyed creels
- Industry-led best practice in setting and hauling gear should be formalised
- Accurate reporting of priority species accidentally caught

² Rees, A., Sheehan, E. V., Attrill, M. J. (2018) *The Lyme Bay experimental potting study: A collaborative programme to assess the ecological effects of increasing potting density in the Lyme Bay Marine Protected Area*. A report to the Blue Marine Foundation and Defra, by the Marine Institute at the University of Plymouth.

- Best practice training for safe release of priority species accidentally caught such as that delivered through the Sea Deep Project to recreational anglers for safely tagging and releasing elasmobranchs

We recommend continued dialogue to ensure that potting within MPAs is advantageous for the fishing industry while also expanding the evidence to support commercial fish stocks' sustainability and the recovery of the marine environment.

Harbour porpoise (*Phocoena phocoena*) have been consistently recorded within the Skerries and Causeway SAC³. These records span every month of the year, including months outside of the breeding and calving seasons and confirm the continuous presence of harbour porpoise within this area. Additionally, Grey seal (*Halichoerus grypus*), Common seal (*Phoca vitulina*) and Bottlenose dolphin (*Tursiops truncatus*) are non-qualifying features of the site. Under Annex II of the Habitats Directive (Council Directive 92/43/EEC, 21 May 1992)⁴, these marine mammals are afforded strict legal protection. Administrations are obliged to establish a system of strict protection in their entire natural range, prohibiting their deliberate capture or killing, disturbance and deterioration or destruction of their breeding sites or resting places. The Directive also requires administrations to establish a system **to monitor the incidental capture or killing of cetaceans** and take the necessary measures to ensure that it does not significantly negatively impact the species concerned. In addition to being the main threat to the conservation of marine mammals, bycatch is also an animal welfare issue for the individuals caught, it involves an economic cost to fishers due to damaged nets, time taken to clear bycatch and loss of catch, and it can be a safety issue for fishers involved in clearing the nets.

Page 16 of the consultation states that '*The department will continue to encourage and support the development and trialling of fishing gear that reduces unintended bycatch*'. We welcome the attention given to the issue of by-catch in the consultation. However, we recommend a strategic approach to resolving fisheries by-catch is pursued in a Northern Ireland context, inside and outside of MPAs. Furthermore, to improve bycatch data collection, a more comprehensive sampling effort using dedicated data collection programmes and remote electronic monitoring is required.

Technologies such as mobile applications for recording bycatch provide new opportunities for standardising data collection and enable data verification. Bycatch apps' main advantages are that they can reduce the duplication of data entry and burden on the fishers and provide the ability to use open-source software that is effective and cost-efficient. The potential disadvantages of an app-based approach for recording bycatch data are trust in data use (science vs compliance) and a reluctance to share data. The fishing industry's involvement in the design of the data collection systems is vital to ensuring any application is intuitive to use and agreeable regarding privacy and data storage rules. A review of the use

³ Skerries and Causeway SAC Conservation Objectives

<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Skerries%20and%20Causeway%20SAC%20Conservation%20Objectives%202017.PDF>

⁴ Habitats Directive (1992) - Environment - European Commission URL

https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm (accessed 2.2.21).

of new app-based technologies to record and reduce fisheries bycatch was undertaken by Ulster Wildlife and will be made available to the Department.

Over the past year, we have noted the emergence of a new market for wrasse which are live transported to Scotland for the salmon farm industry. This was not captured in the AFBI report on fishery management measures impacts on industry, which relied on pot fishing observer data for the static gear industry mostly in 2018 or before when wrasse pot fishing had not started. As such, we would like to ensure that the Department's preferred options for managing the pot fishing industry are fully implemented, adequately resourced, and continually reviewed in light of changes to the fishery so that intensive potting over reef areas and other sensitive habitats is firstly identified and secondly managed. There is mounting evidence of the potential for various types of pot fishing to damage protected MPA features at certain intensities. We would seek reassurance that this is avoided and that the Department can react as target species and habitat areas change due to market/external conditions. Guidance to protect the long-term sustainability of wrasse populations should be developed to coordinate and manage the Department's response to the developing live wrasse fishery through identifying important management measures and research priorities. See Southern IFCA example here⁵

As fisheries respond to the external factors outlined above, especially where new target species are adopted in new areas of Northern Ireland's waters, it is suggested that the Department completes HRAs for these (e.g. wrasse fishery, whelk fishery). Where learnings can be taken from other regions' experiences of managing these new fisheries or fishing methods, these should be applied where deemed appropriate (e.g. Marine Scotland's advice on managing the new wrasse fishery).

To truly uphold conservation objectives of marine protected areas, all sites must be monitored regularly and managed under an adaptive management approach. The results of monitoring should be made public and if they are found to be failing to provide the ecological returns intended, those areas should be upgraded to the level of protection that we know works, i.e fully protected areas where no extractive activities occur.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

⁵ <https://secure.toolkitfiles.co.uk/clients/25364/sitedata/files/Wrasse-Guidance.pdf>

Rathlin Island Special Area of Conservation / Special Protection Area and Rathlin Marine Conservation Zone

2.1 Do you support the recommended option, to extend the existing prohibition of demersal mobile gear fishing in the SAC, to include the full extent of the SAC and the MCZ?

Yes

2.2 Do you support the recommended option to prohibit static gear fishing, on the fragile sponge and anthozoan communities on rocky outcrops, and to manage pot fishing throughout the remainder of the SAC and the MCZ?

Yes

2.3 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear?

Yes

2.4 Do you agree with the assessment of the current value of fishing within Rathlin Island SAC/SPA and Rathlin MCZ?

The NIMTF note that data on the extent of inshore fishing may be limited as many of the inshore fleet (<12 m) do not have Inshore Vessel Monitoring Systems (iVMS) installed. Therefore it is possible that the assessment of the current value of fisheries may be underrepresented if all activities are not fully documented. The NIMTF continue to call for iVMS to be rolled out for the entire NI fishing fleet and for such systems to be used at all times when vessels are commercially fishing. We appreciate, however, that practical difficulties remain in installing such technology in some vessels and would encourage further dialogue to overcome such issues and realise the benefits iVMS can bring to commercial sustainability and also marine environmental recovery through improved monitoring and management.

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

We fully support the prohibition of static gear on the fragile sponge and anthozoan communities on rocky outcrops, some species of which are unique to the area.

As mentioned previously, we note that the corresponding HRA notes that some features in the Rathlin Island SAC/SPA and Rathlin MCZ are assessed as significant in sensitivity to static gear, namely sandbanks: seagrass (*Zostera marina*) beds, reefs and submerged

caves, and that a managed pot fishery will reduce the impact on these features from this activity. We request further evidence and engagement to show what specific measures will be introduced (including monitoring and enforcement) to ensure that these features are not exposed to impacts from static gear where they are found within the site.

2.5 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities. However, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

We urge the Department to roll out mandatory iVMS for all inshore commercial fishing vessels operating in NI waters. This will improve monitoring, enforcement, and biodiversity data collection to assess site conditions and identify vessels' transgressions. We support investment in iVMS and mitigation measures to include geofencing software to help fishers navigate closed areas boundaries. It is also important to ensure that iVMS be used at all times when a vessel is fishing commercially.

We support the development of best practice in setting and hauling pots including proposals such as setting limits to numbers of strings and pots per string over specific habitats, number of fishing days/seasonal management options and gear design. We recognise the value of the static gear industry to rural coastal communities. We believe that effective management of this industry can allow MPAs to meet their conservation objectives while also helping to maintain healthy commercial stocks upon which the fisheries depend. There is evidence to support the management of potting within marine protected areas to maximise catch and minimise ecological damage simultaneously. The Lyme Bay Experiment Potting Study demonstrated a 'threshold' for commercial potting effort: high densities of pots (30+ pots per 500 m x 500 m) sustained over time damages the seabed ecosystem and reduced the quality and quantity of lobster and crab species⁶.

⁶ Rees, A., Sheehan, E. V., Attrill, M. J. (2018) *The Lyme Bay experimental potting study: A collaborative programme to assess the ecological effects of increasing potting density in the Lyme Bay Marine Protected Area*. A report to the Blue Marine Foundation and Defra, by the Marine Institute at the University of Plymouth.

To be a truly well-managed pot fishery that upholds the conservation objectives of a protected site, the pot fishery management plan must include the implementation, monitoring, enforcement and reporting of the following proposals:

- Mandatory vessel position monitoring for all vessels operating within the MPA
- All hobby and commercial gear to be marked as per the pot tagging scheme
- Limit to number of crab/lobster pots per commercial and recreational fisherperson
- Limit to the number of pots per string
- Development of gear modifications to reduce bycatch, such as escape hatches fitted to all parlour pots and soft-eyed creels
- Industry-led best practice in setting and hauling gear should be formalised
- Accurate reporting of priority species accidentally caught
- Best practice training for safe release of priority species accidentally caught such as that delivered through the Sea Deep Project to recreational anglers for safely tagging and releasing elasmobranchs

We recommend continued dialogue to ensure that potting within MPAs is advantageous for the fishing industry while also expanding the evidence to support commercial fish stocks' sustainability and the recovery of the marine environment.

Over the past year, we have noted the emergence of a new market for wrasse which are live transported to Scotland for the salmon farm industry. This was not captured in the AFBI report on fishery management measures impacts on industry, which relied on pot fishing observer data for the static gear industry mostly in 2018 or before when wrasse pot fishing had not started. As such, we would like to ensure that the Department's preferred options for managing the pot fishing industry are fully implemented, adequately resourced, and continually reviewed in light of changes to the fishery so that intensive potting over reef areas and other sensitive habitats is firstly identified and secondly managed. There is mounting evidence of the potential for various types of pot fishing to damage protected MPA features at certain intensities. We would seek reassurance that this is avoided and that the Department can react as target species and habitat areas change due to market/external conditions. Guidance to protect the long-term sustainability of wrasse populations should be developed to coordinate and manage the Department's response to the developing live wrasse fishery through identifying important management measures and research priorities. [See Southern IFCA example here](#)⁷

As fisheries respond to the external factors outlined above, especially where new target species are adopted in new areas of Northern Ireland's waters, it is suggested that the Department completes HRAs for these (e.g. wrasse fishery, whelk fishery). Where learnings can be taken from other regions' experiences of managing these new fisheries or fishing methods, these should be applied where deemed appropriate (e.g. Marine Scotland's advice on managing the new wrasse fishery).

⁷ <https://secure.toolkitfiles.co.uk/clients/25364/sitedata/files/Wrasse-Guidance.pdf>

To truly uphold conservation objectives of marine protected areas, all sites must be monitored regularly and managed under an adaptive management approach. The results of monitoring should be made public and if they are found to be failing to provide the ecological returns intended, those areas should be upgraded to the level of protection that we know works, i.e fully protected areas where no extractive activities occur.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

Red Bay Special Area of Conservation

3.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout Red Bay SAC?

Yes

3.2 Do you support the recommended option to prohibit static gear fishing throughout Red Bay SAC?

Yes

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

NA

3.3 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Unique to this site is the presence of large 2 - 3m high mega-ripples of sub-fossil maerl, much of which is dominated by living maerl, *Phymatolithon calcarium*, with some *Lithothamnion glaciale*, and three extremely rare algal species endemic to maerl: *Cruoria cruoriaeformis*, *Halymenia latifolia* and *Gelidiella calcicola*. Maerl beds are an important habitat for many smaller marine plants and animals, including bivalves, urchins, sea cucumbers, anemones, and worms. Young scallops, in particular, seek out living maerl beds as nursery areas. Protecting maerl beds thus helps to sustain the scallop fishing industry.

Maerl beds are highly sensitive to 6 out of 7 fishing pressures highlighted by the JNCC; strict protection measures are vital on and within proximity to maerl beds. Although maerl beds display less than 25% mortality over the total event of maerl bed habitat when smothered by suspended solids, the maerl's recovery rate is 25+ years and so confirms the requirement of strict protection measures.

Maerl beds are also an important blue carbon store. Protecting the resilience and functioning of the natural carbon stores and processes from blue carbon ecosystems such as maerl beds and seagrass meadows must be a priority. Activities likely to cause deterioration or disturbance of blue carbon habitats through abrasion, removal, or smothering, predominantly involve bottom trawling and other seabed contact fisheries. For biogenic reefs, once the living surface part of the feature is damaged, the sequestration ability linked to the overall physical biogenic structure and the underlying organic and inorganic stores is lost – quickly

in some instances but nevertheless declining and disappearing over time. Historical losses of biogenic reefs are well documented and so stemming further losses is now urgent. Moreover, although it is well documented that fishing gear such as trawls and dredges alter the distribution and abundance of marine species and result in benthic mortality and sediment resuspension; what has been less well recognised is how such fishing operations interact with the biogeochemical processes associated with carbon sequestration and storage, even though peer-reviewed papers are published on this aspect.

A “Climate Emergency” was declared by the Northern Ireland Assembly on 03 February 2020 – this was in recognition of the urgent action and transformative change needed to stop human-induced global warming causing potentially irreversible environmental damage. The role of coastal and marine habitats is not yet included in the greenhouse gas inventory, even though these habitats play a vital role in carbon capture. A strategy is needed to protect and restore these habitats, which recognises their role in carbon storage and protects their biodiversity. Thus, the presence of blue carbon ecosystems should therefore be connected in practice to providing high or full levels of protection via MPAs to prevent such losses from continuing. This is because high or full levels of protection in MPAs exclude the activities that cause damage and losses of blue carbon ecosystems. Therefore, we support and recognise the importance of the Department’s recommended options to prohibit demersal mobile gear fishing, and static gear fishing throughout the Red Bay SAC.

Unlocking how marine protected area management regimes can be altered to benefit and protect carbon functioning in such a wide array of ecosystems is the key to engaging with measures that should be taken under Conventions such as the CBD. We look forward to engaging further with the Department on the future of MPAs, both looking at further designations and a wider strategy that addresses the impacts of climate change on the MPA network (ensuring resilience and adaptation are enabled) and the need to view MPAs and the wider marine environment through a blue carbon lens.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland’s MPA network to society.

Waterfoot Marine Conservation Zone

4.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout Waterfoot MCZ?

Yes

4.2 Do you support the recommended option to prohibit static gear fishing throughout Waterfoot MCZ?

Yes

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

4.3 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Seagrasses support biodiversity providing hiding places for small marine organisms, nursery areas for fish species, feeding grounds and organic matter which can be incorporated into coastal nutrient cycles, contributing to the productivity of fisheries, supporting coastal livelihoods, increasing shoreline stability, and making our coastlines more affable places to live^{8,9}.

It is increasingly accepted that protection and restoration of natural habitats must play a crucial role in global efforts to mitigate climate change¹⁰. That seagrasses can absorb more carbon up to 40 faster than terrestrial forests¹¹ should make them a significant component of these attempts. In the UK, it is estimated that at least 44% of our seagrasses have been lost since 1936, 39% since the 1980's, however, losses over longer time spans may be as high as 92%¹². Based on these estimates, historical seagrass meadows could have stored 11.5

⁸ Cullen-Unsworth, L. C., Nordlund, L. M., Paddock, J., Baker, S., McKenzie, L. J., and Unsworth, R. K. (2014). Seagrass meadows globally as a coupled social–ecological system: implications for human wellbeing. *Mar. Pollut. Bull.* 83, 387–397. doi: 10.1016/j.marpolbul.2013.06.001

⁹ Nordlund, L. M., Koch, E. W., Barbier, E. B., and Creed, J. C. (2016). Seagrass ecosystem services and their variability across genera and geographical regions. *PLoS One* 11:e0163091. doi: 10.1371/journal.pone.0163091

¹⁰ European Commission (2009). Nature's role in climate change. Available at: https://ec.europa.eu/environment/nature/info/pubs/docs/climate_change/en.pdf (Accessed March 05, 2021).

¹¹ Mcleod, E., Chmura, G. L., Bouillon, S., Salm, R., Björk, M., Duarte, C. M., et al. (2011). A blueprint for blue carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO₂. *Front. Ecol. Environ.* 9, 552–560. doi: 10.1890/110004

¹² Green AE, Unsworth R. K. F, Chadwick M. A and Jones P. J. S., (2021) Historical Analysis Exposes Catastrophic Seagrass Loss for the United Kingdom. *Front. Plant Sci.* 12:629962. doi: 10.3389/fpls.2021.629962

Mt of carbon and supported approximately 400 million fish⁶. This demonstrates the vast scale of losses and highlights the opportunities of seagrass to support a range of ecosystems services if effectively protected and allowed to thrive. Therefore, it is crucial that losses are stemmed if seagrasses are to play a role in climate mitigation and ensuring the highest level of protection is an important first step towards appropriate conservation planning. Hence, we stress the importance of protecting the seagrass present throughout Northern Ireland, and we support and recognise the importance of the Department's recommended options to prohibit demersal mobile gear fishing, and static gear fishing throughout the Waterfoot MCZ.

Unlocking how marine protected area management regimes can be altered to benefit and protect carbon functioning in such a wide array of ecosystems is the key to engaging with measures that should be taken under Conventions such as the CBD. We look forward to engaging further with the Department on the future of MPAs, both looking at further designations and a wider strategy that addresses the impacts of climate change on the MPA network (ensuring resilience and adaptation are enabled) and the need to view MPAs and the wider marine environment through a blue carbon lens.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

The Maidens Special Area of Conservation

5.1 Do you support the preferred option (No 2), to prohibit demersal mobile gear fishing throughout the Maidens SAC?

Yes

5.2 If you answered no to question 5.1, do you support the minimum option (No.1) to prohibit demersal mobile gear fishing on reef and maerl features within the Maidens SAC?

NA

5.3 Do you support the recommended option to prohibit static gear fishing, on the maerl feature and to manage pot fishing throughout the remainder of the Maidens SAC?

Yes

5.4 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear?

Yes

5.5 Do you agree with the assessment of the current value of fishing within the Maidens SAC?

The NIMTF note that data on the extent of inshore fishing may be limited as many of the inshore fleet (<12 m) do not have Inshore Vessel Monitoring Systems (iVMS) installed. Therefore it is possible that the assessment of the current value of fisheries may be underrepresented if all activities are not fully documented. The NIMTF continue to call for iVMS to be rolled out for the entire NI fishing fleet and for such systems to be used at all times when vessels are commercially fishing. We appreciate, however, that practical difficulties remain in installing such technology in some vessels and would encourage further dialogue to overcome such issues and realise the benefits iVMS can bring to commercial sustainability and also marine environmental recovery through improved monitoring and management.

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

NA

5.6 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Gaps remain in NI's network of ecologically coherent MPAs for species of conservation importance, including the critically endangered common skate (*Dipturus batis*)¹³. The inshore area from Islandmagee northwards to Red Bay is currently an Area of Search (AoS for a Marine Conservation Zone) for conservation measures in relation to common skate. A tagging programme (Sea Deep Project) which aims to gather data on the abundance and distribution of common skate has been ongoing since 2018. To date, 45 Common skate have been tagged in or near the area, and there have been 5 recaptures which may indicate residency of the species in the area. Ongoing work to designate an MCZ for this species should be included as a key consideration in the decision-making process for fisheries management measures in MPAs. The precautionary principle should be applied until there is adequate data on skate movement in this area, and therefore we urge the Department to extend the prohibition of demersal mobile fishing gear to include the AoS for Common skate. For example, earlier this year the Scottish Government introduced an urgent new MPA designation to safeguard a nationally important nursery area for the critically endangered flapper skate¹⁴.

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities. However, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

We urge the Department to roll out mandatory iVMS for all inshore commercial fishing vessels operating in NI waters. This will improve monitoring, enforcement, and biodiversity data collection to assess site conditions and identify vessels' transgressions. We support investment in iVMS and mitigation measures to include geofencing software to help fishers

¹³Assessing progress towards an ecologically coherent network of Marine Protected Areas in the Northern Ireland inshore region
<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/JNCC%20DAERA%20NIMPA%20Network%20Progress%20v6.0.pdf>

¹⁴ The Red Rocks and Longay Urgent MPA in Scotland for flapper skate.
<https://www.gov.scot/policies/marine-environment/marine-protected-areas/>

navigate closed areas boundaries. It is also important to ensure that iVMS be used at all times when a vessel is fishing commercially.

We support the development of best practice in setting and hauling pots including proposals such as setting limits to numbers of strings and pots per string over specific habitats, number of fishing days/seasonal management options and gear design. We recognise the value of the static gear industry to rural coastal communities. We believe that effective management of this industry can allow MPAs to meet their conservation objectives while also helping to maintain healthy commercial stocks upon which the fisheries depend. There is evidence to support the management of potting within marine protected areas to maximise catch and minimise ecological damage simultaneously. The Lyme Bay Experiment Potting Study demonstrated a 'threshold' for commercial potting effort: high densities of pots (30+ pots per 500 m x 500 m) sustained over time damages the seabed ecosystem and reduced the quality and quantity of lobster and crab species.

To be a truly well-managed pot fishery that upholds the conservation objectives of a protected site, the pot fishery management plan must include the implementation, monitoring, enforcement and reporting of the following proposals:

- Mandatory vessel position monitoring for all vessels operating within the MPA
- All hobby and commercial gear to be marked as per the pot tagging scheme
- Limit to number of crab/lobster pots per commercial and recreational fisherperson
- Limit to the number of pots per string
- Development of gear modifications to reduce bycatch, such as escape hatches fitted to all parlour pots and soft-eyed creels
- Industry-led best practice in setting and hauling gear should be formalised
- Accurate reporting of priority species accidentally caught
- Best practice training for safe release of priority species accidentally caught such as that delivered through the Sea Deep Project to recreational anglers for safely tagging and releasing elasmobranchs

We recommend continued dialogue to ensure that potting within MPAs is advantageous for the fishing industry while also expanding the evidence to support commercial fish stocks' sustainability and the recovery of the marine environment.

These relatively remote rocks and islands, and the waters surrounding them in the North Channel are important for providing haul-out sites, resting sites, foraging areas, and pupping and breeding areas for Grey seals¹⁵. Under Annex II of the Habitats Directive (Council Directive 92/43/EEC, 21 May 1992), these marine mammals are afforded strict legal protection. Administrations are obliged to establish a system of strict protection in their entire natural range, prohibiting their deliberate capture or killing, disturbance and deterioration or destruction of their breeding sites or resting places. The Directive also requires administrations to establish a system **to monitor the incidental capture or killing of cetaceans** and take the necessary measures to ensure that it does not significantly

¹⁵The Maidens SAC UK0030384 Conservation Objectives
<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/The%20Maidens%20SAC%20Conservation%20Objectives%202017.PDF>

negatively impact the species concerned. In addition to being the main threat to the conservation of marine mammals, bycatch is also an animal welfare issue for the individuals caught, it involves an economic cost to fishers due to damaged nets, time taken to clear bycatch and loss of catch, and it can be a safety issue for fishers involved in clearing the nets.

Page 16 of the consultation states that '*The department will continue to encourage and support the development and trialling of fishing gear that reduces unintended bycatch*'. We welcome the attention given to the issue of by-catch in the consultation. However, we recommend a strategic approach to resolving fisheries by-catch is pursued in a Northern Ireland context, inside and outside of MPAs. Furthermore, to improve bycatch data collection, a more comprehensive sampling effort using dedicated data collection programmes and remote electronic monitoring is required.

Technologies such as mobile applications for recording bycatch provide new opportunities for standardising data collection and enable data verification. Bycatch apps' main advantages are that they can reduce the duplication of data entry and burden on the fishers and provide the ability to use open-source software that is effective and cost-efficient. The potential disadvantages of an app-based approach for recording bycatch data are trust in data use (science vs compliance) and a reluctance to share data. The fishing industry's involvement in the design of the data collection systems is vital to ensuring any application is intuitive to use and agreeable regarding privacy and data storage rules. A review of the use of new app-based technologies to record and reduce fisheries bycatch was undertaken by Ulster Wildlife and will be made available to the Department.

Over the past year, we have noted the emergence of a new market for wrasse which are live transported to Scotland for the salmon farm industry. This was not captured in the AFBI report on fishery management measures impacts on industry, which relied on pot fishing observer data for the static gear industry mostly in 2018 or before when wrasse pot fishing had not started. As such, we would like to ensure that the Department's preferred options for managing the pot fishing industry are fully implemented, adequately resourced, and continually reviewed in light of changes to the fishery so that intensive potting over reef areas and other sensitive habitats is firstly identified and secondly managed. There is mounting evidence of the potential for various types of pot fishing to damage protected MPA features at certain intensities. We would seek reassurance that this is avoided and that the Department can react as target species and habitat areas change due to market/external conditions. Guidance to protect the long-term sustainability of wrasse populations should be developed to coordinate and manage the Department's response to the developing live wrasse fishery through identifying important management measures and research priorities. [See Southern IFCA example here](#)

As fisheries respond to the external factors outlined above, especially where new target species are adopted in new areas of Northern Ireland's waters, it is suggested that the Department completes HRAs for these (e.g. wrasse fishery, whelk fishery). Where learnings can be taken from other regions' experiences of managing these new fisheries or fishing methods, these should be applied where deemed appropriate (e.g. Marine Scotland's advice on managing the new wrasse fishery).

To truly uphold conservation objectives of marine protected areas, all sites must be monitored regularly and managed under an adaptive management approach. The results of monitoring should be made public and if they are found to be failing to provide the ecological returns intended, those areas should be upgraded to the level of protection that we know works, i.e fully protected areas where no extractive activities occur.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

Outer Belfast Lough Marine Conservation Zone

6.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout Outer Belfast Lough MCZ?

Yes

6.2 Do you support the recommended option to manage pot fishing throughout Outer Belfast Lough MCZ?

No

6.3 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear?

No

6.4 Do you agree with the assessment of the current value of fishing within Outer Belfast Lough MCZ?

NA

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

Page 55 of the consultation document states that the level of demersal mobile fishing gear within the Outer Belfast Lough MCZ is moderate for dredging, low for trawl fishing activities and unknown for static fishing gear. Over 4 years have passed with fishing present on the site since the designation. The area of protection for ocean quahog is currently limited to a small area at the mouth of the Lough, it is extremely vulnerable and if lost from the site is unlikely to recover from any inward recruitment. The conservation status has been determined on the basis that damaged individuals show a slow population recovery which may be due to slow growth rates and irregular recruitment. We urge the Department to apply the precautionary approach and prohibit static gear fishing throughout the site.

It is recognised that anchoring presents a potentially significant threat to the condition of the *Artica islandica* population within the site, and we understand that the Department is working on addressing this. However, we believe it would be prudent to consider additional sites for the protection of this species, as this is the only MPA with a documented population within Northern Ireland's inshore waters, and we understand there may be challenges to managing pressures within a busy shipping area such as Belfast Lough.

6.5 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities. We would also like to see an ongoing commitment to the participatory process in setting management measures via existing projects such as MarPAMM and new initiatives as adaptive management best practices emerge.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

Strangford Lough Special Area of Conservation/Special Protection Area and Marine Conservation Zone

7.1 Do you support the recommended option, to extend the existing prohibition of demersal mobile gear fishing in the SAC, to include the full extent of the MCZ?

Yes

7.2 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear within the MCZ area outside the SAC?

Yes

7.3 Do you agree with the assessment of the current value of fishing within the MCZ area, outside the SAC?

The NIMTF note that data on the extent of inshore fishing may be limited as many of the inshore fleet (<12 m) do not have Inshore Vessel Monitoring Systems (iVMS) installed. Therefore it is possible that the assessment of the current value of fisheries may be underrepresented if all activities are not fully documented. The NIMTF continue to call for iVMS to be rolled out for the entire NI fishing fleet and for such systems to be used at all times when vessels are commercially fishing. We appreciate, however, that practical difficulties remain in installing such technology in some vessels and would encourage further dialogue to overcome such issues and realise the benefits iVMS can bring to commercial sustainability and also marine environmental recovery.

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

NA

7.4 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Through the Ulster Wildlife's intertidal surveying programme (ShoreNI) a new seagrass bed has been discovered at Kearney. The extent has not been fully mapped, however the limited spatial data collected has been shared with DAERA and CEDaR. This seagrass meadow is within the boundaries of the Strangford Lough MCZ and should be considered when making decisions regarding the fisheries management measures within the site.

Seagrasses support biodiversity providing hiding places for small marine organisms, nursery areas for fish species, feeding grounds and organic matter which can be incorporated into coastal nutrient cycles, contributing to the productivity fisheries, supporting coastal livelihoods, increasing shoreline stability, and making our coastlines more affable places to live^{16,17}.

It is increasingly accepted that protection and restoration of natural habitats must play a crucial role in global efforts to mitigate climate change¹⁸. That seagrasses can absorb more carbon up to 40 faster than terrestrial forests¹⁹ should make them a significant component of these attempts. In the UK, it is estimated that at least 44% of our seagrasses have been lost since 1936, 39% since the 1980's, however, losses over longer time spans may be as high as 92%²⁰. Based on these estimates, historical seagrass meadows could have stored 11.5 Mt of carbon and supported approximately 400 million fish⁶. This demonstrates the vast scale of losses and highlights the opportunities of seagrass to support a range of ecosystems services if effectively protected and allowed to thrive. Therefore, it is crucial that losses are stemmed if seagrasses are to play a role in climate mitigation and ensuring the highest level of protection is an important first step towards appropriate conservation planning. Hence, we stress the importance of protecting the seagrass present throughout Northern Ireland.

A "Climate Emergency" was declared by the Northern Ireland Assembly on 03 February 2020 – this was in recognition of the urgent action and transformative change needed to stop human-induced global warming causing potentially irreversible environmental damage. The role of coastal and marine habitats is not yet included in the greenhouse gas inventory, even though these habitats play a vital role in carbon capture. A strategy is needed to protect and restore these habitats, which recognises their role in carbon storage and protects their biodiversity. Thus, the presence of blue carbon ecosystems should therefore be connected in practice to providing high or full levels of protection via MPAs to prevent such losses from continuing. This is because high or full levels of protection in MPAs exclude the activities that cause damage and losses of blue carbon ecosystems.

Unlocking how marine protected area management regimes can be altered to benefit and protect carbon functioning in such a wide array of ecosystems is the key to engaging with

¹⁶ Cullen-Unsworth, L. C., Nordlund, L. M., Paddock, J., Baker, S., McKenzie, L. J., and Unsworth, R. K. (2014). Seagrass meadows globally as a coupled social–ecological system: implications for human wellbeing. *Mar. Pollut. Bull.* 83, 387–397. doi: 10.1016/j.marpolbul.2013.06.001

¹⁷ Nordlund, L. M., Koch, E. W., Barbier, E. B., and Creed, J. C. (2016). Seagrass ecosystem services and their variability across genera and geographical regions. *PLoS One* 11:e0163091. doi: 10.1371/journal.pone.0163091

¹⁸ European Commission (2009). Nature's role in climate change. Available at: https://ec.europa.eu/environment/nature/info/pubs/docs/climate_change/en.pdf (Accessed March 05, 2021).

¹⁹ Mcleod, E., Chmura, G. L., Bouillon, S., Salm, R., Björk, M., Duarte, C. M., et al. (2011). A blueprint for blue carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO₂. *Front. Ecol. Environ.* 9, 552–560. doi: 10.1890/110004

²⁰ Green AE, Unsworth R. K. F, Chadwick M. A and Jones P. J. S., (2021) Historical Analysis Exposes Catastrophic Seagrass Loss for the United Kingdom. *Front. Plant Sci.* 12:629962. doi: 10.3389/fpls.2021.629962

measures that should be taken under Conventions such as the CBD. We look forward to engaging further with the Department on the future of MPAs, both looking at further designations and a wider strategy that addresses the impacts of climate change on the MPA network (ensuring resilience and adaptation are enabled) and the need to view MPAs and the wider marine environment through a blue carbon lens.

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities, however, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

We urge the Department to roll out mandatory iVMS for all inshore commercial fishing vessels operating in NI waters. This will improve monitoring, enforcement, and biodiversity data collection to assess site conditions and identify vessels' transgressions. We support investment in iVMS and mitigation measures to include geofencing software to help fishers navigate closed areas boundaries. It is also important to ensure that iVMS be used at all times when a vessel is fishing commercially.

We support the development of best practice in setting and hauling pots including proposals such as setting limits to numbers of strings and pots per string over specific habitats, number of fishing days/seasonal management options and gear design. We recognise the value of the static gear industry to rural coastal communities. We believe that effective management of this industry can allow MPAs to meet their conservation objectives while also helping to maintain healthy commercial stocks upon which the fisheries depend. There is evidence to support the management of potting within marine protected areas to maximise catch and minimise ecological damage simultaneously. The Lyme Bay Experiment Potting Study demonstrated a 'threshold' for commercial potting effort: high densities of pots (30+ pots per 500 m x 500 m) sustained over time damages the seabed ecosystem and reduced the quality and quantity of lobster and crab species.

To be a truly well-managed pot fishery that upholds the conservation objectives of a protected site, the pot fishery management plan must include the implementation, monitoring, enforcement and reporting of the following proposals:

- Mandatory vessel position monitoring for all vessels operating within the MPA
- All hobby and commercial gear to be marked as per the pot tagging scheme
- Limit to number of crab/lobster pots per commercial and recreational fisherperson
- Limit to the number of pots per string
- Development of gear modifications to reduce bycatch, such as escape hatches fitted to all parlour pots and soft-eyed creels
- Industry-led best practice in setting and hauling gear should be formalised
- Accurate reporting of priority species accidentally caught

- Best practice training for safe release of priority species accidentally caught such as that delivered through the Sea Deep Project to recreational anglers for safely tagging and releasing elasmobranchs

We recommend continued dialogue to ensure that potting within MPAs is advantageous for the fishing industry while also expanding the evidence to support commercial fish stocks' sustainability and the recovery of the marine environment.

This area is home to the largest colony of Common seals and is the most important breeding site for the common seal in Ireland. Under Annex II of the Habitats Directive (Council Directive 92/43/EEC, 21 May 1992), these marine mammals are afforded strict legal protection. Administrations are obliged to establish a system of strict protection in their entire natural range, prohibiting their deliberate capture or killing, disturbance and deterioration or destruction of their breeding sites or resting places. The Directive also requires administrations to establish a system **to monitor the incidental capture or killing of marine mammals** and take the necessary measures to ensure that it does not significantly negatively impact the species concerned. In addition to being the main threat to the conservation of marine mammals, bycatch is also an animal welfare issue for the individuals caught, it involves an economic cost to fishers due to damaged nets, time taken to clear bycatch and loss of catch, and it can be a safety issue for fishers involved in clearing the nets.

Page 16 of the consultation states that '*The department will continue to encourage and support the development and trialling of fishing gear that reduces unintended bycatch*'. We welcome the attention given to the issue of by-catch in the consultation. However, we recommend a strategic approach to resolving fisheries by-catch is pursued in a Northern Ireland context, inside and outside of MPAs. Furthermore, to improve bycatch data collection, a more comprehensive sampling effort using dedicated data collection programmes and remote electronic monitoring is required.

Technologies such as mobile applications for recording bycatch provide new opportunities for standardising data collection and enable data verification. Bycatch apps' main advantages are that they can reduce the duplication of data entry and burden on the fishers and provide the ability to use open-source software that is effective and cost-efficient. The potential disadvantages of an app-based approach for recording bycatch data are trust in data use (science vs compliance) and a reluctance to share data. The fishing industry's involvement in the design of the data collection systems is vital to ensuring any application is intuitive to use and agreeable regarding privacy and data storage rules. A review of the use of new app-based technologies to record and reduce fisheries bycatch was undertaken by Ulster Wildlife and will be made available to the Department.

Over the past year, we have noted the emergence of a new market for wrasse which are live transported to Scotland for the salmon farm industry. This was not captured in the AFBI report on fishery management measures impacts on industry, which relied on pot fishing observer data for the static gear industry mostly in 2018 or before when wrasse pot fishing had not started. As such, we would like to ensure that the Department's preferred options for managing the pot fishing industry are fully implemented, adequately resourced, and

continually reviewed in light of changes to the fishery so that intensive potting over reef areas and other sensitive habitats is firstly identified and secondly managed. There is mounting evidence of the potential for various types of pot fishing to damage protected MPA features at certain intensities. We would seek reassurance that this is avoided and that the Department can react as target species and habitat areas change due to market/external conditions. Guidance to protect the long-term sustainability of wrasse populations should be developed to coordinate and manage the Department's response to the developing live wrasse fishery through identifying important management measures and research priorities. [See Southern IFCA example here](#)

As fisheries respond to the external factors outlined above, especially where new target species are adopted in new areas of Northern Ireland's waters, it is suggested that the Department completes HRAs for these (e.g. wrasse fishery, whelk fishery). Where learnings can be taken from other regions' experiences of managing these new fisheries or fishing methods, these should be applied where deemed appropriate (e.g. Marine Scotland's advice on managing the new wrasse fishery).

To truly uphold conservation objectives of marine protected areas, all sites must be monitored regularly and managed under an adaptive management approach. The results of monitoring should be made public and if they are found to be failing to provide the ecological returns intended, those areas should be upgraded to the level of protection that we know works, i.e fully protected areas where no extractive activities occur.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

Murlough Special Area of Conservation

8.1 Do you support the recommended option, to extend the existing prohibition of demersal mobile gear fishing in Dundrum Bay, to include Murlough SAC?

Yes

8.2 Do you support the recommended option to manage pot fishing throughout Murlough SAC?

Yes

8.3 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear?

Yes

8.4 Do you agree with the assessment of the current value of fishing within Murlough SAC?

The NIMTF note that data on the extent of inshore fishing may be limited as many of the inshore fleet (<12 m) do not have Inshore Vessel Monitoring Systems (iVMS) installed. Therefore it is possible that the assessment of the current value of fisheries may be underrepresented if all activities are not fully documented. The NIMTF continue to call for iVMS to be rolled out for the entire NI fishing fleet and for such systems to be used at all times when vessels are commercially fishing. We appreciate, however, that practical difficulties remain in installing such technology in some vessels and would encourage further dialogue to overcome such issues and realise the benefits iVMS can bring to commercial sustainability and also marine environmental recovery through improved monitoring and management.

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

NA

8.5 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities. However, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

We urge the Department to roll out mandatory iVMS for all inshore commercial fishing vessels operating in NI waters. This will improve monitoring, enforcement, and biodiversity data collection to assess site conditions and identify vessels' transgressions. We support investment in iVMS and mitigation measures to include geofencing software to help fishers navigate closed areas boundaries. It is also important to ensure that iVMS be used at all times when a vessel is fishing commercially.

We support the development of best practice in setting and hauling pots including proposals such as setting limits to numbers of strings and pots per string over specific habitats, number of fishing days/seasonal management options and gear design. We recognise the value of the static gear industry to rural coastal communities. We believe that effective management of this industry can allow MPAs to meet their conservation objectives while also helping to maintain healthy commercial stocks upon which the fisheries depend. There is evidence to support the management of potting within marine protected areas to maximise catch and minimise ecological damage simultaneously. The Lyme Bay Experiment Potting Study demonstrated a 'threshold' for commercial potting effort: high densities of pots (30+ pots per 500 m x 500 m) sustained over time damages the seabed ecosystem and reduced the quality and quantity of lobster and crab species.

To be a truly well-managed pot fishery that upholds the conservation objectives of a protected site, the pot fishery management plan must include the implementation, monitoring, enforcement and reporting of the following proposals:

- Mandatory vessel position monitoring for all vessels operating within the MPA
- All hobby and commercial gear to be marked as per the pot tagging scheme
- Limit to number of crab/lobster pots per commercial and recreational fisherperson
- Limit to the number of pots per string
- Development of gear modifications to reduce bycatch, such as escape hatches fitted to all parlour pots and soft-eyed creels
- Industry-led best practice in setting and hauling gear should be formalised
- Accurate reporting of priority species accidentally caught

- Best practice training for safe release of priority species accidentally caught such as that delivered through the Sea Deep Project to recreational anglers for safely tagging and releasing elasmobranchs

We recommend continued dialogue to ensure that potting within MPAs is advantageous for the fishing industry while also expanding the evidence to support commercial fish stocks' sustainability and the recovery of the marine environment.

The area at Ballykinler is important as a haul-out for Common Seal. Under Annex II of the Habitats Directive (Council Directive 92/43/EEC, 21 May 1992), these marine mammals are afforded strict legal protection. Administrations are obliged to establish a system of strict protection in their entire natural range, prohibiting their deliberate capture or killing, disturbance and deterioration or destruction of their breeding sites or resting places. The Directive also requires administrations to establish a system **to monitor the incidental capture or killing of cetaceans** and take the necessary measures to ensure that it does not significantly negatively impact the species concerned. In addition to being the main threat to the conservation of marine mammals, bycatch is also an animal welfare issue for the individuals caught, it involves an economic cost to fishers due to damaged nets, time taken to clear bycatch and loss of catch, and it can be a safety issue for fishers involved in clearing the nets.

Page 16 of the consultation states that '*The department will continue to encourage and support the development and trialling of fishing gear that reduces unintended bycatch*'. We welcome the attention given to the issue of by-catch in the consultation. However, we recommend a strategic approach to resolving fisheries by-catch is pursued in a Northern Ireland context, inside and outside of MPAs. Furthermore, to improve bycatch data collection, a more comprehensive sampling effort using dedicated data collection programmes and remote electronic monitoring is required.

Technologies such as mobile applications for recording bycatch provide new opportunities for standardising data collection and enable data verification. Bycatch apps' main advantages are that they can reduce the duplication of data entry and burden on the fishers and provide the ability to use open-source software that is effective and cost-efficient. The potential disadvantages of an app-based approach for recording bycatch data are trust in data use (science vs compliance) and a reluctance to share data. The fishing industry's involvement in the design of the data collection systems is vital to ensuring any application is intuitive to use and agreeable regarding privacy and data storage rules. A review of the use of new app-based technologies to record and reduce fisheries bycatch was undertaken by Ulster Wildlife and will be made available to the Department.

Over the past year, we have noted the emergence of a new market for wrasse which are live transported to Scotland for the salmon farm industry. This was not captured in the AFBI report on fishery management measures impacts on industry, which relied on pot fishing observer data for the static gear industry mostly in 2018 or before when wrasse pot fishing had not started. As such, we would like to ensure that the Department's preferred options for managing the pot fishing industry are fully implemented, adequately resourced, and continually reviewed in light of changes to the fishery so that intensive potting over reef

areas and other sensitive habitats is firstly identified and secondly managed. There is mounting evidence of the potential for various types of pot fishing to damage protected MPA features at certain intensities. We would seek reassurance that this is avoided and that the Department can react as target species and habitat areas change due to market/external conditions. Guidance to protect the long-term sustainability of wrasse populations should be developed to coordinate and manage the Department's response to the developing live wrasse fishery through identifying important management measures and research priorities. [See Southern IFCA example here](#)

As fisheries respond to the external factors outlined above, especially where new target species are adopted in new areas of Northern Ireland's waters, it is suggested that the Department completes HRAs for these (e.g. wrasse fishery, whelk fishery). Where learnings can be taken from other regions' experiences of managing these new fisheries or fishing methods, these should be applied where deemed appropriate (e.g. Marine Scotland's advice on managing the new wrasse fishery).

To truly uphold conservation objectives of marine protected areas, all sites must be monitored regularly and managed under an adaptive management approach. The results of monitoring should be made public and if they are found to be failing to provide the ecological returns intended, those areas should be upgraded to the level of protection that we know works, i.e fully protected areas where no extractive activities occur.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

Carlingford Lough Marine Conservation Zone

9.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout Carlingford Lough MCZ?

Yes

9.2 Do you support the recommended option to manage pot fishing throughout Carlingford Lough MCZ?

No

9.3 Do you support the proposed measures to manage pot fishing, such as following best practice on biosecurity, mandatory vessel position monitoring, pot tagging, recording of bycatch and entanglements of protected species and the continued use of more selective gear?

No

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

The habitat created by the Sea-pens offer shelter, food and oxygen to a diverse range of small benthic infaunal organisms such as the very rare sea cucumber, *Ocnus planci*, which has regularly been observed in the MCZ. Apart from occasional Norway lobster (*Nephrops norvegicus*), burrowing crustacean megafauna are mainly absent from this habitat in Carlingford Lough²¹. As stated in the MCZ Assessment on page 6, this is the only area where the habitat *Philine quadripartita* (White lobe shell) and *Virgularia mirabilis* (sea-pen) in soft stable infralittoral mud occur in high densities in Northern Ireland. These features have been assessed as moderately vulnerable to pot fishing and given the lack of data for the area, we do not support the recommended option for a managed pot fishery throughout the MCZ due to the risk to the habitat from abrasion and disturbance of the sea bed. We urge the Department to apply the precautionary principle until there is adequate data of fishing activities in this area.

As Sea Pens and burrowing megafauna within circalittoral fine mud are highly sensitive to fishing pressures that result in penetration or disturbance under the seabed, fishing activities that create this threat (such as bottom trawling) must be prohibited within this biotope. Abrasion to the surface of the seabed, from mechanical fishing gear, must also be limited. Therefore, we welcome the prohibition of demersal mobile fishing gear on this site.

²¹Site Summary Document Carlingford Lough MCZ
https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Site%20Summary%20-%20Carlingford%20Lough%20MCZ_0.pdf

9.4 Is there any further evidence that should be considered in terms of values, costs or benefits?

Yes

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

We welcome the adaptive management framework proposed on Pg 17 of the consultation document - to monitor the effectiveness of management measures closely, and to incorporate new evidence as it arises, be it via condition monitoring or other programmes, both on the protected features of each site but also for other features of conservation importance or priority species and habitats. Management should be reviewed as evidence becomes available regarding its effectiveness or on the sensitivity of habitats and species to specific activities, however, details on how adaptive management will be undertaken, including what monitoring will be required, review periods, and resource level required, are not stated within the consultation. We would request that stakeholders continue to be engaged throughout the development of this critical element of site management.

As part of the decision making for both existing and future marine protected sites, it is essential to consider the multiple values people hold about marine areas. We believe the consultation should consider the wider economic aspects of the proposed fisheries measures beyond the value of the fishing opportunity. Consideration of the monetary value to communities from recreational diving, recreational angling, tourism, and the blue carbon benefits should also be quantified and sit parallel with the monetary values quantified for the fishing opportunity. Furthermore, the benefits of a natural capital approach to assessing the value of MPAs encompass ecosystem services. A report commissioned by the NIMTF in 2015 found that a net value of £52.8 – £54.5 million may be realised as a result of maintaining or restoring MPAs in Northern Ireland. Whilst the exact value of these figures need to be interpreted with caution, they are no less indicative of the scale of the value of Northern Ireland's MPA network to society.

SCALLOP ENHANCEMENT SITES

Whitehead

10.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout the entire Whitehead scallop enhancement site?

Yes

If you have answered No to the question above, please include comments which explains the position you have taken in the box below:

10.2 Is there any further evidence that should be considered in terms of values, costs or benefits?

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Roaring Rock

11.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout the entire Roaring Rock scallop enhancement site?

Yes

If you have answered No to the question above, please include comments which explains the position you have taken in the box below:

11.2 Is there any further evidence that should be considered in terms of values, costs or benefits?

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Drumfad Bay

12.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout the entire Drumfad Bay scallop enhancement site?

Yes

12.2 Do you agree with the assessment of the current value of fishing within Drumfad Bay scallop enhancement site?

If you have answered No to any of the questions above, please include comments which explains the position you have taken in the box below:

12.3 Is there any further evidence that should be considered in terms of values, costs or benefits?

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

Ballyquintin Point

13.1 Do you support the recommended option, to prohibit demersal mobile gear fishing throughout the entire Ballyquintin Point scallop enhancement site?

Yes

If you have answered No to the question above, please include comments which explains the position you have taken in the box below:

13.2 Is there any further evidence that should be considered in terms of values, costs or benefits?

If Yes, please include evidence or links to where the Department can obtain this evidence in the box below:

This response was compiled by the Northern Ireland Marine Task Force. If you wish to discuss any of the points raised in more detail, please contact the NI Marine Task Force Officer: Donal Griffin (donal.griffin@ulsterwildlife.org).

Or to find out more about the NIMTF visit: nimtf.wordpress.com