Response to DAERA's 2020/21 Consultation on

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

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EXECUTIVE SUMMARY

DAERA's consultation on "The development of fisheries management measures for Marine Protected Areas and establishment of Scallop enhancement sites in the Northern Ireland inshore region (November 2020)" is not currently fit for purpose. In this document we clearly outline why we feel this is the case and provide clear evidence that supports our arguments. We are keen for this document to promote further discourse between NI's fishing industry and DAERA, and that through collaborative, active engagement, equitable ground can be found. This ground must be found before DAERA moves further forward with the proposed measures which at present are based on poor evidence that needs improving with the help from industry.

DAERA's current recommendations have been submitted for consultation following close to no true industry engagement and outreach. We appreciate this is partly to blame on the COVID pandemic. As such, it is impractical to push this work forward whilst missing a crucial step – sufficient and robust information. The consultation report lacks transparency, and a clear audit trail of where certain information comes from. Without this information provenance, it is unclear how DAERA are expecting industry to truly weigh in on the work presented. This opacity also means that key limitations in the approach have not been brought to light, limiting fruitful engagement about how to address them and move forward together.

There are several cases in which significant data / knowledge gaps and potential errors in analyses exist in the consultation document. We are disappointed that these have not been readily acknowledged and worried that DAERA feel that the consultation document is in a state ready to make management decisions with. Decisions that will shape the future of our inshore waters for tens of years to come. The potential errors we note are based around underestimations in the true value of loss of fishing opportunity that will come from the proposed management measures as well as the JNCC methods that DAERA have relied upon for their analyses. Although these are used as standard across the UK, this does not mean they are fit for purpose. This last comment highlights where we feel NI can make real strides and become leaders in inshore fisheries management and conservation – by not following the norm and proactively working together to better define marine conservation for the benefit of everyone. DAERA should not be relying on old methods that are known to be significantly flawed when applied to inshore regions.

In this response we have also made efforts to highlight past mistakes in UK MPA designation. These are mistakes we should be learning from. At present, however, we feel that such mistakes may well be made again in NI if we do not pause and take stock of the work that is still left to do before concrete plans can be made. We have also highlighted other areas that have not been addressed at all in the consultation such as safety concerns associated with vessel displacement and the increasing use of coastal waters. We believe this latter point requires a change in perspective. Whilst marine protection is used for conservation purposes, we should also consider areas that require protection for sustained fisheries.

We close this response with a list of recommendations based on the evidence we provide. This is by no means an exhaustive list but an important start that we hope will spur more discussion between all stakeholder groups and DAERA. Our ambition is not to destroy the consultation process, but rather highlight where improvements must be made for long-term conservation and fisheries gains. We want to come to a position where industry works in partnership with DAERA to seek agreement on management measures for the MPAs. This will require give and take, and we are confident this can happen with the correct engagement and investment made from both sides.

Contents

Introduction

Following the communication of DAERA's potential development of *fisheries management measures for Marine Protected Areas and establishment of Scallop enhancement sites in the Northern Ireland*, several concerns were raised by different members of NIFPO and ANIFPO. Many of the same concerns have been voiced by multiple, independent parties from different geographic areas and sectors within Northern Ireland's commercial fishing industry. They center around the development of fisheries management measures for MPAs, not the scallop enhancement sites proposed in the same DAERA consultation document.

We (the Northern Ireland Fishermen's Federation) have therefore compiled the concerns raised by the industry and present them herein. The reason for this formal response is threefold:

1) To raise concerns over the calculation of economic loss values presented by DAERA related to potential management areas and the loss of fishing activity per MPA,
2) To better demonstrate the direct impacts on fisheries economies in NI and the potential consequences for the wider supply chain and associated industries should these measures be adopted as currently proposed,
3) To suggest ways in which DAERA and NI's fishing industry can work together to satisfy the country's marine conservation needs whilst also reducing the economic impacts on NI's fishing industry.

We strongly believe that the conservation of NI's marine environment and the economic and social sustainability of NI's commercial fisheries and associated livelihoods do not have to act in conflict with one another. Through close collaboration, co-design and co-management of the marine resources in NI's inshore zone, we believe that it is possible for DAERA's marine protection initiatives[1] to work to the benefit of NI's fishing industry whilst also promoting DAERA's framework to tackle rural poverty and social isolation[2]. We see no reason that NI cannot be a global leader when it comes to collaboration between industry and government for the sustainable use of coastal marine resources. We do, however, believe that the current consultation highlights some important points that must be addressed if DAERA and NI's fishing industry are to move forward together in a truly collaborative and transparent manner.

Below we structure our response to the consultation as follows. We outline responses on what we believe to be the most pertinent aspects of the consultation presented by DAERA. Within each response, we provide an 'issue statement' followed by an in-depth description of said 'issue' backed by evidence and a brief conclusion statement. Following the issue statements, we also list recommendations that we believe will help address and improve the problems we have described.

This response document has been prepared by the Northern Ireland Fishermen's Federation through consultation MarFishEco Fisheries Consultants Ltd supported with data provided by Seafish and AFBI.

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[1] DAERA – Marine Conservation and Protection web page. Link
[2] DAERA – Tackling rural poverty & social isolation – A new framework. Link

Responses

1 – Unsatisfactory industry engagement

DAERA's consultation process for the newly proposed measures has been less than satisfactory. It has not sufficiently engaged NI's fisheries-related stakeholders. We feel that the consultation has been constructed with little to no consultation with industry.

Details

The information and planning leading up to this consultation have clearly been rocked by the COVID-19 pandemic and we appreciate that is out of everyone's control. This is clearly the reason the expected consultation date of late 2019 was missed and we are writing this response in 2021. Having said this, we do feel that DAERA could have undertaken a more structured and transparent process when it came to communicating progress on the consultation and engaging with different stakeholder groups. Below we list some of the areas that we think could have been improved upon. These center around active rather than passive engagement and consultation.

- At the June 2019 IFPG meeting, we were told that we would be presented with a draft consultation by the next meeting in October 2019. At this meeting, the proposed management plans were mentioned but a draft consultation document was not circulated.
- At the June 2019 IFPG meeting, DAERA made a request for more data on fishing activity levels across the MPA sites (particularly Maidens). This highlights that DAERA were / area aware of the lack of data / information regarding vessel activity in each of the MPA sites. Following this request in the meeting, to our knowledge DAERA made little to no effort to solicit such data from industry in any form. This shows the knowledge that DAERA knew was important for a robust analysis was lacking at the time of the consultation design. We believe this suggests that DAERA realise that they have insufficient information to make the designations they suggest but have continued with this consultation without any additional efforts to improve the data upon which the decisions will potentially be made. We feel strongly that DAERA must take a more proactive role in collaborating with industry when such data gaps have been identified. We do not feel that passive requests suffice when close collaboration with industry is required. It is important to note that in this specific case, had DAERA engaged with industry appropriately, we believe that industry would have been forthcoming to provide sufficient data and information to DAERA.
- At this same June 2019 meeting, DAERA noted that they were happy to have one-to-one meetings with any of the representative groups to discuss the proposals further. Again, we feel that this was a passive request which was not actioned. This lack of action from DAERA, feels a little like active avoidance of issues that they know will be contentious. The lack of active invitation and organization of stakeholder meetings is a sign that DAERA did not correctly prioritize engaging with industry to collect appropriate data and feedback for the plans presented within this consultation.
- At the same June 2019 meeting, DAERA also concluded that they would arrange further meetings to include at the very least (i) the Metson family (ii) fishermen in Portrush and (iii) any other group that wishes to discuss further the proposals for the MPAs. To our knowledge, none of these were undertaken. It is clearly a good thing that DAERA sees the benefit of engaging with any groups that are interested in providing feedback on their plans, but we fail to see how DAERA made any such groups aware of their plans at that stage (in June 2019).
- Although DAERA held a virtual meeting in May 2020 regarding the scallop enhancement measures, no such meeting was organized to discuss the far more contentious MPA proposals. Only after the consultation was launched and after we made a specific request for more information did DAERA hold

a meeting related to the MPA plans. Again, we feel that such meetings should have been key pillars in the progression of this consultation process, but no such meetings happened.

- As a side note related to the lack of active industry engagement, we feel that DAERA in general needs to be more inclusive of NI's fishing industry. A simple example of this lack of inclusion is the invitation of Seafish to attend the MarPAMM project stakeholder workshop to represent industry. This invitation (and lack thereof for NIFPO and ANIFPO) highlights one of 2 things: either an avoidance of having industry weigh in for important projects and decisions in NI's marine management or a lack of understanding of what constitutes industry engagement for NI's fisheries.
- In general, we believe there has been a distinct lack of what is considered correct consultation behavior as laid out in the HM Government Code of Practice on Consultation[3].

(All of the above information regarding DAERA's comments in the meetings are evidenced in recorded meeting minutes.)

Conclusion

DAERA have not taken an active role in engaging with NI's fishing community – the community that this consultation will impact the most. This poor engagement does not adequately follow UK government guidelines. We request that this needs to be addressed both for this consultation and any further consultations. If this is not corrected, we feel that DAERA's expectations of collaboration and compliance from NI's fishing industry will be difficult. Considering a national consensus on the importance of co-management[4], the evidence provided above does not promote any such management approach. Instead, it remains in the antiquated realms of top-down only management decisions.

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[3] HM Government – code of Practice on Consultation. Link
[4] UK Fisheries Bill – Written evidence submitted by the National Federation of Fishermen's Organisations. Link

2 – A less than transparent reporting of data and analyses

DAERA's consultation process has not made any efforts to report how the values presented in the consultation were calculated or note clear caveats and limitations. The methods used and the results that the consultation decisions are based on are considerably opaque. At best they are only digestible to those familiar with the documents upon which the consultation relies. The consultation document cannot stand alone and claim to be transparent. This has excluded much of NI's fishing industry from understanding how DAERA have derived their conclusions. It has also made it difficult to evaluate the robustness of the conclusions made within the main consultation document[5].

Details

- The most obvious lack of transparency is the fact that DAERA report values for lost fishing opportunities but make no great effort to ensure readers of the consultation understand where the values of lost fishing opportunity (among others) come from. On page 4 of the consultation document DAERA note:

"You may also wish to consider the following information sources:

1. The Agri-Food Biosciences Institute (AFBI) fisheries impact assessment report,
https://www.afbini.gov.uk/articles/inshore-fisheries"

And on page 17 DAERA state:

"Where possible, the value of loss of fishing opportunities have been provided. The value figures are based on information provided by AFBI."

The first quote and link does not take the reader directly to the AFBI impact assessment report. On the main web page to which a reader is directed, the words "impact assessment" do not appear and instead the user is expected to intuitively know which document to evaluate to find where the values come from. To find the information, they must look at the "fisheries management proposals for MPAs" document. This comment may appear a little over the top, but at present there is certainly no clear "audit trail" for a casual reader to be able to link the values in the consultation document with those derived by AFBI in their impact assessment.

The second quote above is close to useless in terms of helping a reader find where the results presented in the consultation come from. At no point in the consultation document do DAERA make it easy for a reader to find the AFBI impact assessment report, nor do they ever refer to specific pages of the impact assessment when they are stating results that originate in it. This is something we believe should be standard practice with clear citations to the documents within which values are derived. This contrasts with the scallop enhancement sites for which DAERA state (on page 74):

"With increasing exploitation of scallop stocks around the Northern Ireland coast, the Northern Ireland Scallop Association is being proactive in working with industry to enhance long-term sustainability of stocks and together with Seafish, commissioned the Agri-Food and Biosciences Institute (AFBI) to undertake a scallop larval dispersal study with a view to identifying potential sites for reseeding. For further information please see:
https://www.seafish.org/document/?id=AD0B23C5-5BE6-48A7-BCDC-67BFB09285DA."

This is an example of what we believe DAERA should be doing when relying on the findings from other reports. Clearly writing links in the consultation document that take a reader directly to related materials.

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[5] The development of fisheries management measures for Marine Protected Areas and establishment of Scallop enhancement sites in the Northern Ireland inshore region. Link.

- Although DAERA do mention the biggest flaw in the consultation which relates to the lack of VMS for vessels <12m (on page 14):

"It is recognised there are some gaps in our knowledge, most significantly, the lack of information on fishing vessels under 12m, which are not required to have VMS. This relates to both vessels fishing static and demersal mobile gear."

there is little to no attempt made to discuss what these limitations mean for the results presented or the conclusions drawn. We believe that DAERA should have clearly stated that the estimates of lost value are underestimates because they do not account for the unquantified loss of fishing from the under 12m fleet. Considering the AFBI impact assessment report clearly states the following (on page 11):

"The majority (averaging 96%) of vessels fishing pots in Northern Ireland are under 12m in overall length and so are not required to have any form of vessel monitoring system (VMS) onboard."

we feel that DAERA has not been transparent in admitting that this lack of data limits much of the consultation because the values presented only account for the larger vessels fishing NI's inshore waters. Clearly AFBI have been trying to address this issue in their observer programme, but we feel this does not justify a somewhat opaque translation of the limitations of the values presented in the consultation. Similarly, DAERA should have clearly stated the limitations of the observer programme and what they mean for the values presented in the consultation. Note: AFBI do note the limitations of their observer programme on page 11 of their impact assessment:

"1. AFBI staff are only on a small proportion of the vessels and so there are vessels that we have no indication of where they fish;
2. Whilst there is observer data for most of the Northern Ireland coastline, there are gaps where we been unable to get on a vessel;
3. The positional data collected by observers is for that day. Many boats will move their strings depending on the target species, weather, time of year etc."

Conclusion

The shortcomings noted in this section are clearly evidenced when speaking with members of the inshore fishing community in NI. The broadscale reaction is one of "these values are too small" (about the values of lost fishing opportunity). This indicates that DAERA have not thought about the consequences of not presenting enough depth when it comes to the methods by which the consultations values were derived. Members of the public should not be expected to have to dive deeply into multiple documents to find such information. At the least the AFBI impact assessment report should have been included on the main consultation web page[6]. We believe that this is an oversight from DAERA that has only caused upset in the fishing community because stakeholders feel as though the values are inaccurate. The values are only accurate in the context of the data gathered, which in this case is an extremely limited, unrepresentative sample of the NI inshore fishing fleet. We request, moving forward, that DAERA make a concerted effort of at least reporting results more transparently, readily acknowledging limitations and what these limitations mean for the results upon which they base their conclusions.

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[6] DAERA main consultation web page. Link

3 – No attempt to solve problems associated with missing data

DAERA have admitted the main limitation of the data they use in the consultation – a lack of vessel behavior / space use data for vessels under 12 m. Although this data limitation is acknowledged, DAERA / AFBI have made very little attempt (other than dispersed observer coverage) to try and fill these data gaps to improve the quality of the estimates provided in the consultation. Below, we suggest some practical ways in which these data gaps could have been filled to provide more realistic estimates of vessel activity and economic losses from for the proposed management measures.

Details
- Providing all (or at least a representative sample) of the under 12m fleet with VMS is clearly the ideal scenario in terms of capturing the activity of these vessels. At this time, however, this is not feasible.
- We are surprised that DAERA have made no attempts to better quantify the activity of vessels from past data collection initiatives such as the collaboration with Succorfish from 2013 under the FishRamp project[7] (Figure 1). This would at least help fill the huge hole in this consultation which is the lack of good VMS data.
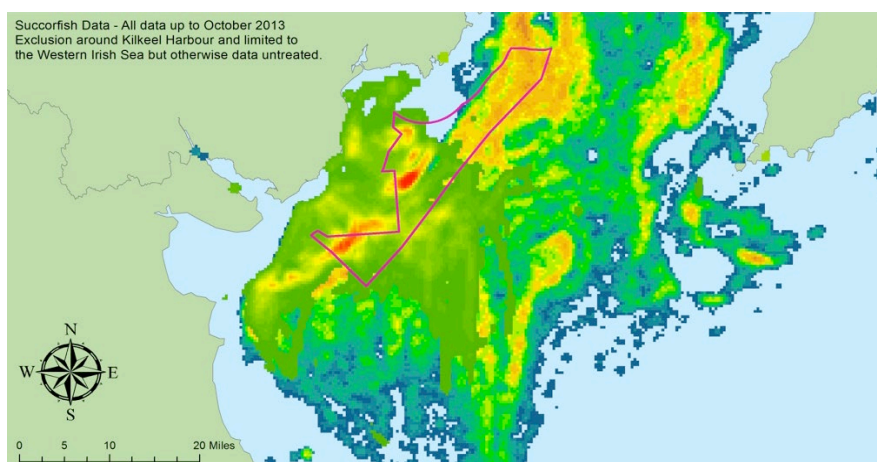

Figure 1. Succorfish VMS data for the under 12-15m fleet (2013) around Kilkeel Harbour.

- The use of chart plotter data from other specific sources is a viable secondary method of gaining a sufficient understanding of the fleets activities to better inform the current consultation (Figure 2). This is particularly so if other VMS sources are available for those assumed to not carry VMS at the time of the consultation.

Figure 2. A chart plotter image from a Crown Estate project (2013) showing mixed vessel traffic off Dundrum Bay, South County Down.

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[7] Fish resource access mapping project (fish ramp) economic analysis and literature review, 2015.

- The use of AIS data is another means by which DAERA could well gain a more complete picture of the distribution of effort for the under 12m fleet (at least for those who have AIS capability) (Figure 3, Figure 4).Figure 1
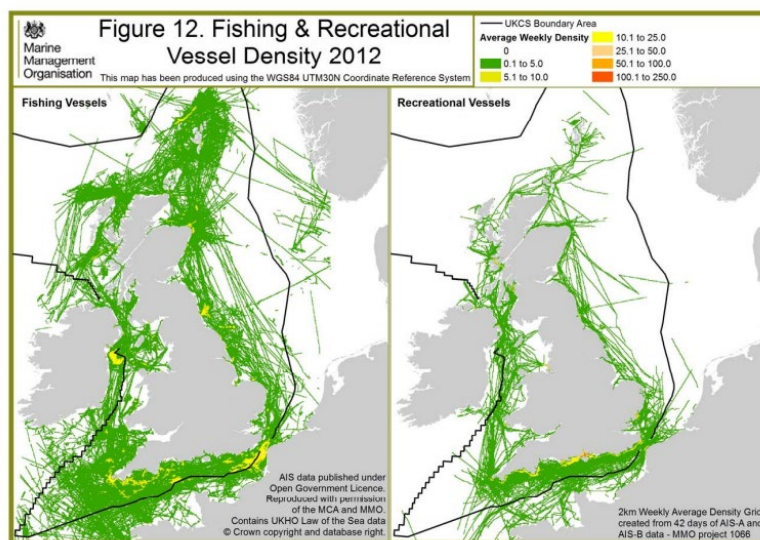
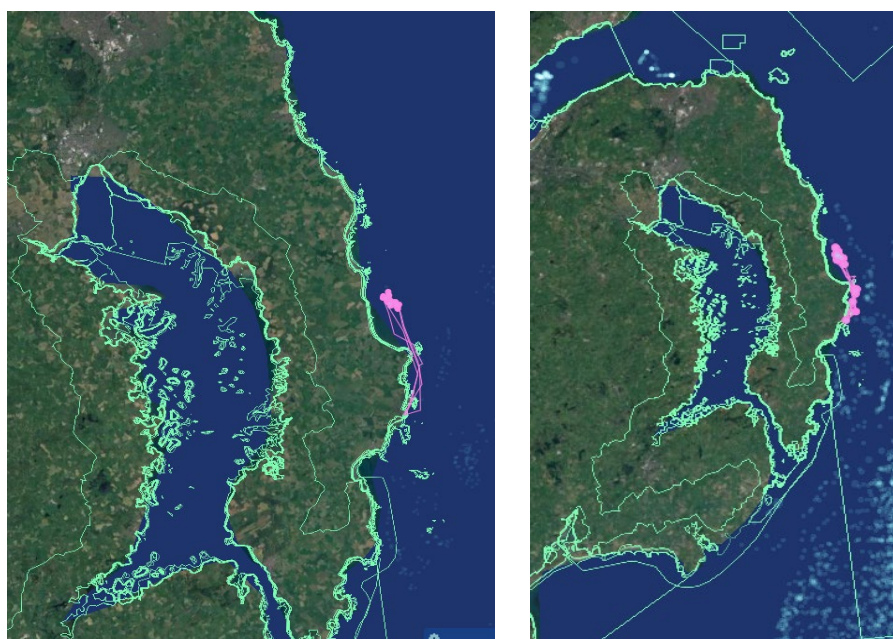*Figure 3. Average weekly density of fishing vessels plotted using AIS data (2012). Source: link.*

Figure 4. AIS tracks of two different under 12m vessels operating north of Portavogie with registered NI home ports over the last month. Source: link.

- Another simple method that could be used to estimate approximate range of activity of the under 12m fleet would be to calculate vessel ranges based on fuel usage (*Figure 5*).
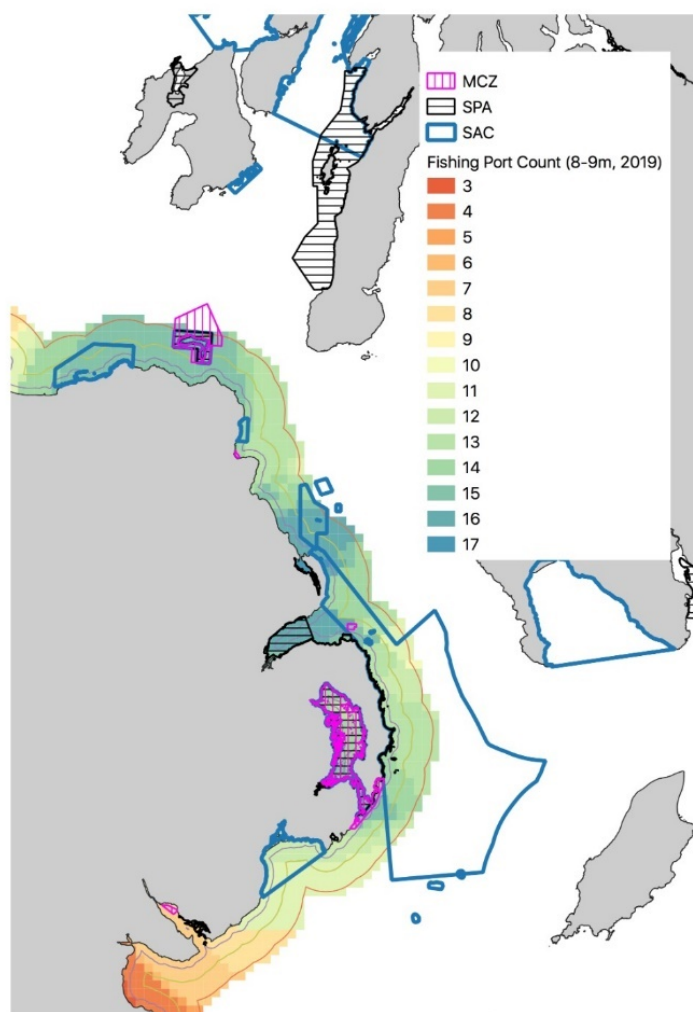
Figure 5. Heat map showing the potential fishing activity of 7-9m potting vessels using 2019 Seafish annual fuel use data, engine efficiency estimates and the assumption of a homogenous distribution of effort. Grid cells are 2x2km.Buffer lines are 1,3 and 6km from coastline.

- The use of logbook data combined with some of the methods above can also help give DAERA a much higher resolution understanding of the fishing opportunities from specific areas and the impacts of closing specific areas to fishing.

- The AFBI impact assessment on which DAERA rely for the current consultation uses data that are between 3 and 5 years out of date. We appreciate this is not an easy problem to solve. We are, however, surprised that no effort has been made to speak to stakeholders to see how vessel activity and extent may have changed over the last 3-5 years. This would help better contextualise the results of the impact assessment, so they are more relevant today. This goes for vessel numbers, area use, fishing effort and the value of landings from each of the MPAs. We feel that at a minimum DAERA should have used more up-to-date market value data to give more accurate estimates of the value of lost fishing activity. In all cases, for the under 10m fleet, this means that DAERA are again underestimating the value of landings coming from the MPAs (Figure 6.
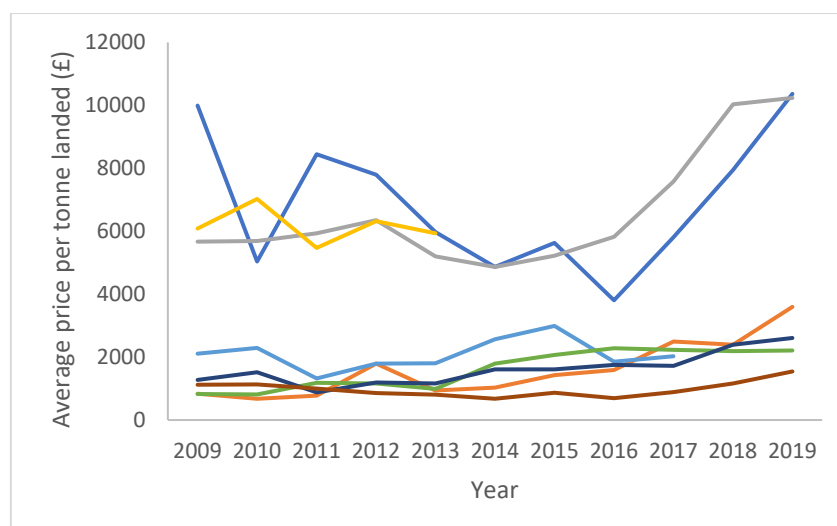
Figure 6. Time series trends of average prices per tonne of landings per <10m vessel for different port groups. Each line is a different port group. A port group contains all vessels from a group of ports assumed to fish in and around the MPA closest to their respective port. Source: Price data = Seafish economics data, port groupings = estimates for the purposes of this consultation response.

Conclusion

All the aforementioned methods come with their own suite of limitations such as cost, data privacy, the problems of "dark" vessels that turn AIS off, the fact that many smaller vessels may not have AIS, and the potential falsifying of fishing tracks from chart plotting data. We argue, however, that if a combination of these more readily available methods were used in concert with one another, DAERA would be able to triangulate results and have a more realistic and holistic picture of the spatial activity / extent of the under 12m fleet. Following this consultation response, we hope that DAERA take some of these ideas on board to improve the accuracy of their estimations and better engage with industry both in terms of reporting and data gathering.

4 – Potential errors in analysis and reporting

We believe that some of the values that DAERA use for the consultation are not be accurate. Below we detail each query we have and illustrate our point using data from the calculations made and data used in the consultation.

Details – Averages versus interpolations

- The data that DAERA rely upon in their consultation document[8] to calculate losses in fishing value per MPA comes from the AFBI MPA impact assessment report[9]. Much of the data relied upon is 3 years old (and in some cases 6 years old). In the report, AFBI have used averages from time series data to calculate variables such as landings (tonnes), landings from specific habitat features (tonnes), the value of landings from habitat features (£) and the value of landings from each MPA (£). We feel that the use of averages in many of the cases in inaccurate. The use of an average value does not take account of any trends in the time series that may exist.

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- Figure 7 illustrates this point well. The top panel illustrates how an average value can be an underestimate of a Y variable. The calculation of an average effectively draws a line through the points in a time series (see the red line). If a significant trend is present in a time series, an average is inaccurate and instead an interpolation should be used to calculate a Y variable value (see the green line). This whole situation is reversed if there is a significant negative trend in the data. The only situation in which AFBI's use of averages is appropriate is when there is no significant trend in the time series data (not displayed in Figure 7).

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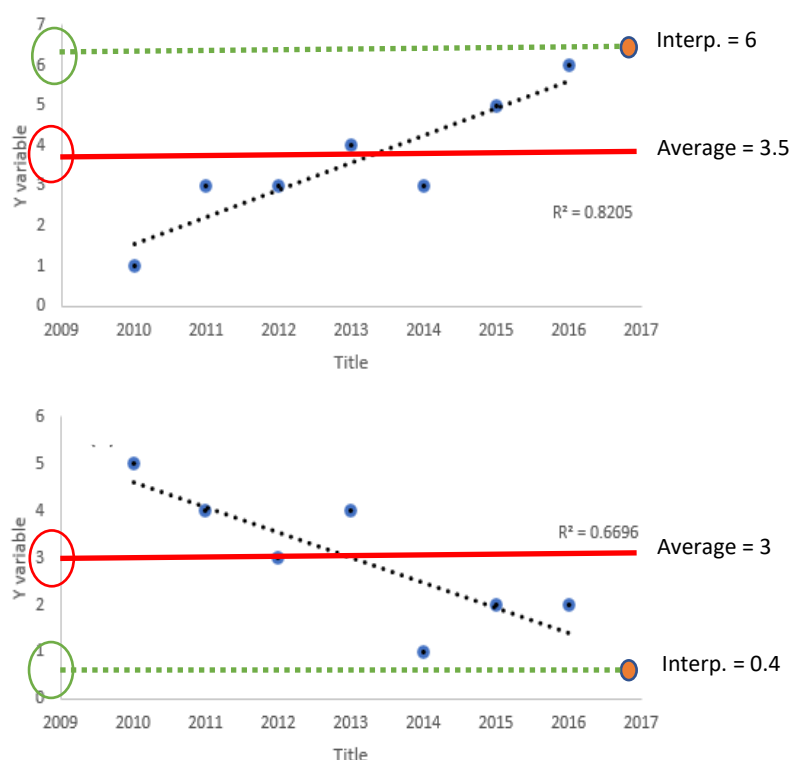
[8] The development of fisheries management measures for Marine Protected Areas and establishment of Scallop enhancement sites in the Northern Ireland inshore region. Link.

[9] AFBI – Impact Assessment – Fisheries Management proposals for MPAs.

Figure 7. Illustrative graphs demonstrating how using averages versus interpolated values can produce vastly different results. The top graph illustrates the idea with data that shows an increasing (positive) trend. The bottom graph illustrates the idea with data that shows a decreasing (negative) trend. Black dashed lines show the general trend, red line shows the average value derivation. The orange point shows the location of the interpolated value (in this case for 2017) and the green dashed line shows the value of the interpolated point.

- AFBI's use of averages in cases where there is a significant trend in the time series data has caused several inaccuracies in their calculations of the value of lost fishing opportunity for each MPA site (Table 1). In 57.89% of cases in which time series data shows robust trends, we believe AFBI has underestimated the value of lost fishing opportunity. The underestimations of value are most apparent for Maidens, Outer Belfast Lough and Skerries and causeway (all value estimates for these sites are underestimates) (Table 2). Murlough and Outer Strangford Lough were the only MPAs that had no underestimations in any variables. All other MPAs had underestimations for 50% or more of the variables measured (Table 3). These results highlight that the use of average values means that AFBI has significantly underestimated the likely values of the different variables reported in the impact assessment report that DAERA rely on for this consultation. The fact that DAERA have not noted this shortcoming of the data highlights a lack of robust process used to produce the consultation document[10].

Table 1. The % of cases in which interpolated values would have produced higher estimates than the average values calculated by AFBI. Data are presented for significant trend lines in time series at different R-squared values for transparency. Note: R-squared values of >0.2* are considered valid in the context of this data[11]. nd = no data (either from a lack of data or lack of trend in the time series).

Y variable measured	% of cases in which y variables calculated by AFBI were underestimates			
	R^2>0.4	R^2>0.3	R^2>0.2*	R^2>0.1
% from area	25	25	25	37.5
Biomass	36.36	36.36	40.90	50
Biomass from area	25	25	25	75
Effort	nd	nd	nd	nd
Number strings	nd	nd	nd	nd
Number vessels	33.33	33.33	33.33	40
Tonnes strings	nd	nd	nd	nd
Value (£)	57.89	57.89	57.89	63.15

Table 2. The % of cases in which interpolated values would have produced higher estimates than the average values calculated by AFBI, per MPA. Data are presented for significant trend lines in time series at R-squared values of >2. n = total number of estimates.

MPA	n	%
Maidens	2	100
Murlough	3	0
Outer Belfast Lough	1	100
Outer Strangford Lough	1	0
Rathlin MPA	7	42.85714
Skerries and Causeway	5	100

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[10] The development of fisheries management measures for Marine Protected Areas and establishment of Scallop enhancement sites in the Northern Ireland inshore region. Link.
[11] How Much Variance Can Be Explained by Ecologists and Evolutionary Biologists? Link

Table 3. The % of cases in which interpolated values would have produced higher estimates than the average values calculated by AFBI, per MPA. Data are presented for significant trend lines in time series at R-squared values of >2. n = total number of estimates.

MPA	n	%
Maidens	7	100
Murlough	7	0
Outer Belfast Lough	15	80
Outer Strangford Lough	6	50
Rathlin	25	60
Skerries & Causeway	23	69.56522

Details – Vessel numbers

- As with much of the data relied on by DAERA (originating the AFBI report[12]), vessel counts are out of date. More recent vessel count data is, however, readily available from the MMO / Seafish (Table 4 (page 17)). If the counts used are in fact underestimates, it means that DAERA may be assuming less activity than there is in more recent years from certain port groups. The reverse is true if the counts reported in the AFBI report are higher than more recent vessel counts (MMO or Seafish). This would mean that DAERA may be assuming higher activity from certain groups than is true. Either way, looking at the vessel data presented in the report compared to more recent sources, we believe it would be prudent for DAERA to verify their active vessel estimates moving forward.

Details – JNCC methods

- We have been told by DAERA that the methods used by AFBI and DAERA to evaluate the habitat sensitivity are a standard set of protocols / methods used across the UK. Even if this is the case, we do not believe that this means the limitations of those approaches should remain hidden from the current consultation. Avoiding discussion of such issues only perpetuates limitations - in this case limitations of a method that is now 6 years old. NI has a chance to position itself as a leader in co-management and productivity in both marine conservation and fisheries. We therefore feel that DAERA should be challenging such limitations, making them clear to NI's fisheries stakeholders and working to improve methods relied upon. Below we briefly quote the limitation that we feel deeply flaws the current approach of impact assessment for NI's coastal sea (we draw directly from the JNCC Pressure mapping methodology[13]). Following these quotes, we distill our main concern.
    - *"The data is provided in a 0.05 x0.05 decimal degree grid. The production of the abrasion pressure layers is based on a range of assumptions, and thus has a number of limitations, mainly that they are primarily for areas beyond the 12 nautical mile limit for use at a regional and national scale."*
    - *"The current method is less appropriate for assessing swept area inshore as non-VMS inshore fisheries data was not included owing to a mismatch with VMS data. In the future new initiatives may enable the tracking of small fishing vessels (<12m) and it is hoped that a combined method that better reflects the pressure that fishing exerts on the seabed can be found".*

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[12] AFBI – Impact Assessment – Fisheries Management proposals for mpas.
[13] JNCC pressure mapping methodology – JNCC report No. 515. Link.

- o *"This method is recommended for creating abrasion layers for use at a regional and national scale for areas beyond the 12 nautical mile limit and has prioritised the inclusion of human activities data to those that are of greatest importance in terms of spatial footprint, namely mobile demersal fishing. Other activities that cause abrasion (see Annex II) may need to be considered for studies that are conducted at a finer spatial scale or undertaken per feature type."*

  o *"Due to the current mismatch between VMS data and data associated with smaller vessels (predominately fishing inshore), a decision was made to only include VMS data. In the future, with the increase in VMS use to smaller vessels (≤12m), new initiatives may enable the tracking of small fishing vessel activity and it is hoped that a combined method that better reflects the pressure that fishing exerts on the UK seabed can be found. As a result of this, the current recommended method will be less appropriate for assessing swept area inshore."*

  o *"The use of a grid system suggests a homogeneous distribution of effort across each raster grid cell. Care must be taken to articulate that a cell with a score of 1 means that an area equivalent to the area of the cell has been swept per annum rather than simply meaning the cell has been swept once. Though this is rarely the case, as fishermen typically target known tows repeatedly for safety/economic reasons, it better reflects our confidence in the spatial data, given the frequency of the ping data, than point data or track interpolation."*

- Our main concern with the information presented above (from the JNCC report) is as follows:

  o The method is not appropriate for assessment of inshore fleet impacts, particularly the static gear fleet which is so important to the economic viability of smaller vessels in NI's fleet. The large grid cell size (approx.5.5 km x 3.5km) means that if a VMS sounding / ping classified as fishing occurs within a grid cell, it is "spread" / averaged across the whole area of the grid cell. This means that large areas of the NI coastline may be classified as impacted. In reality, however, only smaller, concentrated areas within each large grid cell may well be targeted by coastal fisheries. If DAERA are to accurately and dynamically manage NI's inshore zone this "resolution problem" needs to be actively addressed. JNCC admit that new methods need to be found for the inshore vessels. We argue that if DAERA is working towards successful co-management and adaptive management it is vital that such progress is made in-house. If the current limitations are accepted without any attempt to improve approaches, we believe it will just lead to contentious findings as in the case of the current consultation. Over the long-term this is likely to lead to a mistrust in the data and findings that DAERA is producing which is detrimental both for DAERA and the industry moving forward.

Conclusion

As well as holes in the data that DAERA have used for this consultation, there are also clear inaccuracies in certain approaches used. We do not suggest that the data will be perfect if the points raised above are considered, but our points raise some important findings. They point to the fact that DAERA are underestimating the value of loss of fishing opportunities which in essence suggests the management plans will be less detrimental / impactful to NI's fishermen than is really the case. Such errors will not only cause incorrect estimations, but they will also erode the trust between the fishing industry and the work that DAERA produces and the decisions they make with such inaccurate data. We suggest that DAERA need a more stringent evaluation process of their own methods to avoid such problems in this, and future consultations.

Table 4. Table of vessel counts used by DAERA from the AFBI report in comparison to latest MMO and Seafish vessel numbers. The "verify" column highlights potential disparities between data sources that we believe need checking.

MPA	Local port grouping used	DAERA data type	DAERA data	DAERA year	MMO <10's (2021)	Seafish (2019)	Verify:
Carlingford	Warrenpoint + Greencastle	nd	nd	nd	12	5	number of vessels operating around Carlingford
Murlough	Newcastle + Annalong + Killough	total	37	2018	24	12	potential AFBI / DAERA overestimate
Strangford Lough	Portaferry + Strangford + Ardglass	scallops <12, >12	23, 30	2016	33	23	number of potting vessels
Outer Belfast Lough	Bangor + Groomsport + Donaghadee	scallops <12, >12	18, 36	2016	9	<5	potential AFBI / DAERA overestimate
Maidens	Larne + Ballylumford + Islandmagee + Glenarm	scallops <12, >12	23, 46	2016	5	<5	potential AFBI / DAERA overestimate
Red Bay, Waterfoot	Red Bay + Waterfoot + Cushendun	nd	nd	nd	3	<5	number of vessels operating around Red Bay
Rathlin Island	Rathlin Island + Ballintoy + Ballincastle	total vessels	4	2017	6	8	disparity between vessel estimates
Skerries and Causeway	Portrush + Portstewart + Portballintrae + Dunseverick	total vessels	9	2018	9	5	potential underestimate in Seafish data

5 – We should learn from past mistakes

We urge DAERA to look more broadly at this situation than only through a NI lens. By drawing on many similar MPA examples the current rush to implement new fisheries measures in NI is clearly fraught with errors and difficulties. We believe it is important to learn from other such management endeavors to build a more coherent co-design, co-management process that accounts for ecosystem conservation, livelihoods, and collaborative relationships between industry and government.

Details

Below we highlight a few examples in which MPA implementations have not been successful based on a lack of robust, representative data and proper stakeholder engagement. These examples predominantly come from the UK (for the sake of brevity) but there are plenty more examples from further afield that we can learn from before repeating similar mistakes within our own coastal waters. The examples given rely on both published peer-review literature and conversations held in mid-March (2021) with various UK fisheries stakeholders.

- The Loch Sunart and the Sound of Jura (NC)MPA which lies to the east and south of the Isle of Mull, Scotland.
    - o The original MPA boundary was defined through extensive stakeholder engagement between Marine Scotland and the fishing industry[14]. The boundary was changed last minute (implemented by the minister) without consultation with the industry (i.e. a top-down decision). This effectively destroyed the trust that had been built between the fishing industry and the government over the previous years, leading up to the designation. Since then, the relationship between fishermen and the government has not fully recovered. Some stakeholders also believe this has also led to recent increases in illegal dredging efforts, which under a lack of enforcement have rendered the MPA somewhat of a 'paper park'[15].
        - ▪ This example highlights the importance of long-term engagement and collaboration to build trust. It also highlights the fragility of the relationship between government and industry. We urge DAERA to keep this in mind and note that the current consultation does nothing positive to build trust with industry – something that is essential for compliance, sustainable use and collaboration moving forward.
- The Lundy Island Marine Nature Reserve in the Bristol Channel.
    - o Although the No Take Zone off Lundy has generally been well received and the closed area has shown a significant increase in lobster and crab abundance[16], the design of the reserve was compromised from the start with the protected area stretching only down the protected side of the island. This has rendered Before, After, Control, Impact (BACI) studies impossible and it has compromised robust evaluations of the MPA due to confounding variables regarding exposed versus sheltered effects.
        - ▪ This example highlights the importance of treating closed area designations as experiments in themselves. If the correct survey methodologies and data are not collected and laid out before implementation, then it is very difficult for any agency to evaluate the impacts of such designation. Without a before versus after-type survey design and knowledge base, there is no way to understand if a closed area works as intended. This produces a risk that closed areas will not serve their intended purpose whilst the economic viability of local fishing operations is reduced. We therefore encourage DAERA to first establish a sound and robust monitoring program

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[14] Loch Sunart to the Sound of Jura NCMPA – designation documents link
[15] MSP demands inquiry as illegal dredging increases link
[16] Variable population responses by large decapod crustaceans to the establishment of a temperate marine no-take zone link.

that will allow for the evaluation of a baseline before any MPA implementation begins and evaluate impacts of any changes to the seabed fauna and fishing activity following designation. We would hope DAERA already have plans regarding how the effectiveness of any closures to fishing will be evaluated and we would expect these methods to draw from global best practice literature[17,18] rather than UK-based methods that may be out of date or inappropriate for use in NI.

- The North Sea Plaice Box which lies off the coast of Denmark, Germany, and the Netherlands.
  - The Plaice Box was designed to reduce the bycatch of undersize plaice. Its designation and implementation made the bycatch problem worse because the appropriate science had not been undertaken before its implementation[19].
    - This example highlights the importance of basing area designations on robust scientific baselines that do not make assumptions about ecosystem functioning before and after closure. It is essential that before and after evaluations are undertaken to evaluate the efficacy of any closed areas designated by DAERA.

- The Cardigan Bay Special Area of Conservation (SAC), Wales.
  - This SAC was designated on top of the most important scallop fishery in Wales with little to no consultation with industry. Since its closure there has been a significant amount of money (in the millions of GBP) spent on providing evidence to reopen a small area and to potentially extend the area. There has been a huge loss of income in the scallop fishing fleet and a significant waste of public money. In addition, to date there has been no concrete evidence that scallop dredging in the area had a significant impact on the seabed fauna, nor that the closed areas had any impact on the seabed fauna. This has generated a lot of distrust between industry and government with a net result of very little positive outcomes from the SAC implementation[20].
    - This example highlights the problems of MPA designation and implementation that lack the correct science to back them. Ensuring that the correct data exists (both environmental and socio-economic data) is in the interest of both DAERA and the NI fishing industry. Decisions based on robust data will result in more successful implementation, positive change for conservation and industry, and increased levels of trust between stakeholders (assuming the correct engagement has been undertaken as well).

- The UK's offshore Marine Conservation Zones (MCZs).
  - Many of the offshore MCZs around the UK were allocated following 'stakeholder led' approaches[21]. For this reason, many of them have been paced in areas not due to conservation importance, but rather to minimize reductions in economic impacts on different UK maritime industries. This approach means that conservation objectives have largely been placed as a secondary consideration.
    - This highlights the importance of a co-design process in which government and management bodies actively collaborative with industry to design solutions that meet objectives from both sides. It also reiterates the importance of taking an unbiased, objective approach when it comes to the design of any closed area. MPA design and implementation must be based on sound science whilst also considering the economic needs of industries impacted by such marine protection. The offshore MCZ

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[17] How is your MPA doing? A methodology for evaluating the management effectiveness of marine protected areas. Link.
[18] Evaluating whether MPA management measures meet ecological principles for effective biodiversity protection. Link.
[19] Evaluating the effect of fishery closures: Lessons learnt from the Plaice Box link
[20] Assessment of offshore habitats in the Cardigan Bay SAC link
[21] Assessing public "participation" in environmental decision-making: Lessons learned from the UK Marine Conservation Zone (MCZ) site selection process. Link

example is a case in which industry has been favored. We are, however, pragmatic and believe that although such bias would favor NI's fishing industry in the short-term, better solutions must be found in which DAERA's conservation objectives and the NI fishing industry's needs can both be met. Decisions must be made based on the collection of robust data, something we believe is lacking from the current information that DAERA has presented as part of this consultation.

A broad perspective

It is equally important to draw from the global, scientific literature surrounding MPA designation, management planning and implementation. With a growing understanding of the impacts of fisheries on marine systems and the importance of conserving biodiversity for ecosystem functioning, many conservation initiatives, and national and international targets have been set in motion. The flurry of MPAs over the last 15 years, although perhaps a step in the right direction in terms of meeting targets, should also be scrutinized. The Irish Sea alone contains almost 200 conservation designations across 111 MPA sites, many of which have multiple designations (national, EU, and international). However, data is lacking on the effectiveness of these protected areas in reaching their conservation objectives due to sites being inadequately monitored[22]. The race to meet the 10% marine protected area target set by the Conservation on Biological Diversity, in the UK and abroad, may well be compromising effective planning.

As alluded to above with the UK-based MPA examples, many MPAs have not worked as intended and in many cases their implementation has been rushed with inadequate pre-designation, baseline research. A phenomenon of 'paper parks'[23] has emerged in which, on paper MPA designations tick the right boxes, but they do little to conserve biodiversity, and in many cases are impacting to coastal livelihoods. This has been met with several calls for quality over quantity[24], an approach we feel that DAERA should be taking moving forward. An approach in which adequate data is collected before MPA's are design and certainly before they are designated.

To date, in relation to the current MPA proposal, DAERA has also failed to invest efforts to understand the case specific social contexts in which the MPA proposals sits. Research points to the importance of understanding the social, cultural, and political landscape of coastal communities impacted by MPA development[25]. In addition, rules co-designed between industry and government, an active role for industry stakeholders in ongoing monitoring efforts and cross-scale governance (top down AND bottom-up) are all linked to increased compliance in fisheries[26,27]. The incorporation of community objectives and knowledge and the co-design of management strategies is therefore key to success for NI's inshore fisheries. We are keen to avoid situations of poor compliance because of poor planning and engagement with industry.

Conclusion

We request DAERA make more efforts than only looking at NI when making decisions about MPA designation and related fisheries management plans. Many valuable lessons can be learned from outside of NI's water as evidenced above. Most ineffective MPAs come from a lack of understanding driven by poor research effort and analysis before implementation. We feel as though if the current proposal goes ahead, the management plans will be based on inadequate data and will run the risk of significantly impacting local fishing communities without providing any of the benefits that come from successfully implemented MPAs. We understand that in some instances there are legislative timelines that DAERA may well want to meet, but

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[22] Multiple conservation designations: what impact on the effectiveness of marine protected areas in the Irish Sea? Link
[23] Beyond marine paper parks? Regulation theory to assess and address environmental non-compliance. Link
[24] Missing marine protected area (MPA) targets: How the push for quantity over quality undermines sustainability and social justice'. Link
[25] Obtaining a social licence for mpas – influences on social acceptability. Link
[26] Lack of cross-scale linkages reduces robustness of community-based fisheries management. Link
[27] Important factors influencing rule compliance in fisheries lessons from Denmark.

rushing decisions that impact hundreds of coastal fishermen, their families and the associated supply chains should not be taken lightly.

Our call for a steady-but-sure approach echoes recent calls from the National Federation of Fishermen's Organisation (NFFO)[28]:

"The careful, methodical, evidence-based approach that we have been working on with scientists and fisheries administrators has been thrown out of the window. A mature, steady approach in which we have invested huge amounts of time and effort has been left behind. We are now into the realm of gesture politics and vanity projects. The focus is site-by-site and no one is looking at the cumulative effects and damage to the fishing industry through displacement."

Dale Rodmell, NFFO Assistant Chief Executive & policy lead on MPAs

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[28] Forty new mpas in next three years. Link

6 – Additional considerations

Below we outline key data and statistics that we feel is important to help understand the magnitude of the current consultation on NI's fishing communities.

Details

- Above, with some simple analyses we have demonstrated that some of the areas used by the under 12m fleet (something that the current consultation does not include at all). We also urge DAERA to use some of the suggested approaches above to understand the true impact that the new plans will have for the under 12m fleet. One consideration we feel is important to note is that with any closed area there will likely be a redistribution of fishing effort. In many cases this will mean fishermen extending their fishing ranges which means increased time at sea and in some cases, more fishing further offshore to compensate for lost fishing grounds. This redistribution of effort brings with it some serious safety concerns for the smaller vessels in NI's fleet. With increased time at sea and distance from shore comes increased risk of fishing in poor conditions, something which is directly correlated to increased fatalities in UK fisheries (Figure 8). This is particularly so for conditions in which fishermen may be willing to push their usual limits (0-force 3-4)) before fishing is considered 100% unviable due to poor weather for smaller vessels (>force 3-4).
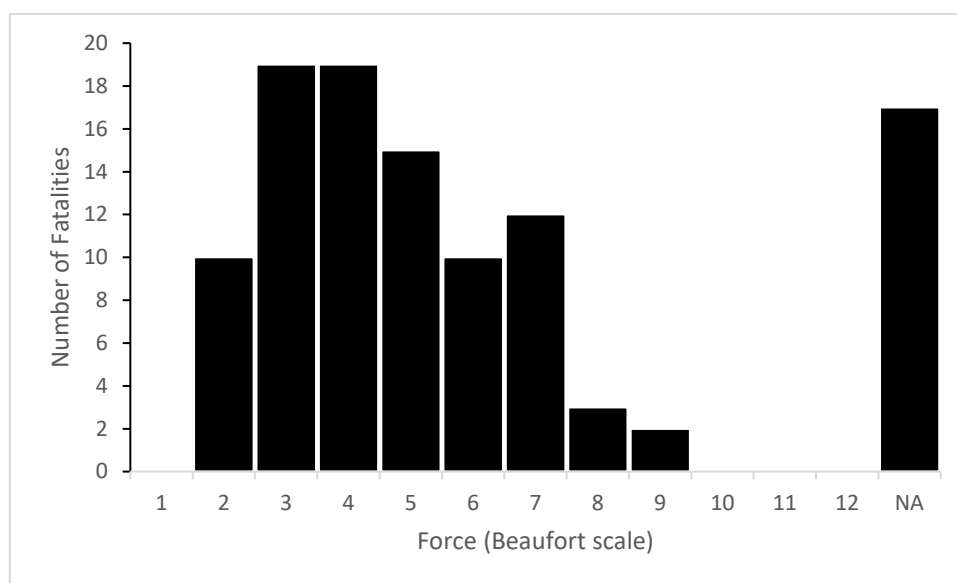

Figure 8. Number of fishing fatalities between 2007 and 2018. Force = Beaufort scale. Source: link, link.

- The above considerations related to effort redistribution and safety are amplified when considering the age (Figure 9) of NI's under 10m fleet (25% of the NI under 10m fleet is between 30 and 40 years old) - 18 of the under 10m vessels are also of wood construction (Figure 10).
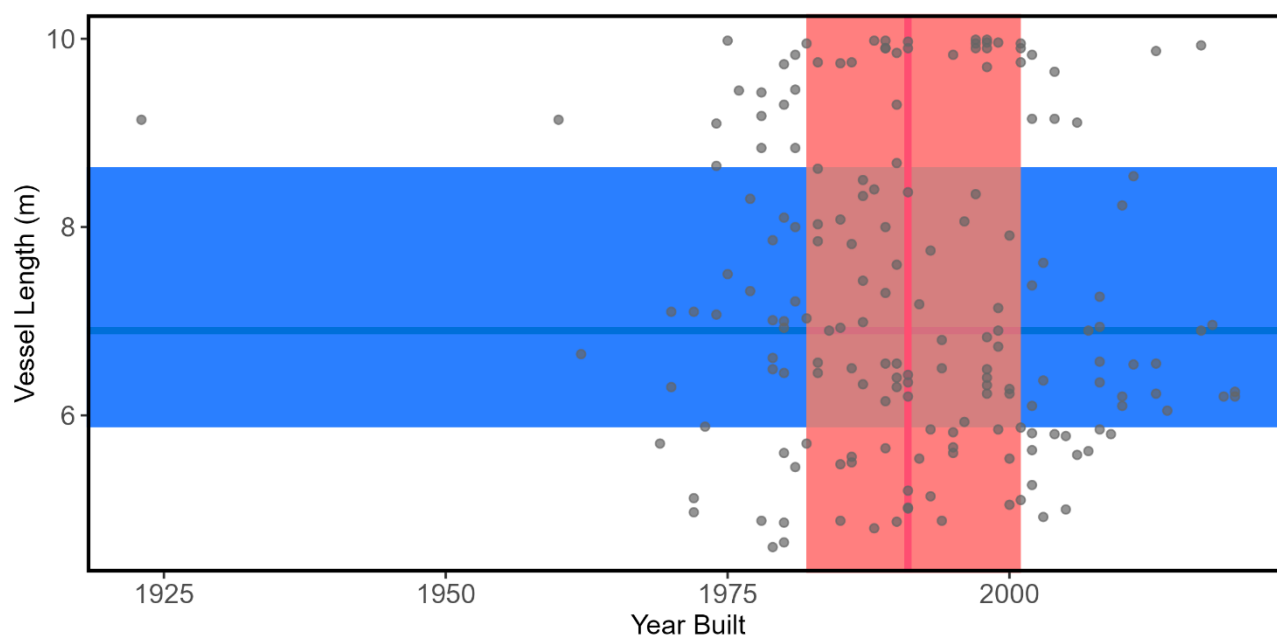
Figure 9. Scatterplot showing the age versus vessel length distribution of NI's under 10m vessels. The coloured sections represent the middle 50% of data (blue by vessel length, red by year built). Midpoint year built = 1995, Midpoint vessel length = 6.9m. Source: MMO vessel data.
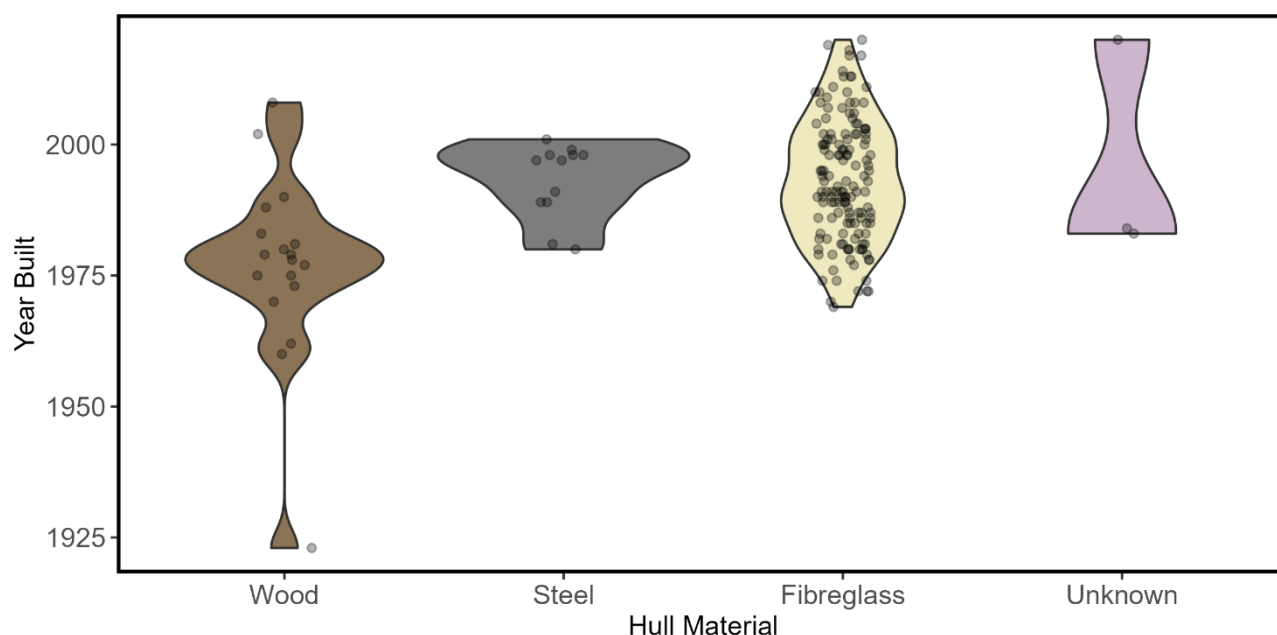

Figure 10. Violin plots illustrating the hull material by year built of NI's under 10m fleet. Midpoints per material: wood = 1978, steel = 1997, fibreglass = 1991. The width of each plot is based on the density of data and jittered horizontally for visualisation. Source: MMO vessel data.

- The estimation of loss for each MPA are clearly underestimates based on the evidence we have provided above (old data, no under 10m vessel information, errors resulting from averaging). DAERA have only considered loss to the catch sector and not considered the supply / value chain impacts of the management proposal for each area. Seven percent (840) of the UK's 12,000 fishers are in NI and NI supports 405 full-time fish processing positions[29]. The impact of any reduction in fishing will not just affect the fishermen. The fishing industry does not work in isolation. It both contributes jobs in

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[29] UK fisheries statistics briefing paper 2020. Link.

the processing sector and brings revenue to local economies through operating costs and alike. DAERA must take these losses into account if a realistic picture of the impacts of closed areas is sought.

- It is common to discuss area closures in the context of marine conservation and reducing fishing activity, but we urge DAERA to also consider the reverse moving forward – areas closed to non-fisheries-related activities, for the purpose of conserving productive grounds for the NI fleet. With the UK's plans for increased renewable energy and offshore development[30], this comment will resonate with the whole of the UK's fishing industry. It is vitally important that as competition for space within coastal waters increases, coastal fishing fleets are remembered and considered (collaboratively) in marine spatial planning decisions. It is also worth noting that the increase in blue carbon research and climate targets more of NI's seabed will likely become closed to fishing and other activities which again stresses the importance of understanding which areas can and should be closed for conservation versus left open for fishing activity.

Conclusions

- The current consultation relies on an impact assessment that was carried out by AFBI. We urge DAERA to take into consideration more than just the catch-sector impacts of any MPA management measures. Above we touch upon the impacts regarding vessel safety, fisheries supply / value chains and the money that revenues that flow back into the local economies of ports neighboring each MPA and the national economy. If DAERA really wants to claim to bae its decision on meaningful impact assessments, the points we raise in the previous sections need addressing as do the impacts to the wider sector.

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[30] New plans to make UK world leader in green energy Link.

Additional stakeholder comments of note

Dr Annika Clements and Ms Heidi McIlvenny @ Ulster Wildlife
The following quotes are taken from the consultation responses (letter and online submission) from Ulster Wildlife who have agreed that we refer to their response.

"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 proposed management."

With regards to iVMS:

"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."

"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, through scientific programmes designed to measure the impacts of MPA conservation management measures on commercial species, for example, the examination of spill-over effects. 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."

"We note that data are limited concerning some elements of the extent of inshore fishing activities. All vessels smaller than 12m length are not currently equipped with Vessel Monitoring Systems (VMS) and there is only preliminary roll-out of such systems on inshore vessels within Strangford Lough (inshore VMS – 'iVMS'). As such, activities from this segment of the fishing fleet 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 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. Ulster Wildlife recognises that there are practical difficulties in installing iVMS for the inshore fleet and 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."

"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."

"We encourage the Department to consider whether the conservation approach is fit for purpose. To truly uphold conservation objectives of marine protected areas, the partially protected sites must be monitored regularly, and the results made public because if they are failing to provide the ecological returns, those areas should be upgraded to the level of protection that we know works – fully protected areas where no extractive activities occur."

Frank Fleming, CEO @ Verifact / Verifish, Ireland.

Understanding the importance of coherent data collection we asked an objective 3rd party to comment on this matter in general terms and in relation to the current consultation. Mr Frank Fleming agreed to write a statement to include in our response and we feel it does an excellent job of highlighting the role that robust, representative and consistent data collection and storage must play in the conservation and management of our coastal waters.

"Data related to the marine environment is captured in many ways for a variety of reasons and to suit different agendas. For example, data related to commercial fishing fleets may be captured for:

Scientific purposes *- this could be spatial data, some sampling data by scientific observers (or self-sampling programs by vessel personnel) and then further analysis of catches onshore. This captures snapshots in time but there are often many gaps.*

Regulatory purposes *- captured to ensure fisheries are regulated. This could be spatial, through VMS, and through landings inspections. However, the activity of smaller vessels is not captured and again there can be many gaps.*

Sustainability purposes *- this could be for certifications such as Marine Stewardship Council (MSC) or for Fishery Improvement Projects (FIPs). This could be catch data and traceability information. While landings do include catch areas, this can again leave gaps.*

Displacement purposes *- When a case needs to be made by the commercial fishing sector, for example when a wind farm or protected area is being developed, the data previously collected may not be available to the sector. A new dataset may need to be captured, often through surveys and questionnaires. Again, this can lead to gaps as the data is collected by word of mouth and potentially without robust methodologies underpinning it. This can lead to difficulties when fishermen are compensated as there is significant potential for compensations to be biased creating conflict within sectors receiving funds. If a finite pot of funds is available in such a case, it is often not divided appropriately.*

A solution to improving the accuracy of data and supporting a multitude of scenarios could well be the development of a "Data House" approach, where all data captured is stored under a tightly defined set of permissions. The ownership of the data and who it is ultimately shared with can be written under a set of rules to suit all potential use cases.

This would improve the coherence of historic data and allow for better triangulation between different data sources, data resolutions and aid robust extrapolation and interpolation. This approach could also provide benefits to NI's fishing fleets when competing interests are vying for the same space as the commercial fishing sector. There would be a new set of drivers for people to get involved and provide better data as it would help the fishing sector build better cases to keep access to resources. Such a data house could also be used to prove the provenance of seafood from different fleets, something that is becoming increasingly important for retailers.

At present with the current methods of centralised (DAERA-driven) data gathering and storage, new insights are difficult to capture at present. For example, if an area is closed off to fishing where does that displaced effort end up? Does it affect the viability of other fisheries? Would closures improve economic returns to vessels as the effects from areas not being fished could provide spill over effects into surrounding areas (as in the case of the Lundy Island MPA). Improved datasets could provide a better means to answer these questions in the future.

Global trends across many sectors, not just fisheries, must find new and improved ways of capturing data and reporting on it. This will help provide new insights, opportunities and enable more informed decisions to be

made. The marine sector should also be looking actively in the same direction. Given the size of NI's coastline, NI has a real opportunity to lead the pack in terms of best practice data collection that can benefit both the conservation of local marine environments and the fishing industry."

Summary of recommendations

Below we summarise a concise list of recommendations based on the information presented previous.

- DAERA should not be in a rush to push these measures through based on the current baseline knowledge presented in the current consultation.
- Legislative deadlines should not dictate the quality of information and ultimately the final decisions made. The COVID pandemic has caused significant disruption yet this consultation has still gone ahead, even when it clearly has not involved successful engagement with industry.
- The current baseline knowledge presented in the consultation must be improved before further decisions are made. Decisions that will significantly impact NI's fisheries for years to come and likely be very difficult to reverse once made.
- Multiple methods (and triangulation) must be employed to solve the current problems of data paucity and potential error in the consultation.
- Better monitoring and data gathering must be invested in now to both improved the current baseline knowledge and to plan for the long-term evaluation of any management plans that are put into place. Each measure that DAERA implements must be treated as an experiment so that the effectiveness of each can be measured accurately on a site-by-site basis over time.
- Less restrictive / more diverse management options should be offered. If DAERA had more input / feedback from industry, we feel that this would be possible, but at present there is little case specificity or diversity in the options put forward.
- Further in-depth discussion and consultation needs to take place for each of the management measures suggested (e.g. iVMS, pot tagging, bycatch recording, selective gear use, etc).
- DAERA must evaluate their own analyses more stringently. At the least all limitations and alternative approaches to analyses need consideration. We feel that had this been undertaken the results presented in the current consultation would be more robust and likely more suited to making long-term management decision with.
- Co-design and Co-management must be at the forefront of all DAERA's efforts moving forward if NI is to really work towards successful conservation and fisheries management. DAERA has a real opportunity to set the standard for the rest of the UK in terms of co-management practice as well as adaptive / dynamic management, but this will all hinge on successful industry engagement.
- In line with the previous comment, DAERA must move away from a top-down approach to management and foster a top-down AND bottom-up approach that fosters collaboration.
- Industry engagement should not be measured by passive invitation, instead it should be measured following active engagement that offers a range of options for the fishing industry to weigh in on the design, development, and implementation of management measures within NI's waters. We invite DAERA to read the thesis conclusions of Katherine Yate from the University of Ulster[31] - see communications (page 30),

Final remarks

We believe that NI can be a world leader in successful inshore fisheries management and marine conservation. However, this will hinge entirely on robust and consistent engagement with industry stakeholders. We understand that solving many of the critiques notes in this response will incur costs, but we see few barriers to better data collection and co-management processes based on the conversations we have recently had with industry. If additional costs are incurred by DAERA that require reallocation of fisheries-related budgets, we implore DAERA to first consult the industry first. Doing so will highlight a drive towards

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[31] Mapping the spatial access priorities of the Northern Irish fishing fleet. The Diverse Seas Project, University of Ulster. Link.

practical co-design (of data collection and monitoring) and co-management. It will also avoid a situation in which one problem is solved and another created. Considering the willingness to collaborate that we have observed in our fishing industry we feel that equitable solutions for all parties concerned cannot be found.

We speak on behalf on behalf of NI's fishing community in that we are fully supportive of the following:

"A scientific work programme has been developed to meet the requirements for improved knowledge on the main inshore fisheries, including pot fishing, bivalve molluscs, sea angling and intertidal harvesting. In addition, an inshore management strategy will be developed which commands the support of inshore fisheries stakeholders and will be used to form the basis for future DAERA policy in Northern Ireland."

From the AFBI inshore fisheries webpage[32].

However, we feel that at present a sufficient knowledge base does not exist upon which to build management plans that will likely last decades and impact not just todays fishing industry but future generations.

We hope that this consultation response will spur further dialogue between DAERA and the Northern Ireland Fishermen's Federation. We hope to work with DAERA to find a common ground in which NI's coastal seas can be both appropriately conserved whilst also benefiting NI's fishing industry.

We look forward to your feedback in due course.

Sincerely

Alan McCulla (ANIFPO)   &   Harry Wick (NIFPO)

31st March 2021

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[32] AFBI website, Inshore Fisheries. Link.

Methods and data used in this consultation response

For the sake of brevity, we have not included details of any of the methods used herein. However, if you would like any further details, copies of the data sources etc, please feel free to contact projects@marfisheco.com.