

Northumberland Inshore Fisheries and Conservation Authority (NIFCA) Impact Assessment: Coquet to St Mary's Marine Conservation Zone (MCZ) Management Plan

1. Supporting evidence

Policy issue and rationale for intervention

Northumberland Inshore Fisheries and Conservation Authority (NIFCA) have a statutory duty to manage the exploitation of sea fisheries resources¹, to so do NIFCA should:

- a) seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way,
- b) seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation,
- c) take any other steps which in the Authority's opinion are necessary or expedient for the purpose of making a contribution to the achievement of sustainable development, and
- d) seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district.

NIFCA have duties under national legislation to manage fisheries within Marine Protected Areas (MPAs) ensuring the fishing activity does not adversely affect the features designated within MPAs (SACs, SPAs) and to ensure that the conservation objectives are furthered (MCZs). These duties are set out in national legislation including the Marine and Coastal Access Act (MaCAA) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

NIFCA have a statutory duty to 'seek to ensure that the conservation objectives of any MCZ in the district are furthered'². To carry out this duty NIFCA, working with Natural England, have adapted the Habitats Regulation Assessment process to assess fishing activity in MCZs in the NIFCA district. Coquet to St Mary's MCZ (the MCZ) extends from Alnmouth Bay in the north to St Mary's Island in the south and extends out to 3 miles from the shore at its widest part (Annex 1). The MCZ is designated for multiple intertidal and subtidal habitat features. NIFCA have assessed all commercial fishing activity in relation to the protected features of the MCZ.

The MCZ assessment³ for bottom towed gear on subtidal soft sediments (Subtidal Mud, Subtidal Sand, Subtidal Coarse Sediment, and Subtidal Mixed Sediment) concludes that the activity is not likely to hinder the conservation objectives of the subtidal sand, coarse, and mixed sediment features however for subtidal mud the assessment concludes that the activity may be hindering the conservation objectives for the site. This conclusion applies only to 'light otter trawl gears' as defined in the NIFCA 'Trawling' byelaw⁴ with all other bottom towed gear types screened out within the assessment as the activity does not occur in the MCZ. Light otter trawl may be hindering the conservation objectives of the site particularly through abrasion and

¹ Marine and Coastal Access Act 2009 s153 <https://www.legislation.gov.uk/ukpga/2009/23/section/153>

² Marine and Coastal Access Act, 2009 s154 <https://www.legislation.gov.uk/ukpga/2009/23/section/154>

³ NIFCA Coquet to St Mary's MCZ Assessment <https://nifca.gov.uk/wp-content/uploads/2021/10/Coquet-to-St-Marys-MCZ-Assessment-FA-004-Subtidal-Soft-Sediment-x-Mobile-Gear.pdf>

⁴ NIFCA Trawling byelaw <https://nifca.gov.uk/wp-content/uploads/2025/02/1.-Trawling-1.pdf>

disturbance pressure and the removal of non-target species pressure although confidence in the conclusion is low to moderate as there is limited information on the specifics of the impacts at this site.

Based on the conclusion of the assessment NIFCA must develop management measures with the aim of addressing the risk to the conservation objectives outlined above.

2. Policy objectives and intended effects

Under the current byelaw (NIFCA byelaw Trawling) trawling is restricted in the MCZ to light otter trawl gear only. Light otter trawl gear is defined as:

a single trawl fitted with a single cod-end and one pair of otter boards rigged for fine ground fishing using either:

- (i) grass rope with lead rings;
- (ii) light single chain ground gear, with a chain link diameter of less than or equal to 10 millimetres; or
- (iii) rubber leg ground gear with rubber discs less than 70 millimetres in diameter.

To trawl within the site, vessels are required to be less than 12 metres in length and hold a NIFCA trawl permit on top of which an exemption is required to trawl in the site. Exemption holders must submit returns with details on the amount of effort fished within the site monthly. There is no cap on the number of exemption holders or any measures to manage effort levels in the site.

The conclusions of the MCZ require NIFCA to develop management to restrict the use of light otter trawl gear within the site. Due to the uncertainties around the conclusions of the assessment NIFCA have adopted an adaptive management plan under a monitoring and control approach. This approach restricts activity levels within the site to below a baseline (2022) level which aims to manage activity in line with the maintain conservation objectives of the mud feature. The management plan also places criteria on granting an exemption to limit access to the site to those who rely on the area, criteria include:

- Holding a NIFCA trawl permit with a vessel less than 12 metres in length;
- Have a fitted and functioning vessel tracking device and gear sensor system, and;
- A track record of trawling within the MCZ within a reference period.

3. Policy options considered, including alternatives to regulation

Option 0: Do nothing.

This option would mean retaining the current byelaw which is not considered a viable option due to the conclusion of the MCZ assessment. All other options are compared to option 0.

Option 1: No further statutory restrictions and introduce voluntary agreements.

Mobile gear management currently in place in the site includes a prohibition of all mobile gear except light ground otter trawl gear. To trawl within CSM MCZ a person must hold a NIFCA trawl permit (only vessels less than 12 metres in length fishing with a single otter trawl) with an exemption attached. Conditions of the exemption are that the holder must supply a permit return with details on the amount of time spent fishing in the site. Under current management there is

no cap on the number of people who can have an exemption to fish in the site and no cap on the level of activity / amount of trawling effort within the site. This option would involve developing voluntary codes of practice to enhance the current byelaw.

NIFCA have considered this option however, this would not work effectively in this case as it would not allow for confidence in the effective management of an MCZ feature which has been identified as requiring further management measures.

Option 2: Adaptive management approach under a management plan

Adopting an adaptive management plan will allow NIFCA to limit the amount of trawling within the MCZ, at present there is no mechanism in place to do so. Under the management plan, measures include:

- A requirement to have an exemption to fish in the MCZ. In order to be granted an exemption the following criteria must be met: hold a NIFCA trawl permit, vessel length of less than 12 metres, have a functioning vessel tracking and gear sensor system fitted, have a track record of fishing in the MCZ for a reference period of 2022.
- A maximum annual threshold for the number of hours exemption holders can trawl within the MCZ.

These measures will cap activity at a baseline level (recorded in 2022). It will also allow NIFCA to place criteria on an exemption to limit the number of vessels that can trawl in the site. Effective monitoring of the management plan can take place through the need to have a vessel tracking and gear sensor system fitted.

The management plan will be implemented alongside a monitoring and control plan for the site through which information on the amount and spatial footprint of activity will be recorded. Further information on the impacts of the gear through abrasion/disturbance/penetration pressure and through impacts to non-target species pressure will be fed into the M&C plan, to inform review of the management plan after the first year. Further investigation of lower impact gear adaptations including semi-pelagic otter doors will also feed into the management plan review after the first year.

NIFCA have considered this option in light of the Better Regulation Framework⁵, which requires that new regulation is introduced only as a last resort

Option 3: Prohibition of towed gear in the MCZ

This option would follow a precautionary approach and has been considered as a possible management option following the conclusions of the MCZ assessment. The NIFCA membership concluded that the NIFCA's statutory duties in relation to MCZs could be carried out through an adaptive management approach described under option 2. Should further evidence of impacts come to light to show that under the adaptive management the conservation objectives of the MCZ are not being furthered, this option may be considered at that time.

⁵ The Better Regulation Framework <https://www.gov.uk/government/publications/better-regulation-framework>

Option 2 is the preferred option. As such, this is reflected in the costs and benefits analysis.

4. Expected level of business impact

Fishing businesses are likely to be directly impacted by the measures through lost fishing opportunities with regards to loss of access within the MCZ, however through the management plan, economic impacts should be minimised as activity can continue but in a limited way.

NIFCA have gathered information on the current levels (2022-2024) of trawling within the MCZ and the value to fishers of that site. It is difficult to determine catch rates from within the site as catch is reported for the whole area fished and there is no separation of catch from within and outside of the MCZ.

4.1 Trawling activity in the NIFCA district and in the MCZ

4.1.1 Trawling activity in the NIFCA district

The local fishery targeting *Nephrops* on subtidal mud takes place mainly outside of the Coquet to St Mary's MCZ boundary between 3-25 miles offshore with best catches being seen during the autumn and winter months. When the fishery is at its height it also attracts a large number of visiting trawlers from Scotland, Northern Ireland and other English ports. The majority of the visiting trawlers are larger and more powerful than the local boats, and this enables them to work further offshore in most weather conditions.

In the last 10 years, the trawl fleet has become ever more reliant on the local prawn (*Nephrops norvegicus*) fishery, which is now the fleet's principal fishery. Anecdotal evidence indicates that the decline in the use of demersal light otter trawls within the NIFCA district is due to various factors, but predominantly the introduction of Total Allowable Catches and quotas in 1983, and the reduction in the availability of whitefish, which drove many towards potting for shellfish.

Levels of static netting activity within the district have declined considerably in recent years and are currently considered by NIFCA to be low. This decline in netting has been attributed by local fishers to the introduction of TACs and quotas in 1983, cessation of dumping sewage sludge off the Tyne and Blyth (which cod fed from) and grey seal predation from fixed nets. There was a relatively small fishery targeting flatfish (mainly plaice) within sandy bays in Coquet to St Mary's MCZ. This was predominantly Druridge Bay and Cambois Bay. There is one permit holder who has said they trawl in the bays in Coquet to St Mary's MCZ. However, they have submitted no activity returns since the activity returns system was set up for the MCZ in 2021.

In 2021, NIFCA updated the trawling byelaw to prohibit all mobile gear in Coquet to St Mary's MCZ except for light otter trawl gear to protect the reef feature (NIFCA MCZ Assessment: CSMMCZ FA 002). The byelaw also requires anyone who fishes using a trawl in Coquet to St Mary's to have an exemption from NIFCA in addition to a trawl permit. All exemption holders must fill in monthly returns forms specifically for Coquet to St Mary's MCZ. The change to this byelaw prohibited heavy otter trawl gear and scallop dredging gear from being used in the site.

4.1.2 Trawling activity in the MCZ

The main data sources used to generate this information were:

- iVMS data - this is available for some boats in the NIFCA District between March 2022 – February 2023 and has been analysed where available. It is important to note that iVMS

is not a requirement for all boats and therefore this data is not available for all vessels who have indicated that they fish within Coquet to St Mary's MCZ. Of the data analysed three vessels have iVMS data showing trawling activity in the MCZ.

- NIFCA permit returns and Coquet to St Mary's MCZ exemption returns.

It was not possible to use VMS data for the purpose of this assessment as information is only available for vessels over 12m, any activity within the MCZ will be carried out by vessels under 12m (NIFCA Byelaw 1).

The best available evidence is for 2022 as both iVMS and exemption return information are available therefore this year has been used to describe activity. Exemption information is also available for 2023 and this has been included in the analysis.

To trawl within the NIFCA district, fishers must have a valid permit. In 2022, 46 vessels had a permit to trawl in the NIFCA district. To trawl within Coquet to St Mary's MCZ, fishers must also obtain an 'exemption' from Northumberland IFCA. Of the 46 vessels who held a trawl permit in 2022, 22 also held an exemption to trawl in Coquet to St Mary's MCZ.

The majority of permit holders do not fish within Coquet to St Mary's MCZ as the main trawl grounds within the 0-3 nm area were removed from the MCZ before designation during the stakeholder consultation process (Net Gain, 2013) (Figure 1). Within the boundary of the MCZ, the majority of trawling activity within the site occurs on the mud feature in the north east of the site around Coquet Island targeting prawns. Vessels tow in specific areas in order to avoid known obstacles on the seabed such as rock, boulders, wrecks and static fishing gear. As such, tows are not conducted over all of the subtidal mud area but follow distinct tracks (Figure 2).

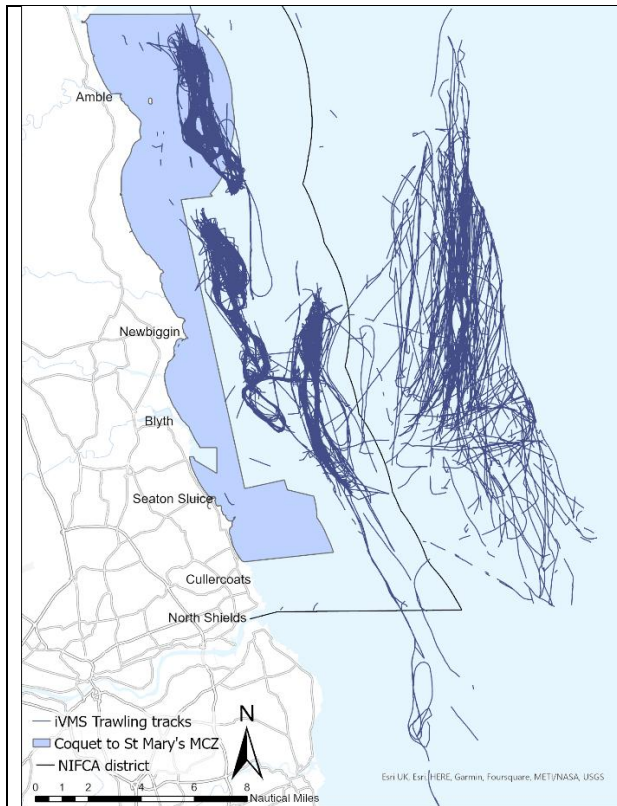


Figure 1. iVMS tracks of fishing activity for six trawling vessels with a NIFCA trawl permit and iVMS (March 2022- Feb 2023).

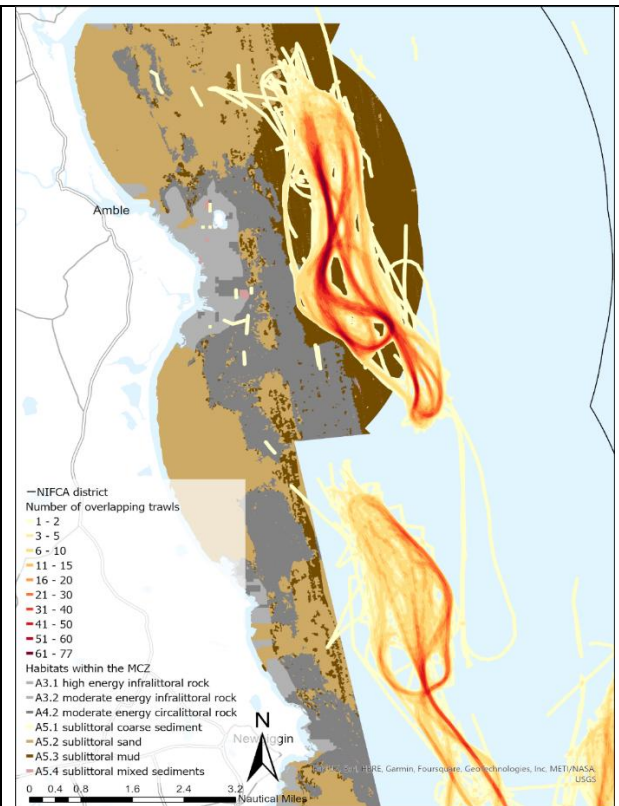


Figure 2. Overall footprint of six vessels trawling with number of overlapping trawls showing distinct tracks, from iVMS data. Habitat types within Coquet to St Mary's MCZ are shown.

A condition of holding an exemption to fish in Coquet to St Mary's MCZ is that fishers must fill in monthly catch returns forms detailing the number of days they have fished inside the MCZ, the average number of tows per day that fall within the MCZ, and the number of hours fished each day inside the MCZ. Twenty-two vessels held an exemption to fish in 2022, out of which four vessels submitted monthly catch returns reporting trawling activity in the site (Table 1). The combined number of days the four vessels reported fishing within the MCZ totalled 166 days, with an average of 41.5 days per vessel.

iVMS evidence

The addition of iVMS data through 2022 adds detail to the information provided through exemption returns and can be used to corroborate this evidence. Of vessels fishing within the MCZ, two vessels had iVMS for the full year, four had iVMS since June 2022 and all vessels have data available since October 2022. One full year was analysed from March 2022 to February 2023 for all available iVMS data, so the estimates from iVMS of fishing trips and hours are likely slightly underestimated and cannot be compared directly with exemption returns data (Table 1). Other trawling vessels were also checked, through available iVMS data, to ensure no trawling occurred inside the MCZ which was not reported in permit returns.

Tracks of fishing activity were obtained from iVMS data. iVMS identified 111 fishing trips within the MCZ, with an average of 20.6 days per vessel per year within the MCZ. Only three vessels were identified as actively fishing within the MCZ from iVMS data, accounting for 81%, 47% and 3% of their total effort, respectively. The cumulative area ground trawled within the MCZ was 273km², including overlapping trawls (Figure 2), while the overall footprint was 22.8km² or 11.7% of the total area of the MCZ.

Table 1. Fishing activity within the MCZ, from permit returns and iVMS evidence from seven vessels. Permit returns were for the full year in 2022, while iVMS data was from March 2022 - February 2023 using all available data in that time.		
	Fishing activity (permit returns)	Fishing activity (iVMS)
No. of vessels fishing in MCZ	7 (Trawl permit returns) 4 (Exemption returns)	3
Cumulative no. of fishing trips	166	111
Average no. of tows per day	3	-
Cumulative number of hours fished per year	1069	835
Hours per month (average)	89	-

4.2 Costs to the fishing industry

To estimate the current value of the fishery within the area of the MCZ is difficult as catches are not reported to a fine enough spatial scale to calculate value of landings from within the MCZ only. NIFCA require all vessels trawling within the area of the NIFCA district to submit a monthly return detailing catch and effort for any fishing activity within the district that month. Since 2022 an exemption under the NIFCA Trawling permit byelaw is required to fish in the MCZ with a further monthly return required detailing effort in the MCZ, from which catch can be inferred using a combination of permit and exemption returns. There is no information on the value of landed catch available through the NIFCA returns systems therefore estimates of catch value have been made using information on landed weight and value of Nephrops and bycatch species from the UK Sea Fisheries statistics⁶, specifically the UK fleet landings by rectangle, stock, port and EEZ 2018-2022 dataset was used to estimate landed weight and value for any trawl fishing activity in ICES rectangles that overlap with the NIFCA district (39E8 and 40E8) and land into ports within the NIFCA district. The price per kilo landed was then applied to NIFCA returns.

The proportion of days spent fishing in the MCZ as a proportion of days spent fishing in the NIFCA district was calculated. Returns information was available from January 2022- October 2024. An estimate of landed value/kg was calculated by dividing landed value by the landed weight for Nephrops at ports within the NIFCA district, by mobile gears only to give the most accurate representation of landed value for this fishery. This was done for each individual month to give a monthly estimate of landed value/kg to account for any seasonal variances. Landings information for the MCZ was a combined total of whole Nephrops, including tails which are recorded separately on NIFCA returns forms. It should be noted that any financial information derived from these returns does not account for bycatch from the fishery, so the figures

⁶ UK Sea Fisheries Statistics <https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2023>

produced are likely an underrepresentation of the overall fishery value but are a fair representation of value of Nephrops landings which is the target species for this fishery.

Table 2. Estimated landed weight and value of Nephrops from within the area of the MCZ, please note that these figures are estimations based on landings reported for the area of the NIFCA district from which a proportion is estimated based on time spent fishing in the district and in the MCZ.		
	Landed Weight (kg)	Landed Value (£)
2022	21,986	109,094
2023	19,290	109,777
2024	2,952	14,894

Since 2022, there have been a total of 8 vessels active within the MCZ, with a total landed weight of 44.2 tonnes and landed value of £233,766 between January 2022 and October 2024. As a result of the proposed management measures outlined in Option 2, namely the cap of 5 permits to fish within the MCZ, the estimated loss from the fishery between January 2022 and October 2024 would be £11,817, 5.1% of the landed value from within the site during this time. This estimate is the inferred financial loss to the fishing industry as a result of these management measures, this only applies to the management suggested under option 2 which will be reviewed after Year 1 at which time the measures included in the management plan may be subject to change.

4.3 Monitoring and Compliance

There is a monitoring element of this management plan which requires NIFCA to analyse the amount of time spent fishing the MCZ and monitor this in relation to an annual cap on activity levels (a maximum number of hours actively trawling in the site). NIFCA plan to build this analysis into our workstreams for 2025 and subsequent years therefore there will be no additional cost, this is estimated to be approximately 0.2 FTE. There will be a cost to NIFCA through the purchase and installation of the vessel tracking devices on gear sensors, and the airtime costs for the vessel trackers to send information to a central database. The cost of use of the database is covered under the airtime cost. Costs for the vessel tracking system are estimated at £90 per vessel for the tracking device and sensors, £96 per vessel per year for the airtime cost, and £500 per vessel for installation. Based on fitting the systems to five vessels the costs to NIFCA in year 1 is approximately £686.00 per vessel and £3,430 in total. In year 2 and for subsequent years the costs will be for airtime and any repairs to the system. Airtime is estimated at £96 per vessel per year or £480 for five vessels. It is not possible to predict any costs of repairs. Table 3 details a summary of costs associated with the vessel tracking system. Costs for the installation and ongoing costs for vessel tracking systems will be covered by NIFCA in year 1, this will be reviewed after the first year of the management plan.

Table 3 Breakdown of costs for a vessel tracking system				
	Year 1 cost per vessel	Year 1 cost total	Future annual cost per vessel	Future annual cost total
Vessel tracking device	£45	£225	£0	£0
Gear sensors	£45	£225	£0	£0
Installation	£500	£2500	£00	£0
Airtime	£96	£480	£96	£480

TOTAL		£3430		£480
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NIFCA enforcement and compliance actions are intelligence led and risk based. Where intelligence suggests non-compliance, or that there may be a risk of non-compliance, action is taken with resources deployed accordingly. This management sits under the current NIFCA Trawling byelaw, adherence to the management plan will be primarily through monitoring activity through the vessel tracking system. Whether this management plan becomes a priority depends on compliance, however it is not possible to anticipate this, or the associated enforcement costs. The enforcement of this management plan will be through monitoring activity levels and access to the site and will be absorbed by existing compliance systems and will not be considered here.

4.4 Total monetised costs

The total monetised costs for this management plan will come from:

- Loss of potential ground to a limited number of trawlers
- Installation and running costs for the vessel tracking system and gear sensors
- Costs to monitor the management plan
- Legal advice on approach and content of management plan

There will be ongoing costs associated with additional evidence collection to feed into the M&C plan.

4.5 Non-monetised costs

There may be costs to the fishing industry associated with loss of available ground however effort had been made to ensure that those who rely on or regularly use the trawling ground within the MCZ still have access to the site.

There will likely be further costs associated with the data collection on the impacts of trawling at this site, NIFCA are currently developing a monitoring plan with Natural England therefore details on costs are currently unknown.

4.6 Non-monetised benefits

The changes to the current byelaw which would be brought in under proceeding with option 2 off the following non-monetised benefits:

Protection of MCZ features

The management plan increases control on trawling activity within the MCZ allowing NIFCA to set a cap on the level of activity based on a baseline threshold level. If further evidence shows impacts from trawling at these levels activity can be restricted further to protect the mud feature of the MCZ. Therefore the adaptive approach allows for the level of activity threshold to be changed with new and emerging evidence.

Continued controlled use of the site

By using and adaptive management approach, this allows small scale fishing operations to continue fishing in important inshore fishing grounds while monitoring the impacts on MCZ features.

5. Other legislative and policy considerations

5.1 Marine Plan Assessment

The North East Marine Plan⁷ was adopted in 2021. The decision to implement a management plan for trawling within Coquet to St Mary's MCZ has been made in accordance with the North East Marine Plan. In particular, the following marine plan policies in the North East Marine Plan are relevant:

- Co- existence

NE-CO-1

- Fisheries

NE-FISH-1, NE-FISH-2, NE-FISH-3

- Climate Change

NE-CC-1

- Marine Protected Areas

NE-MPA-1, NE-MPA-2

- Biodiversity

NE-BIO-2, NE-BIO-3

- Cumulative Effects

NE-CE-1

5.2 Marine Strategy Regulations

In proposing the management options here, NIFCA has considered the UK Marine Strategy, as required by regulation 9 of the Marine Strategy Regulations 2010⁸.

6. Environmental Impact

Overview of Marine Protected Areas (MPAs)

Assessments of bottom towed gear (BTG) in the MCZ have been carried out and agreed with Natural England. Where an activity has been found to hinder the conservation objectives of the MCZ, management measures have been put in place. As such, all forms of BTG (including scallop dredging, beam trawling, and otter trawls with heavy ground gear) have been prohibited in the site through previous byelaw changes.

The assessment of light otter trawl gear on subtidal mud could not rule out impacts to the mud feature, however confidence in that conclusion is low. Any changes in the fishery, and/or any new evidence on impacts to the mud feature in the MCZ will feed into a review of the management plan and measures within the plan.

NIFCA plan to carry out a trial of lower impact trawl gear with semi pelagic otter boards that remain off the seabed while fishing. Otter trawl fishing gear has contact with the seabed through the ground gear (ground rope, chains and bobbins), sweeps, doors and any chaffing mats or parts of the net bag (Jones, 1992). Otter doors have been found to have the greatest impact

⁷ The North East Marine Plan <https://www.gov.uk/government/publications/the-north-east-marine-plans-documents>

⁸ [The Marine Strategy Regulations 2010 \(legislation.gov.uk\)](https://www.legislation.gov.uk)

with the deepest seabed penetration, although the smallest width of contact, with only 2.6% of the total gear width for Nephrops otter trawls (Eigaard et al., 2016). Ground gear typically covers 29% of the width while sweeps cover the majority, around 70% of total gear width (Eigaard et al., 2016). Therefore, removal of door contact with the seabed and partial reduction in sweeps contact could significantly reduce penetration and abrasive impacts.

Results of the gear trial could influence future iterations of the management plan, if successful in terms of reducing trawl gear ground contact while maintaining a viable catch, management measures to modify trawl gear used in the site could be brought in.

7. Recommended management option

Following the above assessment, the recommended management option is Option 2: Adaptive management approach under a management plan to fulfil NIFCA's statutory duty in relation to the conservation objectives of MCZs while allowing controlled use of the site by inshore fishing vessels.

This will be achieved through the implementation of a management plan for trawling in the MCZ.

8. References

Jones, J.B. 1992. Environmental impact of trawling on the seabed: a review. *New Zeal. J. Mar. Freshwat. Res.*, **26**, 59-67.

Eigaard, O.R., Bastardie, F., Breen, M., Dinesen, G.E., Hintzen, N.T., Laffargue, P., Mortensen, L.O., Nielsen, J.R., Nilsson, H.C., O'Neill F.G., Polet, H., Reid, D.G., Sala, A., Sköld, M., Smith, C., Sørensen, T.K., Tully, O., Zengin, M., Rijnsdorp, A.D. 2016. Estimating seabed pressure from demersal trawls, seines, and dredges based on gear design and dimensions, *ICES Journal of Marine Science*, Volume 73, Issue suppl_1, January 2016, Pages i27–i43, <https://doi.org/10.1093/icesjms/fsv099>

Annex 1

Habitat map of Coquet to St Mary's MCZ with the mud feature highlighted in red.

