

Title: Changes to NIFCA Byelaw – Dredges IA No: NIFCA 014 RPC Reference No: Lead department or agency: Northumberland Inshore Fisheries and Conservation Authority (NIFCA) Other departments or agencies: MMO, Natural England, Defra	Impact Assessment (IA) Date: 08/10/2021 Stage: Development/Options Source of intervention: Domestic Type of measure: Secondary legislation Contact for enquiries: Mark Southerton, Chief IFCO, NIFCA, 8 Ennerdale Road, Blyth, Northumberland, NE24 4RT, nifca@nifca.gov.uk , 01670797676
Summary: Intervention and Options	RPC Opinion: RPC Opinion Status

Cost of Preferred (or more likely) Option (in 2019 prices)			
Total Net Present Social Value	Business Net Present Value	Net cost to business per year	Business Impact Target Status Qualifying provision
£0	£0	£0	
What is the problem under consideration? Why is government action or intervention necessary? <p>Dredging activity has impacted the local potting industry in the past and has the potential to do so again. Through incidental bycatch of commercially important crab and lobster. Any scallop dredging activity will likely negatively impact the local marine environment.</p> <p>The risks associated with this fishing activity, coupled with little to no reliance upon this fishery by the local community highlights why a regulatory approach would be necessary to avoid the detrimental impacts to the local potting fleet and the marine environment associated with this practice.</p>			

What are the policy objectives of the action or intervention and the intended effects? <p>The intended outcomes of the proposed changes to NIFCA Byelaw "Dredges" are to ensure the long-term protection of the marine environment within the NIFC District, as well as ensure the security of the local potting industry, with regards to the stock status of both crab and lobster. The desired effects of the changes to NIFCA Byelaw "Dredges" are the long-term protection of the marine environment, as well as NIFCA establishing a baseline for environmental conditions within the District to assess the impacts of this change to the legislation. The success indicators of the changes to the legislation would be an improvement in the health of the local marine environment, as well as a reduction in the cases of incidental bycatch of crab and lobster within the District.</p>
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What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base) <p>Option 0: Do nothing.</p> <p>Option 1: Retain permit system but change permit conditions to include a maximum of four dredges per side (eight in total) and limit the vessel size. Maximum vessel length. Restrict the fishery to between daylight hours.</p> <p>Option 2: In addition to the provisions set out in Option 2, designate a specified open area for dredging.</p> <p>Option 3: Prohibition of scallop dredging within the 0-3 nautical mile area of the NIFC District.</p> <p>Option 4: Prohibition of scallop dredging in NIFC District.</p> <p>The preferred option is option 4 – The proposed amendments to the byelaw will prohibit all dredging activity within the NIFC District and ensure that the activity will not negatively impact the marine environment or impact the local potting industry.</p>

Will the policy be reviewed? It will be reviewed. If applicable, set review date: October/2024				
Does implementation go beyond minimum EU requirements?	Yes			
Is this measure likely to impact on international trade and investment?	Yes			
Are any of these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)	Traded:		Non-traded:	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: M.H. Hardy Date: 08/10/2021

Summary: Analysis & Evidence

Policy Option 2

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year 2019	PV Base Year 2021	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate:
COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)		Total Cost (Present Value)
Low	Optional		Optional		Optional
High	Optional		Optional		Optional
Best Estimate	£0				£0
<p>Description and scale of key monetised costs by 'main affected groups'</p> <p>Difficult to quantify any costs associated with loss of scallop dredging ground and potential loss of earnings because of this. This is covered in non-monetised costs.</p>					
<p>Other key non-monetised costs by 'main affected groups'</p> <p>Key monetised costs that would arise from the dredging prohibition would be a loss of income for those who actively fish within the NIFC District. The scale of this impact is likely to be very low, as in 2021, only 2 vessels had a permit, with only one of these vessels actively fishing within the NIFC District. Of these vessels, none were from ports within the NIFC District. Fishers would likely be able to mitigate against any loss of income from this prohibition by fishing in other areas, in many cases, closer to their home ports.</p>					
BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)		Total Benefit (Present Value)
Low	Optional		Optional		Optional
High	Optional		Optional		Optional
Best Estimate					
<p>Description and scale of key monetised benefits by 'main affected groups'</p> <p>Unable to quantify but important local stocks such as lobster and crab will be protected from any impacts of scallop dredging (impacts described below). Static gear loss or damage will be mitigated which will have economic benefit to the local potting fleet.</p>					
<p>Other key non-monetised benefits by 'main affected groups'</p> <p>Protection of the habitats identified as being at risk from bottom towed gear fishing activity will have a positive effect on the overall ecological functioning of the local marine environment, with the potential to improve fishery productivity, although mainly in relation to species other than those targeted using bottom towed gear.</p>					
Key assumptions/sensitivities/risks					Discount rate (%)
<p>Assumptions: Dredging activity negatively impacts benthic habitats in the NIFC District in similar ways as described in scientific literature.</p> <p>Sensitivities/risks: New, local vessels that wished to dredge within the NIFC District would be prohibited, inhibiting the diversification of the local fisheries.</p>					

BUSINESS ASSESSMENT (Option 4)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs:	Benefits:	Net:	

Evidence Base

Problem under consideration and rationale for intervention

Problem under consideration

NIFCA is charged with the sustainable management of fisheries within its jurisdiction, authorised through Section 153 of the Marine and Coastal Access Act (2009)¹.

Dredging within the NIFC District is currently managed through NIFCA byelaw “Dredges”. This byelaw prohibits the use of dredges for fishing within the District without a permit, as well as outlining the required specifications of the gear used. The byelaw also outlines the requirements for obtaining a permit, the conditions of a permit and a procedure by which additional permit conditions may be attached to a permit or varied or removed by the Authority. All permitted vessels are required to complete monthly landings returns, detailing the landed weight of all scallops caught within the NIFC District.

The NIFC District contains two species of commercially important scallop, the larger and more valuable king scallop, *Pecten maximus*, and the smaller queen scallop, *Aequipecten opercularis*, although the dredge fishery of Northumberland solely targets *P. maximus*.

In 2020, there were 4 dredging permits issued, however no vessels actively fished during this time. In 2019, there were 8 dredging permits issued, however only 3 vessels actively fished during this time, with landings totalling 29,163kg. When compared to national landings, the landed weight of scallops within the NIFC District represented 0.001% of the total UK landings into UK ports in 2018². On the returns submitted to NIFCA, there was no bycatch reported from the fishery during 2019. The non-selective nature of this fishery means that the levels of bycatch reported to NIFCA have been widely underreported, and as such an unknown and unquantifiable level of incidental bycatch is occurring without the scale being known to NIFCA. The current fishery within the NIFC District occurs at very low levels, however when it does occur it is concentrated in its distribution, with activity focussed in a number of discrete areas where scallops are found (Figure 1).

From the vessel ‘pings’ recorded using VMS data, officers have estimated fishing activity based on vessel speed at the time the ping was received (below 4 knots). Figure 1 shows these pings by vessels between 2016 and 2019. Most activity occurs outside of the 3nm boundary, with pings inside this boundary thought to have been vessels steaming at low speeds rather than fishing activity. It should be noted, that vessels are currently permitted to fish within the 3nm limit around the Berwick area and that these pings are likely true representations of fishing effort intensity in this area, and not anomalies in the data. The other points recorded are grouped in the ‘hotspot’ areas where activity levels are higher. These areas are often outside the NIFC District; however, it was chosen to show these points to highlight the offshore nature of this fishery. Whilst this data is only inferred fishing activity, it is reasonable to assume that fishing activity does occur in these areas.

¹ Marine and Coastal Access Act, 2009 <https://www.legislation.gov.uk/ukpga/2009/23/contents>

² MMO Sea Fisheries Statistics (2018) - <https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2018>

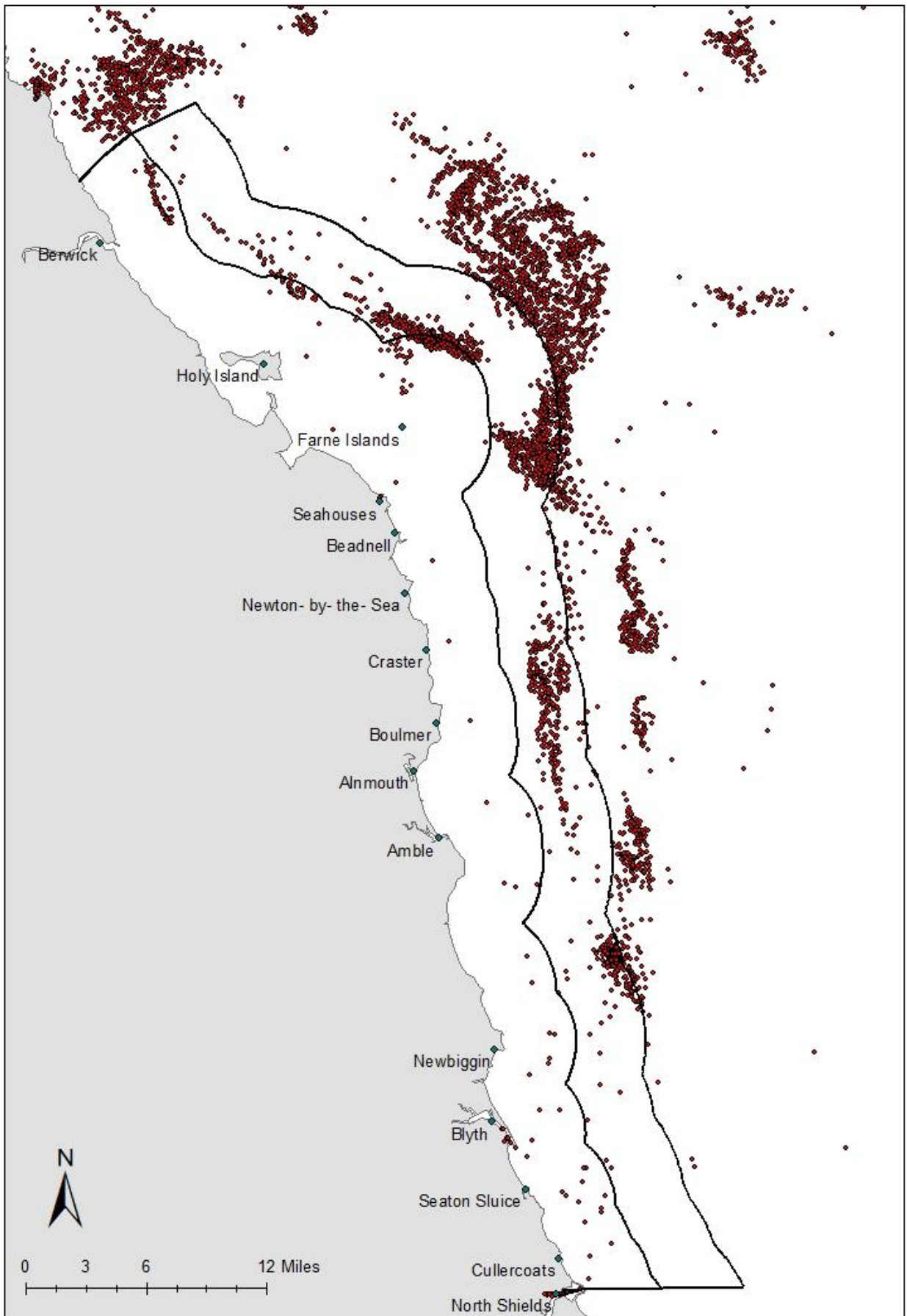


Figure 1: The NIFC District, with 3nm and 6nm boundaries shown, as well as the VMS pings received by dredgers estimated to be fishing between 2016 and 2019.

Beukers-Stewart and Beukers-Stewart (2009) states that the negative effects of towed fishing gear, particularly scallop dredges, on benthic habitats and communities are also of considerable conservation concern. In general, areas subject to high fishing pressure tend to lose structural complexity and have lower biodiversity, species richness, species abundance and rates of benthic production. Scallop fisheries also have a high by-catch of mobile benthic species such as crabs, starfish and some fish species. Although the ecological significance of this bycatch is unclear it has the potential to negatively affect crab fisheries.

Rationale for intervention

IFCAs have duties to ensure that the marine environment is exploited in a sustainable manner by implementing appropriate management measures. Implementing this byelaw will ensure that fishing activities are conducted in a sustainable manner and that the marine environment is suitably protected.

Changes to scallop dredging management were initially proposed as part of the NIFCA 2018 byelaw review. At this stage, a stakeholder consultation was opened to local fishers, from all sectors within the NIFC District. This consultation explored three potential options:

- 1) Leave the byelaw as it is;
- 2) Prohibit scallop dredging in the 0-3 nautical mile area;
- 3) Prohibit scallop dredging in the NIFC District.

This consultation was sent to all permitted fishers (including dredging, trawling and potting permit holders), with 38 responses received. Of these responses, no representatives from the dredging fishery responded, 37 responses came from the potting fishery, all in favour of a total prohibition of dredging activity within the District.

Following this consultation, NIFCA received objections from the mobile gear sector to the proposal to prohibit scallop dredging in the District. NIFCA reviewed the situation with the Authority in light of the objections made, the fact that the first consultation was quite narrow in terms of the management options offered, and there had been no scallop dredging since July 2019 which offered more time to make the right decision and consider all available options.

NIFCA carried out a second consultation in January 2021 to all NIFCA permit holders and those who had signed up to the consultation mailing list. This consultation explored a wider variety of options including further restrictions on gear (reducing the numbers per side), a daylight only fishery, specified open areas, mandatory vessel monitoring systems (VMS), as well as the prohibitions sets out in the first consultation. Responses were received from 21 individuals from a range of sectors. 75% of respondents who engaged in scallop dredging were in favour of increased management measures, but none were in favour of a prohibition on scallop dredging in the District. Of those who responded from the potting fishery, 66% of respondents were in favour of a total prohibition.

Current levels of bycatch, of commercially important species for the fisheries of Northumberland, in the dredge fishery of the NIFC District is unknown and has not been quantified. A review of the literature surrounding this knowledge gap has highlighted that bycatch of commercially important Crustacea still occurs as a result of the non-discriminatory method of fishing. Commercially important shellfish species such as edible crab (*Cancer pagurus*) are particularly sensitive to the effects of dredging (Beukers-Stewart & Beukers-Stewart 2009). Studies have shown that scallop dredging captures up to 25% of edible crabs in the dredge path but more than 40% may be left dead or dying on the seabed (Beukers-Stewart & Beukers-Stewart 2009). One of the most sensitive species to damage from dredging is the brown crab (Jenkins *et al.*, 2001). Given the transient nature of the brown crab, it regularly travels across the soft bottomed areas that scallops are found in search of food or to reproduce.

The movement of this species across these habitats makes the brown crab highly susceptible to being subject to incidental bycatch as part of the dredge fishery. In 2019, the brown crab fishery of Northumberland was reported as overexploited and subject to an unsustainable level of fishing pressure³. In 2019, it was estimated that the brown crab fishery within the NIFC District was valued at £2.14 million, highlighting the importance of this fishery to the local industry. Dredging activity can also cause significant conflict between fishing sectors working static gear in the same area, such as pots.

In addition to the impacts to the potting fishery through the removal and damage of shellfish through bycatch, the seabed and wider marine environment is significantly altered through this fishing method. In terms of the physical structure of the seabed, dredging tends to homogenise the sea floor through the mixing and flattening of sediments and topography (Beukers-Stewart & Beukers-Stewart 2009). Despite the relatively low levels of activity in the NIFC District, the impacts of this activity are still severe to the sensitive seabed communities they interact with. Dredging also removes rocks and small boulders from the sea floor, causes sediment re-suspension and the degradation of limestone and clay structures. A number of studies have investigated the interactions between mobile fishing gears and the marine environment. The particular concern arising from many of these studies is that scallop dredges are considered to be among the most damaging of all fishing gears to benthic communities and habitats (Collie et al. 2000, Broadhurst et al. 2006, Kaiser et al. 2006).

While literature and findings from studies elsewhere can be used to infer impacts of activity, impacts can be influenced by local conditions. Further, they will likely be varied based on scallop dredging extent and pressure experienced at a local level. To understand the impacts within the NIFC District, NIFCA partnered with Newcastle University and Natural England on a project to assess impacts along a dredging pressure gradient (Dredging Up the Past Project, unpublished data, in preparation). Dredging activity was inferred using VMS 'pings' from 2016-2019. Using these data, the District was split into 1km square areas of high, medium, low, and no dredging pressure. Each area was sampled using a drop-down camera to take still images along a transect. Analysis was carried out by Newcastle University who will produce a report with more detail on the analysis methodology. In summary the results suggest:

- scallop dredging from 2016-2019 has had an impact on seabed communities;
- opportunistic species (fast growing) were more abundant in high pressure areas, with slow growing fragile species less abundant;
- species diversity decreases with dredging pressure;
- Crustacea (squat lobsters, harbour crab, spider crab, hermit crab), Sea urchins, and Bivalve molluscs negatively impacted even at low dredging pressure;
- Fragile species such as hydroids negatively impacted even at low dredging pressure;
- There was no difference in scallop abundance across the pressure gradients.

Rationale and evidence to justify the level of analysis used in the IA (proportionality approach)

Given the role of IFCA's to manage sea fisheries resources and protect the marine environment, changing this byelaw will enable NIFCA to ensure that fishing activities are conducted in a sustainable manner and that the marine environment is suitably protected.

Fishing activities can potentially cause negative outcomes as a result of market failures. These failures can be described as:

1. Public goods and services – a number of goods and services provided by the marine environment such as biological diversity are 'public goods' (no-one can be excluded from

³ Boon, A. (2020). Stock status assessment for the *Cancer pagurus* fishery of the Northumberland Coast in 2019.

benefiting from them, but use of the goods does not diminish the goods being available to others). The characteristics of public goods, being available to all but belonging to no-one, mean that individuals do not necessarily have an incentive to voluntarily ensure the continued existence of these goods which can lead to under-protection/provision.

2. Negative externalities – negative externalities occur when the cost of damage to the marine environment is not fully borne by the users causing the damage. In many cases no monetary value is attached to the goods and services provided by the marine environment and this can lead to more damage occurring than would occur if the users had to pay the price of damage. Even for those marine harvestable goods that are traded (such as wild fish), market prices often do not reflect the full economic cost of the exploitation or of any damage caused to the environment by that exploitation.
3. Common goods - a number of goods and services provided by the marine environment such as populations of wild fish are ‘common goods’ (no-one can be excluded from benefiting from those goods however consumption of the goods does diminish that available to others). The characteristics of common goods (being available but belonging to no-one, and of a diminishing quantity), mean that individuals do not necessarily have an individual economic incentive to ensure the long-term existence of these goods which can lead, in fisheries terms, to potential overfishing. Furthermore, it is in the interest of each individual to catch as much as possible as quickly as possible so that competitors do not take all the benefits. This can lead to an inefficient amount of effort and unsustainable exploitation.

IFCA byelaws aim to redress these sources of market failure in the marine environment through the following:

- Management measures to conserve designated features of MPAs will ensure negative externalities are reduced or suitably mitigated.
- Management measures will support continued existence of public goods in the marine environment by conserving the range of biodiversity in the sea of the Northumberland IFC District. Changes to the byelaws will not adversely impact the marine environment and will ensure that there is no increase in the exploitation of marine species.
- Management measures will also support continued existence of common goods in the marine environment.

Description of options considered

Option 0 – Do nothing

Dredging activity would continue as outlined in the current NIFCA byelaw “Dredges”, with no further restrictions imposed to reduce, limit, or manage this fishing activity in the District. This option would provide no further protection to the marine environment, or the commercially important bycatch species associated with this fishery.

Option 1- Retain permit system but change permit conditions to include: a maximum of four dredges per side (eight in total), a maximum vessel length, restrict the fishery to between daylight hours

This option would further restrict the fishery to reduce the pressures on the local potting fleet. Currently, the maximum number of dredges permitted to be fished within the District is 10 (5 per side). Reducing this to 8 is favoured by both stakeholders and officers as it is easy to enforce, reduces the overall footprint on the seabed, deters larger, usually nomadic vessels, from prosecuting grounds within the District, as it would be less financially viable. This option is not the preferred option as feedback to officers is that this would not afford sufficient protection to either seabed habitats or the local static gear fleet.

Option 2 – Designate a specified open area for dredging

A specified open area would mean scallop dredging would be contained to one area of the District reducing the environmental impacts on other areas and reducing gear conflict issues. This is not the preferred option as this would however concentrate impacts in one area. Such areas would be difficult to finalise and without a robust vessel monitoring system would be difficult to enforce.

Option 3 - Prohibition of scallop dredging within the 0-3 nautical mile area of the NIFC District

This option would prohibit dredging up to 3 nautical miles offshore, within the NIFC District. This option was not the preferred option, as the proposed changes to Byelaw 1 (NIFCA IA 013: Changes to Byelaw 1: Trawling) prohibit this activity within the Coquet to St Mary's MCZ, and as dredging is already prohibited in the Berwickshire and North Northumberland Coast SAC, only a very small area of the 0-3nm area would be affected by this proposal. This was deemed to be too small of an area to warrant a byelaw change and would only provide a negligible amount of increased protection.

Option 4 – Total prohibition of dredging within the NIFC District (Preferred option)

This option would mean a total cessation to dredging activity within the NIFC District. The prohibition of dredging within the District would provide the desired level of environmental protection that NIFCA has highlighted would aid in ensuring and establishing a sustainable marine environment.

Policy objective

The policy objective is to ensure the long-term protection of the marine environment, as well as commercially important species commonly caught as bycatch from the dredging fishery. The management proposed in Option 4 has been put forward following in depth consultation with stakeholders, a local study on the impacts of activity in the NIFC District, and after an analysis of the literature surrounding the interactions between bottom towed gear, such as the Newhaven dredges used in this fishery. This option has been put forward after discussion and consideration of the impacts of prohibiting scallop dredging from the District.

The intended outcome of this intervention proposed in Option 4, is to reduce the fishing pressure placed on commercially important species, as a result of being caught as bycatch, as well as protect the marine environment, by reducing the frequency that dredging equipment will interact with the seabed, and to support the local potting fleet.

The proposed management will be regulated through ongoing monitoring within the NIFC District, through offshore enforcement patrols to ensure no prohibited activity occurs within the District. Through the partnership study with Newcastle University (Dredging Up The Past, unpublished data, in preparation), NIFCA have access to baseline data on seabed communities which can be used for comparison in future subtidal monitoring studies. Monitoring could determine whether the prohibition of this activity has had a positive impact on the marine environment.

Summary and preferred option with description of implementation plan

Summary of the preferred option

The preferred option is Option 4, to amend the existing byelaw to prohibit dredging within the District. This proposal would affect the existing dredging fishery, although the levels of activity, as well as reported landings highlight that the Northumberland Coast is not an economically vital fishery. Whilst fishers will see a loss in available scallop dredging areas, it is not thought that this would significantly impact operations.

Description of the implementation plan

To implement these measures, NIFCA intend to make the changes to the byelaw through Authority members at a NIFCA Quarterly Meeting. A formal consultation will follow, subject to

which the changes will be approved and come into force. Stakeholders will be made aware of the changes through a letter to all permit holders, information will also be put on the NIFCA website. Officers will engage with the industry to educate and inform industry on routine patrols. Ongoing operation and enforcement will be the responsibility of NIFCA, along with monitoring and review to ensure desired effects and outcomes of the regulation are taking place.

Monetised and non-monetised costs and benefits of each option (including administrative burden)

Option 0 – Do nothing

There are no significant monetised or non-monetised costs associated with the 'do nothing' option, as this would simply be 'business as usual' and the associated enforcement and administrative costs associated with the existing byelaw would not be affected.

Option 1- Retain permit system but change permit conditions to include: a maximum of four dredges per side (eight in total), a maximum vessel length, restrict the fishery to between daylight hours

The costs of implementing this option would be minor, NIFCA have a permit byelaw for scallop dredging in place under which additional conditions could be placed on the permit. NIFCA would continue to issue permits and so there would be limited additional administrative burden. The benefits of this option are that scallop dredging would remain open for local boats if they wished to take up this fishery in the future, while reducing the viability of this fishery for nomadic vessels.

Option 2 – Designate a specified open area for dredging

There would be costs associated with implementing this option as it would be difficult to determine which area to designate as the open area for scallop dredging. This would be subject to consultation of all fishing sectors. It would also likely require a functioning vessel monitoring system for effective enforcement which would be costly to put in place. The benefits of this option are that scallop dredging would remain open for local boats if they wished to take up this fishery in the future, and any gear conflict issues would be reduced.

Option 3- Prohibition of scallop dredging within the 0-3 nautical mile area of the NIFC District

No dredging activity is thought to occur within the 0-3nm boundary, therefore there are no associated costs or benefits from prohibiting the activity in this area.

Option 4 – Total prohibition of dredging within the NIFC District (Preferred option)

As previously mentioned, the scale of the existing dredging fishery within the NIFC District does not indicate that the costs associated with this would have a significant impact on businesses or fishers. In 2019, approximate landings within the NIFC District were valued at approximately £71,000, based upon average landed value from MMO landings⁴. In 2020, there was no scallop dredging activity in the NIFC District.

This option would create additional enforcement costs for NIFCA, however these are very nominal, as normal sea-going patrols would police and ensure compliance with the proposed prohibition. This is subject to change based on risk-based enforcement priorities and whether the enforcement of this byelaw becomes a priority depends on compliance, however it is not possible to calculate these costs at present. Further, the lack of administrative costs associated with Option 4 would mean NIFCA would benefit from not needing to issue permits and process returns for this fishery.

There are no localised social or economic benefits to the dredge fishery; stakeholders from our main sector (potting) endorse a full ban; we have a full range of literature highlighting the

⁴ MMO Sea Fisheries Statistics (2018) - <https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2018>

negative impacts of this type of fishing. A prohibition of this activity would not significantly change the behaviour of fishers, as this is not a heavily exploited fishery, with low levels of activity. The lack of local vessels permitted in 2019 highlights the transient and nomadic nature of this fishery, and as such vessels would be required to operate in different areas, although the impacts of this are not thought to be significant.

NIFCA would monitor the impacts of this prohibition, and as such, potential increases in survey costs associated with habitat monitoring would be expected. At this time, it is not possible to estimate these costs, as it may be possible to operate surveys alongside other activities to reduce the resource burden and associated costs.

Direct costs and benefits to business calculations

Local business operations would likely not be significantly and adversely affected by the prohibition. Vessels typically operate outside of the NIFC District, and as such, landings into local merchants and wholesalers would continue.

Risks and assumptions

There is risk of objection from the scallop dredging fleet or mobile gear sector who have previously raised an objection to the management proposal in option 4. Recently we have seen weak demand for scallops and low prices nationally, this could account for the lack of scallop dredging in the NIFC District. Looking to the national picture, there are consultations on latent capacity in the fleet, and seasonal closures elsewhere in the country. Considering this national picture, we may see an impact on the financial gain of the industry and could get a push back from this sector.

However, the scallop dredge fishery in Northumberland is very limited, the loss of limited grounds inside the 6 nautical mile boundary of the NIFC District should not impact local businesses or operations. Any impacts of this removal of a fishing opportunity have been fully considered and weighed against the benefits.

This byelaw is to be reviewed at least once every 3 years, and as such, NIFCA has the power to revoke the prohibition if it is deemed appropriate and there is evidence to suggest this fishery has had no detrimental impact on the habitats, or local fisheries.

Impact on small and micro businesses

Please refer to previous section regarding costs to businesses.

Wider impacts (consider the impacts of your proposals)

The wider impact of this proposal is the potential displacement of fishing effort into neighbouring areas. Over recent years, there has been a significant increase in dredging activity along the Yorkshire Coast, resulting in North Eastern IFCA implementing a byelaw, restricting the number of permitted vessels to 3, as well as having a 6-month seasonal closure. This has led to displacement of vessels to offshore areas. It is possible that this proposal may have the same affect and push vessels further offshore and simply displacing effort, rather than reducing it overall. The impacts of this are likely to be very minor, given the low frequency of the activity in the NIFC District at present. A prohibition of the use of dredges, as defined in the Byelaw, would seek to prohibit all dredging activity within the NIFC District, not just dredging for *P. maximus*. This would extend to prohibit the use of dredges to fish for other target species, such as cockles and clams, however the lack of these fisheries within the NIFC District means that this is not a relevant consideration for the Authority at this time. Should a fishery such as those mentioned arise, NIFCA would seek to review the Byelaw accordingly.

A summary of the potential trade implications of measure

Trade would not be impacted by this proposed legislative change, with vessels operating outside of the NIFC District, a supply of scallops to local business is still available, albeit seasonal in nature.

Monitoring and Evaluation

The proposed management will be monitored through regular enforcement patrols, intelligence reports from other bodies, as well as survey work conducted by NIFCA. The existing work conducted by Newcastle University, in partnership with NIFCA, investigating the interactions between bottom towed gear and the environment will be used as a baseline for future monitoring work to be based upon (Dredging Up The Past, unpublished data, in preparation).

NIFCA byelaws are subject to a review procedure as follows:

Review Procedure: The Authority will review the permit conditions no less than once every three years as follows:

- (a) The Authority will consult in writing with permit holders and such other stakeholders, organisations and persons as appear to the Authority to be representative of the interests likely to be substantially affected by the proposed future management options.
- (b) The Authority will make a decision whether to attach, vary or remove any permit conditions based on the consultation responses obtained in accordance with the information listed in the paragraph below.
- (c) Following a decision being made by the Authority, permit holders will be notified in writing and permits will be amended as necessary at no cost to the permit holder.

The information includes any one or more of the following:

- (a) data collected from permit holders;
- (b) scientific and survey data gathered by the Authority or provided to the Authority by such other bodies, organisations, or persons as the Authority shall think fit;
- (c) advice provided by CEFAS or such other bodies, organisations, or persons as the Authority shall think fit;
- (d) an Impact Assessment of any proposed changes;
- (e) advice given by Natural England or such other bodies, organisations, or persons as the Authority shall think fit;
- (f) information from any other relevant source.

References

Beukers-Stewart, B.D. and Beukers-Stewart, J., (2009). Principles for management of inshore scallop fisheries around the United Kingdom.

Broadhurst, M.K., Suuronen, P., Hulme, A. (2006). Estimating collateral mortality from towed fishing gear. *Fish Fish* 7:180-218.

Collie, J.S., Hall, S.J., Kaiser, M.J., Poiner, I.R. (2000). A quantitative analysis of fishing impacts on shelf-sea benthos. *J Animal Ecol* 69:785-798.

Jenkins, S.R., Beukers-Stewart, B.D., Brand, A.R. (2001). The impact of scallop dredging on benthic megafauna: a comparison of damage levels in captured and non-captured organisms. *Mar Ecol Prog Ser* 215:297-301

Kaiser, M.J., Clarke, K.R., Hinz, H., Austen, M.C.V., Somerfield, P.J., Karakassis, I. (2006) Global analysis of response and recovery of benthic biota to fishing. *Mar Ecol-Prog Ser* 311:1-14.

Annex A: Policy and Planning

Which marine plan area is the MPA and management measure in?

North East Inshore Marine Plan

Have you assessed whether the decision on this MPA management measure is in accordance with the Marine Policy Statement and any relevant marine plan?

- Yes

If so, please give details of the assessments completed:

Topic	Policy Code	Policy Text	NIFCA Byelaw: Dredges
Infrastructure	NE-INF-1	Appropriate land-based infrastructure which facilitates marine activity (and vice versa) should be supported.	Does not apply.
Co-existence	NE-CO-1	Proposals that optimise the use of space and incorporate opportunities for coexistence and co-operation with existing activities will be supported. Where potential conflicts with existing activities are likely (including displacement) proposals must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts on existing activities (including displacement) d) if it is not possible to mitigate significant adverse impacts on existing activities (including displacement), proposals should state the case for proceeding.	Does not apply.
Aggregates	NE-AGG-1	Proposals in areas where a licence for extraction of aggregates has been granted or formally applied for should not be authorised, unless it is demonstrated that the other development or activity is compatible with aggregate extraction.	Does not apply.
	NE-AGG-2	Proposals within an area subject to an Exploration and Option Agreement with The Crown Estate should not be supported unless it is demonstrated that the other development or activity is compatible with aggregate extraction.	Does not apply.
	NE-AGG-3	Proposals in areas where high potential aggregate resource occurs should demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts on aggregate extraction d) if it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding.	Does not apply.
Cables	NE-CAB-1	Preference should be given to proposals for cable installation where the method of installation is burial. Where burial is not achievable, decisions should take account of protection measures for the cable that may be proposed by the applicant. Where burial or protection measures are not appropriate, proposals should state the case for proceeding without those measures.	Does not apply.

	NE-CAB-2	Proposals demonstrating compatibility with existing landfall sites and incorporating measures to enable development of future landfall opportunities should be supported. Where this is not possible proposals will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts on new and existing landfall sites d) if it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding.	Does not apply.
	NE-CAB-3	Where seeking to locate close to existing sub-sea cables, proposals should demonstrate compatibility with ongoing function, maintenance and decommissioning activities of the cable.	Does not apply.
Dredging and disposal	NE-DD-1	In areas of authorised dredging activity, including those subject to navigational dredging, proposals for other activities will not be supported unless they are compatible with the dredging activity.	Does not apply.
	NE-DD-2	Proposals that cause significant adverse impacts on licensed disposal areas should not be supported. Proposals that cannot avoid such impacts must, in order of preference: a) minimise b) mitigate c) if it is not possible to mitigate the significant adverse impacts, proposals must state the case for proceeding.	Does not apply.
	NE-DD-3	Proposals for the disposal of dredged material must demonstrate Oil and gas that they have been assessed against the waste hierarchy. Where there is the need to identify new dredge disposal sites, proposals should be supported which are subject to best practice and guidance.	Does not apply.
Oil and gas	NE-OG-1	Proposals in areas where a licence for oil and gas has been granted or formally applied for should not be authorised unless it is demonstrated that the other development or activity is compatible with the oil and gas activity	Does not apply.
	NE-OG-2	Proposals within areas of geological oil and gas extraction potential demonstrating compatibility with future extraction activity will be supported.	Does not apply.
Ports, harbours and shipping	NE-PS-1	Only proposals demonstrating compatibility with current activity and future opportunity for sustainable expansion of port and harbour activities will be supported. Proposals that may have a significant adverse impact upon current activity and future opportunity for expansion of port and harbour activities must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts d) if it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding.	Does not apply.
	NE-PS-2	Proposals that require static sea surface infrastructure or that significantly reduce under-keel clearance must not be authorised within or encroaching upon International Maritime Organization routing systems unless there are exceptional circumstances.	Does not apply.
	NE-PS-3	Proposals that require static sea surface infrastructure or that significantly reduce under-keel clearance which encroaches upon high density navigation routes, strategically important navigation routes, or that pose a risk to the viability of passenger services, must not be authorised unless there are exceptional circumstances.	Does not apply.

	NE-PS-4	Proposals promoting or facilitating sustainable coastal and/or short sea shipping as an alternative to road, rail or air transport will be supported where appropriate.	Does not apply.
Renewables	NE-REN-1	Proposals that enable the provision of renewable energy technologies and associated supply chains, will be supported.	Does not apply.
	NE-REN-2	Proposals for new activity within areas held under a lease or an agreement for lease for renewable energy generation should not be authorised, unless it is demonstrated that the proposed development or activity will not reduce the ability to construct, operate or decommission the existing or planned energy generation project.	Does not apply.
	NE-WIND-1	Proposals for offshore wind inside areas of identified potential will be supported.	Does not apply.
Heritage assets	NE-HER-1	Proposals that demonstrate they will conserve and enhance elements contributing to the significance of heritage assets will be supported. Proposals unable to conserve and enhance elements contributing to the significance of heritage assets will only be supported if they demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate harm to those elements contributing to the significance of heritage assets d) if it is not possible to mitigate, then public benefits for proceeding with the proposal must outweigh the harm to the significance of heritage assets.	Does not apply.
Seascape and landscape	NE-SCP-1	Proposals that may have a significant adverse impact upon the seascapes and landscapes of an area should only be supported if they demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate d) if it is not possible to mitigate, the public benefits for proceeding with the proposal must outweigh significant adverse impacts to the seascapes and landscapes of an area. Where possible, proposals should demonstrate that they have considered how highly the seascapes and landscapes of an area is valued, its quality, and the areas potential for change. In addition, the scale and design of the proposal should be compatible with its surroundings, and not have a significant adverse impact on the seascapes and landscapes of an area.	Does not apply.
Fisheries	NE-FISH-1	Proposals supporting a sustainable fishing industry, including the industry's diversification, should be supported.	This proposal aims to afford protection to the regions other shellfisheries by reducing the instances of bycatch from the dredge fishery. Whilst this byelaw does not promote diversification, it does help support and establish a sustainable potting fishery in the local area through both

			the protection of sensitive marine environments, as well as the fisheries themselves.
	NE-FISH-2	Proposals that enhance access for fishing activities should be supported. Proposals that may have significant adverse impacts on access for fishing activities, must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts d) if it is not possible to mitigate the significant adverse impacts, proposals should state the case for proceeding.	Access will be impacted, as this activity will be prohibited as part of the new legislation. Despite this, other fishing activities will benefit, with increased areas available to be fished without the threat of lost gear.
	NE-FISH-3	Proposals enhancing essential fish habitat, including spawning, nursery and feeding grounds, and migratory routes should be supported. If proposals cannot enhance essential fish habitat, they must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impact on essential fish habitat, including spawning, nursery and feeding grounds, and migration routes.	Displacement of this activity may occur, with vessels pushed further offshore, as well as to other regions. Displacement will likely be to the south, with the scalloping grounds of the Yorkshire coast popular with nomadic vessels.
Employment	NE-EMP-1	Proposals that result in a net increase to marine related employment will be supported, particularly where they meet one of more of the following: i. are created in areas identified as the most deprived or; ii. are in line with local skills strategies and the skills available in and adjacent to the north east marine plan area or; iii. create a diversity of opportunities or; iv. implement new technologies.	Whilst not increasing the job availability. This is still taken into account as this proposal will cease this fishing practice in the inshore area.
Climate change	NE-CC-1	Proposals which enhance habitats that provide flood defence or carbon sequestration will be supported. Proposals that may have significant adverse impacts on habitats that provide a flood defence or carbon sequestration ecosystem service must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts, or, as a last resort, d) compensate and deliver environmental net gains in line with and where required in current legislation.	Does not apply.
	NE-CC-2	Proposals should demonstrate for the lifetime of the project that they are resilient to the impacts of climate change and coastal change.	Does not apply.

	NE-CC-3	Proposals in the north east marine plan areas and adjacent marine plan areas that are likely to have significant adverse impacts on coastal change should not be supported. Proposals that may have significant adverse impacts on climate change adaptation measures outside of the proposed project areas must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate the significant adverse impacts upon these climate change adaptation measures.	Does not apply.
Carbon capture usage and storage	NE-CCUS-1	Decommissioning Programmes for oil and gas facilities should demonstrate that they have considered the potential for re-use of infrastructure.	Does not apply.
	NE-CCUS-2	Carbon Capture Usage and Storage proposals incorporating the re-use of existing oil and gas infrastructure will be supported.	Does not apply.
Air quality	NE-AIR-1	Proposals must assess their direct and indirect impacts upon air quality and greenhouse gas emissions. Where proposals are likely to result in air pollution or increased greenhouse gas emissions, they must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate air pollution and or greenhouse gas emissions in line with current national and local air quality objectives and legal requirements.	Does not apply.
Marine litter	NE-ML-1	Public authorities must make adequate provision for the prevention, re-use, recycling and disposal of waste to reduce and prevent marine litter. Public authorities should aspire to undertake measures to remove marine litter within their jurisdiction.	Does not apply.
	NE-ML-2	Proposals that facilitate waste re-use or recycling to reduce or remove marine litter will be supported. Proposals that could potentially increase the amount of marine litter in the marine plan area, must include measures to: a) avoid b) minimise c) mitigate waste entering the marine environment.	Does not apply.
Water quality	NE-WQ-1	Proposals that enhance and restore water quality will be supported. Proposals that cause deterioration of water quality must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate deterioration of water quality in the marine environment.	Does not apply.
Access	NE-ACC-1	Proposals demonstrating appropriate enhanced and inclusive public access to and within the marine area, and also demonstrate the future provision of services for tourism and recreation activities, will be supported. Where enhanced public access cannot be provided, proposals should demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts on public access.	Does not apply.

Tourism and recreation	NE-TR-1	Proposals that promote or facilitate sustainable tourism and recreation activities, or that create appropriate opportunities to expand or diversify the current use of facilities, should be supported. Where proposals may have a significant adverse impact on tourism and recreation activities they must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate that impact.	Does not apply.
Social benefits	NE-SOC-1	Those bringing forward proposals are encouraged to consider and enhance public knowledge, understanding, appreciation and enjoyment of the marine environment as part of (the design of) the proposal.	Does not apply.
Defence	NE-DEF-1	Proposal in or affecting Ministry of Defence areas should only be authorised with agreement from the Ministry of Defence.	Does not apply.
Marine protected areas	NE-MPA-1	Proposals that support the objectives of marine protected areas and the ecological coherence of the marine protected area network will be supported. Proposals that may have adverse impacts on the objectives of marine protected areas must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate adverse impacts, with due regard given to statutory advice on an ecologically coherent network.	This prohibition will subsequently protect all MPAs within the NIFC District, further protecting the sensitive features that have been designated within these sites.
	NE-MPA-2	Proposals that enhance a marine protected area's ability to adapt to climate change, enhancing the resilience of the marine protected area network will be supported. Proposals that may have adverse impacts on an individual marine protected area's ability to adapt to the effects of climate change and so reduce the resilience of the marine protected area network, must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate adverse impacts.	Protection of the overall marine environment as a result of the lack of dredging activity will help overall resilience to all MPAs within the District.
	NE-MPA-3	Where statutory advice states that a marine protected area site condition is deteriorating or that features are moving or changing due to climate change, a suitable boundary change to ensure continued protection of the site and coherence of the overall network should be considered.	Does not apply.
	NE-MPA-4	Proposals must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts on designated geodiversity.	Does not apply.
Biodiversity	NE-BIO-1	Proposals that enhance the distribution of priority habitats and priority species will be supported. Proposals that may have significant adverse impacts on the distribution of priority habitats and priority species must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate d) compensate for significant adverse impacts.	These measures aim to protect the overall marine environment, which in turn will benefit biodiversity.

	NE-BIO-2	Proposals that enhance or facilitate native species or habitat adaptation or connectivity, or native species migration will be supported. Proposals that may cause significant adverse impacts on native species or habitat adaptation or connectivity, or native species migration must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts d) compensate for significant adverse impacts.	Please see above.
	NE-BIO-3	Proposals that deliver environmental net gain for coastal habitats where important in their own right and/or for ecosystem functioning and provision of ecosystem services will be supported. Proposals must take account of the space required for coastal habitats where important in their own right and/or for ecosystem functioning and provision of ecosystem services, and demonstrate that they will in order of preference: a) avoid b) minimise c) mitigate d) compensate for net habitat loss and deliver environmental net gain.	Please see above.
Net gain and natural capital	NE-NG-1	Proposals should deliver environmental net gain for marine or coastal natural capital assets and services. Proposals that may have significant adverse impacts on marine and coastal natural capital assets and services must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate d) compensate for significant adverse impacts and deliver environmental net gain.	Does not apply.
Invasive non-native species	NE-INNS-1	Proposals that reduce the risk of introduction and/or spread of invasive non-native species should be supported. Proposals must put in place appropriate measures to avoid or minimise significant adverse impacts that would arise through the introduction and transport of invasive non-native species, particularly when: 1) moving equipment, boats or livestock (for example fish or shellfish) from one water body to another 2) introducing structures suitable for settlement of invasive non-native species, or the spread of invasive nonnative species known to exist in the area.	Does not apply.
	NE-INNS-2	Public authorities with functions to manage activities that could potentially introduce, transport or spread invasive non-native species should implement adequate biosecurity measures to avoid or minimise the risk of introducing, transporting or spreading invasive nonnative species.	Does not apply.
Disturbance	NE-DIST-1	Proposals that may have significant adverse impacts on highly mobile species through disturbance or displacement must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts.	Does not apply.
Underwater noise	NE-UWN-1	Proposals that result in the generation of impulsive sound must contribute data to the UK Marine Noise Registry as per any currently agreed requirements. Public authorities must take account of any currently agreed targets under the UK Marine Strategy Part One Descriptor 11.	Does not apply.

	NE-UWN-2	Proposals that result in the generation of impulsive or non-impulsive noise must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse impacts on highly mobile species d) if it is not possible to mitigate significant adverse impacts, proposals must state the case for proceeding.	Does not apply.
Cumulative effects	NE-CE-1	Proposals which may have adverse cumulative effects with other existing, authorised or reasonably foreseeable proposals must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate significant adverse cumulative and/or in-combination effects.	Does not apply.
Cross-border co-operation	NE-CBC-1	Proposals must consider cross-border impacts throughout the lifetime of the proposed activity. Proposals that impact upon one or more marine plan areas or impact upon terrestrial environments must show evidence of the relevant public authorities (including other countries) being consulted and responses considered.	Does not apply.