Habitats Regulations Assessment

Commercial fishing within Marine Protected Areas (MPAs) in the Northern Ireland inshore region

November 2020

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Department of Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

INVESTORS IN PEOPLE

Habitats Regulations Assessment

In accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), DAERA Marine & Fisheries Division has considered whether the project, plan or proposal either alone or in combination (neither being directly connected with or necessary to the management of the site) is likely to have a significant effect on the SAC, SPA and Ramsar site.

As part of that consideration, DAERA Marine & Fisheries Division has:

(a) taken into account the mitigation measures contained in the project, plan or proposal, along with all legally enforceable obligations designed to avoid environmental effects; and

(b) applied the precautionary approach set out in European Commission Guidance: "Managing Natura 2000 Sites"[1] and by the European Court of Justice in C-127/02, Waddenzee, paragraphs 56 and 59[2].

"The authorisation of a plan or project may only be granted if the Competent National Authority is certain that it will not have any adverse effect on the integrity of the site concerned. That is where no reasonable scientific doubt remains as to the absence of such effect."

(c) consulted the Department and have regard to any representations made by it within such reasonable time as the competent authority may specify for the purposes of the assessment or determining whether an assessment is required for a plan or project. This is required by Regulation 43(3), The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2007[3].

(d) some notes and hyperlinks to assist completion of this template have been inserted to help the Competent Authority/Public body complete their HRA. These can be removed.

Web link references for the above:

1. European Commission Guidance: "Managing Natura 2000 Sites". http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf

2. European Court of Justice in C-127/02, Waddenzee, paragraphs 56 and 59. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?isOldUri=true&uri=CELEX:62002CJ0127

3. The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2007. http://www.legislation.gov.uk/nisr/2007/345/regulation/14/made

Notes:

i. The below template has been adapted by NIEA Natural Heritage, from the European guidance document “Assessment of plans and projects significantly affecting Natura 2000 sites”. If in doubt the Competent Authority may discuss with CDP or return to the European document: “The Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.”

   http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf

ii. The Competent Authority should fill the template report form correctly showing references and include relevant annexes if necessary. If the stage 1 shows likely significant impact and /or need for mitigation then the Competent Authority should move on to stage 2 (Appropriate Assessment).

iii. Under current legislation the Department of Agriculture, Environment and Rural Affairs (NIEA CDP) is not obliged to Quality Assure another Competent Authority HRA as part of Environment (NI) Order (39, 40) Assent application.

iv. You may delete this note section from your final draft.

Stage 1: Test of Likely Significance

Name of Project or Plan	**Commercial fishing (using mobile or static gear) within Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites in the Northern Irish inshore region**
Reference (if available)	• **HRAs for scallop and pot fishing within Rathlin SAC and SPA** • **HRAs for pot fishing in Strangford Lough SAC and SPA** • **Habitats Regulations Assessment on the Northern Area Plan 2016** https://www.planningni.gov.uk/index/policy/development_plans/devplans_az/nap2016-hra.pdf • **An Assessment of the Impact of Selected Fishing Activities on European Marine Sites and a Review of Mitigation Measures** https://www.marlin.ac.uk/assets/pdf/Fishing_EMS_Report_Final.pdf • **Fisheries impact in European marine sites: Matrix (Department for Environment, Food and Rural Affairs, Defra)** https://www.gov.uk/government/publications/fisheries-in-european-marine-sites-matrix • **A condition assessment of the seabed habitats and biodiversity around Rathlin Island (Stewart-Moore, S. 2019)** https://www.daera-ni.gov.uk/publications/rathlin-island-dive-expedition-2019-citizen-science-project • **AFBI fisheries impact assessment 2020** https://www.afbini.gov.uk/articles/inshore-fisheries • **Sarah C. Gall, Lynda D. Rodwell, Sarah Clark, Tim Robbins, Martin J. Attrill, Luke A. Holmes, Emma V. Sheehan. The impact of potting for crustaceans on temperate rocky reef habitats: Implications for management, Marine Environmental Research, Volume 162, 2020, 105134, ISSN 0141-1136.** https://doi.org/10.1016/j.marenvres.2020.105134.

Name and location of SACs, SPAs and Ramsar sites Note ASSI features which are not SAC or SPA are not required for HRA.	• **Skerries and Causeway SAC** Area: 10867.43ha EU site code: UK0030383 Site centre location (decimal degrees): Latitude 55.243, Longitude -6.597 Date classified: 2017-09 Link: https://sac.jncc.gov.uk/site/UK0030383 • **Rathlin Island SAC** Area: 3346.59ha EU site code: UK0030055 Site centre location: Latitude 55.3, Longitude -6.216666667 Date classified: 2005-05 Link: https://sac.jncc.gov.uk/site/UK0030055 • **Rathlin Island Special Protection Area (SPA)** Area: 3346.59 ha EU site code: UK9020011 Site centre location: Latitude 55.3, Longitude -6.216666667 Date classified: 2005-05 Link: https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030055.pdf • **Red Bay SAC** Area: 966.279ha EU site code: UK0030365 Site centre location: Latitude 55.114, Longitude -6.024 Date classified: 2017-09 Link: https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030365.pdf • **The Maidens SAC** Area: 7464.05 ha EU site code: UK0030384 Site centre location: Latitude 54.944, Longitude -5.752 Date classified: 2017-09 Link: https://sac.jncc.gov.uk/site/UK0030384 • **Murlough SAC** Area: 3346.59ha EU site code: UK0016612

	Site centre location: Latitude 55.3, Longitude -6.216666667 Date classified: 2005-05 Link: https://sac.jncc.gov.uk/site/UK0016612 • **North Channel (NI) SAC** Area: 160367.0 ha EU site code: UK0030399 Site centre location: Latitude 54.4555, Longitude -5.2936 Date classified: 2019-02 Link: http://archive.jncc.gov.uk/default.aspx?page=7242 • **Outer Ards RAMSAR** Area: 1278.82ha EU site code: UK12018 Site centre location: Latitude 54.546388889, Longitude -5.968611111 Date classified: 2005-04 Link: https://www.daera-ni.gov.uk/publications/outer-ards-ramsar • **East Coast (NI) Marine Proposed (p)SPA** Area: 96668.34 ha EU site code: UK9020320 Site centre location: Latitude 54.03, Longitude -6.07 Consultation date: 2016 Link: https://www.daera-ni.gov.uk/consultations/east-coast-northern-ireland-marine-special-protection-area-consultation • **Carlingford pSPA** Area: 11143.10ha EU site code: UK9020161 Site centre location: Latitude 54.05111111, Longitude - 6.12 Date classified: 2015-12/2016-04 Link: https://www.daera-ni.gov.uk/consultations/carlingford-lough-spa-renotification https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9020161.pdf https://www.daera-ni.gov.uk/sites/default/files/consultations/doe/carlingford-lough-spa-renotification-citation-april-2015.pdf

Designated features within SACs, SPAs and Ramsar sites	**Designated (marine) features likely affected:** • **Sandbanks which are slightly covered by sea water all the time** (Skerries and Causeway SAC, Rathlin Island SAC, Red Bay SAC, The Maidens SAC, Murlough SAC) • **Reefs** (Skerries and Causeway SAC, Rathlin Island SAC, The Maidens SAC) • **Submerged or partially submerged sea caves** (Skerries and Causeway SAC, Rathlin Island SAC) • **Harbour porpoise** *Phocoena phocoena* (Skerries and Causeway SAC, North Channel SAC) • **Grey seal** *Halichoerus grypus (*The Maidens SAC*)* • **Harbour (common) seal** *Phoca vitulina* (Murlough SAC) • **Razorbill** *Alca torda* (Rathlin Island SPA) • **Guillemot** *Uria aalge* (Rathlin Island SPA) • **Kittiwake** (Rathlin Island SPA) • **Breeding seabird assemblages** including fulmar, common gull, herring gull, lesser black-backed gull, puffin (Rathlin Island SPA) • **Great crested grebe wintering population** *Podiceps cristatus* (East Coast Marine pSPA) • **Red-throated diver** *Gavia stellata* (East Coast Marine pSPA) • **Sandwich tern** *Thalasseus sandvicensis* (East Coast Marine pSPA, Carlingford Lough pSPA) • **Common tern** *Sterna hirundo* (East Coast Marine pSPA, Carlingford Lough pSPA) • **Arctic tern** *Sterna paradisea* (East Coast Marine pSPA, Outer Ards Ramsar) • **Manx shearwater** *Puffinus puffinus* (East Coast Marine pSPA, Outer Ards Ramsar) • **Eider duck** *Somateria mollissima* (East Coast Marine pSPA) • **Light-bellied Brent Goose** *Branta bernicla hrota (*Carlingford Lough pSPA, Outer Ards Ramsar) **Other designated features unlikely affected:** • **Vegetated sea cliffs of the Atlantic and Baltic Coasts** (Rathlin Island SAC)

	• **Annual vegetation of drift lines** (Rathlin Island SAC) • **Fixed coastal dunes with herbaceous vegetation** ("grey dunes") (Murlough SAC) • **Atlantic decalcified fixed dunes** (Calluno-Ulicetea) (Murlough SAC) • **Mudflats and sandflats not covered by seawater at low tide** (Murlough SAC) • **Atlantic salt meadows (Glauco-Puccinellietalia maritimae)** (Murlough SAC) • **Embryonic shifting dunes** (Murlough SAC) • **Shifting dunes along the shoreline with Ammophila arenaria** ("white dunes") (Murlough SAC) • **Dunes with Salix repens ssp. argentea** (*Salicion arenariae*) (Murlough SAC) • **Peregrine falcon** *Falco peregrinus* (Rathlin Island SPA) • **Golden plover** *Pluviallis apricaria* (Outer Ards Ramsar) • **Ringed plover** *Charadrius hiaticula* (Outer Ards Ramsar) • **Turnstone** *Arenaria interpres* (Outer Ards Ramsar)
Description of the Project or Plan Suggested topics to be covered: • Size and scale • Land-take • Distance from **SACs, SPAs and Ramsar** sites or key features of the sites • Resource requirements (water abstraction etc.) • Emission (disposal to land, water or air) • Excavation requirements	Commercial fishing with both mobile (dredging/trawling) and static (pots/creels) gear occurs in the Northern Irish inshore region (within 12 nautical miles) taking place within SACs, SPAs and Ramsar sites. **Size and scale** The total marine area protected within SACs, SPAs and Ramsar sites potentially affected by commercial fishing is 2139.36km². Details on fishing fleet and effort targeting listed sites and intensity of fishing activity occurring on designated features are provided in the AFBI fisheries impact assessment 2020 report https://www.afbini.gov.uk/articles/inshore-fisheries This information is obtained from Vessel Monitoring System (VMS) data, data recorded from AFBI fleet observer trips and landings data.

• Transportation requirements • Duration of construction, operation, de-commissioning etc. • Other	**Distance from SACs, SPAs and Ramsar sites key features** Commercial fishing occurs in varying degrees within all above listed SACs, SPAs and Ramsar sites.
Is the proposal directly connected with or necessary to management of the site for conservation of SACs, SPAs and Ramsar features?	No
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the SACs, SPAs and Ramsar sites.	Commercial fishing activities, with mobile gear (trawling and dredging) and static gear (creels/pots) can exert a range of biological, chemical and physical pressures on marine habitats and species. Different species and habitats display varying levels of sensitivities to different fishing pressures. These have been developed by the Marine Evidence based Sensitivity[1] Assessment (MarESA) (Tyler-Walters et al., 2018) and the Features, Activities, Sensitivities and Pressures tool (FEAST, available on the Marine Scotland website which covers some seabird species). The Department has reviewed the sensitivity of all designated features within the SACs, SPAs and Ramsar sites to fishing pressures using the MarESA approach. This approach takes the degree of sensitivity of each habitat and species and applies an exposure level based on the current level of fishing pressure. This assigns a level of vulnerability to each species/habitat based on the current fishing pressure. Risk of damage to the features was also assessed by following the DAERA guidance for developing management options for MPAs The latest condition assessments (2019) for each SAC produced by the Department have also provided an indication of the impacts of historical and ongoing activities, including fishing. Where it is not clear that the feature condition is being maintained or improved (as required by "maintain" or "recover" objectives, respectively), it is judged that the activity could be hindering the conservation objective from being achieved. Furthermore, SACs with fishing regulations in

[1]Sensitivity definition: "a measure of tolerance (or intolerance) of a species or habitat to damage from an external factor and the time taken for its subsequent recovery".

	place (Rathlin Island SAC and Strangford Lough SAC) have shown signs of recovery of sensitive habitats and communities. This is contributing to the achievement of the Department's conservation objectives. SAC condition assessments will be publically available on the Department's website. The following fishing activities and conservation issues have been identified as those likely to give rise to impacts on all SACs, SPAs and Ramsar sites: • All aspects of benthic fishing (scallop dredging, trawling and potting). • All aspects of bird disturbance at sea caused by fishing vessels and associated activities. • All aspects of competition for food resources between fisheries and seabirds.

SACs, SPAs and Ramsar Features: Mention all features	**Describe any likely direct or indirect effects to the SACs, SPAs and Ramsar features arising as a result of:** • **loss;** • **reduction of habitat area;** • **disturbance;** • **habitat or species fragmentation;** • **reduction in species density;** • **changes in key indicators of conservation value (e.g. water quality, climate change).**	**Effect significant / not significant? Explain why?**
Sandbanks	**Mobile gear:** It is well documented that towed fishing gear such as trawls and dredges can damage seabed habitats. Mobile gear fishing in sediment habitats can reduce species abundance, species diversity and habitat complexity. Mobile gear can also have indirect impacts on benthic community structure through the alteration of benthic sediments resulting from the resuspension of fine sediments into the	It is considered that mobile gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at the current activity levels within SACs and SPAs. The effects of mobile fishing gear on sandbanks have been assessed as **significant**. The sandbank feature is present in Skerries and

	water column. Additionally, sediment type can be changed and become anoxic after dredging or trawling. Loss of epifauna may also lead to an increase in scavenging species. Where dredge teeth penetrate the sediment, burrowing species may be caught as bycatch. Although mobile and coarse sand features are expected to have higher resilience and recovery to high frequency disturbance than reef communities, intensive fishing activities can modify habitats, slowing down the recovery of associated fauna beyond natural capacity.	Causeway SAC, Rathlin Island SAC, Red Bay SAC and Murlough SAC. The effects of mobile fishing gear on designated sandbanks within The Maidens SAC have been not been assessed. New evidence from AFBI and DAERA surveys has now re-classified this habitat as coarse sediment and subtidal sand rather than qualifying sandbanks and at present there is not enough available evidence to assess these habitats using the MarESA approach. Further investigation is ongoing.
	Static gear: At the current level of activity within the MPAs it is considered that sandbank features have medium to high vulnerability to potting, especially to physical disturbance, shading, introduction of non-native species, bycatch and organic enrichment.	It is considered that static gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at current levels within SACs and SPAs. The effects of static fishing gear on sandbanks have been assessed as **significant**. The sandbank feature is present in Skerries and Causeway SAC, Rathlin Island SAC, Red Bay SAC and Murlough SAC. The effects of static fishing gear on sandbanks within The Maidens SAC have been not been assessed. New evidence from AFBI and DAERA surveys now indicates this habitat is coarse sediment and subtidal sand rather than qualifying sandbanks and there is not enough available information to assess these using the MarESA approach.

Sandbanks: Maerl	**Mobile gear:** Maerl beds are highly susceptible to the effects of mobile fishing gear (especially heavy scallop dredges) and unlikely to recover at all due to their very slow growth rate. Scallop dredging reduces structural heterogeneity and therefore reduces the diversity of associated organisms. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310818/maerl.pdf	It is considered that mobile gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at the current activity levels within SACs and SPAs. The effects of mobile fishing gear on maerl beds has therefore been assessed as **significant**. This feature is present in Rathlin Island, Red Bay and The Maidens SACs.
	Static gear: The deployment and retrieval of static gear over maerl beds has detrimental effects on this habitat and its vulnerability to potting activities in SACs is considered high. Pressures such as abrasion and disturbance of the sediment on the surface or subsurface, organic enrichment, de-oxygenation, removal of maerl and introduction of invasive species, related to pot fishing may cause permanent damage to maerl beds and their associated communities.	It is considered that static gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at the current activity levels within SACs and SPAs. The effects of static fishing gear on Maerl beds has therefore been assessed as **significant**. This feature is present in Rathlin Island, Red Bay and The Maidens SACs.
Sandbanks: Seagrass (*Zostera marina*) beds	**Mobile gear:** Subtidal seagrass beds have high sensitivities to many pressures associated with mobile demersal towed gear. These include removal of seagrass plants resulting in increasing patchiness, loss of seagrass biomass, disruption of the root system (rhizomes) and destabilization of the bed, increased turbidity of the water, introduction of non-native species and pathogens and especially physical disturbance to the sediment and seabed, causing disruption of the roots.	It is considered that mobile gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at the current activity levels within SACs and SPAs. The effects of mobile fishing gear on seagrass beds has therefore been assessed as **significant**. This feature occurs in Skerries and Causeway and Rathlin Island SACs.

	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310820/seagrass.pdf	
	Static gear: Pot fishing activities have the potential to damage seagrass beds through the physical impacts of pots landing on or being dragged through this feature. Moreover, current levels of potting at subtidal seagrass beds in SACs within Northern Ireland are not considered to be sustainable as the seagrass habitat is highly vulnerable to several pressures associated with the deployment and recovery of gear, especially if anchors are used.	It is considered that static gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at the current activity levels within SACs and SPAs. The effects of static fishing gear on seagrass beds has therefore been assessed as **significant**. This feature occurs in Skerries and Causeway and Rathlin Island SACs.
Sandbanks: Rossworm (*Sabellaria spinulosa*) reef	**Mobile gear:** *Sabellaria spinulosa* reefs are likely to be physically damaged by the passage of mobile gears such as a scallop dredges, which immediately decrease the extent and range of these biogenic reef habitats. The removal of *Sabellaria* reefs can significantly reduce habitat complexity in an area and reefs are often replaced by faster growing polychaete species which lack the same habitat forming abilities. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310819/sabellaria.pdf	It is considered that mobile gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at current levels within SACs and SPs. The effects of mobile fishing gear on *Sabellaria spinulosa* within the Skerries and Causeway SAC have been assessed as **significant**.

	Static gear: *Sabellaria* reefs are also vulnerable to static gear pressures in a similar way to sandbank features, although *Sabellaria* reefs are considered to have higher resilience due to the greater depth and mobile and ephemeral nature of the reef.	It is considered that static gear fishing activity has the potential to have adverse impacts on this feature and its associated benthic communities at current levels within SACs and SPAs. The effects of static gear fishing on *Sabellaria spinulosa* within the Skerries and Causeway SAC have been assessed as **significant**.
Reefs	**Mobile gear:** Mobile gear fishing targeting grounds very close to or on reef areas, including both bedrock and stony reef, can result in direct impact to this habitat and associated reef fauna through physical disturbance to the seabed, especially fragile species such as sponges. This pressure can lead to changes in the structure of the habitat and the long term survival of its associated species. It is known that the majority of the mobile fishing effort within SAC boundaries in the Northern Ireland region is within the areas identified as rocky reef. VMS analysis showed that a high percentage of the dredging activity occurring within SACs takes place on the reef feature. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310821/subtidal-bedrock.pdf	It is considered that mobile gear fishing activity has the potential to have adverse impacts on this feature and it associated benthic communities at current levels within SACs and SPAs. The effects of mobile fishing gear on reefs within the Skerries and Causeway, Rathlin Island and The Maidens SACs have been assessed as **significant**.
	Static gear: static gear over bedrock and stony reef can also cause damage when being deployed or recovered with the potential of affecting epifauna on the reef communities. Rich reef communities in SACs are particularly vulnerable to potting,	It is considered that static gear fishing activity has the potential to have adverse impacts on this feature and it associated benthic communities at current levels within SACs and SPAs.

	especially through shading, the introduction of non-native species, removal of key, long-lived and slow growing species, organic enrichment and abrasion. A recent scientific study (Gall, S. C *et al*., 2020[2]) has shown that potting is more destructive than previously thought and highlights the importance of balancing ecology with social and economic considerations to determine what level of impact is acceptable.	The effects of pot fishing on reefs within the Skerries and Causeway, Rathlin Island and The Maidens SACs have been assessed as **significant**.
Submerged caves	**Mobile gear:** dredging and trawling are not undertaken within submerged or partially submerged sea caves so therefore this activity will not have any potential impacts on any feature of the SACs.	The effects of mobile fishing gear on submerged caves within the Skerries and Causeway and Rathlin Island SACs have been assessed as **not significant**.
	Static gear: Although pot fishing occurs at low levels within or on the vicinity of submerged or partially sea caves, these are considered to have similar sensitivities to reef habitats. Therefore the precautionary approach should be taken.	The effects of static gear fishing activity on submerged caves within the Skerries and Causeway and Rathlin Island SACs have been assessed as **significant** (following the precautionary principle).
Seals	**Mobile gear:** there is no evidence to suggest that mobile gear fishing activities within SACs in the Northern Ireland inshore region are having an adverse impact on the harbour seal and grey seal features of SACs at current levels of activity.	The effects of mobile fishing gear on seals within The Maidens and Murlough SACs have been assessed as **not significant**.
	Static gear: static gear fishing activities are undertaken within 100m of seal haulout sites within SACs. Seals may be accidentally entangled and drowned in static fishing gear and persistent synthetic fishing gear debris, in particular, pups.	Current levels of static gear fishing activities are unlikely to cause disturbance to seals within SACs and SPAs unless these activities were to increase in intensity in the future.

[2] Sarah C. Gall, Lynda D. Rodwell, Sarah Clark, Tim Robbins, Martin J. Attrill, Luke A. Holmes, Emma V. Sheehan. The impact of potting for crustaceans on temperate rocky reef habitats: Implications for management, Marine Environmental Research, 62, 2020. https://doi.org/10.1016/j.marenvres.2020.105134

		Conservation status of Common seal was assessed as favourable for Murlough SAC in the latest DAERA condition assessments (2019), therefore, there is no evidence of current fishing pressures affecting seals in this SAC. Grey seal status has not been assessed for The Maidens SAC. The effects of static fishing gear on seals within The Maidens and Murlough SACs have therefore been assessed as **not significant**.
Harbour porpoise	Pelagic fishing was identified as the only risk from current fishing practices to achieving the conservation objectives for harbour porpoise. This does not apply to the Skerries and Causeway SAC as there is no pelagic fishing taking place in this SAC.	The effects of mobile and static fishing gear on harbour porpoise within the Skerries and Causeway SAC have therefore been assessed as **not significant**.
Seabirds	**Mobile and static gear:** Fishing activity may disturb seabirds and breeding birds directly, either by displacing them from feeding or resting areas in the water (caused by movement and noise from vessels engines), or by accidental mortality as a result of capture and drowning in fishing gear or collision with boats, or indirectly by reducing food supplies leading to increased competition among foraging birds. Fishing also represents a net loss to the system in terms of biomass. Dredging and trawling can also cause significant disturbance to benthic habitats which could affect the abundance and availability of the prey.	Current levels of trawling, dredging and static gear fishing activities are unlikely to cause disturbance to the listed seabirds within SACs and SPAs unless these activities were to increase in intensity in the future. The effects of mobile and static fishing gear on Seabirds within SACs and SPAs have therefore been assessed as **not significant**.
Other designated features	Pot fishing, dredging and trawling are undertaken within subtidal areas and will therefore not have any potential impacts on any terrestrial	The effect to these features has therefore been assessed as **not significant**.

	or intertidal designated features within listed SACs and SPAs.	

Describe any potential effects on the SACs, SPAs and Ramsar sites as a whole in terms of: interference with the key relationships that define the structure or function of the site	**Effect considered significant/non-significant:**
	Dredging is seen as the most environmentally damaging form of fishing and therefore is considered to have the potential to have a significant adverse effect on the key relationships that define the function of SACs and SPAs. Both dredge and trawl fishing can seriously impact marine habitats and communities (particularly habitats like maerl, reef and seagrass) through direct contact with the dredge/trawl gear, and sedimentation when dredging/trawling occurs close by. Loss of key species through targeted catch or by-catch has also the potential to cause deterioration of important species, communities and habitats. Although static gear fishing is not considered as damaging, the use of creels and/or pots in a localised area has the potential to cause deterioration of marine habitats and communities through direct contact, particularly during their deployment and/or recovery. Loss of certain species through targeted catch or by-catch has the potential to cause deterioration of important species, habitats and communities.

Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site	N/A
Is the potential scale or magnitude of any effect likely to be significant?	Yes
Alone?	Yes

In-combination with other projects of plans?	No

List of Agencies / Organisations Consulted. Provide contact name and telephone or email address Note when and who in the Department you contacted with regard to Regulation 43(3) as well as other contacts used to create this report.	• Inshore Fisheries Partnership • Agri-Food and Biosciences Institute • DAERA Marine and Fisheries Division. Marine Conservation and Reporting: Marine Conservation Advice team. • DAERA Sea Fisheries Inspectorate • DAERA NIEA Natural Environment Division
Habitats Regulations Assessment Summary It is important that this makes scientific sense and is backed by good evidence or reasoning.	Fishing activities detailed above have been assessed as having a significant adverse effect on the designated site features of the assessed sites based on the result of the vulnerability and risk of damage assessment described above. Therefore, a full assessment and mitigation measures are required in order to ensure the conservation objectives are achieved.

Conclusion Is the proposal likely to have a significant effect on an SAC, SPA or Ramsar site?	Yes

Data collected to carry out the assessment

Who carried out the assessment? If you are an agent or consultant on behalf of a Competent Authority please give your details plus the responsible person in the CA who commissioned it.	DAERA Marine and Fisheries Division. Marine conservation and reporting team: MPA team.
Sources of data	• NATURA 2000 data forms • DAERA SAC/SPA conservation objectives

Use hyperlinks, references or include as annex	• DAERA SAC/SPA site selection assessment • DAERA risk assessment matrix of fishing activities and protected features (TRIM: Maidens - AE1/19/646862 & AE1/19/646855) . • Fishing activity data for the NI inshore region (VMS and Fleet observers) • AFBI fisheries impact assessment 2020 https://www.afbini.gov.uk/articles/inshore-fisheries • DAERA and AFBI Fisheries landing data • Local information provided by users through the Inshore Fisheries Partnership group • DAERA MFD approaches document for North East coastal region (TRIM AE1/19/874685) • MARLIN • Feature Activity Sensitivity Tool (FEAST). The Scottish Government. 2019 https://www.marine.scotland.gov.uk/FEAST/Index.aspx • An Assessment of the Impact of Selected Fishing Activities on European Marine Sites and a Review of Mitigation Measures • Tyler-Walters, H., Tillin, H.M., d'Avack, E.A.S., Perry, F., Stamp, T., 2018. Marine Evidence-based Sensitivity Assessment (MarESA) – A Guide. Marine Life Information Network (MarLIN). Marine Biological Association of the UK, Plymouth, pp.91. • Fisheries in European marine sites: Matrix • DAERA SAC/SPA condition assessments 2019 (drafts) • DAERA and JNCC habitat map layers and physical damage to the seabed pressure from fishing layer • Peer-reviewed literature
Level of assessment completed	Stage 2
Where can the full results of the assessment be accessed and viewed?	**DAERA Marine Conservation and Reporting Team** Email: Marine.InfoRequests@daera-ni.gov.uk

Must be an official address of the Competent Authority	
Summary of response	Stage 1 Assessment has determined that fishing activities (both mobile and static gear) are likely to have a significant adverse effect on the designated features of the described sites, therefore a Stage 2 Appropriate Assessment is required.

DO NOT PROCEED FURTHER IF YOU HAVE ESTABLISHED THAT THIS PROPOSAL IS UNLIKELY TO IMPACT AN SAC, SPA OR RAMSAR SITE AND NO MITIGATION IS REQUIRED

Stage 2: Appropriate Assessment

Fig 1 Assessment of Effects of the Project or Plan on the Integrity of the Site

Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the site (from screening assessment)	Detailed above in stage 1
Set out the Conservation objectives of the site	• ***Skerries and Causeway SAC*** o https://www.daera-ni.gov.uk/publications/skerries-and-causeway-sac • ***Rathlin Island SAC*** o https://www.daera-ni.gov.uk/publications/reasons-designation-special-area-conservation-rathlin-island • ***Rathlin Island SPA*** o https://www.daera-ni.gov.uk/publications/rathlin-special-protection-area • ***Red Bay SAC*** o https://www.daera-ni.gov.uk/publications/red-bay-sac • ***The Maidens SAC*** o https://www.daera-ni.gov.uk/publications/maidens-sac • ***East Coast SPA*** o https://www.daera-ni.gov.uk/consultations/east-coast-northern-ireland-marine-special-protection-area-consultation • ***Murlough SAC*** o https://www.daera-ni.gov.uk/publications/reasons-designation-special-area-conservation-murlough • ***North Channel SAC***

	o https://jncc.gov.uk/our-work/north-channel-mpa/ • ***Outer Ards RAMSAR*** o No conservation objectives available • ***Carlingford Lough pSPA*** o https://www.daera-ni.gov.uk/publications/special-protection-area-carlingford-lough
Describe how the project or plan will affect key species, key habitats and the integrity of the site (determined by structure and function and conservation objectives). **Acknowledge uncertainties and any gaps in information.**	Detailed above in stage 1
Describe what mitigation measures are to be introduced to avoid or reduce the adverse effects on the integrity of the site. **Acknowledge uncertainties and any gaps in information**	The introduction of fisheries management measures would help further the conservation objectives by limiting and/or reducing the abovementioned commercial fishing pressures on the designated features assessed as having moderate/high vulnerability. This would help to decrease the risk of damage to key habitats and species within SACs and SPAs. The removal or reduction of these pressures on fragile and/or important habitats and species through site specific fisheries regulations would contribute to maintaining or recovering the integrity of the sites, facilitate natural habitat recovery and therefore improve biodiversity and increase habitat complexity. **Proposed approaches to management** **Summary of options considered** • Prohibition of demersal mobile gear use throughout the entire SAC. • Prohibition of demersal mobile gear use in zones containing qualifying features only. • Prohibition of static gear use throughout the entire SAC.

	• Prohibition of static gear use on vulnerable qualifying features and managed static gear use in the remainder of the site. • Managed static gear use throughout the site. **Managed fishing will include:** • Following best practice guidance on biosecurity to prevent the spread of disease and accidental introduction of invasive species from the transfer of static gear fishing from other areas; • Mandatory vessel position monitoring for all vessels operating in the SAC; • Introduction of a pot tagging scheme to enable quantification of effort, with different colours for commercial and recreational pots. The number of tags issued to each recreational fisherman would reflect the current 5 pot limit, as described in Regulation 4 of The Unlicensed Fishing for Crabs and Lobster Regulations (Northern Ireland) 2008; • Mandatory recording of protected species that are accidentally caught and any entanglement issues; and • The Department will continue to encourage and support the development and trialling of fishing gear that reduces unintended catch. • Monitoring to assess effectiveness of management measures and to inform adaptive management. The management options will be site specific depending on the vulnerabilities identified from the vulnerability and risk of damage assessments. Overall, introducing management measures for commercial fisheries in all SACs and SPAs would support stable environmental conditions and diverse communities within the site.

Fig 2 Appropriate Assessment: Mitigation Measures

List measures to be introduced	Explain how the measures will avoid the adverse effects on the integrity of the site.	Explain how the measures will reduce the adverse effects on the integrity of the site.	Provide evidence of how they will be implemented and by whom.
Prohibition of demersal mobile gear use throughout entire SAC	Prohibiting mobile gear fishing throughout the site will remove all physical, chemical and biological pressures that were assessed (through MarESA, vulnerability and risk of damage assessments) as causing the high/moderate vulnerability of designated features. Case studies in Strangford Lough[3] and Rathlin Island[4] SACs have shown that removing these pressures can allow key vulnerable habitats and species to recover and overall biodiversity and ecosystem services to improve. Adopting these measures throughout the site follows an ecosystem based approach that will deliver wider ecosystem benefits. By protecting the fish species and their habitats within the SAC boundaries, stocks		Regulations will be implemented by DAERA under the Fisheries Act (Northern Ireland) 1966.

[3] Rathlin Island Dive Expedition 2019 : A citizen science project (https://www.daera-ni.gov.uk/publications/rathlin-island-dive-expedition-2019-citizen-science-project)
[4] Alvarez-Alonso and Foster, S. (Department of Agriculture, Environment and Rural Affairs, Northern Ireland), 2019. Strangford Lough Special Area of Conservation (SAC) Subtidal Condition Assessment 2019 report (in preparation)

	outside the boundaries can be enhanced by emigration of animals and export of their offspring[5]. The adverse effects identified in the test of likely significance will be removed as a result of the prohibition.		
Prohibition of demersal mobile gear use in zones containing qualifying features only	Prohibiting mobile gear fishing on the designated features (with appropriate buffer zone) will remove the physical, chemical and biological pressures that were assessed (through MarESA, vulnerability and risk of damage assessments) to be causing the high/moderate vulnerabilities within the known extent of designated features. Case studies in Strangford Lough and Rathlin Island SACs have shown that removing these pressures can allow these vulnerable habitats and species to recover and overall biodiversity to improve. The adverse effects identified in the test of likely significance will be removed as a result of the prohibition.		Regulations will be implemented by DAERA under the Fisheries Act (Northern Ireland) 1966.
Prohibition of static gear	Prohibition of static gear has been proposed when the MarESA,		Regulations will be implemented by DAERA under

[5] Roberts, C.M., Hawkins, J.P., Gell, F.R., The role of marine reserves in achieving sustainable fisheries, Philos. Trans. R. Soc. B-Biol. Sci. 360 (2005) 123-32.

throughout entire SAC	vulnerability and risk of damage assessments have highlighted high risk from static gear fishing. Highly vulnerable features include Seagrass (*Zostera Marina*), Maerl and fragile sponge and anthozoan communities on rocky outcrops'. All adverse effects identified in the test of likely significance will be removed within the SAC as a result of the prohibition. Prohibition on these sub-features will remove the potentially damaging pressures identified in the assessments. It will help contribute to the achievement of the conservation objectives, whether it is to maintain or enhance the condition. Detail on the how a managed static gear fishery in the remainder of the site will reduce adverse effects is described below.		the Fisheries Act (Northern Ireland) 1966.
Prohibition of static gear use on vulnerable qualifying features and managed static gear use in the	Prohibition of static gear has been proposed when the MarESA, vulnerability and risk of damage assessments have highlighted high risk from static gear fishing or when local expert opinion has sufficiently demonstrated the risk to the feature (Rathlin		Regulations will be implemented by DAERA under the Fisheries Act (Northern Ireland) 1966.

remainder of the SAC	'fragile sponge and anthozoan communities on rocky outcrops' feature). Highly vulnerable features include Seagrass (*Zostera Marina*), Maerl and fragile sponge and anthozoan communities on rocky outcrops'. The adverse effects identified in the test of likely significance will be removed as a result of the prohibition within the known extent of designated features. Prohibition on these sub-features will remove the potentially damaging pressures identified in the assessments. It will help contribute to the achievement of the conservation objectives, whether it is to maintain or enhance the condition. Detail on the how a managed static gear fishery in the remainder of the site will reduce adverse effects is described below.		
Managed static gear use throughout the SAC		The managed static gear fishery proposed will include a number of measures. How they will reduce adverse impacts of pot fishing is described below: **Following best practice on biosecurity to prevent the spread**	Regulations will be implemented by DAERA under the Fisheries Act (Northern Ireland) 1966

		of disease and accidental introduction of invasive species from the transfer of static gear fishing from other areas Introduction of invasive species is a major threat to indigenous species diversity. The MarESA and vulnerability assessment has identified moderate and high vulnerabilities for "Introduction or spread of invasive non-indigenous species". DAERA is developing guidance on biosecurity best practice for the fishing industry. Following this will contribute to the avoidance of adverse impacts and help to further the conservation of the sites. **Mandatory vessel position monitoring for all vessels operating in the site** Apart from information collected through the AFBI observer programme, there is no spatial data available for fishing boats of under 12m. With a large proportion of the Northern Irish fleet	

		falling into this category, there is a significant amount of data missing. Whilst available data can be used as a proxy, it may not be completely accurate. A form of VMS applicable to the inshore fisheries would provide the full picture of fishing effort (AFBI Impact assessment, 2020). Having a full assessment of the pot fishing effort will allow the Department to more accurately manage the pressures faced and vulnerability of each habitat type. **Introduction of pot tagging scheme to enable quantification of effort, with different colours for commercial and recreational pots** In parts of Northern Ireland, including areas which are within SACs, there can be a significant number of recreational fishing pots. In order to provide an accurate assessment of the fishery it is important to know the total effort. Whilst commercial effort can be determined through monthly returns, there is no	

		estimate of recreational fishing. With the current hobby limit in NI being five pots, it could be introduced that each hobby fisherman can apply for five tags. The level of uptake would provide an indication of the level of recreational fishing (AFBI Impact Assessment, 2020). Having a full assessment of the pot fishing effort will allow the Department to more accurately manage the pressures faced and vulnerability of each habitat type. The number of tags issued to each recreational fisherman would reflect the current 5 pot limit, as described in Regulation 4 of The Unlicensed Fishing for Crabs and Lobster Regulations (Northern Ireland) 2008. **Mandatory recording of protected species that are accidentally caught and any entanglement issues** Mandatory recording of bycatch and discards can provide an indication of how sites are recovering	

		through analysis of species diversity and abundance, size and sex distribution as well as potential interactions with the wider ecosystem. Analysing this data over time will allow the Department to identify if there are adverse effects from static gear fishing occurring to these protected species and, if so, consider measures to reduce the effects. **The Department will continue to encourage and support the development and trialling of fishing gear that reduces unintended catch** The wider fishing industry are developing more selective and less destructive fishing gear for all practice. The NI inshore fleet will continue to use more selective gear types once they become available and viable. This will reduce the adverse impacts of current fishing practices by reducing the physical damage to the seabed and the bycatch of non-target species. **Monitoring to assess**	

		effectiveness of management measures and to inform adaptive management. Development of a monitoring program will allow the Department to assess current condition against baseline condition (from time of designation) of the designated features. Ongoing monitoring will show if the expected improvement in feature condition and overall biodiversity is occurring. This will demonstrate the effectiveness of the management measures in place and allow the Department to adapt management approaches going forward to reduce adverse impacts of static gear fishing.	
List mitigation measures (as above)	**Provide evidence of the degree of confidence in their likely success**	**Provide time-scale, relative to the project of plan, when they will be implemented**	**Explain the proposed monitoring scheme and how any mitigation failure will be addressed**
Prohibition of demersal mobile gear use throughout entire SAC	The Department has confidence in the success of this mitigation measure based on case studies within NI inshore waters from Strangford Lough	The Department has launched the consultation for the management measures in November 2020 with an aim of having the	Ongoing MPA condition monitoring and monitoring to assess effectiveness of management measures to

	and Rathlin Island SACs. In Strangford Lough SAC demersal mobile gear fishing was banned in 2003 under The Inshore Fishing (Prohibition of Fishing and Fishing Methods) (Amendment) Regulations (Northern Ireland) 2003. In Rathlin Island SAC demersal mobile gear fishing was banned in 2016 under the Rathlin Island (Prohibited Methods of Fishing) Regulations (Northern Ireland) 2016. Both of these SACs have shown signs of recovery from previous benthic habitat damage caused by mobile gear fishing. The 2014-2018 Strangford Lough condition assessment has classified the designated Biogenic reef feature as 'unfavourable recovering' which is an improvement from the 'unfavourable declining' from the previous 2002-2007 condition assessment. This improvement is based on the initial signs of recovery of the Horse Mussel (*Modiolus Modiolus)* beds and associated species. It can be assumed that this can be attributed to the fisheries	regulations in place by 2021. https://www.daera-ni.gov.uk/consultations/consultation-development-fisheries-management-measures-marine-protected-areas-mpas-and-establishment	inform adaptive management will be carried out within a 6 year reporting cycle. The development of an integrated monitoring program will allow the Department to assess current condition against baseline condition of qualifying features. These monitoring programmes will show if the expected improvement in feature condition and overall biodiversity is occurring. This will demonstrate the effectiveness of the management measures in place and give the Department the confidence to adapt management approaches going forward to meet the conservation objectives of each SAC.

	management measures within the SAC. Although further survey work is required, the evidence found at sites sampled, distribution and general description of the current condition (reef forming continuous and dense clumps) compared to data from previous surveys and assessments suggests significant progress towards achieving conservation objectives. In the last condition assessment of Rathlin Island SAC, reporting cycle 2008-2013, the reef habitat around Rathlin was considered to be in an unfavourable condition and a voluntary ban on bottom-towed fishing within the SAC was introduced since 2013. This ban was formally introduced into legislation in 2016. The most recent survey of Rathlin was completed in 2019 by the Centre for Environmental Data and Recording (CEDaR). Based on the results of this survey, and considering the relatively short period of time since the introduction of the demersal mobile fishing ban, the overall condition of the seabed within the Rathlin Island MCZ is considered to be '**Unfavourable Recovering**'. More time is required for the		

	benthic community to return to its previous state but the management which is now in place, will, and is proving to, support this recovery. (Stewart-Moore, S., 2019) This management approach has been based on scientific evidence from the MarESA assessments. The MarESA approach assesses the likelihood of damage to a feature (species or habitat) due to a human activity pressure and uses the most up to date peer reviewed scientific literature and compilation of evidence on the effect of a given pressure. Removing the pressures identified by these assessments from mobile fishing gear will protect the integrity of the designated features and sub-features and help to contribute to achieving the conservation objectives. Based on this the Department is confident in the success of the prohibition of mobile gear fishing on vulnerable qualifying features.		
Prohibition of demersal mobile gear use in zones	This measure is the minimum level of management that the Department considers would be necessary to protect the designated	The Department has launched the consultation for the management measures in November 2020 with	Ongoing MPA condition monitoring and monitoring to assess effectiveness of

containing qualifying features only	features of the site. A total site approach (as detailed above) is the preferred option that could deliver wider ecosystem benefits, including benefits to fish stocks. However, as above the Department has confidence in the success of this mitigation measure based on case studies within NI inshore waters from Strangford Lough and Rathlin Island SACs. This management approach has been based on scientific evidence from the MarESA assessments. The MarESA approach assesses the likelihood of damage to a feature (species or habitat) due to a human activity pressure and uses the most up to date peer reviewed scientific literature and compilation of evidence on the effect of a given pressure. Removing the pressures identified by these assessments from mobile fishing gear will protect the integrity of the designated features and sub-features and help to contribute to achieving the conservation objectives. Based on this the Department is confident in the success of the prohibition of mobile	an aim of having the regulations in place by 2021. https://www.daera-ni.gov.uk/consultations/consultation-development-fisheries-management-measures-marine-protected-areas-mpas-and-establishment	management measures to inform adaptive management will be carried out within a 6 year reporting cycle. The development of an integrated monitoring program will allow the Department to assess current condition against baseline condition of qualifying features. These monitoring programmes will show if the expected improvement in feature condition and overall biodiversity is occurring. This will demonstrate the effectiveness of the management measures in place and give the Department the confidence to adapt management approaches going forward to meet the conservation objectives of each SAC.

	gear fishing on vulnerable qualifying features.		
Prohibition of static gear throughout entire SAC	This management approach is recommended when the SAC protects the whole extent of the vulnerable feature. This management approach has been based on scientific evidence from the MarESA assessments. The MarESA approach assesses the likelihood of damage to a feature (species or habitat) due to a human activity pressure and uses the most up to date peer reviewed scientific literature and compilation of evidence on the effect of a given pressure. Using the MarESA approach, maerl, seagrass and fragile sponge and anthozoan communities on rocky outcrops feature have been assessed as having high vulnerability to static gear fishing pressures. The current effects of pot fishing in these SACs have been assessed as significant in the Stage 1 Test of likely significance above. Removing the pressures identified by these assessments from static fishing gear will protect the integrity of the designated features and	The Department has launched the consultation for the management measures in November 2020 with an aim of having the regulations in place by 2021. https://www.daera-ni.gov.uk/consultations/consultation-development-fisheries-management-measures-marine-protected-areas-mpas-and-establishment	Ongoing MPA condition monitoring and monitoring to assess effectiveness of management measures to inform adaptive management will be carried out within a 6 year reporting cycle. The development of an integrated monitoring program will allow the Department to assess current condition against baseline condition of qualifying features. These monitoring programmes will show if the expected improvement in feature condition and overall biodiversity is occurring. This will demonstrate the effectiveness of the management measures in place and give the Department the confidence to adapt management approaches going forward to

	sub-features and help to contribute to achieving the conservation objectives. Based on this the Department is confident in the success of the prohibition of static gear fishing on vulnerable qualifying features.		meet the conservation objectives of each SAC.
Prohibition of static gear use on vulnerable qualifying features and managed static gear use in the remainder of the SAC	This management approach is recommended when highly vulnerable features are present within the SAC. This management approach has been based on scientific evidence from the MarESA assessments. The MarESA approach assesses the likelihood of damage to a feature (species or habitat) due to a human activity pressure and uses the most up to date peer reviewed scientific literature and compilation of evidence on the effect of a given pressure. Using the MarESA approach, maerl, seagrass and fragile sponge and anthozoan communities on rocky outcrops feature have been assessed as having high vulnerability to static gear fishing pressures. The current effects of pot fishing in these SACs have been assessed as significant in the Stage 1 Test of	The Department has launched the consultation for the management measures in November 2020 with an aim of having the regulations in place by 2021. https://www.daera-ni.gov.uk/consultations/consultation-development-fisheries-management-measures-marine-protected-areas-mpas-and-establishment	Ongoing MPA condition monitoring and monitoring to assess effectiveness of management measures to inform adaptive management will be carried out within a 6 year reporting cycle. The development of an integrated monitoring program will allow the Department to assess current condition against baseline condition of qualifying features. These monitoring programmes will show if the expected improvement in feature condition and overall biodiversity is occurring. This will demonstrate the effectiveness of the management measures in

	likely significance above. Removing the pressures identified by these assessments from static fishing gear will protect the integrity of the designated features and sub-features and help to contribute to achieving the conservation objectives. Based on this the Department is confident in the success of the prohibition of static gear fishing on vulnerable qualifying features with managed static gear use in the remainder of the site.		place and give the Department the confidence to adapt management approaches going forward to meet the conservation objectives of each SAC.
Managed static gear use throughout the SAC	The managed static gear fishery proposed will include a number of measures. The degree of confidence in their likely success is outlined below. 1. **Following best practice on biosecurity to prevent the spread of disease and accidental introduction of invasive species from the transfer of static gear fishing from other areas** Introduction of invasive species is a major threat to indigenous species diversity. The MarESA and vulnerability assessment has identified moderate and high vulnerabilities for "Introduction or spread	The Department has launched the consultation for the management measures in November 2020 with an aim of having the regulations in place by 2021. https://www.daera-ni.gov.uk/consultations/consultation-development-fisheries-management-measures-marine-protected-areas-mpas-and-establishment	Ongoing MPA condition monitoring and monitoring to assess effectiveness of management measures to inform adaptive management will be carried out within a 6 year reporting cycle. The development of an integrated monitoring programme will allow the Department to assess current condition against baseline condition of qualifying features. These monitoring programmes will show if the expected improvement in feature

	of invasive non-indigenous species". DAERA is developing guidance on biosecurity best practice for the fishing industry. With the Inshore fishing industry following these guidelines the Department can have confidence in the reduction of risk associated with the spread of invasive species. **2. <u>Mandatory vessel position monitoring for all vessels operating in the SAC</u>** Additional vessel monitoring will provide data on the fishing practices of the under 12m inshore fleet. It will provide a more accurate assessment of pot fishing effort with SACs and allow the Department to manage this effort to further the conservation objectives of the site in the future. Based on this the Department has confidence in the success of a monitoring system to assess potting effort within SACs and SPAs. **3. <u>Introduction of pot tagging scheme to enable quantification of effort, with different colours for commercial and recreational pots</u>** Additional monitoring will provide data on		condition and overall biodiversity is occurring. This will demonstrate the effectiveness of the management measures in place and give the Department the confidence to adapt management approaches going forward to meet the conservation objectives of each SAC.

	recreational pot fishing practices. It will contribute to a more accurate assessment of pot fishing effort with SACs and SPAs and allow the Department to manage this effort to further the conservation objectives of the site in the future. Based on this the Department has confidence in the success of a monitoring system to assess recreational potting effort within SACs and SPAs. **4. <u>Mandatory recording of protected species that are accidentally caught and any entanglement issues</u>** The fishing practices that present a significant risk of seabird and marine mammal entanglement are pelagic and long-line fisheries. These two fishing methods are not carried out in any of the sites discussed. The baseline risk of priority species bycatch and entanglement is therefore considered to be low. Introducing mandatory recording of instances of bycatch and entanglement will create new data which will give the Department with a better understanding of the impacts to priority		

	species. Further work on this issue is also being developed through the EU Interreg funded MarPAMM project. This will provide the Department with increased confidence that priority species are not being impacted by the managed static gear fishery. 5. **The Department will continue to encourage and support the development and trialling of fishing gear that reduces unintended catch** The wider fishing industry are developing more selective and less destructive fishing gear for all practice. The NI inshore fleet will continue to use more selective gear types once they become available and viable. This will reduce the adverse impacts of current fishing practices by reducing the physical damage to the seabed and the bycatch of non-target species. Confidence on the effectiveness of this measure will come from the evidence obtained from the gear trials. New gear types will not be introduced until they are proven to be effective.		

Stage 3: Assessment of Alternative Solutions Matrix

Assessment of Alternative Solutions		
The objectives of the Plan or Project	**The 'Do Nothing' Alternatives**	
Predicted adverse effects of the project or plan on SACs, SPAs and Ramsar sites following the Appropriate Assessment include long term damage to designated features and not meeting the conservation objectives of the SACs, SPAs and Ramsar sites. Therefore, there is no alternative solutions assessed other than the options proposed in public consultation.		
Comparison with chosen project or plan		
Possible Alternatives	Evidence of how the alternative solutions were assessed	Describe the relative effects on the conservation objectives of on (greater or less adverse effects) Details on fishing fleet and effort targeting listed sites and intensity of fishing activity occurring on designated features are provided in the AFBI fisheries impact assessment 2020 report https://www.afbini.gov.uk/articles/inshore-fisheries
Alternative locations/routes		
Alternative One		
Alternative Two		
Alternative Three		
Alternative Size and Scale		
Alternative One		
Alternative Two		
Alternative Three		
Alternative means of meeting objectives (e.g. demand management)		
Alternative One		
Alternative Two		
Alternative Three		

Assessment of Alternative Solutions (continued)

Comparison with chosen project or plan		
Possible Alternatives	Evidence of how the alternative solutions were assessed	Describe the relative effects on the conservation objectives of on SACs, SPAs and Ramsar sites (greater or less adverse effects)
Alternative methods of construction		
Alternative One		
Alternative Two		
Alternative Three		
Alternative operational methods		
Alternative One		
Alternative Two		
Alternative Three		
Alternative decommissioning methods		
Alternative One		
Alternative Two		
Alternative Three		
Alternative time-scales		
Alternative One		
Alternative Two		
Alternative Three		
Conclusions on Assessment of Alternatives		

Alternative Solutions Assessment Statement

Describe the alternative solution that would avoid or minimise significant impacts on the SACs, SPAs and Ramsar sites	**Explain why the proposed project or plan is favoured over the other alternatives solutions assessed.**	
Provide an overall statement to explain why it is considered that in this instance there are no alternatives that would avoid reducing the conservation value of the SACs, SPAs and Ramsar sites.		

Evidence of Assessment Matrix

Consultation on Alternative Solutions			
List of Agencies Consulted:	**Response to consultation**	**Impact of alternatives on the SACs, SPAs and Ramsar sites are considered adverse (explain)**	**Impact of alternatives on the SACs, SPAs and Ramsar sites are considered positive or neutral (explain)**
Data Collected to carry out the Assessment			
Who carried out the assessment			
Sources of Data			
Level of assessment completed			
Where can the full results of the assessment be accessed and viewed?			

Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain

Compensatory Measures Assessment Matrix

Name and brief description of the project or plan and how it will adversely affect the SACs, SPAs and Ramsar sites	
N/A	
Description of the compensatory measures	
Assessment Questions	**Response**
How were compensatory measures identified?	
What alternative measures were identified?	
How do these measure relate to the conservation objectives of the site?	
Do these measures address, in comparable proportions, the habitats and species negatively affected?	
How would the compensatory measures maintain or enhance the overall coherence of SAC, SPA and Ramsar site	
Do these measures relate to the same biogeographical region in the same Member State?	
If the compensation measures require the use of land outside of the affected SAC, SPA and Ramsar site, is that land in the long term ownership and control of the project or plan proponent or relevant national or local authority?	
Do the same geological, hydrogeological, soil, climate and other local conditions exist on the	

compensation site as exist on the SAC, SPA and Ramsar site adversely affected by the project or plan?	
Do the compensatory measures provide functions comparable to those that had justified the selection criteria of the original site?	
What evidence exists to demonstrate that this form of compensation will be successful the long term?	

Evidence of Assessment Matrix

Consultation on Compensatory Measures			
List of Agencies Consulted	**Response to consultation**	**Compensatory Measures were considered acceptable**	**Compensatory Measures were not considered acceptable**
Data collected to carry out the Assessment			
Who carried out the assessment			
Sources of Data			
Level of assessment			
Where can the full results of the assessment be accessed and viewed?			

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