

Regulatory Triage Assessment

Title of Measure	The Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (Specified Areas) Prohibited Fishing Gears Byelaw 2022
Lead Department/Agency	Marine Management Organisation (MMO)
Expected Date of Implementation	June 2022
Origin (Domestic or International)	Domestic
Date of Assessment	04/03/2022
Lead Departmental Contact	Marine Conservation Team, Marine Management Organisation, Lancaster House, Hampshire Court, Newcastle, NE4 7YH, conservation@marinemanagement.org.uk
Departmental Triage Assessment	Low-cost regulation (fast track)
Rationale for intervention and intended effects	
<p>Bottom towed fishing gear and bottom-contacting static fishing gears have the potential to hinder the conservation objectives of the Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (SAC) which aim to restore the qualifying “sandbank slightly covered by seawater at all times (H1110)” and “Annex 1 Reef” features to favourable condition. This byelaw aims to ensure the site’s conservation objectives outside of 6 nautical miles (nm) are furthered by prohibiting damaging bottom towed fishing activities over the sandbank and reef features as well as bottom-contacting static fishing gears over reef features. The Eastern Inshore Fisheries and Conservation Authority (IFCA) will manage fishing activity in the SAC portion inside of 6 nm.</p>	
Viable policy options (including alternatives to regulation)	
<p>Option 0: Do Nothing.</p> <p>Option 1: MMO byelaw to prohibit static and bottom towed gears in all areas of the site with appropriate buffering. (whole site prohibition to static and bottom towed gears).</p> <p>Option 2: MMO byelaw to prohibit, with appropriate buffering, static gears over Annex I reef habitat and bottom towed gears over both Annex I reef and sandbank (‘zoned management’).</p> <p>Option 3: MMO byelaw to prohibit, with appropriate buffering, static gears over a proportion of Annex I reef habitat and bottom towed gears over a proportion of both Annex I reef and sandbank (‘zoned management’).</p> <p>Option 4: Management of activity through a statutory instrument, regulating order or fishing licence condition.</p>	

Option 5: No statutory restrictions. Introduce a voluntary agreement.

Option 2 is the preferred option.

Description of Novel and Contentious Elements (if any)

- Use of new powers introduced by the Fisheries Act 2020.

Initial assessment of impacts on business

Fishing activity data (VMS and landings) indicates that, from 2016 to 2019, 98 distinct UK vessels using relevant gears (bottom towed gears and, where appropriate, bottom-contacting static gears) recorded fisheries landings from ICES rectangles 35F0 and 35F1, within which the management areas are situated, and thus may be directly affected by the management areas. On average over this time period, 47 distinct UK fishing vessels used relevant fishing gears in ICES rectangles 35F0 and 35F1 each year.

The impacts are likely to be ongoing as opposed to one-off but are expected to be mitigated by use of other available fishing grounds.

The estimated monetised total cost to UK businesses over ten years is £106,124 (2020 present value). The equivalent annual net direct cost to business (EANDCB) is £12,329 (2020 present value). This is based on analysis of fishing activity data (VMS and landings data) from 2016 to 2019. As the COVID-19 pandemic is likely to have suppressed fishing activity in 2020, 2020 fishing activity is unlikely to be representative of a typical year. Therefore, only 2016 to 2019 landings estimates have been used for the economic impact calculations.

There is potential for all affected fishing businesses to recover a proportion of their costs by fishing elsewhere.

Non-monetised costs include the potential impact of displaced fishing activity on areas of the SAC within 6 nm outside of the management areas, and on areas outside of the SAC. Non-monetised costs also include indirect costs to the fishing industry associated with displacement to other fishing grounds.

None of the expected benefits of the management measure have been monetised, however non-monetised benefits include the protection of the designated features and the ecosystem services they provide including potential indirect benefits to the fishing industry resulting from spillover (movement/spread of marine resources from protected areas to adjacent fishing grounds) and diversification (alternative gears moving into the area), and the positive effect this may have for species of seabirds, marine mammals, fish and invertebrates; and potential benefits for endangered and critically endangered species and carbon storage and climate benefits.

Summary of monetised impacts

- Estimated Net Present Value: -£106,124
- Estimated Business Net Present Value: -£106,124
- Estimated Equivalent Annualised Net Costs to Business: £12,329
- Appraisal period: 10 years

- The Price Base Year and Present Value Base Year: 2019 and 2020
- **BIT status/score: 0.06**

The proposal is a Regulatory Provision as it relates to business activity (the fishing industry); it has a regulatory effect by prohibiting certain types of fishing within specified areas; and has effect by virtue of the exercise of a function conferred on a Minister of the Crown or a relevant regulator.

The proposal is a Qualifying Regulatory Provision (QRP) as it does not fall within any of the administrative exclusions set out in the Business Impact Target written ministerial statement - HCWS574¹.

Rationale for producing an RTA (as opposed to an Impact Assessment)

The fast-track appraisal route is appropriate as this regulation falls under the “low cost” criteria - EANDCB is under £5m, as detailed in the initial assessment of impact on business above.

¹ <https://questions-statements.parliament.uk/written-statements/detail/2016-03-03/HCWS574>

Supporting evidence

1. The policy issue and rationale for Government intervention

- 1.1. MMO have legal obligations in relation to European marine sites (EMS) including special areas of conservation (SAC). Specifically, under the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 to protect EMSs. This includes the implementation of byelaws to manage fishing activities to support the conservation objectives of EMSs such as Inner Dowsing, Race Bank and North Ridge SAC. This regulatory triage assessment (RTA) considers measures to fulfil this duty, reduce the impacts of externalities and maintain/increase the level of public goods in the marine environment.
- 1.2. MMO has undertaken an assessment of the impact of fishing in the part of Inner Dowsing, Race Bank and North Ridge SAC offshore of 6 nm (see the Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (SAC) Marine Management Organisation (MMO) Fisheries Assessment). This assessment determined that the use of bottom towed fishing gears and bottom-contacting static fishing gears are not compatible with the conservation objectives of the site and may result in an adverse effect on site integrity. The byelaw will apply offshore of 6 nm and will further the conservation objectives of the SAC by prohibiting static fishing gears over reef features and bottom towed fishing over both reef and sandbank features.
- 1.3. Figure 1 shows the boundary of the Inner Dowsing, Race Bank and North Ridge SAC. The designated sandbank feature extends through both ICES rectangles that the site overlaps with (35F0 and 35F1), whereas the designated reef feature is present only in ICES rectangle 35F0.
- 1.4. The Eastern Inshore Fisheries and Conservation Authority (IFCA) has responsibility to manage fishing activity within the 0 to 6 nm portion of Inner Dowsing, Race Bank and North Ridge SAC and will therefore introduce any management measures required in this portion of the site.
- 1.5. Bottom towed fishing and static fishing gears have the potential to cause negative outcomes in the marine environment as a result of 'market failures'. These failures can be described as:
 - 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 benefiting from them but use of the goods does not

diminish the goods being available to others)². 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. Regarding bottom towed and static gear fishing, this means that fishers can benefit from the biological diversity of marine habitats through sale of sea fisheries resources caught while simultaneously damaging the habitat and reducing its biological diversity. While the habitat continues to provide benefits to fishers through the sale of sea fisheries resources there is no incentive to protect these habitats. A lack of ownership allows the activity to continue unchecked until such time biological diversity falls to the point where catches are no longer profitable, and fishers move on to more productive grounds.

- Negative externalities: Negative externalities occur when the cost of damage to the marine environment is not fully borne by the users causing the damage. Bottom towed and static gear fishing can cause severe damage to the fragile biogenic reef structure created by colonies of *Sabellaria spinulosa* (Ross worms) which can reduce biodiversity and productivity and take many years to recover. The only cost borne by bottom towed gear fishers of this damage is the eventual reduction in catches and the potential increase in fuel costs involved in moving to new fishing grounds. The availability of other fishing grounds lessens the cost associated with reduced catches, and potentially increased fuel costs are not significant enough to dissuade fishers from causing the damage in the first place.

1.6. 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.

1.7. This byelaw aims to redress these sources of market failure in the marine environment in the following ways:

- Management measures will protect the qualifying habitat of Inner Dowsing, Race Bank and North Ridge SAC to ensure negative externalities are reduced or suitably mitigated.

² <https://www.gov.uk/government/publications/interim-report-the-dasgupta-review-independent-review-on-the-economics-of-biodiversity>

- Management measures will support continued existence of public goods in the marine environment, for example conserving the range of biodiversity in the sea area for which MMO is responsible.
- Management measures will also support continued existence of common goods in the marine environment, for example ensuring the long-term sustainability of fish stocks in the UK exclusive economic zone (EEZ).

1.8. Inner Dowsing, Race Bank and North Ridge SAC lies within the East Marine Plan Area. The East Marine Plan³ was adopted in 2014. The decision to introduce the Inner Dowsing, Race Bank and North Ridge SAC (Specified Area) Prohibited Fishing Gears Byelaw 2022 has been made in accordance with the East Marine Plan.

1.9. In particular, the following marine plan policies in the East Marine Plan⁴ are relevant to this decision:

- | | |
|----------------|---------------|
| • Policy BIO1 | • Policy GOV3 |
| • Policy EC1 | • Policy MPA1 |
| • Policy EC2 | • Policy SOC1 |
| • Policy FISH1 | • Policy TR1 |
| • Policy GOV2 | • Policy TR3 |

1.10. The remaining policies in the East Marine Plan are not applicable to this decision. In creating the Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (Specified Areas) Prohibited Fishing Gears Byelaw 2022, MMO has had regard to the UK Marine Strategy, as required by regulation 9 of the Marine Strategy Regulations 2010⁵.

2. Policy objectives and intended effects

2.1. The policy objective pertinent to this RTA is to prevent adverse effect to site integrity and further the conservation objectives of Inner Dowsing, Race Bank and North Ridge SAC by ensuring that the protected features: sandbanks slightly covered by seawater all of the time and reef (Figure 1); are safeguarded against the risk of damage from bottom towed and static fishing gears.

2.2. The intended effects are that the features of the site will be returned to favourable condition and meet MMO duties under the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017.

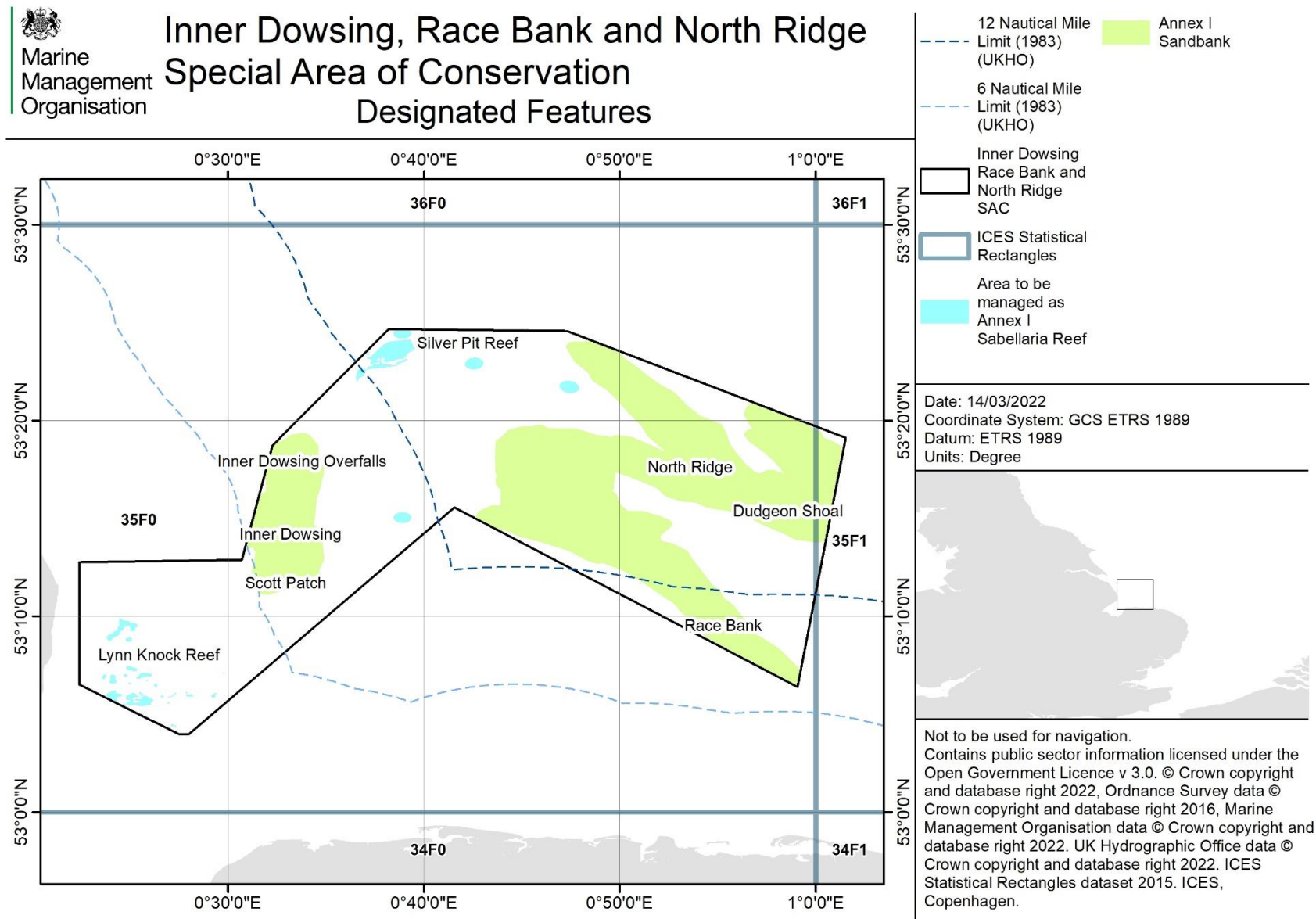
³ <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans>

⁴ <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans>

⁵ <https://www.legislation.gov.uk/ukxi/2010/1627/contents/made>

2.3. In addition, the social and economic impacts of management intervention will be minimised where possible.

Figure 1: Inner Dowsing, Race Bank and North Ridge SAC feature map.



3. Policy options considered, including alternatives to regulation

3.1. The Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (Specified Areas) Prohibited Fishing Gears Byelaw 2022 will manage bottom towed gear and static gear fishing activities within the Inner Dowsing, Race Bank and North Ridge SAC. The options are detailed below:

Option 0: Do nothing.

This option would not involve introducing any management measures. This option would mean that the risks to the site from damaging activities would not be addressed and that MMO duties under the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 would not be met. All other options are compared to option 0.

Option 1: MMO byelaw to prohibit static and bottom towed gears in all areas of the site with appropriate buffering. (Whole site prohibition to static and bottom towed gears).

Prohibiting the use of bottom towed and static fishing gears throughout the whole of the site outside of 6 nm would allow MMO to ensure that no risk to the site's conservation objectives can occur from these fishing activities. However, it would also prohibit fishing activity from occurring in areas of the site where MMO has concluded fishing can continue without undermining the site's conservation objectives.

Option 2: MMO byelaw to prohibit, with appropriate buffering, static gears over Annex I reef habitat and bottom towed gears over both Annex I reef and sandbank ('zoned management').

This option protects the reef and sandbank features from fishing gears in management areas where MMO assessment has concluded that these may be causing an adverse effect on site integrity of the SAC without unnecessarily restricting fishing activities in other parts of the site.

Option 3: MMO byelaw to prohibit, with appropriate buffering, static gears over a proportion of Annex I reef habitat and bottom towed gears over a proportion of both Annex I reef and sandbank ('zoned management').

This option would prohibit bottom towed and static gear fishing over only the most sensitive areas of the qualifying site features. Bottom towed and static gear would be prohibited over all reef features as these features are sensitive to impacts from these gear types. Bottom towed fishing gear fishing would be prohibited only over certain areas of the sandbank feature, based on sensitivity. The MMO assessment concluded that it was not possible to identify areas of

sandbank where an adverse effect on site integrity from bottom towed fishing could be ruled out. Therefore, this option is not suitable as it will not provide the level of protection required for MMO to meet its legal obligations.

Option 4: Management of activity through a statutory instrument, regulating order or fishing vessel licence condition.

These mechanisms for management are not appropriate in this instance. MMO byelaws, made under powers in the Marine and Coastal Access Act 2009⁶ (including the powers for the English offshore region introduced by the Fisheries Act 2020⁷) are the most appropriate mechanism, providing the appropriate level of power, flexibility, consultation, and speed.

Option 5: No statutory restrictions. Introduce a voluntary agreement.

This option would involve the development of voluntary codes of practice to protect features. MMO has considered this option using Better Regulation principles⁶, which require that new regulation is introduced only as a last resort. However, the government's expectation is that management measures for commercial fishing in marine protected areas (MPAs) should be implemented through statutory regulation to ensure adequate protection is achieved.

3.2. Option 2 is the preferred option. Option 1 would protect the whole site including areas of non-qualifying habitat. This would impose disproportionate and unnecessary costs to the fishing industry, where MMO cannot determine there would be an impact from fishing gears in use. Options 3 and 4 are not considered appropriate in this instance as they are not deemed sufficient to protect the site from negative impacts caused by fishing in the site.

3.3. The boundaries of the management areas under Option 2 include an appropriate buffer zone. The buffer zone aims to prevent damaging physical interactions (including unintentional damage) between a fishing activity and the SAC features. Where the site features exist up to the boundary of the site, the buffer zone extends beyond the boundary of the SAC. The buffer distance is based on generalised warp length to water depth ratios, thereby considering the water depth at the site and the possible location of mobile gear on the seabed relative to a vessel at the sea surface. This has been calculated using a warp length: depth ratio of 3:1, based on the depth at the edge of the area or feature.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/317555/betterregulationassessment2014.pdf

4. Expected level of business impact

4.1. All costs analysed for Option 2 are compared to Option 0.

4.2. MMO has used the best available evidence to assess the impact of management Option 2, however assumptions have been made in the development of this assessment:

- Limited VMS activity could be linked to landings from logbooks for this site. Therefore, estimates of UK landings derived from within the management area have been provided for the most recent five years available (2016 to 2020). Different methodologies were used to calculate landings associated with the management option for the different fleets (UK vessels over 12 m and UK vessels under 12 m).
- Evidence suggests that fishing activity by over 12 m vessels via relevant gears (bottom towed gears and, where appropriate, bottom-contacting static gears) is present in the management areas; however, limited or no landings had been assigned to the VMS activity within the management areas. To estimate landings for these relevant gears for vessels over 12 m (Table 1 and Table 2), landings data available for ICES rectangle 35F0 and 35F1 were assigned to the sandbank and reef management areas using the proportion of VMS reports (all gears) in the management area compared to ICES rectangles 35F0 and 35F1 (Figure 2, Table 3). All gears were used to calculate the proportion of VMS reports in the management areas as data on gear type were not available for some VMS fishing activity within the site, but this activity may nevertheless represent activity by relevant gears. This method allowed us to assign landings to this potential activity by relevant gears; however, it is likely an overestimate as it assumes that all gear types fish equally inside and outside of the management areas and landings are proportioned equally across VMS reports within the ICES rectangle. The assessment assumes that this VMS data captures the entirety of the over 12 m fishing fleet activity.
- Vessels under 12 m are not required to report using VMS and so limited vessel activity data is available. For under 12 m vessels, landings are recorded at ICES rectangle level, and so an area-based estimate was used to calculate the associated landings for the reef and sandbank management areas. The area-based approach uses the proportional area of the management areas that intersects ICES rectangles 35F0 and 35F1 (Table 4) to estimate the landings attributed to the management area (Table 5). This assessment consequently assumes that for under 12 m vessels the landings for each rectangle are proportional to the percentage

of the rectangle coinciding with the management area.

- VMS data assumes fishing activity from speed of travel. Speeds of greater than zero and up to and including six knots are considered fishing speed. This may be an over or underestimate as vessels may tow gear at speeds greater than six knots or may travel at speeds lower than six knots for reasons other than fishing (due to currents, tides etc.).
- Costs estimated for 2020 are unlikely to be representative of typical fishing activity due to the COVID-19 pandemic, which likely suppressed fishing activity. As a result, only figures from the years 2016 to 2019 have been used for economic impact calculations
- Economic costs are estimated using the 2016 to 2019 landings estimated for the reef and sandbanks management areas and the operating profit (provided by Seafish) of vessels fishing in the overlapping ICES rectangles (35F0 and 35F1). The costs calculated for the management area are therefore determined by the estimated share of the value of landings derived by vessels fishing in the management area versus the overall value of their landings. It should be noted however that these estimates work on the assumption that the costs of vessels are distributed the same way as earnings between all individual vessels' fishing grounds. Seafish produces the dataset by combining costs and earnings information from vessel accounts provided by vessel owners to the annual Seafish UK Fleet Survey with official effort, landings and capacity data for all active UK fishing vessels provided by the MMO.
- Evidence suggests that vessels use bottom towed fishing gear and, where appropriate, bottom-contacting static gears within the management areas; however, the exact number of vessels is unknown. Conversely, the number of vessels (using relevant gears) with recorded landings from within ICES rectangles 35F0 and 35F1 is known. Theoretically, all of these vessels could have derived their landings from within the management areas. As such, the number of vessels using relevant gears within ICES rectangles 35F0 and 35F1 has been used as a proxy for the number of vessels likely to be impacted by the management areas. However, this is almost certainly a significant overestimate.
- Displacement is difficult to quantify, and it is impossible to predict where exactly activities will be displaced to.
- Spillover of fish (due to the management measures) to fishing grounds outside of the management area could provide increased opportunities for

fishing outside of the MPA over the longer term; thus, further allowing vessels to offset the costs of lost revenue.

- Estimated costs to the fishing industry are likely to be an overestimate, as vessels are likely to offset some of the lost revenue by fishing in other areas.

4.3. Information used to assess the impacts of the closure has been taken from:

- VMS data for UK vessels over 12 m in length from 2016 to 2019;
- ICES rectangle landings data from UK logbooks;
- Data from Seafish annual economic performance for the UK fishing fleet from 2016 to 2020⁷;
- Information gathered by MMO during the call for from 28 October to 15 December 2020 and formal consultation period from 1 February to 28 March 2021; and
- Local MMO marine officer knowledge.

4.4. Prohibition of the use of bottom towed and, where appropriate, bottom-contacting static fishing gear in the management areas may result in the following costs:

- Direct costs to the fishing industry from reduced access to fishing grounds;
- Indirect costs to the fishing industry associated with displacement to other fishing grounds; and
- Environmental impacts related to possible increased damage to habitats or species in other areas due to displacement.

4.5. Direct costs to the fishing industry have been monetised and these estimated values have been collated and presented as part of this RTA (Table 2).

4.6. Economic impacts to non-UK businesses and individuals, including fishing vessels registered outside of the UK, are not in scope for the headline cost figures however have been estimated from the data available, see Box 1.

4.7. Environmental costs due to possible increased damage of habitats due to displacement of fishing activity from the management areas to other areas are difficult to value and are therefore described here as non-monetised costs.

4.8. Prohibition of the use of bottom towed fishing gear and, where appropriate, bottom-contacting static gear in the management areas may result in the following benefits:

- Environmental benefits related to the restoration of the habitat;
- Indirect benefits to the fishing industry resulting from spillover; and,

⁷ <https://public.tableau.com/profile/seafish#!/vizhome/FleetEnquiryTool/1Overview>

- Diversification of fishing including alternative gears moving into the areas.

4.9. The benefits associated with the management measures are difficult to value and are therefore described under non-monetised benefits.

Costs to the UK fishing industry

4.10. Fisheries landings are reported at ICES statistical rectangle level. ICES standardise the division of sea areas for statistical analysis. Each ICES statistical rectangle is '30 min latitude by 1 degree longitude' in size which is approximately 30 nautical miles by 30 nautical miles (size varies with latitude due to the spheroid shape of the Earth). The management areas fall within ICES rectangles 35F0 (reef and sandbank areas) and 35F1 (sandbank area only) (Figure 2).

4.11. To estimate the economic impacts of the management, fishing patterns of vessels using bottom towed gear and static gear within the management areas were analysed. The most recent five years of VMS data and landings (2016 - 2020) are provided; however, as detailed previously, only years 2016 to 2019 were considered to be suitably representative and therefore are used for the economic analysis. For vessels larger than 12 m that require a vessel monitoring system (VMS), their VMS data has been used. UK vessels' landings from logbooks are associated to VMS reports using vessel ID, date and location. However, it was not possible to link landings directly to the majority of VMS reports for this site. Therefore, landings values for UK vessels over 12 m were estimated based on the proportion of VMS reports (all gears) from ICES rectangles 35F0 and 35F1 that were within the management areas and from relevant gears where evidence was available for their use within the site (Table 3). For smaller vessels (under 12 m in length) landings values were estimated by applying the percentage of ICES rectangles 35F0 and 35F1 that intersect the management areas to the landings reported for those ICES rectangles (Table 4).

4.12. Both the VMS and landings data indicate limited UK fishing activity has occurred from relevant gears in Inner Dowsing, Race Bank and North Ridge SAC management areas by over 12 m vessels from 2016 to 2020 (Table 6; Figure 3 to Figure 12) .

4.13. The 98 UK vessels fishing using relevant gears in ICES rectangles 35F0 and 35F1 from 2016 to 2019 (Table 8) are estimated to have landed approximately 89 tonnes of fish and shellfish in the two management areas, worth approximately £142,438 between 2016 and 2019 (Table 6).

4.14. Between 2016 and 2019, landings from relevant gears from the management areas average 22 tonnes (£35,610) annually but ranged from 12 tonnes (£18,736) in 2019 to 21 tonnes (£44,881) in 2018 (Table 6).

4.15. In terms of operating profit, between 2016 and 2019 vessels fishing with relevant gears within the management areas are estimated to have earned approximately £49,318 with an annual average of £12,329 (Table 6).

4.16. The closure of fishing grounds can lead to significant displacement of fishing effort which can result in both monetised and non-monetised costs. Displacement is dependent on the intensity and distribution of fishing activities within the site before the closure and on external factors (such as fish distribution, total allowable catch/quota, fuel prices). Bottom towed and static gear fishing effort from within the management areas is relatively limited as detailed by VMS and landings data. The prohibition of bottom towed and, where appropriate, bottom-contacting static gear in the management areas is therefore not estimated to result in a significant displacement of fishing activity and therefore increased costs to businesses.

Box 1. Non-UK fishing vessels

Fishing vessels registered in countries other than the UK ('non-UK vessels') may also have access to fish in Inner Dowsing, Race Bank and North Ridge SAC.

Based on available VMS and landings data, the only non-UK vessel activity associated with relevant gears in the management areas between 2016 and 2019 was some minimal activity by one French vessel (Table 9 and Table 10).

Non-UK landings are only available for vessels from EU member states. Landings cannot be estimated for other nations, such as European Free Trade Association (EFTA) member states (Iceland, Liechtenstein, Norway and Switzerland) and have therefore not been included. However, the MMO have no evidence for any activity by non-UK non-EU nations occurring within the reef or sandbank management areas from 2016 – 2019.

Estimates of fisheries landings values by EU vessels using relevant gears were determined using landings data provided by the European Commission Scientific, Technical and Economic Committee for Fisheries (STECF) for the two ICES rectangles (35F0, 35F1) over which Inner Dowsing, Race Bank and North Ridge SAC overlaps (Figure 1). VMS was used to estimate the proportion of EU VMS fishing activity (based on number of VMS fishing reports) from relevant gear types occurring in the management areas for those ICES rectangles. This provided an estimate of EU landings derived from the management area for each rectangle for the years 2016 – 2019 (Table 9 and Table 10). Landings data for 2020 are not currently available for EU vessels.

Between 2016 and 2019, an annual average of approximately £40 was estimated to be derived from the sandbank and reef management areas by EU (French only) vessels using relevant gears (Table 10). Using the scenario that 100% of these landings are lost, and applying a discounting rate of 3.5%, the net present value cost over the 10-year life of the RTA to EU vessels is estimated to be £344.

It is important to note that in contrast to the estimated costs to UK fishing vessels, estimated costs to EU vessels are based on the values of fish landed (Table 10), rather than operating profit. The costs to EU vessels are therefore considerably overestimated as the costs are based solely on revenue from landings rather than operating profit. Furthermore, as per UK vessels, EU vessels are likely to offset some of their lost revenue by fishing in other areas.

For comparison of impacts between UK and EU nations the most appropriate figures are contained in the weight and value columns of Table 6, Table 9 and Table 10.

For completeness, Table 11 presents best- and worst-case landings scenarios, where the best-case scenario assumes no to be prohibited-gear landings from within the ICES rectangles were derived from the management areas and the worst-case scenario assumes all to be prohibited-gear landings from the ICES rectangles were derived from within the management area.

Figure 2: The management areas for Inner Dowsing, Race Bank and North Ridge SAC (option 2 - (whole feature prohibition for static and bottom towed gear over reef and for bottom towed gear over sandbank)).

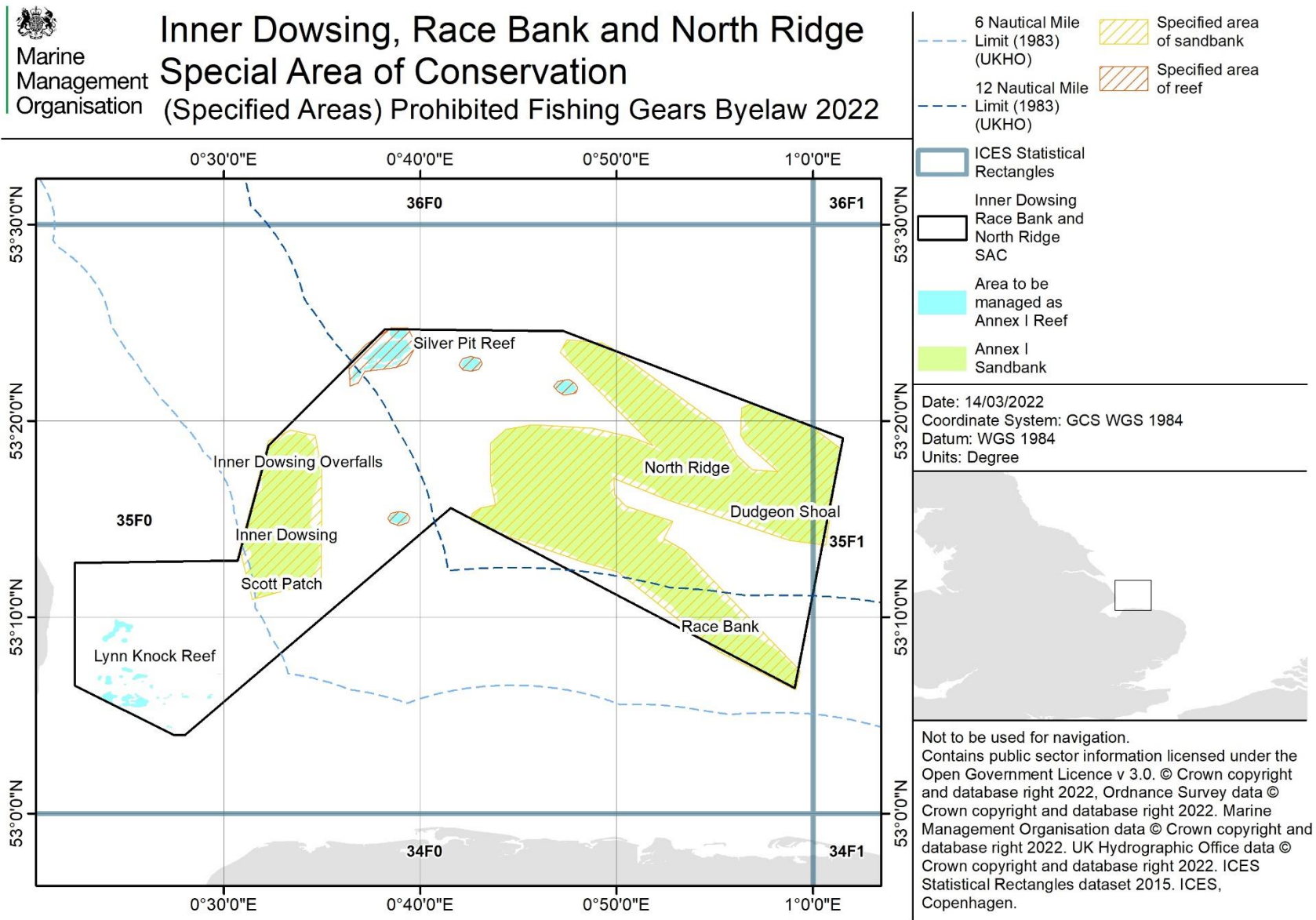


Table 1: 2016 – 2020 UK landings (metric tonnes) by >12 m vessels using relevant gears in the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge SAC (DRB – Boat Dredge, OTB – Bottom Otter Trawl, TBB – Beam Trawl, FPO – Pots/Traps). Pot/trap landings have only been estimated for the reef portion of the byelaw as these gears will not be prohibited over the sandbank area. There was no evidence of activity from other relevant gears occurring in the management areas from 2016 – 2020. 2020 data has not been included in annual averages, as due to the COVID-19 pandemic, 2020 is unlikely to represent a typical year of fishing activity. As limited VMS activity could be linked to landings from logbooks for this site, landings have been calculated by applying the proportion (%) of VMS reports (number of pings) from within the management area compared to the ICES rectangles (35F0 and 35F1) (Table 3) to the landings, which are reported to the ICES rectangle. Figures have been rounded to zero decimal places. Annual average and total figures calculated on actual, not rounded, figures hence apparent minor discrepancies.

Gear	Year					Annual average (2016 – 2019)	Total (2016 – 2019)
	2016	2017	2018	2019	2020		
DRB*	0.0	0.0	0.0	0.0	0.0	0.0	0.1
OTB	0.1	0.0	0.1	0.2	0.2	0.1	0.4
TBB	0.6	0.3	0.2	1.1	0.4	0.5	2.0
FPO	0.4	0.3	0.2	1.0	1.8	0.5	1.9
Total	1.0	0.6	0.5	2.3	2.5	1.1	4.3

Table 2: 2016 – 2020 UK landings by value (£) and operating profit (£) for >12 m vessels using relevant gears in the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge SAC (DRB – Boat Dredge, OTB – Bottom Otter Trawl, TBB – Beam Trawl, FPO – Pots/Traps). Pot/trap landings have only been estimated for the reef portion of the byelaw as these gears will not be prohibited over the sandbank area. There was no evidence of activity from other relevant gears occurring in the management areas from 2016 – 2020. 2020 data has not been included in annual averages, as due to the COVID-19 pandemic, 2020 is unlikely to represent a typical year of fishing activity. As limited VMS activity could be linked to landings from logbooks for this site, landings have been calculated by applying the proportion (%) of VMS reports (number of pings) from within the management area compared to the ICES rectangles (35F0 and 35F1) (Table 3) to the landings, which are reported to the ICES rectangle. Annual average and total figures calculated on actual, not rounded, figures hence apparent minor discrepancies.

Gear	Year					Annual average (2016 – 2019)	Total (2016 – 2019)
	2016	2017	2018	2019	2020		
DRB	0	63	3	49	0	29	115
OTB	337	114	180	260	452	223	891
TBB	1,655	945	392	2,408	1,028	1,350	5,400
FPO	1,293	833	509	2,581	4,165	1,304	5,216
Total	3,285	1,954	1,085	5,298	5,645	2,906	11,622
Operating profit*	9	318	183	708	166	304	1,218

*Operating profit values are recalculated to real 2020 price level

Table 3: Number of UK VMS reports (2016 – 2020) (all gears) in the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge SAC and in ICES rectangle 35F0 and 35F1, as well as the proportion (%) of VMS reports in the management areas. Only VMS reports occurring at fishing speed (up to 6 knots) were included.

Year	Number of VMS reports		% VMS reports	Number of VMS reports		% VMS reports	Number of VMS reports		% VMS reports
	Reef MA in 35F0	35F0		Sandbank MA in 35F0	35F0		Sandbank MA in 35F1	35F1	
2016	20	3,124	0.64	23	3,124	0.74	0	3,378	0.00
2017	16	4,873	0.33	11	4,873	0.23	1	3,320	0.03
2018	15	5,221	0.29	6	5,221	0.11	1	3,093	0.03
2019	19	2,196	0.87	65	2,196	2.96	10	2,048	0.49
2020	19	1,865	1.02	39	1,865	2.09	8	3,089	0.26

Table 4: Area (km²) of the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge SAC and the parent ICES rectangles, plus the percentage of 35F0 and 35F1 that intercepts the management areas to the landings, which are reported to an ICES rectangle level. Management area and ICES rectangle figures have been rounded to zero decimal places. The proportion calculation has been based on the actual figures. (BTG = bottom towed gear).

ICES Rectangle	Sea area (km ²)	BTG and Static Prohibition (reef area)		BTG Prohibition (reef and sandbank areas)	
		Closure in rectangle (km ²)	Area cover	Closure in rectangle (km ²)	Area cover (%)
35F0	2,710	15	0.55%	339	12.52
35F1	3,714	0	0.00%	12	0.32

Table 5: 2016 – 2020 UK landings by weight (metric tonnes) and value (£) for UK <12 m vessels from relevant gears in the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge SAC (DRB - Bottom Dredge; DRH – Hand dredges; FPO – Pots/traps; GN – Gillnets; OT – Unspecified Otter Trawl; OTB – Bottom Otter Trawl; OTT- Otter Twin Trawl; TBB – Beam Trawl). No landings were recorded in 35F0 and 35F1 for other relevant gears. Landings have been calculated by applying the percentage of the ICES rectangles 35F0 and 35F1. 2020 data has not been included in annual averages, as due to the COVID-19_pandemic, 2020 is unlikely to represent a typical year of fishing activity. Operating profit is provided per year across all gear types.

Gear	2016		2017		2018		2019		2020		Annual average (2016 – 2019)		Total (2016 – 2019)	
	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)
DRB	0	0	9	5,935	1	391	2	802	0	287	3	1,782	12	7,129
DRH	25	13,321	0	0	0	0	0	0	0	0	6	3,330	25	13,321
FPO	3	3,587	2	3,344	3	5,164	4	7,584	4	4,492	3	4,920	12	19,679
GN	0	3	0	0	0	0	0	0	0	0	0	1	0	3
OT	0	217	0	0	0	0	0	0	0	0	0	54	0	217
OTB	0	573	0	442	0	583	0	346	0	0	0	486	1	1,944
TBB	9	22,065	6	24,094	16	37,659	3	4,706	3	7,179	9	22,131	35	88,524
Total	38	39,766	17	33,816	20	43,796	10	13,439	7	11,958	21	32,704	85	130,816
Operating profit*	-	18,970	-	8,296	-	9,323	-	11,511	-	1,602**	-	12,025	-	48,100

*Operating profit values are recalculated to real 2020 price level

** Operating profit does not include sandbank management area due to insufficient number of vessels fishing to allow data to be shared

Table 6: 2016 - 2020 UK landings by weight (metric tonnes), value (£) and operating profit (£) for all UK vessels from relevant gears in the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge SAC (DRB - Bottom Dredge; DRH – Hand dredges; FPO – Pots/traps; GN – Gillnets; OT – Unspecified Otter Trawl; OTB – Bottom Otter Trawl; OTT- Otter Twin Trawl; TBB – Beam Trawl). This table combines the over 12 m landings figures from Table 1 and Table 2 and under 12 m figures from Table 5. 2020 data has not been included in annual averages, as due to the COVID-19 pandemic, 2020 is unlikely to represent a typical year of fishing activity Operating profit is provided per year across all gear types.

Gear	2016		2017		2018		2019		2020		Annual average (2016 – 2019)		Total (2016 – 2019)	
	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)
DRB	0	0	9	5,998	1	394	2	851	0	287	3	1,811	12	7,243
DRH	25	13,321	0	0	0	0	0	0	0	0	6	3,330	25	13,321
FPO	3	4,880	3	4,177	3	5,673	5	10,165	5	8,657	3	6,224	14	24,895
GN	0	3	0	0	0	0	0	0	0	0	0	1	0	3
OT	0	217	0	0	0	0	0	0	0	0	0	54	0	217
OTB	0	910	0	556	0	763	0	606	0	452	0	709	1	2,835
TBB	10	23,719	6	25,039	17	38,051	4	7,114	4	8,207	9	23,481	37	93,924
Total	39	43,051	18	35,770	21	44,881	12	18,736	9	17,603	22	35,610	89	142,438
Operating profit*	-	18,979	-	8,614	-	9,506	-	12,219	-	1,768**	-	12,329	-	49,318

*Operating profit values are recalculated to real 2020 price level

** Operating profit does not include sandbank management area due to insufficient number of vessels fishing to allow data to be shared

Table 7: 2016 – 2020 best case and worst-case UK landings for all UK vessels by weight (metric tonnes) and value (£) from relevant gears in the reef and sandbank management areas for Inner Dowsing, Race Bank and North Ridge (DRB - Bottom Dredge; DRH – Hand dredges; FPO – Pots/traps; GN – Gillnets; OT – Unspecified Otter Trawl; OTB – Bottom Otter Trawl; OTT- Otter Twin Trawl; TBB – Beam Trawl). The worst-case scenario assumes that all landings from relevant gears from within the ICES rectangles are derived from the management areas. Both scenarios contrast with Table 6. The best-case scenario assumes that no landings attributed to the ICES rectangles (for relevant gears) were derived from the management areas and thus weight and value would be zero for each year and gear type.

Scenario	Gear	2016		2017		2018		2019		2020		Annual average (2016 – 2019)		Total (2016 – 2019)	
		Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)
Worst case	DRB	0	472	84	74,597	8	6,240	19	9,107	1	2,334	28	22,604	110	90,416
	DRH	201	106,228	0	0	0	0	0	0	0	0	50	26,557	201	106,228
	FPO	571	848,957	498	856,870	539	1,108,645	890	1,666,249	813	1,219,024	624	1,120,180	2,498	4,480,722
	GN	0	588	0	0	0	0	0	0	0	0	0	147	0	588
	OT	1	1,727	0	0	0	0	0	0	0	0	0	432	1	1,727
	OTB	6	29,017	4	23,883	26	49,978	6	9,555	7	14,550	10	28,108	42	112,433
	TBB	152	408,707	156	603,113	284	658,094	61	119,489	47	108,348	163	447,351	653	1,789,403
	Total	931	1,395,695	742	1,558,463	856	1,822,958	975	1,804,400	868	1,344,255	876	1,645,379	3,505	6,581,516
Best case	All gears	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 8: Number of distinct UK fishing vessels using relevant gears in ICES rectangles 35F0 and 35F1 (2016 – 2020) and thus likely impacted by the management areas for Inner Dowsing, Race Bank and North Ridge SAC. (All < 12 m vessels using relevant gears have been included whereas only > 12 m vessels using DRB, OTB, and TBB gear types have been included as there is no evidence of other bottom towed or bottom-contacting static gears being used in the management areas by vessels greater than 12 m in length).

	Size category	Year					Annual average (2016 – 2019)	Total (2016 – 2019)
		2016	2017	2018	2019	2020		
Number of vessels	> 12 m	23	23	21	19	17	22	42
	< 12 m	32	25	23	22	18	26	56
	Total	55	48	44	41	35	48	98

Table 9: 2016 – 2019 EU landings by weight (metric tonnes) from different nationalities in the management areas for Inner Dowsing, Race Bank and North Ridge SAC. Landings were estimated using the percentage of VMS fishing activity (number of pings) occurring in the management area versus the ICES rectangle (for a given year and gear type). The estimates assume all VMS activity data is reported at two hourly intervals. Values represent landings by relevant gear types that are to be prohibited in the management areas. Gear codes are assigned to non-UK landings using the primary licence gear listed on the fleet register, thus, the gear listed on the fleet register is assumed to represent the type used. Landings values were not available for European Free Trade Association (EFTA) member states (such as Norway).

Nationality	Landings (t) by year				Annual average landings from 2016 – 2019 (t)	Total landings from 2016 – 2019 (t)
	2016	2017	2018	2019		
France	0	0.1	0	0	0	0.1
All EU	0	0.1	0	0	0	0.1

Table 10: 2016 – 2019 EU landings by value (£) from different nationalities in the management areas for Inner Dowsing, Race Bank and North Ridge SAC. Landings were estimated using the percentage of VMS fishing activity (number of pings) occurring in the management area versus the ICES rectangle (for a given year and gear type). The estimates assume all VMS activity data is reported at two hourly intervals. Values represent landings by relevant gear types that are to be prohibited in the management areas. Gear codes are assigned to non-UK landings using the primary licence gear listed on the fleet register, thus, the gear listed on the fleet register is assumed to represent the type used. Values were converted from euros (€) to pounds sterling (£) using annual average exchange rates, and are not adjusted for inflation (i.e., landing represent the value of fish at the time of landings). Landings values were not available for European Free Trade Association (EFTA) member states (such as Norway).

Nationality	Landings (£) by year				Annual average landings from 2016 – 2019 (£)	Total landings from 2016 – 2019 (£)
	2016	2017	2018	2019		
France	0	162	0	0	40	162
All non-UK	0	162	0	0	40	162

Table 11: 2016-2019 best-case and worst-case EU landings by weight (metric tonnes) and value (£). The best-case scenario assumes that no landings attributed to the ICES rectangles (for relevant gears) were derived from the management areas for Inner Dowsing, Race Bank and North Ridge SAC. The worst-case scenario assumes that all landings from relevant gears within the ICES rectangles are derived from the management areas. Both scenarios contrast with Table 9 and Table 10 (landings estimated using the proportion of VMS fishing activity in the management area versus the rectangle). Values represent landings by relevant gear types for all non-UK countries. Landings values were not available for European Free Trade Association member states.

Scenario	2016		2017		2018		2019		Annual average landings 2016 – 2019		Total landings 2016 - 2019	
	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)	Weight (t)	Value (£)
Worst-case	89	382,567	74	361,038	63	365,931	53	320,937	70	357,618	279	1,430,473
Best-case	0	0	0	0	0	0	0	0	0	0	0	0

Compliance costs

- 4.17. MMO compliance action is intelligence-led and risk-based in accordance with the National Intelligence Model⁸. Where intelligence suggests non-compliance or a risk of non-compliance with the byelaw, compliance resources will be deployed accordingly. This may include a Royal Navy fisheries patrol vessel presence, MMO fisheries patrol vessel presence or joint operations with other agencies (for example the IFCAs, Border Force or the Environment Agency). Joint operations are not monetised here as they are requested on an *ad hoc* basis and costs can vary. MMO will coordinate any joint operations. The principles by which MMO will regulate marine protected areas are set out by the Legislative and Regulatory Reform Act 2006⁹ and the Regulators' Compliance Code¹⁰ and aim to ensure that MMO is proportionate, accountable, consistent, transparent and targeted in any compliance action it takes.
- 4.18. Compliance costs for the inspection of MPAs and associated byelaws do not represent an additional cost. MPA inspections take place under standard operating procedure of Royal Navy/MMO fisheries patrol vessels. MPA and byelaw inspection costs are therefore absorbed by existing compliance systems and will not be considered here.

Total monetised costs

- 4.19. The economic impacts of the management areas are estimated as the loss of profitability of fishing effort at the site. For UK vessels, this is informed by data on potential activity using bottom towed and static gear within the management areas and from the 2016 – 2019 Seafish data on the profitability of fishing¹¹. This operating profit combines cost and earning information provided by the vessel owners to the annual Seafish UK Fleet Survey with official landings and capacity data for vessels assumed to be actively fishing within the management areas.
- 4.20. To estimate the total monetised cost over ten years to the 98 UK vessels likely to be affected, an estimation has been made of the annual value of relevant gear landings derived from the management areas (Table 2 and Table 5) and the estimated operating profit earned from these landings as provided by Seafish.
- 4.21. A discounting rate of 3.5% was applied to calculate the present value (2020) and 2019 was used as the price base year. The best estimate of highest net

⁸ Association of Chief Police Officers (2005) Guidance on the national intelligence model.

⁹ <https://www.legislation.gov.uk/ukpga/2006/51/contents>

¹⁰ <https://www.gov.uk/government/publications/regulators-code>

¹¹ <https://public.tableau.com/app/profile/seafish/viz/FleetEnquiryTool/1Overview>

2020 present value cost over ten years to the UK fishing industry of introducing management is estimated to be £106,124.

Non-monetised costs

4.22. The prohibition of bottom towed and bottom-contacting static fishing gears within the specified areas of the SAC could lead to the displacement of these fishing activities increasing pressure on protected habitats in inshore areas of the site and on habitats outside of the site. The MMO fisheries assessment of Inner Dowsing, Race Bank and North Ridge SAC indicates that bottom towed and static fishing gears are adversely affecting the designated features. As such, the potential impact of displacement to areas outside of the SAC does not remove the requirement to ensure that fishing is managed to further the conservation objectives of the SAC. Further, there is minimal activity from these gears occurring in the portion of the site beyond 6 nm and therefore this cost may not be significant.

Non-monetised benefits

4.23. Prohibition of the use of bottom towed gear, pots and anchored nets and lines over the management areas will contribute to the protection of the designated features. This in turn will support provision of the ecosystem services provided by those features/sub-features. The Annex I sandbank and reef features contribute towards: (Fletcher *et al.*, 2012):

- Biogeochemical cycling – Subtidal sediments have an important role in the global cycling of many elements, including carbon and nitrogen. At a local scale, nitrogen and phosphorus remineralization provide a significant contribution to the nutrients required by primary producers in the water column (Burdige, 2006). Subtidal sediments may provide either temporary or permanent sinks for pollutants, particularly toxic metals (Burdige, 2006);
- Erosion control - The presence of microalgae in subtidal sediment ecosystems plays a role in stabilisation of the habitat which in turn can reduce incident wave energy and reduce erosion (Ziervogel and Forster, 2006);
- Formation of a physical barrier – Biogenic reefs can reduce incident wave energy (McManus, 2001);
- Food web dynamics – Subtidal sediment is an important area for crabs and other epifauna, in particular echinoderms (Jones, Hiscock and Connor 2000). Sandeels present in the area can also attract sea birds such as puffin, razorbill, guillemot and terns (Fletcher *et al.*, 2012). *S. spinulosa* can provide an important food source for the pink shrimp (*Paradulus montagu*);
- Species diversification and formation of species habitat – Biogenic *S. spinulosa* reefs have a rich associated infauna and epifauna. The reefs provide firm substrate for attachment and support a diverse array of species such as polychaetes, sponges, cnidarians and bryozoans (JNCC 2010). *S.*

spinulosa reef habitats are of greatest nature conservation significance as they occur on predominantly sediment or mixed sediment areas (Fletcher *et al.*, 2012). These enable a range of epibenthic species with their associated fauna and a specialised 'crevice' infauna, which would not otherwise be found in the area, to become established (Maddock, 2008). Mobile sandbanks are colonised by infaunal/epifaunal small crustaceans, polychaetes and molluscs adapted to this dynamic environment; such species include *Nephtys cirrosa* and *Microphthalmus similis* (Jones, Hiscock and Connor 2000). Polychaetes such as *Lanice conchilega* can provide additional structure to otherwise soft sediment subtidal habitats (Van Hoey *et al.*, 2008). In offshore subtidal sediment communities macrofaunal abundance is lower, but exhibits high species richness (Denis and Desroy, 2008). The spatial distribution of species within and upon subtidal sediments is significantly influenced by particle size distribution, organic content and chemical composition (Fletcher *et al.*, 2012);

- Primary biomass production - a significant proportion of primary production sinks to the sea floor and is assimilated into the subtidal sediment (Jensen *et al.*, 2003);
- Secondary biomass production – Biogenic reefs are important secondary producers through growth of epibiotic organisms including sponges and tunicates. Subtidal sediment is an important area for crab species as well as sandeel which attracts birds such as Atlantic puffin, razorbill, guillemot and terns (Jones, Hiscock and Connor 2000);
- Fisheries – Subtidal sediment is an important nursery area for many commercially important species such as flatfishes and bass and biogenic reefs provide habitat for shellfish and fish (Fletcher *et al.*, 2012; Holt *et al.*, 1998). Improved protection of the site could lead to spill over where there is an increase in/movement of species in surrounding fishing grounds, potentially benefitting commercial fisheries. There may also be opportunities for diversification of fishing, for example, where vessels using static gear move in where mobile gears are prohibited;
- Environmental resilience - Subtidal sediment habitats are more resilient than other habitats as they can be easily affected by wave and tidal displacement of sediment (Fletcher *et al.*, 2012). Recovery of habitats following a disturbance is dependent on physical, chemical and biological processes and can be a more rapid process than in other areas (Bishop *et al.*, 2006);
- Regulation of pollutants - Nematode species present in subtidal sediment habitats can be good indicators of environmental conditions and muddy subtidal sediment habitats can act as sinks for radionuclides (Gheskiere *et al.*, 2005; Finnegan *et al.*, 2009); and
- Climate Regulation - Subtidal biogenic reefs play a major role in the global carbon cycle and act as a major store of carbon (Fletcher *et al.*, 2012).

5. Recommended Management Option

The recommended management option is Option 2: MMO byelaw to prohibit, with appropriate buffering, static gears over Annex I reef habitat and bottom towed gears over both Annex I reef and sandbank ('zoned management').

6. Conclusion

Within this RTA, MMO have considered the impacts on commercial fishing vessels of the proposed closure to bottom towed gear and static gear. Based on operating profits, within the Inner Dowsing, Race Bank and North Ridge SAC management areas, the equivalent annual net direct cost to business (EANDCB) for UK vessels is £12,329. Costs to UK vessels were estimated using area based and VMS based estimates of ICES rectangle landings data and operating profit calculations from Seafish.

Estimates of fisheries landings values by EU vessels using bottom towed and static gear were determined using landings data provided by the EU STECF. VMS was used to estimate the proportion of VMS reports in the management area compared to the ICES rectangles which intersect Inner Dowsing, Race Bank and North Ridge SAC management areas. The annual average of landings value from EU vessels using bottom towed gear and static gear was estimated to be £40. It should be noted that the costs presented for EU vessels are not directly comparable to the costs presented for UK vessels, and are likely to be an overestimate, as they are based on total value landed rather than operating profit. For comparison of impacts between UK and EU nations the most appropriate figures are contained in the weight and value columns of Table 6, Table 9 and Table 10.

As outlined in sections 1.1 and 1.2, MMO have legal responsibilities to avoid the deterioration of habitats and disturbance of designated species of EMS. The MMO assessment of fishing activities within Inner Dowsing, Race Bank and North Ridge SAC determined that management measures to prohibit the use of bottom towed gear and bottom-contacting static gear over the whole reef feature and to prohibit the use of bottom towed gear over the whole sandbank feature are required.

Given the conservation objectives of the SAC, MMO has concluded that the management measures contained in the Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (Specified Areas) Prohibited Fishing Gears Byelaw 2022 are the most appropriate way to manage fishing in the SAC. As outlined in section 4.8, prohibition of the use of bottom towed gear and static gear in the management areas may result in indirect benefits to the fishing industry resulting from spillover and opportunities for other fisheries, as well as other environmental benefits related to the restoration of the habitat.

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Appendix 1 – Additional Figures

Figure 3: 2016 VMS fishing activity by gear type in Inner Dowsing, Race Bank and North Ridge SAC.

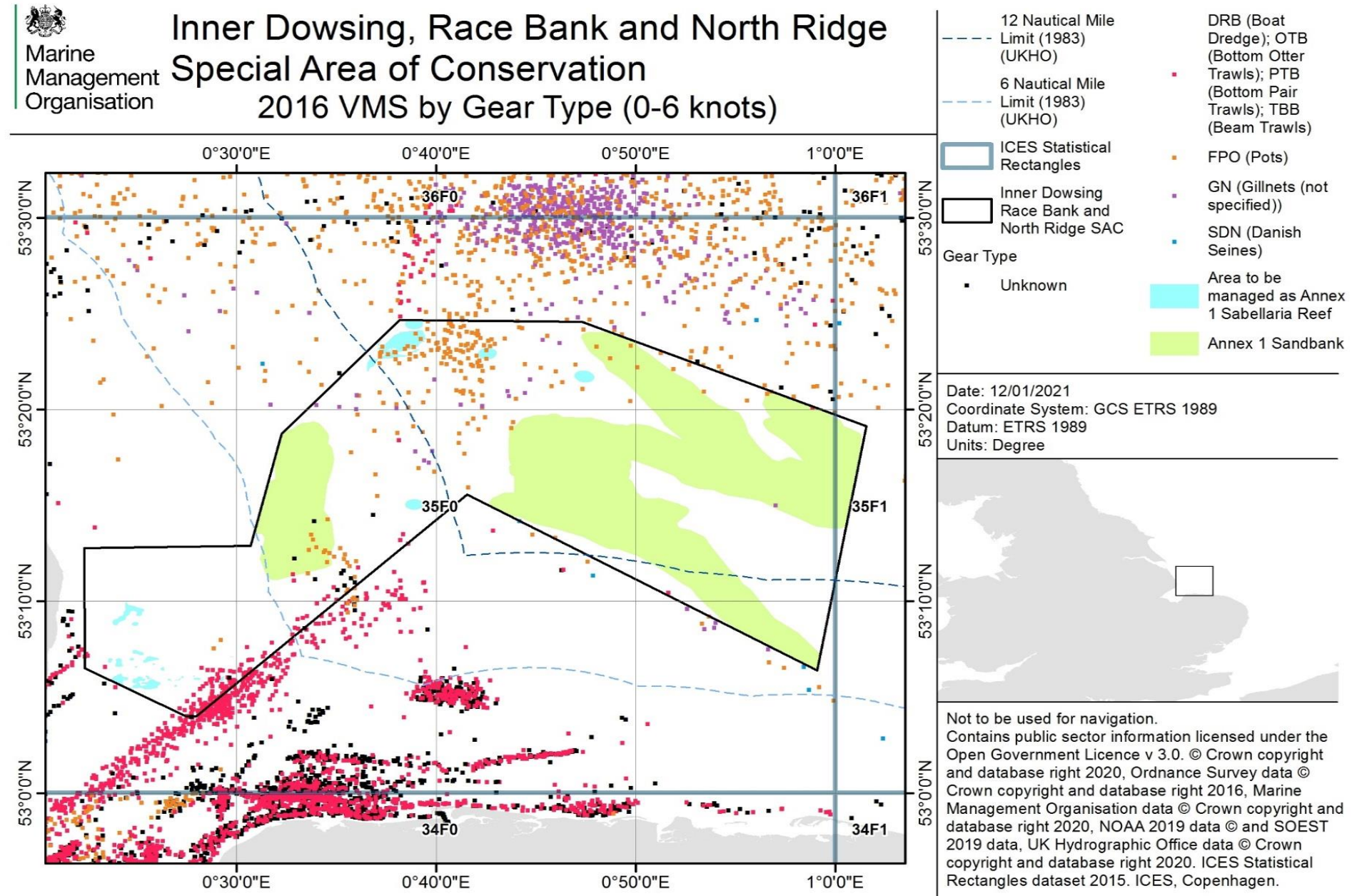


Figure 4: 2017 VMS fishing activity by gear type in Inner Dowsing, Race Bank and North Ridge SAC.

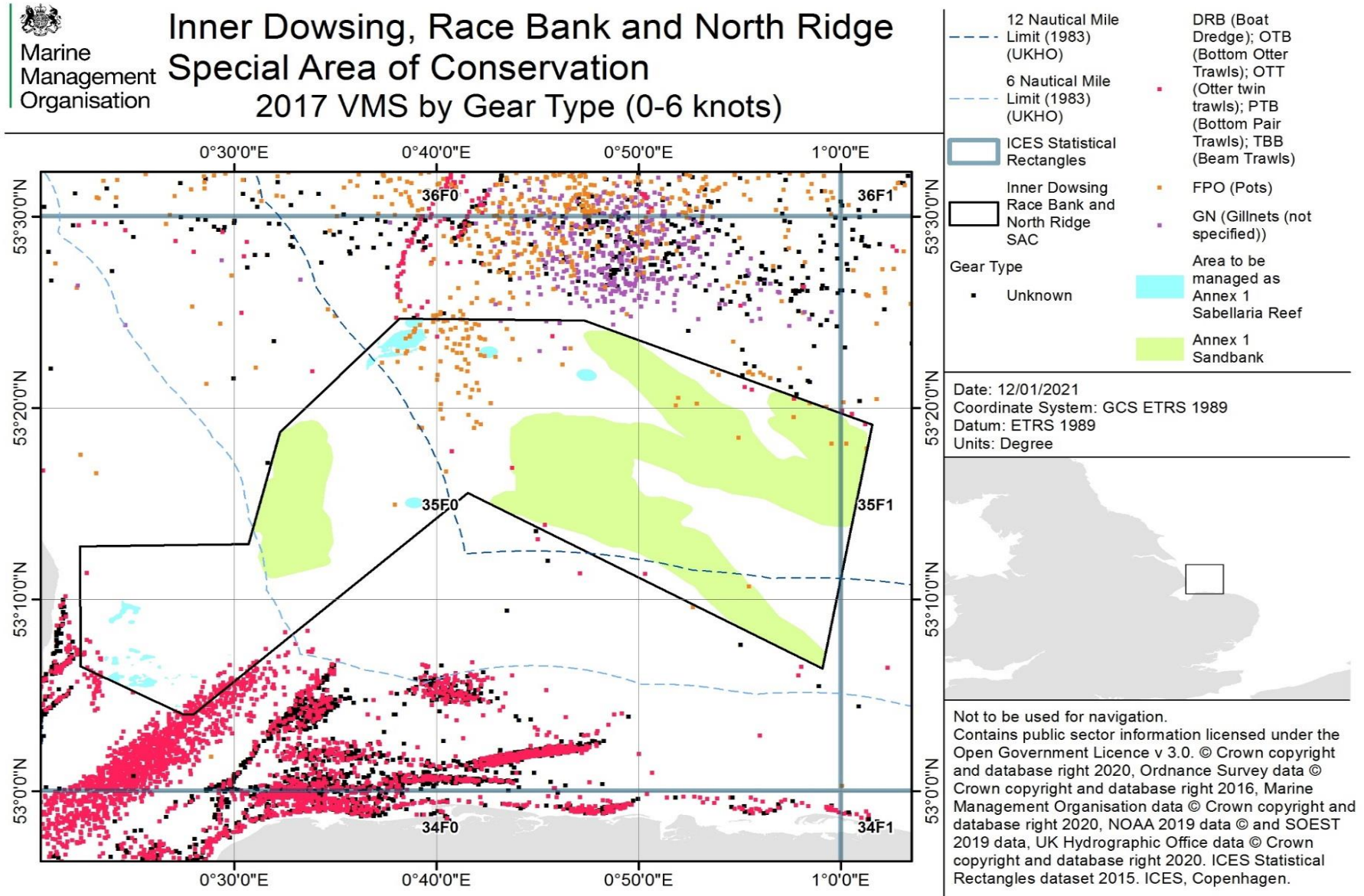


Figure 5: 2018 VMS fishing activity by gear type in Inner Dowsing, Race Bank and North Ridge SAC.

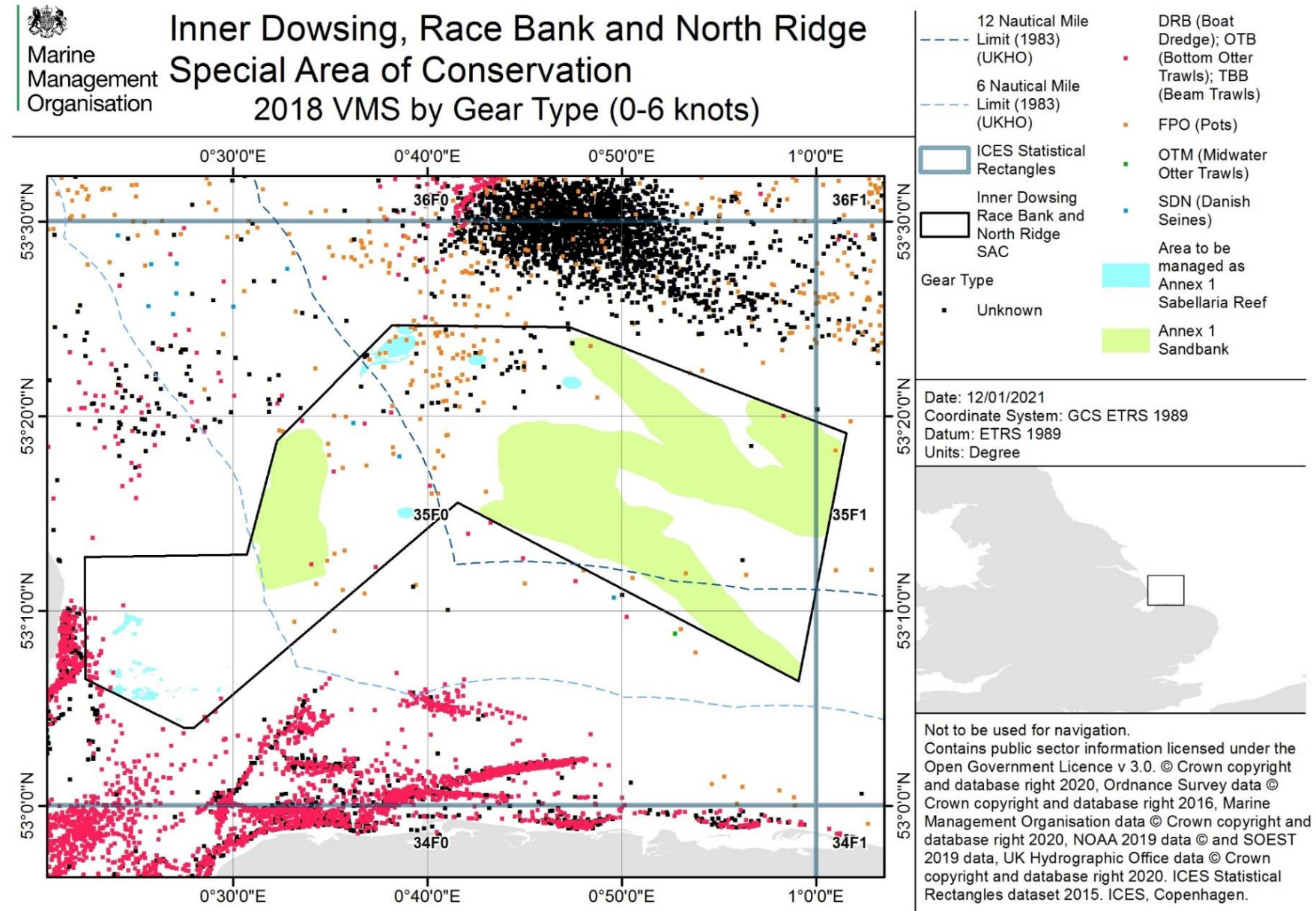


Figure 6: 2019 VMS fishing activity by gear type in Inner Dowsing, Race Bank and North Ridge SAC

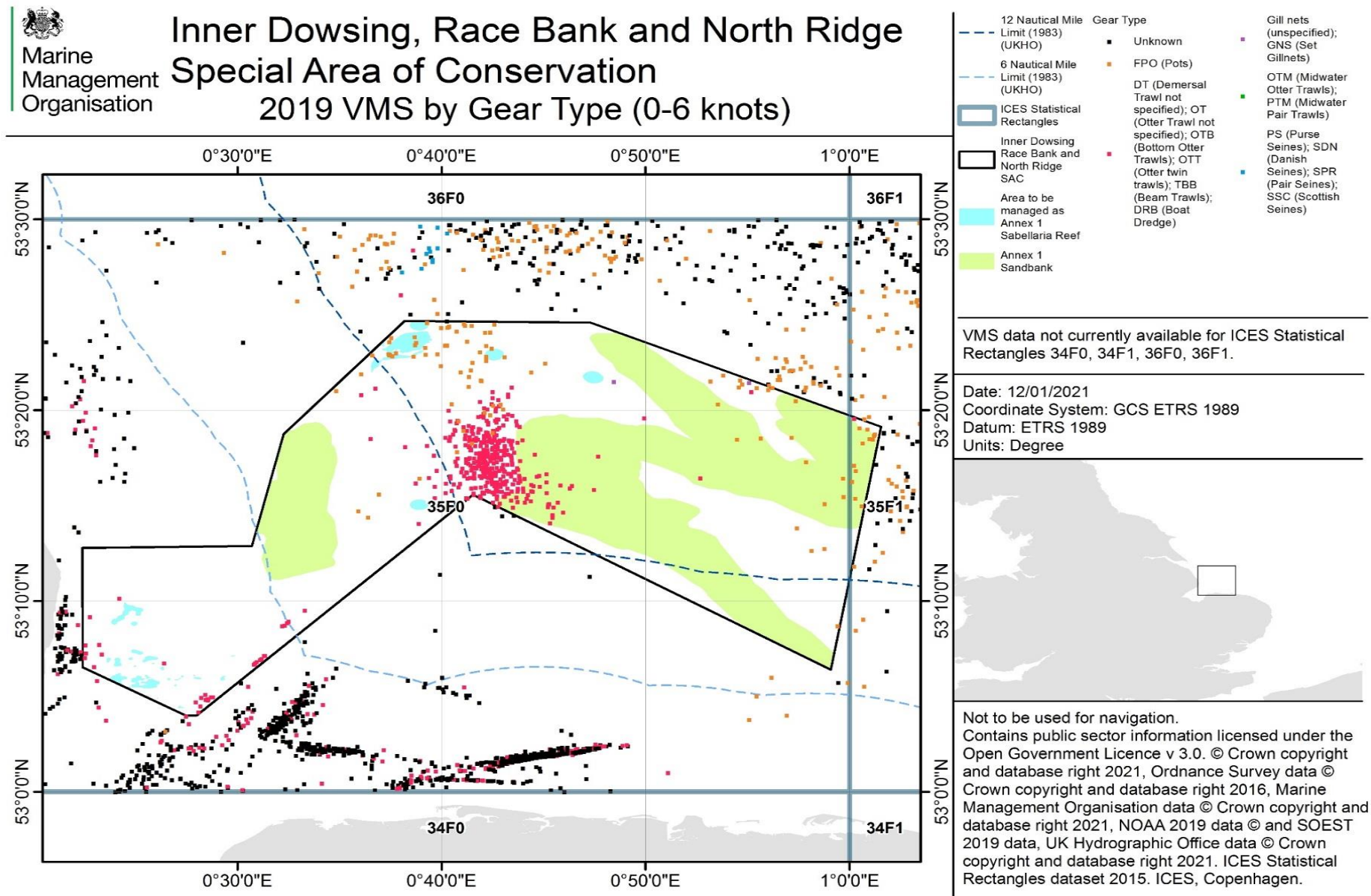


Figure 7: 2020 VMS fishing activity by gear type in Inner Dowsing, Race Bank and North Ridge SAC.

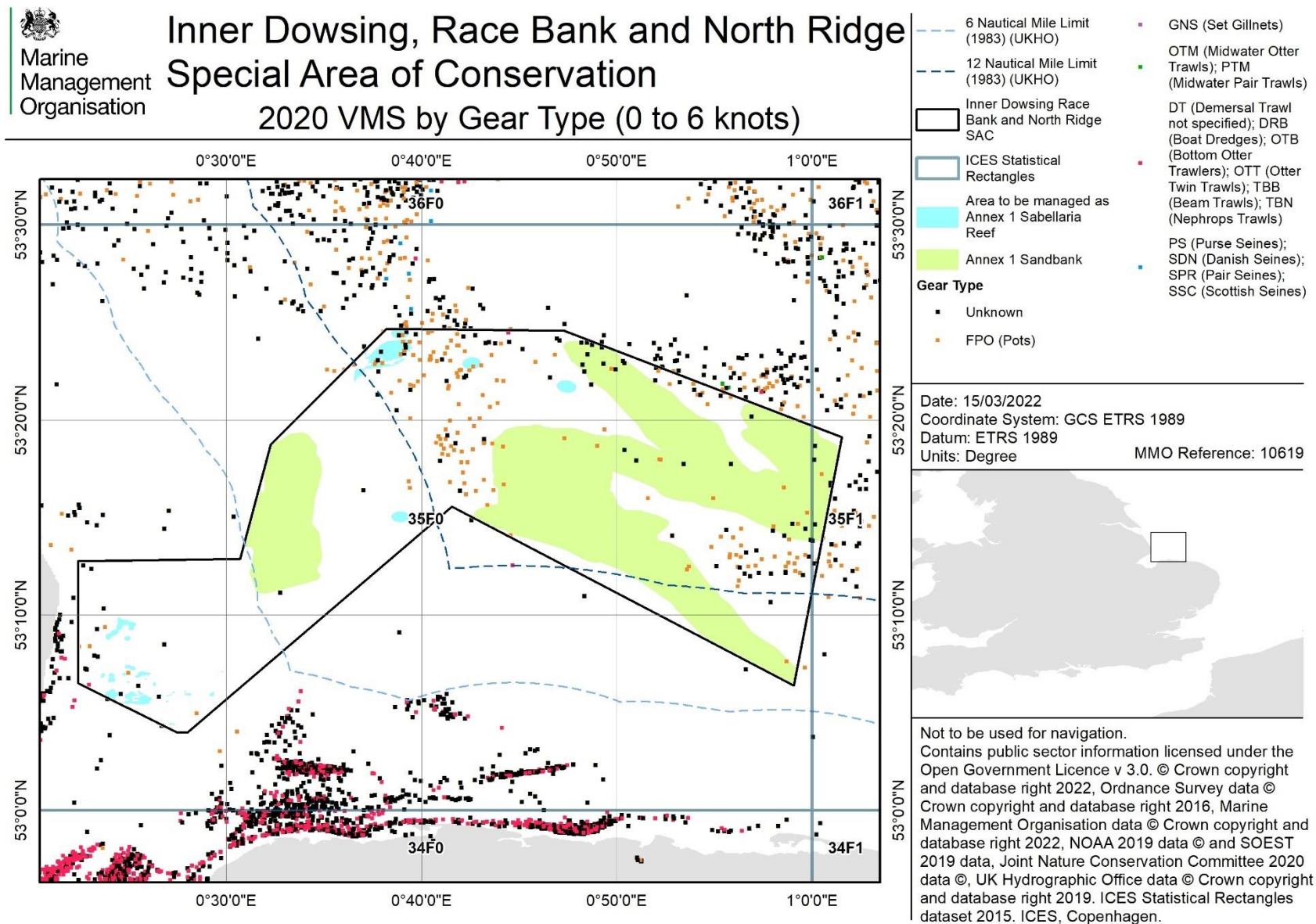


Figure 8: 2016 VMS fishing activity by nationality in Inner Dowsing, Race Bank and North Ridge SAC.

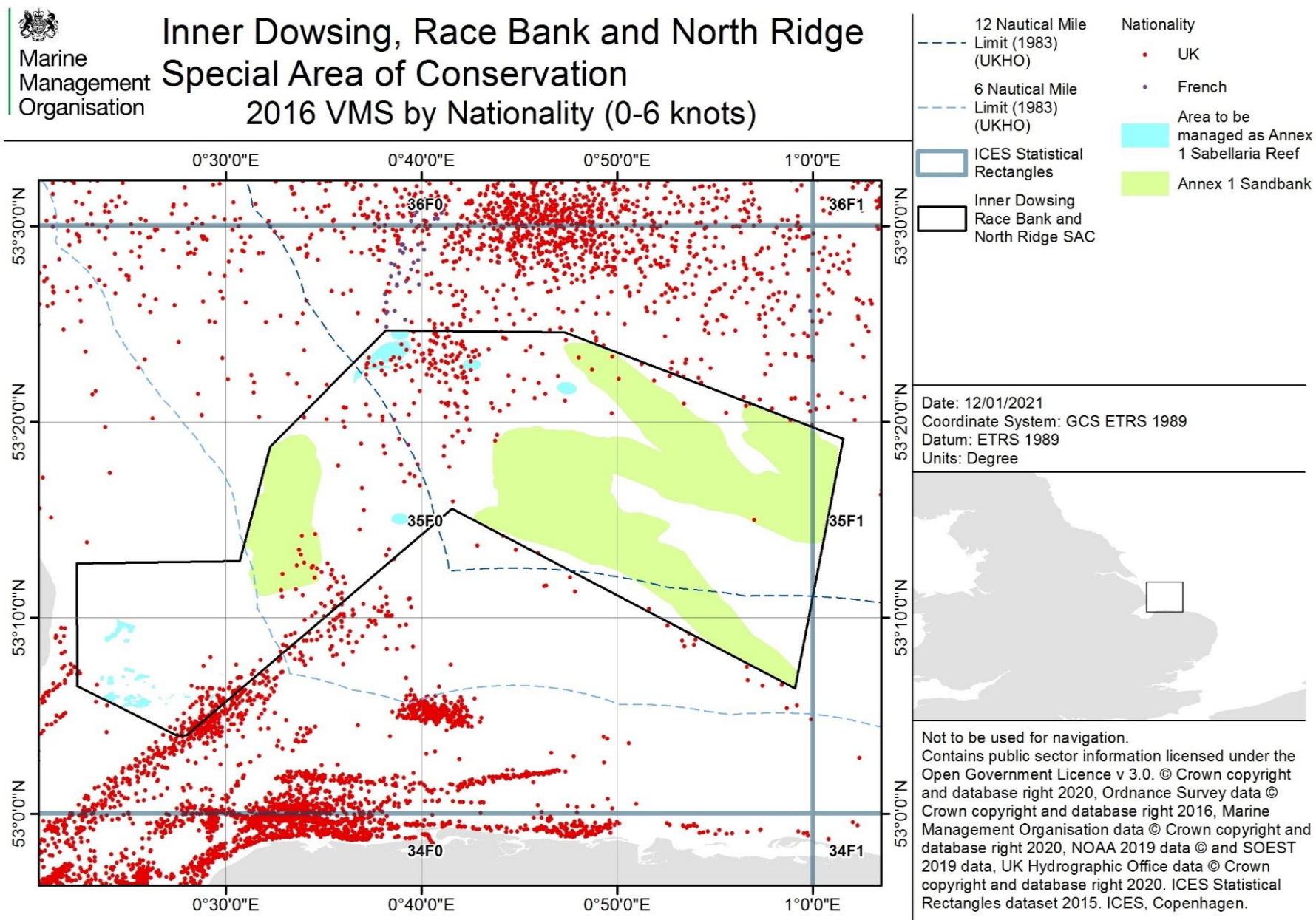


Figure 9: 2017 VMS fishing activity by nationality in Inner Dowsing, Race Bank and North Ridge SAC.

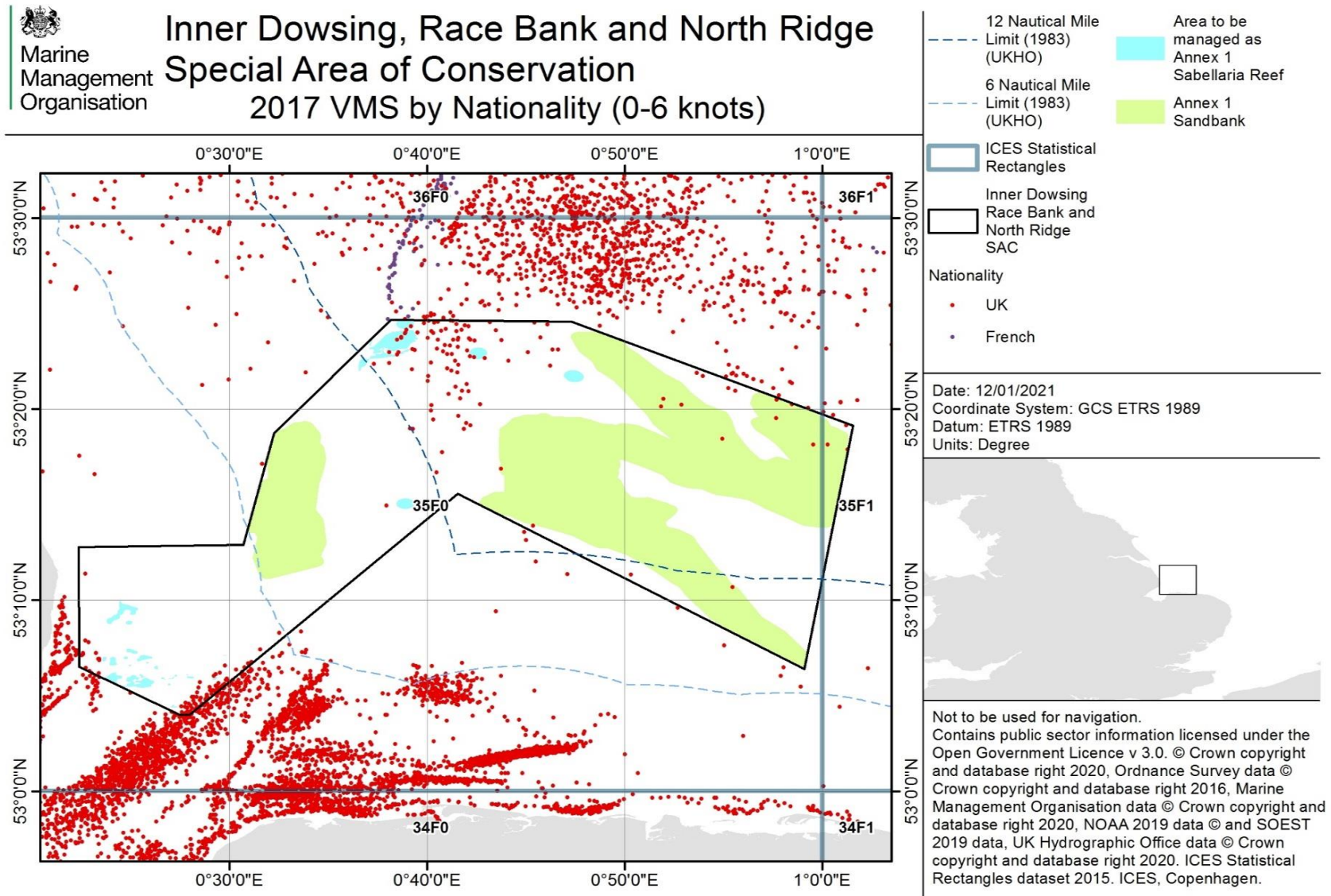


Figure 10: 2018 VMS fishing activity by nationality in Inner Dowsing, Race Bank and North Ridge SAC.

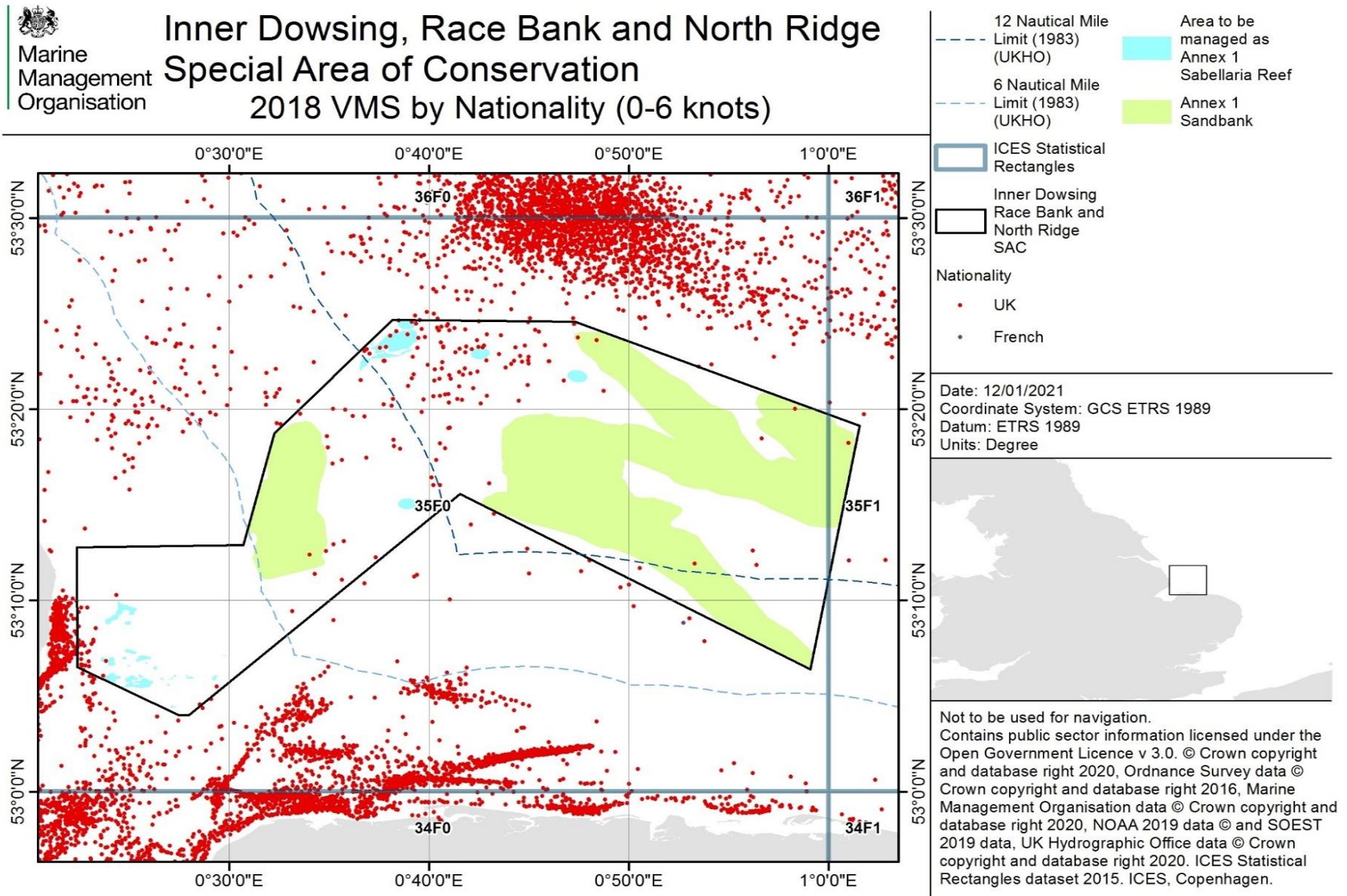


Figure 11: 2019 VMS fishing activity by nationality in Inner Dowsing, Race Bank and North Ridge SAC.

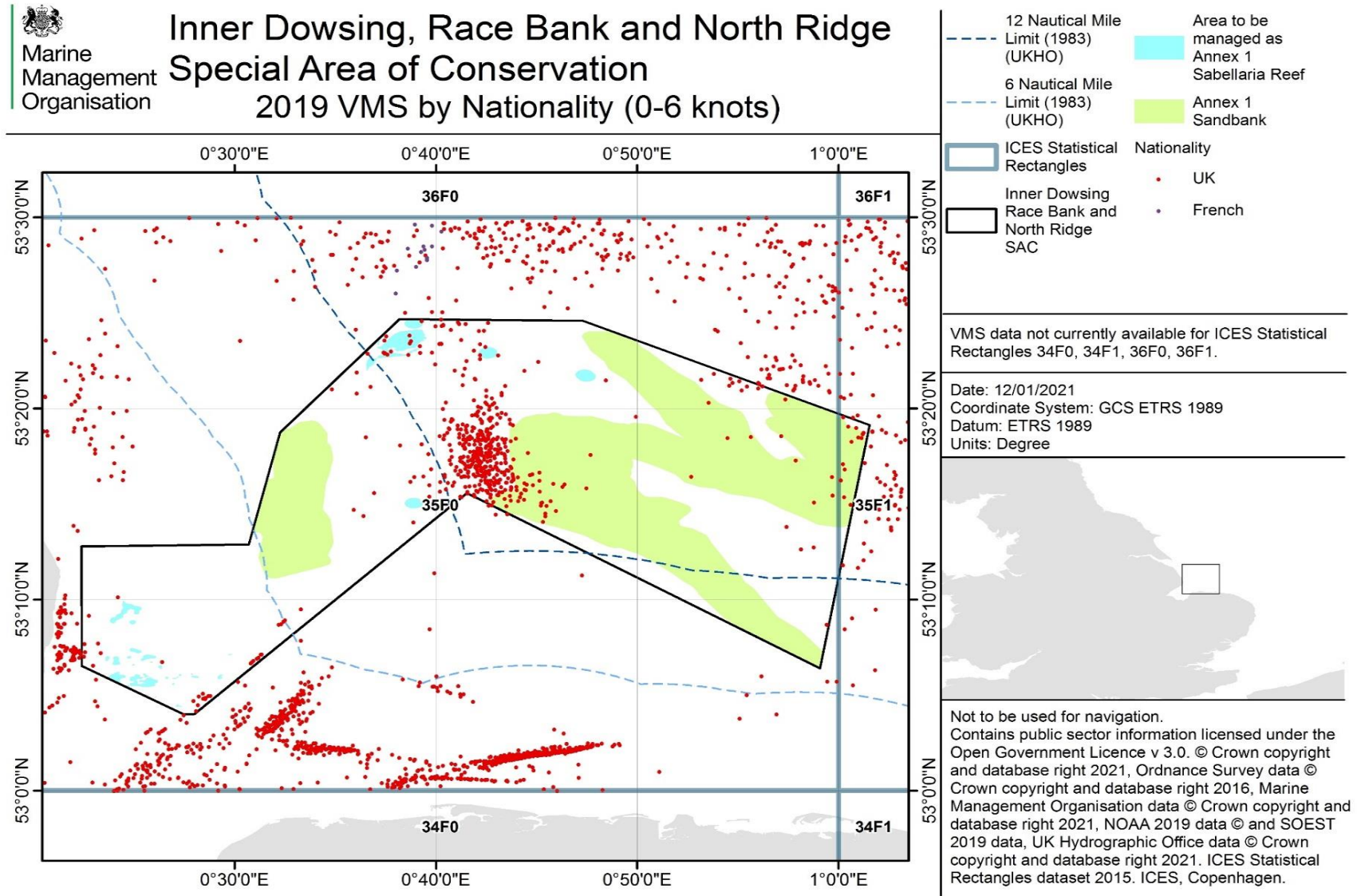


Figure 12: 2020 VMS fishing activity by nationality in Inner Dowsing, Race Bank and North Ridge SAC

