Devon & Severn IFCA
Inshore Fisheries and Conservation Authority

Fisheries in EMS Habitats Regulations Assessment for Red risk category. Assessment for the proposal for potential access area changes.

European Marine Site: Start Point to Plymouth Sound & Eddystone SAC

Fishing activities assessed: Towed demersal & dredges

Gear/feature interactions assessed:

D&S IFCA Interaction ID	Fishing Activity	Feature	Sub-feature(s)
HRA_UK0030373_AC	Beam trawl (whitefish)	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Beam trawl (shrimp)	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Beam trawl (pulse/wing)	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Heavy otter trawl	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Multi-rig trawls	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Light otter trawl	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Pair trawl	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Anchor seine	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Scottish/fly seine	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Scallops	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock
HRA_UK0030373_AC	Mussels, clams, oysters	Reefs	Infralittoral rock
HRA_UK0030373_Z			Circalittoral rock

IFCA reference:
SPPSE_006

Contents

1. Introduction 3
1.1 Need for an HRA assessment 3
1.2 Documents reviewed to inform this assessment 3
2. Information about the EMS 4
2.1 Overview and qualifying features 4
2.2 Conservation Objectives 4
3. Interest feature(s) of the EMS categorised as 'Red' risk and overview of management measure(s) (if applicable) 5
4. Information about the fishing activities within the site 5
5. Test for Likely Significant Effect (LSE) 7
5.1 Table 1: Assessment of LSE ..... **Error! Bookmark not defined.**
6. Appropriate Assessment 13
Potential ecological impacts of pressure exerted by the activity/activities on the feature 13
Mitigation measures 13
7. Conclusion 14
8. In-combination assessment 14
9. Summary of consultation with Natural England 15
10. Integrity test 15
Annex 1: Reference list 16
Annex 2: Natural England's consultation advice 17
Annex 3: Site Map 18
Annex 4: Fishing activity maps 20
Annex 5: Pressures Audit Trail 22

Version	Date	Author(s)	Comments	Reviewer(s)
1	August 2019	Lauren Parkhouse		Sarah Clark December 2019

1. Introduction

1.1 Need for an HRA assessment

In 2012, the Department for Environment, Food and Rural Affairs (Defra) announced a revised approach to the management of commercial fisheries in European Marine Sites (EMS). The objective of this revised approach is to ensure that all existing and potential commercial fishing activities are managed in accordance with Article 6 of the Habitats Directive.

This approach is being implemented using an evidence based, risk-prioritised, and phased basis. Risk prioritisation is informed by using a matrix of the generic sensitivity of the sub-features of EMS to a suite of fishing activities as a decision making tool. These sub-feature-activity combinations have been categorised according to specific definitions, as red, amber, green or blue.

Activity/feature interactions identified within the matrix as red risk have the highest priority for implementation of management measures by the end of 2013 in order to avoid the deterioration of Annex I features in line with obligations under Article 6(2) of the Habitats Directive.

Activity/feature interactions identified within the matrix as amber risk require a site-level assessment to determine whether management of an activity is required to conserve site features. Activity/feature interactions identified within the matrix as green also require a site level assessment if there are “in combination effects” with other plans or projects.

Site level assessments are being carried out in a manner that is consistent with the provisions of Article 6(3) of the Habitats Directive. The aim of this assessment is to determine whether management measures are required in order to ensure that fishing activity or activities will have no adverse effect on the integrity of the site. If measures are required, the revised approach requires these to be implemented by 2016.

The purpose of this site specific assessment document is to assess whether or not in the view of Devon & Severn IFCA the fishing activities have a likely significant effect on the reef of the Start Point to Plymouth Sound & Eddystone SAC, and on the basis of this assessment whether or not it can be concluded that the fishing activity will not have an adverse effect on the integrity of this EMS.

1.2 Documents reviewed to inform this assessment

- Natural England’s risk assessment Matrix of fishing activities and European habitat features and protected species[1]
- Reference list[2] (Annex 1)
- Natural England’s consultation advice (Annex 2)
- Site map(s) – sub-feature/feature location and extent (Annex 3)
- Fishing activity data (map(s), etc) (Annex 4)
- Pressures audit trail (Annex 5)
- Ocean Ecology Ltd SPPSE SAC Seabed Imagery Analysis Summary Report

[1] See Fisheries in EMS matrix: http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/populated_matrix3.xls

[2] Reference list will include literature cited in the assessment (peer, grey and site specific evidence e.g. research, data on natural disturbance/energy levels etc)

2. Information about the EMS

The Start Point to Plymouth Sound and Eddystone SAC lies off the south coast of England, off the counties of Devon and Cornwall. The site boundary extends across three separate geographical areas where reef is present:

- The Eddystone reefs
- Plymouth Sound to Bigbury Bay reefs
- West Rutts to Start Point reefs

The reefs support a wide variety of plant and animal communities commonly showing excellent examples of zonation, from deep circalittoral to the shallow infralittoral. The site represents some of the most biologically diverse reefs in the country and supports many locally distinct and nationally rare or scarce species. Large dense beds of the protected pink sea fan (*Eunicella verrucosa*) and priority species such as the sunset cup coral (*Leptopsammia pruvoti*) and the sea fan anemone (*Amphianthus dohrnii*) have been recorded within the site.

This assessment is only for the reefs within the Devon and Severn IFCA's (D&S IFCA)District; Plymouth Sound to Bigbury Bay and West Rutts to Start Point.

2.1 Overview and qualifying features

Start Point to Plymouth Sound and Eddystone qualifies as a SAC for the following Annex I habitats as listed in the EU Habitats Directive (Natural England, 2015):

- Reefs (1170)
  - Infralittoral rock
  - Circalittoral rock

2.2 Conservation Objectives

The site's conservation objectives apply to the Special Area of Conservation and the natural habitat and/or species for which the site has been designated (the "Qualifying features" listed below). The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of the qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

3. Interest feature(s) of the EMS categorised as ‘Red’ risk and overview of management measure(s) (if applicable)

- Reefs: all high risk fishing gears prohibited over the reef feature and associated buffer from the 1st January 2014 under D&S IFCA Mobile Fishing Permit Byelaw (www.devonandsevernifca.gov.uk)

4. Information about the fishing activities within the site

D&S IFCA carried out an HRA (D&S IFCA- 003/A1) which concluded that towed demersal gear would have a significant impact on the reef features of the site. The spatial restrictions, which were original in place under the South Devon Inshore Potting Agreement (IPA) (figure 1a), were extended under the Mobile Fishing Permit Byelaw to ensure the full extent of the reef feature was protected. This is through spatial and temporal management with access to demersal mobile gear in Area A, part of which falls within the SAC, from 1st January to 31st May inclusive (Figure 1b).

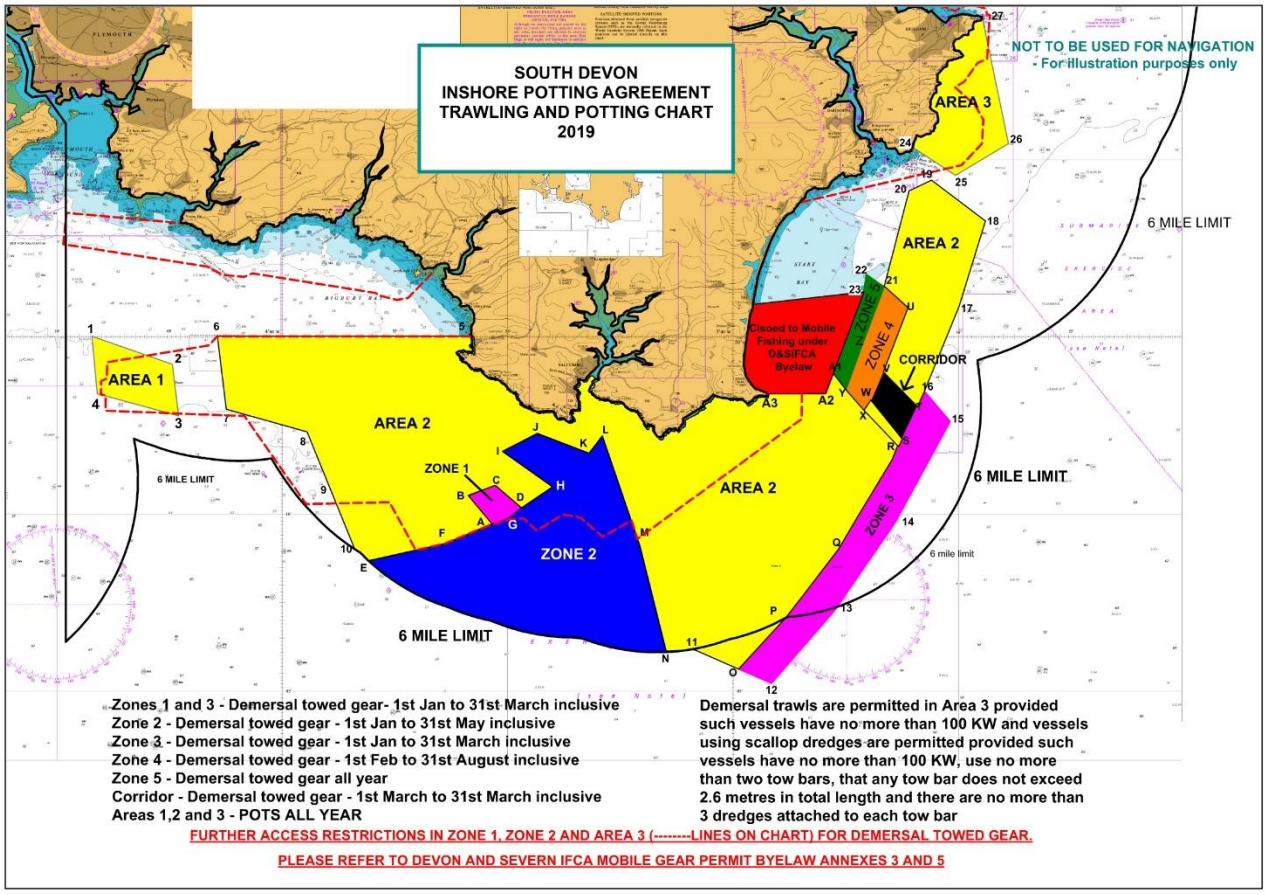

Figure 1a: Inshore Potting Agreement (IPA) Chart 2019

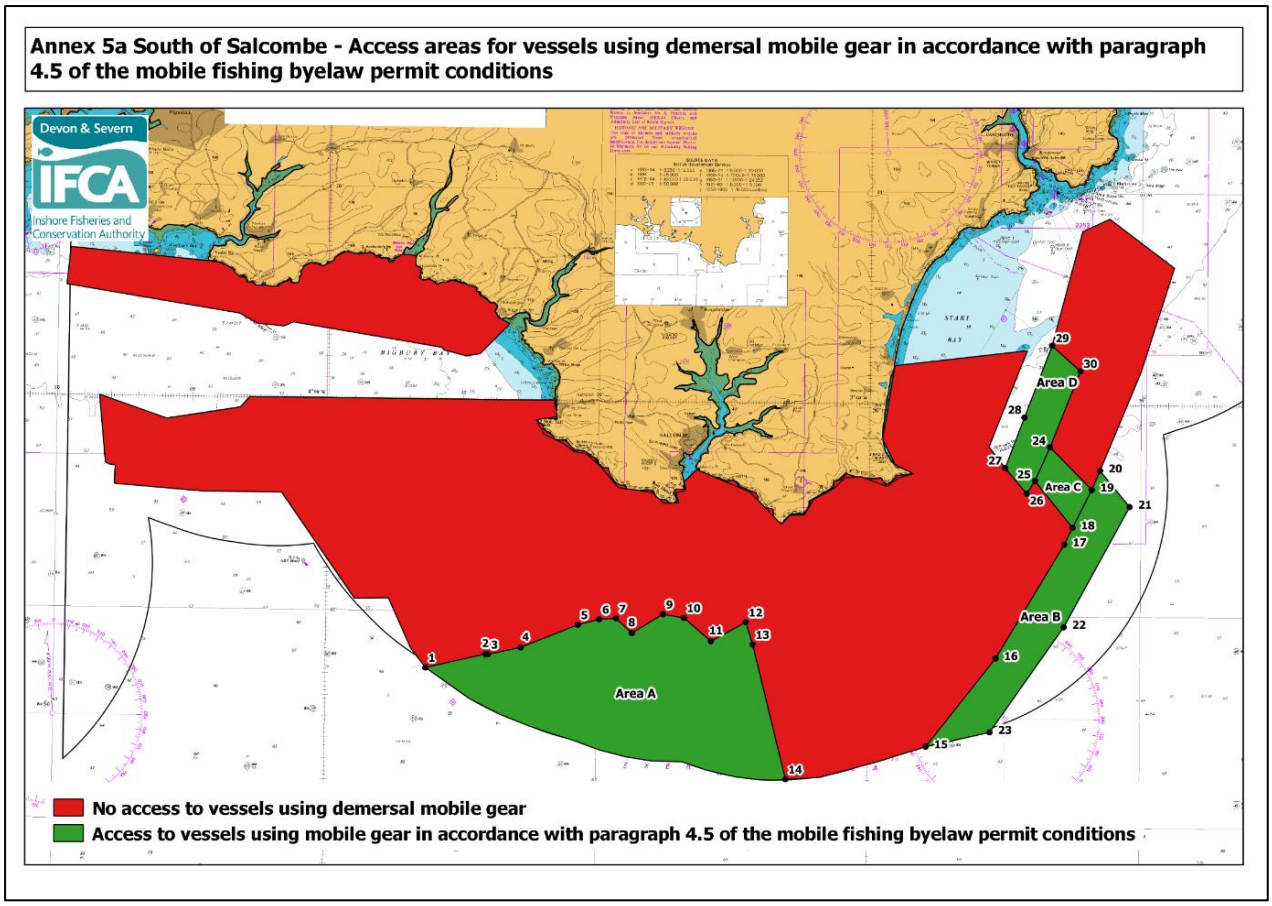

Figure 1b Closure and Access Areas Under the D&S IFCA Mobile Fishing Permit Byelaw

This closure included an area known as the 'triangle' in Zone 2 of the IPA (Figure 1a), which was traditional open to demersal towed gear from 1st January to 31st May inclusive. Much of this area does not include the reef feature (Figure 2), however due to the narrow access to the top of Zone 2 between the reef, and with no means of monitoring the site other than during patrols at that time, it was decided by D&S IFCA members to close the area within the SAC under the precautionary principle, with the understanding that this closure would be reviewed if the correct monitoring systems were put in place, such as inshore vessel monitoring systems (iVMS).

D&S IFCA now has a means of monitoring demersal towed fishing remotely using iVMS and VMS via the Mobile Fishing Permit Byelaw. As of August 2018, the Mobile Fishing Permit conditions required that all mobile gear vessels greater than 6.99m which operate within the district had to have an operational VMS unit installed on board. D&S IFCA can track vessels in real time and go back over a period of time for each vessel. Section 5 of this assessment reviews the possibility of opening parts of Zone 2 to demersal towed gear now iVMS is operational.

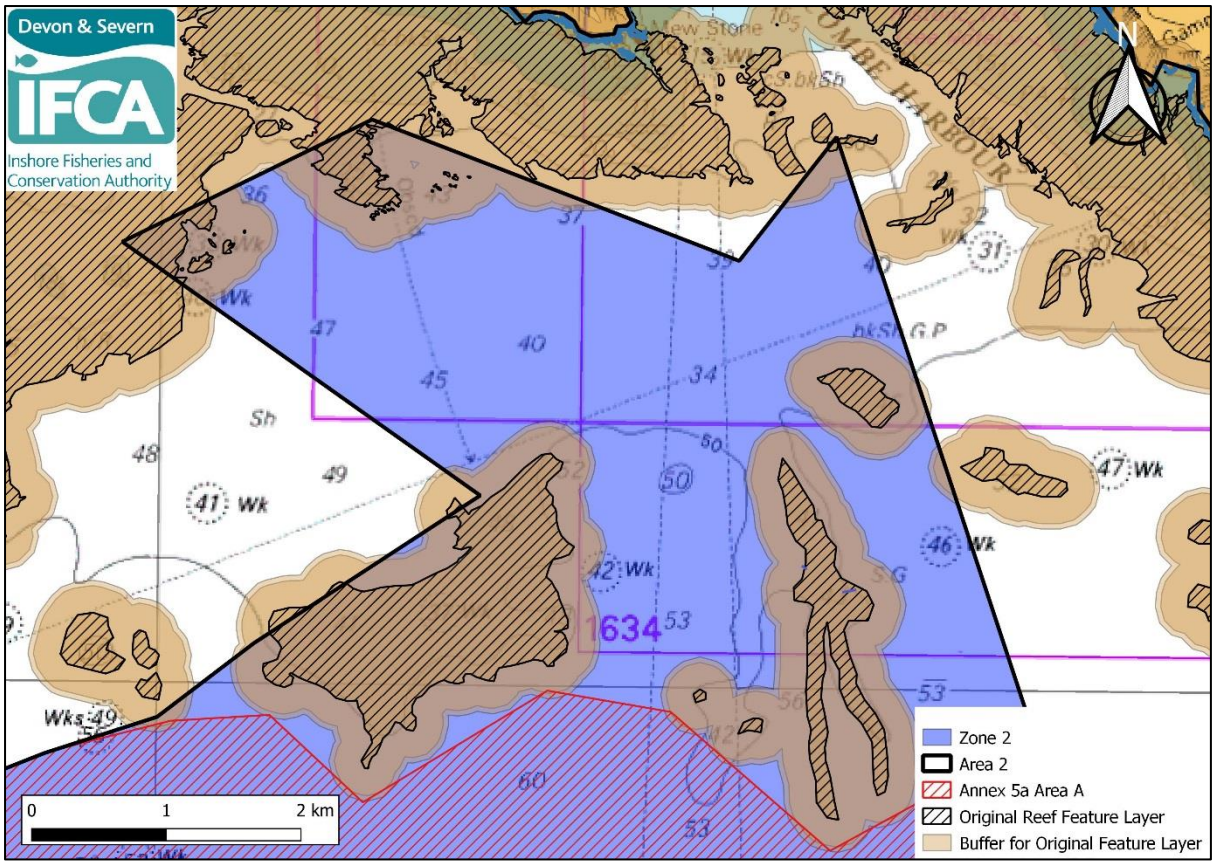

Figure 2 Zone 2 and the Prongs Area

5. Test for Likely Significant Effect (LSE)

1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?
No

2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)

- Abrasion/disturbance of the substrate on the surface of the seabed
- Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion
- Removal of target and non-target species
- Siltation rate changes (high and low), including smothering (depth of vertical sediment overburden)
- Changes in suspended solids (water clarity)

See Annex 6 for pressures audit trail

3. Is the feature potentially exposed to the pressure(s)?
No, the reef features will still be closed, and a buffer implemented around the reef feature.

4. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level?

D&S IFCA carried out a Habitat Regulation Assessment (HRA) which concluded that towed demersal gear would have a significant impact on the reef features of the site. The spatial restrictions which were originally in place (Under the IPA) were extended under the Mobile Fishing Permit Byelaw to ensure the full extent of the reef feature was protected, based on the bathymetry maps provided.

The bathymetry maps provided for the SAC show the area known as 'The Prongs' (Annex 3, Figure 3) as bedrock reef, however, information from the fishing industry suggested that the habitat is made up of sand banks rather than reef. Due to the possibility of reviewing the access area and the uncertainties surrounding the habitat type, D&S IFCA undertook additional survey work on the Prongs and the surrounding areas of the SPPSE SAC to verify the existing feature map.

The Prongs were surveyed using the flying array camera system (Sheehan *et al*. 2010) on board D&S IFCA's survey vessel, Black Jack, in November 2013, July 2014 and June 2015. The video footage was analysed by Ocean Ecology Ltd. Analysis was undertaken in line with guidelines provided in the 'Cefas Video and Stills Processing Protocol' and Ocean Ecology's in house 'Seabed Imagery Processing, Analysis & QA SOP' (Ocean Ecology Ltd, 2015). Ocean Ecology produced a report for this assignment and provided D&S IFCA with GIS layers of the tow data.

The survey confirmed that much of the Prongs area was made up of coarse sediment rather than rock, with only a small amount of rock being observed (Annex 3, Figure 4 & 5).

Within the Prongs area, a total of 63 video segments were analysed covering 13.62km. With a field of view from the camera of 50cm, this equates to 0.00681km². Of this, 93.65% was classified as circalittoral coarse sediment (A5.14), and 4.61% was various circalittoral rock features falling under EUNIS classification A4.1 or A4.2, covering an area of 313.9m². Table 1 shows the full break down of distance, percentage and area of each classification observed.

The extent of the tows did reach further than the bathymetry mapped reef into the 240m buffer zone and occasionally beyond, therefore the above calculations for sediment percentage may be biased towards a higher level of sediment classification. However, out of the 13.62km of tows; 3.91km was on the bathymetry mapped reef, 8.57km on the reef buffer and 1.15km outside of the mapped area.

Table 1 Break Down of D&S IFCA Towed Camera Results by EUNIS Classification

EUNIS Classification	Feature	Distance (km)	Percentage of total distance	Area (km^2)
A4.13	Circalittoral rock	0.06	0.46%	0.0000314
A4.1311	Circalittoral rock	0.09	0.67%	0.0000458
A4.134	Circalittoral rock	0.09	0.63%	0.0000431
A4.139	Circalittoral rock	0.02	0.16%	0.00001075
A4.21	Circalittoral rock	0.09	0.68%	0.00004625
A4.2142	Circalittoral rock	0.02	0.13%	0.000009
A4.2143	Circalittoral rock	0.08	0.56%	0.00003795
A4.2144	Circalittoral rock	0.05	0.34%	0.00002315
A4.215	Circalittoral rock	0.06	0.44%	0.0000299
A4.313	Circalittoral rock	0.07	0.54%	0.0000366
A5.14	Circalittoral coarse sediment	12.8	93.65%	0.00637635
Unclassified due to footage quality		0.24	1.74%	0.00011865
	TOTALS:	13.6178	100.00%	0.0068089
Totals:	**Circalittoral rock**	**0.63**	**4.61%**	**0.0003139**
	Circalittoral coarse sediment	**12.75**	**93.65%**	**0.00637635**

Three maps have been produced, two using the original data for the site and one using the data collected by D&S IFCA, demonstrating potential access areas to demersal towed gear, which would not significantly affect the conservation objectives of the site. The designated reef feature would still be protected in these options. Figure 6 (Annex 4) represents the possible access area based on the original reef layers provided by Natural England. This option would open access areas from both sides of the Prongs. However, due to the narrowest gap between the two reef buffers on the north east section of the Prongs being approximately 150m wide, a second option has been mapped which would only allow access to the west (Figure 7). Figure 8 represents a larger access area based on the results of the towed camera work carried out by D&S IFCA, which indicated that much of the Prongs area is sediment. It should be noted that the maps produced are just examples of what potential access areas could look like. If access were to be granted, the mapping could change.

Circalittoral coarse sediment is not a feature of the SPPSE SAC, and therefore does not fall under the Habitats Regulations as a feature which a HRA would need to be carried out for. There has been no large-scale mapping of this feature and there is no community structure or condition assessment available. However, as the site has been closed for five years to towed demersal gear, D&S IFCA has briefly reviewed possible benefits of this closure and impacts of reopening.

Sheehan et al (2013), undertook a study in Lyme Bay after the closure of the site to towed gear to investigate the importance of the sediment between the reef features. A towed camera system was used to survey the reef and sediment just after the closure and again three years later. The results from the video data showed that sessile reef associated species had colonised the sedimentary habitat between the reefs since closure to bottom towed gear, indicating that reef was present in these areas. This suggested that the functional extent of the reef was potentially greater

than its visual boundary and could have been hidden by a veneer. This only became clear by closing the area to bottom towed gear and letting these species recover.

The work of Sheehan et al (2013) indicates that if areas between reef is protected from bottom towed gear, and if there is underlying reef, these areas can recover with reef associated species. However, if the area is sediment and not a veneer, this would not be the case. The area of the Prongs is different than Lyme Bay with only a very small amount of reef being observed (313.9 m^2) at the Prongs, not the larger reef areas of Lyme Bay. The majority of the sediment observed was circalittoral course sediment, an example of the typical sediment can be seen in Figure 9 (Annex 5). As with the current management, a 240m buffer would be placed around the observed reef features, which would allow for protection of any potential veneer covered reef within this distance.

The current evidence available for the impacts of trawling on subtidal sediment has a focus on subtidal sand, with very few studies considering the effect on subtidal coarse sediment. The available evidence demonstrates that demersal trawling can have negative impact on benthic features by physically disturbing the seabed. However, the severity and recovery time from these impacts depend on a number of factors including; gear type, intensity of activity, and environmental influences (Denderen et al, 2015).

Gilkinson et al (1998) simulated the physical interaction of otter trawl doors on sand with infaunal bivalves in a laboratory test tank. They demonstrated that smaller body-sized fauna are less susceptible to physical damage, as they are pushed aside with fluidized sediments generated by the pressure wave that occurs in front of the moving trawl. However, all bivalves were seen to be displaced with many ending up in the berm created by the trawl, this could leave them susceptible to predation.

Rayment (2001) undertook a sensitivity study of Venerid bivalves in circalittoral coarse sand or gravel and found the biotope has an intermediate intolerance to abrasion and physical disturbance, and displacement; low sensitivity to these pressures and a high recoverability rate. It was found that there would be no change to species richness due to abrasion and physical disturbance; and a minor decline due to displacement of tube worms. A more recent sensitivity study has been carried out by Tillin (2016) on the habitat A5.142 *Mediomastus fragilis, Lumbrineris spp.* and venerid bivalves in circalittoral coarse sand or gravel. When considering the pressure; Abrasion/disturbance of the surface of the substratum or seabed, the overall sensitivity was concluded to be low. This was concluded from combining the resistance which was classed as medium and the resilience which came out as high, which is full recovery within 2 years. The same conclusions were drawn when considering the pressure; penetration or disturbance of the substratum subsurface. The trawling studies reviewed by Tillin (2016) when considering the latter pressure suggested that the biological assemblage present is characterized by species that are relatively tolerant of penetration and disturbance of the sediments. Either species are robust or buried within sediments or are adapted to habitats with frequent disturbance and recover quickly.

Hall et al. (2008), created a sensitivity matrix for the impacts of fishing gear on different habitats using a combination of scientific literature and expert opinion at workshops. Habitat 16, Coarse sands and gravels with communities characterised by large/long lived bivalves could be comparable to that in the Prongs area. However, the community structure of the Prongs and Zone 2 is not known. They consider Habitat 16 have high sensitivity to medium levels of activity and medium level of sensitivity to low levels. The habitat in this area could however be Habitat 29, Unstable cobbles, pebbles, gravel, and/or coarse sands supporting relatively robust communities. This habitat type has medium levels of sensitivity to high and medium levels of activity and low level of sensitivity to low level of activity. This study uses generic fishing techniques in its assessments and does not account for any particular local or site-specific variations. The methodology does not account for seasonal differences in fishing activities.

Using a commercial whitefish beam trawl, Kaiser et al. (1998) undertook a study to examine the immediate effect beam trawling has on stable sediments with rich fauna, and mobile sediment with fewer fauna. The study aimed to fish each of six waylines 10 or 20 times but due to weather conditions this was only possible for three of the waylines. Therefore, the analysis only looked at the main trawling effect, and not the effect of fishing intensity. With regards to the infauna it was found that in a shallow water area (about 30 m.) of high energy sand there was no detectable effect on benthic infauna 24 hours after fishing. This may be due to the associated fauna being adapted to frequent natural disturbances. There were however immediate effects on infauna in the more stable sediments with 9 out of the top 20 most common taxa showing a statistically significant decrease.

The response of a benthic community to trawling will depend on the pre-fished composition of the community. This composition is largely affected by the degree of natural disturbance, due to the currents, waves or storms. Natural disturbance may erode seabed sediment, cause re-suspension or organic matter and may affect settlement of new recruits. Such effects promote species that are adapted to natural disturbance (Denderen et al, 2015). Denderen et al (2015) used a biological trait approach to assess the effects of trawling and natural disturbance on benthic community composition and function. The results confirm their hypothesis that bottom trawling and natural disturbance have comparable effects on benthic communities and that trawl disturbance has a limited additional effect on the benthic ecosystem in areas exposed to high shear stress compared to areas exposed to low shear stress (Denderen et al, 2015). There were a number of tow segments in the Prongs footage where ripples were observed in the gravel and sand. This indicates that the area is subjected to natural disturbance.

The available evidence demonstrates that demersal trawling can have a negative impact on benthic features; however, the severity and recovery time from these impacts depend on a number of factors including; gear type, intensity of activity, and the environmental influences. Studies have suggested different recovery times, some suggest recovery from 100 days, others to full recovery within two years. Without full detail of the habitat, including species composition it is not possible to conclude the level of impact there would be on the area being considered for reopening. However, any access would be managed temporally as well as spatially. Currently there is access in Area A from 1st January until 31st May.

Dredging for scallops can have a number of impacts on benthic systems, including a reduced seabed habitat complexity ad heterogeneity, shifts in community structure and trophic interactions, alterations to the physical structure of the sea floor, and an impact on by-catch species (Sciberras et al, 2013). Scallop dredges have teeth on them which are designed to dig into the sediment, and therefore have been considered to be potentially among the most damaging of fishing activities (Veale et al, 2000). Gravel, mixed sand and mud habitats tend to support diverse benthic communities of high biomass and are the main focus of scallop fisheries in the UK. These habitats are known to be relatively sensitive to disturbance by scallop fisheries. The degree of disturbance is dictated by; the fishing gear used, the intensity of fishing effort, the type of species present, the natural stability and energy levels of the seabed (Beukers-Stewart, 2009). Benthic communities in gravel and mixed sand substrates will recover if closed to fishing, with recovery times varying. Summer closed seasons can allow certain hydroid species to start to re-establish and provide an important settlement habitat for invertebrate species (Beukers-Stewart, 2009). The benthic communities most resilient to scallop fisheries are those in shallow sand areas which are subjected to high levels of natural disturbance. Although benthic species do suffer negative effects from fishing disturbance, the relative impact tends to be lower and recovery quicker than in other habitats (Beukers-Stewart, 2009).

As stated previously, the coarse sediment it not a feature of the site. Reopening part of the site will not hinder the conservation objectives of the reef feature for which the site is designated. The key to reopening this part of the SPPSE SAC is the ability to use IVMS and VMS to monitor the activity

of demersal gear vessels in the area and to have the ability to ensure compliance with the areas of reef closed to demersal gear. The narrowest access areas in Figure 8 Annex 4 are approximately 550m in length. This distance should be sufficient to allow access. Part of the IPA chart has a narrow area, Zone 5, that is open to demersal gear (Figure 1a) and this area is approximately 1000m wide. However, without confidence in the use of IVMS and VMS within this part of the SAC, the protection of the designated reef habitat can not to be guaranteed.

5. Is the potential scale or magnitude of any effect likely to be significant?
Alone
No, there is no likelihood of significant adverse effect on the interest features, as a stand-alone project.

In-combination
No, see section 8 for more information

6. Have NE been consulted on this LSE test? If yes, what was NE's advice?
No, not at this stage

6. Appropriate Assessment

Note: this is only to be undertaken if the Test for LSE (section 5) concluded 'Yes' or 'Uncertain' for LSE, either alone or in-combination.

An Appropriate Assessment is not required as the TLSE concluded that this activity would not have a significant effect, either alone or in-combination.

6.1 Potential risks to features

The potential pressures, impacts and exposure by gear type(s) for each feature/sub-feature are summarised in Table 2.

Table 2: Summary of Impacts

Feature/Sub feature(s)	**Conservation Objective/ Target Attribute**	**Potential pressure[3] (such as abrasion, disturbance) exerted by gear type(s)[4]**	**Potential ecological impacts of pressure exerted by the activity/activities on the feature[5]** *(reference to conservation objectives)*	**Level of exposure[6] of feature to pressure**	**Mitigation measures[7]**

[3] Guidance and advice from NE.
[4] Group gear types where applicable and assess individually if more in depth assessment required.
[5] Document the sensitivity of the feature to that pressure (where available), including a site specific consideration of factors that will influence sensitivity.
[6] Evidence based e.g. activity evidenced and footprint quantified if possible, including current management measures that reduce/remove the feature's exposure to the activity.
[7] Detail how this reduces/removes the potential pressure/impact(s) on the feature e.g. spatial/temporal/effort restrictions that would be introduced.

7. Conclusion[8]

In the event of access being granted to part of the site, the reef features will still be protected from towed demersal gear. Therefore D&S IFCA concludes that it is unlikely there will be a significant effect on the extent, distribution, structure or functions of the features and that the conservation objectives can be met.

8. In-combination assessment

Other fishing activities occurring within Start Point to Plymouth Sound and Eddystone SCI are:

Pots/ creels (high level of activity, 20-30 vessels)
Pressures potentially exerted:

- Abrasion/disturbance of the substrate on the surface of the seabed
- Litter
- Removal of target species
- Removal of non-target species

In-combination assessment:
No in-combination effect thought to be possible.

Gill, Trammel and Entangling nets (medium to low level of activity, five vessels known)
Pressures potentially exerted:

- Abrasion/disturbance of the substrate on the surface of the seabed
- Litter
- Penetration/disturbance of the substrate below the surface of the seabed, including abrasion
- Removal of target species
- Removal of non-target species

In-combination assessment:
Static nets are rarely set directly on reef, no in-combination effect thought to be possible.

Drift nets (level of effort unknown, likely to be low)
Pressures potentially exerted:

- Abrasion/disturbance of the substrate on the surface of the seabed
- Litter
- Penetration/disturbance of the substrate below the surface of the seabed, including abrasion
- Removal of target species
- Removal of non-target species

In-combination assessment:
Due to the low level of activity and that drift nets should theoretically not come into contact with reef, no in-combination effect thought to be possible.

Fyke nets (low level of activity, one known vessel)
Pressures potentially exerted:

- Abrasion/disturbance of the substrate on the surface of the seabed
- Litter
- Penetration/disturbance of the substrate below the surface of the seabed, including abrasion
- Removal of target species

[8] If conclusion of adverse affect alone an in-combination assessment is not required.

- Removal of non-target species

In-combination assessment:
Due to the low level of activity no in-combination effect thought to be possible.

Commercial diving (low level of activity)
Pressures potentially exerted:
- Abrasion/disturbance of the substrate on the surface of the seabed
- Removal of target species

In-combination assessment:
Due to the low level of commercial diving activity no in-combination effect thought to be possible.

Longlines (level of effort unknown, likely to be low)
Pressures potentially exerted:
- Abrasion/disturbance of the substrate on the surface of the seabed
- Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion
- Removal of target species
- Removal of non-target species

In-combination assessment:
Due to the low level of activity no in-combination effect thought to be possible.

See Parkhouse (2015) for more information about fishing activities occurring.

Devon and Severn IFCA are not aware of any ongoing plans or projects within the Start Point to Plymouth Sound and Eddystone SCI.

No likelihood of significant adverse effect can be concluded for in-combination effects.

9. Summary of consultation with Natural England

Natural England were consulted informally regarding the inclusion of activities for the in-combination assessment in January 2016.

10. Integrity test

It can be concluded that towed gear activities, alone or in-combination, within the Start Point to Plymouth Sound and Eddystone SAC do not adversely affect the reef sub features of the site and that the conservation objectives can be met.

Annex 1: Reference list

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Annex 2: Natural England’s consultation advice

N/A Natural England has not been consulted at this stage.

Annex 3: Site Map

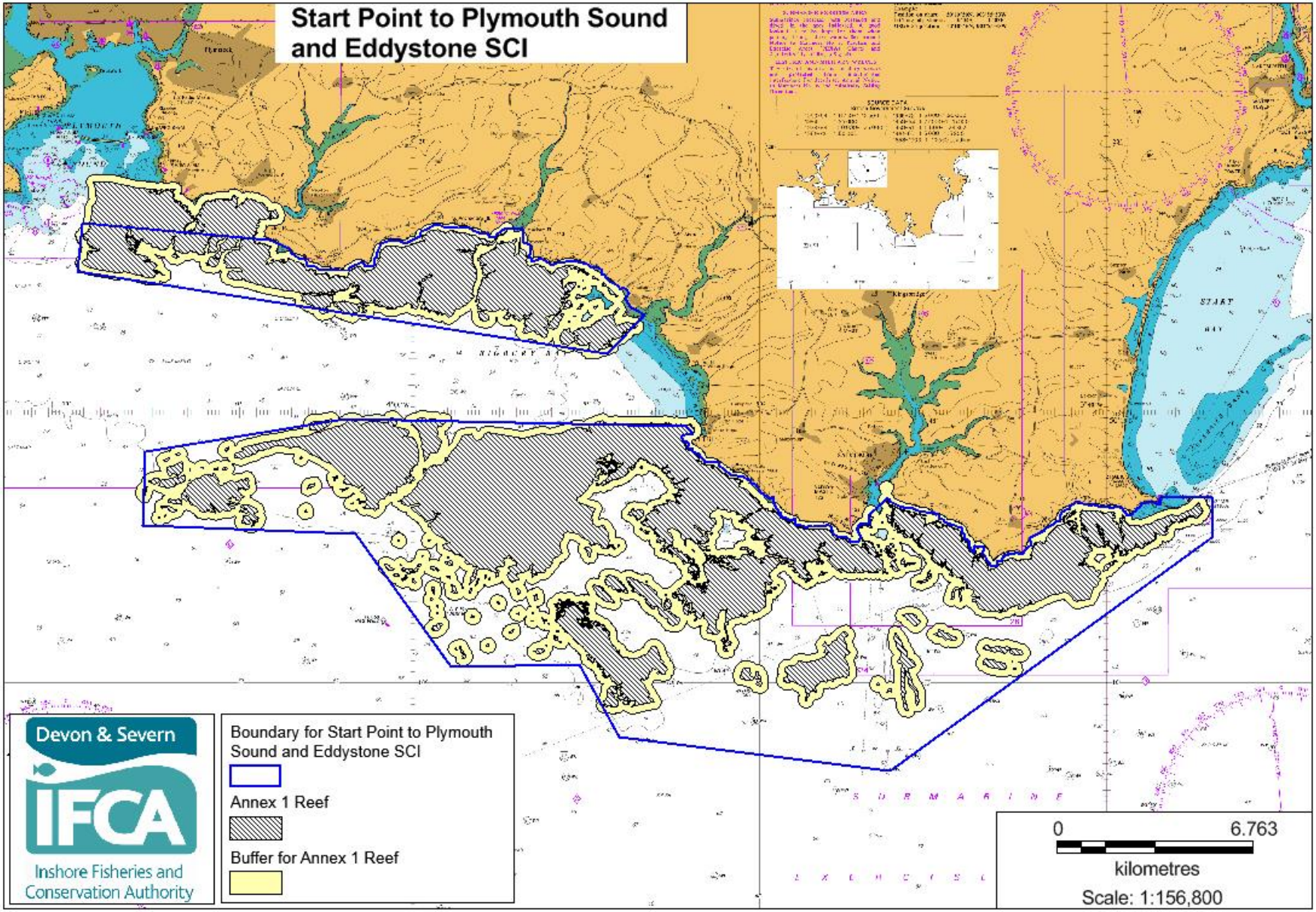

Figure 3 - Start Point to Plymouth Sound and Eddystone SAC Boundary and Habitat Map

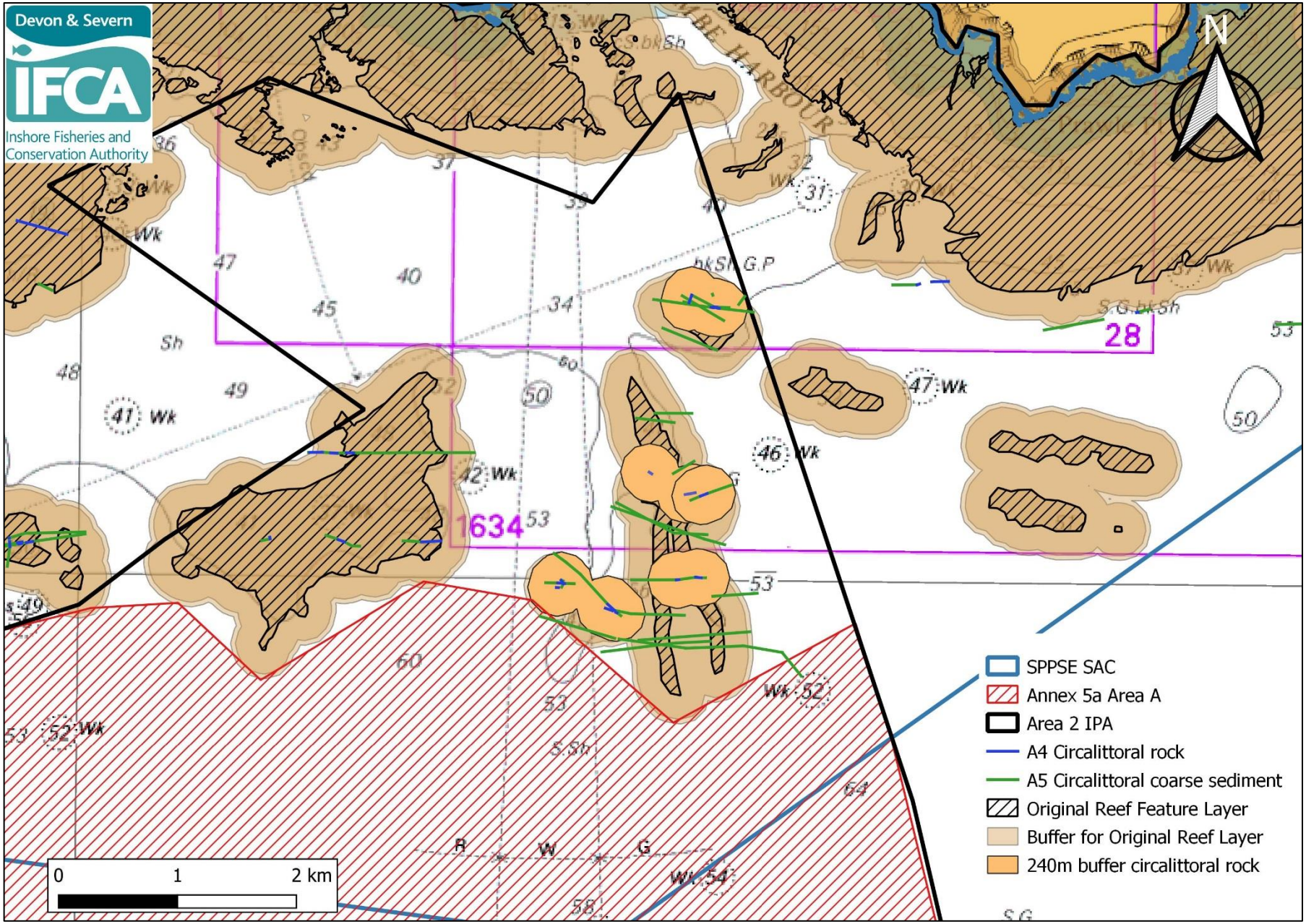

Figure 4 – The Prongs and D&S IFCA Survey Tow Results

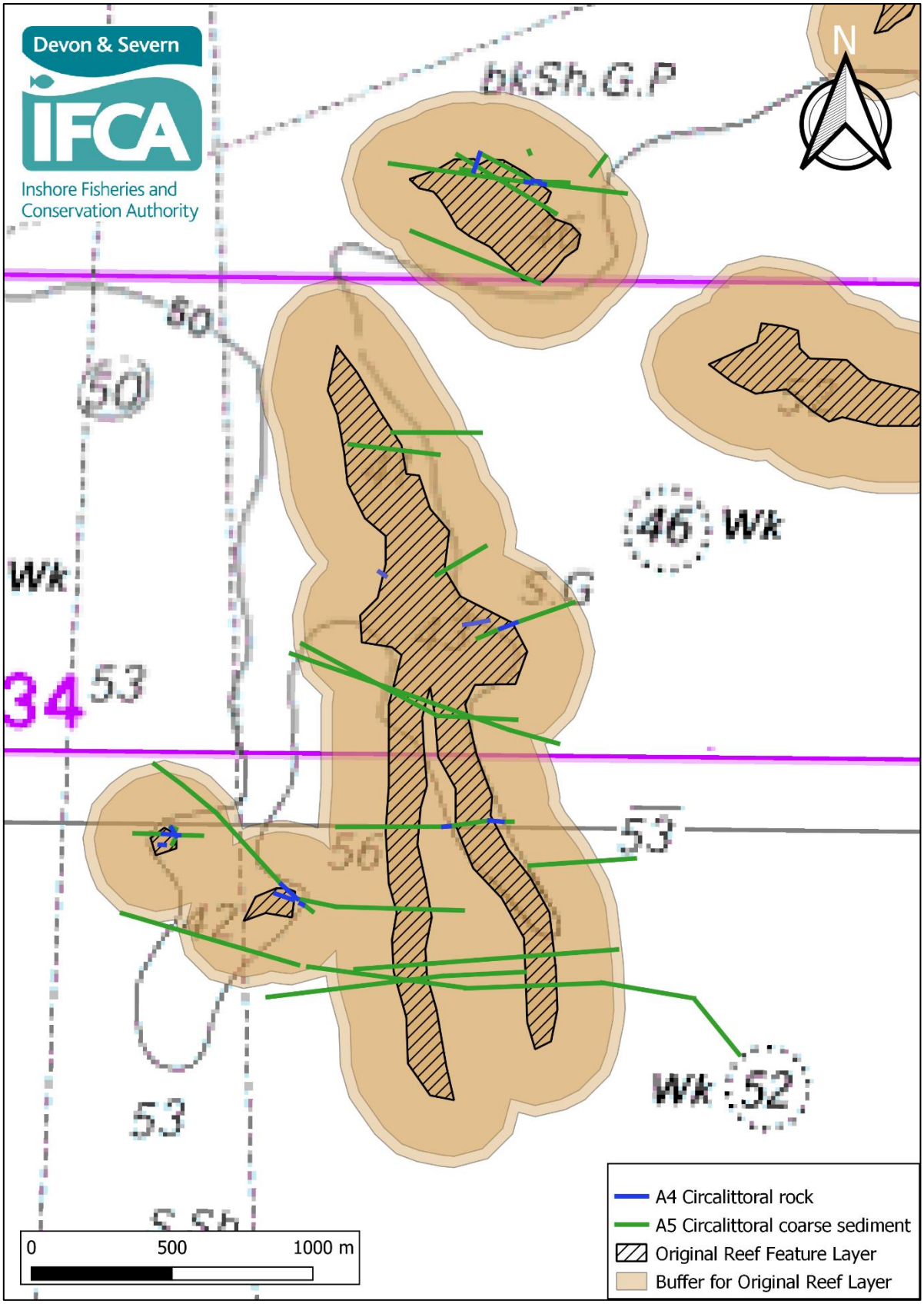

Figure 5 - EUNIS Classification of Survey Tows

Annex 4: Potential Access Areas

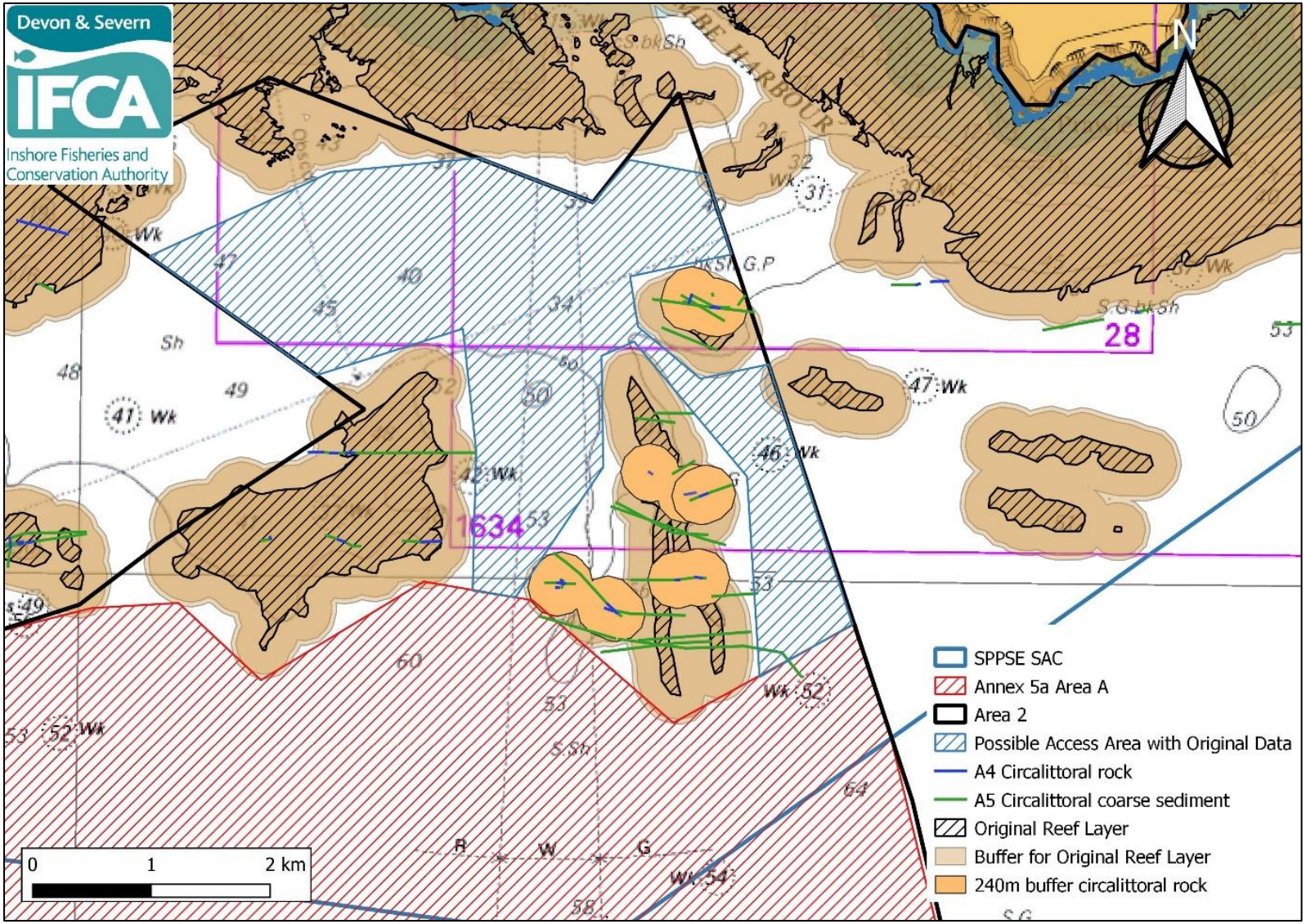

Figure 6 Possible Access Area Based on Original Reef Map (Full Access)

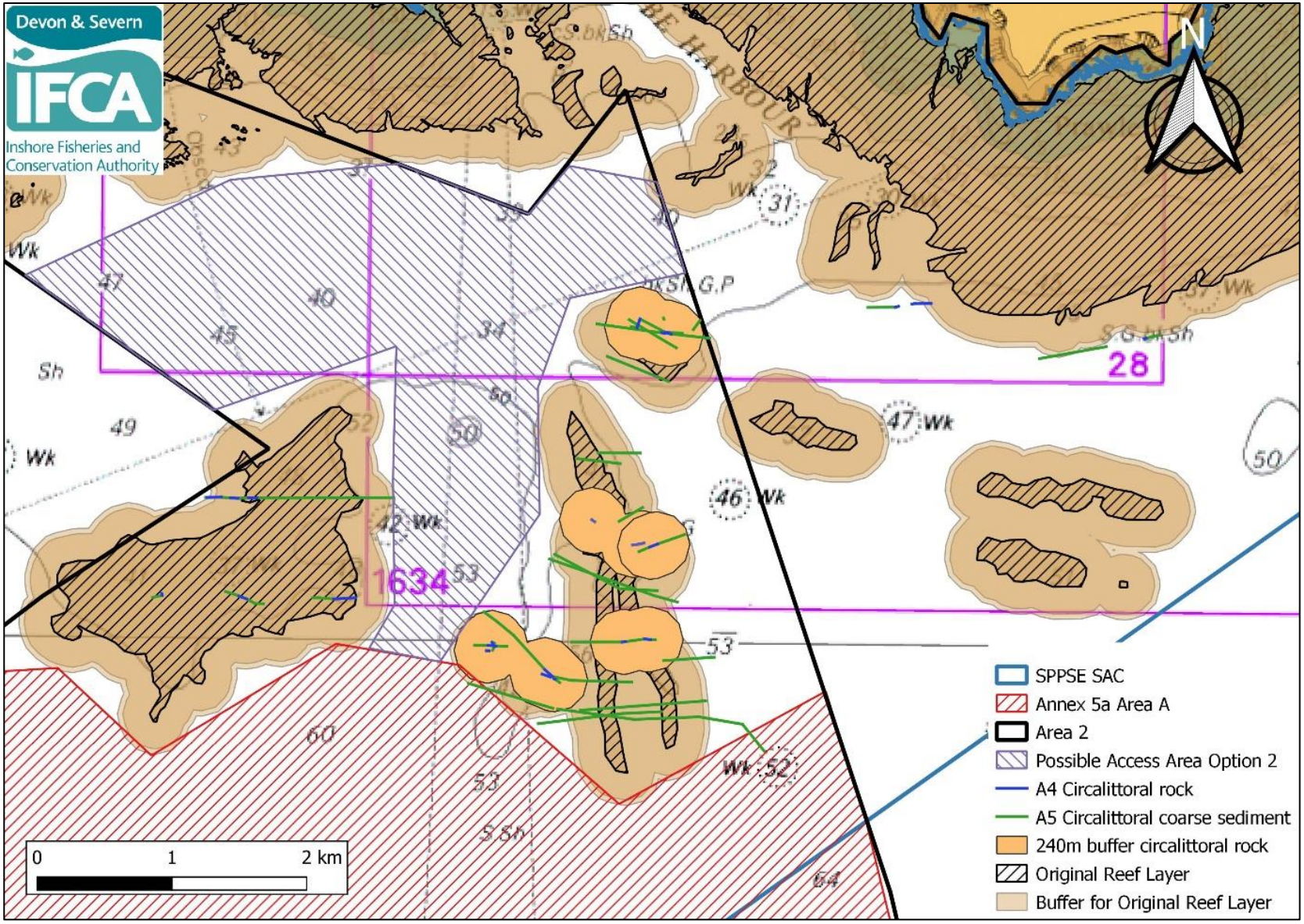

Figure 7 Option 2 of Possible Access Area Based on Original Reef Map

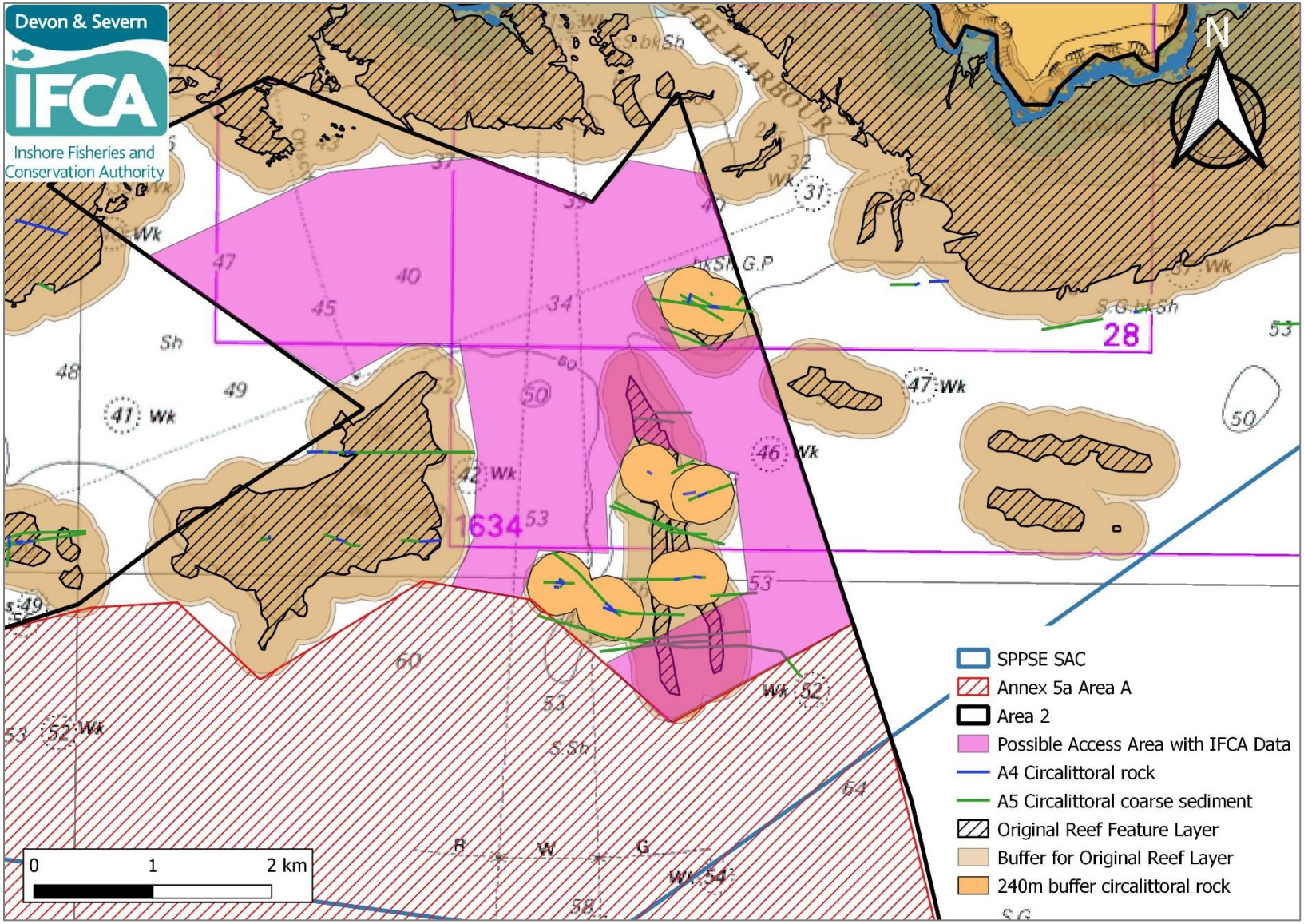

Figure Possible Access Area Based on D&S IFCA Survey Results

Annex 5: Sediment Image

Figure 2 Example of Circalittoral Coarse Sediment from Survey

Annex 6: Pressures Audit Trail

Activity: Demersal trawl and dredges Pressure(s)	Sub-feature		Screening Justification
	Infralittoral rock	Circalittoral rock	
Abrasion/disturbance of the substrate on the surface of the seabed	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Changes in suspended solids (water clarity)	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Deoxygenation	**IE**	**NS**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Genetic modification & translocation of indigenous species	**IE**	**IE**	**OUT** – Activity operates in local area only so risk considered extremely low
Hydrocarbon & PAH contamination. Includes those priority substances listed in Annex II of Directive 2008/105/EC.	**NS**	**IE**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Introduction of other substances (solid, liquid or gas)	**IE**	**IE**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Introduction or spread of non-indigenous species	**S**	**S**	**OUT** – Activity operates in local area only so risk considered extremely low
Litter	**IE**	**IE**	**OUT** - Insufficient activity levels to pose significant risk
Nutrient enrichment	**NS**	**IE**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Organic enrichment	**S**	**S**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Physical change (to another seabed type)	**S**	**S**	**OUT** - Insufficient activity levels to pose significant risk
Removal of non-target species	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Removal of target species			**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure

Siltation rate changes (high and low), including smothering (depth of vertical sediment overburden)	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals). Includes those priority substances listed in Annex II of Directive 2008/105/EC.	**NS**	**IE**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Transition elements & organo-metal (e.g. TBT) contamination. Includes those priority substances listed in Annex II of Directive 2008/105/EC.	**NS**	**IE**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event