Fisheries in EMS Habitats Regulations Assessment for Amber and Green risk categories

European Marine Site: Plymouth Sound & Estuaries

Fishing activities assessed: Intertidal handwork

Gear/feature interactions assessed:

D&S IFCA Interaction ID	Fishing Activity	Sub-feature(s)/ Supporting Habitat(s)
HRA_UK0013111_AE19	SAC Handworking (access from vessel)	Lower-mid saltmarsh
		Mid-upper saltmarsh
		Pioneer saltmarsh
		Transition & driftline saltmarsh
		Upper saltmarsh
		Atlantic salt meadows
HRA_UK9010141_AE19	SPA Handworking (access from vessel)	Saltmarsh spp.
HRA_UK9010141_AF19		Annual vegetation of driftlines
HRA_UK9010141_AG19		Coastal reedbeds
HRA_UK9010141_AU19		Freshwater & coastal grazing marsh
HRA_UK0013111_AE20	SAC Handworking (access from land)	Lower-mid saltmarsh
		Mid-upper saltmarsh
		Pioneer saltmarsh
		Transition & driftline saltmarsh
		Upper saltmarsh
		Atlantic salt meadows
HRA_UK9010141_AE20	SPA Handworking (access from land)	Saltmarsh spp.
HRA_UK9010141_AF20		Annual vegetation of driftlines
HRA_UK9010141_AG20		Coastal reedbeds
HRA_UK9010141_AU20		Freshwater & coastal grazing marsh

Contents

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 Inshore Fisheries and Conservation Authority (D&S IFCA) the fishing activities handworking (access from vessel & land) have a likely significant effect on the 'lower-mid saltmarsh', 'mid-upper saltmarsh', 'pioneer saltmarsh', 'transition & driftline saltmarsh', 'upper saltmarsh', 'Atlantic salt meadows', annual vegetation of driftlines', 'coastal reedbeds' and 'freshwater and coastal grazing marsh' of the Plymouth Sound & Estuaries EMS, and on the basis of this assessment whether or not it can be concluded that handworking (access from vessel & land) 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)

[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 Plymouth Sound & Estuaries EMS is made up of the Plymouth Sound & Estuaries SAC and the Tamar Estuaries Complex SPA (Figure 1, Annex 3). Plymouth Sound and its associated tributaries comprise a complex site of marine inlets. The ria systems entering Plymouth Sound (St John's Lake and parts of the Tavy, Tamar and Lynher), the large bay of the Sound itself, Wembury Bay, and the ria of the River Yealm are of international marine conservation importance because of their wide variety of salinity conditions and sedimentary and reef habitats. The high diversity of habitats and conditions gives rise to communities both representative of ria systems, and some very unusual features, including abundant southern Mediterranean-Atlantic species rarely found in Britain (English Nature, 2000). This site crosses the border between Devon & Severn IFCA and Cornwall IFCA.

2.1 Overview and qualifying features

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

- Large shallow inlets and bays, the key sub-features are:
    - Intertidal rock
    - Circalittoral rock
    - Infralittoral rock
    - Subtidal mud
    - Subtidal sand
    - Subtidal seagrass beds
- Estuaries, the key sub-features are:
    - Circalittoral rock
    - Infralittoral rock
    - Intertidal mixed sediment
    - Intertidal mud
    - Intertidal rock
    - Intertidal seagrass beds
    - Lower-mid saltmarsh
    - Mid-upper saltmarsh
    - Pioneer saltmarsh
    - Subtidal mixed sediments
    - Subtidal mud
    - Subtidal sand
    - Subtidal seagrass beds
    - Transition & driftline saltmarsh
    - Upper saltmarsh
- Sandbanks which are slightly covered by seawater all the time, the key sub-features are:
    - Subtidal coarse sediment
    - Subtidal mixed sediment
    - Subtidal mud
    - Subtidal sand
    - Subtidal seagrass beds
- Atlantic salt meadows
- Mudflats & sandflats not covered by seawater at low tide, the key sub-features are:
    - Intertidal coarse sediment
    - Intertidal mixed sediments
    - Intertidal mud
    - Intertidal sand & muddy sand
    - Intertidal seagrass beds

- Reefs
    - Circalittoral rock
    - Infralittoral rock
    - Intertidal rock

Plymouth Sound and Estuaries qualifies as a SAC for the following Annex II species as listed in the EU Habitats Directive (Natural England, 2015a):

- Allis shad (*Alosa alosa*)
- Shore dock (*Rumex rupestris*)

The Tamar Estuaries Complex qualifies as a SPA under the Birds Directive for (Natural England, 2015b):

- Nationally important populations of regularly occurring Annex 1 species, Avocets (*Recurvirostra avosetta*) and Little egrets (*Egretta garzetta*), the key supporting habitats are:
    - Annual vegetation of driftlines
    - Coastal reedbeds
    - Freshwater & coastal grazing marsh
    - Intertidal mixed sediments
    - Intertidal mud
    - Intertidal sand & muddy sand
    - Intertidal seagrass beds
    - Water column
    - Saltmarsh

2.2 Conservation Objectives

The site's conservation objectives which apply to the **Special Area of Conservation** and the natural habitat and/or species for which the site has been designated 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

The site's conservation objectives which apply to the **Special Protection Area** and the individual species and/or assemblage of species for which the site has been classified 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 aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the populations of the qualifying features
- the distribution of the qualifying features within the site

3. Interest feature(s) of the EMS categorised as 'red' risk and overview of management measure(s) (if applicable)

- Subtidal rock and reef communities were categorised as "red" risk against all demersal towed gear and towed dredges. In January 2014 D&S IFCA introduced the Mobile Fishing Permit Byelaw, which prohibits the use of towed gear within this EMS (Map Annex 5).
- Seagrass bed communities were categorised as "red" risk against towed demersal gear, dredges, intertidal handwork, crab tiling, and digging with forks. At that time, only subtidal seagrass beds were considered as a sub-feature of the site which would not be exposed to intertidal handwork, crab tiling or digging with forks. In January 2014 D&S IFCA introduced the Mobile Fishing Permit Byelaw, which prohibits the use of towed gear within this EMS (Map Annex 5).

4. Information about the fishing activities within the site

Handworking (access from vessel & land) is thought to be occurring at a low level and is predominantly for recreational purposes, as there are very few shellfish beds to gather from on this site. There are no sightings data for this activity and D&S IFCA are not aware of any commercial hand gatherers operating within Plymouth Sound and Estuaries EMS. D&S IFCA carried out a year long bait collection survey in 2014/2015 and during which found no evidence of handworking activity within the site. Other fishing activities within the Plymouth Sound and Estuaries EMS are described in the Fishing Activity Report (Gray, 2015).

Cefas shellfish classification zone maps can be seen in figures 5, 6 & 7. The Food Standards Agency current shellfish classification (2015-2016) designated prohibited areas in Plymouth for bivalve harvesting or production are Plym (all beds) and Tamar (all beds above Henn Point). Designated production areas in the Yealm are classification zone Fox Cove for *C. gigas* Class B – LT and *Mytilus edulis* Class C. Classification zone Thorn for *C. gigas* Class B- LT.

Through the IFCA's Byelaw Review process, D&S IFCA will be reviewing all byelaws relating to hand-gathering. There is the intention to create a permitting byelaw that covers hand-gathering, which would allow the IFCA to monitor levels of this activity in the future, and adapt permit conditions to changes in effort/ environmental conditions if necessary.

5. Test for Likely Significant Effect (LSE)

The Habitats Regulations assessment (HRA) is a step-wise process and is first subject to a coarse test of whether a plan or project will cause a likely significant effect on an EMS.

5.1 Table 1: Assessment of LSE

1. Is the activity 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)	**<u>SAC</u>** • Abrasion & disturbance of the substrate on the surface of the seabed • Removal of target species **<u>SPA</u>** Bird feature: • Above water noise • Visual disturbance • Removal of non-target species Supporting habitats: • Abrasion & disturbance of the substrate on the surface of the seabed • Removal of target species See Annex 6 for pressure audit trail	
3. Is the feature potentially exposed to the pressure(s)?	**Yes,** there are currently no management measures prohibiting the use of handworking in Tamar Estuaries Complex SPA.	
4. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level? *(reference to conservation objectives)*	Hand working on the intertidal may occur for the collection of bivalves (e.g. mussels, oysters, clams), winkles and macro-algae. Cockles *Cerastoderma edule* and natural beds of native oyster *Ostrea edulis* occur in the estuaries on intertidal mixed muddy sediment. Mussel beds *Mytilis spp.* and winkles are also present in some areas, as well as the pacific oyster *Crassostrea gigas.* Access from land may result in trampling to the substratum but the level of activity would not affect the extent and distribution of the supporting habitats assessed or the food availability within them. There are no recordings of sightings of this activity and if it is carried out, it is thought to be by recreational users on a low scale.	
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.

6.1 Potential risks to features

Document the potential pressures, impacts and exposure by gear type(s) for each feature/sub-feature.

Table 2: Summary of Impacts

Feature/Sub feature(s)	**Conservation Objective**	**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]

8. In-combination assessment

8.1 Other fishing activities

The following fishing activities are either occurring or have not been able to have been ruled out as occurring in the Plymouth Sound and Estuaries EMS.

Crab tiling – Activity is occurring within Plymouth Sound and Estuaries EMS. Crab tiling has not yet been assessed by D&S IFCA, however, due to handworking not occurring/ occurring at a low level no in-combination effect thought to be possible.

Digging with forks - Activity is occurring within Plymouth Sound and Estuaries EMS. Digging with forks has not yet been assessed by D&S IFCA, however, due to handworking not occurring/ occurring at a low level no in-combination effect thought to be possible.

Shrimp push nets - There are no records of this activity taking place but it has not been able to be ruled out. Therefore no in-combination effect thought to be possible.

Pots/ creels – Activity thought to only occur in the subtidal and not believed to interact with features assessed. Therefore no in-combination effect thought to be possible.

Cuttlepots & fishtraps - There are no records of these activities taking place but they have not been able to be ruled out. Therefore no in-combination effect thought to be possible.

Commercial diving - Activity not believed to be occurring/ occurring at a very low level. Therefore no in-combination effect thought to be possible.

Beach seine/ ring nets - There are no records of beach seine nets but it has not been able to be ruled out. Ringnets occur in the subtidal and not believed to interact with features assessed. Therefore no in-combination effect thought to be possible.

Purse seine - Activity occurs in the subtidal and not believed to interact with features assessed. There are no records of this activity taking place but it has not been able to be ruled out. Therefore no in-combination effect thought to be possible.

Drift, gill, trammel & entangling nets - Activity thought to only occur in the subtidal and not believed to interact with features assessed. Therefore no in-combination effect thought to be possible.

Fyke and stakenets - There are no records of these activities taking place but they have not been able to be ruled out. Therefore no in-combination effect thought to be possible.

Longlines - There are no records of these activities taking place in the intertidal but they have not been able to be ruled out. Therefore no in-combination effect thought to be possible.

Handlines, Jigging and trolling - There are no records of these activities taking place in the intertidal but they have not been able to be ruled out. Therefore no in-combination effect thought to be possible.

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

D&S IFCA conclude there is no likelihood of significant adverse effect on the interest features from in-combination effects with other fishing activities addressed within section 8.1.

8.2 Other activities

Plymouth Sound and Estuaries EMS is a busy site, with other commercial ongoing plans/projects from different sectors where impacts could combine.

However, currently there are no known proposed plans or projects in Plymouth Sound and Estuaries EMS which could theoretically interact with the saltmarsh sub-features addressed.

Other*:* The impact of future plans or projects will require assessment in their own right, including accounting for any in-combination effects, alongside existing activities.

D&S IFCA conclude there is no likelihood of significant adverse effect on the interest features from in-combination effects with other plans or projects addressed within section 8.2.

9. Summary of consultation with Natural England

10. Integrity test

Conclusion of adverse effect/non-adverse effect either alone or in-combination. This will be reliant on the consideration of mitigation measure(s) documented in the AA and summarised here in conclusion.

Annex 1: Reference list

Cefas, 2015 https://www.cefas.co.uk/cefas-data-hub/food-safety/classification-and-microbiological-monitoring/england-and-wales-classification-and-monitoring/classification-zone-maps/

English Nature (2000) PLYMOUTH SOUND AND ESTUARIES: European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

Gray, K (2015) Fishing Activities Currently Occurring in the Plymouth Sound and Estuaries European Marine Site (SAC and SPA), Devon and Severn IFCA Report

MAGIC (2015) Multi-Agency Geographic Information for the Countryside interactive map http://magic.defra.gov.uk/magicmap.aspx?startTopic=magicall&chosenLayers=sacIndex&sqgridref=SX472506&startscale=500000

Natural England (2015a) Marine conservation advice for Special Area of Conservation: Plymouth Sound and Estuaries (UK0013111)

Natural England (2015b) Marine conservation advice for Special Protection Area: Tamar Estuaries Complex (UK9010141)

Annex 2: Natural England’s consultation advice

Annex 3: Site Map

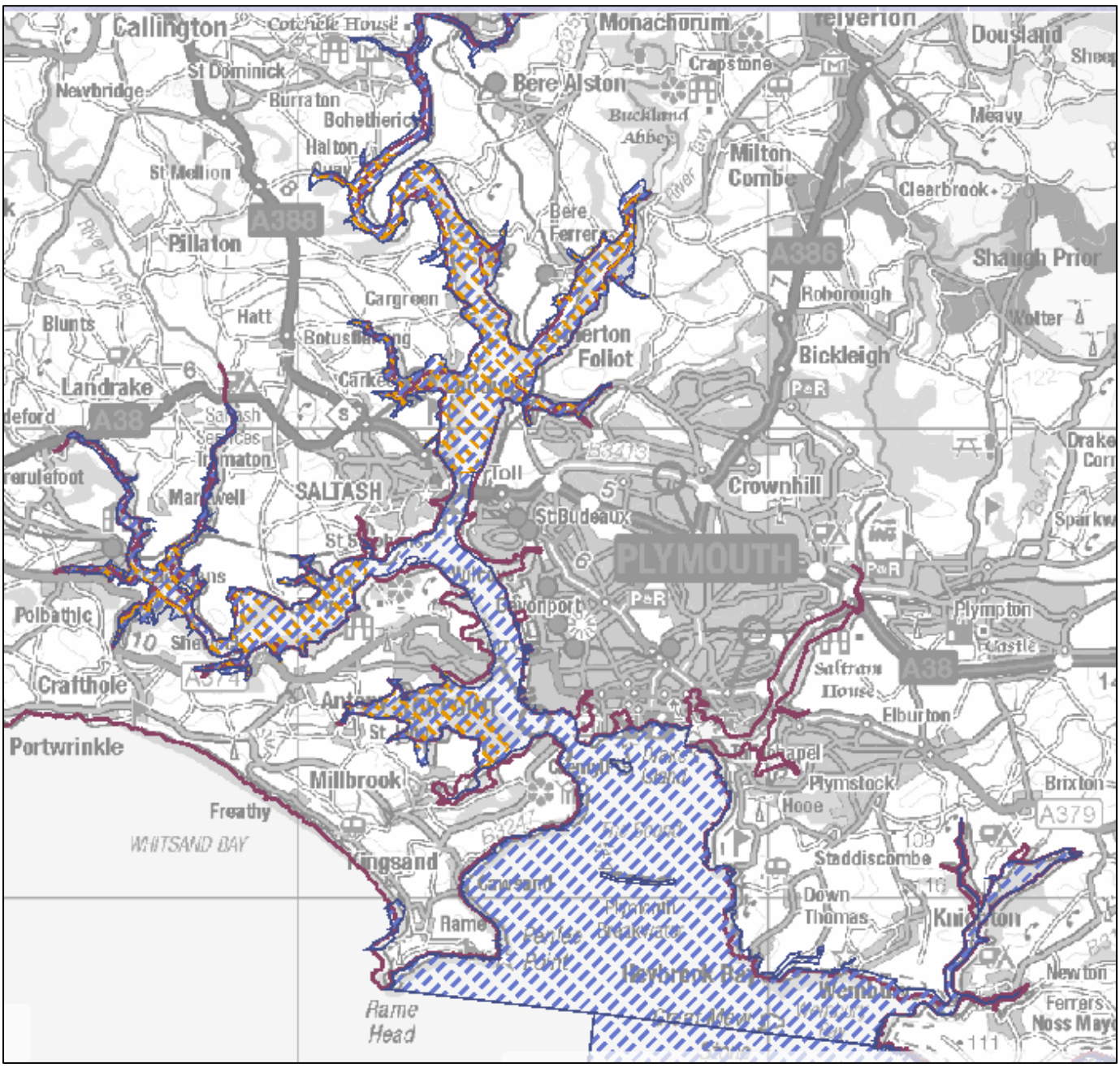


Figure 1 Area of SAC (blue hatched) and SPA (Orange hatched) (MAGIC, 2015)

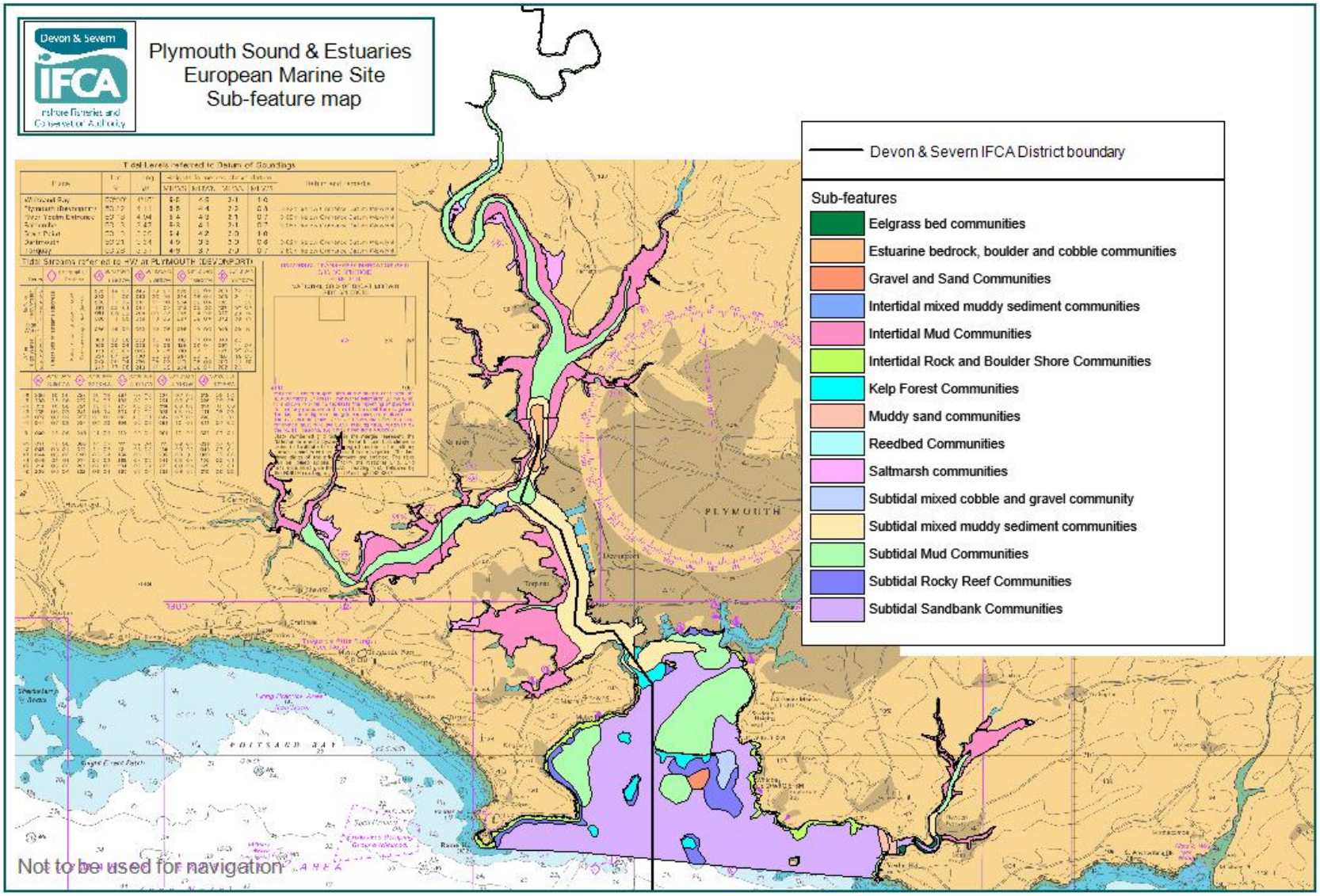


Figure 1 – Plymouth Sound & Estuaries EMS sub-features.

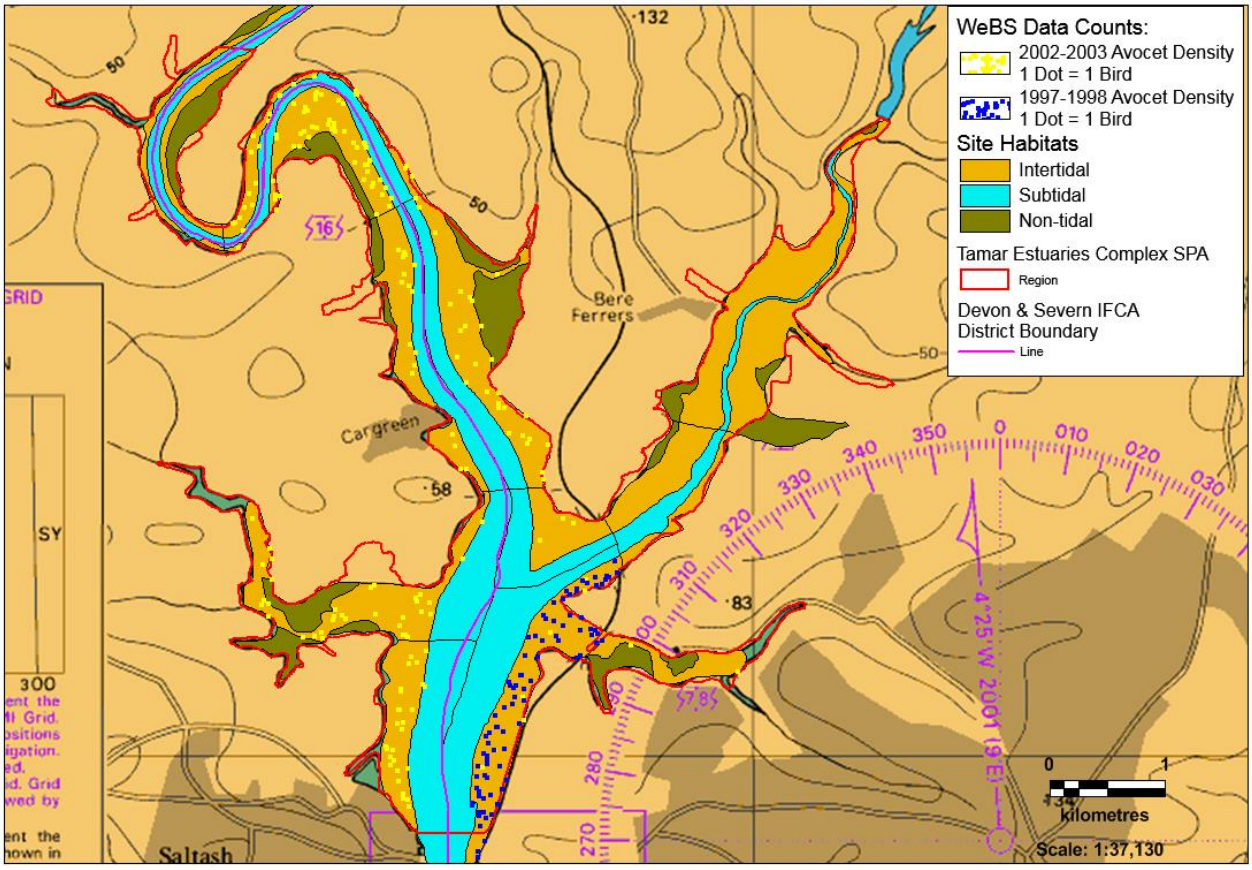


Figure 2 - Tamar Estuaries Complex SPA and WeBS data for Avocet density (in November, December, January and February 1997-1998 & 2002-2003).

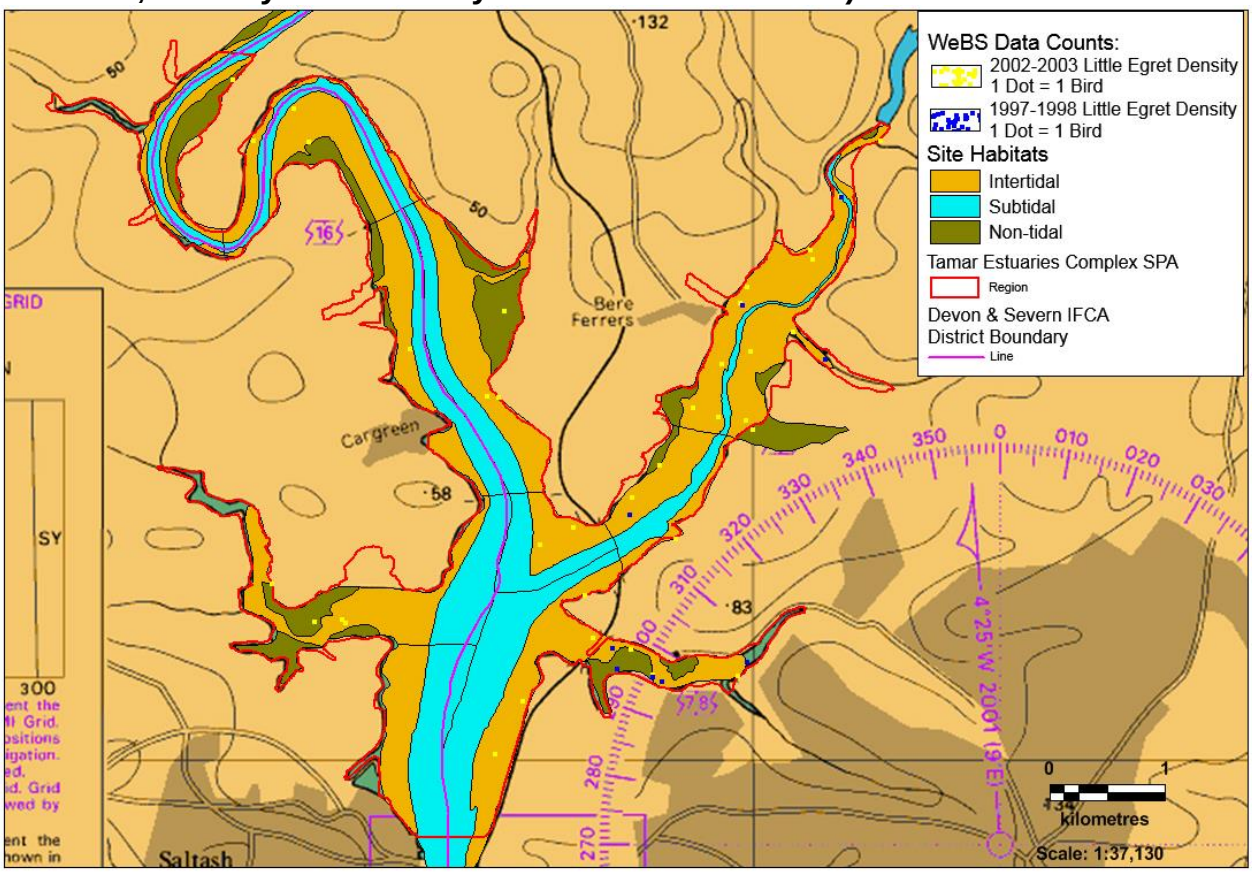
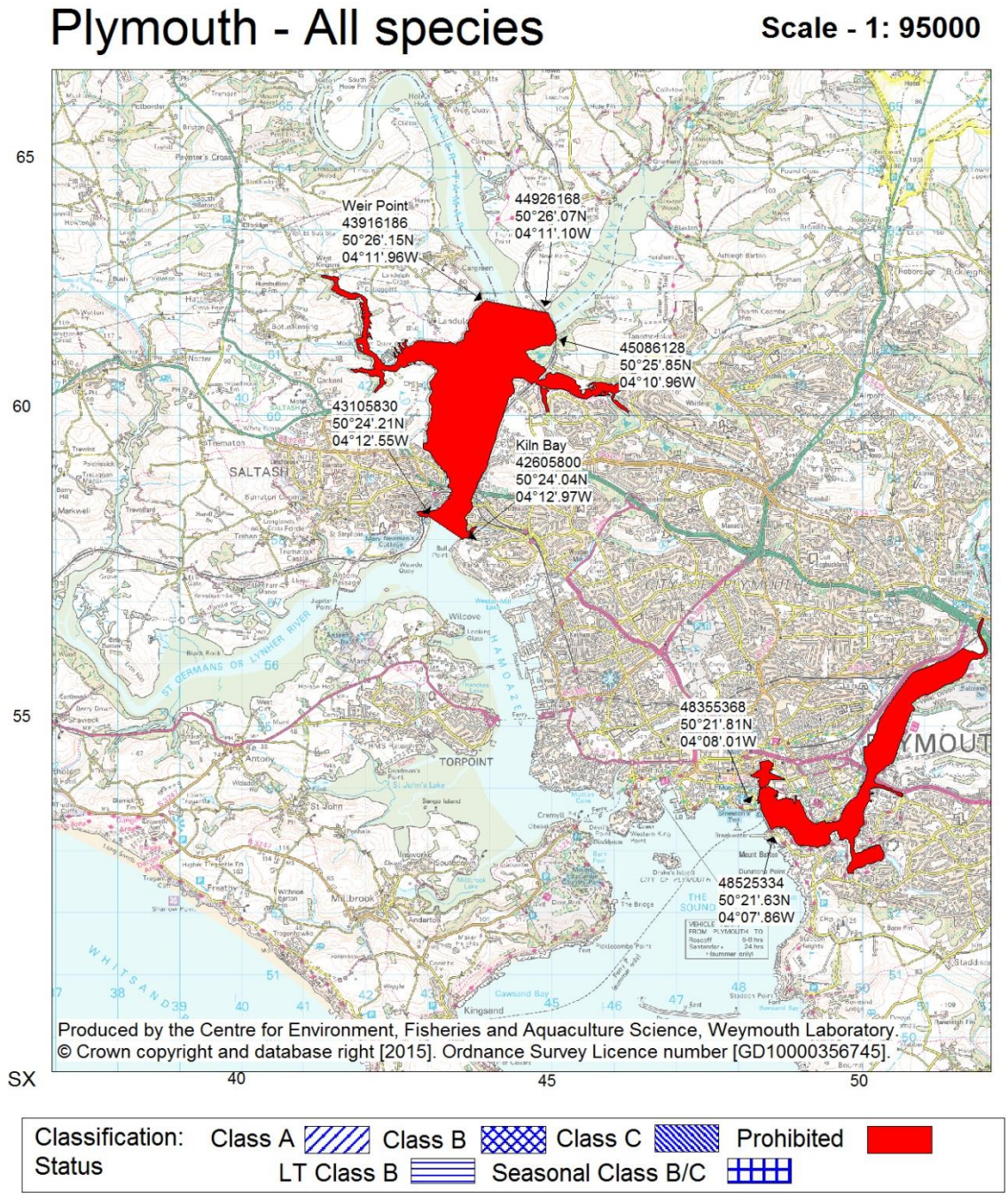


Figure 3 - Tamar Estuaries Complex SPA and WeBS data for Little Egret density (in November, December, January and February 1997-1998 & 2002-2003).



Classification: Status
Class A | Class B | Class C | Prohibited | LT Class B | Seasonal Class B/C

Classification of Bivalve Mollusc Production Areas: Effective from 1 September 2015

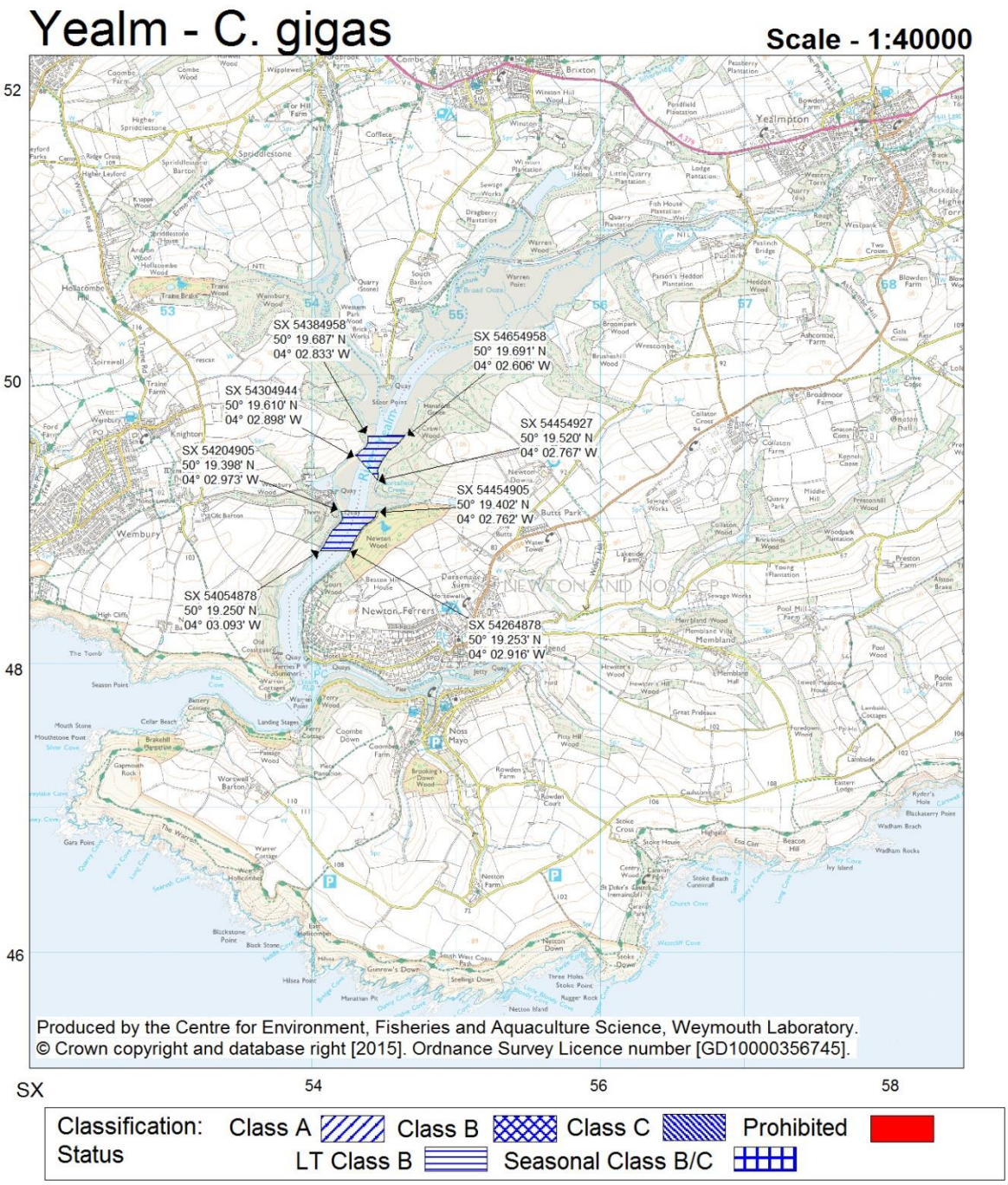
The areas delineated above are those classified as bivalve mollusc production areas under EU Regulation 854/2004.

Further details on the classified species and the areas may be obtained from the responsible Food Authority. Enquiries regarding the maps should be directed to: Shellfish Microbiology, CEFAS Weymouth Laboratory, Barrack Road, The Nothe, Weymouth, Dorset DT4 8UB.
(Tel: 01305 206600 Fax: 01305 206601)

N.B. Lat/Longs quoted are WGS84
Separate map available for O. edulis at Plymouth

Food Authority: Plymouth Port Health Authority

Figure 4 - Classified shellfish harvesting areas for all species in Plymouth (Cefas, 2015)



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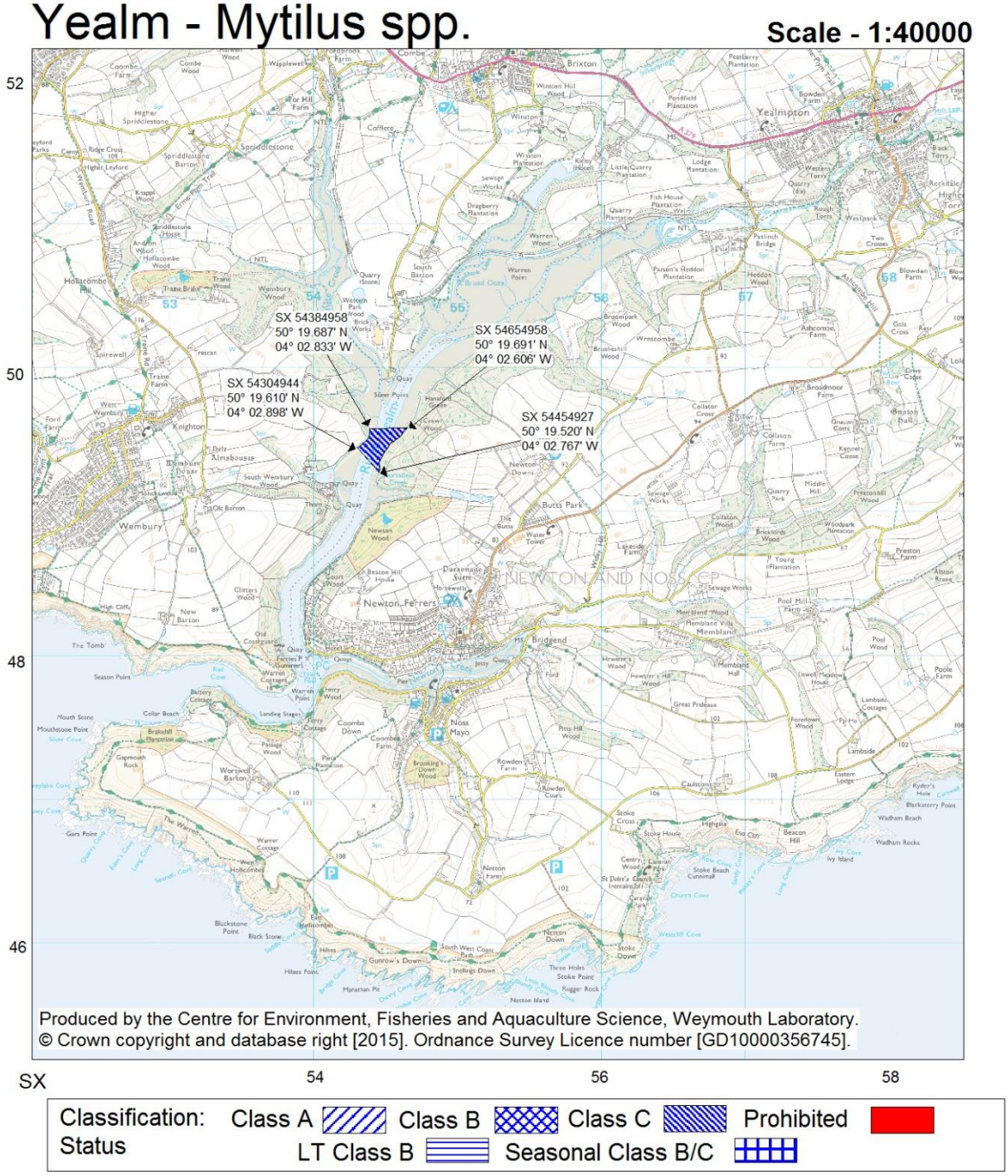
(Tel: 01305 206600 Fax: 01305 206601)

N.B. Lat/Longs quoted are WGS84
Separate map available for Mytilus spp. at Yealm

Food Authority: Plymouth Port Health Authority

Figure 5 - Classified shellfish harvesting areas for the *Crassostrea gigas* in the Yealm (Cefas, 2015)



Classification of Bivalve Mollusc Production Areas: Effective from 1 September 2015

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(Tel: 01305 206600 Fax: 01305 206601)

N.B. Lat/Longs quoted are WGS 84
Separate map available for C. gigas at Yealm

Food Authority: Plymouth Port Health Authority

Figure 6 - Classified shellfish harvesting areas for the *Mytilus edulis* in the Yealm (Cefas, 2015)

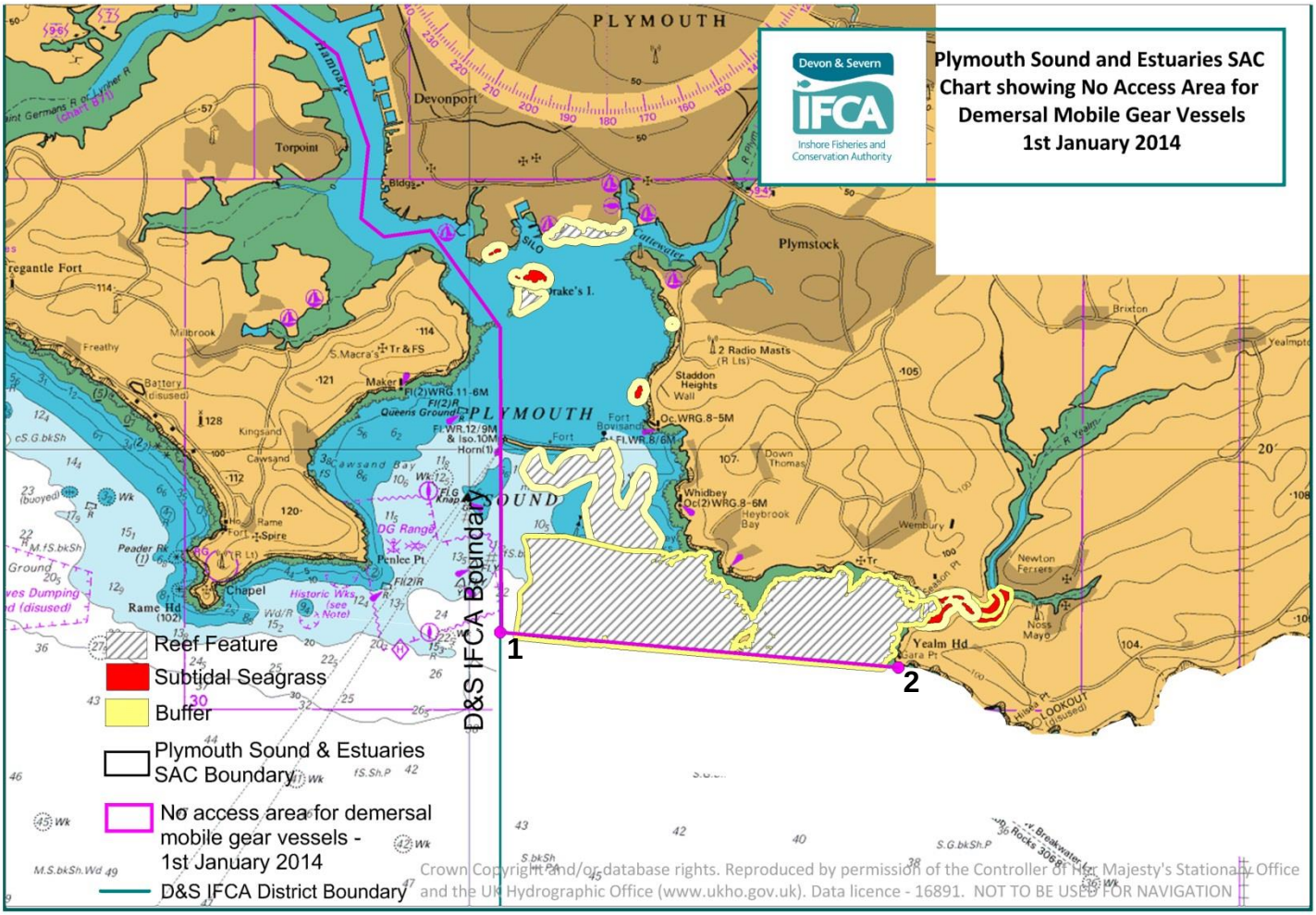
Annex 4: Fishing activity maps

N/A there is no sightings data for these activities within this site.

Annex 5: Mobile Fishing Permit Byelaw map

No demersal mobile gear is permitted landward (up to High Water Mark) of a line following the western extent of the Devon and Severn IFCA district boundary and drawn between points 1 and 2 across Plymouth Sound.

Point Number	Latitude			Longitude		
1	50^0	18.484'	N	004^0	09.600'	W
2	50^0	18.192'	N	004^0	04.458'	W



Annex 6: Pressures Audit Trail

SAC Pressure(s) for Shore-based activities	SAC Sub-feature(s)						Screening Justification
	Atlantic salt meadows	Lower-mid saltmarsh	Mid-upper saltmarsh	Pioneer saltmarsh	Transition and driftline saltmarsh	Upper saltmarsh	
Abrasion/disturbance of the substrate on the surface of the seabed	**S**	**S**	**S**	**S**	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Deoxygenation	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**OUT** – Insufficient activity levels to pose risk of large scale pollution event
Genetic modification & translocation of indigenous species	**S**	**S**	**S**	**S**	**S**	**S**	**OUT** – the fleet 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**	**NS**	**NS**	**NS**	**NS**	**NS**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Litter	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**OUT** – Insufficient activity levels to pose risk at level of concern
Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion	**S**	**S**	**S**	**S**	**S**	**S**	**OUT** – Insufficient activity levels to pose risk at level of concern
Physical change (to another seabed type)	**S**	**S**	**S**	**S**	**S**	**S**	**OUT** – Insufficient activity levels to pose risk at level of concern
Removal of target species	**S**	**S**	**S**	**S**	**S**	**S**	**IN** – Removal of target species associated with fishing activity

SPA Pressure(s) for Shore-based activities	Bird features		SPA Supporting habitat(s)				Screening Justification
	Avocet	Little egret	Annual vegetation of drift lines	Coastal reedbeds	Freshwater and coastal grazing marsh	Saltmarsh	
Above water noise	**S**	**S**	**NA**	**NA**	**NA**		**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Abrasion/disturbance of the substrate on the surface of the seabed			**NA**	**NA**	**NA**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Deoxygenation			**NA**	**NA**	**NA**	**NS**	**OUT** – Insufficient activity levels to pose risk of large scale pollution event
Genetic modification & translocation of indigenous species			**NA**	**NA**	**NA**	**S**	**OUT** – the fleet 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.	**IE**	**IE**	**NA**	**NA**	**NA**	**NS**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Introduction of light	**S**	**S**	**NA**	**NA**	**NA**		**OUT** – Insufficient activity levels to pose risk at level of concern
Litter	**IE**	**IE**	**NA**	**NA**	**NA**	**IE**	**OUT** – Insufficient activity levels to pose risk at level of concern
Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion			**NA**	**NA**	**NA**	**S**	**OUT** – Insufficient activity levels to pose risk at level of concern
Physical change (to another seabed type)			**NA**	**NA**	**NA**	**S**	**OUT** – Insufficient activity levels to pose risk at level of concern
Removal of non-target species	**S**	**S**	**NA**	**NA**	**NA**		**IN** – Mortality from low incidental by-catch and trampling
Removal of target species			**NA**	**NA**	**NA**	**S**	**IN** – Removal of target species associated with fishing activity
Visual disturbance	**S**	**S**	**NA**	**NA**	**NA**		**IN** - Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure