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

European Marine Site: Tamar Estuaries Complex SPA

Fishing activities assessed: Bait collection

Gear/feature interactions assessed:

D&S IFCA Interaction ID	Fishing Activity	Features	Supporting Habitats
HRA_UK9010141_AE40	Digging with forks	• Avocets • Little Egrets	Saltmarsh spp.
HRA_UK9010141_AF40			Annual vegetation of driftlines
HRA_UK9010141_AG40			Coastal reedbeds
HRA_UK9010141_AU40			Freshwater & coastal grazing marsh
HRA_UK9010141_D40			Intertidal seagrass beds

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 digging with forks have a likely significant effect on the ‘intertidal seagrass beds’, ‘saltmarsh’, ‘annual vegetation of driftlines’, ‘coastal reedbeds’ and ‘freshwater & coastal grazing marsh’ of the Plymouth Sound & Estuaries EMS, and on the basis of this assessment whether or not it can be concluded that digging with forks 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

A full description of D&S IFCA’s current understanding of the levels and distribution of bait digging within the Plymouth Sound & Estuaries EMS can be found in Stephenson (2019). Bait digging occurs on the intertidal sand and mudflats of the estuaries, it is not known to occur within Plymouth Sound, with Ernesettle on the Tamar being a key area within the EMS, as well as off Embankment Road on the Plym (just outside the EMS). Bait digging occurs all year round, peaking in the spring.

Other fishing activities within the Plymouth Sound and Estuaries EMS are described in the Fishing Activity Report (Gray, 2015).

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[3].

5.1 Table 1: Assessment of 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 • Above water noise • Visual disturbance • Removal of target species **See Annex 5 for pressures audit trail**	
3. Is the feature potentially exposed to the pressure(s)[4]?	**Yes,** there are currently no management measures prohibiting the use of digging with forks in Tamar Estuaries Complex SPA.	
4. What are the potential effects/impacts of the pressure(s) on the feature[5], taking into account the exposure level?	Bait digging occurs on the intertidal mudflats only. Access points to bait digging sites are not near saltmarsh or intertidal seagrass beds (Magic, 2016). Therefore level of bird disturbance is not thought to affect population size or distribution. Additionally, trampling is not thought to be significant to affect the extent, distribution, species composition and communities of the supporting habitats.	
5. Is the potential scale or magnitude of any effect likely to be significant?[6]	**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.	

[3] Managing Natura 2000 sites: http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm
[4] Provide overview of activity levels, including current management measures that reduce/remove the feature's exposure to the activity.
[5] Consider the sensitivity of the feature to that pressure (where available).
[6] Yes or uncertain: completion of AA required. If no: LSE required only.

6. Appropriate Assessment

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

Table 2: Summary of Impacts

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

7. Conclusion

N/A

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.

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

Crab tiling - Activity is occurring within Plymouth Sound and Estuaries EMS. Neither activities are believed to occur on the features assessed therefore 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.

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.

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.

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.

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 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

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

10. Integrity test

N/A

Annex 1: Reference list

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&sggridref=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)

Stephenson (2019) Devon & Severn IFCA Report: Bait Digging in the Plymouth Sound & Estuaries European Marine Site and Tamar Estuary Sites Marine Conservation Zone. Data Analysis Report.

Annex 2: Natural England’s consultation advice

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

Annex 3: Site Map

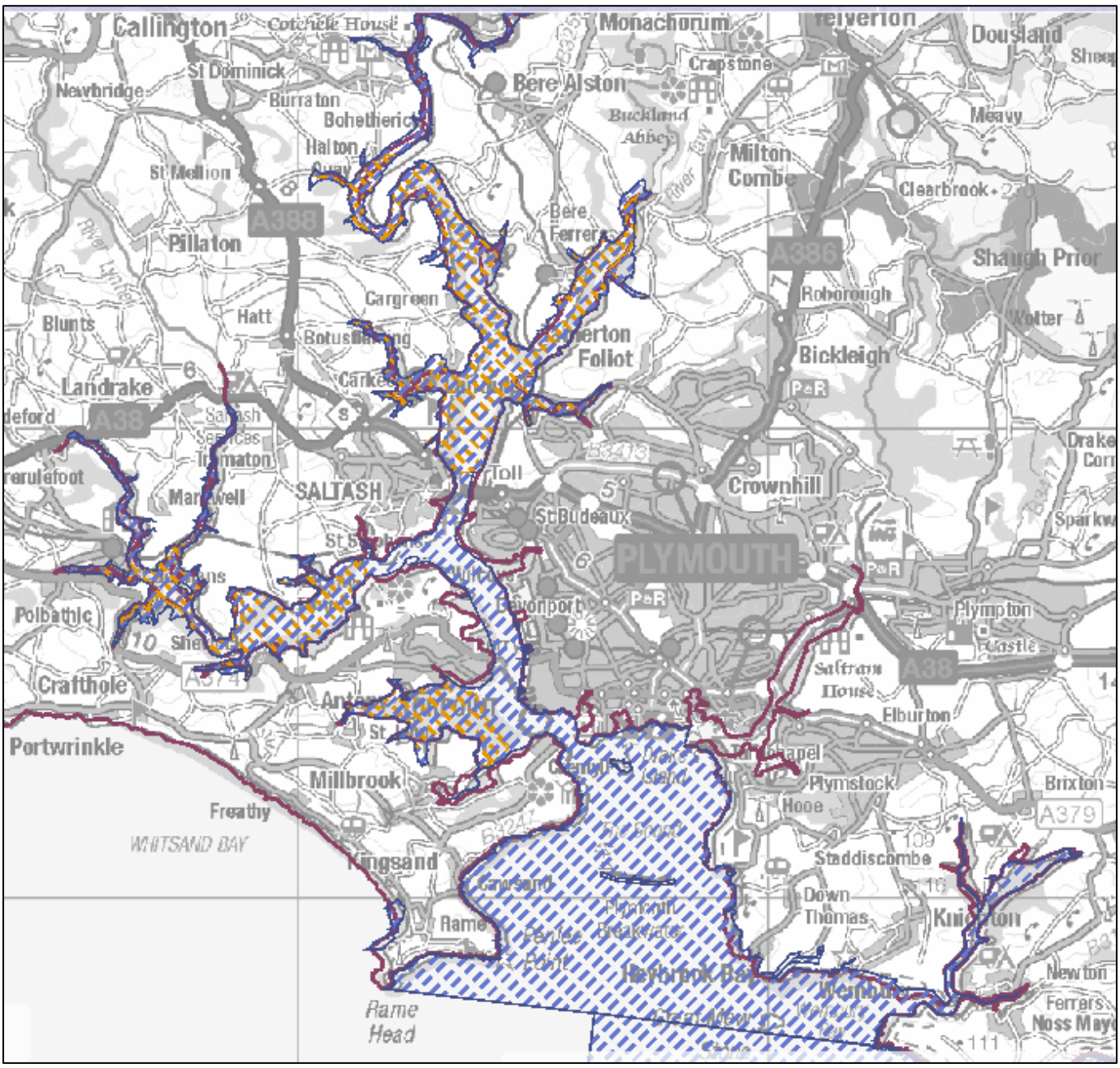

Figure 1 Area of SAC (blue hatched) and SPA (Orange hatched) (MAGIC, 2015)

Annex 4: Fishing activity maps

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

Annex 5: Pressures Audit Trail

Pressure(s) for shore-based activities	Bird features		SPA Supporting habitat(s)					Screening Justification
	Avocet	Little egret	Annual vegetation of drift lines	Coastal reedbeds	Fresh water and coastal grazing marsh	Atlantic salt meadows	Intertidal seagrass beds	
Above water noise	**S**	**S**						**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**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure
Collision ABOVE water with static or moving objects not naturally found in the marine environment (e.g., boats, machinery, and structures)	**S**	**S**						**OUT –** Pressure not thought to be associated with activity.
Deoxygenation			**NA**	**NA**	**NA**	**NS**	**NS**	**OUT** – Insufficient activity levels to pose risk of large scale pollution event
Habitat structure changes – removal of substratum (extraction)			**NA**	**NA**	**NA**	**S**	**S**	**OUT –** Pressure not thought to be associated with activity.
Hydrocarbon & PAH contamination. Includes those priority substances listed in Annex II of Directive 2008/105/EC.	**IE**	**IE**	**NA**	**NA**	**NA**	**NS**	**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
Introduction or spread of non-indigenous species	**NS**	**NS**	**NA**	**NA**	**NA**	**S**	**S**	**OUT** - the activity operates in local area only so risk considered extremely low
Litter	**IE**	**IE**	**NA**	**NA**	**NA**	**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			**NA**	**NA**	**NA**	**S**	**S**	**IN** – Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure

Removal of non-target species	**S**	**S**	**NA**	**NA**	**NA**		**S**	**OUT** – Insufficient activity levels to pose risk at level of concern
Removal of target			**NA**	**NA**			**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.	**IE**	**IE**	**NA**	**NA**	**NA**	**NS**	**NS**	**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.	**S**	**S**	**NA**	**NA**	**NA**	**NS**	**NS**	**OUT** - Insufficient activity levels to pose risk of large scale pollution event
Visual disturbance	**S**	**S**						**IN** - Need to consider spatial scale/intensity of activity to determine likely magnitude of pressure