Southern Inshore Fisheries and Conservation Authority

Site Specific Evidence Packages

Supporting Document as part of the Inshore Netting Review.

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper

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Isle of Wight
Assessment Package: Site Specific Evidence

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SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

As there are no relevant SAC designations for the Isle of Wight, an HRA is not required to be undertaken.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

As there are no relevant SSSI designations for the Isle of Wight, SSSI Assessments are not required to be undertaken.

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

As there are no relevant SACs or SSSI designations for the Isle of Wight, Functionally Linked Area (FLA) Assessments are not required to be undertaken.

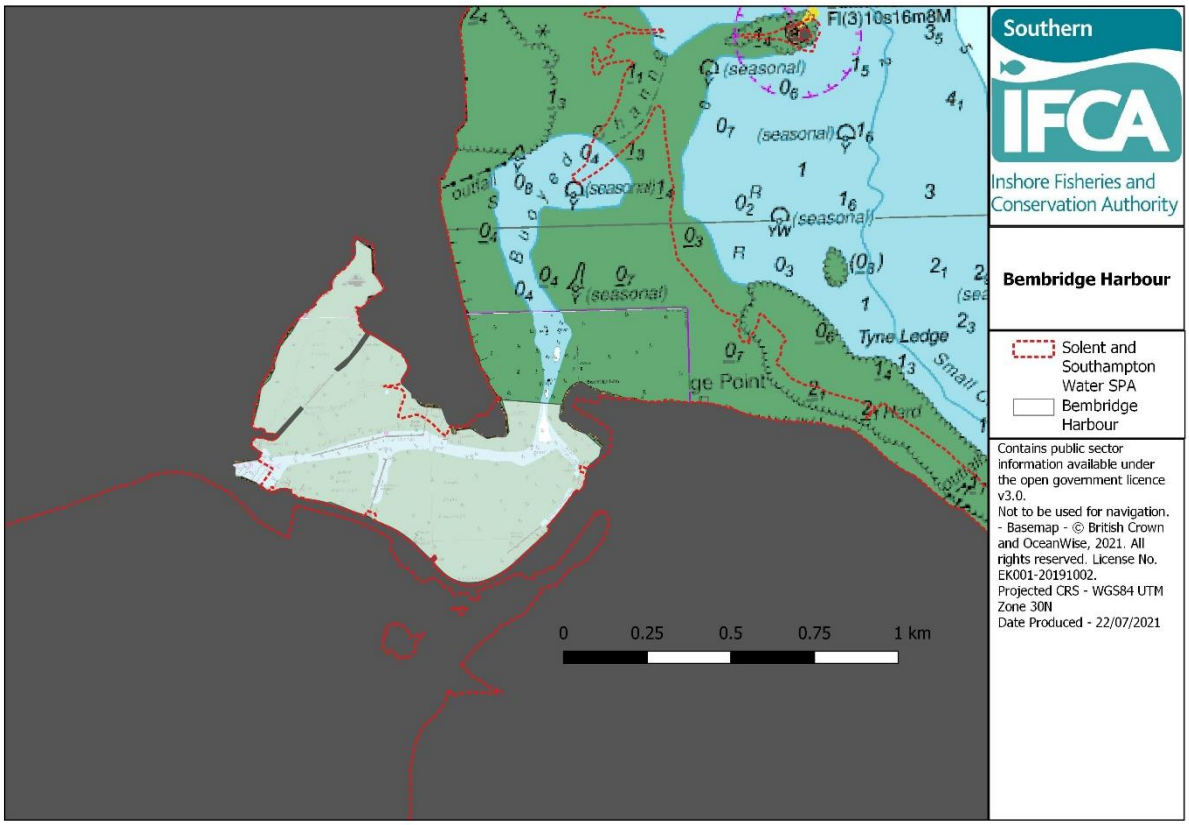
SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

1. Bembridge Harbour

1.1 Map of fishing area



Map 1: Map of Bembridge Harbour, showing the relevant nature conservation designation.

1.2 Fishing effort

Area is not subject to commercial net fishing activity.

1.3 Socio-economic importance of fishing area

Area is not subject to commercial net fishing activity.

1.4 Existing restrictions on fishing relevant to EFH

Additional Byelaw Number 4 of the Bembridge Harbour Improvements Company Limited for the Regulation of Bembridge Harbour states that '…No person shall cast or place any drift, trawl or other net of any kind within the Harbour in such a position as to be likely to become an obstruction or danger to any property including, in particular, but without prejudice to the generality of the foregoing, any vessel or mooring…'

1.5 Habitat Data which indicates that fishing area is an EFH

- Bembridge Harbour and its estuary have sandy and shingle beaches, intertidal mudflats, soft sediments, sandbanks and tidal channels that provide ideal feeding grounds for a variety of fish species.
- Brackish water in the inner Harbour results from the outflow of the Easter Yar river.
- Saltwater conditions dominate toward the estuary mouth.
- The Harbour is <30m which is the water depth identified as being important for feeding, spawning and nursery areas
- Three sites were sampled within the Harbour as part of the ecology survey and the habitat type reported as follows:

Habitat Type		
Embankment shore by Bembridge Outboards	**Embankment shore 37m W of Bembridge Outboard slipway**	**Foreshore beside causeway adjacent to Millpond entrance**
Muddy sediment with small stones and gravel	Sand and gravel missed sediment and muddy area	Muddy sediment with small stones near causeway
	Distinct fucoid zone	Presence of *Enteromorpha*

1.6 Fish Data which indicates that fishing area is an EFH

A survey of the marine ecology of Bembridge Harbour was carried out in 1994 by the Bembridge and St Helens Harbour Association. The information presented below is taken from the report of this survey[1]:

Species identified	
within the brackish inner harbour	**towards estuary mouth**
Flounder	Bass
Grey mullet species	Plaice
Silver eel	Pollock
Common eel	Garfish
Smelt	Dab and Sole (occasional)
Common Goby	
Blenny	

The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample fish species, particularly juvenile fish. Two seine nets are completed for each survey site and the fish retained in the net are identified, counted and measured before being returned to the sea.

[1] Bembridge and St Helens Harbour Association 1995 (republished 2013). 'Appraisal of the environment of Bembridge Harbour, Part 3 Marine Ecology', pp. 11 (http://www.bashha.org.uk/pdfs/MARINE4.pdf)

Of relevance to Bembridge Harbour a survey was undertaken on the following occasion, the most abundant species are noted:

- Summer 2016: Bass 9

Please see Annex 1, Figure 1 for a chart showing abundance of the 3 different fish species identified during the survey.

1.7 Invertebrate Data which indicates that fishing area is an EFH

For the three sites sampled within the Harbour, the following benthic species were identified:

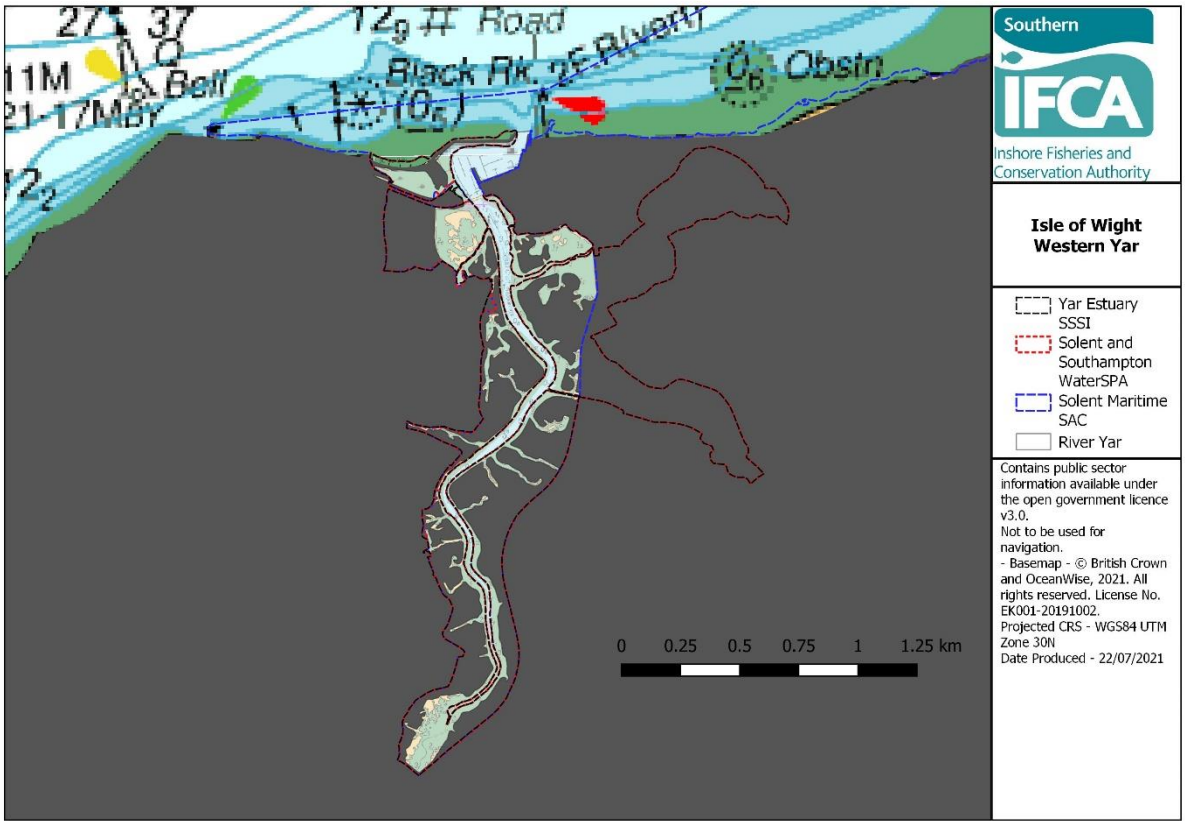
Habitat Type		
Embankment shore by Bembridge Outboards	**Embankment shore 37m W of Bembridge Outboard slipway**	**Foreshore beside causeway adjacent to Millpond entrance**
5 species of mollusc	5 species of algae	2 species of polychaeta
3 species of annelid (1 oligochaeta and 2 polychaeta)	Several different groups of polychaeta worms	2 species of mollusc
	7 species of mollusc	1 species of crustacea
	5 species of crustacea	1 species of insect
	1 species of insect	2 species of algae

1.9 Summary of ecological value of EFH

Bembridge Harbour provides an array of ecologically valuable EFHs such as intertidal mudflats, soft sediments and saltmarsh which exist within a protected harbour and estuarine environment recognised as important in supporting spawning and feeding and refuge for both juvenile and adult fish species. The species rich benthic community present further demonstrate the sites ecological importance as an EFH. Furthermore, close to the entrance to Bembridge Harbour there exists a dense network of seagrass beds along the coastal fringe of the Isle of Wight, providing further EFH locally.

2. Yarmouth Harbour and Western Yar

2.1 Map of fishing area



Map 2: A map of the Western Yar fishing area, showing the location of the relevant nature conservation designations.

2.2 Fishing effort
Area is not subject to commercial net fishing activity.

2.3 Socio-economic importance of fishing area
Area is not subject to commercial net fishing activity.

2.4 Existing restrictions on fishing relevant to EFHs
The Yarmouth (Isle of Wight) Harbour Commissioners General Directions 2012:

- Number 12 – The master of a vessel shall not use or permit it to be used to drift trawl or undertake any other net fishing or dredging for oysters in any part of the Harbour so as to be or to be likely to become an obstruction or danger to the navigation of the Harbour.
- Number 55 – No person is to fish with rod and line or trap, or net anywhere in the part of the Inner Harbour that lies between the Harbour entrance and the swing bridge across the River Yar. A person wishing to fish from any other part of the Commissioners' property much first obtain a valid licence from the Commissioners. Yarmouth Harbour Commissioners have confirmed that no such permissions have been issued for net fishing.

2.5 Habitat Data which indicates that fishing area is an EFH
An assessment is not required as the area is closed to net fishing under existing regulations.

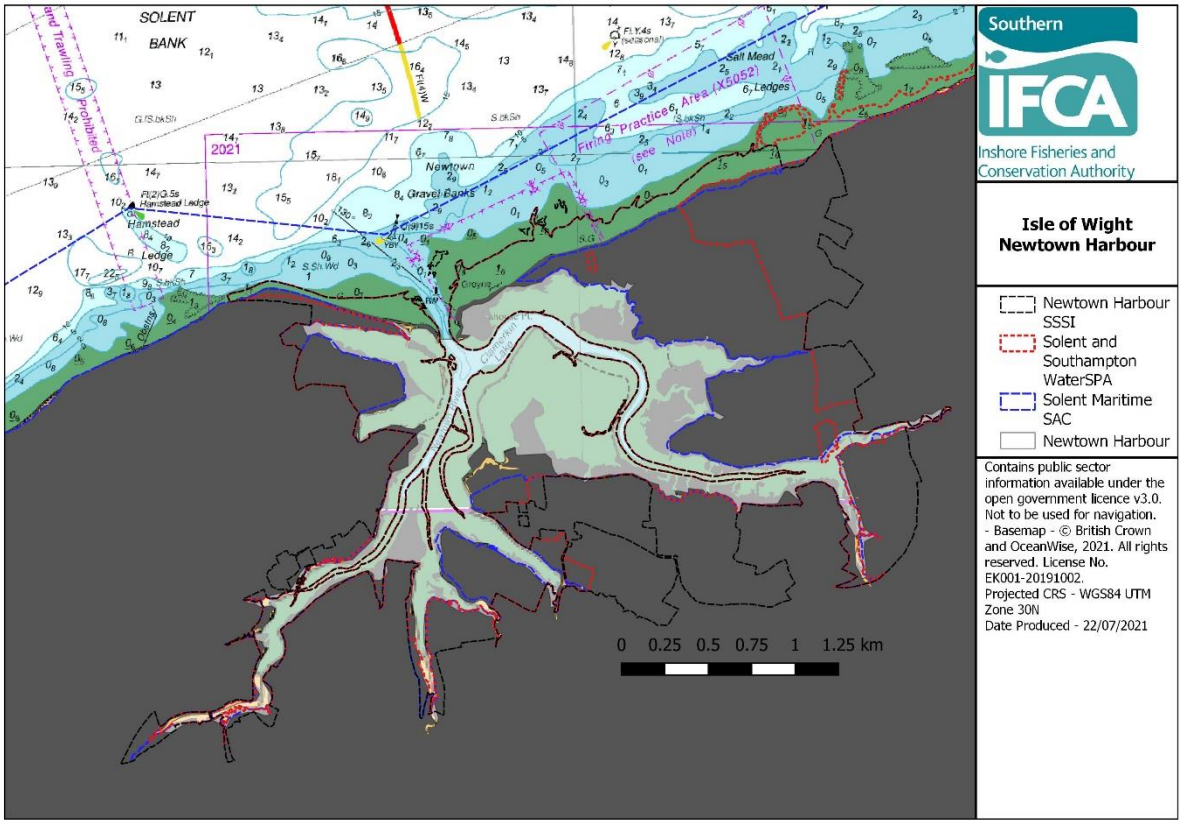
2.6 Fish Data which indicates that fishing area is an EFH
An assessment is not required as the area is closed to net fishing under existing regulations.

2.7 Invertebrate Data which indicates that fishing area is an EFH
An assessment is not required as the area is closed to net fishing under existing regulations

2.8 Summary of ecological value of EFH
An assessment is not required as the area is closed to net fishing under existing regulations.

3 Newtown Harbour

3.1 Map of fishing area



Map 3: A map of the Newtown Harbour area, showing the location of relevant nature conservation designations.

3.2 Fishing effort

Area is not subject to commercial net fishing activity.

3.3 Socio-economic importance of fishing area

Area is not subject to commercial net fishing activity.

3.4 Existing restrictions on fishing relevant to EFHs

The National Trust own the seabed in Newtown Harbour and have been gifted the historic fishing rights for the area. No fishing activities are permitted to take place except for rod and line, with any fish taken for the individuals own consumption.

3.5 Habitat Data which indicates that fishing area is an EFH

No assessment required as the area is closed to net fishing under existing regulations.

3.6 Fish Data which indicates that fishing area is an EFH

No assessment required as the area is closed to net fishing under existing regulations.

3.7 Invertebrate Data which indicates that fishing area is an EFH

No assessment required as the area is closed to net fishing under existing regulations.

3.8 Summary of ecological value of EFH

No assessment required as the area is closed to net fishing under existing regulations.

4 King's Quay

4.1 Map of fishing area

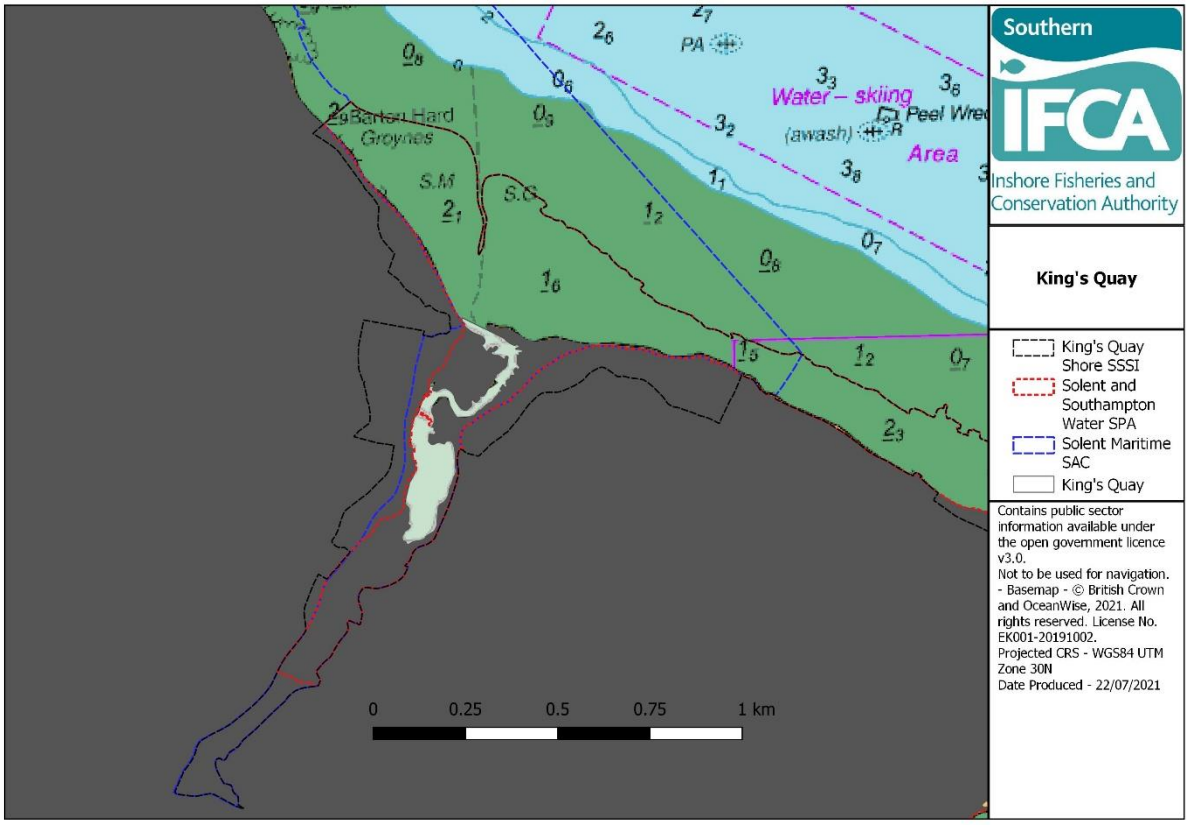


Figure 4: Map of King's Quay, showing the relevant nature conservation designations.

4.2 Fishing effort

There is no commercial net fishing activity at this site

4.3 Socio-economic importance of fishing area

There is no commercial net fishing activity at this site

4.4 Existing restrictions on fishing relevant to EFHs

None

4.5 Habitat Data which indicates that fishing area is an EFH

The area of King's Quay falls under the King's Quay Shore SSSI. The site is of ecological importance in displaying great diversity of estuarine habitats including brackish reedbeds, saltmarsh and intertidal mudflats, all in close proximity. The citation for this SSSI specifies the following important habitats in the estuarine part of the site[2]:

- Extensive beds of common reed *Phragmites australis* in brackish water
- Species-rich mixed saltmarsh community characterised by an abundance of sea purslane *Halimione portulacoides*, thrift *Armeria maritima* and sea lavender *Limonium vulgare*
- Areas of cord grass *Spartina anglica*
- At the junction between the saltmarsh and woodland, a thin band of sea couch-grass *Elymus pycnanthus* is found, commonly with sea club-rush *Scirpus maritimus*
- The estuary mouth has two small but significant shingle spits which support species-rich flora characteristic of a saltmarsh environment
- Intertidal mudflats and associated benthic communities provide feeding grounds for modest numbers of wading birds
- Eelgrass beds occurs on the lower shore dominated by *Zostera marina*

There are three units under the King's Quay Shore SSSI for which a condition assessment is provided:

- Unit 001 – Favourable condition for the feature Mudflats and sandflats not covered by seawater at low tide
- Unit 013 – Favourable condition for the features Estuaries and Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

4.6 Fish Data which indicates that fishing area is an EFH

There is no data on fish species which are specifically present in the area of King's Quay. However, information from local fishing activity indicates that the following species are caught around the northeast coast of the Isle of Wight: Sole, Plaice, Skate and ray species, European seabass and Grey mullet species. Due to the presence of important habitats for fish species detailed in Section D 4.5 it is likely fish species found around the northeast area of the Isle of Wight will be also present in the area around Kings Quay.

4.7 Invertebrate Data which indicates that fishing area is an EFH

There is no data listing invertebrate/benthic species specifically for Kings Quay. However, the SSSI designated defines the intertidal mudflats as having an associated benthic community which provides feeding ground for wading birds. It can therefore be assumed that the benthic community contains species including polychaetes, oligochaetes, molluscs and small crustaceans.

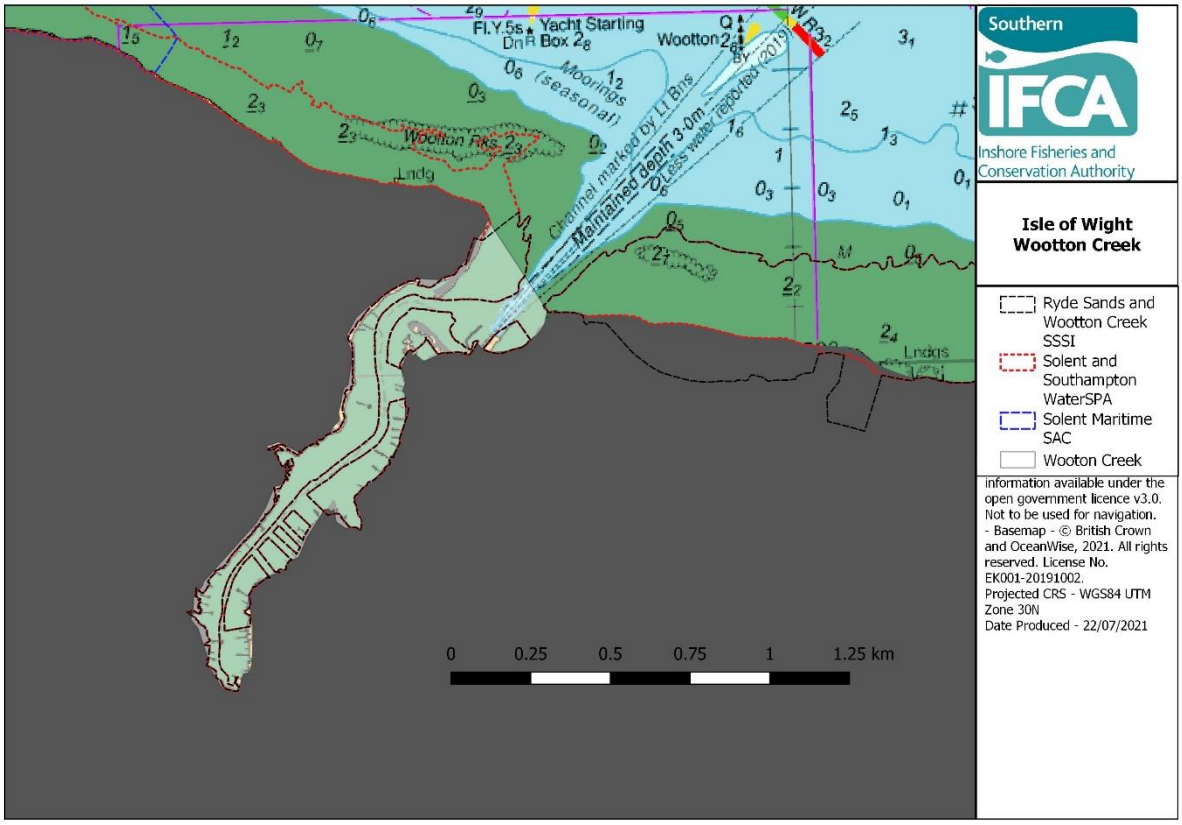
4.9 Summary of ecological value of EFH

[2] https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000559.pdf

King's Quay provides wealth of ecologically valuable EFHs such as intertidal mudflats, saltmarsh and estuarine environments which support species rich communities such as seagrass and eelgrass beds, recognised as providing a high ecological role in supporting spawning, feeding and refuge areas for juvenile fish species. Adjacent to King's Quay, in Osbourne Bay, there is a large and dense network of seagrass beds, further supporting the site's roles as am EFH.

5 Wootton Creek

5.1 Map of fishing area



Map 5: A map of Wootton Creek, showing the location of relevant nature conservation designations.

5.2 Fishing effort

Area is not subject to commercial net fishing activity.

5.3 Socio-economic importance of fishing area

Area is not subject to commercial net fishing activity.

5.4 Existing restrictions on fishing relevant to EFHs

Queen's Harbour Master Portsmouth General Direction No 4/11: All fishing is prohibited in the approach channel and main navigable channels (all such channel are defined in the DPPO) and the use of any form of static fishing gear is prohibited in Wootton Creek, Isle of Wight.

5.5 Habitat Data which indicates that fishing area is an EFH

An assessment is not required as the area is closed to net fishing under existing regulations.

5.6 Fish Data which indicates that fishing area is an EFH

An assessment is not required as the area is closed to net fishing under existing regulations.

5.7 Invertebrate Data which indicates that fishing area is an EFH

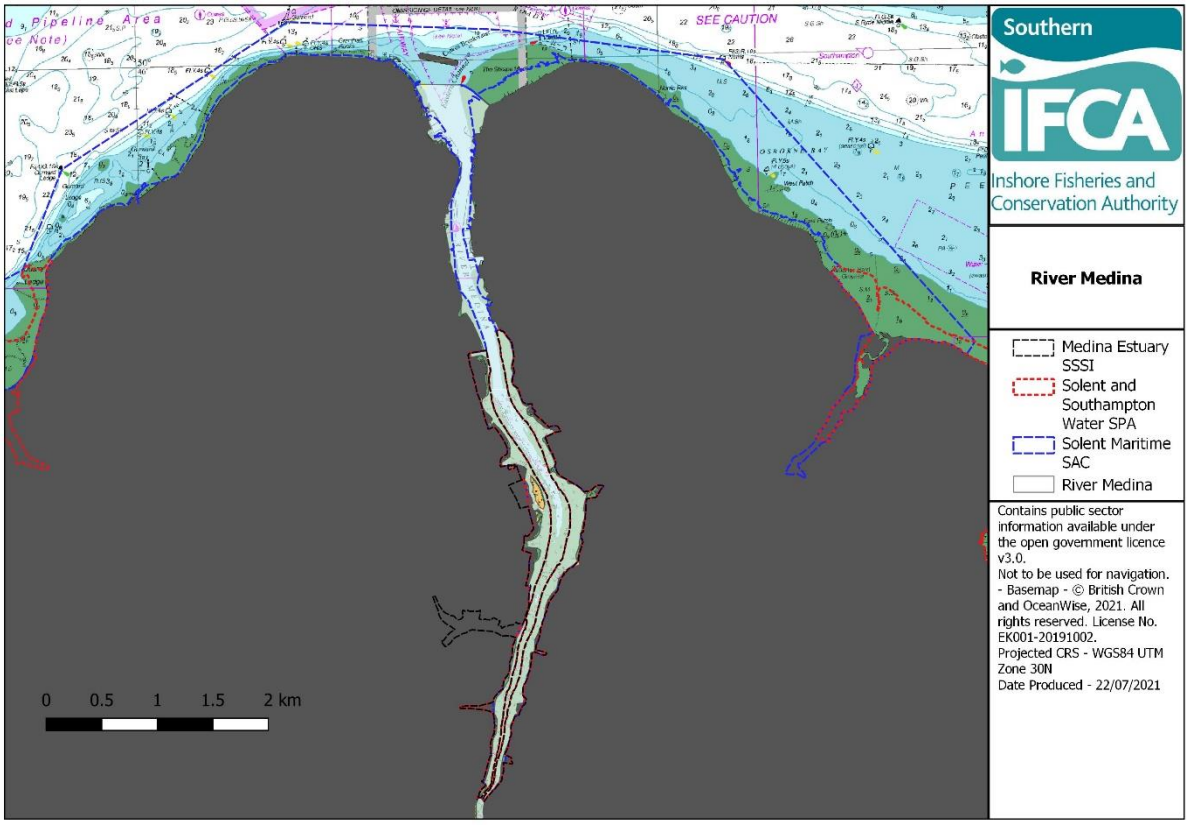
An assessment is not required as the area is closed to net fishing under existing regulations.

5.9 Vulnerability of EFH to net fishing activity

An assessment is not required as the area is closed to net fishing under existing regulations.

6 River Medina

6.1 Map of fishing area



Map 6: Map of the River Medina, showing the relevant nature conservation designations.

6.2 Fishing effort

Area is not subject to commercial net fishing activity.

6.3 Socio-economic importance of fishing area

Area is not subject to commercial net fishing activity.

6.4 Existing restrictions on fishing relevant to EFHs

Cowes Harbour Commission General Direction: Chapter 4, 4.2 – The Master of a vessel shall not use or permit it to be used to drift, trawl or undertake any other net fishing in any part of the Harbour so as to be or to be likely to become an obstruction or danger to the navigation of the Harbour. Nets are not to be left unattended. Bottom gear is not to be sued in any fairway or channel or any are designated as small craft moorings or no anchoring. Any gear left unattended shall be marked so to be clearly visible by day and fitted with a light if deployed between sunset and sunrise.

6.5 Habitat Data which indicates that fishing area is an EFH

The River Medina, to include its entrance, fall under the Medina Estuary SSSI. This site is cited as being an important component of the wider Solent estuarine system. The citation for this SSSI specifies the following important habitats in the marine part of the site[3].

- A relatively narrow tidal channel, 4.5km long, flanked by intertidal mudflats and saltmarsh in close associated with a variety of brackish habitats
- Numerous fragments of saltmarsh that occur along both sides of the estuary
  - The largest and best preserved is the Werrar saltmarsh which fringes the mid-western edge of the estuary
  - Exhibition of a clear zonation of vegetation reflecting classic stages in saltmarsh development
  - Lower marsh dominated by sea purslane *Halimione portulacoides* and some cord-grass *Spartina anglica,* graded to higher mixed marsh community and sea couch-grass *Elymus pycnanthus* at the higher end. Two nationally scare species are found at the margins, divided sedge *Carex divisa* and golden samphire *Inula crithmoides*
  - The couch-grass persists along must of the length of the estuary, often on the eastern bank
- There are two units under the SSSI which sit at the marine end of the River Medina:
  - Unit 001 (Medina – Medham Foreshore) – Littoral sediment, unfavourable no change
    - This is due to increased nutrient load (nitrate and phosphate)
  - Unit 002 (Medina – Kingston Foreshore) – Littoral sediment, unfavourable no change
    - This is due to increased nutriend load (nitrate and phosphate)

6.6 Fish Data which indicates that fishing area is an EFH

The following table illustrates species caught by commercial and recreational fishers from catch reports published online.

Fish catch reports	
Flounder	Gurnard
Grey mullet species	Plaice
Bass	Dab (winter)
Pouting	Whiting (winter)
Sole	Cod (winter)
Eel	Smoothounds (at coastal end)
Mackerel (at coastal end)	

[3] https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000578.pdf

The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample fish species, particularly juvenile fish. Two seine nets are completed for each survey site and the fish retained in the net are identified, counted and measured before being returned to the sea.

Of relevance to The River Medina a survey was undertaken on the following occasion, the most abundant species are noted:

- Summer 2017: Sand Smelt 33

Please see Annex 2, Figure 2 for a chart showing abundance of the 4 different fish species identified during the survey.

6.7 Invertebrate Data which indicates that fishing area is an EFH

The citation for the Medina Estuary SSSI specifies the following invertebrate fauna:

- Rich species variety
- Dominated by gastropod *Hydrobia ulva*
- Amphipods *Corophium volutator*
- Polychaete worm *Nereis diversicolor*

For note: the invertebrate community present within the estuary is commonly associated with marine rather than estuarine situations, presumably reflecting the relatively small freshwater volume of the Medina River.

6.8 Summary of ecological value of EFH

The site provides examples of saltmarsh habitats and intertidal mudflats which support the wider Solent estuarine system. These habitats and established communities are recognised as providing ecological value in supporting spawning, feeding and refuge areas for fish species. Commercially important fish species, including Golden grey mullet, are likely to be attracted to areas in the proximity to freshwater input to spawn. The area is overall high value as EFH.

SECTION E: MIGRATORY SALMONID ASSESSMENTS

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

7 Bembridge Harbour

7.1 Map of Fishing Area

Please refer to Section D 1.1

7.2 Fishing effort

Please refer to Section D 1.2

7.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

7.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 1.4

7.5 Evidence of salmonids using Bembridge Harbour

- The Eastern Yar River flows into Bembridge Harbour. The Environment Agency electrofishing report for the Eastern Yar from 2012 states that a large number of adult sea trout were found at the site at Newchurch in preparation for spawning in the early winter.
- The Eastern Yar was surveyed as a general coarse fishery in 2018 by the Environment Agency using catch depletion and single run surveys[1].
- Data from the 2018 survey showed that fewer trout were caught than in 2012 at the Newchurch site (both years density of trout was less than 2 per 100m^2).

7.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

7.7 Incidental evidence of interactions between nets and salmonids

None recorded.

8 Yarmouth Harbour and Western Yar

No Migratory Salmonid Assessment has been undertaken as the area is subject to existing legislative closures (see Section D 2.4).

9 Newtown Harbour

No Migratory Salmonid Assessment has been undertaken as the area is subject to existing legislative closures (see Section D 3.4).

10 Kings Quay

10.1 Map of Fishing Area

Please refer to Section D 4.1

10.2 Fishing effort

Please refer to Section D 4.2

10.3 Socio-economic importance of fishing area

Please refer to Section D 4.3

10.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 4.4

10.5 Evidence of salmonids using King's Quay

There is no evidence to suggest that salmonids use King's Quay.

10.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

10.7 Incidental evidence of interactions between nets and salmonids

None recorded.

11 Wootton Creek

No Migratory Salmonid Assessment has been undertaken as the area is subject to existing legislative closures (see Section D 5.4).

12 River Medina

12.1 Map of Fishing Area

Please refer to Section D 6.1

12.2 Fishing effort

Please refer to Section D 6.2

12.3 Socio-economic importance of fishing area

Please refer to Section D 6.3

12.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section D 6.4

12.5 Evidence of salmonids using River Medina

- The River Medina is documented as having a population of small wild brown trout. There have been occasional reports of sea trout in the Medina estuary, but these have not extended above Newport[4].
- There are anecdotal reports from historic net fishers that both sea trout and Atlantic salmon have been observed in the River Medina in the last 30 years.
- The catchment is not reaching its optimum potential in terms of brown trout production, including sea trout, due to significant migratory barriers through Newport. Below these structures there are some areas where better fish populations can be found. Some sea

[4] http://www.islandrivers.org.uk/wp-content/uploads/2015/07/Isle-of-Wight-Rivers-EA-Publication.pdf

trout have been shown to be able to access the system over some of the weirs, though certainly not all and only in exceptional flow conditions. The EA is in the process of addressing the eight key migratory barriers through technical fish pass installations

12.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

12.7 Incidental evidence of interactions between nets and salmonids

None recorded.

SECTION F: ANNEXES

Annex 1: Data from Southern IFCA small fish surveys in Bembridge Harbour

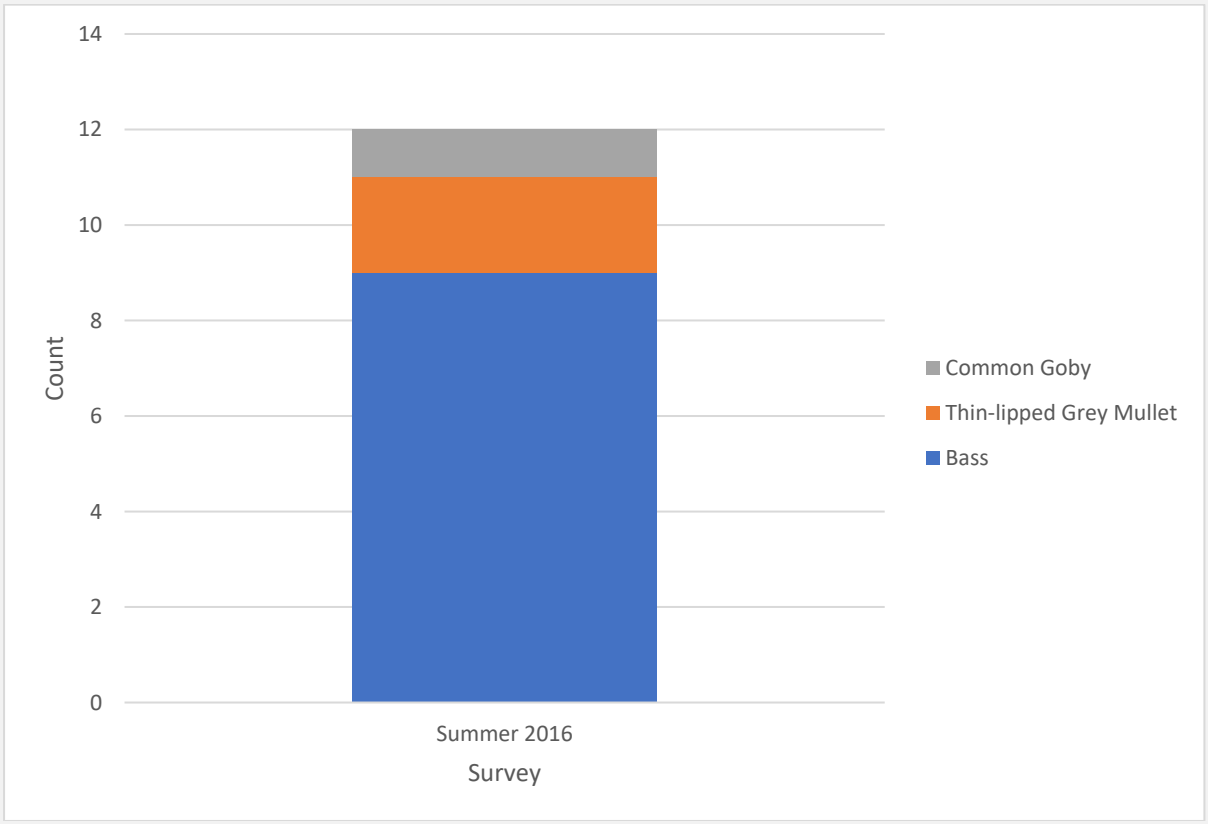


Figure 1: Count data for fish species identified at Bembridge Harbour during the Southern IFCA Small Fish Survey for Summer 2016

Annex 2: Data from Southern IFCA small fish surveys in The River Medina

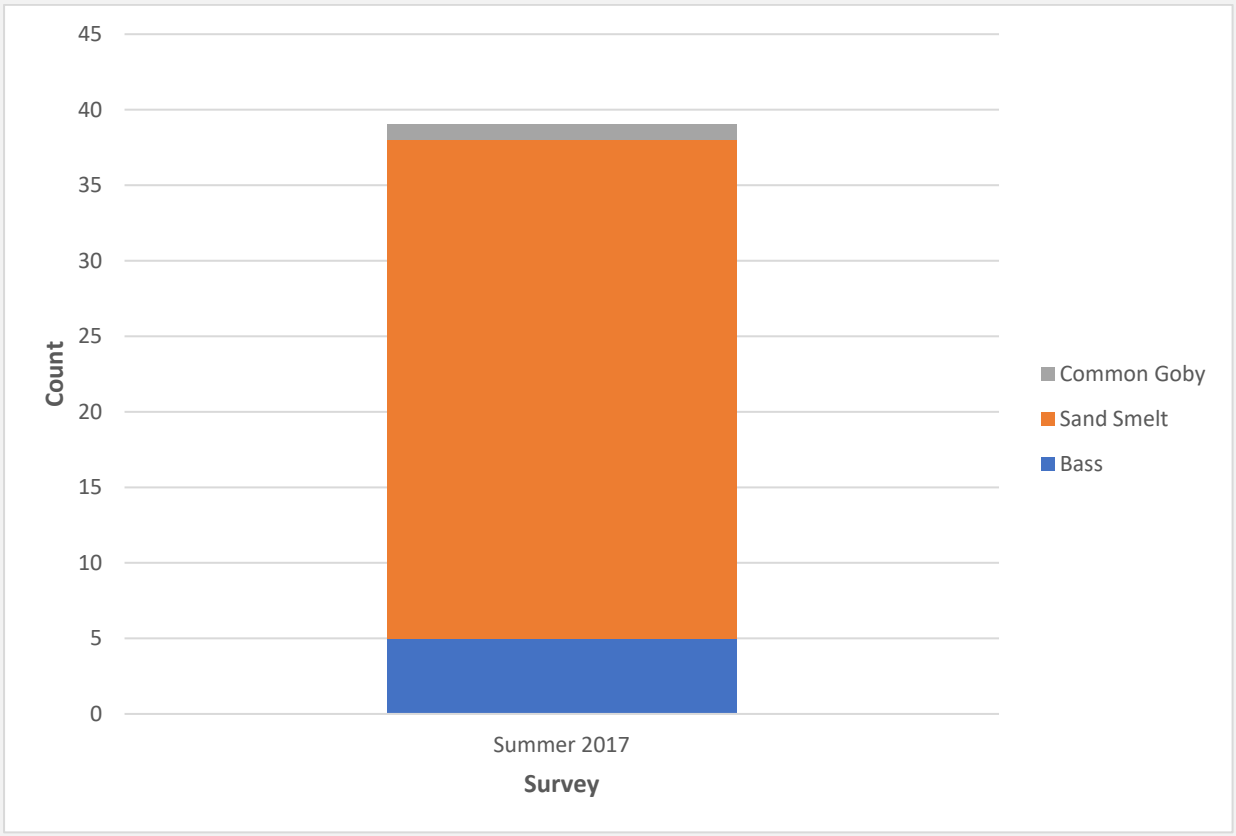


Figure 2: Count data for fish species identified at The River Medina site during the Southern IFCA Small Fish Surveys for Summer 2017

Southern Inshore Fisheries and Conservation Authority

Langstone Harbour Assessment Package: Site Specific Evidence

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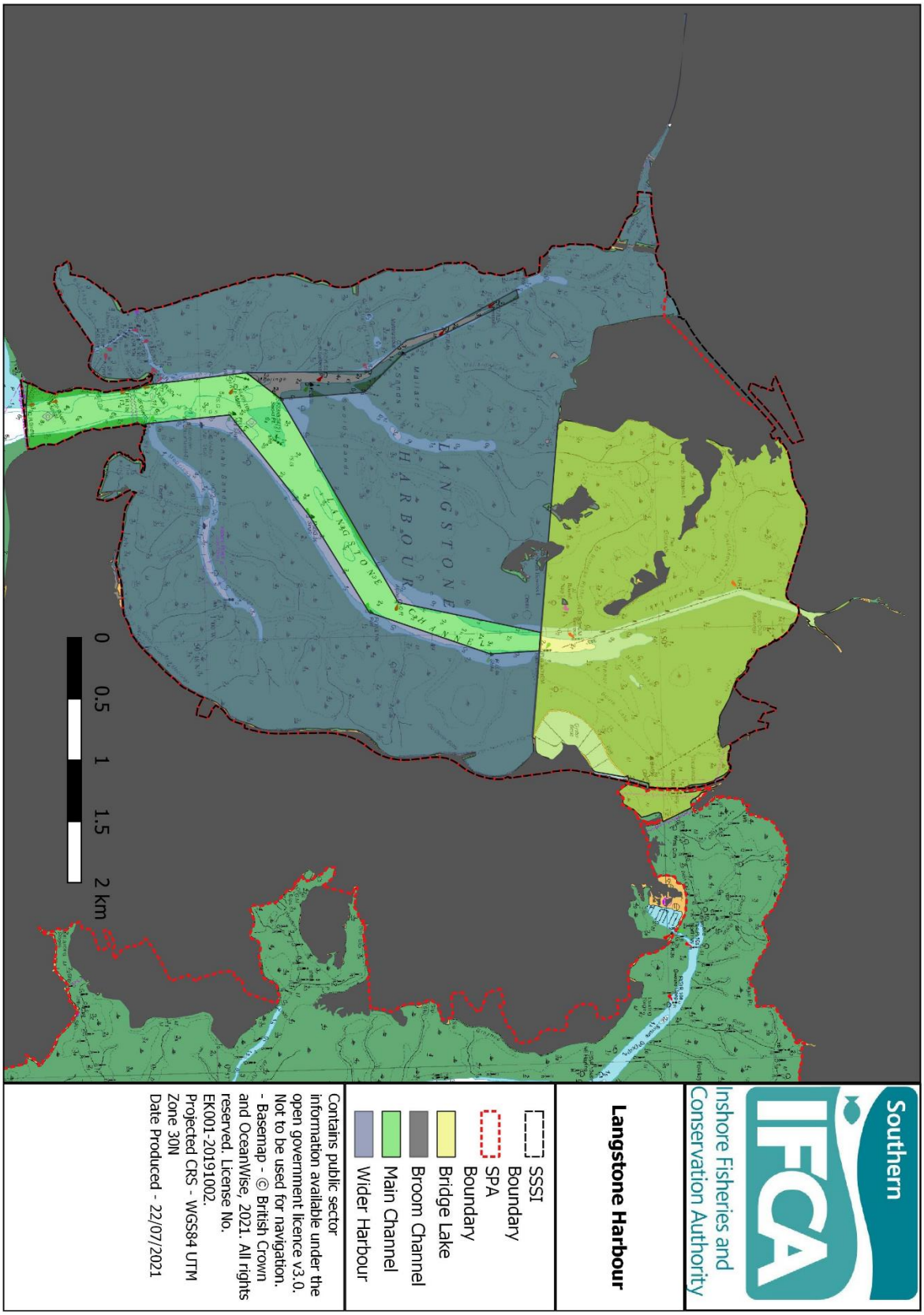
To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper



Map 7: A map of Langstone Harbour, showing the net fishing areas under consideration and the relevant nature conservation designations.

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

As there are no relevant SAC designations within or adjacent to fishing sites within Langstone Harbour, an HRA is not required to be undertaken.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

As there are no relevant SSSI designations for Langstone Harbour, SSSI Assessments are not required to be undertaken.

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

As there are no relevant SACs or SSSI designations for Langstone Harbour, Functionally Linked Area (FLA) Assessments are not required to be undertaken.

SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

1. Main Channel

1.1 Map of fishing area

Please refer to Map 1.

1.2 Fishing effort

- In the region of five to seven vessels undertake net fishing in Langstone Harbour alongside other fishing activities.
- Ring nets are the predominant net type used in Langstone Harbour. Drift nets and fixed nets have historically been used in Langstone Harbour.

- The main target is grey mullet species with some bass bycatch by fishers with a bass entitlement
- Net fishing using these methods occurs all year round
- Net fishing occasionally takes place in the Main Channel area as fishers target shoals of grey mullet that feed in the channel fringes and the surrounding mudflats.
- No more than 10% of the overall net fish activity in Langstone Harbour takes place in the Main Channel area.

1.3 Socio-economic importance of fishing area

- The vessels that undertake net fishing in Langstone Harbour also participate in other fisheries locally and include part-time/ seasonal fishers.
- The economic value of net fisheries in Langstone Harbour is believed to be no greater than £20,000 per annum, based on the first sale value of fish caught.

1.4 Existing restrictions on fishing relevant to EFHs

- Southern IFCA Byelaw: Regulation of the use of stake or stop nets in Langstone Harbour: In that part of the District within Langstone Harbour which lies north of a line across the harbour entrance between Gunner Point and Eastney Lake Pumping Outfall Light, no person shall in fishing for sea fish place or maintain across or partly across a channel or creek, at any place which becomes dry at low water, any stake, stop or dosh net during the period between the commencement of the last hour before the tide leaves that place and the expiration of the first hour after the tide has begun to re-flow at that place.
- Langstone Harbour Byelaw Number 46: Fishing nets and lines must not cause obstruction
- The Bass (Specified Area) (Prohibition of Fishing) Order 1990 and The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999 sets a prohibition on fishing for bass (*Dicentrarchus labrax*), or fishing for any species of sea-fish using sand-eels (*Ammodytidae*) as bait, by any fishing boat within Langstone Harbour in all tidal waters enclosed by a line drawn 153° true from the Gunnery Range Light at Eastney Point to Langstone Fairway Buoy (50° 46.24 N, 001° 01.27 W), then 033° true to the foreshore east of Gunner Point between 30th April and 1st November.

1.5 Habitat Data which indicates that fishing area is an EFH

Langstone Harbour falls within the Chichester and Langstone Harbour SPA and the Langstone Harbour SSSI. Qualifying information for the SPA provides the following habitat information[5]:

- Large, sheltered estuarine basin
- Shallow coastal waters
- Extensive sand and mud flats, exposed at low tide
- Mud flats support eelgrass, *Zostera* sp.
- Mixed sediment shores
- Saltmarsh

The citation for the Langstone Harbour SSSI provides the following habitat information[6]:

- Extensive mudflats exposed at low tide, drained by three main channels
- One of the largest areas of mixed saltmarsh on the south coast
- Extensive cord-grass *Spartina anglica* marsh
- Seagrass beds of *Zostera angustifolia and Zostera noltii* are among the largest in Britain

[5] https://secure.toolkitfiles.co.uk/clients/25364/sitedata/Redesign/Solent-Dredge-Fisheries/Chichester-Langstone-Hrbr-Clam-Dredge.pdf
[6] https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001182.pdf

There are six units under the Langstone Harbour SSSI which cover the marine area of the Harbour.

- Four units have a condition of 'unfavourable – recovering'
- Two units have a condition of 'favourable'

1.6 Fish Data which indicates that fishing area is an EFH

- The Langstone Harbour Board undertakes an annual Langstone Harbour Small Fish Survey.
- Three sites in the Harbour are surveyed: Bedhampton Wharf, Sword Sands and Eastney Point. With the survey taking place in the summer and autumn each year.
- Data is collected using a 43m seine net at all sites and a 2m beam trawl (sites where this method is used vary between years). All fish caught are identified, measured and counted before being returned to the sea.
- Annex 1, Figures 1-3 show count data for fish species identified at the three survey sites in the Harbour.
  - Over the period 2012-2017 43 fish species have been identified during the survey
  - For the latest data available (2017):
    - Summer Survey
      - 19 species of fish were caught across three sites
      - The most abundant species was grey mullet sp. (174 individuals)
      - Lower abundance compared to previous years was through to be due to problems with hauling the net
    - Autumn Survey
      - Windy conditions meant that Eastney Point could not be surveyed
      - 15 species of fish were caught across two sites
      - The most abundant species was Sand Goby (721 individuals)
      - Species diversity was similar to previous years

1.7 Invertebrate Data which indicates that fishing area is an EFH

- Qualifying information for the SPA and SSSI provides the following habitat information:
  - Mud flats are rich in invertebrates
  - High densities of invertebrate species
  - The Harbour is among the twenty most important intertidal areas in Britain as a summer and autumn assembly ground for waders dur to the abundance of high protein food provided by the benthic community

- Survey by Clarke *et al.* (2018)[7] found the following species:
  - Polychaetes
    - *Melinna palmata*
    - *Tharyx* sp.
    - *Nephtys hombergii*
    - *Streblospio* sp.
    - *Ampharete lindstroemi*
    - *Capitella* sp.
  - Oligochaete
    - *Tubificoides benedii*
  - Gastropod
    - *Peringia ulvae*
  - Mollusc
    - *Cerastoderma edule*

1.8 Summary of ecological value of EFH

The large, sheltered estuarine basin of Langstone Harbour has an array of ecologically valuable habitat types to include one of the largest areas of mixed saltmarsh and some of the largest seagrass beds in Britain. The EFH are recognised as important in supporting spawning, feeding and refuge for both juvenile and adult fish species. The species rich benthic community further demonstrates the sites ecological importance as an EFH.

The Main Channel specifically provides a good example of a species-rich sub-tidal estuarine channel where a range of fish species will seek refuge at low-tide. The gently sloping, shallow sub-tidal channel edges attract fish species to feed. The area is of a high value as an EFH.

[7] Clarke, L.J., Stillman, R.A. & Herbert, R.J.H. 2018. Monitoring of the Solent bottom-towed fishing gear management measures: a focused project on shellfish dredging in Langstone Harbour. BU Global Environmental Solutions (BUG) report (BUG2801) to Natural England. 100 pp.

3. Broom Channel

2.1 Map of fishing area

See Map 1

2.2 Fishing effort

See Section D 1.2

- Net fishing takes place in and around the Broom Channel, particularly in the northern-most section.
- Fishers predominantly target grey mullet by use of ring nets in the channel fringe areas and around the intertidal sections adjacent, where creeks and shoreline habitat restricts fish movement.
- No more than 10% of the overall net fish activity in Langstone Harbour takes place in the Broom Channel area.

2.3 Socio-economic importance of fishing area

See Section D 1.3

2.4 Existing restrictions on fishing relevant to EFHs

See Section D 1.4

2.5 Habitat Data which indicates that fishing area is an EFH

See Section D 1.5

2.6 Fish Data which indicates that fishing area is an EFH

See Section D 1.6

2.7 Invertebrate Data which indicates that fishing area is an EFH

See Section D 1.7

2.8 Summary of ecological value of EFH

See Section D 1.8

The Broom Channel provides a good example of a species-rich sub-tidal estuarine channel where a range of fish species will seek refuge at low-tide. The gently sloping, shallow sub-tidal channel edges attract fish species to feed. The area is of a high value as an EFH.

3 Bridge Lake

3.1 Map of fishing area

See Map 1

3.2 Fishing effort

See Section D 1.2

- Net fishing takes place in Bridge Lake as fishers predominantly target grey mullet by use of ring nets across the intertidal and shallow sub-tidal waters, particularly in the proximity of saltmarsh and reedbeds.
- Up to 25% of the overall net fish activity in Langstone Harbour takes place in the Bridge Lake area.

3.3 Socio-economic importance of fishing area

See Section D 1.3

3.4 Existing restrictions on fishing relevant to EFHs

See Section D 1.4

3.5 Habitat Data which indicates that fishing area is an EFH

See Section D 1.5

3.6 Fish Data which indicates that fishing area is an EFH

See Section D 1.6

3.7 Invertebrate Data which indicates that fishing area is an EFH

See Section D 1.7

3.8 Summary of ecological value of EFH

See Section D 1.8

Bridge Lake contains a large area of intertidal mudflat which is contained in the west and south by small islands fringed by a network of saltmarsh. The area and its proximity to freshwater influence provides an excellent example of spawning, feeding and refuge habitat for a range of fish species including commercially valuable fish species, such as Golden grey mullet. The area is of a high value as an EFH.

4 Wider Harbour

4.1 Map of fishing area

See Map 1

4.2 Fishing effort

See Section D 1.2

- Net fishing in the wider harbour is generally focussed in the central and shoreline areas as fishers predominantly target grey mullet by use of ring nets
- Up to 75% of the overall net fish activity in Langstone Harbour takes place in the Wider Harbour area.

4.3 Socio-economic importance of fishing area

See Section D 1.3

4.4 Existing restrictions on fishing relevant to EFHs

See Section D 1.4.

4.5 Habitat Data which indicates that fishing area is an EFH

See Section D 1.5

4.6 Fish Data which indicates that fishing area is an EFH

See Section D 1.6

4.7 Invertebrate Data which indicates that fishing area is an EFH

See Section D 1.7

4.8 Summary of ecological value of EFH

See Section D 1.8

The Wider Harbour contains some excellent examples of coastal seagrass and intertidal mudflats, providing suitable area for fish species to feed and, in the case of seagrass, take refuge. Over the scale of the Wider Harbour, this EFH is of medium value. Areas such as the subtidal channels, cutting through the Wider Harbour, and saltmarsh, to the north of the harbour, are considered provide good EFH, particularly due to the likely aggregation of fish species in these areas, either to seek refuge at low water, or to spawn in more brackish waters.

SECTION E: MIGRATORY SALMONIDS ASSESSMENT

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

5 Main Channel

5.1 Map of Fishing Area

See Map 1

5.2 Fishing effort

Please refer to Section D 1.2

5.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

5.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section D 1.4

5.5 Evidence of salmonids using fishing areas

- Large areas of Langstone Harbour are intertidal with the relatively narrow subtidal Langstone Main Channel connecting the freshwater influences of the Hampshire Lavant, Hermitage Stream and Chichester Harbour (leasing to the River Ems) to the sea.
- Below this are the channel widens and branches out including the Broom Channel.
- The Environment Agency has records of observations of sea trout at barriers to fish passage, leaping in large numbers attempting to enter freshwater at the riverine reaches of the Hermitage Stream and Hampshire Lavant (Leman, 2018, per comm.).
- The EA are working to address barriers to fish passage as required under the Water Framework Directive. Upstream of the barriers there are pockets of habitat which would be highlight favourable for sea trout, with some chalkstream Priority Habitat present. In order to meet the objectives of the Water Framework Directive, it is important to ensure that sea trout in the estuarine reaches of these rivers and the corner of Langstone Harbour through which they must pass are protected.
- The nearby River Ems supports a good population of sea trout (the closest established population to these streams in the North East corner of Langstone Harbour).
- There are not thought to be Atlantic salmon present in the riverine systems which feed into Langstone Harbour, however the River Ems which flows into Chichester Harbour nearby has recently been shown to support salmon.
- The River Ems is currently defined as having 'Poor Ecological Status' under the Water Framework Directive (last assessed 2019). The condition specifically for fish as a biological element of the river is 'Poor', with this status not having changed since 2013 (no records are provided prior to 2013). There is an objective on the river to achieve 'Good' status for fish by 2021.

5.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

5.7 Incidental evidence of interactions between nets and salmonids

None recorded.

6 Broom Channel

6.1 Map of Fishing Area

See Map 1

6.2 Fishing effort

Please refer to Section D 2.2

6.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

6.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section D 1.4

6.5 Evidence of salmonids using fishing areas

Please see Section E 5.5

6.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

6.7 Incidental evidence of interactions between nets and salmonids

None recorded.

7 Bridge Lake

7.1 Map of Fishing Area

See Map 1

7.2 Fishing effort

Please refer to Section D 3.2

7.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

7.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section D 1.4

7.5 Evidence of salmonids using fishing areas

Please see Section E 5.5

Large areas of Langstone Harbour are intertidal with the relatively narrow subtidal Langstone Main Channel connecting the freshwater influences of the Hampshire Lavant, Hermitage Stream and Chichester Harbour (leasing to the River Ems) to the sea. Bridge Lake therefore represents the most likely migration route for salmonids accessing these areas of freshwater.

7.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

7.7 Incidental evidence of interactions between nets and salmonids

None recorded.

8 Wider Harbour

8.1 Map of Fishing Area

See Map 1

8.2 Fishing effort

Please refer to Section D 4.2

8.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

8.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section D 1.4

8.5 Evidence of salmonids using fishing areas

As determined by the evidence presented in Section E 5.5, salmonids are known to be present in Langstone Harbour. Sections 1.1 and 1.4 of the Literature Review provide information on the migration habits of salmonids.

Large areas of Langstone Harbour are intertidal with the relatively narrow subtidal Langstone Main Channel connecting the freshwater influences of the Hampshire Lavant, Hermitage Stream and Chichester Harbour (leasing to the River Ems) to the sea.

8.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

8.7 Incidental evidence of interactions between nets and salmonids

None recorded.

SECTION F: ANNEXES

Annex 1: Data from Langstone Harbour Board Small Fish Surveys in Langstone Harbour

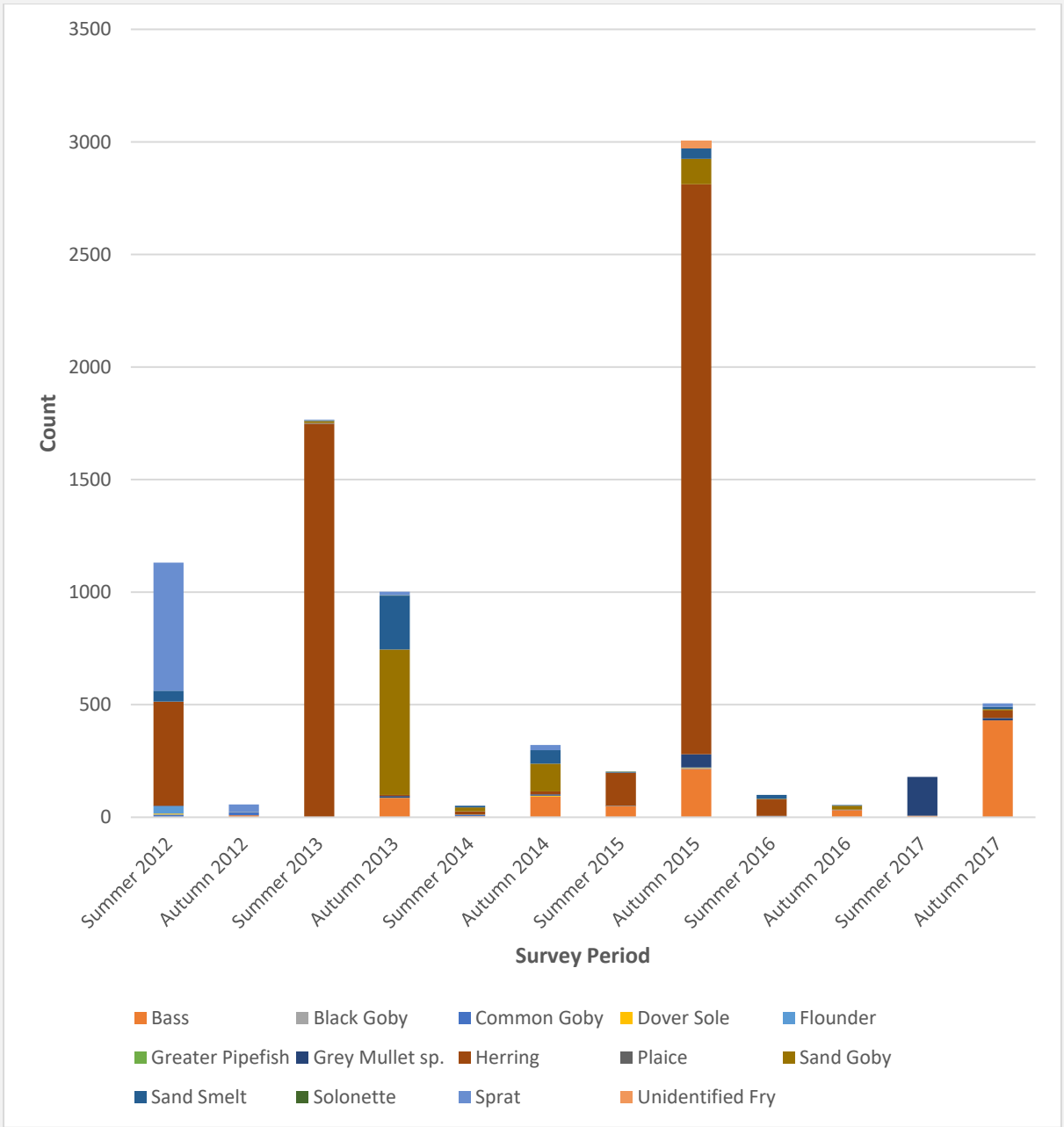


Figure 1: Count data for fish species identified at the Bedhampton Wharf site in Langstone Harbour for Summer and Autumn Langstone Harbour Small Fish Surveys 2012-2017. Data reproduced with permission from Langstone Harbour Board.

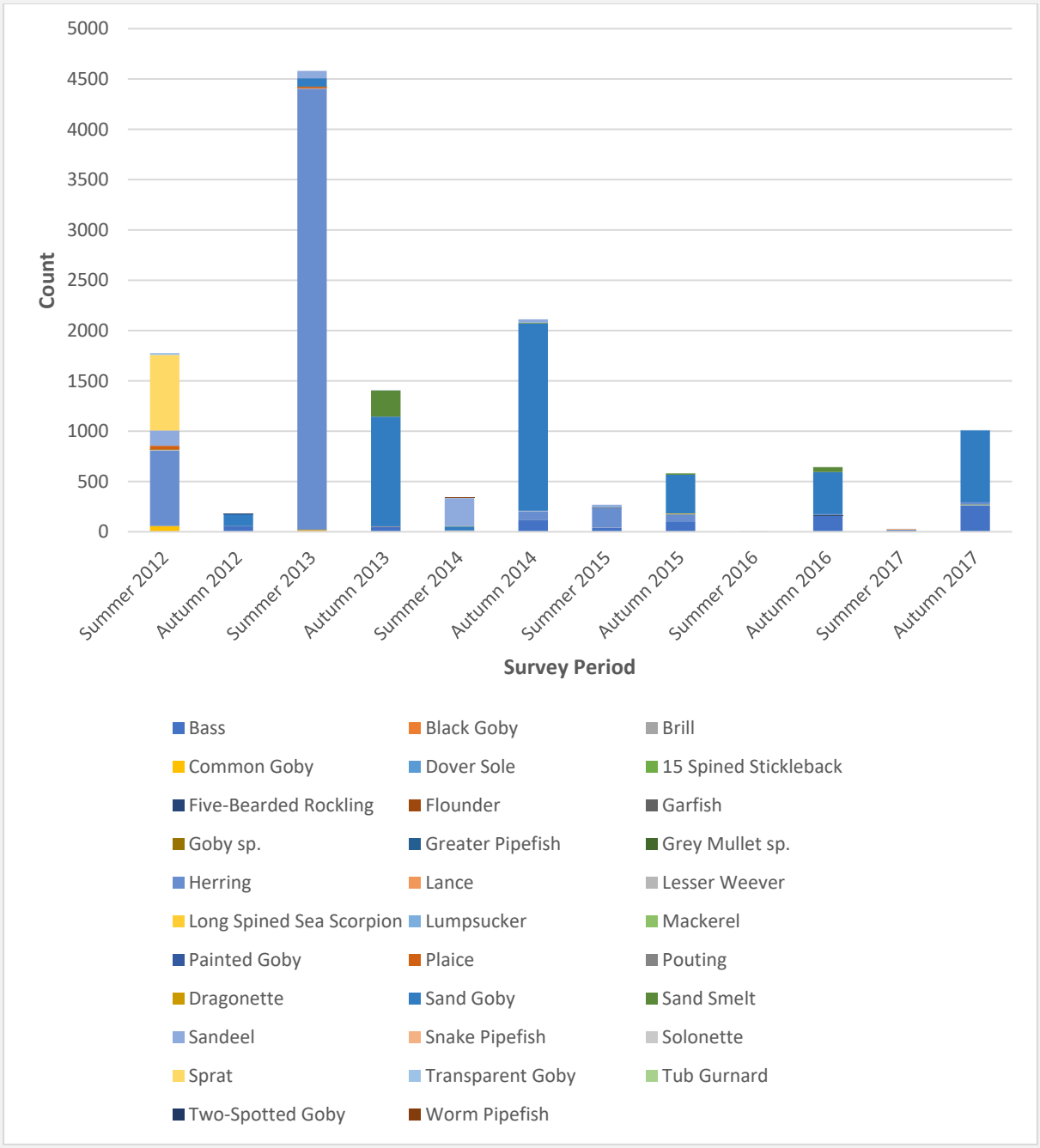


Figure 2: Count data for fish species identified at the Sword Sands site in Langstone Harbour for Summer and Autumn Langstone Harbour Small Fish Surveys 2012-2017. Data reproduced with permission from Langstone Harbour Board.

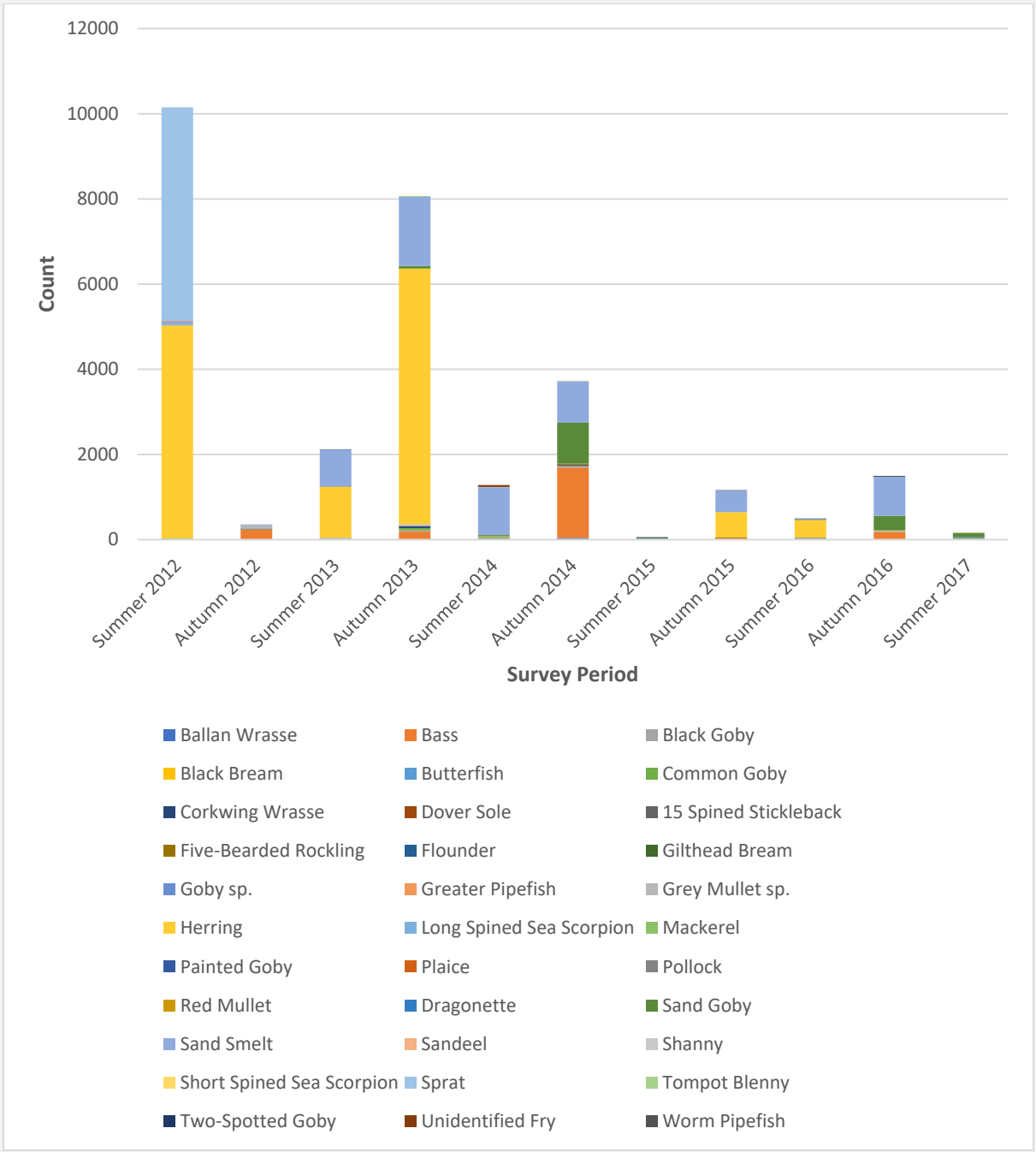


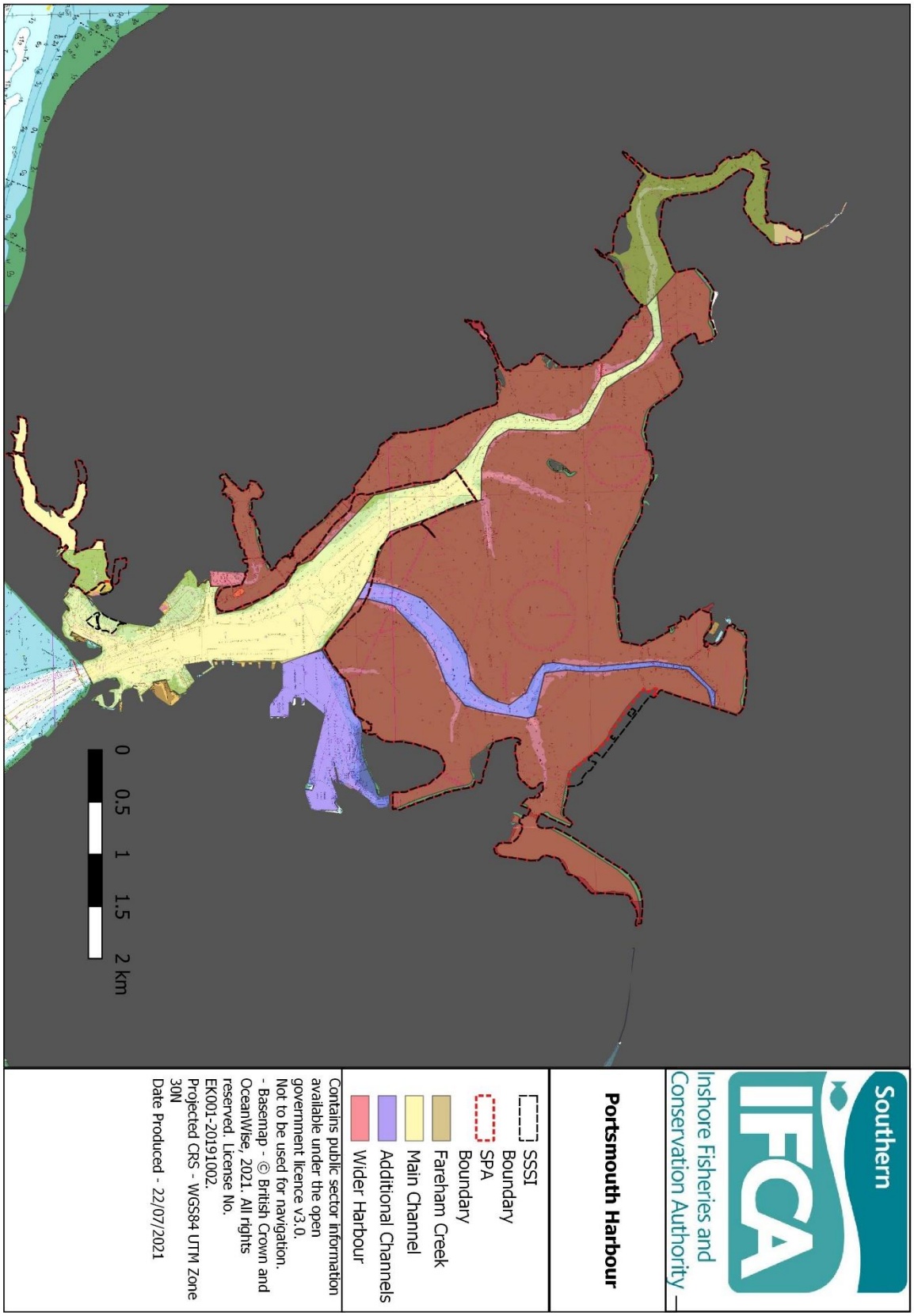
Figure 3: Count data for fish species identified at the Eastney Point site in Langstone Harbour for Summer and Autumn Langstone Harbour Small Fish Surveys 2012-2017. Data reproduced with permission from Langstone Harbour Board.

Southern Inshore Fisheries and Conservation Authority

Portsmouth Harbour Assessment Package: Site Specific Evidence

Supporting Document as part of the Inshore Netting Review.

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper



Map 8: A map of Portsmouth Harbour showing net fishing areas and relevant nature conservation designations.

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

As there are no relevant SAC designations within or adjacent to fishing sites within Portsmouth Harbour, an HRA is not required to be undertaken.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

As there are no relevant SSSI designations for Portsmouth Harbour, SSSI Assessments are not required to be undertaken.

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

As there are no relevant SACs or SSSI designations for Portsmouth Harbour, Functionally Linked Area (FLA) Assessments are not required to be undertaken.

SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

4 Fareham Creek

4.1 Map of fishing area

See Map 1

4.2 Fishing effort

Area is not subject to commercial net fishing activity.

4.3 Socio-economic importance of fishing area

Area is not subject to commercial net fishing activity.

1.4 Existing restrictions on fishing relevant to EFHs

Queen's Harbour Master Portsmouth General Direction No 4/11:

- No fishing from any vessel or by persons swimming under the water shall be carried on within the limits of the Dockyard Port either within 100 metres of the walls, slipways or boundaries of any Crown Establishment or 150 metres of any of Her Majesty's vessels.
- All fishing is prohibited in the approach channel and main navigable channels (all such channels are defined in the DPPO[8]) and the use of any form of static fishing gear is prohibited in:
    - Fareham Creek, as far as Town Quay. (*)
    - The Approaches to Port Solent
    - Tipner Lake
    - Haslar Creek
    - Weevil Lake
    - Brick Kiln Lake
- In compliance with MCA guidelines (Marking of Fishing Gear). All fishing gear should be set outside of all navigable channels. Any unmarked and unattended fishing gear will be removed.

The Bass (Specified Area) (Prohibition of Fishing) Order 1990 and The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999 sets a prohibition on fishing for bass (*Dicentrarchus labrax*), or fishing for any species of sea-fish using sand-eels (*Ammodytidae*) as bait, by any fishing boat within Portsmouth Harbour in all tidal waters enclosed by a line drawn from Gilkicker Point to Southsea Castle between 30th April and 1st November.

(*) Note that although Fareham Creek is referenced in the QHM General Direction, Southern IFCA were not able to ascertain the extent of the prohibited area defined by QHM. Therefore, an EFH assessment has been carried out for Fareham Creek as it cannot be confirmed how much of the area is subject to existing management.

1.5 Habitat Data which indicates that fishing area is an EFH

Taken from information provided by Natural England on the location of supporting habitats for the features of the Portsmouth Harbour SPA[9] and the citation of the Portsmouth Harbour SSSI[10].

- Areas outside of channels are predominantly intertidal mudflat habitat (approximately 1,939 acres) with some sand and muddy sand habitat

[8] The Dockyard Port of Portsmouth Order 2005 defines "main navigable channels" as all the waters of the Harbour south of a line joining the north end of Shell Pier head (Priddy's Hard) and the south west tip of Whale Island and south of Whale Island Bridge but excluding the waters above Haslar Bridge and Forton Bridge.

[9] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9011051&SiteName=portsmouth harbour&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[10] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1003174&SiteName=portsmouth%20harbour&county Code=&responsiblePerson=&SeaArea=&IFCAArea=

- Large area of intertidal seagrass beds in the north-east of the Harbour with a further area of seagrass in Fareham Creek comprised of both *Zostera noltii and Zostera angustifolia*. The eelgrass beds are among the most extensive in Britain and Portsmouth Harbour is one of only four intertidal areas on the south coast to support extensive eelgrass beds. The beds have a rich associated benthic and epiphytic fauna.
- Areas of intertidal coarse sediment in the east and south west of the Harbour
- Areas of intertidal mixed sediment in Fareham Creek
- Approximately 432 acres of saltmarsh in the central intertidal area of the Harbour, along the western shore and in Fareham Creek. Dominated by *Spartina anglica* dissected by ramifying systems of drainage creeks.

1.6 Fish Data which indicates that fishing area is an EFH

Fish species reported as being caught in Portsmouth Harbour include:

- European seabass
- Ballan wrasse
- Starry Smooth hound
- Grey mullet species
- Flounder

1.7 Invertebrate Data which indicates that fishing area is an EFH

Characteristic infaunal species information is taken from the SSSI site condition assessment for units under the Portsmouth Harbour SSSI. In total there are approximately 60 species present in the Harbour with 10 of these occurring in very large numbers (See Annex 1). The following two units under the SSSI pertain to areas within Fareham Creek:

Site Unit 010 - Fareham Creek (Site condition: Unfavourable – no change)

- *Steblospio*
- *Tharynx* sp.
- *Tubificoides benedii*
- *Tubificoides pseudogaster*
- Nematode species

Site Unit 011 – Cams Bay (Site condition: Unfavourable – no change)

- Polychaete/Oligochaete dominated upper estuarine mud shores
- *Hediste diversicolor*
- *Tubificoides benedii*
- Nematode species
- *Hydrobia ulvaue*
- *Nereididae*
- *Steblospio*
- *Littorina littorea*
- *Cerastoderma edule*

1.8 Summary of ecological value of EFH

Fareham Creek provides an excellent example of diverse EFHs including seagrass, saltmarsh and intertidal mud and mixed sediments all of which are of ecological value in supporting the spawning, feeding and refuge of fish species. The area is of a high value as an EFH.

5 Main Channel

5.1 Map of fishing area

See Map 1

5.2 Fishing effort

Area is not subject to commercial net fishing activity.

2.3 Socio-economic importance of fishing area
Area is not subject to commercial net fishing activity.

2.4 Existing restrictions on fishing relevant to EFHs
Please refer to Section D 1.4

2.5 Habitat Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

2.6 Fish Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

2.7 Invertebrate Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

2.8 Summary of ecological value of EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

6 Tributaries (Portchester, Fountain and Paulsgrove Lakes)
6.1 Map of fishing area
See Map 1

6.2 Fishing effort
Area is not subject to commercial net fishing activity.

3.3 Socio-economic importance of fishing area
Area is not subject to commercial net fishing activity.

3.4 Existing restrictions on fishing relevant to EFHs
Please refer to Section D 1.4.

3.5 Habitat Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

3.6 Fish Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

3.7 Invertebrate Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

3.8 Summary of ecological value of EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

7 Wider Harbour

7.1 Map of fishing area

See Map 1

7.2 Fishing effort

- In the region of three vessels fish with nets in Portsmouth Harbour. All vessels involved participate in other fishing activities alongside net fishing.
- Ring nets are the predominant net type used in Portsmouth Harbour. Drift nets and fixed nets are also occasionally used.
- The main target is grey mullet species with some bass bycatch by fishers with a bass entitlement
- Net fishing using these methods occurs all year round, with a focus on fishing during the summer months whilst grey mullet are present.

4.3 Socio-economic importance of fishing area

The economic value of net fisheries in Portsmouth Harbour is estimated to be in the region of £25,000 per annum, based on the first sale value of fish caught.

4.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section D 1.4.

4.5 Habitats Data which indicates that fishing area is an EFH

Please refer to Section D 1.5

4.6 Fish Data which indicates that fishing area is an EFH

Please refer to Section D 1.6

4.7 Invertebrate Data which indicates that fishing area is an EFH

Characteristic infaunal species information is taken from the SSSI site condition assessment for units under the Portsmouth Harbour SSSI. In total there are approximately 60 species present in the Harbour with 10 of these occurring in very large numbers (See Annex 1).

4.8 Summary of ecological value as EFH

Outside of the main channels and Fareham Creek, Portsmouth Harbour predominantly consists of habitats of intertidal mudflat, coarse sand and mixed sediments, with fragments of saltmarsh and seagrass in the north-central section. These habitats provide ecological value as EFHs.

SECTION E: MIGRATORY SALMONIDS ASSESSMENT

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

5 Fareham Creek

5.1 Map of Fishing Area

See Map 1

5.2 Fishing effort

Please refer to Section D 1.2

5.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

5.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 1.4

5.5 Evidence of salmonids using fishing area

The Environment Agency carries out Fish Population Surveys on Principal Course Fishery Rivers, which includes the River Wallington that flows into Fareham Creek. The surveys focus on locations where coarse fishing takes place and are repeated every three years.

Current available data is for 2018[1]:

- Average of 4.6 brown/sea trout per 100m^2 across two surveyed sites
- Size range 65-336mm
- Water Framework Directive Classification, Fish Status for 2016 is Good.
- Species abundance is variable between years, but the catches across both surveyed sites were generally representative of the previous year's survey
- The population of brown trout has a migratory component (sea trout)

Upstream of Cams Bay, Fareham Creek is relatively narrow and is flanked on both sides by areas of intertidal mudflats. Below Cams Bay the channel begins to widen and branches out, before meeting the main channel in the centre of the harbour. Fareham Creek represents the most likely migration route for sea trout through Portsmouth Harbour.

5.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

5.7 Incidental evidence of interactions between nets and salmonids

None recorded.

6 Main Channel

No Migratory Salmonid Assessment has been undertaken as the area is subject to existing legislative closures and no commercial activity occurs.

7 Additional Channels

No Migratory Salmonid Assessment has been undertaken as the area is subject to existing legislative closures and no commercial activity occurs.

8 Wider Harbour

8.1 Map of Fishing Area

See Map 1

8.2 Fishing effort

Please refer to Section D 4.2

8.3 Socio-economic importance of fishing area

Please refer to Section D 4.3

8.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 1.4

8.5 Evidence of salmonids using fishing area

As determined by the evidence presented in Section E 5.5, sea trout are known to be present in Portsmouth Harbour. Section 1.4 of the Literature Review document provides information on the migration behaviour of sea trout. Of specific relevance to the likely presence of salmonids in Portsmouth Harbour (wider harbour): This are does not fall within a migration route, refuge area or pinch point leading to a river where migratory sea trout have been recorded.

8.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded

8.7 Incidental evidence of interactions between nets and salmonids

None recorded.

SECTION F: ANNEXES

Annex 1: Details of invertebrate species found at individual site units under the Portsmouth Harbour SSSI.

- Site Unit - Frater
  - Hydrobia ulvae
  - Tubificoides benedii
  - Tubificoides pseudogaster
  - Streblospio sp.
  - Nematodes
  - Corophium sp.
  - Arenicola marina

- Site Unit – Port Solent to Horsea
  - Polychaete/oligochaete dominated upper estuarine mud shores
  - Polychaete/oligochaete dominated upper estuarine mud shores
  - Hydrobia ulvae
  - Tharynx sp.
  - Tubificoides benedii
  - Aphelochaeta marioni
  - Nematodes
  - Cerastoderma edule
  - Carcinus meanas

- Site Unit – Whale Island
  - Polychaete/oligochaete dominated upper estuarine mud shores
  - Tubificoides benedii
  - Aphelochaeta marioni
  - Chaetozone gibber
  - Tharynx killariensis
  - Polychaete/oligochaete dominated upper estuarine mud shores
  - Hydrobia ulvae
  - Pagarus bernhardus
  - Crepidula fornicata
  - Cerastoderma edule
  - Littorina littorea

- Site Unit – Portchester
  - Polychaete/oligochaete dominated upper estuarine mud shores
  - Tubificoides benedii
  - Other oligochaete species
  - Tharynx killariensis
  - Hydrobia ulvae
  - Nematodes
  - Littorina littorea
  - Arenicola sp.
  - Nephtys sp.

- Site Unit – Bombketch Lake
  - Polychaete/bivalve dominated mid estuarine mud shores
  - Polychaete/oligochaete dominated upper estuarine mud shores

        - Tubificoides benedii
        - Tubificoides galiciensis
        - Melinna palmate
        - Nematodes
        - Streblospio sp.
        - Scrobicularia plana
        - Arenicola marina
        - Hydrobia ulvae

    - Site Unit – Fleetlands
        - Hediste diversicolor
        - Tubificoides benedii
        - Pygospio elegans
        - Streblospio sp.
        - Nematodes
        - Cerastoderma edule
        - Corophium sp.
        - Scrobicularia plana

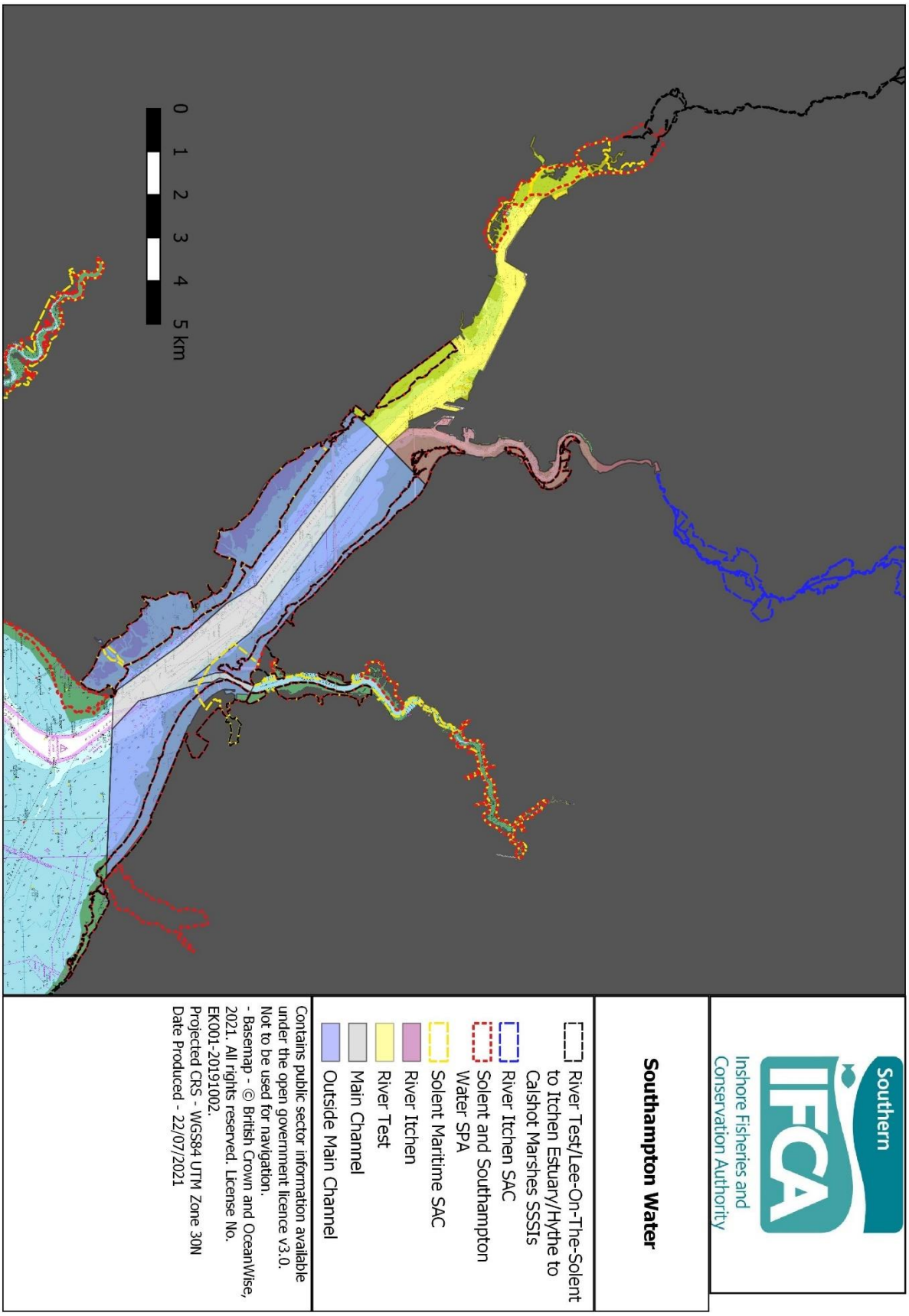
- These units are given the following condition:
    - Unit 008 Frater – Unfavourable – no change
    - Unit 009 Fleetlands - Unfavourable – no change
    - Unit 014 Port Solent to Horsea – Unfavourable – recovering
    - Unit 018 Whale Island - Unfavourable – recovering
    - Unit 023 Portchester - Unfavourable – no change
    - Unit 024 Bombketch Lake - Unfavourable – no change

Southern Inshore Fisheries and Conservation Authority

Southampton Water Assessment Package: Site Specific Evidence

Supporting Document as part of the Inshore Netting Review

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper



Map 9: A map of the Southampton Water area, showing net fishing areas and the location of relevant nature conservation designations.

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

Following the outcomes of a TLSE an Appropriate Assessment is required for the River Itchen in order to determine whether net fishing occurring within, or adjacent to the River Itchen SAC, will have an adverse impact on Atlantic salmon as a feature of the River Itchen SAC.

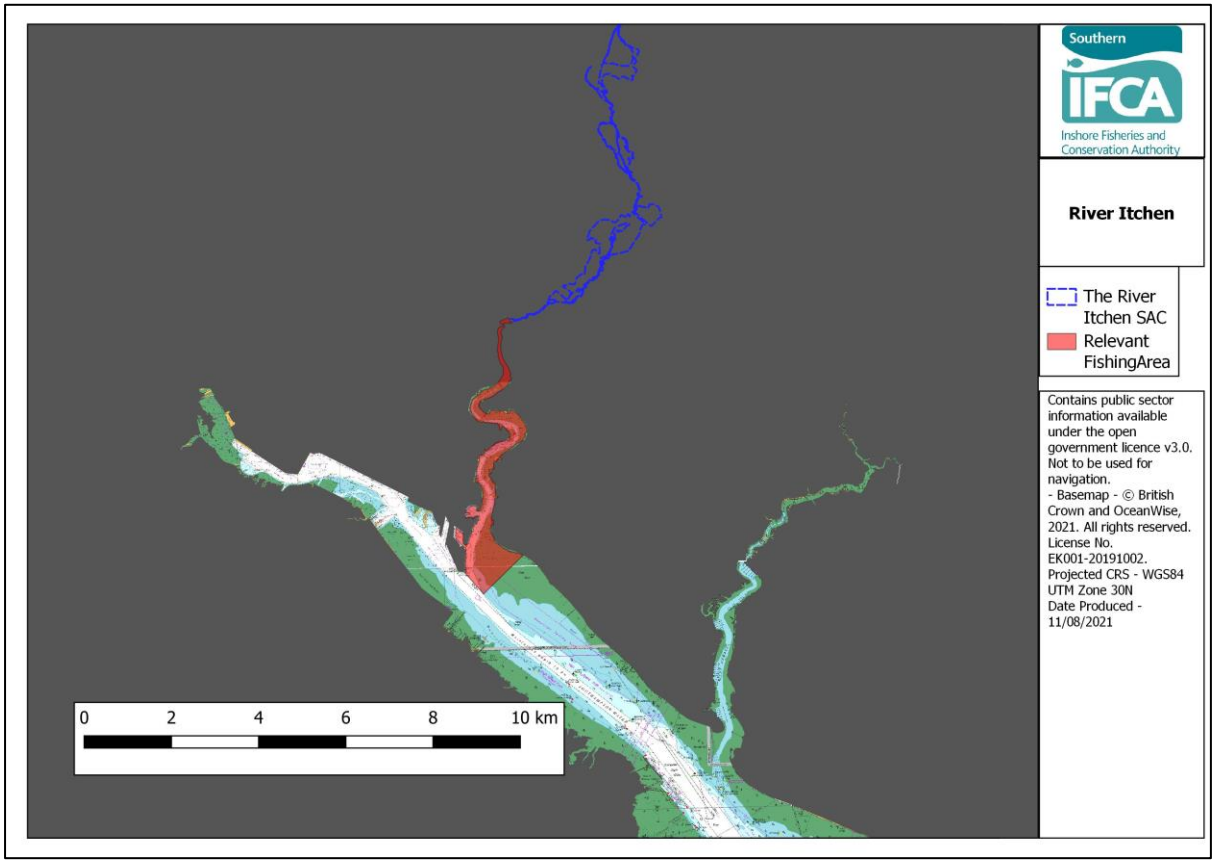
For more details on the HRA process please refer to the Process, Tools and Intentions Policy Paper. For further details on the TLSE and HRA, please refer to the Net Fishing Byelaw Conservation Package.

1.0 The River Itchen

1.1 Proximity to River Itchen SAC

As demonstrated in Map 2, The River Itchen falls within and is adjacent to the River Itchen SAC. The boundary of the River Itchen SAC is Woodmill. All areas of the river upstream of Woodmill fall within the SAC.

The high-level conservation objectives for the River Itchen SAC are available online at: http://publications.naturalengland.org.uk/publication/5130124110331904. Of direct relevance to this Plan/Project, *Salmo salar*; Atlantic Salmon are a Qualifying Feature of the SAC.



Map 2: Proximity of River Itchen Fishing Area to River Itchen SAC

1.2 Fishing effort

It has been established that commercial netting does not take place in the River Itchen above Woodmill in the area which falls within the River Itchen SAC. Commercial netting does take place in the area of the River Itchen, which is adjacent to the SAC downstream of Woodmill.

One vessel is known to net fish in the intertidal area adjacent to the main river channel within the River Itchen, using drift nets to target grey mullet. Approximately 30 trips per year are undertaken across both the River Itchen and the River Test.

- This vessel is a 20-foot dory vessel
- The drift net used is 300 yards in length although most of the areas fished require 100 or 250 yards of net, the full 300 yards is required only in one area.
- The drift net is set with the tide and in the direction of the tide in order to avoid creating a creating a barrier across the river.
- The netting occurs outside of the main channel in approximately 4-6ft of water.
- One end of the net is tied to the vessel and the net soak time is a commonly 10-15 minutes, with a maximum soak time of 20 minutes.
- A fishing trip will run from the bottom to the top of the tide; therefore, the maximum duration of a trip is 6 hours.
- The fishing method is tidally dependent, and fishing does not take place on large spring tides.
- The net is attended at all times and is hauled manually to ensure minimal to no damage to the fish caught in the net and also to ensure safe operation in a small vessel.
- This activity is carried out to target grey mullet species commonly between June and September although in some years activity may continue until early November.
- Fishing occurs approximately 5-6 times per month, depending on the run of grey mullet, the presence of weed and the presence of smooth hound.

1.3 Existing net fishing restrictions on net fishing relevant to Atlantic salmon

The placing and use of fixed engines, other than Fyke nets, for the taking of seafish is prohibited during the period from 1 April to 30 September (both days inclusive) in any year in all parts of the Rivers Test and Itchen upstream of a line drawn due East and West from the Southern end of the Port of Southampton Dockhead and within the Southern Sea Fisheries District under the Southern IFCA Fixed Engines Byelaw.

1.4 Evidence of Atlantic salmon using the River Itchen

- Atlantic Salmon are a feature of the River Itchen SAC listed under Annex II of the Habitats Directive.
- The River Itchen is listed as a 'Principal Salmon River' by the Environment Agency:
    - In 2019, the Atlantic salmon fishery assessment data[11] showed that the River Itchen attained 55% of the Conservation Limit of 1.63 x10^6 eggs deposited. This gives the river a Compliance Level of 'At Risk'. The classification of 'At Risk' indicates there is a <5% probability of the river meeting the Management Objective.
    - The Compliance Level for 2024 is predicted to be downgraded to 'Probably at Risk'.
- Atlantic salmon are a faunal component of the River Itchen SSSI 'Rivers and Streams' feature
    - There are four units under the River Itchen SSSI which show an '*unfavourable-no change'* status condition for the Atlantic salmon[12]. Three of these units are highlighted as '*at risk'* as egg production and returning stock targets have not been

[11] this status condition relates to the habitat as a whole, rather than the Atlantic salmon population status https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907284/SalmonReport-2019-summary.pdf

[12] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S2000227&SiteName=itchen&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

met. The causes for this risk status are unknown but are likely to be due to habitat degradation (including siltation of spawning gravels), fish passage impediment and impacts in the wider marine environment.

- Atlantic Salmon stock data[13]:
    - Annex 1, Figure 1 shows the exploitation rate and percentage of adult run retained by the licenced rod and line fishery for Atlantic salmon on the River Itchen from 1988 to 2019.
    - Annex 1, Figure 2 shows data from the Environment Agency on the count of Atlantic salmon smolt and adults are available for years 1988 to 2019:
        - the returning stock estimate for the River Itchen (blue) for 1988 to 2020
        - rod catch data (orange), available for 1990-2018 and the spawning escapement (grey) for the same period.
        - A preliminary count is available for 2020 (719), this is the sixth highest record and deemed 'exceptional' by the EA (yellow marker). The 2020 value is 130% of the five-year average (2015-2019).
    - Annex 1, Figure 3 shows that for the year 2020 the attainment of both the Compliance Limit and Management Targets were below 100%.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters[14]' provides timings of the smolt and adult run of Atlantic salmon in the River Itchen as April to mid-May for smolt and April to December for the adult run.
- The Environment Agency have documented fish not entering the River Itchen at flows less than 6 cumecs, resulting in increased residency in the estuary.

1.5 Known interactions between nets and Atlantic salmon in the River Itchen

None recorded.

1.6 Incidental evidence of interactions between nets and Atlantic salmon in the River Itchen

None recorded.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

As there are no fishing areas within Southampton Water which fall within a SSSI, SSSI Assessments are not required to be undertaken.

[13] Stock data taken from: Salmon Stocks and Fisheries in England and Wales Annual Report by Environment Agency, Cefas and Natural Resources Wales Solent and South Downs Annual Fish Monitoring Report by Environment Agency
[14] https://secure.toolkitfiles.co.uk/clients/25364/sitedata/files/Net-Environment-Agency-Paper.pdf

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

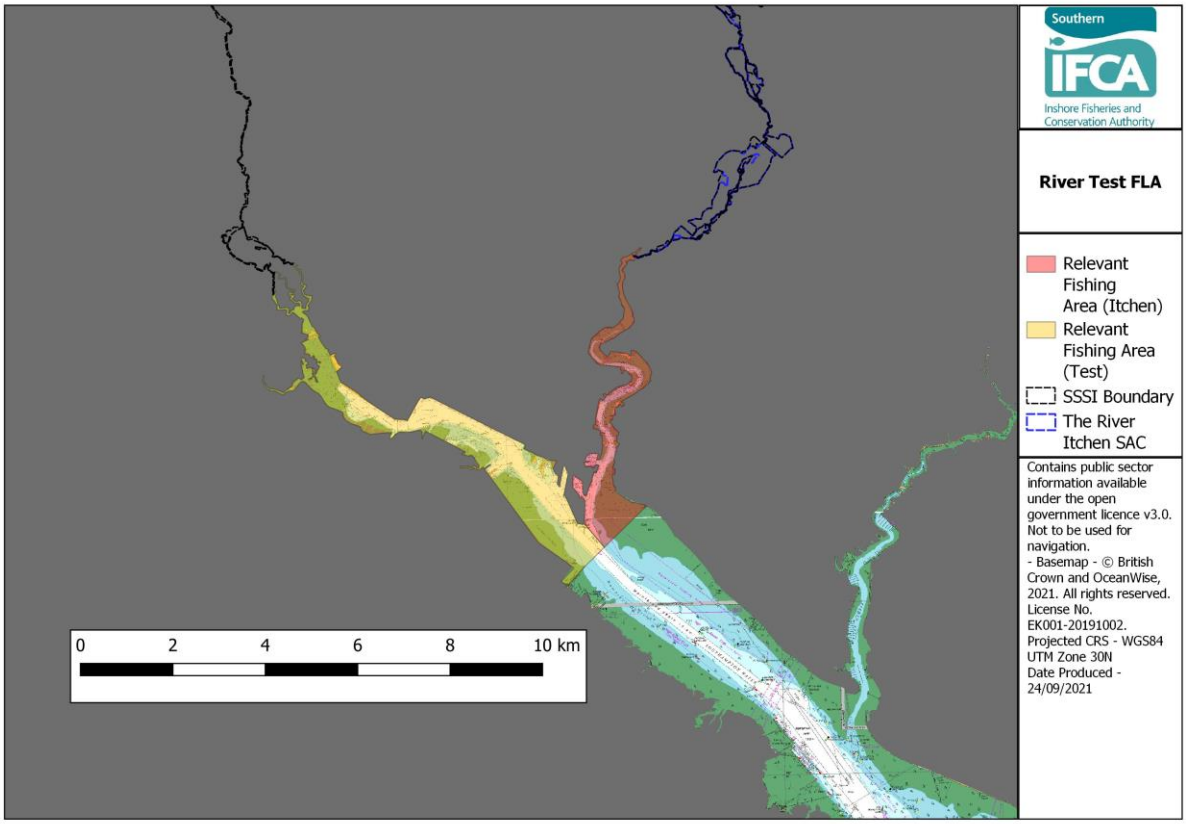
A Functionally Linked Area (FLA) Assessment is required to determine whether net fishing; occurring beyond the boundary of an SAC or SSSI (where salmonids are afforded protection); may have an adverse impact on salmonids.

More details on FLA Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

2.0 River Test

2.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 3: The River Test is functionally linked to the River Itchen SAC, River Itchen SSSI and the River Test SSSI.



Map 3: Proximity of River Test fishing area with River Itchen Fishing Area, River Itchen SAC, River Itchen SSSI and the River Test SSSI

2.2 Fishing effort

Commercial netting takes place in the River Test. Two individuals/vessels are known to net fish in the intertidal area adjacent to the main river channel within the River Test, using drift nets and ring nets to target grey mullet. Approximately 20 trips per year are undertaken in the River Test.

- Both vessels are no greater than 20-foot in length
- The net used is 300 yards in length although most of the areas fished require 100 or 250 yards of net.
- The drift net is set with the tide and in the direction of the tide in order to avoid creating a creating a barrier across the river.
- The netting occurs outside of the main channel in approximately 4-6ft of water – key areas are the western shoreline at Marchwood and the Eling Basin, as far as Redbridge.
- The net soak time is a commonly 10-15 minutes, with a maximum soak time of 20 minutes.
- A fishing trip will run from the bottom to the top of the tide; therefore, the maximum duration of a trip is 6 hours.
- The fishing method is tidally dependent, and fishing does not take place on large spring tides.
- The net is attended at all times and is hauled manually to ensure minimal to no damage to the fish caught in the net and also to ensure safe operation in a small vessel.
- This activity is carried out to target grey mullet species commonly between June and September although in some years activity may continue until early November.
- Fishing occurs approximately 5-6 times per month, depending on the run of grey mullet, the presence of weed and the presence of smooth hound.
- Ring nets are deployed on recognition (by fishers) of the presence of target species.
- Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
- The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a 'bag' in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float line. In this way no 'bag' is created and fish which are not physically caught in the net will not be removed as the net is recovered.

2.3 Socio-economic importance of Fishing Area

The estimated first sale value of fish caught through net fishing in the River Test and River Itchen combined is £5,000 per annum (data provided by fishers).

2.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section A 1.3

2.5 Evidence of salmonids using the fishing area to access the SAC or SSSI

The River Test shares an estuary with the River Itchen and the mouths of both rivers are in close proximity. This is of significance, as Atlantic salmon are a feature of the River Itchen SAC, as listed under Annex II of the Habitats Directive and Atlantic salmon and sea trout are a faunal component of the 'Rivers and Streams' reportable feature for the River Itchen SSSI. The proximity of the River Test therefore suggests that the River Test plays a role in supporting salmonid populations. Further, Ikedashi *et al.,* 2018[15] suggests that the geographic distance between the mouths of these rivers does play a role in defining genetic distances between

[15] Ikediashi, C., Paris, J. R., King, R. A., Beaumont, W. R. C., Ibbotson, A. and Stevens, J. R. 2018. 'Atlantic salmon *Salmo salar* in the chalk streams of England are genetically unique'. *Journal of Fish Biology*, **92(3),** pp. 621-641

salmonid populations. Radio-tracking work of salmon carried out in the early 1990s has confirmed this is likely to be the case, with 9.6% of salmon caught and tagged on the River Itchen at Woodmill, were later recaptured in the River Test (Horsfield, 1994).

Please refer to Section A 1.4 for further details on evidence of Atlantic salmon accessing the River Itchen SAC.

Atlantic salmon and sea trout are faunal component of the 'Rivers and Streams' reportable feature for the River Itchen SSSI. The River Itchen SSSI underpins the River Itchen SAC where Atlantic salmon are a feature. The River Itchen SSSI site details are available online[16].

Evidence of sea trout using the River Itchen

- The River Itchen is listed as a 'Principal Sea Trout' river by the Environment Agency. The sea trout fishery assessment data for 2019 shows a Compliance Level of 'Probably at Risk'.
    - 2019: the number of sea trout caught by rod and line was recorded as 384 with 367 being released, giving a catch and release rate of 96%. This is an increase of 6% on the rate for 2018.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of sea trout in the River Itchen as mid-March to early May and the adult run as April to December.

Atlantic salmon and sea trout are also faunal components of the 'Rivers and Streams' reportable feature of the River Test SSSI. The River Test SSSI site details are available online[17].

Evidence of Atlantic salmon using the River Test

- The River Test is listed as a 'Principal Salmon River' as determined by the Environment Agency
    - In 2019, the Atlantic salmon fishery assessment data[18] showed that the River Test attained 69% of the Conservation Limit of 3.40 $x10^6$ eggs deposited. This gives the river a Compliance Level of 'Probably at Risk'.
    - The Compliance Level for 2024 is predicted to be 'Probably at Risk'.
- Atlantic Salmon stock data[19]:
    - Annex 2, Figure 4 shows the exploitation rate and percentage of adult run retained by the licenced rod and line fishery for Atlantic salmon on the River Test from 1988 to 2019.
    - Annex 2, Figure 5 shows data from the Environment Agency on the count of Atlantic salmon smolt and adults are available for years 1988 to 2019:
        - the returning stock estimate for the River Itchen (blue) for 1988 to 2020
        - rod catch data (orange), available for 1990-2018 and the spawning escapement (grey) for the same period.

16 https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S2000227&SiteName=itchen&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

17 https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S2000170&SiteName=river%20test&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

18 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907284/SalmonReport-2019-summary.pdf

19 Stock data taken from: Salmon Stocks and Fisheries in England and Wales Annual Report by Environment Agency, Cefas and Natural Resources Wales Solent and South Downs Annual Fish Monitoring Report by Environment Agency

        - A preliminary count is available for 2020 (2947), which is greater than the previous largest value of 2007 in 2015 and deemed 'exceptional' by the EA (yellow marker). This is approximately 147% of the highest previous returning stock estimate and 211% of the five-year average (2015-2019).
    - Annex 2, Figure 6 shows that for the year 2020 the attainment of both the Compliance Limit and Management Targets were above 100%.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of Atlantic salmon in the River Test as April to mid-May for smolt and April to December for the adult run.

Evidence of sea trout using the River Test

- Sea trout are a faunal component of the 'Rivers and Streams' reportable feature of the River Test SSSI.
- The River Test is listed as a 'Principal Sea Trout' river by the Environment Agency. The sea trout fishery assessment data for 2019 shows a Compliance Level of 'Probably not at Risk'.
    - In 2019, the number of sea trout caught by rod and line in the River Test was 169 with 155 being released, giving a catch and release rate of 92%, this is an increase of 9% on the rate for 2018.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of sea trout in the River Test as mid-March to early May and the adult run as April to December.

2.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

2.7 Incidental evidence of interactions between nets and salmonids

None recorded.

3 Southampton Water, Main Channel

3.1 Proximity to Functionally Linked Areas

As demonstrated in Map 4, the Main Channel is functionally linked to the River Itchen SAC, River Itchen SSSI and the River Test SSSI.

3.2 Fishing effort

No commercial net fishing occurs within this fishing area.

3.3 Socio-economic importance of Fishing Area

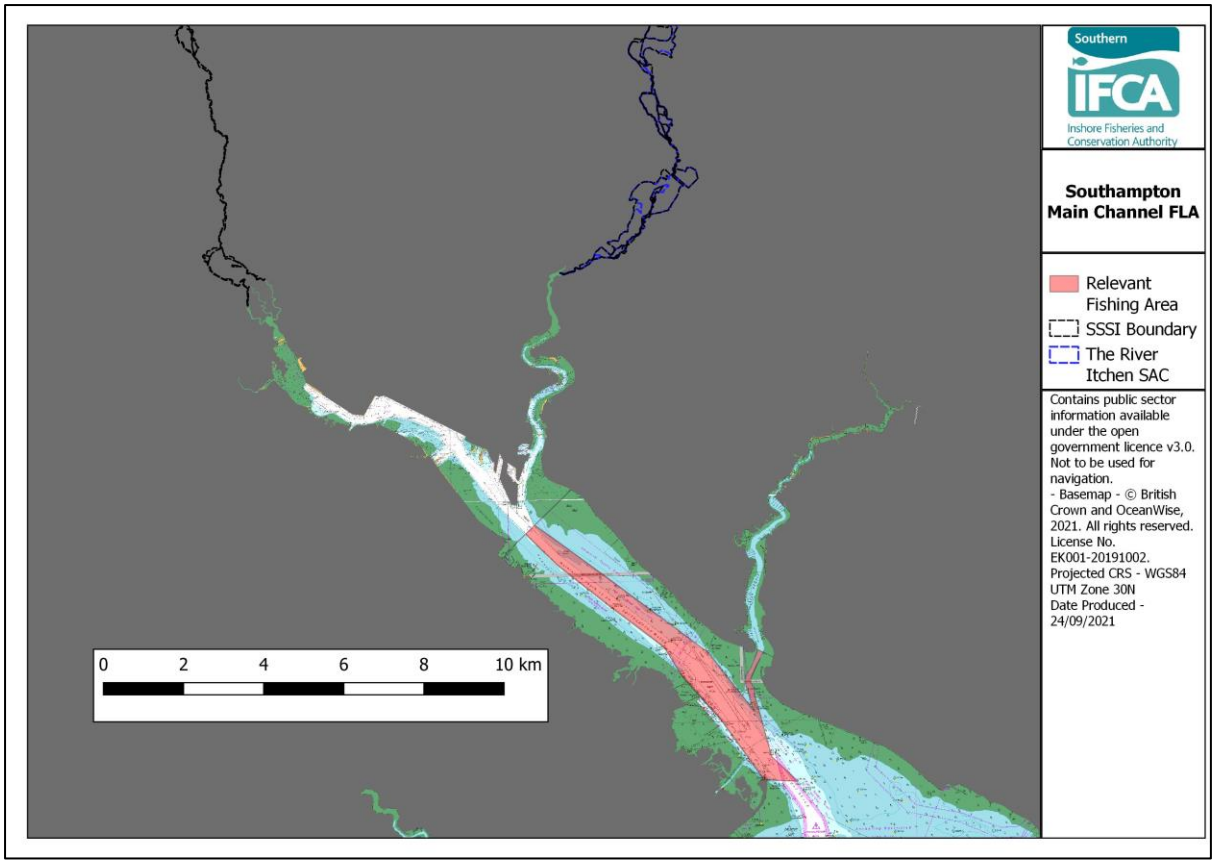
No commercial net fishing occurs within this fishing area

3.4 Existing restrictions on fishing relevant to migratory salmonids

Regulations under the Associated British Ports Southampton Harbour Byelaws do not permit fishing activity to take place in areas where it may pose a danger to navigation.

3.5 Evidence of salmonids using the fishing areas to access the SAC or SSSI

The Main Channel of Southampton Water is a principal migration route leading to the River Itchen SAC, the River Itchen SSSI and the River Test SSSI. This is determined by the Evidence presented in Sections A 1.4 and C 1.5 of this document, as well as Sections 1.1 and 1.4 of the Net Fishing Byelaw Literature Review.



Map 4: Proximity of Southampton Water Main Channel to River Itchen SAC, SSSI and River Test SSSI

3.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

3.7 Incidental evidence of interactions between nets and salmonids

None recorded.

4 Southampton Water, Outside Main Channel

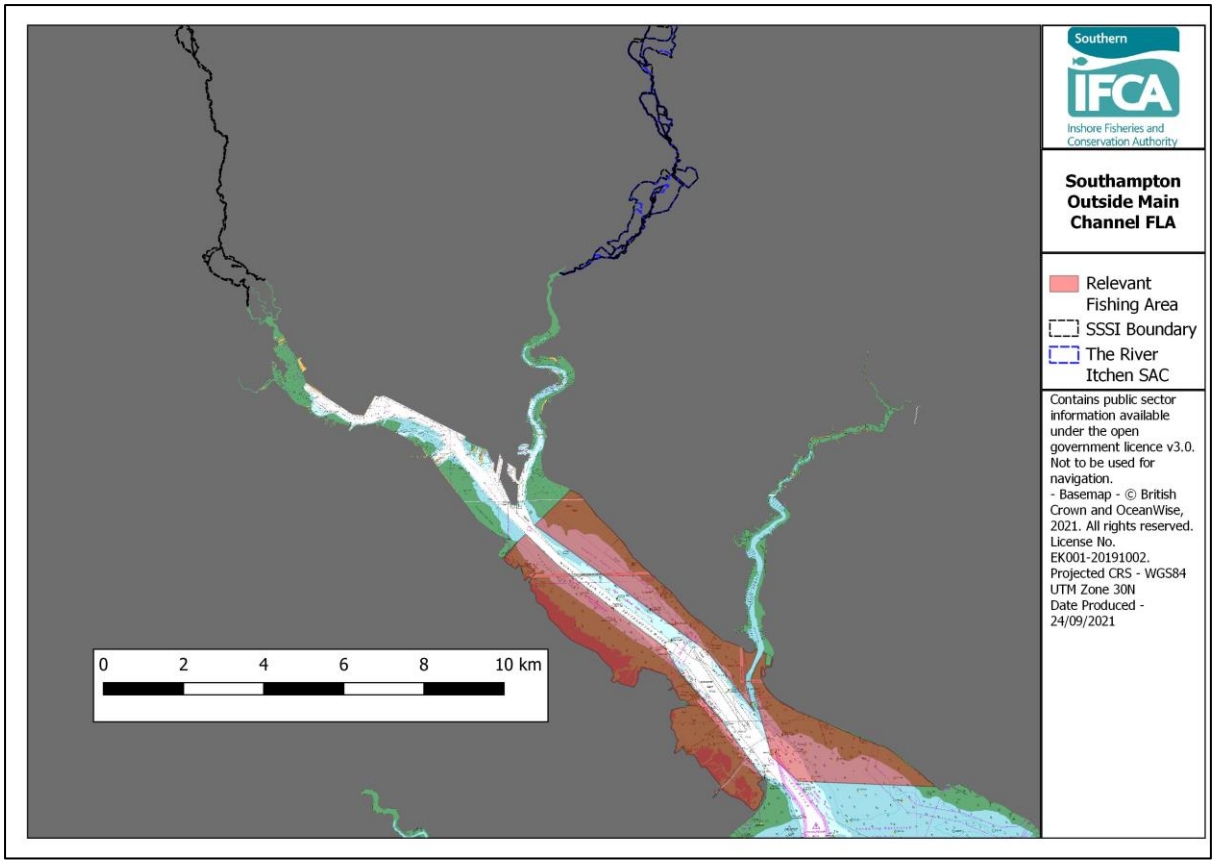
4.1 Proximity to Functionally Linked Areas

As demonstrated in Map 5, the Main Channel is functionally linked to the River Itchen SAC, River Itchen SSSI and the River Test SSSI.

4.2 Fishing effort

4.2.1 Gill net (fixed)

- Two vessels deploy demersal sole fixed nets in this area to target sole from July to October (in combination with other net fishing methods)
- These nets are most commonly used down the east and west sides of Southampton Water (outside of the main channel).
- The nets sit no higher than approx. 3ft from the seabed, this helps prevent the net from being clogged with weed and focuses on the target species.
- These nets are left to soak overnight (12hrs) before being retrieved.
- In combination the 2 vessels undertake approximately 20 trips per year (MMO data).



Map 5: Proximity of Southampton Water 'Outside Main Channel' fishing area to River Itchen SAC, SSSI and River Test SSSI

4.2.2 Gill net (ring)

- Up to 7 vessels undertake approximately 64 combined trips per year (MMO data) (in combination with other net fishing methods)
- Ring nets are used May to October during daylight hours
- Trips last 4 hours with 2-3 nets set per trip
- Max. soak time is 30 minutes per net
- Mesh size range between 3 5/8 and 4 inches
- Targeted fishing method, from local fisher knowledge and observation by Southern IFCA officers during observer trips nets are only set when a shoal of fish is seen
- Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
- The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a ‘bag’ in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float line. In this way no ‘bag’ is created and fish which are not physically caught in the net will not be removed as the net is recovered.

4.2.3 Gill net (drift)

- 6 vessels use drift nets (in combination with other net fishing methods)
- These drift nets are predominantly used to fish for grey mullet, whilst additional fisheries occur for skates and rays, herring, gilthead bream, red mullet, pout and other

similar species that may be used as bait on bass longlines. Bass may be taken as a bycatch in certain areas and at certain times of the year.
- Fishing may take place during the day or at night
- Majority of vessels are approximately 7m in length
- Local fisher knowledge indicates, when targeting grey mullet, a drift of 1 hour max per trip with 3-4 trips per week (across all Southampton Water area) if conditions and tide are favourable
- Local fisher knowledge indicates that the length of net will be approximately 100m shorter in the water due to bunching of the headline, i.e., a 400m drift net would equate to 300m in the water

4.3 Socio-economic importance of Fishing Area

In total, across all net fisheries, the first sale value of netting activities in Southampton Water, outside the Main Channel, is estimated to be in excess of £100,000 per annum.

4.4 Existing restrictions on fishing relevant to migratory salmonids

The fishing area falls within a Bass Nursery Area[20], Within this area fishing for bass (*Dicentrarchus labrax*), or fishing for any species of sea-fish using sand-eels (*Ammodytidae)* as bait, by any fishing boat is prohibited during the period 30th April to 1st November.

4.5 Evidence of salmonids using fishing area to access SAC or SSSI

As determined by the evidence presented in Sections A 1.4 and C 2.5, salmonids are known to be present in Southampton Water.

Sections 1.1 and 1.4 of the Net Fishing Byelaw Literature Review provide information on the migration behaviours of Atlantic salmon and sea trout. Of specific relevance to the likely presence of salmonids in the fishing area in question:
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Itchen SAC where Atlantic salmon are a qualifying feature of the SAC.
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Itchen SSSI where sea trout are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Test SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to a Principal Salmon River.

4.6 Evidence demonstrating known interaction between nets and salmonids

There is no known evidence demonstrating interactions, however there is evidence to suggest that interactions are uncommon:
- Fishers have reported no bycatch of salmonids in this fishery. As a matter of practice, fishers do not net fish during periods when there is a higher risk of interception of salmonids, for example during periods of high flow.
- In 2019 Southern IFCA Officers undertook 5 net fishing observer trips in Southampton Water, as follows:
    - 3 net fishing trips in June 2019:
        - 1 covering the Hamble River and Fawley Bay using a 4-inch mesh, 300m long, 40 mesh deep net. 4 sets of the net during the trip
            - no salmonid interaction

[20] as specified under The Bass (Specified Areas) (Prohibition of Fishing) Order 1990 and The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999[20].

        - net 1 – no grey mullet caught, additional catch of 2 bass above MCRS and 1 flounder under MCRS
        - net 2 – no grey mullet caught, additional catch of 1 flounder under MCRS
        - net 3 – 3 golden grey mullet above MCRS
        - net 4 – no catch
    - 1 covering the Hamble estuary using a 3 5/8-inch mesh, 360m long, 30 mesh deep net for ring netting. 2 sets of the net during the trip
        - no salmonid interaction
        - net 1 – 1 thin-lipped grey mullet above MCRS, additional catch of 1 bass below MCRS
        - net 2 – 18 thick-lipped grey mullet and 32 golden grey mullet
    - 1 covering various locations in Southampton Water using a 300-yard net for drift netting. 3 sets of the net during the trip
        - no salmonid interaction
        - net 1 – no grey mullet caught, additional catch of 1 smooth hound
        - net 2 – 13 thick-lipped grey mullet, 1 thin-lipped grey mullet and 1 golden grey mullet all above MCRS, additional catch of 3 bass above MCRS and 1 smooth hound
        - net 3 – 1 thick-lipped grey mullet, 11 thin-lipped grey mullet and 8 golden grey mullet all above MCRS
- 1 net fishing trip in August 2019:
    - covering various locations in Southampton Water (outside of the main channel at the southwestern end of Southampton Water) using a 4-inch mesh, 360-yard, 30 mesh deep net for ring netting. 5 sets of the net during the trip
        - no salmonid interaction
        - net 1 – 6 bass, 5 above MCRS, 1 below MCRS
        - net 2 – no catch
        - net 3 – no catch
        - net 4 – 2 thin-lipped grey mullet above MCRS, additional catch of 1 bass below MCRS and 3 flounder, 2 above MCRS and 1 below MCRS
        - net 5 – 1 flounder below MCRS
- 1 net fishing trip in September 2019:
    - covering various locations in Southampton Water (outside of the main channel in the area around and south of dock head) using a 100-150mm mesh demersal sole net set approximately 3ft off the bottom for an overnight soak. 5 nets were set for the fishing trip
        - no salmonid interaction
        - net 1 – 5 flounder above MCRS, 24 sole above MCRS
        - net 2 – 1 gurnard, 14 sole (12 above MCRS, 2 below MCRS), 1 brill below MCRS, 4 flounder (3 above MCRS, 1 below MCRS), 12 plaice (5 above MCRS, 7 below MCRS), 2 thornback ray (1 above MCRS, 1 below MCRS) and 3 spider crab (length measurement not recorded)
        - net 3 – 12 sole (10 above MCRS, 2 below MCRS), 8 flounder (5 above MCRS, 3 below MCRS), 8 plaice (4 above MCRS, 4 below MCRS), 5 thornback ray (1 above MCRS, 4 below MCRS), 1 brill below MCRS, 2 bass (1 above MCRS, 1 below MCRS), 1 smooth hound and 1 dogfish
        - net 4 – 16 sole (10 above MCRS, 6 below MCRS), 3 plaice all below MCRS, 11 flounder (10 above MCRS, 1 below

MCRS), 1 bass above MCRS, 1 thornback ray above MCRS and 1 smooth hound

- net 5 – 36 sole (18 above MCRS, 18 below MCRS), 7 plaice (1 above MCRS, 6 below MCRS), 10 flounder (5 above MCRS, 5 below MCRS), 4 red mullet all above MCRS, 2 thornback ray below MCRS, 2 mackerel above MCRS, 1 pout, 1 gurnard, 10 smooth hound, 4 spider crab, 1 dogfish and 1 brown crab

**Note: observer net fishing trips were carried out prior to the introduction of the Southern IFCA Minimum Conservation Reference Size Byelaw, therefore the MCRS for all grey mullet species was 30cm at the time this data was collected.*

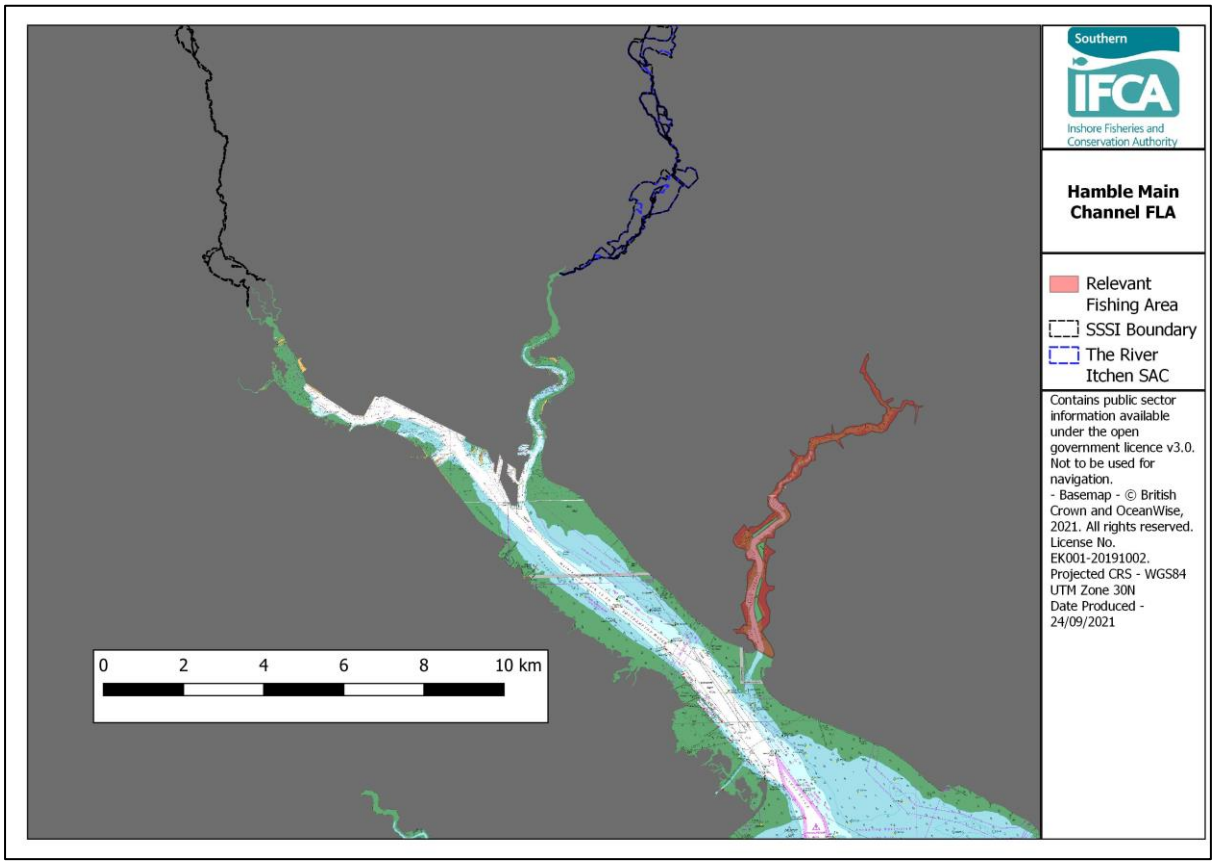
4.7 Incidental evidence of interactions between nets and salmonids

None recorded.

5 River Hamble, Main Channel

5.1 Proximity to Functionally Linked Areas

As demonstrated in Map 6, the River Hamble Main Channel is functionally linked to the River Itchen SAC, River Itchen SSSI and the River Test SSSI.



Map 6: Proximity of The River Hamble Main Channel fishing area to River Itchen SAC, SSSI and River Test SSSI

5.2 Fishing effort

No commercial net fishing occurs within the fishing area

5.3 Socio-economic importance of Fishing Area
No commercial net fishing occurs within the fishing area

5.4 Existing restrictions on fishing relevant to migratory salmonids
No commercial net fishing occurs within the fishing area under order of the River Hamble Harbour Authority.

5.5 Evidence of salmonids using fishing area to access SAC or SSSI
The River Hamble (main channel) is a principal migration route leading to the River Itchen SAC, the River Itchen SSSI and the River Test SSSI. This is determined by the Evidence presented in Sections A 1.4 and C 2.5, as well as Sections 1.1 and 1.4 of the Net Fishing Byelaw Literature Review.

In addition, The Environment Agency carry out Fish Population Surveys on Principal Course Fishery Rivers, such as the River Hamble. The surveys focus on locations where coarse fishing takes place and are repeated every three years.

- Current available data is for 2018[21]:
    - Average of 2.4 brown/sea trout per 100m^2 across two surveyed sites#
    - Catch of brown/sea trout at the site Upstream of the Railway Viaduct was the highest recorded (2.3 per 100m^2)
    - Size range 75-558mm
    - Water Framework Directive Classification, Fish Status for 2016 is Good.
    - Survey showed numbers of brown/sea trout showed strong positive correlation with the minimum summer flow

There is no salmonid migration timing data provided specifically for the River Hamble, therefore migration timings should be considered the same as for the Rivers Itchen and Test as detailed in Sections A 1.4 and C 2.5.

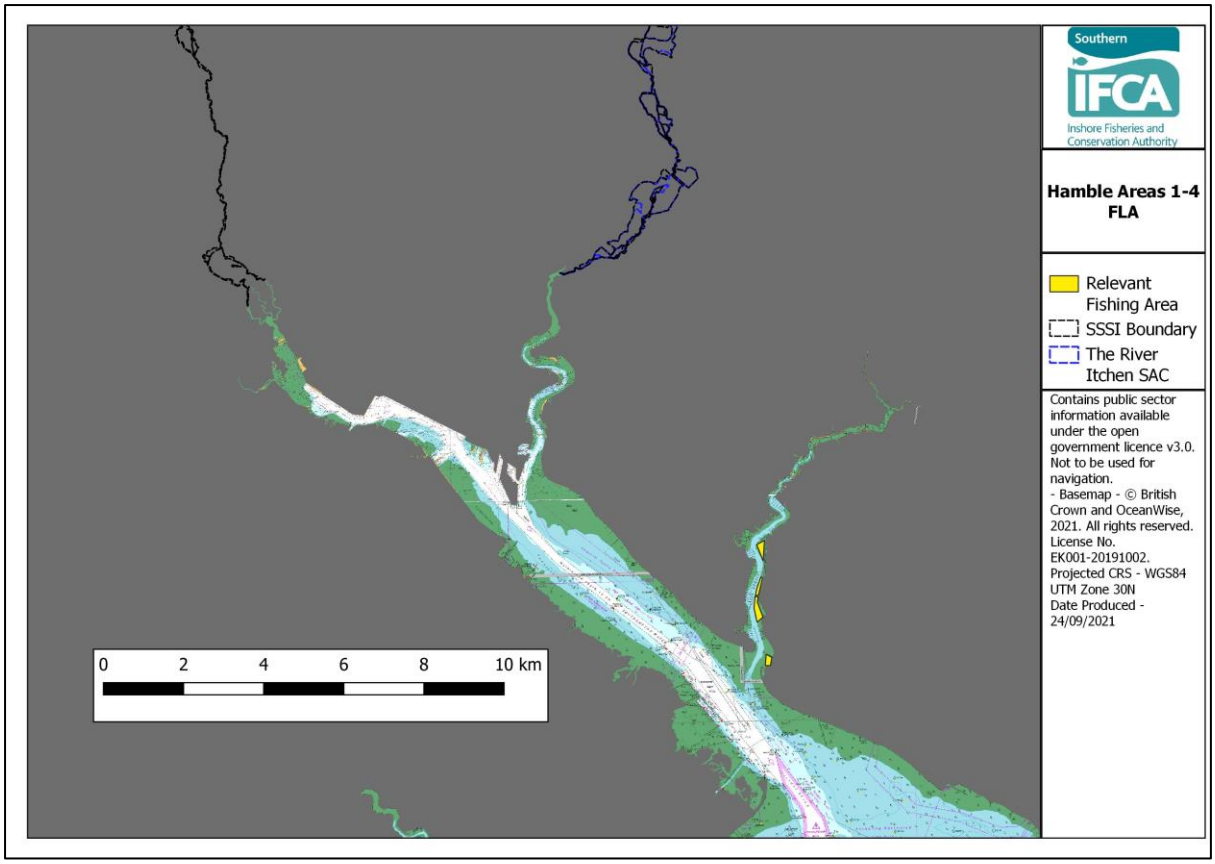
5.6 Evidence demonstrating a known interaction between nets and salmonids
None recorded.

5.7 Incidental evidence of interactions between nets and salmonids
None recorded.

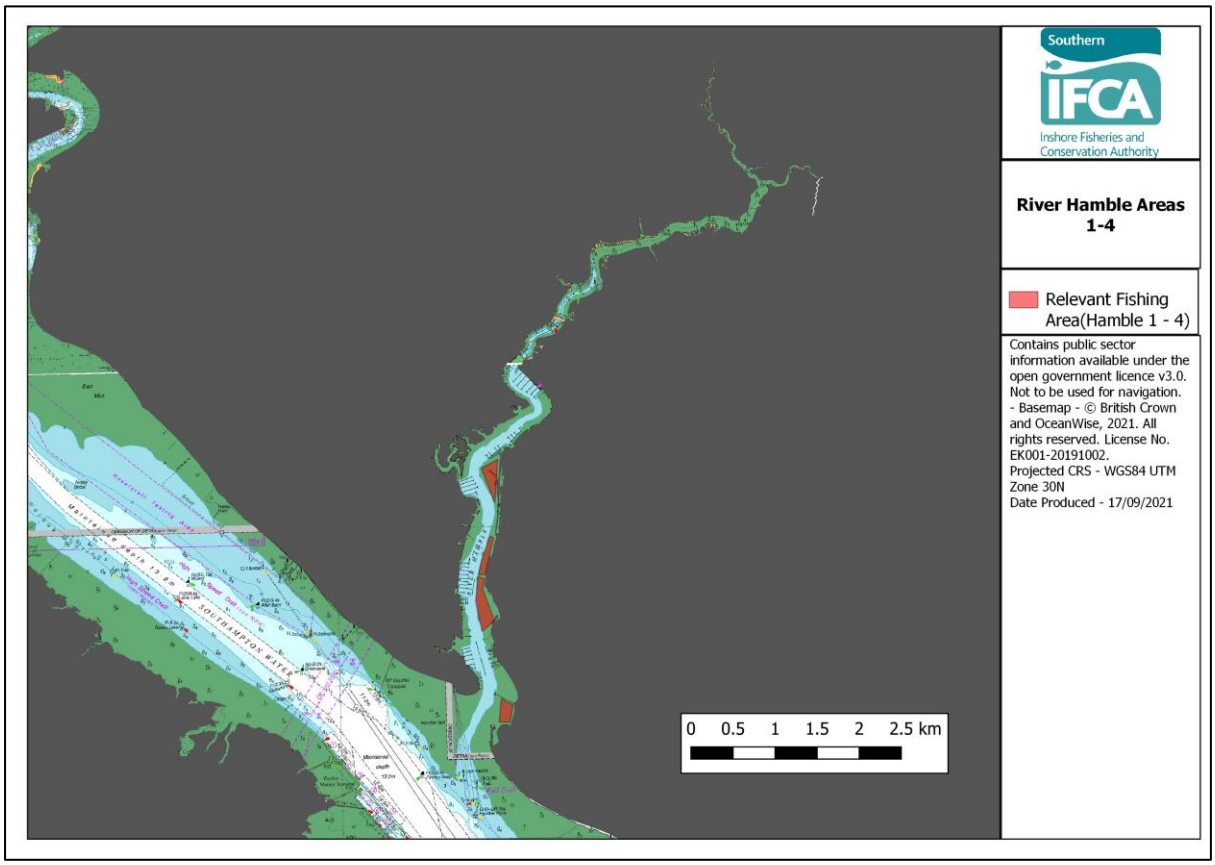
6 River Hamble (Areas 1-4)

6.1 Proximity to Functionally Linked Areas
As demonstrated in Map 7, the River Hamble (Areas 1-4) are functionally linked to the River Itchen SAC, River Itchen SSSI and the River Test SSSI. Map 7a shows a higher resolution of the fishing area in question.

21 Busst, G. 2019. Environment Agency Fish population survey report, Hamble and Wallington 2018, pp.7. *Available on request from Environment Agency.*



Map 7: Proximity of The River Hamble (Areas 1-4) fishing area to River Itchen SAC, SSSI and River Test SSSI



Map 7a: Higher resolution of River Hamble (Areas 1-4)

6.2 Fishing effort

6.2.1 Gill net (ring)

- Net fishing takes place under permit from the Warsash Harbour Master
- Fishers are required to report to Warsash HM planned fishing activity prior to commencing
- 4 vessels (in combination) undertake approximately 10-25 trips per year (MMO data)
- Ring nets are used April to September during daylight hours
- Target species are grey mullet with a potential bycatch of bass
- Trips last 4 hours with 2-3 nets set per trip
- Max. soak time is 30 minutes per net
- Mesh size range between 3 5/8 and 4 inches
- Targeted fishing method, from local fisher knowledge and observation by Southern IFCA officers during observer trips nets are only set when a shoal of fish is seen
- Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
- The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a 'bag' in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float line. In this way no 'bag' is created and fish which are not physically caught in the net will not be removed as the net is recovered.

6.3 Socio-economic importance of Fishing Area

The estimated first-sale value of net fishing in the River Hamble (Areas 1-4 and Area 5 combined) is in the region of £5,000 per annum (data provided directly by fishers).

6.4 Existing restrictions on fishing relevant to migratory salmonids

Four vessels are licenced to fish in the River Hamble by the River Hamble Harbour Authority. This licence includes specified areas where ring net only fishing.

The fishing areas fall within a Bass Nursery Area[22], Within these areas fishing for bass (*Dicentrarchus labrax*), or fishing for any species of sea-fish using sand-eels (*Ammodytidae)* as bait, by any fishing boat is prohibited during the period 30th April to 1st November.

6.5 Evidence of salmonids using fishing areas to access SAC or SSSI

As determined by the evidence presented in Sections A 1.4 and C 2.5 salmonids are known to be present in Southampton Water.

Sections 1.1 and 1.4 of the Net Fishing Byelaw Literature Review provide information on the migration behaviours of Atlantic salmon and sea trout. Of specific relevance to the likely presence of salmonids in the above-named specified fishing areas:

- The areas do not fall within a principal or known migration route, refuge area or pinch point leading to the River Itchen SAC where Atlantic salmon are a qualifying feature of the SAC.
- The areas do not fall within a principal or known migration route, refuge area or pinch point leading to the River Itchen SSSI where sea trout are a faunal component of the 'rivers and streams' feature
- The areas do not fall within a principal or known migration route, refuge area or pinch point leading to the River Test SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature

22 as specified under The Bass (Specified Areas) (Prohibition of Fishing) Order 1990 and The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999[22].

- The areas do not fall within a principal or known migration route, refuge area or pinch point leading to a Principal Salmon River.

6.6 Evidence demonstrating a known interaction between nets and salmonids

- There is no known evidence demonstrating interactions, however there is evidence provided by fishers that there is no bycatch of salmonids in this fishery. As a precaution fishers do refrain from net fishing during periods when risk of interception of salmonids is increased (periods of high flow)
- In June 2019 Southern IFCA Officers undertook 2 observer trips on net fishing vessels in the River Hamble:
    - 1 covering the Hamble River and Fawley Bay using a 4 inch mesh, 300m long, 40 mesh deep net. 4 sets of the net during the trip
        - no salmonid interaction
        - net 1 – no grey mullet caught, additional catch of 2 bass above MCRS and 1 flounder under MCRS
        - net 2 – no grey mullet caught, additional catch of 1 flounder under MCRS
        - net 3 – 3 golden grey mullet above MCRS
        - net 4 – no catch
    - 1 covering the Hamble estuary using a 3 5/8 inch mesh, 360m long, 30 mesh deep net for ring netting. 2 sets of the net during the trip – no salmonid interaction
        - no salmonid interaction
        - net 1 – 1 thin-lipped grey mullet above MCRS, additional catch of 1 bass below MCRS
        - net 2 – 18 thick-lipped grey mullet and 32 golden grey mullet

6.7 Incidental evidence of interactions between nets and salmonids

No known evidence

7 River Hamble (Area 5)

7.1 Proximity to Functionally Linked Areas

As demonstrated in Map 8, the River Hamble (Area 5) is functionally linked to the River Itchen SAC, River Itchen SSSI and the River Test SSSI. Map 8a shows a higher resolution of the fishing area in question.

7.2 Fishing effort

Please refer to Section C 6.2

7.3 Socio-economic importance of Fishing Area

Please refer to Section C 6.3

7.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section C 6.4

7.5 Evidence of salmonids using fishing area to access SAC or SSSI

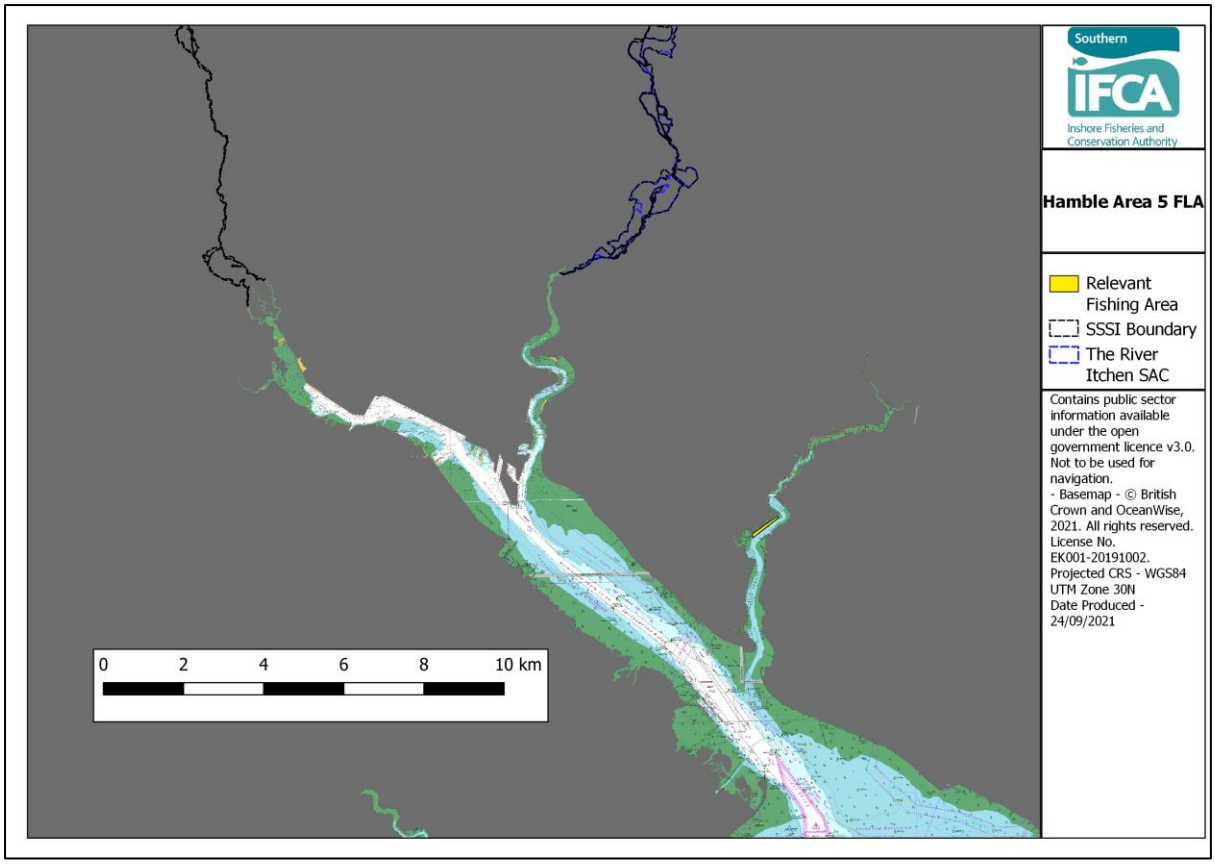
Please refer to Section C 6.5

7.6 Evidence demonstrating a known interaction between nets and salmonids

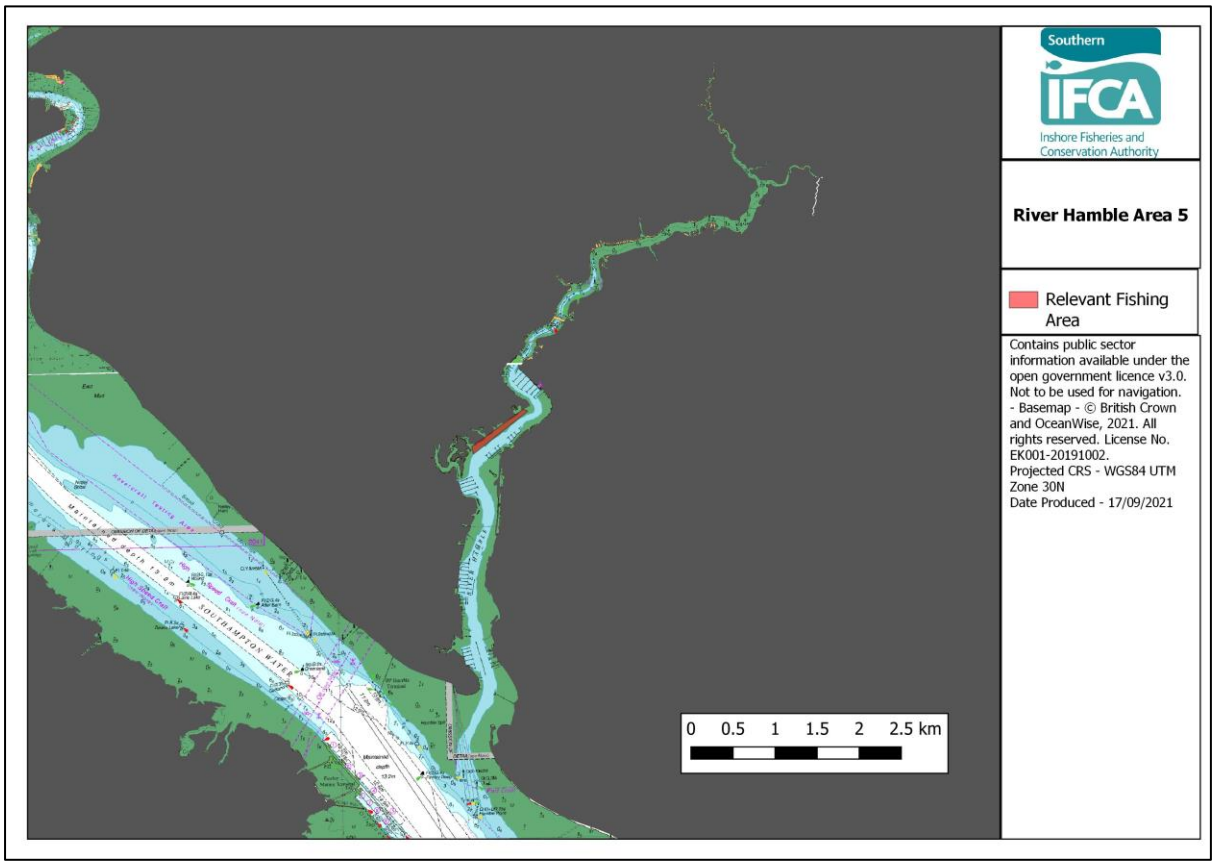
Please refer to Section C 6.6

7.7 Incidental evidence of interactions between nets and salmonids

None recorded.



Map 8: Proximity of The River Hamble (Area 5) fishing area to River Itchen SAC, SSSI and River Test SSSI



Map 8a: Higher resolution of River Hamble (Area 5)

SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

8 Southampton Water, Outside Main Channel

8.1 Map of fishing area

Please refer to Section C 4.1

8.2 Fishing effort

Please refer to Section C 4.2

8.3 Socio-economic importance of fishing area

Please refer to Section C 4.3

8.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 4.4

8.5 Habitat Data which indicates that fishing area is an EFH

Habitat information is available from a study carried out by Southampton VTS as part of survey work to assess impacts of channel deepening work in 2007: Subtidal sediments of Southampton Water are predominantly mud and muddy sands with patches of sandy sediments. Within the navigation channel the habitat is highly modified due to disturbance by vessel movements and annual maintenance dredging.

The fishing area falls within a number of Designated Areas, namely the Solent Maritime SAC[23], Solent and Southampton Water SPA[24], the Lee-on-the-Solent to Itchen Estuary SSSI[25] (eastern side) and the Hythe to Calshot Marshes SSSI[26] (western side). The following habitat information is provided under these designations:

- Saltmarsh (designated supporting habitat under SPA)
- Littoral fringe of saltmarsh (under the Lee-on-the-Solent to Itchen Estuary SSSI)
- Intertidal mudflats and sandflats (designated supporting habitat under SPA)
- Extensive intertidal muds (under the Lee-on-the-Solent to Itchen Estuary SSSI)
- Mixed sediment shores (designated supporting habitat under SPA)
- Most extensive remaining areas of saltmarsh and mudflats in Southampton Water Habitats (under the Hythe to Calshot Marshes SSSI)

[23] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK0030059&SiteName=solent&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[24] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9011061&SiteName=solent&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[25] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1005846&SiteName=solent&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[26] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1001035&SiteName=hythe&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

8.6 Fish Data which indicates that fishing area is an EFH

The Environment Agency conduct a Transitional and Coastal (TraC) fish monitoring programme in Southampton Water. The monitoring includes the use of beach seine and beam trawl surveys. The survey is undertaken in the summer and the autumn. Data from this survey is available for 2017[27] and 2018[28]. Please note that the results are provided for Southampton Water as a whole, rather than being specific to the fishing site in question.

- 2017: A total of 29 species were identified (8,803 individuals across summer and autumn surveys). Catches were average in terms of fish abundance compared to previous years, but there was a notable reduction in the diversity of species caught. Annex 3, Figure 7 shows total catch for different species across Southampton Water for the summer and autumn surveys using seine nets, fyke nets and beam trawls. Annex 3, Figure 8 shows total catch for different species across Southampton Water for the autumn surveys using a CSV otter trawl (Hythe Pier site only)
- 2018: A total of 24 species were identified across summer and autumn surveys (17 species in the spring, 22 species in the autumn). The diversity of the catch was similar to 2017. Annex 3, Figure 9 shows total catch for different species across Southampton Water for the summer and autumn surveys using seine nets, fyke nets and beam trawls. Annex 3, Figure 10 shows total catch for different species across Southampton Water for the autumn surveys using a CSV otter trawl (Hythe Pier site only)
- The survey showed that there was a positive relationship between average winter sea surface temperature and spring juvenile bass catches. However, the surveys also demonstrated that high summer sea surface temperatures, exceeding 17°C, can have a negative impact on bass numbers
- Specific analysis of data on grey mullet species was carried out for 2007 to 2018 (no data from 2016) and indicates, despite variability in annual catches between years, a linear trend of a decline in catches of grey mullet species. More grey mullet species are caught in the autumn surveys than the spring surveys. Spring catches have fallen below the long-term mean for all years since 2012. Eight out of twelve autumn survey years have shown catches below the long-term mean. Grey mullet species less than 5cm long make up the majority of the catch. Since 2014, identification of grey mullet was done down to species level. Thick-lipped grey mullet showed a decline between 2014 and 2018. Thin-lipped grey mullet showed an increase between 2014 and 2018. Golden grey mullet are less prevalent in comparison to the other two species.

8.7 Invertebrate Data which indicates that fishing area is an EFH

- Molluscs, Crustacea, Polychaete and oligochaete worms, the largest remaining British population of American Hard-Shelled clam (Lee-on-the-Solent to Itchen Estuary SSSI citation).
- Occurrence of extensive bird populations reflect the high densities of benthic invertebrates inhabiting the mudflats, benthic and shallow water fauna is rich in species (Hythe to Calshot Marshes SSSI citation)
- Additional information from a study carried out by Southampton VTS as part of survey work to assess impacts of channel deepening work in 2007: of 98 samples taken from five areas, the samples were numerically dominated by polychaetes, oligochaetes, crustaceans and molluscs. The mean number of species per sample was 31 with a mean population density of 707 individuals per 0.1m^2. Either side of the main channel abundance was sometimes higher in the shallow subtidal and even higher in the intertidal

[27] http://www.solentforum.org/publications/key_publications/Environment%20Agency%20SSD%20Fish%20Monitoring%20Report%202017.pdf

[28] https://sussexangling.co.uk/wp-content/uploads/2019/06/Environment-Agency-SSD-Fish-Monitoring-Report-2018.pdf

8.8 Summary of ecological value of EFH

The area outside of the main channel is likely to be predominantly intertidal and subtidal mudflats, fringed in discrete sections (Ashlett Creek and Fawley) by saltmarsh. The area is however, subject to high levels of human disturbance and is therefore considered to be of low value as an EFH.

9 River Hamble (Areas 1-4)

9.1 Map of fishing area

Please refer to Section C 6.1

9.2 Fishing effort

Please refer to Section C 6.2

9.3 Socio-economic importance of fishing area

Please refer to Section C 6.3

9.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 6.4

9.5 Habitat Data which indicates that fishing area is an EFH

The River Hamble, Areas 1-4 falls within three of the four designations listed in Section D 8.5 (excluding Hythe to Calshot Marshes SSSI). Areas 1-4 specifically are areas of intertidal mudflats.

9.6 Fish Data which indicates that fishing area is an EFH

Please see Section D 8.6. Two of the sites sampled under The TraC Fish Monitoring Programme are relevant to the River Hamble (Swanwick via seine net and Manor Farm via seine net and beam trawl). Therefore, the fish species identified across the area are likely to be present in this area.

Please also refer to Section D 10.6 which provides data from the Southern IFCA small fish survey adjacent to Area 5 in the River Hamble. Species found in this area are also highly likely to be found throughout Areas 1-4 in the River Hamble.

9.7 Invertebrate Data which indicates that fishing area is an EFH

Please refer to Section D 8.7. For note the invertebrate data may not be specific to the fishing area in question, however, do provide a suggestion of habitats which may be present.

Sediment in the River Hamble receives abundant organic matter which enables the intertidal mudflats to support high densities of benthic invertebrates, Molluscs, Crustacea, Polychaete and oligochaete worms and the largest remaining British population of American Hard-Shelled Clam (Lee-on-the-Solent to Itchen Estuary SSSI citation).

9.8 Summary of ecological value of EFH

The four specified areas fall within areas of intertidal mudflats, likely to be used by feeding fish species. However, the absence of other habitats result in the area being considered to be of low value as an EFH and better examples of EFH exist close-by (Area 5).

10 River Hamble (Area 5)

10.1 Map of fishing area

Please refer to Section C 7.1

14.2 Fishing effort

Please refer to Section C 7.2

14.3 Socio-economic importance of fishing area

Please refer to Section C 7.3

14.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 7.4

14.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 8.5. Area 5 of the River Hamble consists of intertidal mud habitat which is a designated supporting habitat. The area falls within the Lincegrove and Hackett's SSSI where mature saltmarsh is dissected by complex patterns of drainage creeks. Seven species of saltmarsh have been identified in this area.

14.6 Fish Data which indicates that fishing area is an EFH

Please refer to Section D 8.6. Two of the sites sampled under The TraC Fish Monitoring Programme are relevant to the River Hamble (Swanwick via seine net and Manor Farm via seine net and beam trawl). Therefore, the fish species identified across the area are likely to be present in this area.

The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample for fish species, particularly juvenile fish. Two seine nets are completed for each survey at each site and the fish retained in the net are identified, counted, and measured before being returned to the sea.

The River Hamble was surveyed for the first time in autumn 2021 at a site opposite Area 5.

- Five species were identified at the site. Count data for each species is given in Annex 4, Figure 11.
- The most abundant species for the survey was bass (335)

14.7 Invertebrate Data which indicates that fishing area is an EFH

The intertidal mud habitat is likely to contain the same invertebrate species identified in the same habitat type for River Hamble Areas 1-4. Please refer to Section D 9.7.

14.8 Summary of ecological value of EFH

Complex saltmarsh and intertidal mud, such as those found at this site, provide high value as EFH for feeding and refuge for fish species. The situation of this EFH, relatively upstream with a lower salinity, will attract fish species that seek such conditions to spawn, such as the Golden grey mullet and Thin-lipped grey mullet. Both species have been observed by fishers to occur in this type of habitat.

SECTION E: MIGRATORY SALMONID ASSESSMENTS

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

11 Southampton Water, Outside Main Channel

11.1 Map of Fishing Area

Please refer to Section C 4.1

11.2 Fishing effort

Refer to Section C 4.2

11.3 Socio-economic importance of fishing area

Refer to Section C 4.3

11.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section A 4.4

11.5 Evidence of salmonids using Southampton Water, Outside Main Channel

Please see Section C 4.5

11.6 Evidence demonstrating a known interaction between nets and salmonids

Please see Section C 4.6

11.7 Incidental evidence of interactions between nets and salmonids

Please see Section C 4.7

12 River Hamble (Areas 1-4)

12.1 Map of Fishing Area

Please refer to Section C 6.1

12.2 Fishing effort

Refer to Section C 6.2

12.3 Socio-economic importance of fishing area

Refer to Section C 6.3

12.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section C 6.4

12.5 Evidence of salmonids using River Hamble (Areas 1-4)

Please see Section C 6.5

12.6 Evidence demonstrating a known interaction between nets and salmonids

Please see Section C 6.6

12.7 Incidental evidence of interactions between nets and salmonids
Please see Section C 6.7

13 River Hamble (Area 5)
11.1 Map of Fishing Area
Please refer to Section C 7.1

11.2 Fishing effort
Refer to Section C 7.2

11.3 Socio-economic importance of fishing area
Refer to Section C 7.3

11.4 Existing restrictions on fishing relevant to migratory salmonids
Please see Section C 7.4

11.5 Evidence of salmonids using River Mude
Please see Section C 7.5

11.6 Evidence demonstrating a known interaction between nets and salmonids
Please see Section C 7.6

11.7 Incidental evidence of interactions between nets and salmonids
Please see Section C 7.7

SECTION F: ANNEXES

Annex 1: Figures 1-3 detailing information on salmon stock and rod & line fishery data from Environment Agency reports for the River Itchen (see section A 1.4)

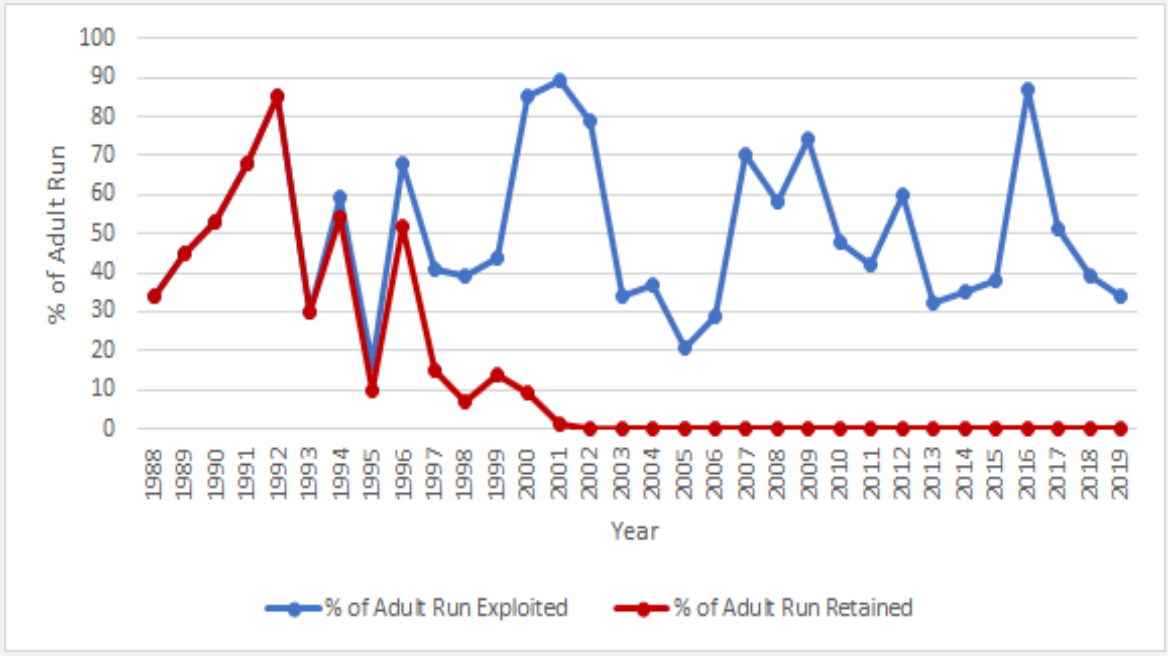


Figure 1: showing the exploitation rate (blue) and percentage of the adult Atlantic salmon run retained (red) by the licenced rod and line fishery on the River Itchen for 1988 to 2019

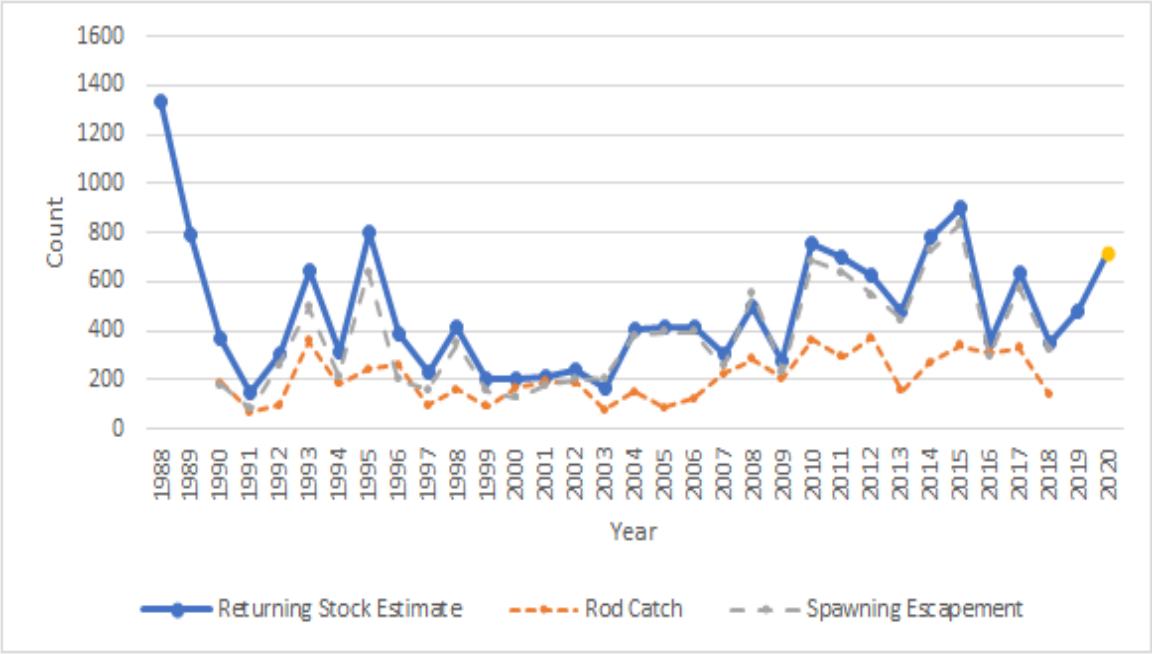


Figure 2: the validated count and run estimates of Atlantic salmon smolts and adults for the R. Itchen (blue), rod catch data (orange) and spawning escapement (grey) between 1988-2019. The yellow dot indicates preliminary data for 2020.

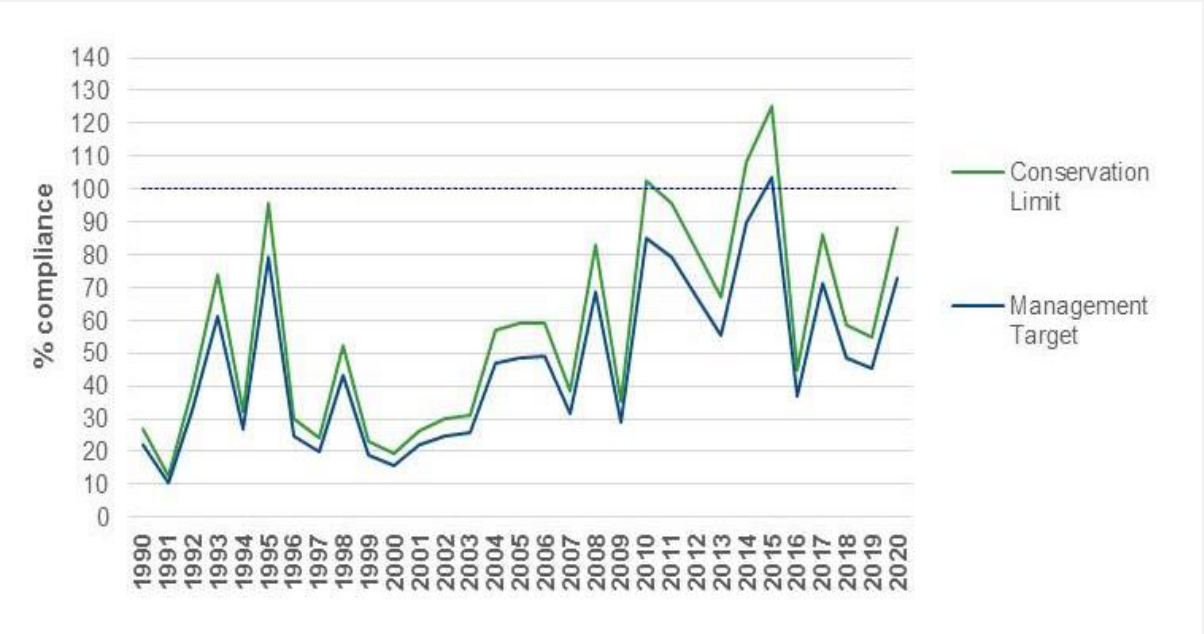


Figure 3: showing the Target Compliance of Atlantic salmon on the River Itchen for years 1990 to 2020, taken from the Environment Agency SDD Fish Monitoring Annual Report 2020

Annex 2: Figures 4-6 detailing information on salmon stock and rod & line fishery data from Environment Agency reports for the River Test (see section C 2.5)

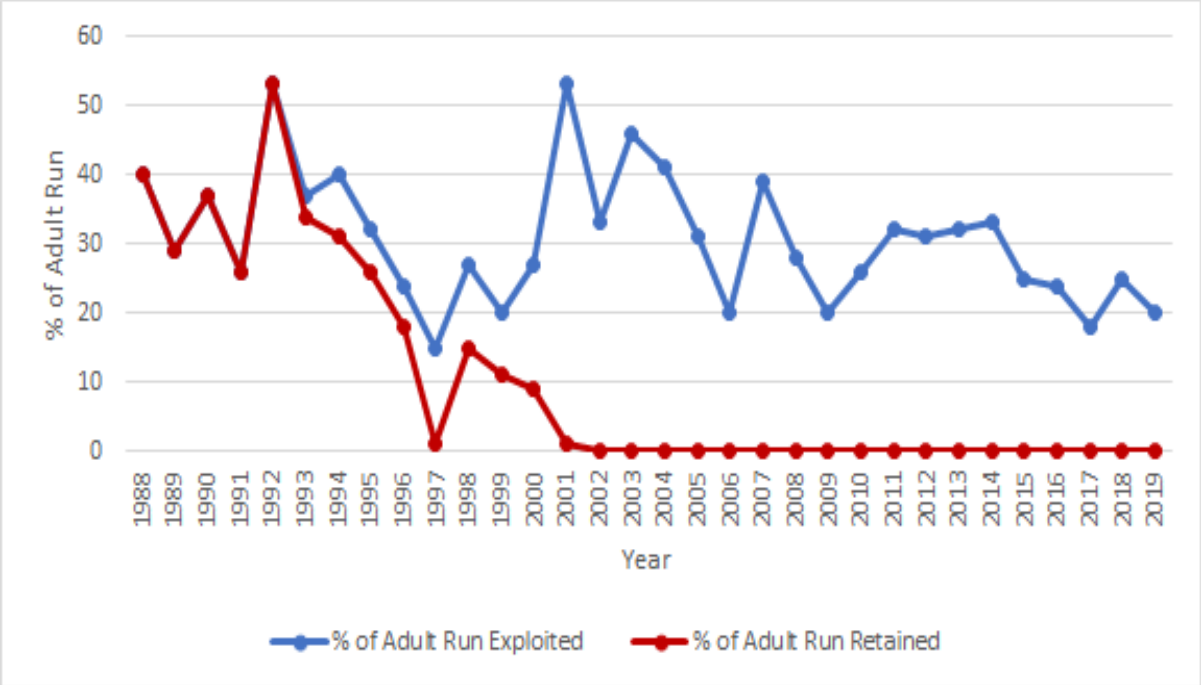


Figure 4: showing the exploitation rate (blue) and percentage of the adult Atlantic salmon run retained (red) by the licenced rod and line fishery on the River Test for 1988 to 2019

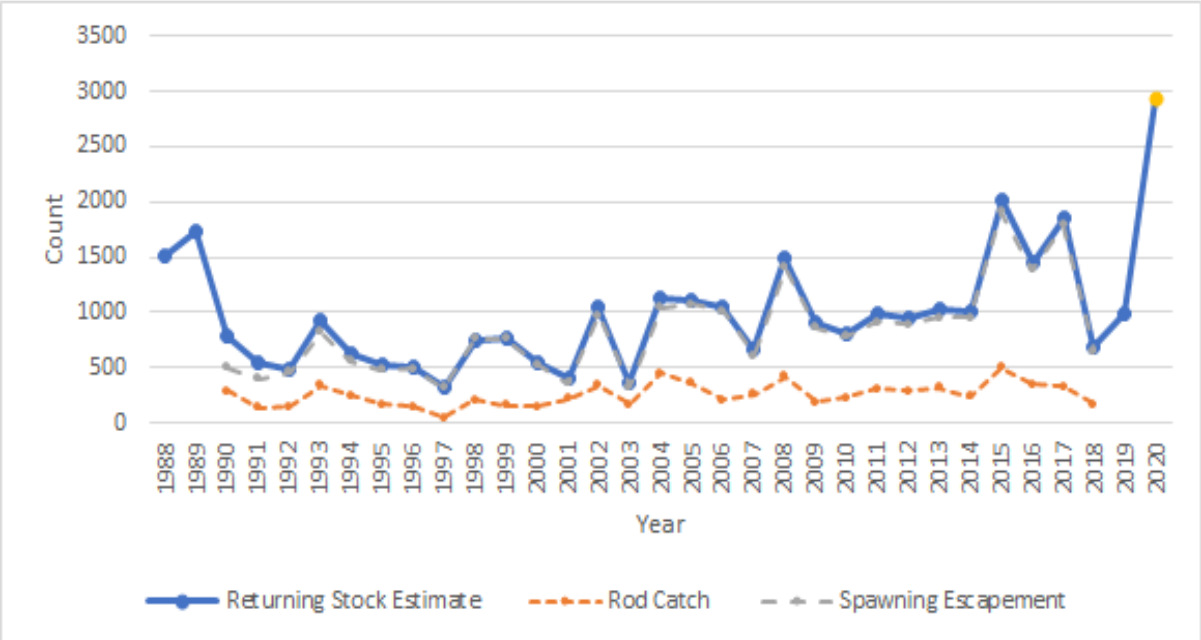


Figure 5: the validated count and run estimates of Atlantic salmon smolts and adults for the R. Test (blue), rod catch data (orange) and spawning escapement (grey) between 1988-2029. The yellow dot indicates preliminary data for 2020.

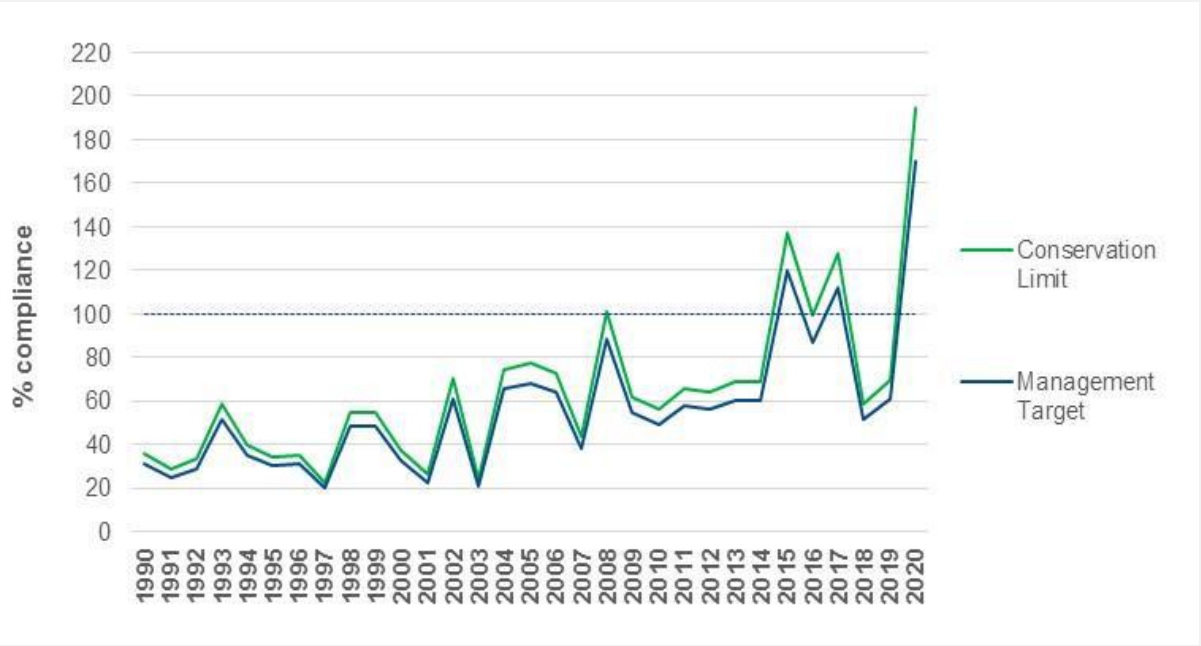


Figure 6: showing the Target Compliance of Atlantic salmon on the River Test for years 1990-2020, taken from the EA SDD Fish Monitoring Annual Report 2020

Annex 3: Figures 7-10 detailing information from the Environment Agency Transitional and Coastal (TraC) fish monitoring programme in Southampton Water in 2017 and 2018

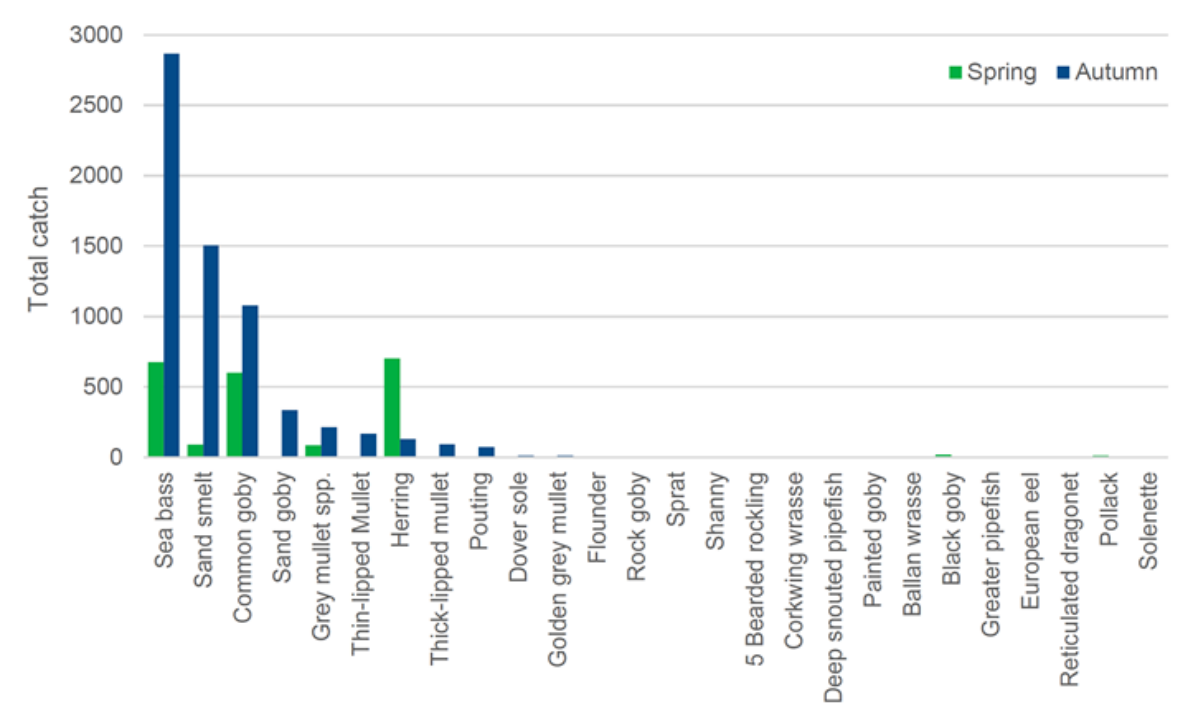


Figure 7: Total catch (count) of fish species caught in seine nets, fyke nets and beam trawls in Southampton Water as part of the Environment Agency TraC surveys for summer and autumn 2017. Graph is reproduced from Environment Agency Report 'Solent and South Downs: Fish Monitoring Report 2017'.

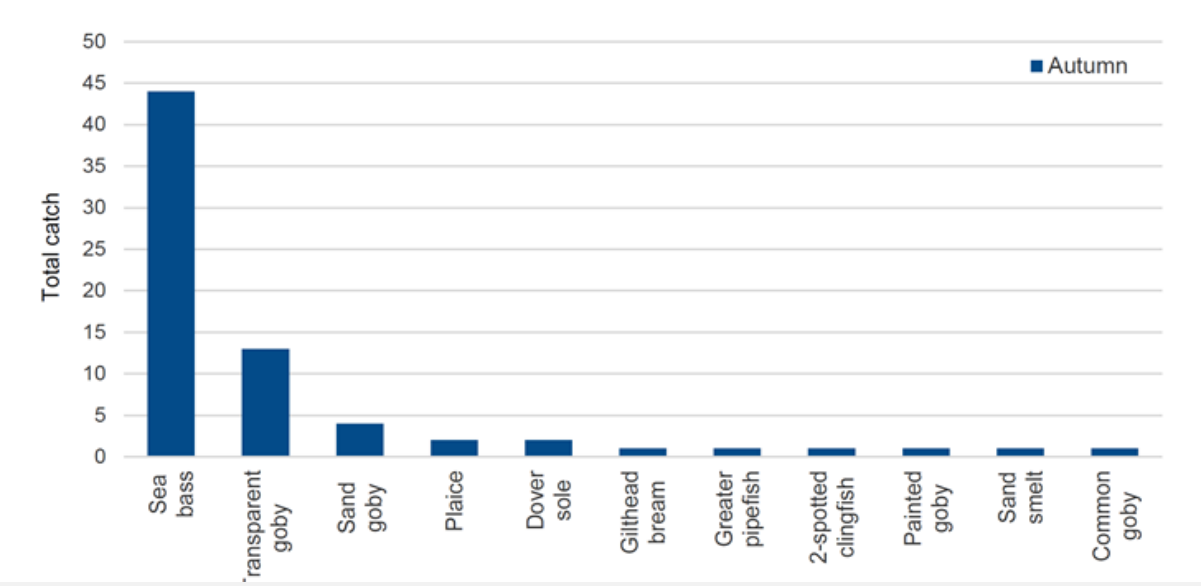


Figure 8: Total catch (count) of fish species caught in a CSV otter trawl at the Hythe Pier site in Southampton Water as part of the Environment Agency TraC surveys for autumn 2017. Graph is reproduced from Environment Agency Report 'Solent and South Downs: Fish Monitoring Report 2017'.

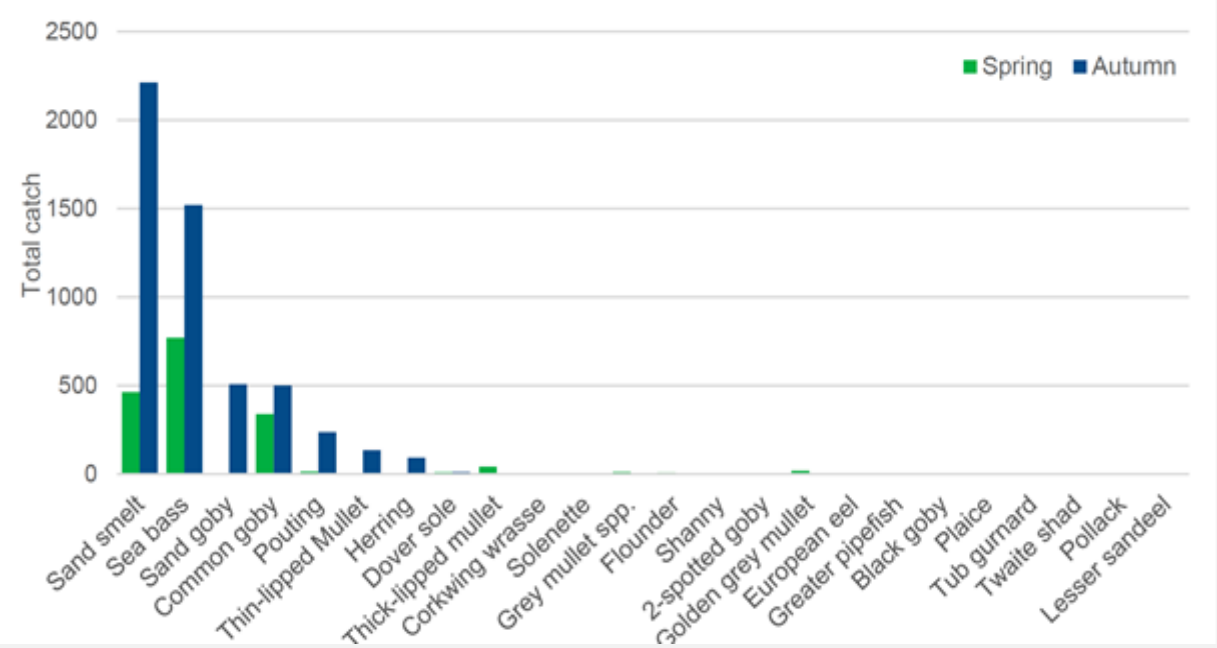


Figure 9: Total catch (count) of fish species caught in seine nets, fyke nets and beam trawls in Southampton Water as part of the Environment Agency TraC surveys for summer and autumn 2018. Graph is reproduced from Environment Agency Report 'Solent and South Downs: Fish Monitoring Report 2018'.

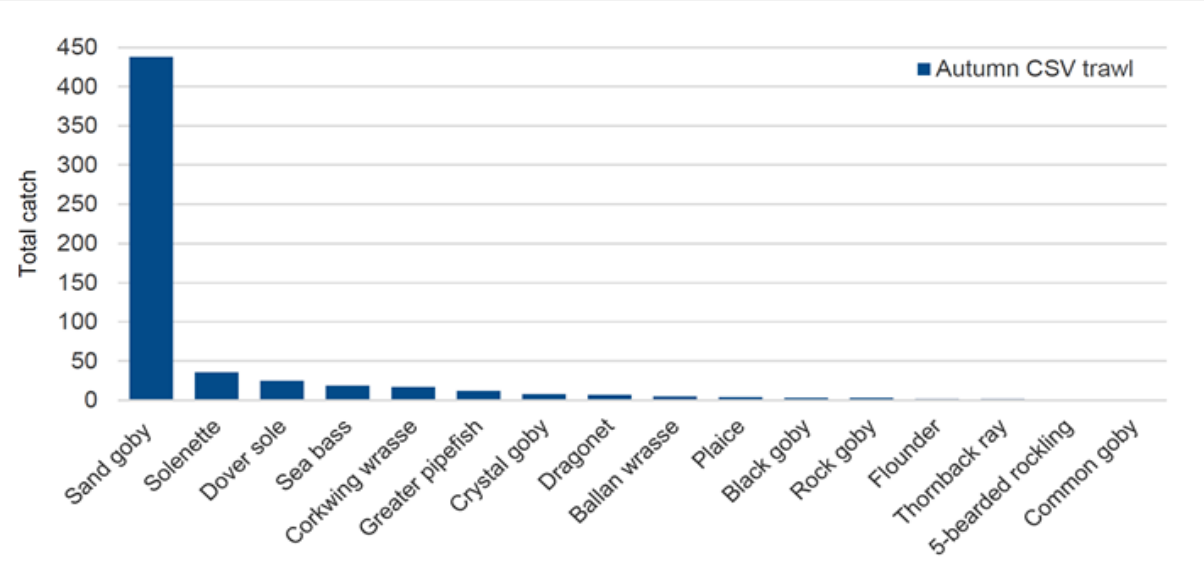


Figure 10: Total catch (count) of fish species caught in a CSV otter trawl at the Hythe Pier site in Southampton Water as part of the Environment Agency TraC surveys for autumn 2018. Graph is reproduced from Environment Agency Report 'Solent and South Downs: Fish Monitoring Report 2018'.

Annex 4: Data from Southern IFCA Small Fish Survey in the Hamble

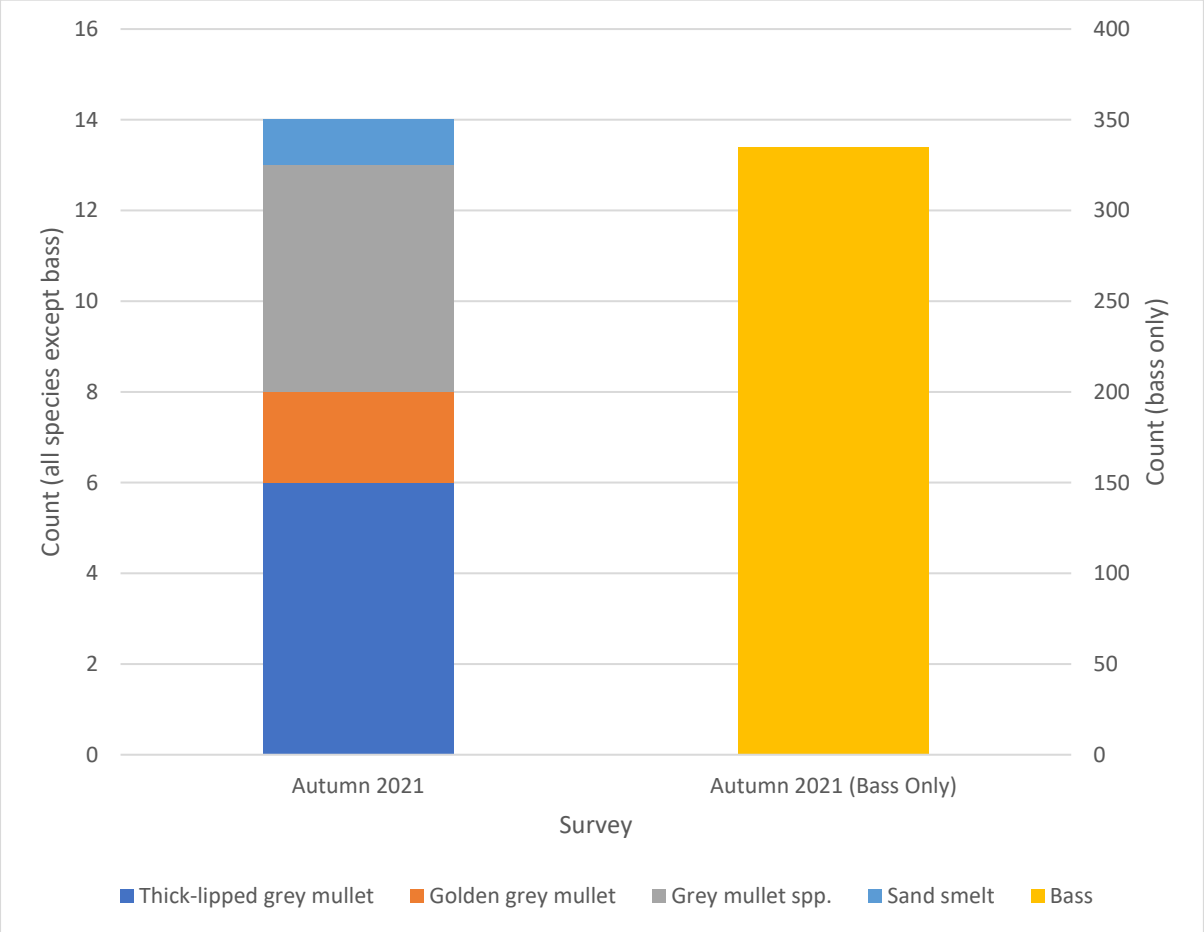


Figure 11: Count data for fish species identified in the River Hamble opposite Area 5 during the Southern IFCA Small Fish Survey in Autumn 2021. Due to the high count number for Bass species, this data has been included in a separate bar (yellow) relating to the secondary y-axis (right hand side).

Southern Inshore Fisheries and Conservation Authority

The Solent
Assessment Package: Site Specific Evidence

Supporting Document as part of the Inshore Netting Review

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

As there are no relevant SAC designations within or adjacent to fishing sites within Langstone Harbour, an HRA is not required to be undertaken.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

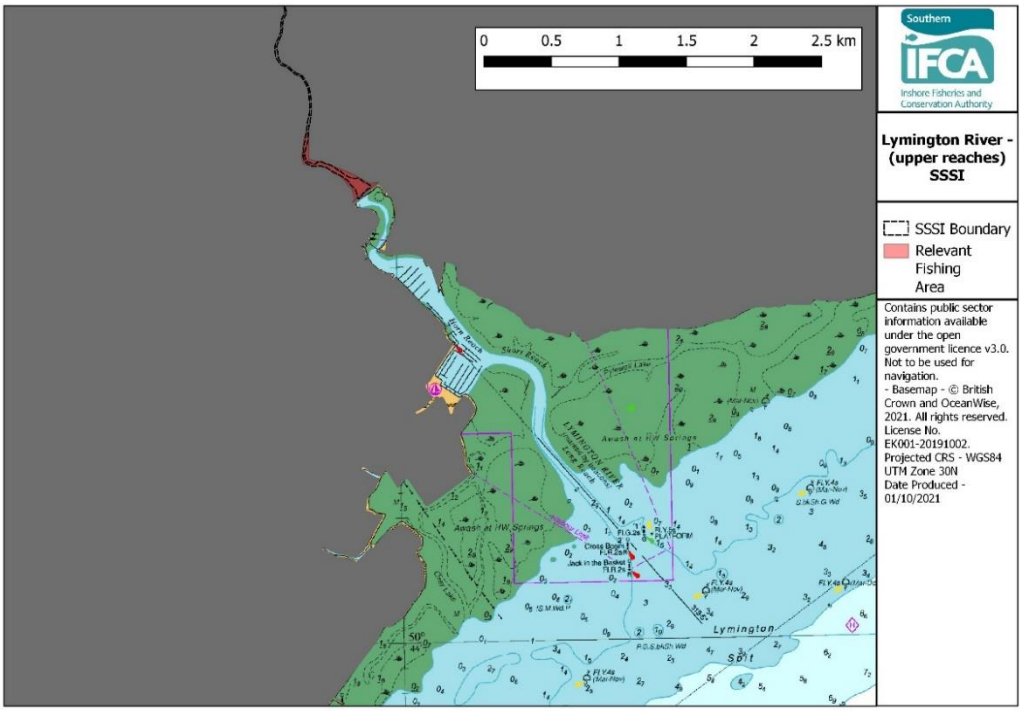
As such, a SSSI Assessment is required for the Lymington River (upper reaches) (sea trout as a faunal component of the Lymington River SSSI) in order to determine whether net fishing has any adverse effect on Atlantic salmon and/or sea trout.

More details on SSSI Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

1. Lymington River (upper reaches)

1.1 Proximity to Lymington River SSSI

Map 1 demonstrates where relevant fishing area falls within the Lymington River SSSI. For accuracy, this is the section which lies north the road bridge of the B3054.



Map 10: A map of the Lymington River (upper reaches) fishing area, showing relevant nature conservation designations.

1.2 SSSI feature under assessment

Sea trout are a faunal component of the 'Rivers and Streams' reportable feature for the Lymington River SSSI. Atlantic salmon are not directly referenced in the citation but the citation states that the river supports all species of international importance listed on Annex II to the EC Habitats Directive which encompasses Atlantic salmon. The Lymington River SSSI site details are available online[29].

1.3 Fishing effort

Fishing effort within the area of the Lymington River (upper reaches), which falls within the SSSI designation is thought to be very low. Vessels would need to be able to pass under the road bridge in order to access this area. Fishing activity in this area cannot be quantified however, there is the potential to use similar methods as those given in Section C 2.2.

1.4 Existing restrictions on fishing relevant to salmonids

The Southern IFCA 'Fixed Engines' byelaw prohibits the placing and use of fixed engines (nets), other than Fyke nets, for the taking of sea fish during the period from 1st April to 30th September (both days inclusive) in any year in all parts of the Lymington River which lie to the Northwest of a line drawn true South West from the seaward end of the Rail Ferry Terminal Jetty and within the Southern Sea Fisheries District.

1.5 Evidence of sea trout using the Lymington River

- Sea trout are a faunal component of the Lymington River SSSI 'Rivers and Streams' reportable feature.
- The Lymington River is listed as a 'Principal Sea Trout River' as determined by the Environment Agency.
- The sea trout fishery assessment data for 2020 shows a Compliance Level of 'Probably at Risk' which is the same status as in 2019.
- In 2020, the number of sea trout caught by rod and line in the River Lymington was 36 with 34 being released, giving a catch and release rate of 94%, this is a decrease of 3% from 2019.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of sea trout in the Lymington River as mid-March to early May for smolt and April to December for the adult run.
- Information from the Environment Agency states that Brown trout is the most dominant fish species in the Lymington River and the population has a significant migratory component.

1.6 Evidence of Atlantic salmon using the Lymington River

- Atlantic salmon are included in the citation for the Lymington River SSSI under the category 'under all species of international importance listed on Annex II to the EC Habitats Directive' which the river is noted to support

1.7 Known interactions between nets and salmonids in the Lymington River

None recorded

1.8 Incidental evidence of interactions between nets and salmonids in the Lymington River

None recorded

[29] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S2000203&SiteName=lymington&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

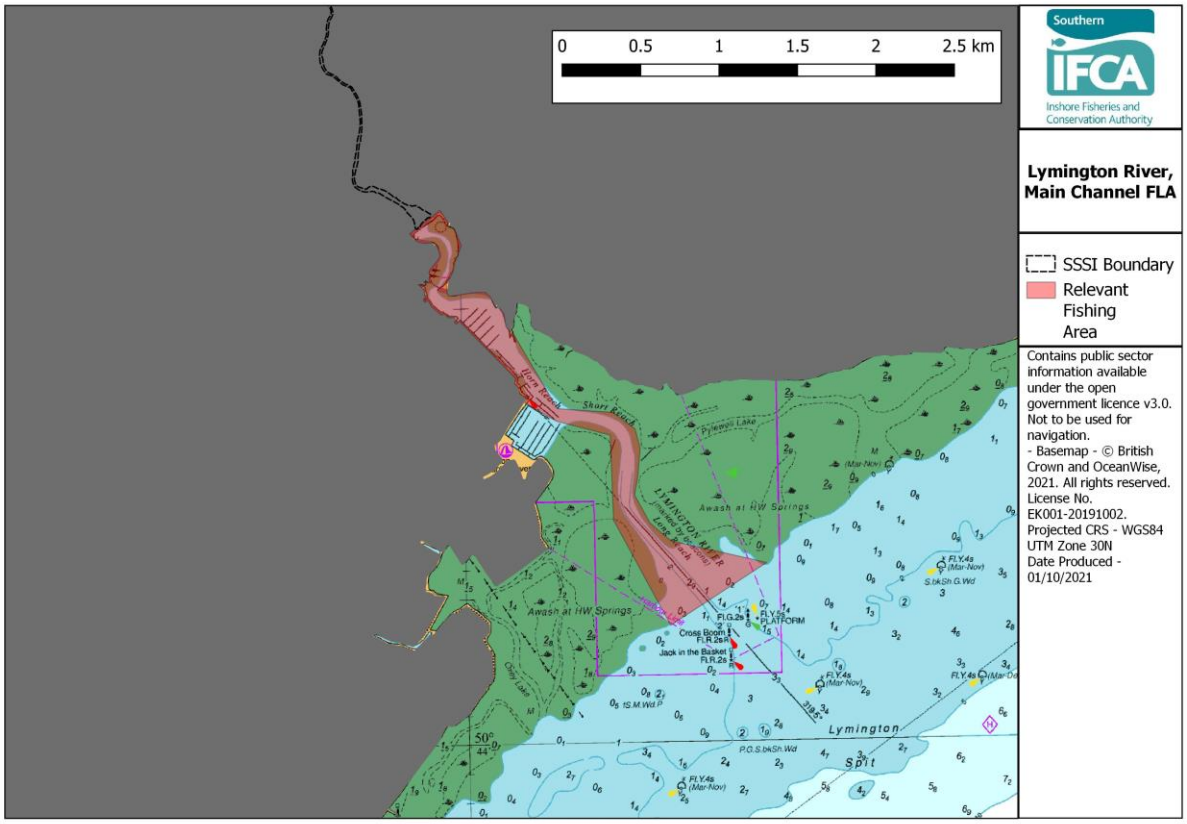
A Functionally Linked Area (FLA) Assessment is required to determine whether net fishing; occurring beyond the boundary of an SAC or SSSI (where salmonids are afforded protection); may have an adverse impact on salmonids.

More details on FLA Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

2. The Lymington River, Main Channel

2.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 2, the Lymington River, Main Channel is functionally linked to the Lymington River SSSI.



Map 2: Proximity of The Lymington River, Main Channel fishing area to the Lymington River SSSI

2.2 Fishing effort

- Up to five vessels are known to fish with nets in the River Lymington area, including within the main channel and the associated saltmarsh channel network.
- Target species include grey mullet, dover sole, plaice, skates and rays and black bream, with a bycatch of bass.

- Vessels use fixed and drift nets with occasional ring netting

2.3 Socio-economic importance of Fishing Area
The first sale value of net fishing activity in the entrance to the Lymington River and adjacent saltmarsh is estimated to be in the region of £15,000 per annum.

2.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section B 1.4

2.5 Evidence of salmonids using the fishing area to access the SAC or SSSI
Please refer to Sections B 1.5 and B 1.6

2.6 Evidence demonstrating a known interaction between nets and salmonids
The EA has provided the following evidence of detected interactions between fishing nets and migratory salmonids in the Lymington River area:

- In 1995: a prosecution of a fisher for the retention of sea trout caught in a net fished by the breakwater area
- In 1998: a prosecution of a fisher for the retention of sea trout caught in a net fished by the breakwater area

2.7 Incidental evidence of interactions between nets and salmonids
None recorded

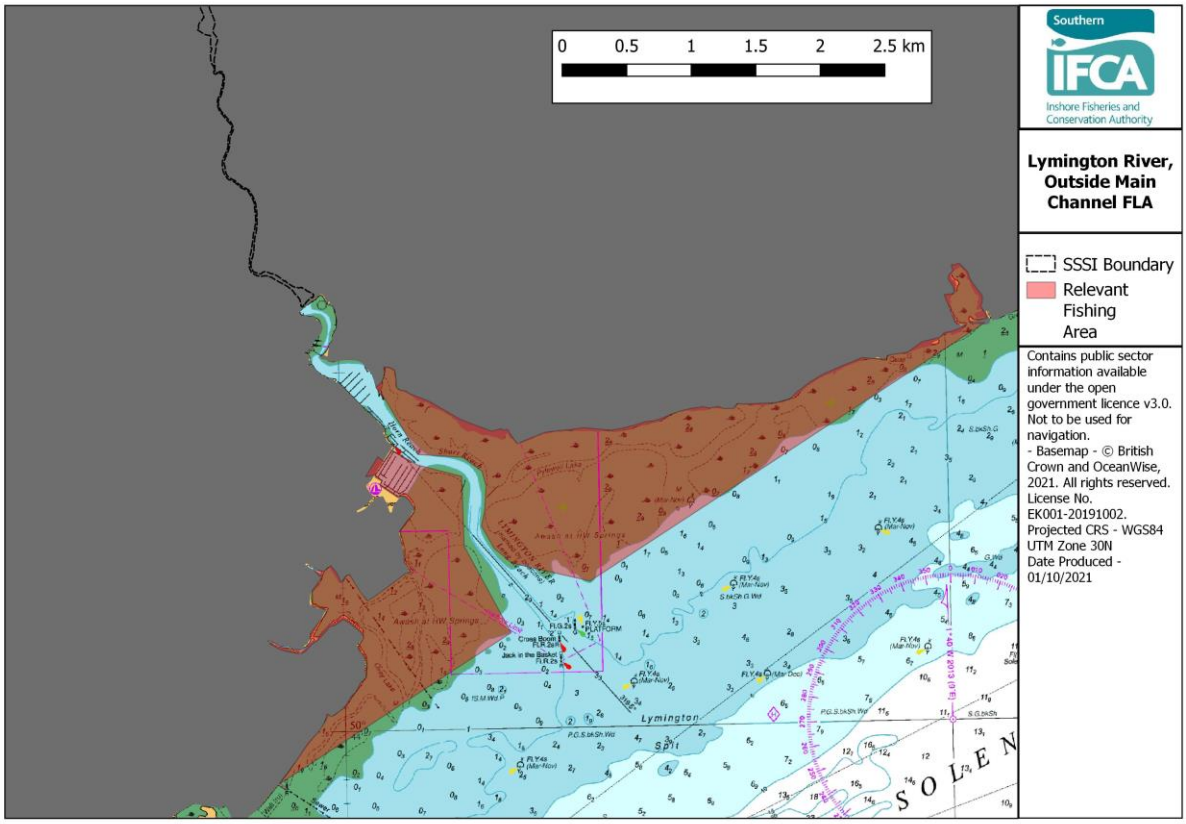
3. The Lymington River, Outside Main Channel
3.1 Proximity to Functionally Linked Areas (FLA)
As demonstrated in Map 3, the Lymington River, Outside Main Channel is functionally linked to the Lymington River SSSI.

3.2 Fishing effort
Please refer to Section C 2.2

3.3 Socio-economic importance of Fishing Area
Please refer to Section C 2.3

3.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section B 1.4

3.5 Evidence of salmonids using the fishing area to access the SAC or SSSI
Please refer to Sections B 1.5 and B 1.6



Map 3: Proximity of The Lymington River, Outside Main Channel fishing area to the Lymington River SSSI

3.6 Evidence demonstrating a known interaction between nets and salmonids

Please refer to Section C 2.6

3.7 Incidental evidence of interactions between nets and salmonids

None recorded

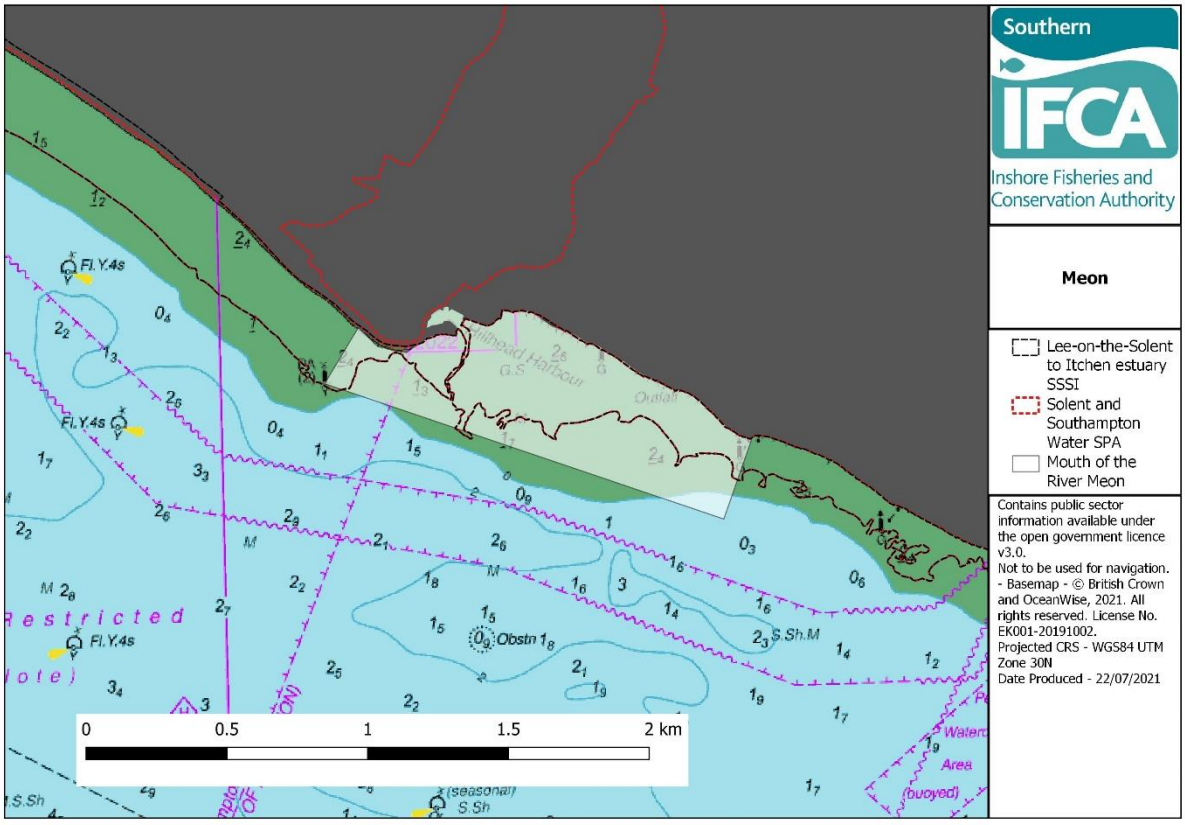
SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

4. Mouth of River Meon

4.1 Map of fishing area



Map 4: A map of the Mouth of the River Meon fishing area, showing relevant nature conservation designations.

4.2 Fishing effort

- Approximately three vessels, with the potential for up to seven vessels, seasonally fish with nets in area around the mouth of the River Meon
- Vessels fish with fixed nets, ring nets and drift nets to fish for a range of species including grey mullet, Dover sole, plaice, skates and rays, gilthead bream and pout.

4.3 Socio-economic importance of fishing area

The estimated value of first-sale catch from net fishing in the Mouth of the River Meon area is no greater than £5,000 per annum.

4.4 Existing restrictions on fishing relevant to EFHs

The Southern IFCA 'Fixed Engines' byelaw prohibits the placing and use of fixed engines (nets), other than Fyke nets, for the taking of seafish during the period from 1st April to 30th September (both days inclusive) in any year in the area within 800 metres of the River Meon sluice gate at Hillhead.

4.5 Habitat Data which indicates that fishing area is an EFH

The entrance to the River Meon falls under the Lee-on-the-Solent to Itchen Estuary SSSI[30] and is covered by unit 023 Meon Shore and 024 Hillhead Foreshore. The condition assessment for unit 023 Meon Shore specifies the following habitat types, no information is provided specific to unit 024 Hillhead Foreshore:

- A varied intertidal sediment resource, including estuarine mud, sand beaches and mixed sediments
- Most diverse biotope is mixed sediment
- Eelgrass has been visible at low tide in patches west of Titchfield Haven

Both units under the SSSI have a condition assessment:

- Unit 023 – Favourable
- Unit 024 – Unfavourable – No change

4.6 Fish Data which indicates that fishing area is an EFH

Data from fish catches indicates the following marine species are found at the coastal end of the River Meon:

- Flounder
- Sole

4.7 Invertebrate Data which indicates that fishing area is an EFH

Invertebrate data is given under the condition assessment for Unit 023 Meon Shore which cover the entrance to the River Meon as follows:

- Barnacles and molluscs are generally the most abundant
- Other widespread taxa include the common cockle and sand mason
- Notable taxa in mixed sediment are the American Hard-Shelled Clam

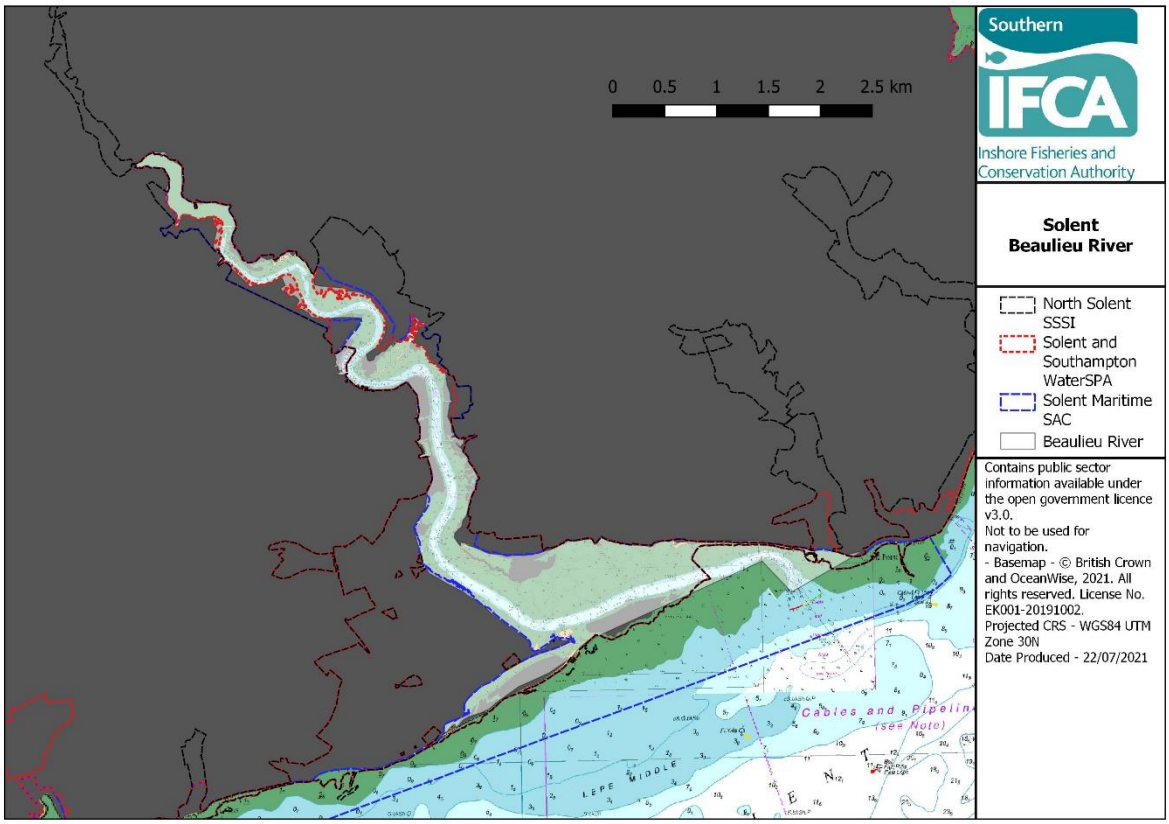
4.8 Summary of ecological value of EFH

The habitats consist of mainly mudflats, close to an area of freshwater influence, but is not considered to be of high value as EFH.

[30] https://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1007814&SiteCode=S1005846&SiteName=lee&countyCode=&responsiblePerson=

5. Beaulieu River

5.1 Map of fishing area



Map 5: A map of the Beaulieu River fishing area, showing relevant nature conservation designations.

5.2 Fishing effort

There is no commercial net fishing activity at this site.

5.3 Socio-economic importance of fishing area

There is no commercial fishing activity at this site.

5.4 Existing restrictions on fishing relevant to EFHs

Fishing on the Beaulieu River is not permitted by the Beaulieu Estate and Buckler's Hard Yacht Harbour.

5.5 Habitat Data which indicates that fishing area is an EFH

An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

5.6 Fish Data which indicates that fishing area is an EFH

An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

5.7 Invertebrate Data which indicates that fishing area is an EFH

An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

5.8 Summary of ecological value of EFH

An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

6. The Lymington River, Outside Main Channel

6.1 Map of fishing area

Please refer to Section C 3.1 (Map 3)

6.2 Fishing effort

Please refer to Section C 2.2

6.3 Socio-economic importance of fishing area

Please refer to Section C 2.3

6.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section B 1.4

6.5 Habitat Data which indicates that fishing area is an EFH

The Lymington River, Outside Main Channel falls within the Hurst Castle and Lymington River Estuary SSSI[31] and is covered by three units, 004 Pennington-Lymington Foreshore, 005 Boldre Foreshore LNR and 006 Sowley Marsh & Foreshore. The citation for the SSSI provides the following habitat data:

- A wide range of coastal habitats of limited distribution on the south coast which are of biological importance
- Intertidal mud
- Cord-grass *Spartina anglica* marshes and high level mixed saltmarsh

Both units under the SSSI have a condition assessment:

- Unit 004 – Unfavourable – Recovering
- Unit 005 – Unfavourable – Recovering
- Unit 006 – Favourable

- An Environmental Statement for the Port of Southampton: Southampton Approach Channel Dredge identifies that the most extensive areas of pioneer saltmarsh (*Salicornia* spp. and *Suaeda maritima*) are found in a number of areas around the Solent, including inside Hurst Spit to Lymington, where saltmarsh is noted to be extensive[32].
- The same report states that The Solent has the second largest aggregation of Atlantic salt meadows in south and southwestern England, representing almost 3% of England's total saltmarsh resource[4].
- A report in 2020 'Valuing Solent Marine Sites Habitats and Species: A Natural Capital Study of Benthic Ecosystem Services and how they Contribute to Water Quality Regulation' by the University of Portsmouth identified littoral sediments, littoral sediments with macroalgae, sublittoral sediments and reed beds in addition to saltmarsh habitats within the Lymington Estuary[33].

[31] https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001019.pdf
[32] https://www.southamptonvts.co.uk/admin/content/files/SACD%20Oct%202012/SACD%20-%20Chapter%2011%20Marine%20and%20Coastal%20Ecology.pdf
[33] http://www.solentforum.org/services/consultancy/natural_capital/ENV6003066R_Solent%20Natural_Capital_Project_(Final%20Report).pdf

6.6 Fish Data which indicates that fishing area is an EFH

- The Lymington River, Outside Main Channel is adjacent to Keyhaven. Therefore, fish species identified in the Keyhaven are (See Section D 7.6) are highly likely to also be found in the Lymington River, Outside Main Channel.
- The following fish species are known to occur in the area as target species for commercial and recreational fishing: grey mullet, dover sole, plaice, skates and rays, black bream, bass.

6.7 Invertebrate Data which indicates that fishing area is an EFH

The Citation for the Hurst Castle and Lymington River Estuary SSSI provides the following invertebrate information:

- The rich invertebrate fauna includes 8 nationally rare and 13 nationally notable species[34]

It was not possible to find data listing specific invertebrate/benthic species for the area Outside the Main Channel of The Lymington River, however, based on the habitats present and examples of benthic communities associated with those habitats, it can be safely assumed that the benthic community contains species including polychaetes, oligochaetes, molluscs and small crustaceans.

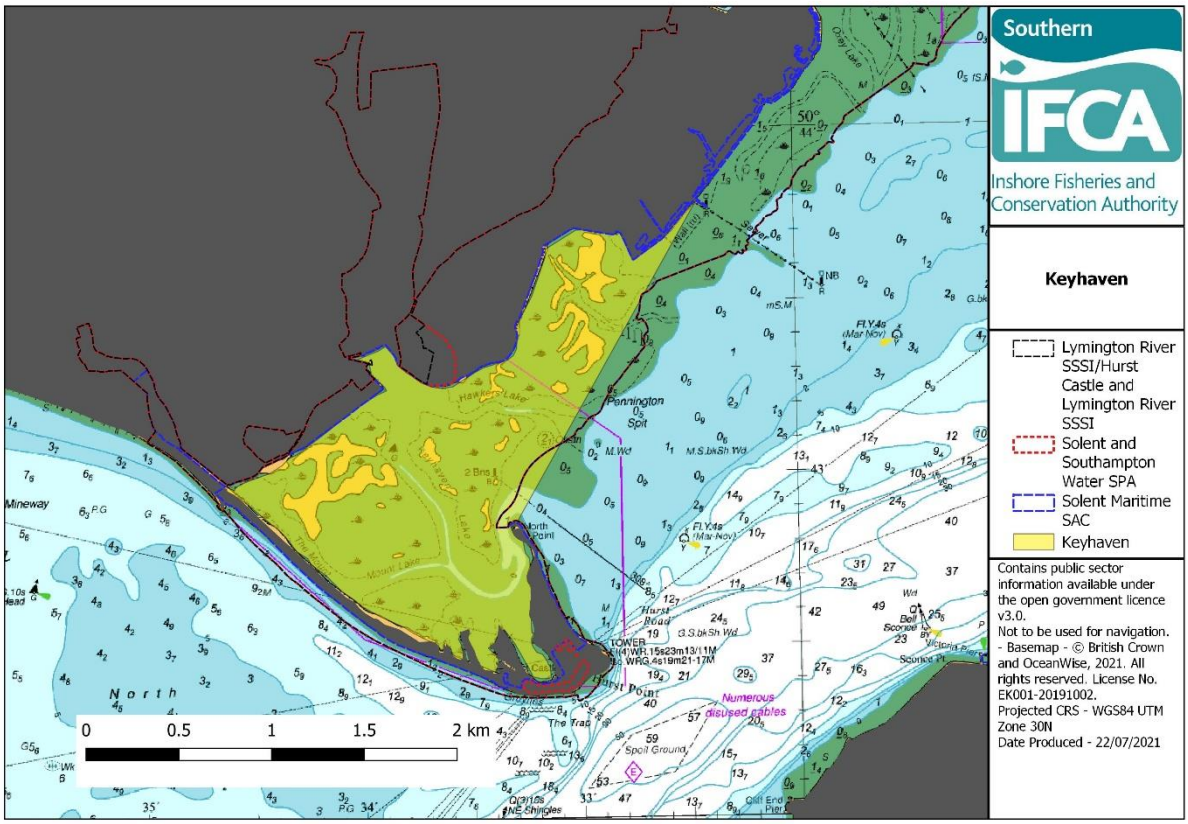
6.8 Summary of ecological value of EFH

This site offers extensive and complex saltmarsh and intertidal mudflats across a wide area with associated benthic communities, close to freshwater influence, providing high ecological value as an EFH in supporting spawning, feeding or refuge for fish species.

[34] From Hurst Castle and Lymington River Estuary SSSI Citation: *"Nationally rare species are equivalent to those listed in the British Red Data Book which includes those considered endangered, vulnerable or rare. Nationally notable/scare species are estimated to occur in 16-100 10km grid squares in Britain".*

7. Keyhaven

7.1 Map of fishing area



Map 6: A map of the Keyhaven fishing area, showing relevant nature conservation designations.

7.2 Fishing effort

- Up to five vessels are known to fish with nets in the River Lymington area, including within the saltmarsh channel network.
- Target species include grey mullet, dover sole, plaice, skates and rays and black bream, with a bycatch of bass.
- Vessels use fixed and drift nets with occasional ring netting

7.3 Socio-economic importance of fishing area

The first-sale value of net fisheries in the Keyhaven area is estimated to be no greater than £5,000 per annum.

7.4 Existing restrictions on fishing relevant to EFHs

The Southern IFCA 'Fixed Engines' byelaw prohibits the placing and use of fixed engines (nets), other than Fyke nets, for the taking of seafish during the period from 1st April to 30th September (both days inclusive) in any year in the area enclosed by Hurst Beach and Hurst Point to the south and west, by a line drawn true north from the northern tip of North Point to Keyhaven Marshes to the east and extending north to the ordinary limit of high water.

7.5 Habitat Data which indicates that fishing area is an EFH

Keyhaven falls within the Hurst Castle and Lymington River Estuary SSSI[35] and is covered by two units, 002 Hurst-Keyhaven Foreshore and 003 Keyhaven-Pennington Foreshore. The citation for the SSSI provides the following habitat data:

- Intertidal mud
- Cord-grass *Spartina anglica* marshes and high level mixed saltmarsh

7.6 Fish Data which indicates that fishing area is an EFH

- The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample for fish species, particularly juvenile fish.
- Two seine nets are completed for each survey at each site and the fish retained in the net are identified, counted and measured before being returned to the sea.
- Keyhaven was surveyed as part of the Southern IFCA Small Fish Survey Program in the summer and autumn of 2017, the summer of 2018 and the autumn of 2021.
- 13 fish species were identified at the site across the four surveys
- For all four surveys the most abundant species was European seabass (61 in summer 2017, 147 in autumn 2017, 13 in summer 2018 and 33 in Autumn 2021)
- Annex 1, Figure 1 shows the count data for fish species identified on each of the four surveys.

7.7 Invertebrate Data which indicates that fishing area is an EFH

There is no data listing invertebrate/benthic species specifically for the intertidal area at Keyhaven. However, the SSSI designated defines intertidal mudflats. Based on examples of benthic communities associated with intertidal mudflats at other sites, it can therefore safely be assumed that the benthic community contains species including polychaetes, oligochaetes, molluscs and small crustaceans.

7.8 Summary of ecological value of EFH

The sheltered site offers extensive and complex saltmarsh and intertidal mudflats, close to freshwater influence, across a wide area both providing high ecological value as an EFH in supporting spawning, feeding or refuge for fish species.

[35] https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001019.pdf

SECTION E: MIGRATORY SALMONID ASSESSMENTS

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

8. Mouth of River Meon

8.1 Map of Fishing Area

Please refer to Section D 4.1

8.2 Fishing effort

Please refer to Section D 4.2

8.3 Socio-economic importance of fishing area

Please refer to Section D 4.3

8.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 4.4

8.5 Evidence of salmonids using fishing area

- The Meon Valley Partnership identify that the River Meon is well known for wild trout which includes a migratory component (sea trout)[2]. One or two salmon have also been identified entering the river from the sea.
- There are fishing clubs and small private syndicates which operate on the River Meon. There are two sections of the river where fishers can buy day tickets to fly fish for trout.
- The Environment Agency carried out a wild brown trout monitoring survey of the River Meon in 2017, this survey is carried out every 6 years. The survey does not distinguish between brown trout and the anadromous form of brown trout (sea trout), however the Environment Agency have states that only a small number of fish remain resident in the river, the rest being anadromous (sea trout).
- The Meon typically produces high numbers of juvenile trout annually with a high proportion of migrating trout (sea trout) included in the breeding stock.
- The results for the 2017 survey showed an average of 5.70 brown trout per $100m^2$ across 13 sites with a size range of 62-304mm.
- The report noted that a total of 285 trout were caught in 2017, down from 538 in 2019. However, numbers have fluctuated since 2007 and the overall trend shows limited change in trout density (less than 5 fish per $100m^2$). The population has been noted to be impacted by prolonged episodes of low flow at critical times, especially over winter which is crucial for salmonid spawning and egg incubation.
- The survey also recorded salmon at three of the survey sites with an average of 2.31 per 100m2 and a size range of 48-182mm, and salmon par at two of the sites.
- The report noted that salmon have been consistently caught at one of the sites and the long-term dataset provides evidence to support that salmon spawn in the Meon annually, being the third river in Hampshire, after the Test and Itchen, to support salmon.
- The River Meon enters directly into the Solent at Hill Head. The hydrography of the local area means that there is no clear channel to concentrate salmonids on their approach to the river, and therefore salmonids are known to congregate at the river mouth throughout the year, not just at the point of migration.

8.6 Evidence demonstrating a known interaction between nets and salmonids
In 2001 the EA prosecuted a fisher for the retention of 8 sea trout that were caught in a net fished within the Mouth of the River Meon area.

8.7 Incidental evidence of interactions between nets and salmonids
None recorded.

9. Beaulieu River
No Migratory Salmonid Assessment has been undertaken as the area is subject to existing legislative closures and no commercial activity occurs.

10. Keyhaven
10.1 Map of Fishing Area
Please refer to Section D 7.1

10.2 Fishing effort
Please refer to Section D 7.2

10.3 Socio-economic importance of fishing area
Please refer to Section D 7.3

10.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section D 7.4

10.5 Evidence of salmonids using fishing area
- The Avon Water flows out through Keyhaven
- Pre-restoration work electro-fishing surveys carried out in 2016 on the Avon Water showed that the fish community is dominated by Brown trout.
- It is anticipated that a relatively high proportion of these will be migratory trout (sea trout) due to the likely greater food resources available in the marine environment compared to the New Forest Streams.

10.6 Evidence demonstrating a known interaction between nets and salmonids
None recorded.

10.7 Incidental evidence of interactions between nets and salmonids
None recorded.

SECTION F: ANNEXES

Annex 1: Data from Southern IFCA Small Fish Surveys in Keyhaven

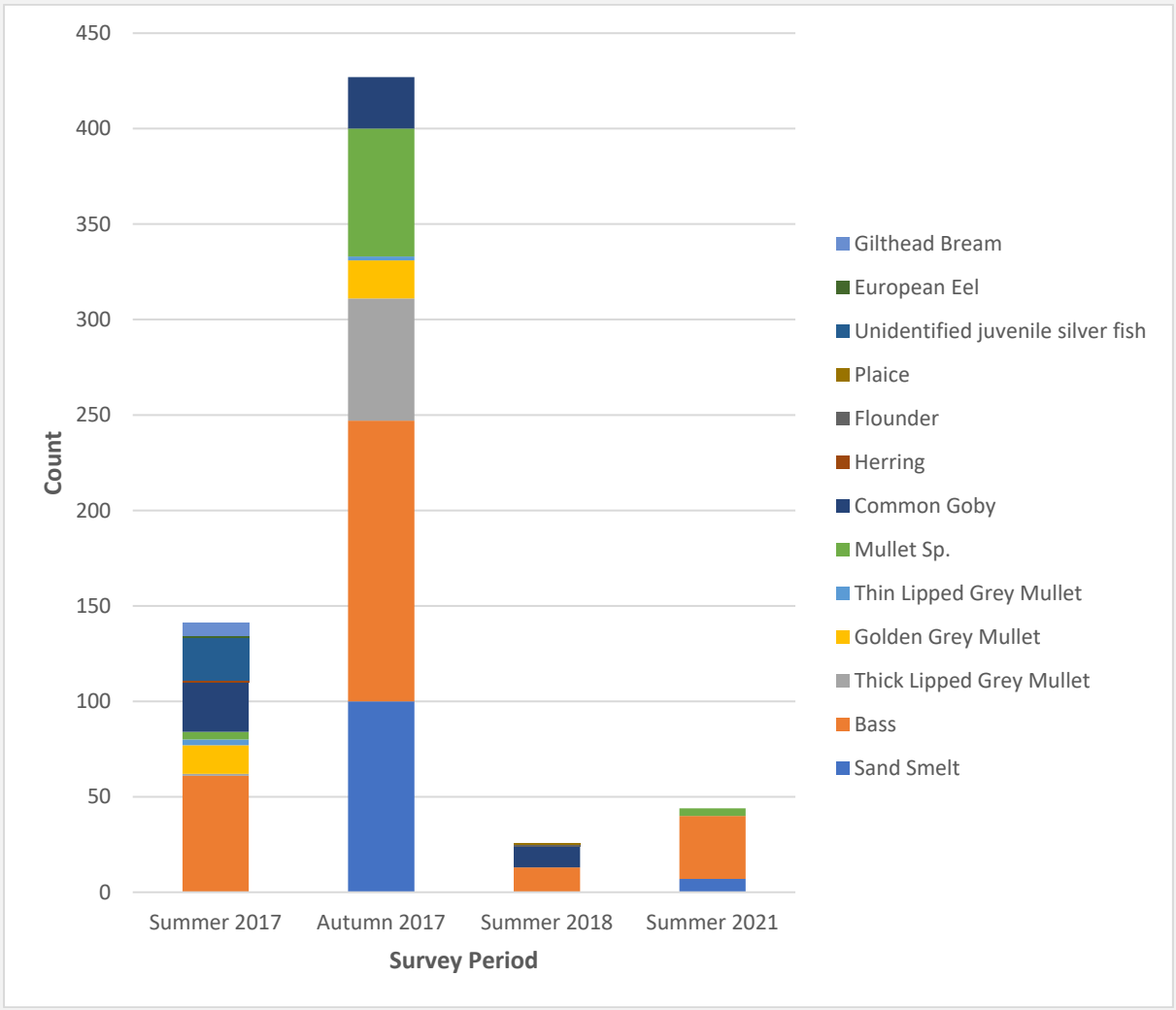


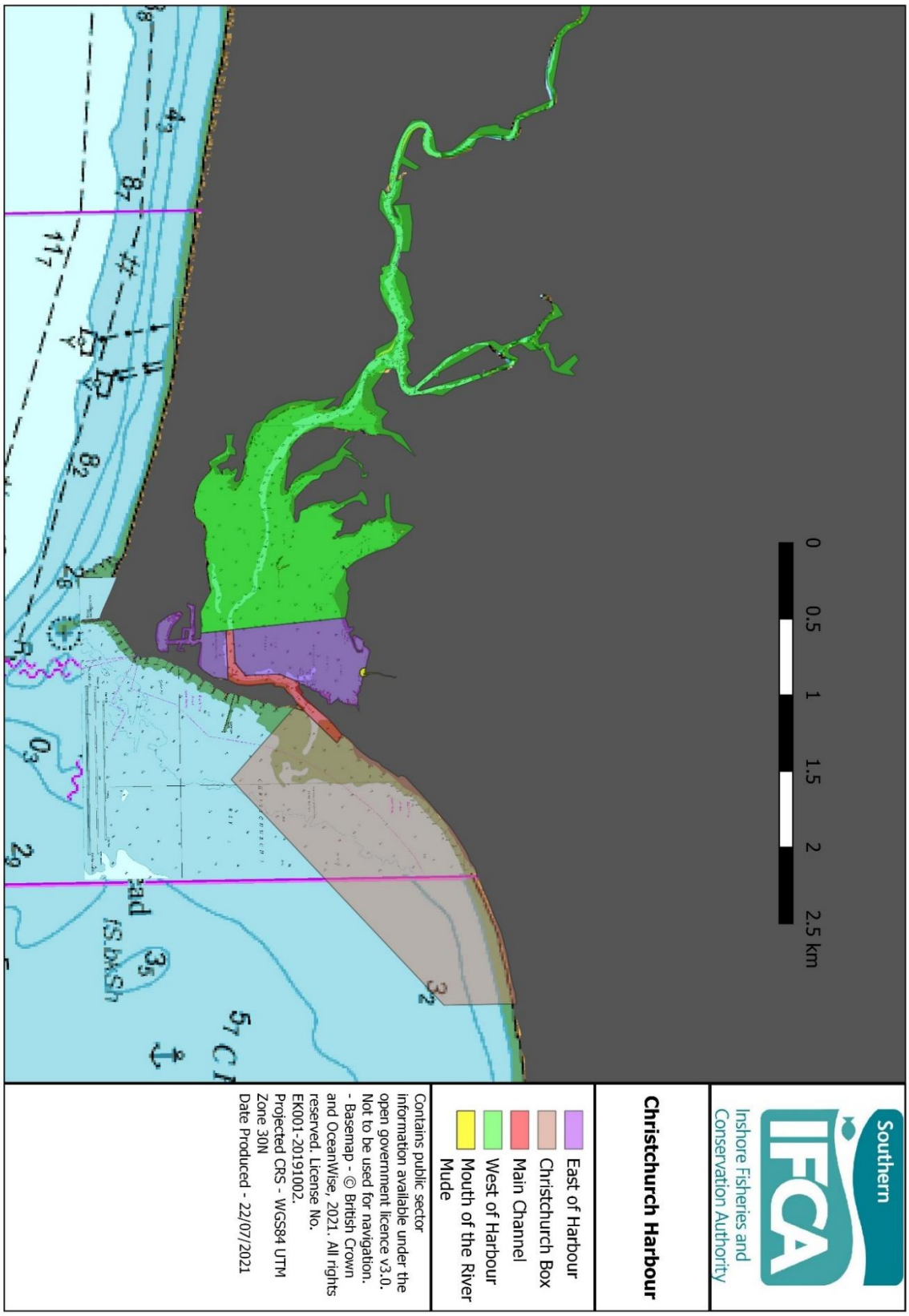
Figure 1: Count data for fish species identified at Keyhaven during the Southern IFCA Small Fish Surveys in Summer and Autumn 2017, Summer 2018 and Autumn 2021

Southern Inshore Fisheries and Conservation Authority

Christchurch Harbour & Surrounds Assessment Package: Site Specific Evidence

Supporting Document as part of the Inshore Netting Review

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper



Map 11: A map of the Christchurch Harbour fishing areas

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

Following the outcomes of a TLSE an Appropriate Assessment is required for the River Avon in order to determine whether net fishing occurring within, or adjacent to the River Avon SAC, will have an adverse impact on Atlantic salmon as a feature of the River Avon SAC.

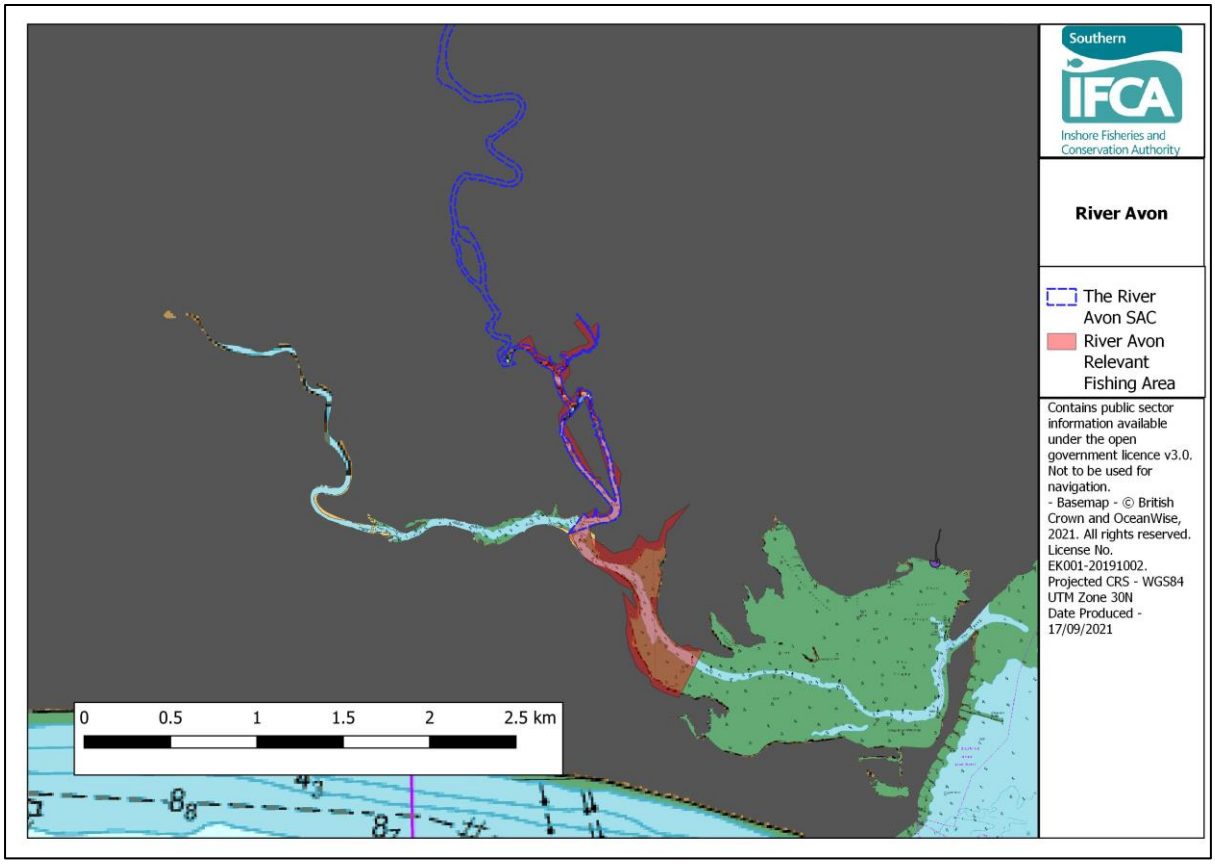
For more details on the HRA process please refer to the Process, Tools and Intentions Policy Paper. For further details on the TLSE and HRA, please refer to the Net Fishing Byelaw Conservation Package.

1. The River Avon

1.1 Proximity to River Avon SAC

As demonstrated in Map 2, The River Avon fishing areas falls within and is adjacent to the River Avon SAC. The boundary of the River Avon SAC is where the River Avon and River Stour divide opposite the Christchurch Sailing Club. All areas of the river upstream of this point fall within the SAC.

The high-level conservation objectives for the River Avon SAC are available online at: http://publications.naturalengland.org.uk/publication/6048472272732160. Of direct relevance to this Plan/Project, *Salmo salar*; Atlantic Salmon are a Qualifying Feature of the SAC.



Map 2: River Avon fishing area and proximity to River Avon SAC

1.2 Fishing effort

Commercial netting does not take place in the River Avon.

1.3 Existing restrictions on net fishing relevant to Atlantic salmon

Under the Southern IFCA legacy byelaw 'Environment Agency, Sea Fisheries Regulation Act 1966, Sea Fisheries Fixed Engine Prohibition':

- The placing and use of fixed engines for taking sea fish is prohibited in any water inland of the landward boundary of the Southern Sea Fisheries Committee district except:
  a) Between 30th September and the following 15th February in any year in Christchurch Harbour to the west of a line drawn true southeast from the south-eastern-most corner of Haven House Inn at Mudeford Quay near Christchurch between the limits of ordinary high water on each side of the entrance channel being the area of the public fishery lying seaward of a line drawn from Ineravon to the Bunny (or the Canal) on Hengistbury Head and lying north of the main channel
  b) The placing and use of bottom nets between 30th September in any year and the following 15th February in that part of the sea demarcated by a line at or near the mouth of the River Avon drawn true southeast from the south-eastern-most corner of Haven House Inn at Mudeford Quay near Christchurch to a point (50° 43.18' N, 01° 44.03' W) distant six hundred ten metres therefrom thence continued straight in a north easterly direction to a point (50° 43.92' N, 01° 42.75' W), true south of, an distant six hundred and ten metres from, the southwestern-most corner of the building known as Highcliffe Castle, and thence continued straight to such southwestern-most corner.

The western section of Christchurch Harbour is privately owned by Bournemouth Water. Within this area commercial fishing is not permitted.

1.4 Evidence of Atlantic salmon using the River Avon

- Atlantic Salmon are a feature of the River Avon SAC listed under Annex II of the Habitats Directive.
- The River Avon is listed as a 'Principal Salmon River' by the Environment Agency:
  - In 2019, the Atlantic salmon fishery assessment data[36] showed that the River Avon attained 59% of the Conservation Limit of 6.48 $x10^6$ eggs deposited. This gives the river a Compliance Level of 'Probably At Risk'. The classification of 'Probably At Risk' indicates there is a 5-50% probability of the river meeting the Management Objective.
  - The Compliance Level for 2024 is predicted to remain at 'Probably at Risk'.
- Atlantic salmon are a faunal component of the 'Rivers and Streams' reportable feature for three SSSIs that underpin the River Avon; Avon Valley (Bickton to Christchurch) SSSI, River Avon System SSSI and River Till SSSI
  - There are four units under the three SSSI designations which refer to Atlantic salmon. These four units show an '*unfavourable-recovering'* status condition. For note, this status condition relates to the habitat as a whole, rather than the Atlantic salmon population status.
  - All four units are highlighted as '*at risk'* for Atlantic salmon as egg production and returning stock targets have not been met. However, it is highlighted that this may be a result of external factors such as survival at sea and climate change resulting in higher river temperatures.

[36] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907284/SalmonReport-2019-summary.pdf

- **Atlantic Salmon stock data[37]**
    - Annex 1, Figure 1 shows the exploitation rate and percentage of adult run retained by the licenced rod and line fishery for Atlantic salmon on the River Itchen from 2006 to 2019 (no data available for 2018).
    - Annex 1, Figure 2 shows data from the Environment Agency on the count of Atlantic salmon smolt and adults are available for years 2006 to 2020.
        - the returning stock estimate for the River Avon (blue) for 2006 to 2020
        - rod catch data (orange), available for 2006-2019 and the spawning escapement (grey) for the same period.
    - A preliminary count is available for 2020 (1495) from the count data from the Knapp Mill counter. The counter showed in total 2273 salmon and sea trout, this total number is over 1000 more fish than the long-term average and approximately 887 more fish than the second highest year on record in 2006.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters'[38] provides timings of the smolt and adult run of Atlantic salmon in the River Avon as April to mid-May for smolt and February to December for the adult run with a note that fish are known to be present in Christchurch Harbour throughout this period.
- A radio tagging study showed that when the river flow on the River Avon is in excess of 13 cumecs, salmon tend to pass through Christchurch Harbour within 12 hours. As the river flow falls below 10 cumecs, there is an increased tendency for salmon to remain in Christchurch Harbour for weeks or months until the flows increase again.

1.5 Known interactions between nets and Atlantic salmon on the River Avon

None recorded

1.6 Incidental evidence of interactions between nets and Atlantic salmon in the River Avon

None recorded

[37] Taken From:
- Salmon Stocks and Fisheries in England and Wales Annual Report by Environment Agency, Cefas and Natural Resources Wales
- Hampshire Avon Fish Counter at Knapp Mill Report for Q4 2020

[38] https://secure.toolkitfiles.co.uk/clients/25364/sitedata/files/Net-Environment-Agency-Paper.pdf

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

As there are no relevant SSSI designations in Christchurch Harbour, SSSI Assessments are not required to be undertaken.

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

A Functionally Linked Area (FLA) Assessment is required to determine whether net fishing; occurring beyond the boundary of an SAC or SSSI (where salmonids are afforded protection); may have an adverse impact on salmonids.

More details on FLA Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

2. Main Channel

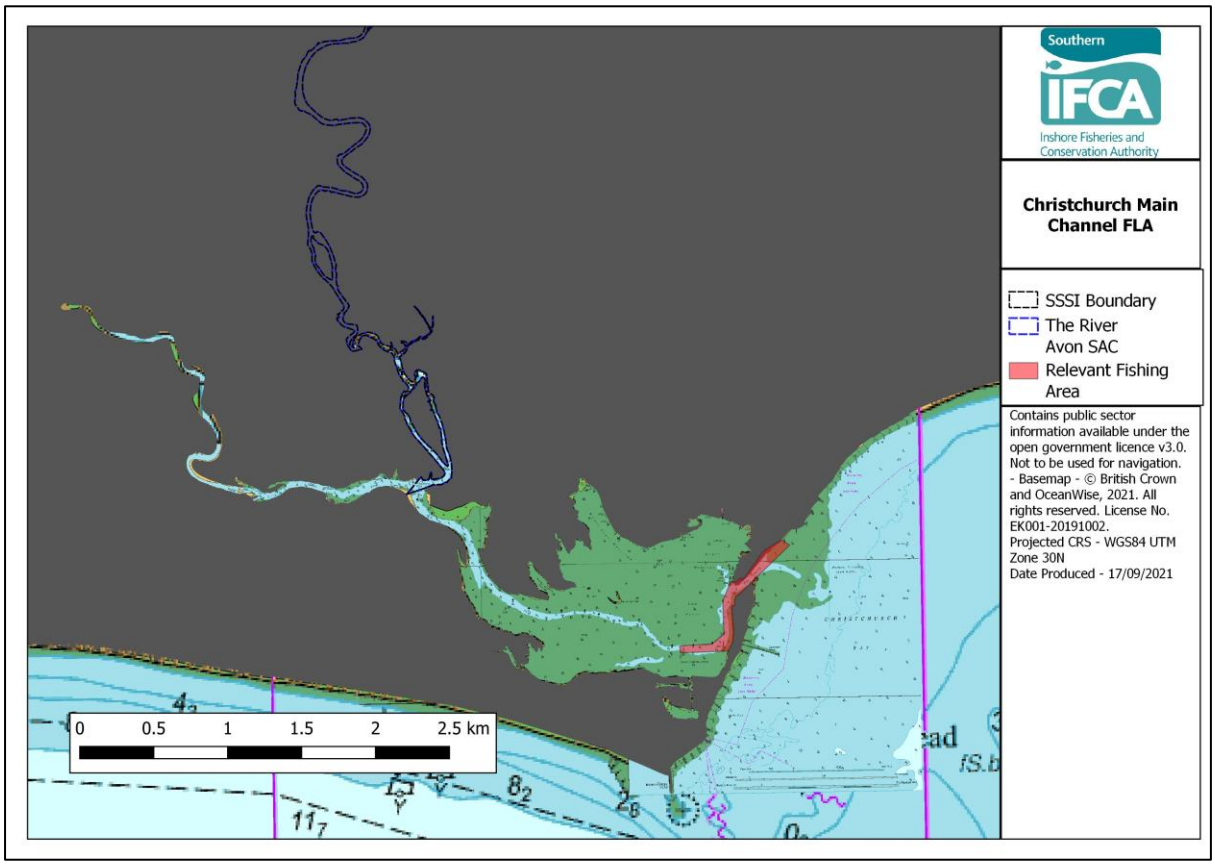
2.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 3, the Christchurch Harbour, Main Channel is functionally linked to the River Avon SAC, the Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI. The fishing area may also play a supporting role to The River Stour, reference its designations as a Principal Salmon River and a Principal Sea Trout River.

2.2 Fishing effort

- Up to four vessels fish with nets in and alongside the main channel, primarily using drift nets to target grey mullet.
- Ring nets are also used to target grey mullet with a bycatch of bass, plaice and flounder.
  - Ring nets are deployed on recognition (by fishers) of the presence of target species.
  - Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
  - The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. A seine net would be deployed from the shore (shore arm), by a vessel, in an 'L-shape' and allowed to drift with the current. The drifting end of the net (boat arm) would then be returned to the shore, using a long section of rope. Both ends of the net would then be retrieved simultaneously, creating a 'bag' in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, a ring net is designed to catch fish through emeshment and the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float line. In this way no 'bag' is created and fish which are not physically caught in the net will not be removed as the net is recovered.

- Historically specialised seine nets have been used in the area to fish for flounder, primarily for use as pot bait.



Map 3: Proximity of Christchurch Harbour Main Channel fishing area to River Avon SAC, Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI

- MMO data indicates that in the region of 60 net fishing trips per year are carried out across Christchurch Harbour.
- It is estimated that approximately 5% of net fishing effort in Christchurch Harbour takes place within the Main Channel area.

2.3 Socio-economic importance of Fishing Area

The first-sale value of net fishing in Christchurch Harbour is in the region of £15,000 per annum (data provided by fishers).

2.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section A 1.3.

2.5 Evidence of salmonids using fishing area to access SAC or SSSI

- The main channel of Christchurch Harbour is a principal migration route leading to the River Avon SAC. The evidence of Atlantic salmon using the River Avon SAC is provided in Section A 1.4.
- The main channel of Christchurch Harbour is a principal migration route leading to the Avon Valley (Bickton to Christchurch) SSSI, River Avon System SSSI and River Till SSSI.
    - Sea trout are a faunal component of the 'Rivers and Streams' reportable feature of the Avon Valley (Bickton to Christchurch) SSSI

    - Sea trout are a faunal component of the 'Rivers and Streams' reportable feature of the River Avon System SSSI
    - Sea trout are a faunal component of the 'Rivers and Streams' reportable feature of the River Till SSSI
- The River Avon is listed as a 'Principal Sea Trout' river by the Environment Agency.
    - The sea trout fishery assessment data for 2020 shows a Compliance Level of 'Probably at Risk'.
- In 2020 the number of sea trout caught by rod and line was recorded as 188 with 170 being released, giving a catch and release rate of 90%. This is the same as the rate for 2019.
- The River Stour is a **'**Principal Salmon River' as determined by the Environment Agency:
    - In 2019, the Atlantic salmon fishery assessment data[39] showed that the River Stour attained 12% of the Conservation Limit of 2.12 $x10^6$ eggs deposited. This gives the river a Compliance Level of 'At Risk'.
    - The Compliance Level for 2024 is predicted to be 'At Risk'.
    - There is no validated count data for the River Stour, the Environment Agency have stated that the run count of the River Stour is approximately 6.5% of the run count in the River Avon:
        - For 2020, an estimated run count of 1495 for the River Avon would give an approximate run count of 97 for the River Stour
    - The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters[3]' provides timings of the smolt and adult run of Atlantic salmon in the River Stour as April to May for smolt and February to December for the adult run with a note that fish are known to be present in Christchurch Harbour throughout this period.
- The River Stour is listed as a 'Principal Sea Trout River' as determined by the Environment Agency:
    - The sea trout fishery assessment data for 2020 shows a Compliance Level of 'Probably at Risk'.
- In 2020, the number of sea trout caught by rod and line in the River Stour was 8 with 7 being released, giving a catch and release rate of 87%, this is an increase of 20% on the rate for 2019.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of sea trout in the River Stour as April/May for smolt and May to December for the adult run with a peak period between June and July and then again with Autumn rains.

2.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

2.7 Incidental evidence of interactions between nets and salmonids

- There is evidence of an interaction between migratory salmonids and fishing nets in Christchurch Harbour resulting from an EA and Southern IFCA inspection – the net type used and location is unconfirmed.
- Targeted net fishing for migratory salmonids previously took place in the 'Run' area under a Net Limitation Order (NLO) administered by the EA.

[39] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907284/SalmonReport-2019-summary.pdf

3. West of Harbour

3.1 Proximity to Functionally Linked Areas (FLA)

Please refer to Map 1. This fishing area is functionally linked to the River Avon SAC, the Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI. The fishing area may also play a supporting role to The River Stour, reference its designations as a Principal Salmon River and a Principal Sea Trout River.

3.2 Fishing effort

No commercial net fishing occurs within this area.

3.3 Socio-economic importance of Fishing Area

No commercial net fishing occurs within this area.

3.4 Existing restrictions on fishing relevant to migratory salmonids

The west of the Harbour is privately owned by Bournemouth Water, commercial fishing is not permitted.

3.5 Evidence of salmonids using fishing area to access SAC or SSSI

No assessment required as area closed to all forms of netting under regulations by Bournemouth Water.

3.6 Evidence demonstrating a known interaction between nets and salmonids

No assessment required as area closed to all forms of netting under regulations by Bournemouth Water.

3.7 Incidental evidence of interactions between nets and salmonids

No assessment required as area closed to all forms of netting under regulations by Bournemouth Water.

4. East of Harbour

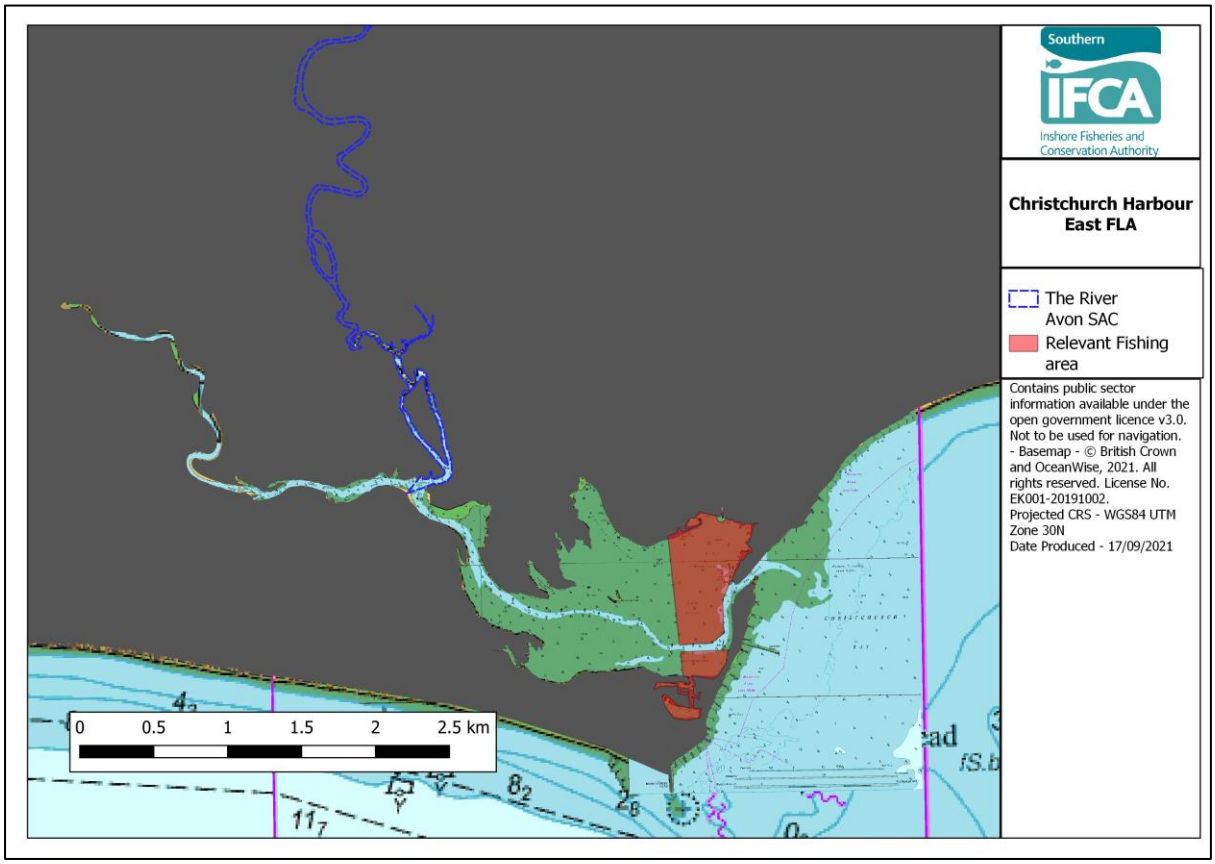
4.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 4, Christchurch Harbour, East is functionally linked to the River Avon SAC, the Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI. The fishing area may also play a supporting role to The River Stour, reference its designations as a Principal Salmon River and a Principal Sea Trout River.

4.2 Fishing effort

- Up to four vessels fish with nets alongside, and occasionally within, the main channel, primarily using drift nets to target grey mullet.
- Ring nets are also used to target grey mullet with a bycatch of bass, plaice and flounder.
    - Ring nets are deployed on recognition (by fishers) of the presence of target species.
    - Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
    - The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a ‘bag’ in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float

line. In this way no ‘bag’ is created and fish which are not physically caught in the net will not be removed as the net is recovered.



Map 4: Proximity of Christchurch Harbour East fishing area to River Avon SAC, Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI

- MMO data indicates that in the region of 60 net fishing trips per year are carried out across Christchurch Harbour.
- It is estimated that approximately 95% of net fishing effort in Christchurch Harbour takes place within the Eastern Harbour area.

4.3 Socio-economic importance of Fishing Area

Please refer to Section C 2.3

4.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section A 1.3.

4.5 Evidence of salmonids using fishing area to access SAC or SSSI

As determined by the evidence presented in Sections A 1.4 and C 2.5 salmonids are known to be present in Christchurch Harbour. Sections 1.1 and 1.4 of the Literature Review document provide information on the migration behaviours of Atlantic salmon and sea trout. Of specific relevance to the likely presence of salmonids in the above-named specified fishing areas:

- The area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Avon SAC where Atlantic salmon are a qualifying feature of the SAC.
- The areas do not fall within a principal or known migration route, refuge area or pinch point leading to the Avon Valley SSSI (Bickton to Christchurch) SSSI where sea trout are a faunal component of the ‘rivers and streams’ feature

- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Avon System SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Till SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to a Principal Salmon River

4.6 Evidence demonstrating a known interaction between nets and salmonids

- In 2019 Southern IFCA Officers undertook observer trips on net fishing vessels across the District. Of relevance to Christchurch Harbour:
    - 1 net fishing trip in June 2019 covering the area of Mudeford and Christchurch Harbour using a ring net. 1 set of the net during the trip
        - no salmonid interaction
        - net 1 – 2 thin-lipped grey mullet above MCRS, additional catch of 1 bass below MCRS
    - 1 landing inspection was carried out in June 2019, as part of Southern IFCA survey work, for a vessel that had fished in the Mudeford and Christchurch Harbour area. The catch consisted of 14 thick-lipped grey mullet, 6 thin-lipped grey mullet and 78 golden grey mullet; the fisher indicated there was no salmon interception during the fishing trip.

4.7 Incidental evidence of interactions between nets and salmonids

None recorded.

5. Christchurch Box

5.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 5, the Christchurch Box is functionally linked to the River Avon SAC, the Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI. The fishing area may also play a supporting role to The River Stour, reference its designations as a Principal Salmon River and a Principal Sea Trout River.

5.2 Fishing effort

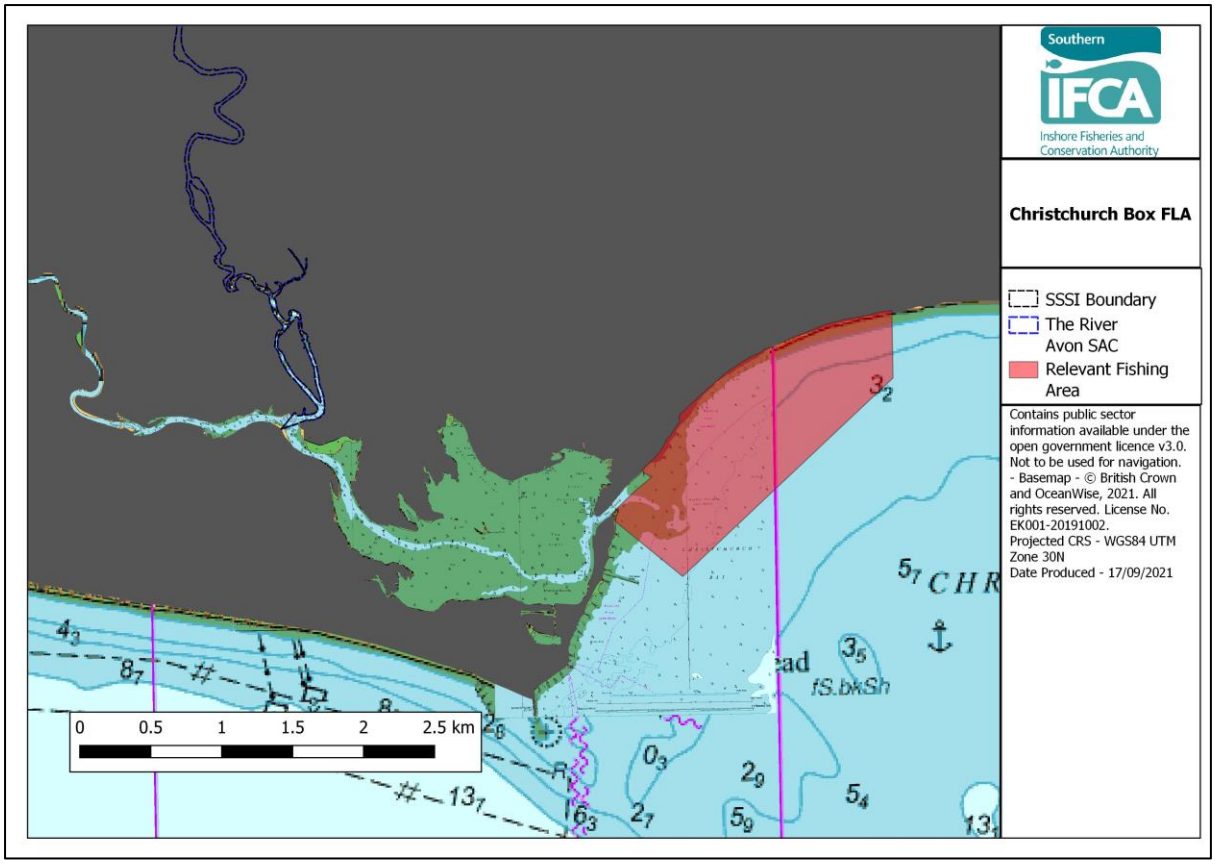
- Up to five commercial fishing vessels fish with nets in the Christchurch Box area.
- Bottom set nets are used outside of the closed season to target a range of fish species including grey mullet, plaice, skates and rays, Dover sole and bream. Bass are also caught as a bycatch.
- Drift nets are used throughout the summer and autumn months, particularly during September, in the Christchurch Box to target grey mullet. Bass are also caught as a bycatch.

5.3 Socio-economic importance of Fishing Area

The first-sale value of net fishing activity in the Christchurch Box area ranges up to £15,000 per annum.

5.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section A 1.3.



Map 5: Proximity of Christchurch Harbour Christchurch Box fishing area to River Avon SAC, Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI

5.5 Evidence of salmonids using fishing area to access SAC or SSSI

- As determined by the evidence presented in Sections A 1.4 and C 2.5 salmonids are known to be present in Christchurch Harbour.
- In order to enter Christchurch Harbour the salmonids must move through the Christchurch Box in order to enter the Harbour. It is most likely that salmonids will utilise the Main Channel as it passes through the southern part of Christchurch Box, however there is the potential for salmonids to utilise the wider area of the Christchurch Box on approach to the Harbour.
- The Christchurch Box area was originally defined by the Environment Agency under a legacy byelaw (see Section A 1.3) as it was identified as holding a high concentration of migratory fish as they moved close inshore to detect the run into the Harbour.
- Sections 1.1 and 1.4 of the Literature Review provide information on the migration behaviours of Atlantic salmon and sea trout.
    - The area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Avon SAC where Atlantic salmon are a qualifying feature of the SAC.
    - The areas do not fall within a principal or known migration route, refuge area or pinch point leading to the Avon Valley SSSI (Bickton to Christchurch) SSSI where sea trout are a faunal component of the ‘rivers and streams’ feature
    - This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Avon System SSSI where sea trout and Atlantic salmon are a faunal component of the ‘rivers and streams’ feature
    - This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Till SSSI where sea trout and Atlantic salmon are a faunal component of the ‘rivers and streams’ feature

- This area does not fall within a principal or known migration route, refuge area or pinch point leading to a Principal Salmon River

5.6 Evidence demonstrating a known interaction between nets and salmonids
None recorded.

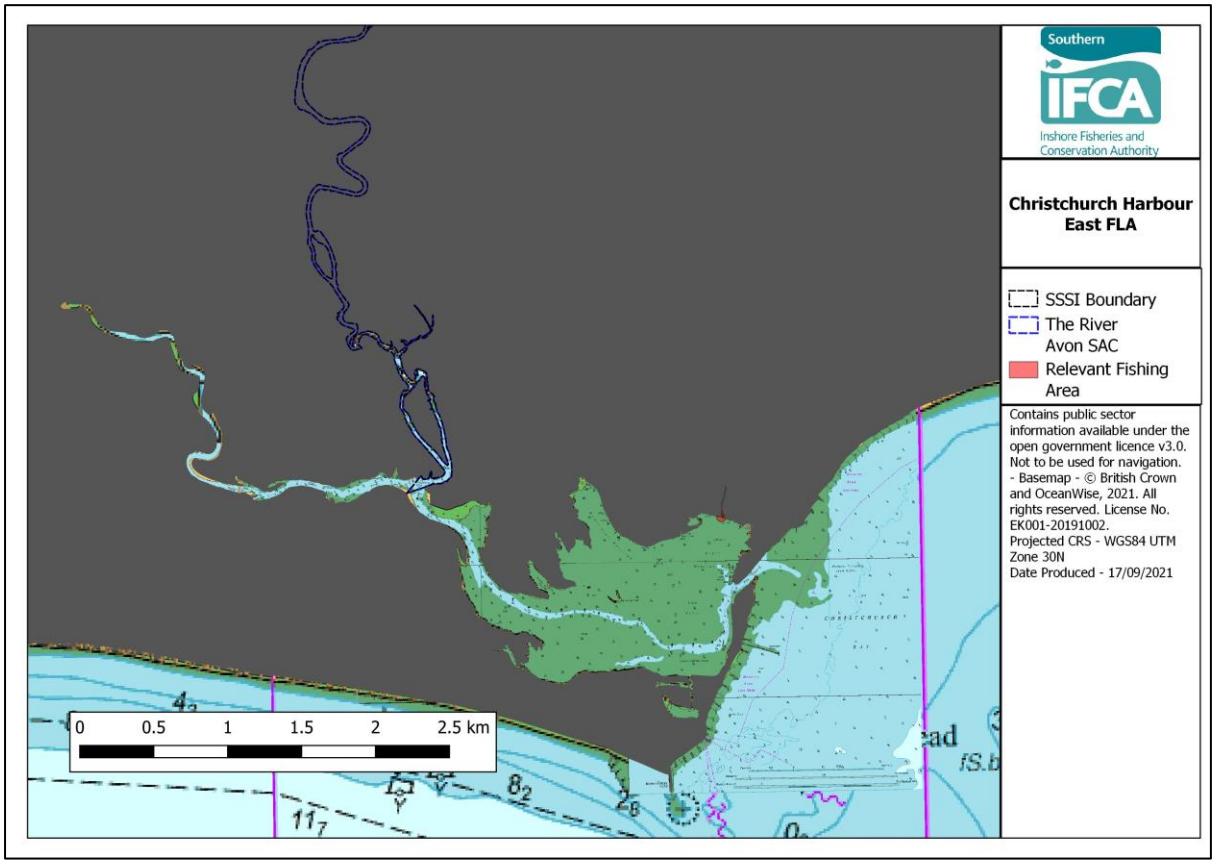
5.7 Incidental evidence of interactions between nets and salmonids
None recorded.

6. Mouth of River Mude
6.1 Proximity to Functionally Linked Areas (FLA)
As demonstrated in Map 6, Christchurch Harbour, Mouth of River Mude is functionally linked to the River Avon SAC, the Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI. The fishing area may also play a supporting role to The River Stour, reference its designations as a Principal Salmon River and a Principal Sea Trout River.

6.2 Fishing effort
No fishing activity occurs in this fishing area.

6.3 Socio-economic importance of Fishing Area
No fishing activity occurs in this fishing area.

6.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section A 1.3.



Map 6: Proximity of Christchurch Harbour Mouth of the River Mude fishing area to River Avon SAC, Avon Valley SSSI, the River Avon System SSSI and the River Till SSSI

6.5 Evidence of salmonids using fishing area to access SAC or SSSI

As determined by the evidence presented in Sections A 1.4 and C 2.5 salmonids are known to be present in Christchurch Harbour. Sections 1.1 and 1.4 of the Literature Review document provide information on the migration behaviours of Atlantic salmon and sea trout.

6.6 Evidence demonstrating a known interaction between nets and salmonids

None

6.7 Incidental evidence of interactions between nets and salmonids

None

SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

7 West of Harbour

No Assessment has been undertaken as the area is subject to existing legislative closures and no commercial activity occurs.

8 East of Harbour

8.1 Map of fishing area

Please refer to Section C 4.1

8.2 Fishing effort

Please refer to Section C 4.2

8.3 Socio-economic importance of fishing area

Please refer to Section C 4.3

8.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section A 1.3

8.5 Habitat Data which indicates that fishing area is an EFH

Christchurch Harbour falls within the Christchurch Harbour SSSI[40]. The citation for the SSSI provides the following habitat information:

- Substantial areas of saltmarsh forming a complex pattern of low and high level saltmarsh communities. Although saltmarsh will not be present in the main channel, species accessing the Harbour as an EFH will use the main channel to enter the Harbour and when moving within the Harbour.
- The low level saltmarsh contains seven different grass/mash species
- the higher level marsh contains three different grass/marsh species

Further information on habitat types is provided by a JNCC report on Christchurch Harbour[2]:

- The Harbour consists of mainly intertidal fine muddy sand
- Saltmarsh is found around the southern, western and north western shores
- Most of the Harbour is brackish but the degree of salinity variation varies with the tide and the season

8.6 Fish Data which indicates that fishing area is an EFH

The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample for fish species, particularly juvenile fish. Two seine nets are completed for each survey at each site and the fish retained in the net are identified, counted, and measured before being returned to the sea.

[40] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002678&SiteName=christchurch&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

The Christchurch/Mudeford Spit Survey

- 21 fish species were identified across four surveys. Count data for each species at each survey is given in Annex 2, Figure 3.
- The most abundant species for each survey were:
    - Summer 2017: Sand Goby (30)
    - Autumn 2017: Sand Smelt (372)
    - Summer 2021: Herring (151)
    - Autumn 2021: Grey mullet sp. (2861)

The Wick Ham

- 16 fish species were identified at the Wick Ham site across four surveys. Count data for each species at each survey is given in Annex 2, Figure 4.
- The most abundant species for each survey was:
    - Summer 2017: Thin-lipped grey mullet (309)
    - Autumn 2017: Thin-lipped grey mullet (194)
    - Summer 2021: Goby species (528)
    - Autumn 2021: Bass (728)

Further information provided in the citation for the Christchurch Harbour SSSI states that Harbour waters are believed to be important as a breeding and nursery area for several fish including bass, thick-lipped grey mullet, thin-lipped grey mullet and pollack.

8.7 Invertebrate Data which indicates that fishing area is an EFH

Information from a JNCC report on Christchurch Harbour:

- Benthic communities were characterised by very dense populations of a restricted number of species
- Within the channel area, the sand mason worm *Lanice conchilega* dominated the seaward end with a shift to the polychaetes *Hediste diversicolor* and *Streblospio shrubsolii* and the crustacean *Corophium volutator* in the estuarine and brackish areas.
- These fauna were noted to extend across the main open part of the Harbour

8.8 Summary of ecological value of EFH

It is likely that this area consists of mainly intertidal fine muddy sand, as reported by JNCC, and therefore will be of a value as a feeding habitat for fish species.

9 Christchurch Box

9.1 Map of fishing area

Please refer to Section C 5.1

9.2 Fishing effort

Please refer to Section C 5.2

9.3 Socio-economic importance of fishing area

Please refer to Section C 5.3

9.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section A 1.3

9.5 Habitat Data which indicates that fishing area is an EFH

The Poole and Christchurch Bay's Shoreline Management Plan: Stage 2 report[41] provides the following information on the area between Hurst Spit and Hengistbury Head which

[41] https://twobays.net/smp2.htm

incorporates the area of the Christchurch Box. This report states that the areas habitats are dominated by mobile sandy sediments.

9.6 Fish Data which indicates that fishing area is an EFH

The Poole and Christchurch Bay's Shoreline Management Plan: Stage 2 Report[6] provides the following information on the area between Hurst Spit and Hengistbury Head which incorporates the area of the Christchurch Box:

- Area is dominated by mobile sandy sediments which support nationally rare fish species
- The coastal marine environment in this area acts as a spawning and nursery area for several species of commercially important fish including Dover sole, cod and bass

9.7 Invertebrate Data which indicates that fishing area is an EFH

The Poole and Christchurch Bay's Shoreline Management Plan: Stage 2 Report[6] provides the following information on the area between Hurst Spit and Hengistbury Head which incorporates the area of the Christchurch Box:

- Sandy sediments support a variety of organisms including Slipper limpet *Crepidula fornicate*, Burrowing polychaete worms, Mollusc species.

9.8 Summary of ecological value of EFH

The habitats within Christchurch box are cited as sandy, mobile sediments and is likely to provide an access route into the harbour for fish species to utilise the harbour as an EFH for the purposes of spawning, refuge or feeding. The area is of overall moderate value as an EFH.

10 Mouth of River Mude

10.1 Map of fishing area

Refer to Section C 6.1

10.2 Fishing effort

Refer to Section C 6.2

10.3 Socio-economic importance of fishing area

Refer to Section C 6.3

10.4 Existing restrictions on fishing relevant to EFHs

Refer to Section A 1.3

10.5 Habitat Data which indicates that fishing area is an EFH

Habitat data for this area is predominantly the same as defined in Section D 8.5.

10.6 Fish Data which indicates that fishing area is an EFH

Refer to Section D 8.6

10.7 Invertebrate Data which indicates that fishing area is an EFH

Refer to Section D 8.7

10.8 Summary of ecological value as EFH

The area serves as a pinch point between the harbour and estuarine habitat and the freshwater tributary and therefore provides a key access route for spawning and feeding fish species. The area, including the lower reaches of the River Mude, is categorised as being of high value as an EFH.

SECTION E: MIGRATORY SALMONID ASSESSMENTS

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

14 Mouth of River Mude

11.1 Map of Fishing Area

Please refer to Section C 6.1

11.2 Fishing effort

Refer to Section C 6.2

11.3 Socio-economic importance of fishing area

Refer to Section C 6.3

11.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section A 1.3

11.5 Evidence of salmonids using River Mude

As determined by the evidence presented in Sections A 1.4 and C 2.5, salmonids are known to be present in Christchurch Harbour. Sections 1.1 and 1.4 of the Literature Review document provide information on the migration behaviours of Atlantic salmon and sea trout.

It is likely that migratory salmonids congregate at the mouth of the River Mude, the area is known to provide a pinch point for salmonids which are likely to be accessing the River Mude from the main Christchurch Harbour entrance via the main channel. The River Mude is however not a principal salmonid river, nor does it lead to an SAC or SSSI or a high Functionally Linked Area.

11.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

11.7 Incidental evidence of interactions between nets and salmonids

None recorded.

15 East of Harbour

12.1 Map of Fishing Area

Please refer to Section C 4.1

12.2 Fishing effort

Refer to Section C 4.2

12.3 Socio-economic importance of fishing area

Refer to Section C 4.3

12.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section A 1.3

12.5 Evidence of salmonids using East of Harbour

As determined by the evidence presented in Sections A 1.4 and C 2.5 salmonids are known to be present in Christchurch Harbour. Sections 1.1 and 1.4 of the Literature Review document provide information on the migration behaviours of Atlantic salmon and sea trout. Of specific relevance to the likely presence of salmonids in the above-named specified fishing areas:

- The area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Avon SAC where Atlantic salmon are a qualifying feature of the SAC.
- The areas do not fall within a principal or known migration route, refuge area or pinch point leading to the Avon Valley SSSI (Bickton to Christchurch) SSSI where sea trout are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Avon System SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Till SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to a Principal Salmon River

12.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

12.7 Incidental evidence of interactions between nets and salmonids

None recorded.

16 Christchurch Box

13.1 Map of Fishing Area

Please refer to Section C 5.1

13.2 Fishing effort

Refer to Section C 5.2

13.3 Socio-economic importance of fishing area

Refer to Section C 5.3

13.4 Existing restrictions on fishing relevant to migratory salmonids

Please see Section A 1.3

13.5 Evidence of salmonids using the Christchurch Box

- As determined by the evidence presented in Sections A 1.4 and C 2.5 salmonids are known to be present in Christchurch Harbour.
- In order to enter Christchurch Harbour the salmonids must move through the Christchurch Box in order to enter the Harbour. It is most likely that salmonids will utilise the Main Channel as it passes through the southern part of Christchurch Box, however there is the potential for salmonids to utilise the wider area of the Christchurch Box on approach to the Harbour.
- The Christchurch Box area was originally defined by the Environment Agency under a legacy byelaw (see Section A 1.3) as it was identified as holding a high concentration of migratory fish as they moved close inshore to detect the run into the Harbour.
- Sections 1.1 and 1.4 of the Literature Review provide information on the migration behaviours of Atlantic salmon and sea trout.

13.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

13.7 Incidental evidence of interactions between nets and salmonids

None recorded.

SECTION F: ANNEXES

2. Annex 1: Figures 1 and 2 detailing information on salmon stock and rod & line fishery data from Environment Agency reports for the River Avon (see section 1.4)

3.

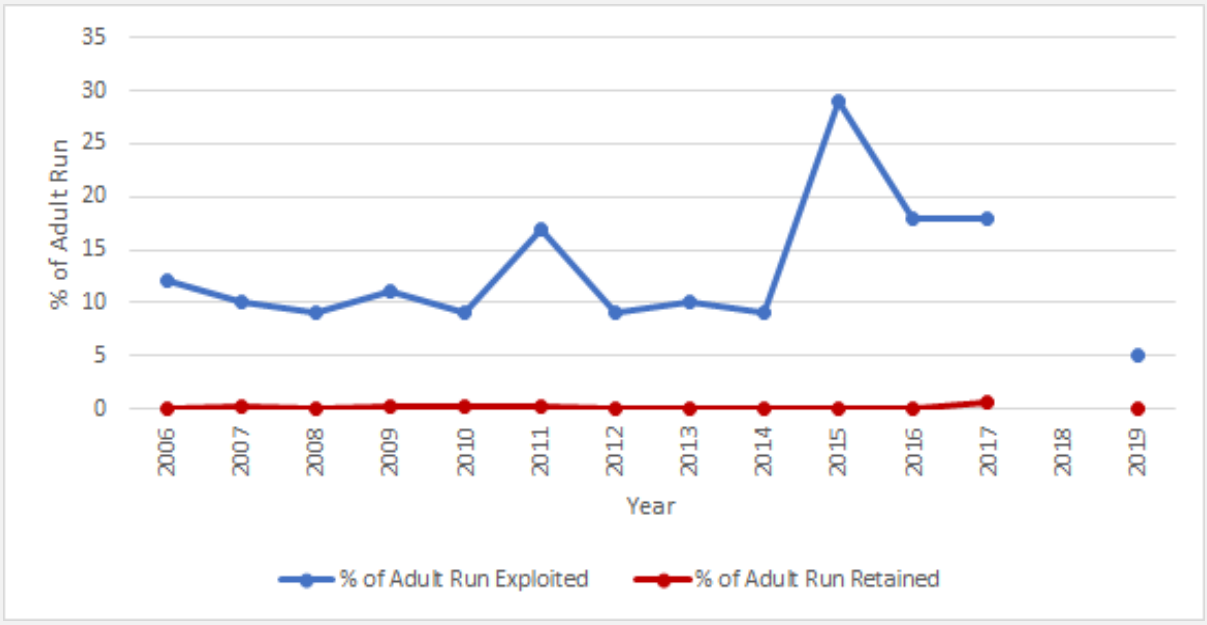


Figure 1: showing the exploitation rate (blue) and percentage of the adult Atlantic salmon run retained (red) by the licenced rod and line fishery on the River Avon for 2006 to 2019 (no data available for 2018).

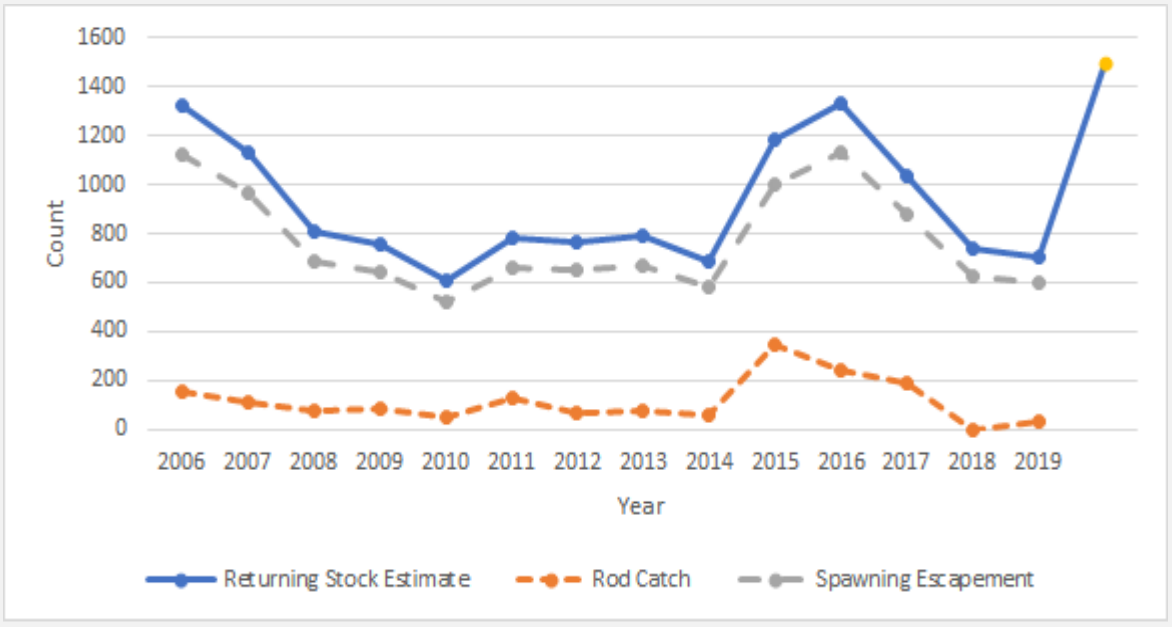


Figure 2: the validated count and run estimates of Atlantic salmon smolts and adults for the River Avon (blue), road catch data (orange) and spawning escapement (grey) between 2006-2019. The yellow dot indicates preliminary data for 2020.

4. Annex 2: Data from Southern IFCA Small Fish Surveys at the Christchurch/Mudeford Spit site and the Wick Ham Site

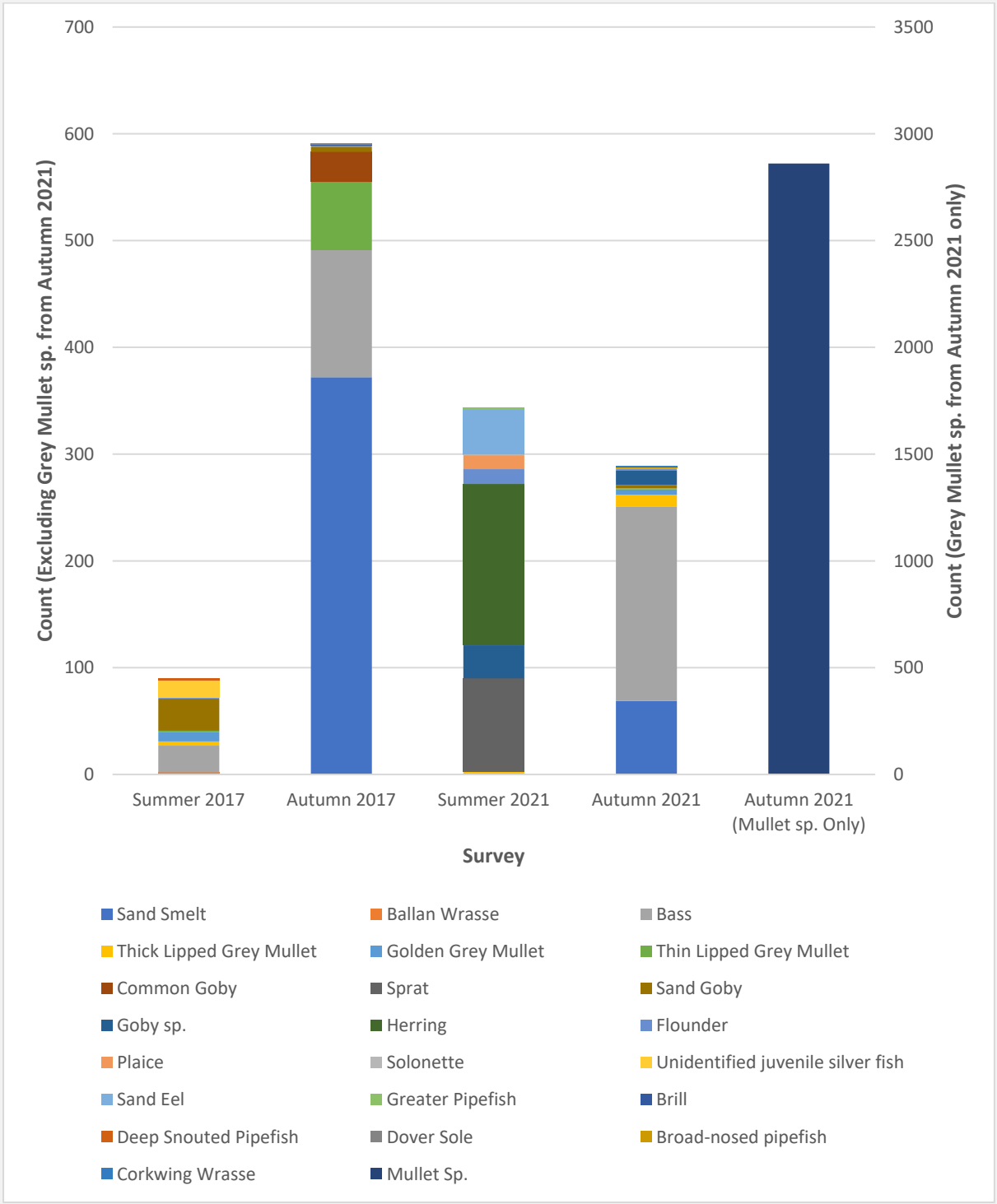


Figure 3: Count data for fish species identified at the Christchurch/Mudeford Spit site in Christchurch Harbour during the Southern IFCA Small Fish Surveys for Summer and Autumn 2017 and Summer and Autumn 2021. Due to the high count number for Grey mullet species in the Autumn 2021 survey, this data has been included in a separate bar relating to the secondary y-axis (right hand side).

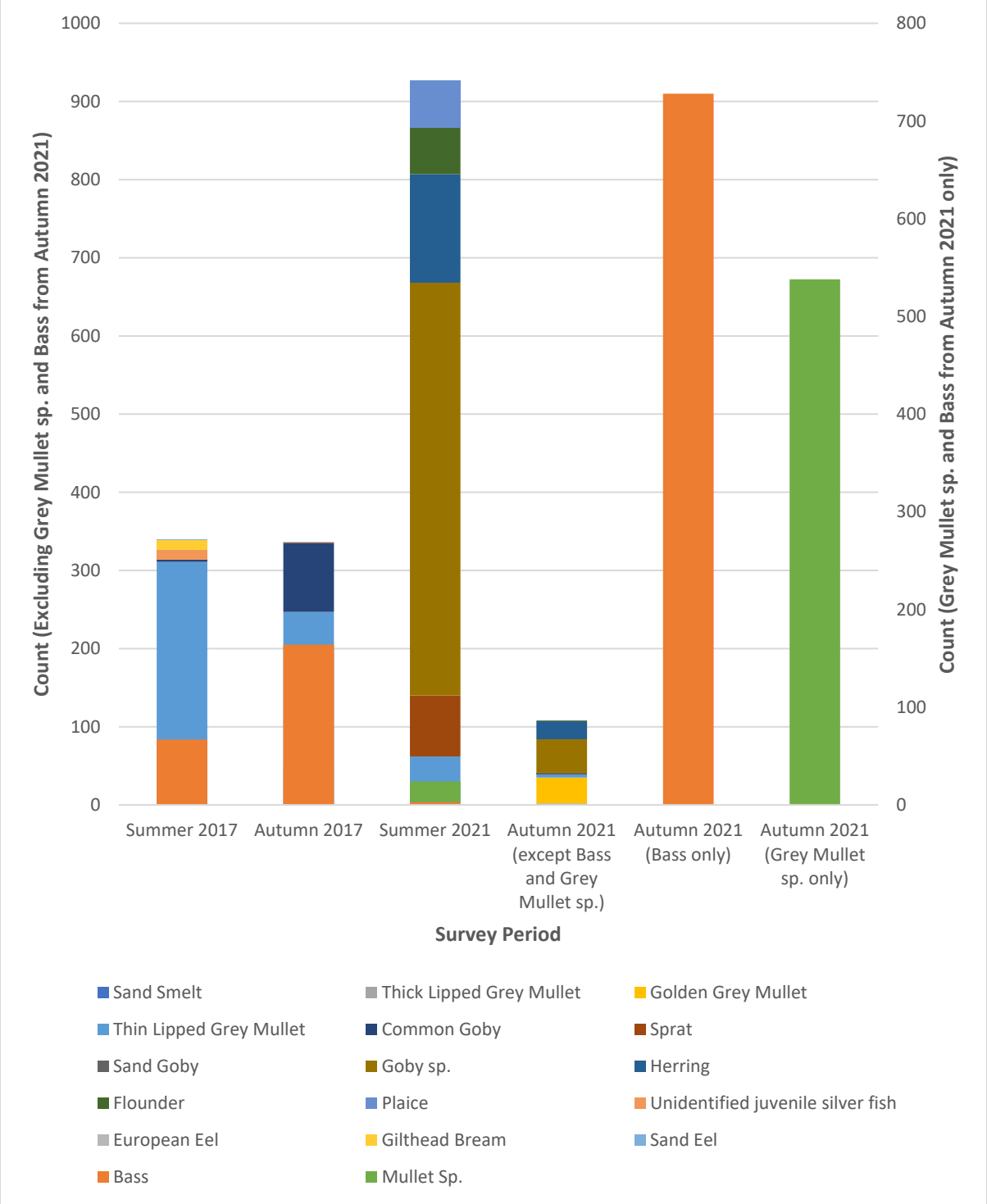


Figure 4: Count data for fish species identified at the Wick Ham site in Christchurch Harbour during the Southern IFCA Small Fish Surveys for Summer and Autumn 2017 and Summer and Autumn 2021. Due to the high count number for Grey mullet species (green) and bass (orange) in the Autumn 2021 survey, data for these species have been included in separate bars relating to the secondary y-axis (right hand side).

Southern Inshore Fisheries and Conservation Authority

Poole Harbour
Assessment Package: Site Specific Evidence

Supporting Document as part of the Inshore Netting Review

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper

Map 12: A map of the Poole Harbour fishing areas, showing the location of relevant nature conservation designations.

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

As there are no relevant SAC designations in Poole Harbour, an HRA is not required to be undertaken.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

The relevant fishing area for Poole Harbour, The River Frome sits partly within the River Frome SSSI and partly as a Functionally Linked Area to the River Frome SSSI (please refer to Map 2, Section C 1.1). The relevant fishing area which falls within the SSSI is regulated by the Environment Agency as a private area which prohibits all net fishing. It is for this reason that an A SSSI assessment has not been undertaken as fishing activity is prohibited within this area under existing regulations.

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

Therefore, a Functionally Linked Area (FLA) Assessment is required to determine whether net fishing; occurring beyond the boundary of an SAC or SSSI (where salmonids are afforded protection) may have an adverse impact on salmonids. The FLA Assessment considers both site specific information, as well as being informed by a wider literature review which seeks to further understandings of likely salmonid interactions based on the best available evidence from peer reviewed evidence.

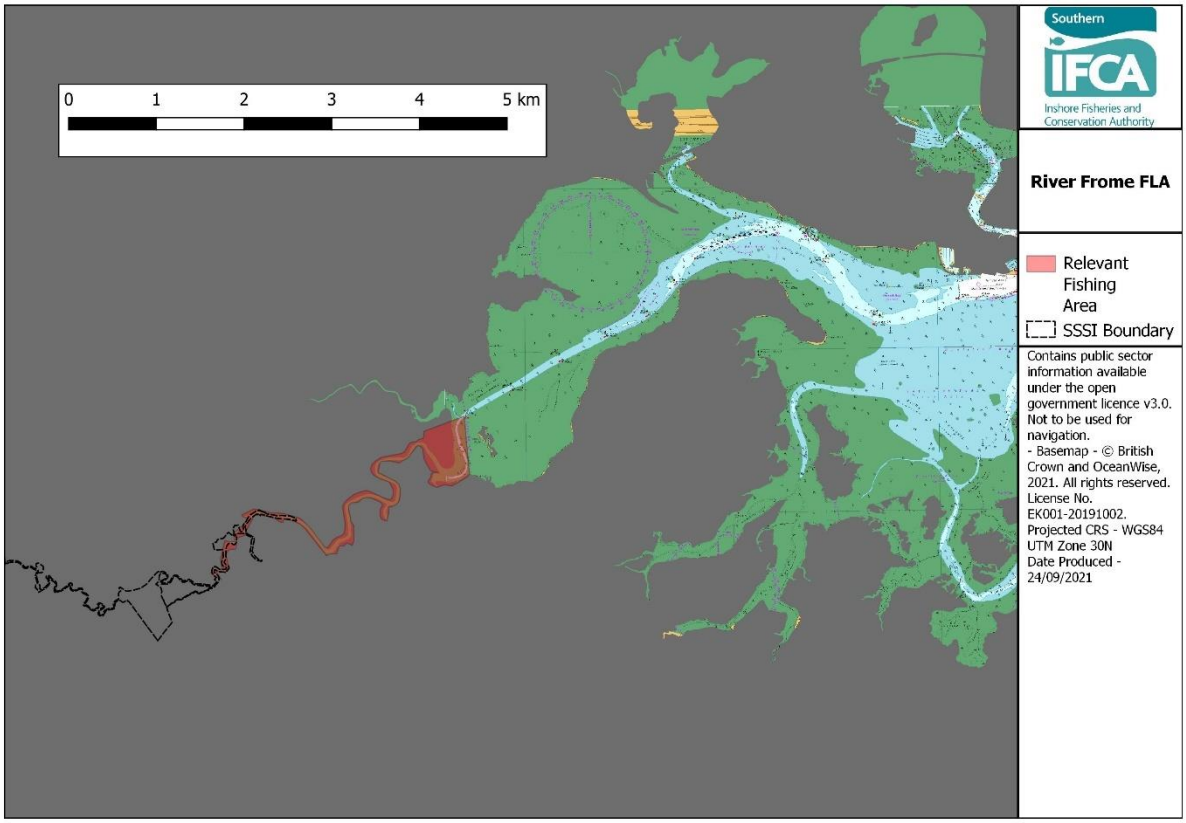
More details on FLA Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

1. Poole Harbour, The River Frome

11.

1.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 2, the River Frome fishing area is functionally linked to the River Frome SSSI. The area may also play a supporting role to the River Piddle, reference its designations as a Principal Salmon River and a Principal Sea Trout River.



Map 2: Proximity of the River Frome relevant fishing area to the River Frome SSSI

1.2 Fishing effort
Area is not subject to commercial net fishing activity.

1.3 Socio-economic importance of Fishing Area
Area is not subject to commercial net fishing activity.

1.4 Existing restrictions on fishing relevant to migratory salmonids
The relevant fishing area for the River Frome is covered by existing restrictions by the Environment Agency which creates a private area and prohibits all net fishing.

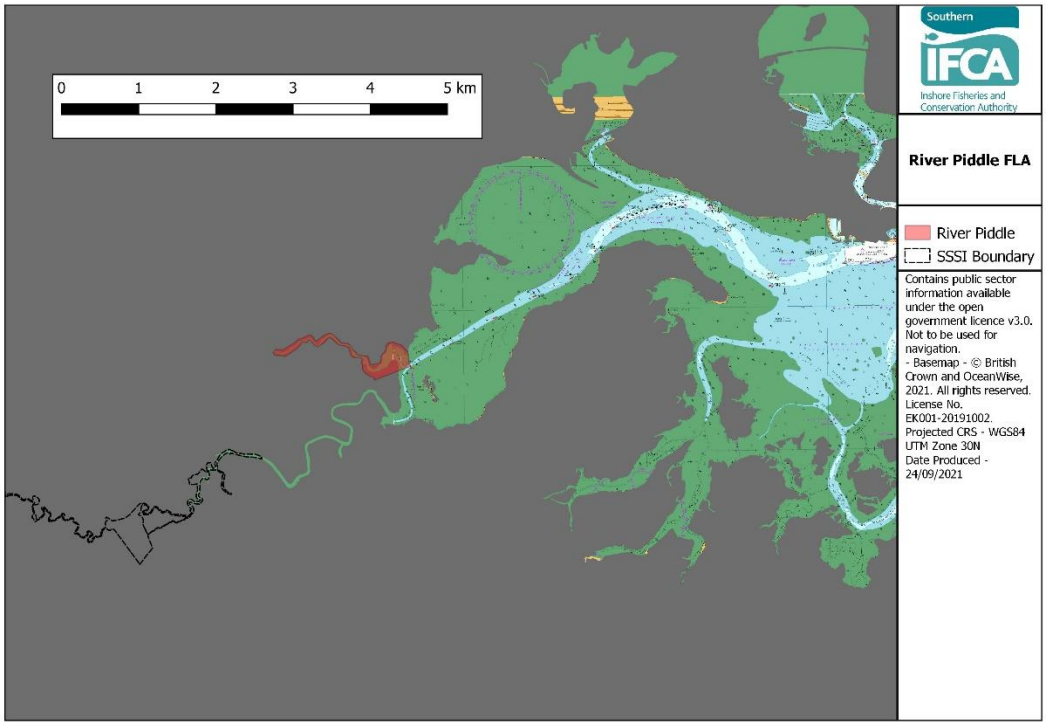
1.5 Evidence of salmonids using fishing area to access SSSI
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

1.6 Evidence demonstrating a known interaction between nets and salmonids
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

1.7 Incidental evidence of interactions between nets and salmonids
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

2. Poole Harbour, The River Piddle
12.

2.1 Proximity to Functionally Linked Areas (FLA)
As demonstrated in Map 3, the River Piddle fishing area is functionally linked to the River Frome SSSI. The area may also play a supporting role to the River Piddle, reference its designations as a Principal Salmon River and a Principal Sea Trout River.



Map 3: Proximity of the River Piddle relevant fishing area to the River Frome SSSI

2.2 Fishing effort
Area is not subject to commercial net fishing activity.

2.3 Socio-economic importance of Fishing Area
Area is not subject to commercial net fishing activity.

2.4 Existing restrictions on fishing relevant to migratory salmonids
The relevant fishing area for the River Piddle is covered by existing restrictions by the Environment Agency which creates a private area and prohibits all net fishing.

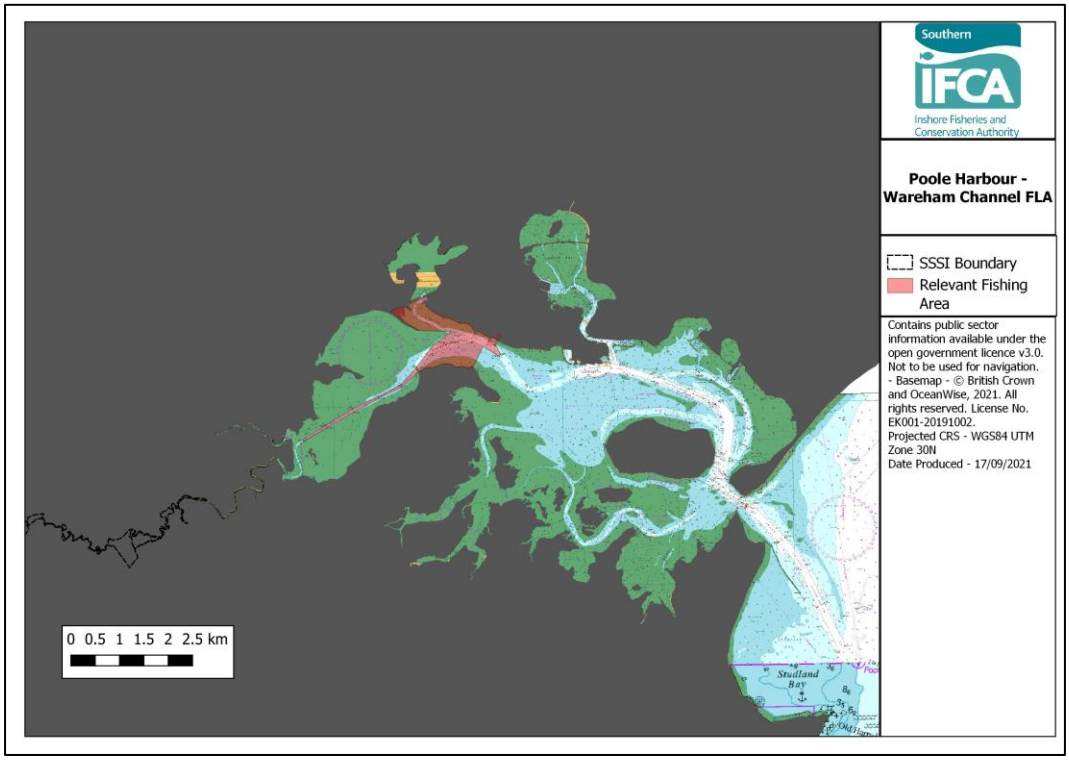
2.5 Evidence of salmonids using fishing area to access SSSI
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

2.6 Evidence demonstrating a known interaction between nets and salmonids
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

2.7 Incidental evidence of interactions between nets and salmonids
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

13. 3. Poole Harbour, Wareham Channel
14.

3.1 Proximity to Functionally Linked Areas (FLA)
As demonstrated in Map 4, the Poole Harbour, Wareham Channel area is functionally linked to the River Frome SSSI. The area may also play a supporting role to the River Piddle, reference its designations as a Principal Salmon River and a Principal Sea Trout River.



Map 4: Proximity of Poole Harbour Wareham Channel to the River Frome SSSI

3.2 Fishing effort

3.2.1 Gill net (ring)

- Up to 13 vessels fish with nets using predominantly ring nets to target grey mullet. Bycatch species in the ring net fishery include bass and gilthead bream.
- Information from fishers that ring net vessels shoot nets at the very edges of the channel throughout the Harbour as fish tend to congregate in these areas
- Ring net fishing in this area only takes place during slack water
- The net is set for a short period of time, 10 minutes
- Nets are constantly attended
- Mesh size ranges from 3 5/8 to 4 inches
- Net length rages from 250 to 360m
- Net is set from a vessel in a circular pattern to enclose target species or set from the shore in a 'D' shape with the shore providing the closing boundary
- Ring nets are deployed on recognition (by fishers) of the presence of target species.
- Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
- The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a 'bag' in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float line. In this way no 'bag' is created and fish which are not physically caught in the net will not be removed as the net is recovered.

3.2.2 Gill net (drift)

- Up to 3 vessels engage in drift netting activity to target herring
- Fishers shoot nets at the very edges of the channel throughout the Harbour as fish tend to congregate in these areas

3.3 Socio-economic importance of Fishing Area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 5% of this value may be derived from the Wareham Channel area.

3.4 Existing restrictions on fishing relevant to migratory salmonids

The Southern IFCA 'Fixed Engines' byelaw prohibits the placing and use of fixed engines (nets), other than Fyke nets, for the taking of seafish during the period from 1st April to 30th September (both days inclusive) in any year in all parts of Poole Harbour to the West of the line of the Chain Ferry between South Haven Point and Sandbanks and all parts of any river or stream flowing into Poole Harbour which fall within the Southern Sea Fisheries District.

The Bass (Specified Area) (Prohibition of Fishing) Order 1990 and The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999 sets a prohibition on fishing for bass (*Dicentrarchus labrax*), or fishing for any species of sea-fish using sand-eels (*Ammodytidae*) as bait, by any fishing boat within Poole Harbour in the area of all tidal waters enclosed by a line drawn 011° true from Jerry's Point, through Branksea Castle to Salterns Pier between 30th April and 1st November.

3.5 Evidence of salmonids using fishing area to access SSSI

Wareham Channel is a principal migration route leading to the River Frome SSSI where Atlantic salmon and sea trout are faunal components of the 'River and Streams' reportable feature. Sections 1.1 and 1.4 of the Literature Review provide information on the migration behaviours of Atlantic salmon and sea trout.

Evidence of Atlantic Salmon using the River Frome

- Atlantic salmon are a faunal component of the River Frome SSSI 'Rivers and Streams' reportable feature:
    - There are seven units under the River Frome SSSI for the 'Rivers and Streams' reportable feature, one of the units directly references Atlantic salmon as being impacted by barriers to migration and that improvements are being sought to rectify the impact.
    - For all seven units for the 'Rivers and Streams' reportable feature, the condition is given as 'Unfavourable – no change', no assessment of the Condition Threat has been undertaken. For note, this status condition relates to the habitat as a whole, rather than the Atlantic salmon population status.
- The River Frome is listed as a 'Principal Salmon River' as determined by the Environment Agency
    - In 2019, the Atlantic salmon fishery assessment data[42] showed that the River Frome attained 82% of the Conservation Limit of 1.50 $x10^6$ eggs deposited. This gives the river a Compliance Level of 'Probably at Risk'.
    - The Compliance Level for 2024 is predicted to be 'Probably at Risk'
- Atlantic Salmon stock data[43]:
    - Annex 1: Figure 1 shows the exploitation rate and percentage of adult run retained by the licenced rod and line fishery for Atlantic salmon on the River Frome for 1988 to 2019.
    - Annex 1: Figure 2 shows data from the Environment Agency on the count of Atlantic salmon smolt and adults are available for years 1988 to 2019
        - the returning stock estimate for the River Frome (blue) for 1988 to 2019
        - rod catch data (orange), available for 1988-2019 and the spawning escapement (grey) for the same period.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of Atlantic salmon in the River Frome as April to May for smolt and February to December for the adult run.

Evidence of sea trout using the River Frome

- Sea trout are a faunal component of the 'Rivers and Streams' reportable feature of the River Frome SSSI.
- The River Frome is listed as a 'Principal Sea Trout' river by the Environment Agency. The sea trout fishery assessment data for 2020 shows a Compliance Level of 'Probably at Risk'.
    - In 2020, the number of sea trout caught by rod and line in the River Frome was 275 with 251 being released, giving a catch and release rate of 91%, this is a decrease of 1% on the rate for 2019.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of sea trout in the River Frome as March to April and the adult run as May to December with a peak period between June to July and then again with the Autumn rains.

This area may also play a supporting role to the River Piddle as a designated Principal Salmon River and a Principal Sea Trout River.

42 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907284/SalmonReport-2019-summary.pdf

43 Stock data taken from: Salmon Stocks and Fisheries in England and Wales Annual Report by Environment Agency, Cefas and Natural Resources Wales Solent and South Downs Annual Fish Monitoring Report by Environment Agency

Evidence of Atlantic salmon using the River Piddle

- The River Piddle is listed as a 'Principal Salmon River' as determined by the Environment Agency:
    - In 2019, the Atlantic salmon fishery assessment data[44] showed that the River Piddle attained 42% of the Conservation Limit of 0.31 x10^6 eggs deposited. This gives the river a Compliance Level of 'At Risk'.
    - The Compliance Level for 2024 is predicted to be 'Probably at Risk'.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters[45]' provides timings of the smolt and adult run of Atlantic salmon in the River Piddle as April to May for smolt and February to December for the adult run.
- Given the proximity of the river mouths and shared estuaries of the Rivers Frome and River Piddle, higher levels of gene flow and migration between these sites might be expected and it appears that the geographic distance between the mouths of these rivers does play a role in defining genetic distances between populations[46].

Evidence of sea trout using the River Piddle

- The River Piddle is listed as a 'Principal Sea Trout River' as determined by the Environment Agency:
- The sea trout fishery assessment data for 2020 shows a Compliance Level of 'Probably at Risk', which is a downgrade from the 2019 classification of 'Probably not at risk'.
- In 2020, the number of sea trout caught by rod and line in the River Piddle was 3 with 3 being released, giving a catch and release rate of 100%, this is the same as the rate for 2019.
- The Environment Agency report 'Review of protection measures for Atlantic salmon and sea trout in inshore waters' provides timings of the smolt and adult run of sea trout in the River Piddle as April/May for smolt and May to December for the adult run with a peak period between June and July and then again with Autumn rains.

3.6 Evidence demonstrating a known interaction between nets and salmonids

The EA regulate a Net Limitation Order for Poole Harbour. Net fishing is carried out each year by use of drift net in the Wareham Channel and Wareham Approaches, targeting salmon and sea trout. One fisher is active in the fishery and fishes under a permit issued by the EA. The permit holder operates a catch and release fishery. Data is held by the EA on salmon and sea trout catches in this fishery.

The EA has recorded the following instances of salmonids observed being caught in nets in the Wareham Channel and Wareham Approaches area:

- 2004 15/11/04- Sea trout caught in net off Rockley.
- 2009 17/10/09- One Salmon in fixed net Wareham Channel.
- 2012 18/07/12- Two salmon in illegal fixed net at top of Wareham channel. Net seized.
- 2013 07/13- One sea trout caught at the top of the Wareham channel in the presence of
- SIFCA Officers by fisherman using drift net. Fish returned.
- 2013 One sea trout taken in Wareham Channel along with undersize bass. Prosecution.

[44] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907284/SalmonReport-2019-summary.pdf

[46] Ikediashi, C., Paris, J. R., King, R. A., Beaumont, W. R. C., Ibbotson, A. and Stevens, J. R. 2018. 'Atlantic salmon *Salmo salar* in the chalk streams of England are genetically unique'. *Journal of Fish Biology*, **92(3)**, pp. 621-641

- 2016 10/06/16- Two sea trout caught in drift net fished off Keysworth point both released in the presence of EA Officers.

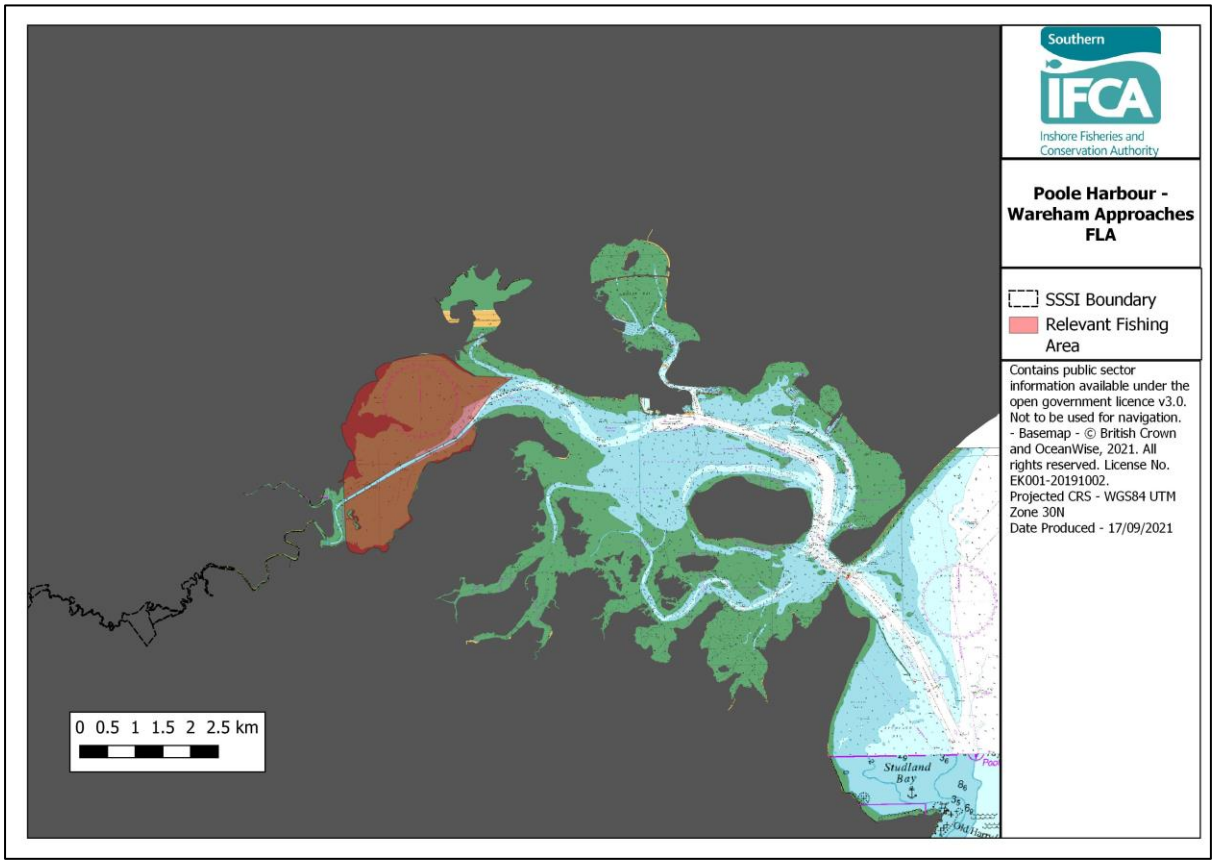
3.7 Incidental evidence of interactions between nets and salmonids

None recorded.

15. 4. Wareham Approaches

4.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 5, the Poole Harbour, Wareham Approaches area is functionally linked to the River Frome SSSI. The fishing area may also play a supporting Role to the River Piddle, reference its designations as a Principal Salmon River and a Principal Sea Trout River.



Map 5: Proximity of Poole Harbour Wareham Channel Approaches to the River Frome SSSI

4.2 Fishing effort

4.2.1 Gill net (ring)

- Up to 13 vessels fish with ring nets in the Wareham Approaches.
- The net is set for a short period of time, 10 minutes
- Nets are constantly attended
- Mesh size ranges from 3 5/8 to 4 inches
- Net length rages from 250 to 360m
- Net is set from a vessel in a circular pattern to enclose target species or set from the shore in a ‘D’ shape with the shore providing the closing boundary
- Used primarily to target grey mullet species. Bass are caught as bycatch.
- Ring nets are deployed on recognition (by fishers) of the presence of target species.

- Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
- The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a 'bag' in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves the recovery from only one end of the net, led by the float line. In this way no 'bag' is created and fish which are not physically caught in the net will not be removed as the net is recovered.

4.2.2 Gill net (drift)

- Up to 3 vessels engage in drift netting activity in the Wareham Approaches area
- Species caught include grey mullet, bass, gilthead bream, plaice, flounder and herring.

4.2.3 Gill net (fixed)

- Up to 13 vessels engage in fixed netting activity in the Wareham Approaches area outside of the fixed engine closure period.
- Fishing for flounder and plaice as well as other species of flatfish

4.3 Socio-economic importance of Fishing Area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 25% of this value may be derived from the Wareham Approaches area.

4.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section C 3.4

4.5 Evidence of salmonids using fishing area to access SSSI

As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour. Wareham Approaches is a known (but not principal) migration route leading to the River Frome SSSI where Atlantic salmon and sea trout are faunal components of the 'River and Streams' reportable feature and may also play a supporting role to the River Piddle as a Principal Salmon River and a Principal Sea Trout River. Sections 1.1 and 1.4 of the Literature Review provide information on the migration behaviours of Atlantic salmon and sea trout.

4.6 Evidence demonstrating a known interaction between nets and salmonids

- One record by the Environment Agency of a 6-8lb sea trout caught in a surface gill net used across a large area on the side of the Wareham Channel while an EA Fisheries Enforcement Officer was present[47].
- In 2019 Southern IFCA Officers undertook observer trips on net fishing vessels across the District. For the area of the Wareham Approaches in Poole Harbour 3 observer trips were undertaken as follows:
  - 1 net fishing trip in June 2019 using a 3 5/8 and 3 ¾ mesh, 340-yard-long net for ring netting. 2 sets of the net during the trip
    - no salmonid interaction in either net
    - net 1 – 27 thin-lipped grey mullet above MCRS
    - net 2 – 25 thin-lipped grey mullet above MCRS
  - 1 net fishing trip in August 2019 using a 3 5/8 and 3 ¾ mesh, 340-yard-long net for ring netting. 1 set of the net during the trip
    - no salmonid interaction

[47] Information stated on p. 7 of the Environment Agency Report 'Risks posed to migratory salmonid fish species by sea fish netting in Poole and Christchurch Harbours', provided to the Southern IFCA in 2018.

        - 181 thin-lipped grey mullet above MCRS
    - 1 net fishing trip in September 2019, with the Wareham Channel fished in addition to the central Harbour area, using a 3 5/8 and 3 ¾ mesh, 340-yard-long net for ring netting. 5 sets of the net during the trip
        - no salmonid interaction in any of the nets
        - net 1 – 3 thin-lipped grey mullet above MCRS and 2 golden grey mullet above MCRS
        - net 2 – 33 thin-lipped grey mullet above MCRS and 2 golden grey mullet above MCRS, additional catch of 1 smoothound
        - net 3 – 56 thin-lipped grey mullet above MCRS and 8 golden grey mullet above MCRS
        - net 4 – 9 thin-lipped grey mullet above MCRS
        - net 5 – 19 thin-lipped grey mullet above MCRS

**Note: observer net fishing trips were carried out prior to the introduction of the Southern IFCA Minimum Conservation Reference Size Byelaw, therefore the MCRS for all grey mullet species was 30cm at the time this data was collected.*

Please also refer to Section C 3.6.

4.7 Incidental evidence of interactions between nets and salmonids

None recorded.

16. 5. Main Channel

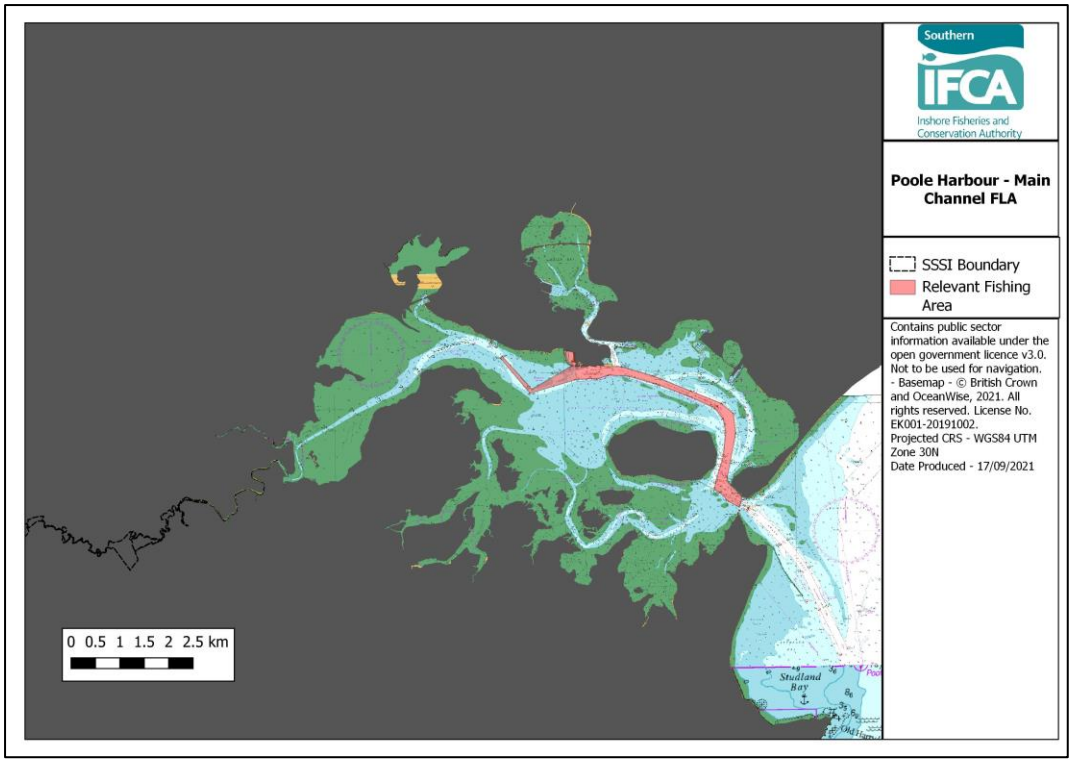
5.1 Proximity to Functionally Linked Areas (FLA)

As demonstrated in Map 6, the Poole Harbour, Main Channel is functionally linked to the River Frome SSSI. The fishing area may also play a supporting role to the River Piddle, reference its designations as a Principal Salmon River and a Principal Sea Trout River.

5.2 Fishing effort

5.2.1 Gill net (ring)

- Up to 13 vessels fish with nets in the Main Channel using predominantly ring nets to target grey mullet. Bycatch species in the ring net fishery include bass and gilthead bream.
- Information from fishers that ring net vessels shoot nets at the very edges of the channel throughout the Harbour as fish tend to congregate in these areas
- Ring net fishing in this area only takes place during slack water
- The net is set for a short period of time, 10 minutes
- Nets are constantly attended
- Mesh size ranges from 3 5/8 to 4 inches
- Net length rages from 250 to 360m
- Net is set from a vessel in a circular pattern to enclose target species or set from the shore in a ‘D’ shape with the shore providing the closing boundary
- Ring nets are deployed on recognition (by fishers) of the presence of target species.
- Once deployed, it is highly unlikely that any fish outside of the circle will be entangled.
- The set up and deployment of a ring net is very different to the salmonid seine nets which have been used historically from the shore to target salmonids. The recovery method for a salmonid seine net involves both ends of the net being pulled in at once by the float and lead lines creating a ‘bag’ in which fish are trapped even if they are not physically caught in the mesh of the net. In contrast, the recovery of a ring net set against the shore involves



Map 6: Proximity of Poole Harbour Main Channel to the River Frome SSSI

the recovery from only one end of the net, led by the float line. In this way no 'bag' is created and fish which are not physically caught in the net will not be removed as the net is recovered.

5.2.2 Gill net (drift)

- Up to 3 vessels engage in drift netting activity to target herring
- Fishers shoot nets at the very edges of the channel throughout the Harbour as fish tend to congregate in these areas

5.3 Socio-economic importance of Fishing Area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 10% of this value may be derived from the Main Channel area.

5.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section C 3.4

5.5 Evidence of salmonids using fishing area to access SSSI

As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour. The Main Channel is a principal migration route leading to the River Frome SSSI where Atlantic salmon and sea trout are faunal components of the 'Rivers and Streams' reportable feature and may also play a supporting role to the River Piddle as a Principal Salmon River and a Principal Sea Trout River. Please refer to Sections 1.1 and 1.4 of the Literature Review which provides information on the migration and behaviours of Atlantic salmon and sea trout.

5.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

5.7 Incidental evidence of interactions between nets and salmonids

None recorded.

SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

6. Wareham Approaches

6.1 Map of fishing area

Please refer to Section C 4.1

6.2 Fishing effort

Please refer to Section C 4.2

6.3 Socio-economic importance of fishing area

Please refer to Section C 4.3

6.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 3.4

6.5 Habitat Data which indicates that fishing area is an EFH

Poole Harbour is covered by the Poole Harbour SPA[48] and the Poole Harbour SSSI[49]. Information on habitat types covering the whole of Poole Harbour (not site specific) is provided by data used to support these designations:

- Freshwater and coastal grazing marsh (supporting habitat under SPA)
- Mediterranean and thermo-Atlantic halophilous scrubs (supporting habitat under SPA)
- Atlantic salt meadows (supporting habitat under SPA)
- Spartina swards (supporting habitat under SPA)
- Intertidal mud (supporting habitat under SPA)
- Intertidal fine-grained mud (habitats listed under SSSI citation)
- Saltmarsh fringes the intertidal mud, dominated by common cord grass *Spartina anglica* (habitats listed under SSSI citation)

In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[50]. The report, published in 2010, provides information on habitat types across Poole Harbour. For the Wareham Approaches, the following information is provided for 2009:

- Clay/silt sediment
- Saltmarsh areas at Seagull Island, Keysworth and fringing the western end toward the entrance to the Rivers Piddle and Frome
- Sand sediment in the centre of the Wareham approaches area, south of the channel

[48] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9010111&SiteName=poole&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[49] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1000110&SiteName=poole&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[50] https://core.ac.uk/download/pdf/4897352.pdf

6.6 Fish Data which indicates that fishing area is an EFH

Please refer to Sections D 7.6 and D 10.6. The small fish surveys carried out by Southern IFCA at Lytchett Bay and Brownsea Island provide an indication of the species likely to be present in other areas of the Harbour.

6.7 Invertebrate Data which indicates that fishing area is an EFH

Invertebrate data from the SSSI citation:

- Most marine invertebrate species are of widespread distribution but, especially in the case of sheltered areas and bays, are found in very large numbers
- The rare mollusc *Aeolidiella sanguinea* is found in Poole Harbour

A survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on invertebrate species across Poole Harbour. For the Wareham Approaches, the following information is provided for 2009:

- Species count varied from 1-5 to 21-25 per sample across 20 sampled sites
- Density of organisms varied from 8-10 m^{-2} to 7501-15000 m^{-2} across 20 sampled sites
- Biotope classifications for the area showed a dominance of polychaete species, *Corophium* species and small molluscs
- Species found:
    - Polychaetes and Oligochaetes
    - Crustaceans
    - Molluscs
    - *Corophium* species

6.8 Summary of ecological value of EFH

Drawing from the habitat data for Poole Harbour and the 2010 survey report specific to the Wareham Approaches, it is likely that this site provides examples of clay/silt sediments and saltmarsh which are recognised as providing ecological importance in supporting feeding and refuge areas for fish species. The rich invertebrate diversity will provide a food source for a large number of different fish species. The Wareham Approaches provides a medium value as an EFH.

7. Lytchett Bay

7.1 Map of fishing area

Please refer to map 1.

7.2 Fishing effort

- Between two and five commercial fishing vessels net fish in Lytchett Bay
- Vessels engage in ring netting, drift netting and fixed netting
- Target species are grey mullet, with a bycatch of flounder, plaice and bass.

7.3 Socio-economic importance of fishing area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 2% of this value may be derived from the Lytchett Bay area.

7.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 3.4

7.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 6.5. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on habitat types across Poole Harbour. For Lytchett Bay, the following information is provided for 2009:

- Sublittoral mud in the channel
- Saltmarsh on the western, eastern and northern sides of the bay
- Clay/silt muddy sediment across the intertidal

7.6 Fish Data which indicates that fishing area is an EFH

Surveys are carried out by the Southern IFCA as part of the Small Fish Survey Program[51] at two sites in Poole Harbour, namely Lytchett Bay and Brownsea Island. The data from the most relevant survey is presented below. Despite these surveys being site specific it is likely that the species recorded will be found in other areas of Poole Harbour. Please see Section D 10.6 for data on Brownsea Island.

Lytchett Bay:

- 17 fish species were identified at the site across the following five surveys. The figure provided identifies the most abundant species found. Annex 2, Figure 4 shows the count data for fish species per site.
    - Autumn 2016: Sand Goby (536)
    - Summer 2017: Sand Goby (114)
    - Autumn 2017: Common Goby (315)
    - Summer 2018: Common Goby (27)
    - Autumn 2018: Sand Goby (14) and Sand Smelt (14)
    - Summer 2019: Common Goby (26)

7.7 Invertebrate Data which indicates that fishing area is an EFH

Please refer to Section D 6.7. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on invertebrate species across Poole Harbour. For Lytchett Bay, the following information is provided for 2009:

- Species count varied from 1-5 to 13-15 per sample across 5 sampled sites
- Density of organisms varied from 501-1500 m^{-2} to 1501-3500 m^{-2} across 5 sampled sites
- Biotope classifications for the area showed a dominance of polychaete and mollusc species
- Species found:
    - Polychaetes and Oligochaetes
    - Crustaceans
    - Molluscs

[51] The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample for fish species, particularly juvenile fish. Two seine nets are completed for each survey at each site and the fish retained in the net are identified, counted and measured before being returned to the sea.

7.8 Summary of ecological value of EFH

The site provides an example of sublittoral mud, saltmarsh and muddy/clay sediments which is recognised as playing an ecological role in supporting spawning, feeding and refuge areas for fish species. The rich invertebrate diversity will provide a food source for a large number of different fish species. The area is fringed by an excellent network of saltmarsh and reedbeds, particularly on the western and northern shores. Lytchett Bay provides a high value as EFH.

8. Wych and Middlebere Lakes

8.1 Map of fishing area

Please refer to map 1.

8.2 Fishing effort

- Up to four vessels net fish in Wych and Middlebere Lakes using ring nets and fixed nets. Target species are grey mullet, with a bycatch of flounder, plaice and bass.

8.3 Socio-economic importance of fishing area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 5% of this value may be derived from the Wych and Middlebere Lakes area.

8.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 3.4

8.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 6.5. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on habitat types across Poole Harbour. For Wych and Middlebere Lakes the following information is provided for 2009:

- Sublittoral mud in channel areas
- Large areas of saltmarsh fringing all shoreline areas of both Wych and Middlebere Lakes
- Clay/silt muddy sediment across the intertidal

8.6 Fish Data which indicates that fishing area is an EFH

Please refer to Sections D 7.6 and D 10.6. The small fish surveys carried out by Southern IFCA at Lytchett Bay and Brownsea Island provide an indication of the species likely to be present in other areas of the Harbour.

8.7 Invertebrate Data which indicates that fishing area is an EFH

Please refer to Section D 6.7. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[10]. The report, published in 2010, provides information on invertebrate species across Poole Harbour. For the Wareham Approaches, the following information is provided for 2009:

- Species count varied from 1-5 to 16-20 per sample across 5 sampled sites
- Density of organisms varied from 1501-3500 m^{-2} to 7501-15000 m^{-2} across 5 sampled sites
- Biotope classifications for the area showed a dominance of polychaete species, *Corophium* species and small molluscs
- Species found:
    - Polychaetes and Oligochaetes

- Crustaceans
- Molluscs
- *Corophium* species

8.8 Summary of ecological value of EFH

The site provides an example of sublittoral mud, saltmarsh and muddy/clay sediments which is recognised as playing an ecological role in supporting spawning, feeding and refuge areas for juvenile fish species. The rich invertebrate diversity will provide a food source for a large number of different fish species. The area is fringed throughout by an excellent network of saltmarsh and provides a high value as EFH.

9. South Deep

9.1 Map of fishing area

Please refer to map 1.

9.2 Fishing effort

9.2.1 Gill net (ring)

- Vessels engage in ring netting activity in combination with other netting methods
- Information from fishers that ring net vessels shoot nets at the very edges of the channel throughout the Harbour as fish tend to congregate in these areas
- Ring net fishing in this area only takes place during slack water
- The net is set for a short period of time, 10 minutes
- Nets are constantly attended
- Mesh size ranges from 3 5/8 to 4 inches
- Net length rages from 250 to 360m
- Net is set from a vessel in a circular pattern to enclose target species or set from the shore in a 'D' shape with the shore providing the closing boundary
- Used primarily to target grey mullet species

9.2.2 Gill net (drift)

- vessels engage in drift netting activity in combination with other netting methods
- Fishing for grey mullet species and herring
- Fishers shoot nets at the very edges of the channel throughout the Harbour as fish tend to congregate in these areas

9.3 Socio-economic importance of fishing area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 10% of this value may be derived from the South Deep area.

9.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 3.4

9.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 6.5. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on habitat types across Poole Harbour. For Wych and Middlebere Lakes the following information is provided for 2009:

- Sublittoral mud at the western most end
- Infralittoral mixed sediment

9.6 Fish Data which indicates that fishing area is an EFH

Please refer to Sections D 7.6 and D 10.6. The small fish surveys carried out by Southern IFCA at Lytchett Bay and Brownsea Island provide an indication of the species likely to be present in other areas of the Harbour.

9.7 Invertebrate Data which indicates that fishing area is an EFH

Please refer to Section D 6.7. Utilising other data sources, specific survey data is not provided for channels within the Harbour. South Deep covers more than one sediment type therefore there is likely to be a range of invertebrate species covering the main groups: polychaetes/oligochaetes, molluscs, crustacean. However, it is recognised that the channel is subject to periodic maintenance dredging and therefore the benthic community will be subject to a degree of disturbance potentially lowering its overall ecological value.

9.8 Summary of ecological value of EFH

The site provides an example of sublittoral mud, mixed sediment and muddy/clay sediments which is recognised as playing an ecological role in supporting spawning, feeding and refuge areas for juvenile fish species. There is likely to be an establish benthic community but the ecological value may be lowered by period disturbance from maintenance dredging. The subtidal channel is likely to provide a refuge area for fish species, particularly at low water. The area is of medium value as EFH.

10. Wider Harbour

10.1 Map of fishing area

Please refer to map 1.

10.2 Fishing effort

- Approximately 25 vessels net fish in the wider area of Poole Harbour.
- Vessels engage in fixed, drift and ring netting
- Species caught include grey mullet species, herring, bass, gilthead bream, mackerel, sole, flounder, plaice and potentially skate and ray species
- Activity occurs all year round

10.3 Socio-economic importance of fishing area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 50% of this value may be derived from the Wider Harbour.

10.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 3.4

10.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 6.5. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on habitat types across Poole Harbour, the following information is provided for 2009:

- Intertidal areas of the Harbour are mainly clay/silt muddy sediment. There are areas of sandy sediment along the northern shore of the Harbour and throughout Whitley Lake.
- Sandy sediments are also found in the eastern side of Brands Bay, the south eastern corner of Newton Bay, around the south coast of Brownsea Island, the area between Brownsea Island and South Deep and around Round, Long and Green Islands.
- Mixed sediment is found at the entrance to Arne Bay, the south east corner of Brands Bay, around Green Island and Furzey Island and in Blue Lagoon.

- Saltmarsh is found in Holes Bay, Arne Bay, around all of the islands within the Harbour and in the southern bays, Ower Bay, Newton Bay and Brands Bay.
- Seagrass beds are located in Whitley Lake
- The subtidal area of the Harbour varies from infralittoral mixed sediment on the eastern side of the Harbour to sublittoral mud on the western side with an area of infralittoral muddy sand between the Arne peninsula and the Hamworthy shoreline.

10.6 Fish Data which indicates that fishing area is an EFH

Surveys are carried out by the Southern IFCA as part of the Small Fish Survey Program at two sites in Poole Harbour, namely Lytchett Bay and Brownsea Island. The data from the most relevant survey is presented below. Despite these surveys being site specific it is likely that the species recorded will be found in other areas of Poole Harbour. Please see Section D 7.6 for data on Lytchett Bay.

Brownsea Island:

- 35 fish species were identified at the site across the following six surveys. The figure provided identifies the most abundant species found. Annex 2, Figure 3 shows the count data for fish species per site.
    - Autumn 2016: Herring (527)
    - Summer 2017: Sand Goby (130)
    - Autumn 2017: Sand Smelt (762)
    - Summer 2018: Sand Goby (333)
    - Autumn 2018: Sand Smelt (1641)
    - Summer 2019: Pollack (20)
- There are some species which have not been caught at any other site in the District including Five-bearded rockling and anchovy

10.7 Invertebrate Data which indicates that fishing area is an EFH

Invertebrate data from the SSSI citation:

- Most marine invertebrate species are of widespread distribution but, especially in the case of sheltered areas and bays, are found in very large numbers
- The rare mollusc *Aeolidiella sanguinea* is found in Poole Harbour
- Associated with subtidal fine sands of the central Harbour are species-rich communities dominated by beds of the tube worm *Sabella pavonina*

A survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[13]. The report, published in 2010, provides information on invertebrate species across Poole Harbour. For the wider Harbour, the following information is provided for 2009:

- Species count varied from 1-5 to 26-35 per sample across 46 sampled sites (a count of 26-35 was only found at one site on the northern shore close to Poole Quay)
- Density of organisms varied from 11-500 m^{-2} to 35001-45000 m^{-2} across 46 sampled sites (highest density class only found at one site at the southern end of Brands Bay)
- Biotope classifications for the area showed a dominance of polychaete species, *Corophium* species and small molluscs
- Species found:
    - Polychaetes and Oligochaetes
    - Crustaceans
    - Molluscs
    - *Corophium* species

10.8 Summary of ecological value of EFH

Drawing from the habitat data for Poole Harbour and the 2010 survey report which provides an overview of Poole Harbour in general, it is likely that the wider harbour will provide

ecologically diversity of EFHs to include intertidal areas, sandy sediments, seagrass and saltmarsh. which are recognised as providing ecological importance in supporting feeding and refuge areas for fish species. The rich invertebrate diversity will provide a food source for a large number of different fish species.

11. Holes Bay North

11.1 Map of fishing area

Please refer to map 1.

11.2 Fishing effort

- Approximately 1 vessel sporadically net fishes in the Holes Bay North area.
- Vessel uses drift and ring netting
- Species caught include grey mullet species and bass
- Activity occurs all year round

11.3 Socio-economic importance of fishing area

The first-sale value of net fishing activity in Poole Harbour is estimated to be in the region of £150,000. Up to 1% of this value may be derived from Holes Bay North.

11.4 Existing restrictions on fishing relevant to EFHs

Please refer to Section C 3.4

11.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 6.5. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[12]. The report, published in 2010, provides information on habitat types across Poole Harbour, for Holes Bay the following information is provided for 2009:

- Intertidal areas of the Harbour are mainly clay/silt muddy sediment. There are areas of sandy sediment along the northern shore of the Harbour and throughout Whitley Lake.
- Saltmarsh is found in Holes Bay, Arne Bay, around all of the islands within the Harbour and in the southern bays, Ower Bay, Newton Bay and Brands Bay.
-

11.6 Fish Data which indicates that fishing area is an EFH

Please refer to Sections D 7.6 and D 10.6. The small fish surveys carried out by Southern IFCA at Lytchett Bay and Brownsea Island provide an indication of the species likely to be present in other areas of the Harbour.

11.7 Invertebrate Data which indicates that fishing area is an EFH

Please refer to Section D 10.7. In addition, a survey was carried out by Bournemouth University, commissioned by Natural England, to monitor and report on the condition of notified intertidal sediment features[9]. The report, published in 2010, provides information on invertebrate species across Poole Harbour. For the wider Harbour, the following information is provided for 2009:

- Species count varied from 1-5 to 26-35 per sample across 46 sampled sites (a count of 26-35 was only found at one site on the northern shore close to Poole Quay)
- Density of organisms varied from 11-500 m^{-2} to 35001-45000 m^{-2} across 46 sampled sites (highest density class only found at one site at the southern end of Brands Bay)
- Biotope classifications for the area showed a dominance of polychaete species, *Corophium* species and small molluscs
- Species found:
    - Polychaetes and Oligochaetes
    - Crustaceans
    - Molluscs

- *Corophium* species

11.8 Summary of ecological value of EFH

Holes Bay North is an area of low-energy intertidal muds, fringed by an extensive network of saltmarsh, intersected by two largely subtidal channels. The area provides high value as EFH and is likely to provide a function for feeding, refuge and spawning fish species. The area is overall high value as EFH.

SECTION E: MIGRATORY SALMONID ASSESSMENTS

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

12. Lytchett Bay

12.1 Map of Fishing Area

Please refer to map 1.

12.2 Fishing effort

Please refer to Section D 7.2

12.3 Socio-economic importance of fishing area

Please refer to Section D 7.3

12.4 Existing restrictions on fishing relevant to migratory salmonids

See Section C 3.4

12.5 Evidence of salmonids using fishing area

As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour. Lytchett Bay is a secondary embayment in Poole Harbour into which the Sherford River flows. The following provides evidence to demonstrate that the Sherford River is used by salmonids:

- A report by the National Rivers Authority (which later became the Environment Agency) produced in 1995 titled 'Poole Harbour & Purbeck Catchment Management Plan Consultation Report' stated that salmon have been found in the tidal reaches of the Sherford River and that migratory brown trout (sea trout) are present throughout the River Sherford.
- The report also states that the Sherford, from Sherford Bridge to Poole Harbour is designated as a salmonid fishery.
- There is a small fish coarse fishery for migratory salmonids in the tidal part of the River Sherford.
- There is a pinch-point created in the Rockley channel which runs into Lytchett Bay and at the narrow entrance to Lytchett Bay.
- Within Lytchett Bay there is no clear channel to concentrate salmonids on their approach to the river, and therefore salmonids are likely to be more spread out over the area of the bay.

Lytchett Bay therefore be deemed to provide a migratory route for salmonids to the River Sherford with a pinch point created at Rockley Bridge. As the River Sherford is not listed as an SAC, SSSI (under which Atlantic salmon and/or sea trout are features) or a Principal Salmon River or a high Functionally Linked Area, Lytchett Bay has a medium risk of interaction for migratory salmonids.

12.6 Evidence demonstrating a known interaction between nets and salmonids

The EA has recorded the following instances of salmonids observed being caught in nets in the Lytchett Bay area:

- 1995 Sea trout taken in an illegal fixed engine at Rockley Bridge. Prosecution. 2004 2004 23/11/04- One sea trout found in legal fixed net in Lytchett Bay.
- 2006 Illegal fixed net containing two sea trout lower River Sherford. Net seized.
- 2006 17/07/06- Two sea trout caught in illegal fixed net at the mouth of the River Sherford in Lytchett Bay. Prosecution. Guilty.

12.7 Incidental evidence of interactions between nets and salmonids

None recorded.

13. Wych and Middlebere Lakes

13.1 Map of Fishing Area

Please refer to map 1.

13.2 Fishing effort

Please refer to Section D 8.2

13.3 Socio-economic importance of fishing area

Please refer to Section D 8.3

13.4 Existing restrictions on fishing relevant to migratory salmonids

See Section C 3.4

13.5 Evidence of salmonids using fishing area

As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour.

Wych and Middlebere Lakes are conjoined inlets of water in the southwest of Poole Harbour. The Corfe River flows into Wych Lake.

A report by the National Rivers Authority (which later became the Environment Agency) produced in 1995 titled ‘Poole Harbour & Purbeck Catchment Management Plan Consultation Report’ stated that salmon are likely occasional visitors to the tidal reaches of the River Corfe and that the non-tidal part of the River Corfe has a population of brown trout with a large migratory (sea trout) component.

There is a small coarse fishery for migratory salmonids in the tidal part of the River Corfe.

The Wych and Middlebere Lakes area can therefore be determined as providing a migratory route for salmonids to the Corfe River. As the Corfe River is not listed as an SAC, SSSI (under which Atlantic salmon and/or sea trout are features) or a Principal Salmon River or a high or medium Functionally Linked Area, the Wych and Middlebere Lakes area has a medium risk of interaction for migratory salmonids.

13.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

13.7 Incidental evidence of interactions between nets and salmonids

None recorded.

14. South Deep

14.1 Map of Fishing Area

Please refer to map 1.

14.2 Fishing effort

Please refer to Section 9.2

14.3 Socio-economic importance of fishing area

Please refer to Section 9.3

14.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section C 3.4

14.5 Evidence of salmonids using fishing area

As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour.

South Deep is a channel which is connected to the main channel in Poole Harbour and flows from the Harbour entrance around the southern end of the Harbour towards the area of Wych and Middlebere Lakes. As outlined in section E 13.5 the River Corfe, which has a documented population of salmon and sea trout, flows into Wych Lake. Therefore, salmonids heading for the Corfe River are likely to use the South Deep channel as a migration route.

It is also necessary to consider that salmonids may use the South Deep channel prior to commencing their migration up the Main Channel to the River Frome. Work conducted on the Rivers Test and Itchen in Southampton Water demonstrated that salmonids can initially move up channels that do not lead to their natal river before commencing migration up the main migratory pathway (please see the document 'Southampton Water Assessment Package: Site Specific Evidence, Section C 2.5 for more details on the study). Therefore, it is likely that salmonids migrating to the River Frome may utilise the South Deep Channel prior to migrating up the Main Channel. For this reason, and the resulting link between the South Deep Channel and the River Frome, which is a SSSI for salmonids and a Principal Salmon River and the link to the Main Channel, which is an area of High Functional Linkage, the South Deep Channel is determined to be a High Risk for interaction with migratory salmonids.

14.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded

14.7 Incidental evidence of interactions between nets and salmonids

None recorded

15. Wider Harbour

15.1 Map of Fishing Area

Please refer to map 1.

15.2 Fishing effort

Please refer to D Section 10.2

15.3 Socio-economic importance of fishing area

Please refer to Section D 10.3

15.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section C 3.4

15.5 Evidence of salmonids using fishing area

As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour.

Sections 1.1 and 1.4 of the Literature Review document provide information on the migration behaviours of Atlantic salmon and sea trout. Of specific relevance to the likely presence of salmonids in Poole Harbour (wider harbour):

- This area does not fall within a principal or known migration route, refuge area or pinch point leading to the River Frome SSSI where sea trout and Atlantic salmon are a faunal component of the 'rivers and streams' feature
- This area does not fall within a principal or known migration route, refuge area or pinch point leading to a Principal Salmon River
- This area does not fall within a migration route, refuge area or pinch point leading to a river where migratory salmonids have been recorded

15.6 Evidence demonstrating a known interaction between nets and salmonids

- In 2019 Southern IFCA Officers undertook observer trips on net fishing vessels across the District. For the area of Poole Harbour (excluding trips specific to the Wareham approaches, see Section C 4.6 and specific to Holes Bay, see Section E 16.6) 6 observer trips were undertaken as follows:
    - 1 net fishing trip in June 2019 in central Poole Harbour using a 3 5/8 and 3 ¾ mesh, 340 yard long net for ring netting. 1 set of the net during the trip
        - no salmonid interaction
        - net 1 – 10 thick-lipped grey mullet, 13 thin-lipped grey mullet and 6 golden grey mullet all over MCRS
    - 1 net fishing trip in June 2019 in central Poole Harbour using a 3 5/8 mesh net for ring netting. 1 set of the net during the trip
        - no salmonid interaction
        - net 1 – 1 thick-lipped grey mullet over MCRS, additional catch of 1 bass over MCRS and 6 bass under MCRS
    - 1 net fishing trip in July 2019 in central Poole Harbour and Arne Bay using a 3 5/8 mesh net for ring netting. 2 sets of the net during the trip
        - no salmonid interaction
        - both nets combined – 78 thin-lipped grey mullet over MCRS, additional catch of 12 gilthead bream (no MCRS for this species) and 2 black bream over MCRS
    - 1 net fishing trip in August 2019 in central Poole Harbour, Holes Bay and Parkstone Yacht club using a 3 5/8 mesh net for ring netting. 3 sets of the net during the trip
        - no salmonid interaction
        - all nets combined – no catch

- 1 net fishing trip in August 2019 at Round Island using a 3 5/8 mesh, 300 yard long net for ring netting. 1 set of the net during the trip
    - no salmonid interaction
    - net 1 – 4 thin-lipped grey mullet over MCRS and 68 golden grey mullet over MCRS
- 1 net fishing trip in September 2019 in the central Harbour and Wareham Approaches areas using a 3 5/8 and 3 ¾ mesh, 340 yard long net for ring netting. 5 sets of the net during the trip
    - no salmonid interaction
    - net 1 – 3 thin-lipped grey mullet and 2 golden grey mullet above MCRS
    - net 2 – 33 thin-lipped grey mullet and 3 golden grey mullet above MCRS, additional catch of one smoothound
    - net 3 – 56 thin-lipped grey mullet and 8 golden grey mullet above MCRS
    - net 4 – 9 thin-lipped grey mullet above MCRS
    - net 5 – 19 thin-lipped grey mullet above MCRS

**Note: observer net fishing trips were carried out prior to the introduction of the Southern IFCA Minimum Conservation Reference Size Byelaw, therefore the MCRS for all grey mullet species was 30cm at the time this data was collected.*

15.7 Incidental evidence of interactions between nets and salmonids
None reported.

16. Holes Bay North
16.1 Map of Fishing Area
Please refer to map 1.

16.2 Fishing effort
Please refer to Section D 11.2

16.3 Socio-economic importance of fishing area
Please refer to Section D 11.3

16.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section C 3.4

16.5 Evidence of salmonids using fishing area
As determined by the evidence presented in Section C 3.5 salmonids are known to be present in Poole Harbour.

There are no rivers feeding into Holes Bay north and no information could be found relating to the presence of salmonids in either Holes Bay north or Holes Bay south. Given the lack of freshwater input, the fact that Holes Bay does not provide passage to a river system and the narrow entrance to the Bay which requires passage through extensively used waterways, it is likely that the usage of Holes Bay North by salmonids is very low.

16.6 Evidence demonstrating a known interaction between nets and salmonids
- In 2019 Southern IFCA Officers undertook observer trips on net fishing vessels across the District. For the area of Holes Bay, 2 observer trips were undertaken as follows, note that the nets were set within the southern area of Holes Bay, however given the adjoining nature of the two parts of Holes Bay, this data is relevant to Holes Bay North:
    - 1 net fishing trip in August 2019 in central Poole Harbour, Holes Bay and Parkstone Yacht club using a 3 5/8 mesh net for ring netting. 3 sets of the net during the trip

        - no salmonid interaction
        - all nets combined – no catch
    - 1 net fishing trip in September 2019 in Holes Bay using a 3 5/8 mesh, 300 yard long net for ring netting, information obtained on landing from fisher (not known how many times the net was set)
        - no salmonid interaction
        - catch – 21 thin-lipped grey mullet and 92 golden grey mullet above MCRS

**Note: observer net fishing trips were carried out prior to the introduction of the Southern IFCA Minimum Conservation Reference Size Byelaw, therefore the MCRS for all grey mullet species was 30cm at the time this data was collected.*

16.7 Incidental evidence of interactions between nets and salmonids

None recorded

SECTION F: ANNEXES

Annex 1: Figures 1 and 2 detailing information on salmon stock and rod & line fishery data from Environment Agency reports for the River Frome.

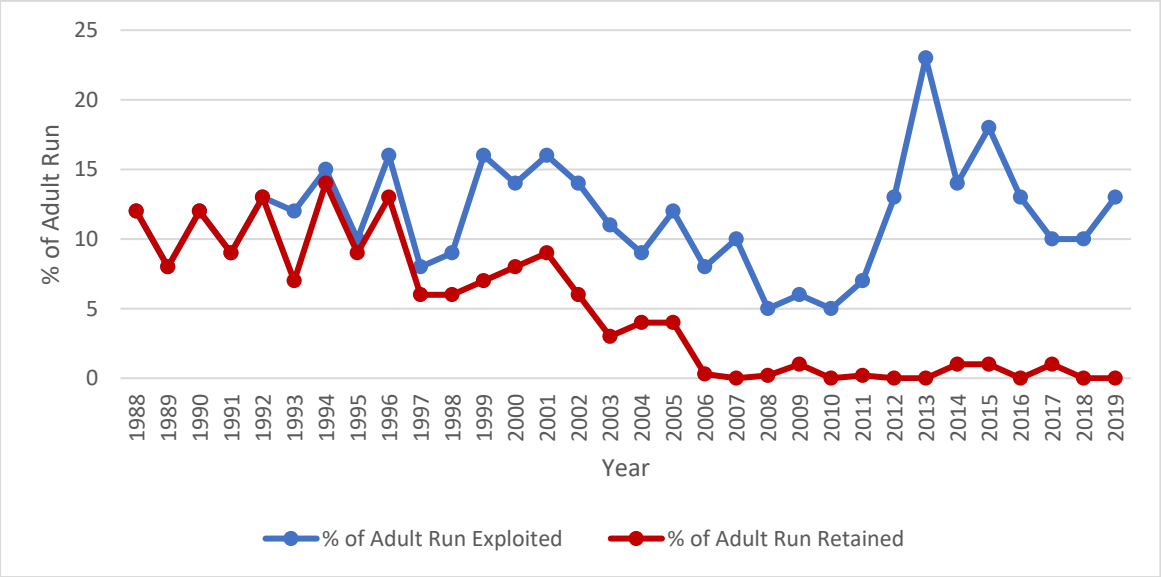


Figure 1: showing the exploitation rate (blue) and percentage of the adult Atlantic salmon run retained (red) by the rod and line fishery on the River Frome for 1988 to 2019

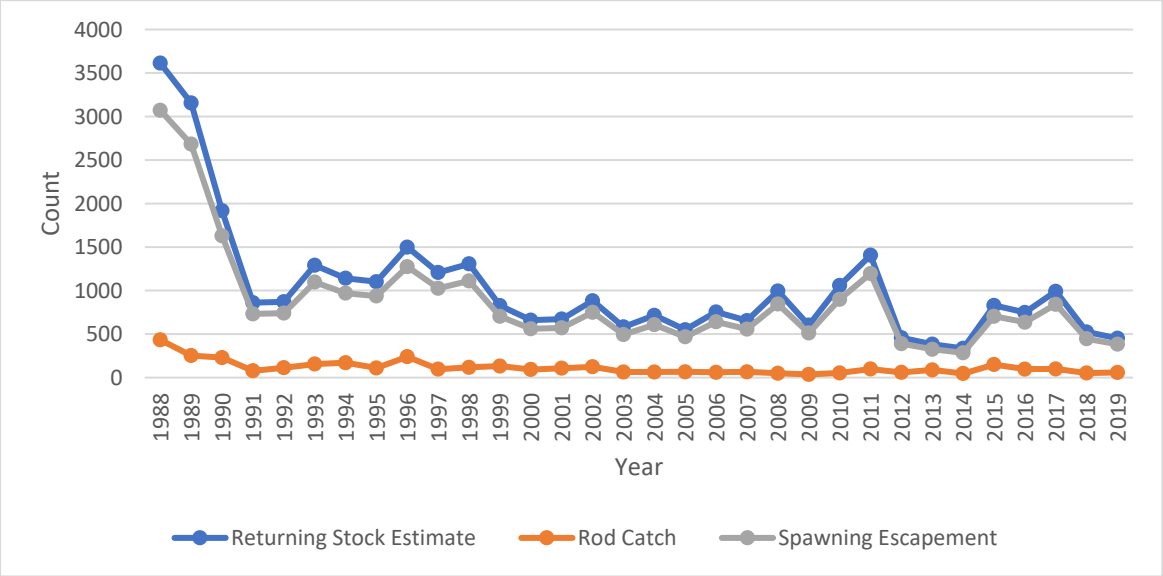


Figure 2: the validated count and run estimates of Atlantic salmon smolts and adults for the River Frome (blue), rod catch data (orange) and spawning escapement (grey) between 1988-2019.

Annex 2: Data from Southern IFCA small fish surveys in Poole Harbour

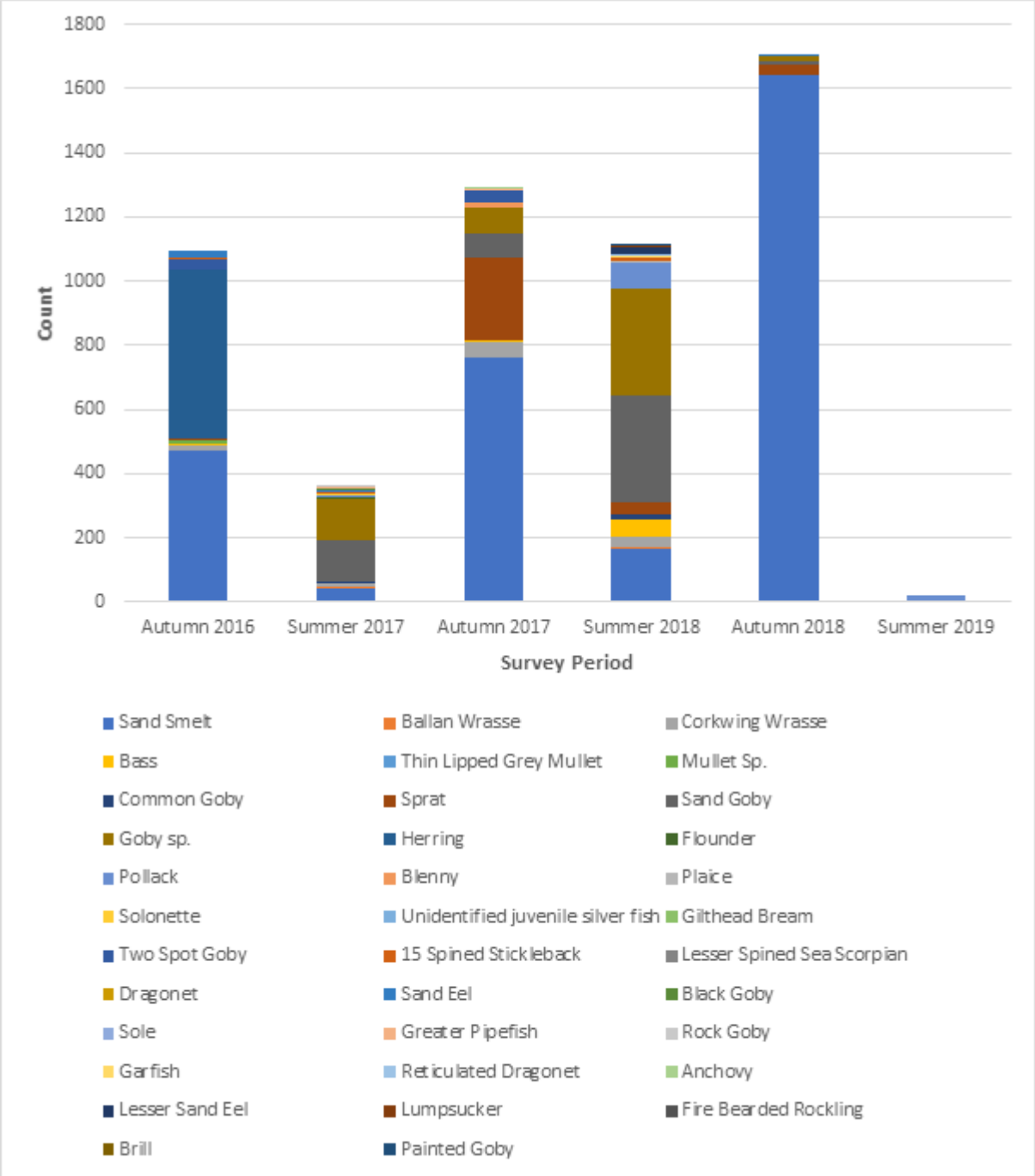


Figure 3: *Count data for fish species identified at the Brownsea Island site in Poole Harbour during the Southern IFCA Small Fish Surveys for Autumn 2016, Summer and Autumn 2017, 2018 and Summer 2019.*

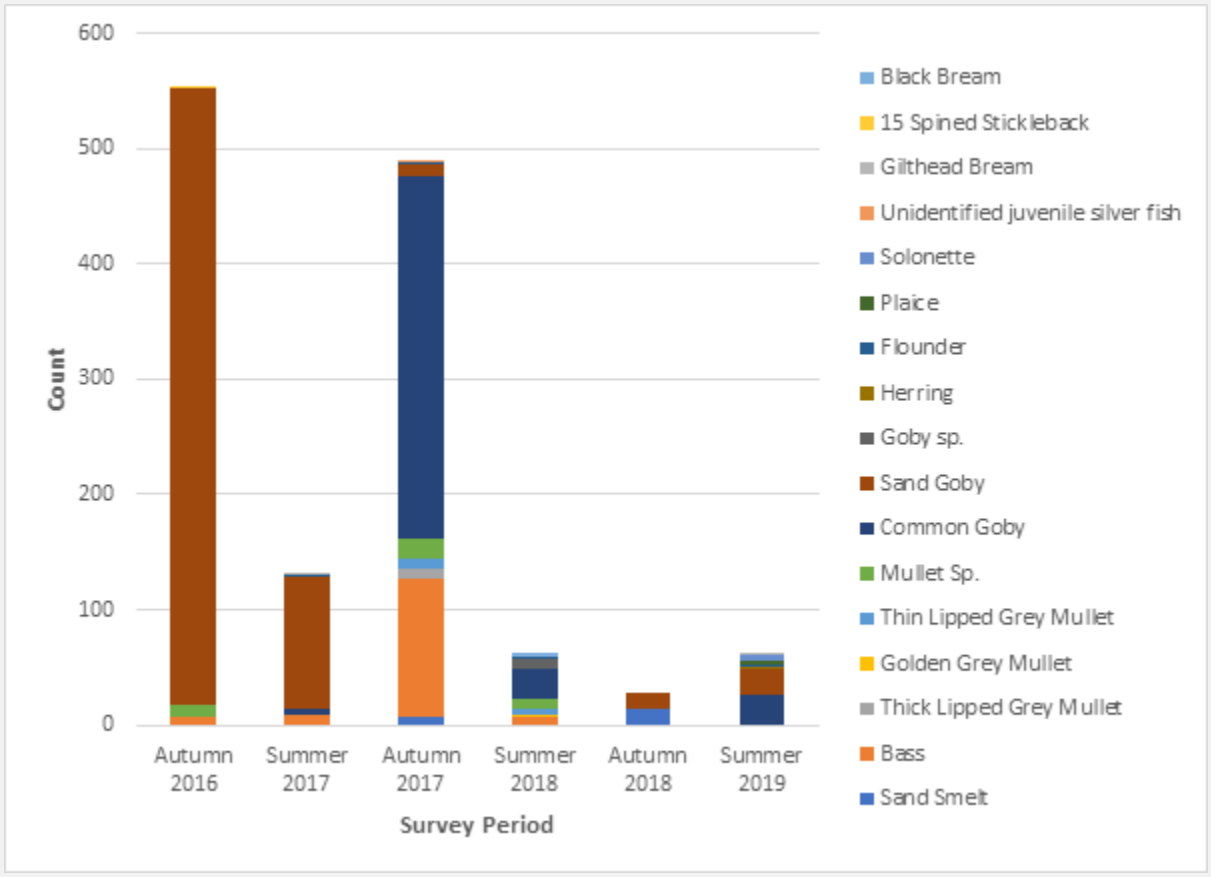


Figure 4: *Count data for fish species identified at the Lytchett Bay site in Poole Harbour during the Southern IFCA Small Fish Surveys for Autumn 2016, Summer and Autumn 2017, 2018 and Summer 2019.*

Southern Inshore Fisheries and Conservation Authority

West Dorset
Assessment Package: Site Specific Evidence

Supporting Document as part of the Inshore Netting Review.

To be read in conjunction with the Southern IFCA 'Process, Tools and Intentions' Policy Paper

SECTION A: HABITATS REGULATION ASSESSMENTS

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a Habitats Regulation Assessment (HRA) is required to be undertaken where net fishing occurs within, or adjacent to a Special Area of Conservation (SAC), in order to determine whether net fishing will have an adverse impact on Atlantic salmon as a feature of the SAC.

As there are no relevant SAC designations in West Dorset, an HRA is not required to be undertaken.

SECTION B: SSSI ASSESSMENTS

Under the Wildlife and Countryside Act (1981), The Authority must take reasonable steps to further the conservation and enhancement of features for which a Site of Special Scientific Interest (SSSI) site has been designated. In the context of the Southern IFCA Netting Review, the SSSI Assessments will be undertaken to ensure that fishing activity within a SSSI is managed to ensure that there is no adverse effect on Atlantic salmon and/or sea trout if either are a faunal component or notified feature of the SSSI.

As there are no relevant SSSI designations in West Dorset, SSSI Assessments are not required to be undertaken.

SECTION C: FUNCTIONALLY LINKED AREA ASSESSMENTS

In the context of the Southern IFCA Netting Review, 'Functional Linkage' refers to the role that the sea beyond the boundary of an SAC or SSSI might fulfil in terms of supporting Atlantic salmon or sea trout populations. Such the area of sea is deemed to be 'linked' to the SAC or SSSI in question because it provides a role in maintaining or restoring salmonid populations at favourable conservation status.

As there are no relevant SACs or SSSI designations in West Dorset, Functionally Linked Area (FLA) Assessments are not required to be undertaken.

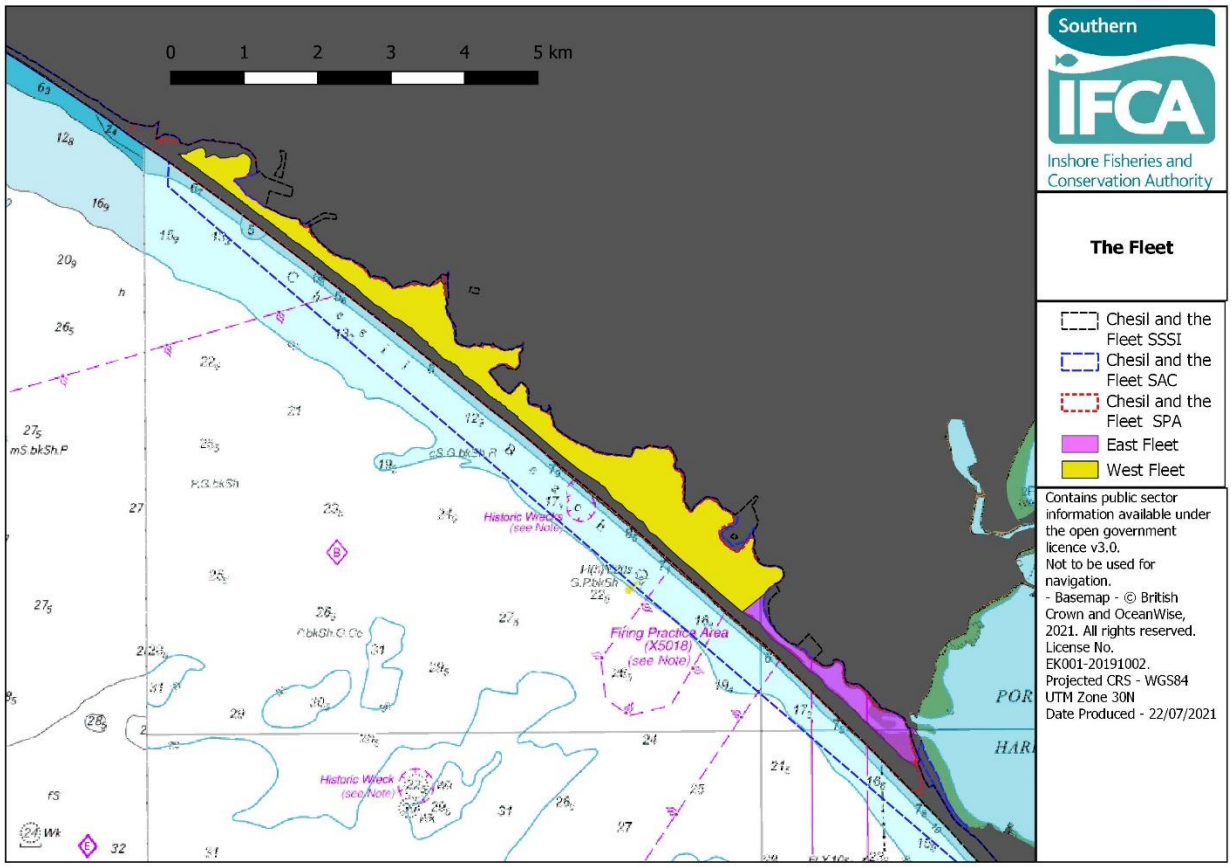
SECTION D: ESSENTIAL FISH HABITAT ASSESSMENTS

In the context of the Southern IFCA Netting Review, Essential Fish Habitats (EFH) refer to those habitats which provide ecological value in supporting spawning, feeding and refuge areas for non-salmonid species.

Further details regarding EFH Assessments can be found in the supporting document entitled 'Process, Tools and Intentions' and in Section 4 of the Net Fishing Byelaw Literature Review.

8 The Fleet (East)

8.1 Map of fishing area



Map 13: A map of the Fleet fishing areas with the relevant nature conservation designations.

8.2 Fishing effort

- Up to three vessels fish with nets in the area of the Eastern Fleet.
- Vessels predominantly use ring nets between April and October to target grey mullet species.
- Additional occasional net fishing activity occurs in the form of seine netting for sand eels.

1.3 Socio-economic importance of fishing area

- The estimated first sale value of the Eastern Fleet net fishery is no greater than £15,000 per annum.

1.4 Existing restrictions on fishing relevant to EFHs

- The placing and use of fixed engines for taking sea fish is prohibited by the landowner to the west of the eastern boundary of the Parish of Abbotsbury.
- The Bass (Specified Area) (Prohibition of Fishing) Order 1990 and The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999 sets a prohibition on fishing for bass (*Dicentrarchus labrax*), or fishing for any species of sea-fish using sand-eels (*Ammodytidae*) as bait, by any fishing boat within all tidal waters of The Fleet inside Ferry Bridge all year

1.5 Habitat Data which indicates that fishing area is an EFH

The Fleet sits within three designated areas, Chesil and The Fleet SAC[52], Chesil Beach and The Fleet SPA[53] and Chesil and The Fleet SSSI[54]. Habitats listed below are covered under more than one designation:

- The Fleet supports the greatest diversity of habitats and species of any lagoon in the UK
- Very shallow, maximum depth of approximately 30m at the western end, 5m under Ferry Bridge
- Much of the seabed is fine mud and sands to coarse cobble and pebbles
- Saltmarsh habitat occurs as a thin linear feature throughout, comprised of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocometea fruticosi*)

1.6 Fish Data which indicates that fishing area is an EFH

The Southern IFCA Small Fish Survey Program uses a seine net, deployed from the shore to sample fish species, particularly juvenile fish. Two seine nets are completed for each survey site and the fish retained in the net are identified, counted and measured before being returned to the sea.

Of relevance to The Fleet (east) a survey was undertaken on the following occasions at Ferrybridge, the most abundant species are noted:

- Summer 2017: Common Goby (134)
- Autumn 2017: Bass (24)
- Autumn 2018: Sand Smelt (1730)
- Summer 2019: Sand Goby (66)

Please see Annex 1, Figure 1 for a chart showing abundance of the 21 different fish species identified across all surveys undertaken at Ferrybridge.

Additional information from Chesil and The Fleet SAC:

- Important nursery ground for a number of fish species
- Over 25 different species have been recorded including Couch's Goby and two species of pipefish (additional species to those found in the Small Fish Survey)
- 17 species of fish occur predominantly in the eastern section

1.7 Invertebrate Data which indicates that fishing area is an EFH

The report 'Synthesis of Information on the Benthos of Area SEA 8' Produced by the Department of Trade and Industry[55] provides the following information on invertebrate species identified in The Fleet:

- Gastropod (*Cingula cingillus*, *Littorina saxatilis* and *Bittium reticulatum*)
- Mollusc (*Lasea rubra*, *Crepidula fornicate*, *Mytilus edulis*, *Emarginula conica* and *Calyptraea chinensis)*

[52] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK0017076&SiteName=chesil&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[53] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9010091&SiteName=chesil&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[54] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002654&SiteName=chesil&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

[55] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/196875/SEA8_TechRep_Benthos.pdf

1.8 Summary of ecological value of EFH

The site is recognised as supporting a diversity of habitats and species with a seabed of fine sands and coarse pebbles. The geomorphology of the site provides excellent conditions for spawning, feeding and refuge for both juvenile and adult fish species throughout the year. The species rich benthic community further demonstrates the site's ecological importance as an EFH.

9 The Fleet (West)

9.1 Map of fishing area

See section D 1.1

9.2 Fishing effort

- Up to three vessels fish with nets in the Western Fleet area.
- Vessels predominantly use ring nets to target grey mullet during the summer months.
- Additional net fishing may occur through the use of fixed nets.

2.3 Socio-economic importance of fishing area

- The estimated value of the Western Fleet net fishery, based on first sale value, is no greater than £5,000 per annum.

2.4 Existing restrictions on fishing relevant to EFHs

See Section D 1.4

2.5 Habitat Data which indicates that fishing area is an EFH

Please refer to Section D 1.5. In addition, there are extensive seagrass communities in the lower, mid and west Fleet comprising *Zostera marina var. angustifolia* and *Zostera noltii*.

2.6 Fish Data which indicates that fishing area is an EFH

Langton Hive is one of the sites surveyed The Southern IFCA Small Fish Survey.

- 15 fish species were identified at the site across these four surveys
- The most abundant species for each survey was:
  - Summer 2017: Common Goby (165)
  - Autumn 2017: Common Goby (208)
  - Autumn 2018: Common Goby (58)
  - Summer 2019: Common Goby (200) and grey mullet species (196)
- Annex 1, Figure 2 shows the count data for fish species identified on each of the surveys at Langton Hive

2.7 Invertebrate Data which indicates that fishing area is an EFH

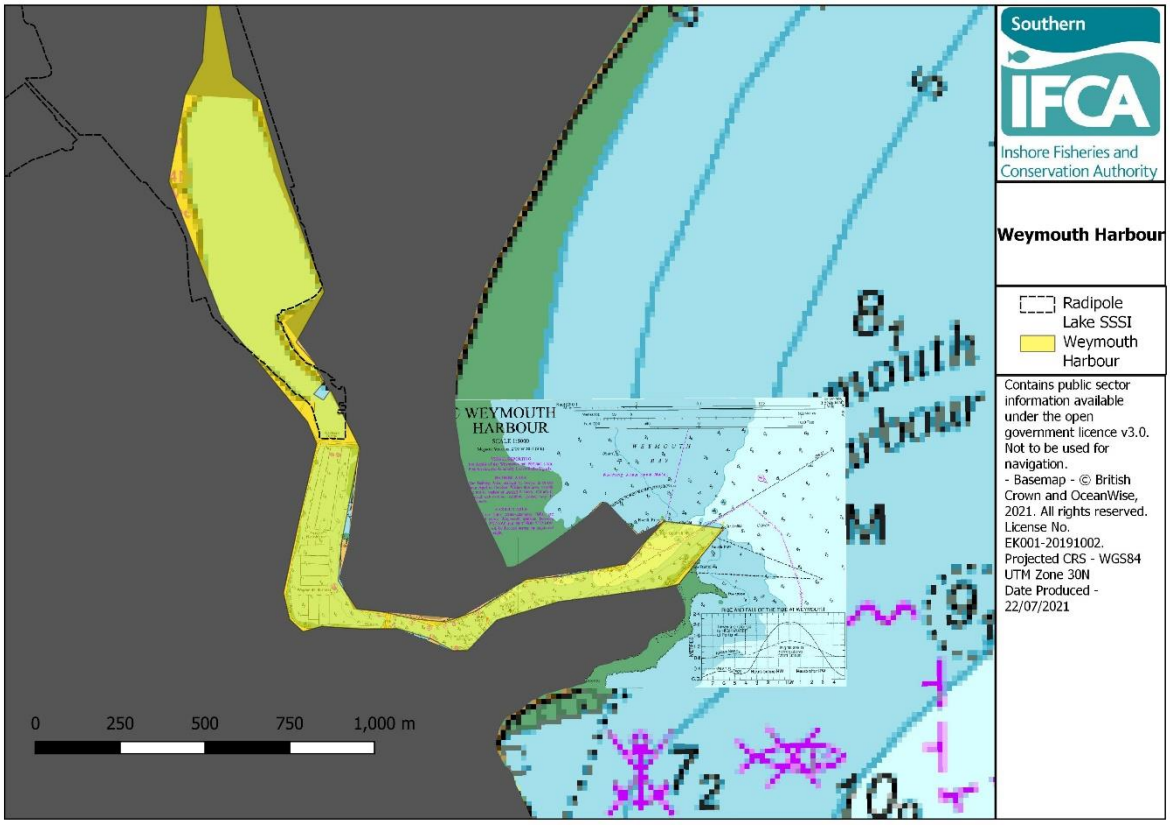
See Section D 1.7

2.8 Summary of ecological value of EFH

The site is recognised as supporting a diversity of habitats and species. The geomorphology of the site provides excellent conditions for spawning, feeding and refuge for both juvenile and adult fish species throughout the year. In addition, the site is noted to support extensive seagrass communities. This site provides an excellent example of an EFH.

10 Weymouth Harbour

10.1 Map of fishing area



Map 14: A map of Weymouth Harbour, showing the location of the relevant nature conservation designation.

10.2 Fishing effort

Area is not subject to commercial net fishing activity.

3.3 Socio-economic importance of fishing area

Area is not subject to commercial net fishing activity.

3.4 Existing restrictions on fishing relevant to EFHs

Weymouth Harbour Notice to Mariners No 13/16 – Fishing Gear. Under section 5.2 of the Harbours, Docks & Piers Clauses Act 1847 and Section 78 of Weymouth Harbour Byelaws the laying of nets, pots, traps or any other commercial or private fishing equipment is not permitted in the following areas:

- Within a radius 3.5 cables to seawards of the Stone Pier Light. For clarity this includes the areas to the north of the Pleasure Pier and south of the Stone Pier. The area SW of the line from Stone Pier Light to C Head Light (Portland Port North Ship Channel) is excluded.
- Within the white Weymouth Bay buoys when they are deployed and in force from 1st April to 30th September approx.
- In Weymouth Harbour west of the end of the Stone Pier and up to Westham Bridge.

3.5 Habitat Data which indicates that fishing area is an EFH

An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

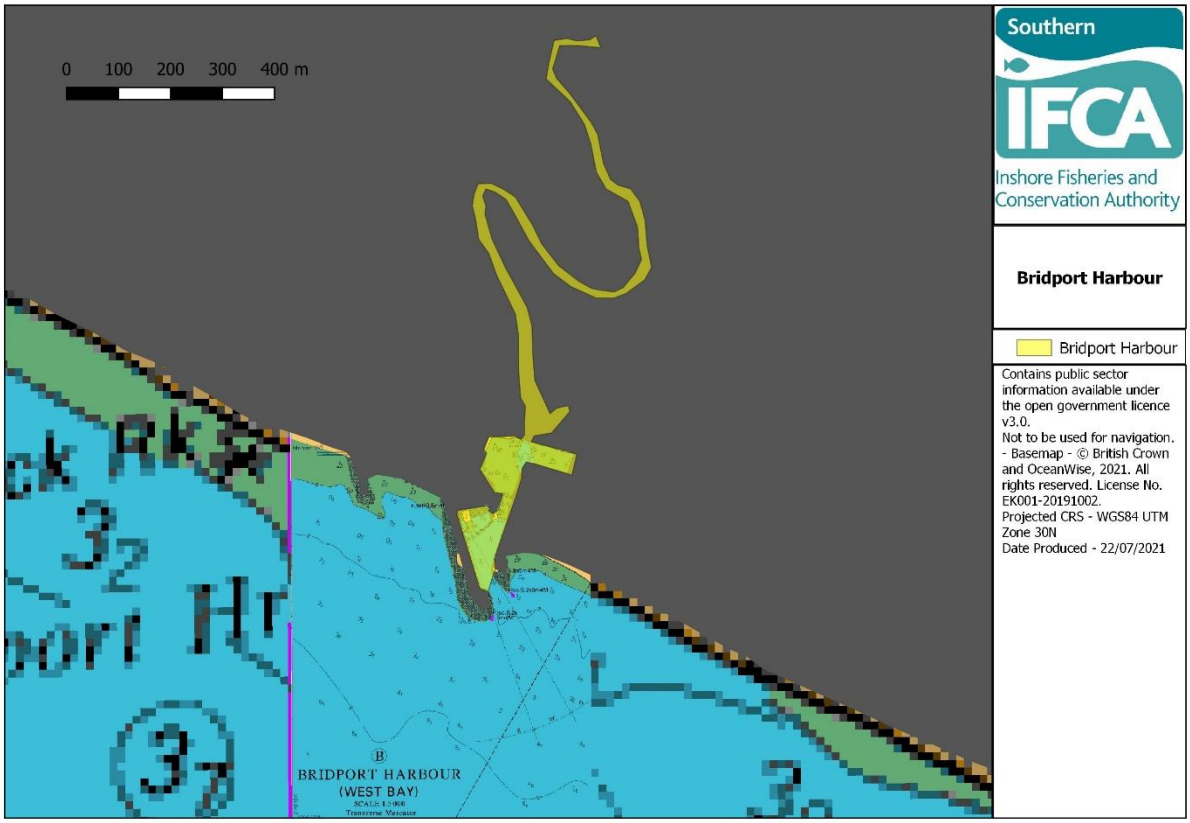
3.6 Fish Data which indicates that fishing area is an EFH

An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

3.7 Invertebrate Data which indicates that fishing area is an EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

3.8 Summary of ecological value of EFH
An assessment is not required as net fishing activity is prohibited in this area under existing regulations.

11 Bridport Harbour
11.1 Map of fishing area



Map 15: A map of the Bridport Harbour fishing area.

11.2 Fishing effort
Commercial fishing activity does not occur in the Harbour and is not permitted in the Harbour approaches without prior permission of the Harbour Master.

11.3 Socio-economic importance of fishing area
Commercial fishing activity does not occur in the Harbour and is not permitted in the Harbour approaches without prior permission of the Harbour Master.

4.4 Existing restrictions on fishing relevant to EFHs
Dorset Council, Bridport & Lyme Regis Harbour – Policy, Rules & Regulations: No. 6.0.15 No type of net or line fishing in any part of the Harbour approaches is permitted without prior permission of the Harbour Master.

4.5 Habitat Data which indicates that fishing area is an EFH

No data is available on the habitat types in Bridport Harbour. Local Officer knowledge of the area indicates that the seabed is primarily soft, muddy sediment. A large area of the Harbour is intertidal and dries out at low tide.

4.6 Fish Data which indicates that fishing area is an EFH

Information on fish species which have been caught from the entrance channel to the Harbour list the following species: Flounder, Pouting, Poor cod, Whiting, Plaice, Dogfish , Rockling, Scorpion fish, Blennies, Wrasse, Pollack, Eels, Bass, Grey mullet species, Mackerel, Scad (summer) and Garfish (summer).

4.7 Invertebrate Data which indicates that fishing area is an EFH

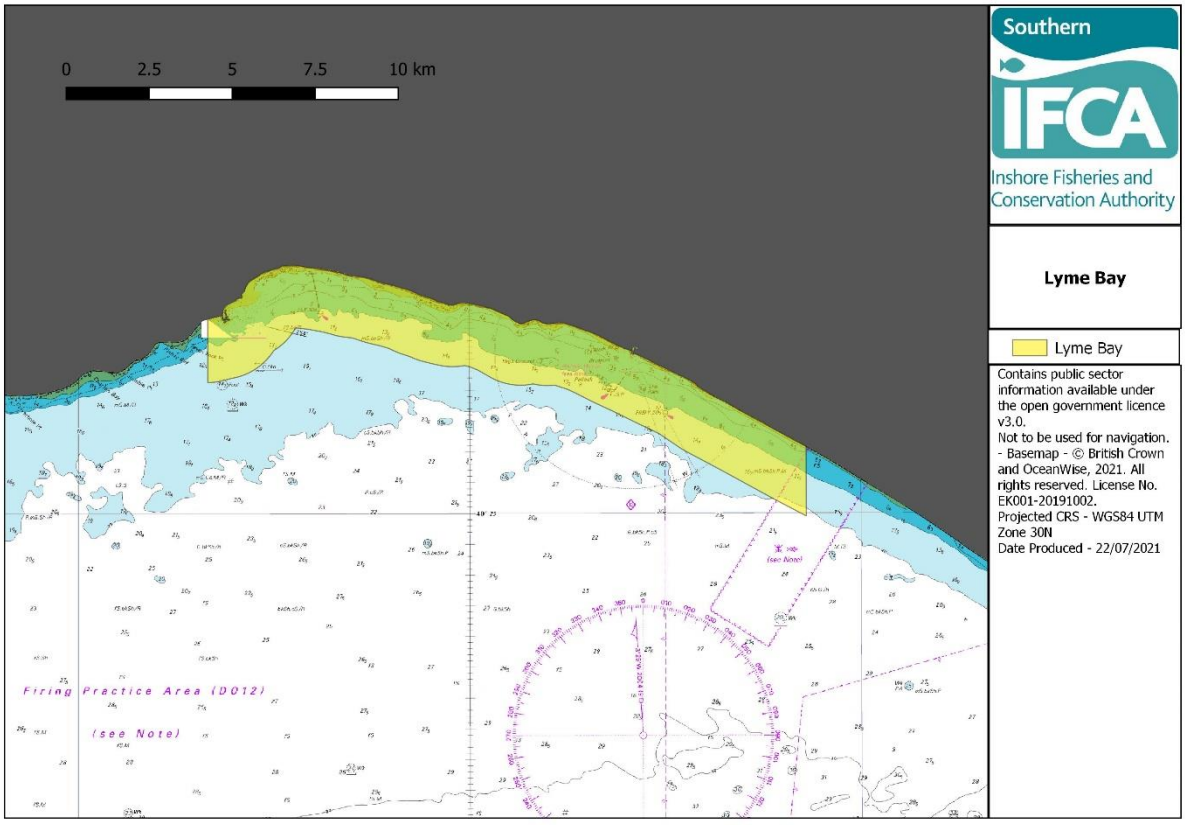
There is no data listing invertebrate/benthic species specifically for the intertidal area at Bridport Harbour. Based on examples of benthic communities associated with intertidal mud at other sites, it can safely be assumed that the benthic community contains species including polychaetes, oligochaetes, molluscs and small crustaceans.

4.8 Summary of ecological value of EFH

The mudflats provide ecological value in supporting feeding areas for fish species.

5 Lyme Bay

5.1 Map of fishing area



Map 16: A map of the Lyme Bay fishing area.

5.2 Fishing effort

- Three vessels may occasionally use surface nets in this area
- Surface net landings are generally dominated by bass with occasional catches of grey mullet species and other pelagic fish including shad. Note that bass are not allowed to be targeted under the national bass fishing guidance and the retention and landing of bass as unavoidable bycatch is only allowed with a bass authorisation[56].
- Fishing takes place throughout the year, usually during periods when the water clarity is low.

5.3 Socio-economic importance of fishing area

- The estimated value from surface netting in the Lyme Bay area, based on first sale value, is in the region of £5,000 per annum.

5.4 Existing restrictions on fishing relevant to EFHs

Southern IFCA Fixed Engines Byelaw: 2. Lyme Bay. No fixed net may be set in the areas enclosed by the lines: from longitude 2°56.70'W (Western boundary of the District) to a point bearing 180° True and from longitude 2°41.40'W (East of Burton Mere) to a point bearing 211° True within one nautical mile of the shore as defined by the lowest astronomical tide during the period from 1st May to 31st July inclusive unless the headline of every fixed net is set at least three meters below the surface of the water at any state of the tide.

The placing and use of fixed engines for taking sea fish is prohibited above the limit of ordinary high water in the Rivers Lim, Char, Winniford, Brit and Bride.

5.5 Habitat Data which indicates that fishing area is an EFH

The main habitat type at this site is mixed to coarse sediment with moderate-energy circalittoral rock.

5.6 Fish Data which indicates that fishing area is an EFH

Fish species likely to occur in this area as identified by fishing catches are:

- Bass
- Grey mullet species
- Other pelagic fish species including shad

5.7 Invertebrate Data which indicates that fishing area is an EFH

Likely invertebrate communities for mixed sediments include mollusc and gastropod species.

5.8 Summary of ecological value of EFH

The site is characterised by moderate-energy circalittoral rock habitat and mixed sediments. The rocky reef habitat is likely to attract commercial fish and shellfish species to seek refuge from predators and to spawn. The area provides value as EFH.

[56] https://www.gov.uk/government/publications/bass-industry-guidance-2021/bass-fishing-guidance-2021#commercial-bass-fishing

SECTION E: MIGRATORY SALMONIDS ASSESSMENT

In the context of the Southern IFCA Netting Review, areas utilised by migratory salmonids mean those areas within the District which fall outside of SACs and SSSI (to include high functionally linked areas) where Atlantic Salmon or sea trout receive protection as a conservation feature.

Migratory Salmonid (MS) Assessments are required to determine the relationship between net fishing and migratory salmonids. Further details regarding MS Assessments can be found in the supporting document entitled 'Process, Tools and Intentions'.

6 The Fleet (east)

6.1 Map of Fishing Area

Please refer to Section D 1.1

6.2 Fishing effort

Please refer to Section D 1.2

6.3 Socio-economic importance of fishing area

Please refer to Section D 1.3

6.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 1.4

6.5 Evidence of salmonids using fishing area

In 2020 a photograph was taken of a salmon utilising a river which flows into The Fleet by a staff member at the Abbotsbury Swannery. The identification was made by the Environment Agency. This suggests that the Fleet's rivers have the potential to host migratory salmonids and the Fleet will provide the only access route to these rivers.

6.6 Evidence demonstrating a known interaction between nets and salmonids

None recorded.

6.7 Incidental evidence of interactions between nets and salmonids

None recorded.

7 The Fleet (west)

7.1 Map of Fishing Area

Please refer to Section D 2.1

7.2 Fishing effort

Please refer to Section D 2.2

7.3 Socio-economic importance of fishing area

Please refer to Section D 2.3

7.4 Existing restrictions on fishing relevant to migratory salmonids

Please refer to Section D 1.4

7.5 Evidence of salmonids using fishing area

Please refer to Section E 6.5

7.6 Evidence demonstrating a known interaction between nets and salmonids
None recorded.

7.7 Incidental evidence of interactions between nets and salmonids
None recorded.

8 Weymouth Harbour
8.1 Map of Fishing Area
Please refer to Section D 3.1

8.2 Fishing effort
Please refer to Section D 3.2

8.3 Socio-economic importance of fishing area
Please refer to Section D 3.3

8.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section D 3.4

8.5 Evidence of salmonids using fishing area
Commercial fishing activity is not permitted to take place in the area of Weymouth Harbour under existing regulations therefore an assessment is not required.

8.6 Evidence demonstrating a known interaction between nets and salmonids
Not applicable

8.7 Incidental evidence of interactions between nets and salmonids
Not applicable

9 Bridport Harbour
9.1 Map of Fishing Area
Please refer to Section D 4.1

9.2 Fishing effort
Please refer to Section D 4.2

9.3 Socio-economic importance of fishing area
Please refer to Section D 4.3

9.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section D 4.4

9.5 Evidence of salmonids using fishing area
- Salmonids are regularly recorded using Bridport Harbour to access the River Brit and congregate at the sluice gates in Bridport Harbour (Southern IFCA, *pers. comms*.).
- A report by the Wild Trout Trust stated that sea trout frequent the estuary and the lower river, however a series of weirs in the upper river result in interrupted sediment transport which is likely to impact on the abundance and quality of spawning habitat for sea trout[57].

[57] https://www.wildtrout.org/assets/reports/River-Brit-Slape-Manor-Final.pdf

- In 2011 work commenced on two new fish passes in the Bridport area to allow fish to negotiate two weirs. One of these, at Grundy's Weir was completed in 2014[58]. This is in addition to passes built at the West Harbour sluice gates and Jessop's Weir which have been observed to be used by both salmon and sea trout[7].
- The Bridport Harbour relevant fishing area does not fall within a principal or known migration route, refuge area or pinch point leading to an SAC/SSSI (under which Atlantic salmon and/or sea trout are a feature) or a Principal Salmon River or a high Functionally Linked Area.

9.6 Evidence demonstrating a known interaction between nets and salmonids
None reported

9.7 Incidental evidence of interactions between nets and salmonids
None reported

10 Lyme Bay
10.1 Map of Fishing Area
Please refer to Section D 5.1

10.2 Fishing effort
Please refer to Section D 5.2

10.3 Socio-economic importance of fishing area
Please refer to Section D 5.3

10.4 Existing restrictions on fishing relevant to migratory salmonids
Please refer to Section D 5.4

10.5 Evidence of salmonids using fishing area
- The River Lim has a designated salmon fishery which is regulated by the Environment Agency. Under the EA regulations, there is a closed season on the river from 1st October to the last day of February.
- The River Char contains an unusual fully 'natural' population of Brown trout with a high conservation value. The fish population is assessed under the WFD hierarchy as being of moderate status[59].
- In the last 15 years, four fish passes have been installed by the Environment Agency on the River Brit to aid migration of both salmon and sea trout as part of a package of improvements for the river catchment to restore the river to 'good ecological status' under the Water Framework Directive.
- Historic Wessex chalk streams syndicate fishing on the River Bride for salmonids.
- Historic trout angling competitions have taken place on both the River Bride and the River Brit with areas showing good levels of wild brown trout, populations which will have a migratory component

Although there are a number of Rivers within this relevant fishing area which demonstrate the presence of salmonids.

- The area does not fall within a principal or known migration route, refuge area or pinch point leading to an SAC/SSSI (under which Atlantic salmon and/or sea trout are a feature) or a Principal Salmon River or a high Functionally Linked Area.

[58] https://www.friendsofrivers.co.uk/barriers3.htm
[59] https://www.charvalley.org/uploads/1/3/9/6/13969833/river_char.pdf

10.6 Evidence demonstrating a known interaction between nets and salmonids

In May 2014 Southern IFCA and EA Officers recovered a fixed surface net in the Lyme Bay area, off Eype. Within the net were at least 4 sea trout.

10.7 Incidental evidence of interactions between nets and salmonids

None recorded

SECTION F: ANNEXES

Annex 1: Data from Southern IFCA small fish surveys in The Fleet

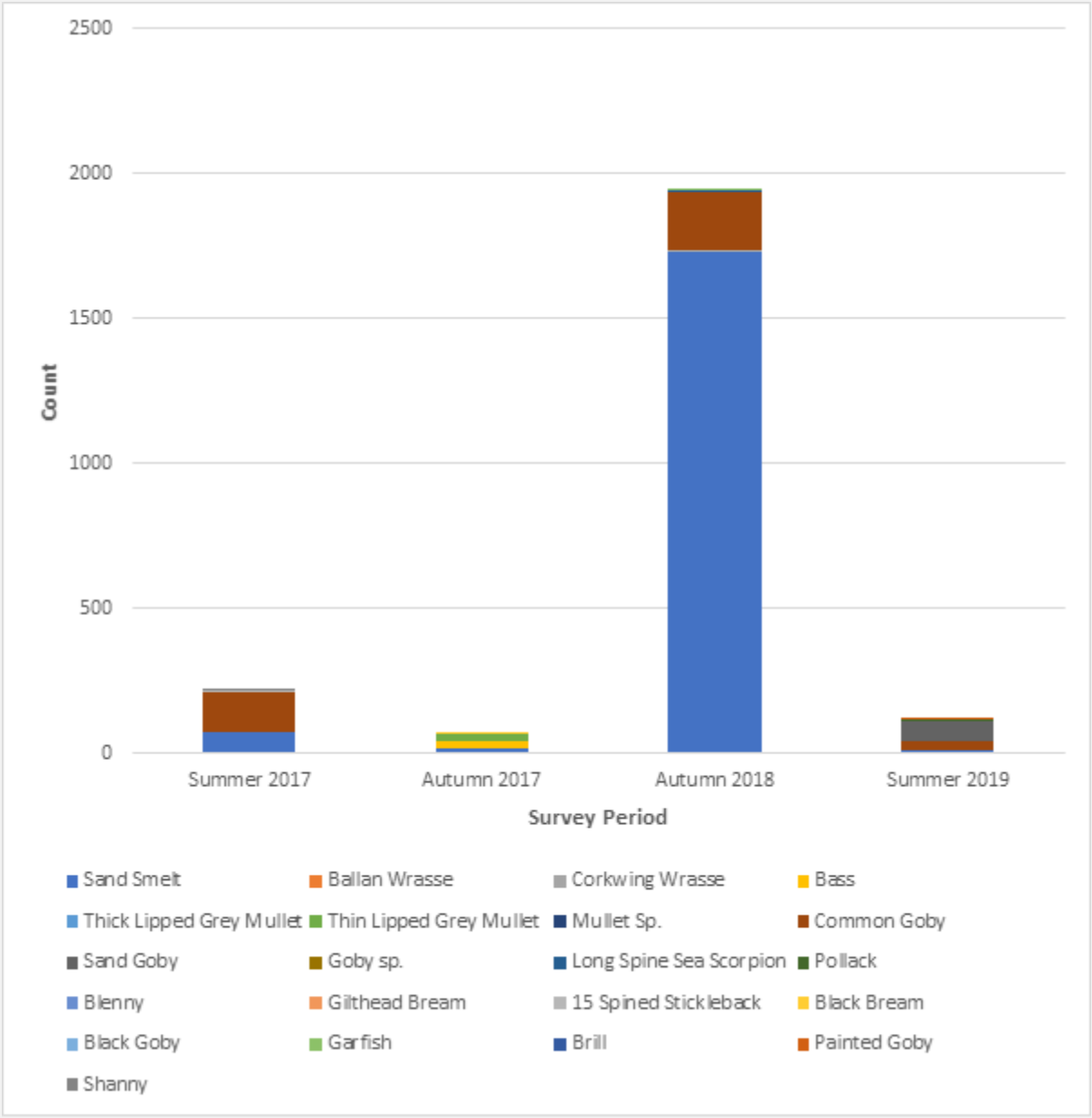


Figure 1: Count data for fish species identified at the Ferry Bridge site in The Fleet during the Southern IFCA Small Fish Surveys for Summer and Autumn 2017, Autumn 2018 and Summer 2019

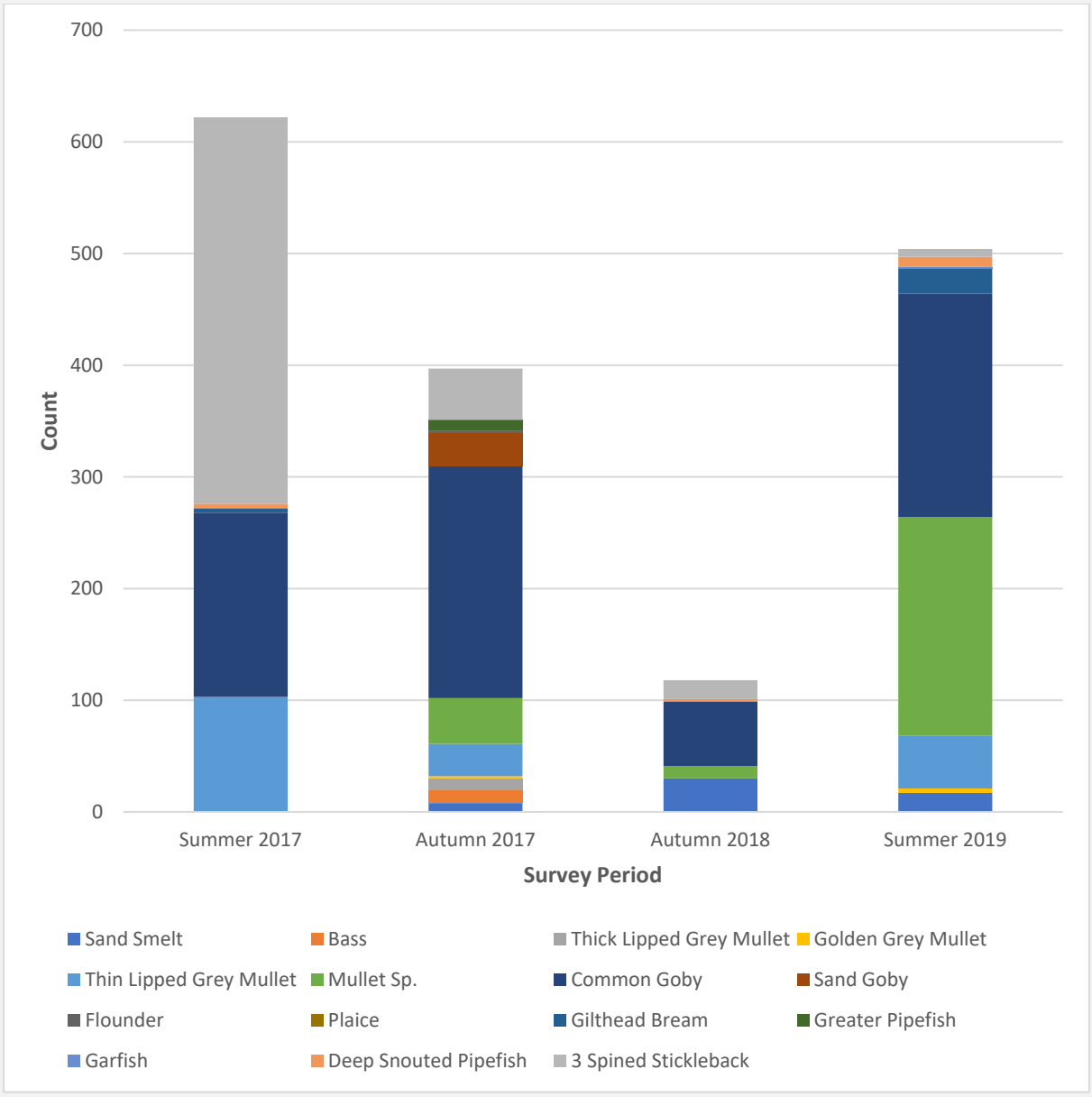


Figure 2: Count data for fish species identified at the Langton Hive site in The Fleet during the Southern IFCA Small Fish Surveys for Summer and Autumn 2017, Autumn 2018 and Summer 2019