

<b>Poole Harbour Special Protection Area (SPA) Appropriate Assessment Issue of Permits under Poole Harbour Dredge Permit Byelaw</b>	
<b>Title</b>	<b>Issue of Permits under Poole Harbour Dredge Permit Byelaw for 2016-17 season</b>
<b>Location</b>	<b>Poole Harbour, Dorset</b>
<b>Nature/description of the plan or project</b>	<p><b>Purpose</b> To permit the activity of using, retaining on board, storing or transporting a dredge within Poole Harbour.</p> <p><b>Description</b> Fishing using a dredge occurs in Poole Harbour primarily for removal of clam and cockle species. The Poole Harbour Dredge Permit Byelaw regulates the wild shellfish fishery in the Harbour through the annual allocation of permit entitlements. The permit conditions regulate catch restrictions and reporting, gear types, gear construction and restrictions, spatial and temporal restrictions and the fitting of specified equipment to vessels.</p>
<b>Date recorded</b>	

This is a record of the appropriate assessment, required by Regulation 61 of the Habitats and Species Regulations 2010 (as amended), undertaken by **Southern Inshore Fisheries and Conservation Authority (SIFCA)** (formally known as Southern Sea Fisheries District Committee) in respect of the above plan or project, in accordance with the Habitats Directive (Council Directive 92/43/EEC).

Poole Harbour SPA and Ramsar site is afforded protection under the Habitats and Species Regulations 2010 (as amended). Initial advice was provided by Natural England, prior to the introduction of the byelaw in July 2015, on the potential impacts of shellfish dredging on the nature conservation features of Poole Harbour. Natural England advised that without adequate mitigation measures put in place, a likely significant effect on Poole Harbour SPA and Ramsar site from shellfish dredging cannot be excluded, either individually or in combination with other plans or projects.

Having considered that the plan or project may be likely to have a significant effect on the **Poole Harbour Special Protection Area (SPA)**, **potential Special Protection Area (pSPA)** and Ramsar site, alone or in combination with other plans or projects, and that the plan or project is not directly connected with or necessary to the management of the site, an Appropriate Assessment has been undertaken of the potential impacts of the proposed fishery in view of the SPA and Ramsar site integrity and conservation objectives.

**1. Poole Harbour was designated a SPA for birds because it is:**

- 1.1 regularly used by over 1% of 3 species (avocet, common tern and Mediterranean gull) listed on Annex 1 of the Birds Directive
- 1.2 used by 1% or more of two internationally important bird populations (shelduck and black tailed godwit)
- 1.3 supporting over 20,000 wintering waterfowl (including nationally important populations of dunlin, cormorant, dark-bellied brent geese, teal, goldeneye, red-breasted merganser, curlew, spotted redshank, greenshank, redshank, pochard and black headed gull)
- 1.4 Under the pSPA it is proposed to extend the seaward extent of the SPA to the Harbour mouth with an additional landward extension in Lytchett Bay. It is also proposed to add a further three qualifying species; Sandwich tern, little egret and Eurasian spoonbill.

**2. Poole Harbour was designated as a Ramsar site because it:**

- 2.1 regularly supports 20,000 waterfowl
- 2.2 regularly supports over 1% of avocet, black tailed godwit, common tern, Mediterranean gull and shelduck
- 2.3 supports an appreciable assemblage of rare, vulnerable or endangered species including a nationally scarce hydroid species *Hartlaubella gelatinosa* and nationally rare sponge *Suberites massa*
- 2.4 is of special value for maintaining the genetic and ecological diversity of a region because of the quality and peculiarities of its flora and fauna including supporting the nationally scarce plants narrow leaved eelgrass *Zostera augustifolia* and dwarf eelgrass *Zostera noltii*.

**3. Identifying significant effects of the Proposal:**

- 3.1 Natural England advised, prior to the introduction of the byelaw in July 2015, that shellfish dredging activity could prevent the site from achieving its conservation objectives through impacts on the following attributes:
  - a. Disturbance caused by human activity affecting the foraging and roosting overwintering waterbird assemblage, avocet, black tailed godwit, shelduck and little egret
  - b. Change in extent and distribution of supporting non-breeding habitat
  - c. Change in extent, distribution and availability of supporting breeding habitat

- d. Disturbance of nesting common tern, Sandwich tern and Mediterranean gull
- e. Reduction in key prey species of preferred prey sizes supporting overwintering waterbird assemblage, avocet, black tailed godwit, shelduck and little egret
- f. Reduction in key prey species of preferred prey sizes supporting breeding common tern, Sandwich tern and Mediterranean gull
- g. Change in physical topography of intertidal feeding areas for black tailed godwits
- h. Undermining or compromising conservation measures to maintain or restore structure, function and supporting processes associated with features and supporting habitats

#### **4. Condition of Poole Harbour SPA**

- 4.1 The latest analysis of data spanning over several decades by the British Trust for Ornithology (BTO) recorded declines in a number of some bird species in Poole Harbour. Comparison by BTO of national, regional and local trends suggest that for shelduck, curlew, redshank and lapwing these declines are likely to be due to site-specific pressures while the declining trends of the other species appear to reflect a broad-scale shift in population. For further information see the species accounts under <http://www.bto.org/volunteer-surveys/webs/publications/webs-alerts>
- 4.2 Bird count data (WeBs data) analysed by Natural England in 2012 also highlighted declines in the numbers of overwintering birds in some sectors of the Harbour. The data analysis highlighted in particular there was concern regarding declines in some species in Lytchett Bay (shelduck, redshank and dunlin), Brands Bay (shelduck, redshank, dark bellied brent geese, dunlin) and Wych (shelduck, black tailed godwit, dunlin).
- 4.3 Recent count data confirms that that site regularly supports qualifying numbers of over-wintering little egret (*Egretta garzetta*) and Eurasian spoonbill (*Platalea leucorodia*) and also breeding Sandwich terns (*Sterna sandvicensis*).
- 4.4 A condition assessment of Poole Harbour SSSI was compiled in 2010. The features of interest of the Ramsar and SPA were also covered in this assessment. The main concern for the assessment is the high inputs of nitrogen into the Harbour and the consequent algal mat growth which is at levels that could impact on bird prey availability and bird foraging behaviour. A further concern is the possible reduction in the abundance and variety of benthic invertebrates with a decline in biomass of some 26% between surveys in 2002 and 2009. This may be due to year to year fluctuations in variability and slight differences in the sampling methodology although the difference is

of sufficient magnitude to cause concern. There is still uncertainty as to the long term effects of pump scoop dredging and other disturbances on invertebrate distribution and abundance (Underhill-Day *et al.*, 2010).

## **5. In Combination Assessment**

5.1 When assessing the impact of shellfish dredging on the interest features of the SPA and Ramsar site the assessment is required to look at this activity in combination with other plans and projects that may make the potential effects of shellfish dredging (e.g. effects on bird disturbance and food availability) more significant. There are a number of plans and projects within Poole Harbour that need to be considered:

### **5.2 Borough of Poole Core Strategy**

Increase in the number of dwellings in the Borough causing a potential increase in disturbance through an increase in recreational pressure.

A disturbance study in 2012 found the locations where birds were observed to be most frequently flushed in the Poole Harbour were at Bramble Bush Bay (Brands Bay) and south of Arne Bay. In busier areas, activities appeared less likely to result in disturbance events.

### **5.3 Wildfowling Consent**

Wildfowling takes place in the western and southern parts of the Harbour between September and February. In order to find their bird quarry, wildfowlers target the quieter areas of the Harbour. Within the area leased by Dorset Wildfowling Association from the Crown, measures to manage disturbance include restrictions in the number of visits, refuge areas (including Arne Bay, the islands, the east side of Brands Bay and Middlebere) and conditions with respect to how the practice of wildfowling takes place in order to minimize disturbance. Areas where additional disturbance would be most significant include Keyworth, Brands Bay, Wych, Newton, Ower and Lytchett Bays.

### **5.4 Discharge Consents**

Water quality impacts contributing to an increase in algal cover in the Harbour and effects on prey availability.

A condition assessment of Poole Harbour SSSI in 2009 found the biomass and extent of algal cover in Newton Bay, Ower Bay, Brands Bay and Holes Bay was particularly high and would likely have consequential effects on bird food availability.

5.5 Bait digging and bait dragging may also potentially impact on the condition of the site through bird disturbance and effects on food availability with the main areas for activity being Holes Bay and Blue Lagoon. A Memorandum of

Agreement for Bait Digging in Poole Harbour is currently in place which states that bait diggers should avoid bird sensitive areas during the sensitive period of 1<sup>st</sup> November to 1<sup>st</sup> April with additional restrictions in Holes Bay with no digging north of the railway line at any time and no digging in the remainder of Holes Bay during January and February. There are also additional provisions requiring backfilling.

## **6. The Poole Harbour Shellfish Fishery**

- 6.1 Between 2012 and 2014 commercial shellfish fishing within Poole Harbour was regulated through a combination of the Poole Fishery Order 1985, a hybrid Regulating and Several Order that licenced the wild clam fishery and provided leased ground for shellfish aquaculture, and the 'Cockles' byelaw, regulating commercial cockle fishing. There was also additional commercial clam fishing in areas of the Harbour outside the Poole Fishery Order 1985, namely Brands Bay and Lytchett Bay, and through unlicensed/unregistered fishing activity for both clam and cockle.
- 6.2 In 2013, the Southern IFCA introduced the 'Bottom Towed Fishing Gear Byelaw' to prohibit bottom towed fishing gear activity in seagrass beds, three of which are in the area of Whitley Lake, Poole Harbour. This byelaw prevents all dredging activity, including for both clam and cockle, in these areas which include the defined seagrass bed as well as a buffer zone, determined by a set methodology, to prevent accidental incursion on the habitat.
- 6.3 On 1<sup>st</sup> July 2015, the Poole Harbour Dredge Permit byelaw was introduced to regulate the use, retention on board, storage or transportation of a dredge through the allocation of permit entitlements. Simultaneously, the Poole Harbour Fishery Order 2015 was also introduced on 1<sup>st</sup> July 2015 to allow the promotion and development of aquaculture in the Harbour.
- 6.4 The 2015-16 dredge fishing season ran from 1<sup>st</sup> July to 24<sup>th</sup> December 2015 and from 25<sup>th</sup> May to 1<sup>st</sup> July 2016. A maximum of 45 permit entitlements were allocated for 2015-16. During the period 1<sup>st</sup> July to 24<sup>th</sup> December 2015 43 out of the 45 permit entitlements were taken out and 39 of these were actively used. Data compiled from monthly catch returns submitted by permit holders showed that a total of 312 tonne of manila clam, 12.6 tonne of cockle and 1.8 tonne of 'other' species (predominantly American Hard Shelled Clams) were removed from the fishery during the period 1<sup>st</sup> July to 24<sup>th</sup> December 2015, with a total of 11086.75 hours fished by permit holders.
- 6.5 Prior to the introduction of the byelaw, a total of 18 vessels were recorded as being unregistered and unlicensed fishing for cockle and clam species within Poole Harbour between 1<sup>st</sup> January 2012 and 1<sup>st</sup> September 2014. Following the introduction of the byelaw the number of unregistered and unlicensed fishing vessels operating in the Harbour has declined by 75% based on Southern IFCA sightings data and inspection records.

## 6.6 Fishing Method

Fishing for clam and cockle species in Poole Harbour is carried out through the use of the pump-scoop dredge, a method unique to the Harbour. Both a hand held and trailed form of this dredge have been used in the past. Following the Appropriate Assessment for the Licensed Clam Fishery 2012-2013 the use of trailed dredges was introduced in addition to the use of hand dredges. Following observations, Natural England indicated that there was no difference in the areas that the two dredge methods can fish in terms of proximity to the shore (i.e. potential displacement of birds) and depth (e.g. the likelihood of impacting on marine invertebrates in the channels of the Harbour). Southern IFCA and Southampton University conducted a survey to compare the hand held and trailed dredge methods. This study concluded no difference between the trailed dredging and hand held dredging techniques when comparing short term impacts on infaunal communities. The trailed dredge technique is more widely used as the increased mechanisation reduces the need for an additional crew member and increases health and safety however there has been no observed increase in intensity of the fishery when comparing the use of both dredge types to the use of the hand held dredge only.

## 6.7 Unregistered, Unlicensed Shellfish Fishing Activity

During the 2015-16 dredge season there has been a limited number of instances of illegal dredge fishing by unregistered and unlicensed vessels within Poole Harbour. Fisheries patrol vessel Endeavour has been used to good effect during this period to combat the issues of illegal shellfish harvesting leading to a significant decline in the levels of illegal activity in Poole Harbour during the season. There has also been a significant overall decline in illegal fishing activity for shellfish in the Harbour since the introduction of the byelaw with a 75% decrease in the number of unregistered and unlicensed fishing vessels since 1<sup>st</sup> July 2015.

## **7. Poole Harbour Dredge Permit**

- 7.1 The permit issued under the 'Poole Harbour Dredge Permit' Byelaw (Appendix 2) regulates the use, retention on board, storage and transportation of a dredge within Poole Harbour.
- 7.2 Under the permit, a series of conditions are applied (Appendix 3), relating to restrictions on catch and reporting; gear types; gear construction and areas where dredging is permitted (see map in Appendix 4). The permit also allows for a requirement to fit specified equipment to vessels.
- 7.3 There will be a maximum of 45 permit entitlements, reflecting the current level of effort for the 2015-16 season which is seen to be sustainable. The improved regulation provided by the byelaw and associated permit conditions prohibits unregistered/unlicensed dredging activity and provides more

effective protection for the Poole Harbour SPA allowing for current levels of effort to be maintained without having an adverse effect on the site.

## **8. Poole Harbour Dredge Permit Access Policy**

- 8.1 A Policy outlining the administration for a permit for the Poole Harbour Dredge Permit Byelaw were adopted by the Joint Committee at their meeting on 9<sup>th</sup> June 2016.
- 8.2 The Access Policy (Appendix 5) outlines the way in which the Authority administers the allocation of permits under the byelaw and sets out criteria for applicants based on whether they have held a permit during the previous season or are a new entrant. In either case, the vessel for which an application is made must be a relevant fishing vessel as defined in the byelaw and the applicant must be a majority shareholder in that vessel or nominated for that purpose by a majority shareholder of the vessel provided that the applicant is also named as a shareholder on the vessel's certificate of registry.
- 8.3 This ensures that in order to gain a permit there is a rigorous process and set of criteria which will be tested by the Authority. The specified criteria are designed to ensure that permit entitlements are used during the season and that the fishery is open to those with a genuine desire to engage in the commercial shellfish fisheries within the Harbour. The process also prohibits unregistered/unlicensed fishing and creates a robust regulatory mechanism against illegal activity.

## **9. Mitigation**

- 9.1 The Southern IFCA aims to mitigate potential impacts that may have an adverse effect on the integrity of the Poole Harbour SPA and Ramsar site as a direct result of the proposal. The Appropriate Assessment will aim to manage dredge fishing activity at a level which reflects the current effort recognising that through the mitigation measures outlined in the permit conditions, prohibiting unlicensed/unregistered activity and allowing more effective enforcement of legislation, the effort level of the fishery will be more effectively managed.
- 9.2 The use of a flexible permit allows the Authority to review the suitability of the permit conditions, attach conditions to the permit and vary or revoke conditions attached to the permit at any time after the permits have been issued, following a set process. Any changes will have regard to the Authority's duties and obligations under section 153 and 154 of the Marine and Coastal Access Act 2009, advice by Natural England, scientific data and/or any Habitats Regulations Assessment. This flexibility allows proportionate management of the dredge fishery in Poole Harbour whilst achieving the conservation objectives of the site.

9.3 A review of permit conditions was carried out by the Authority in early 2016. During consultation prior to the introduction of the byelaw it was agreed with stakeholders that the Authority would review the suitability of permit conditions following the first dredge season. The review involved an initial phase of consultation with permit holders in early 2016, following the end of the dredge season. All comments and feedback from this consultation were considered by the Poole Order Working Group and the following changes to the permit conditions were proposed to the Southern IFCA Technical Advisory Committee and Joint Authority with additional consultation with permit holders on the proposed changes:

- That the fishing season for 2016-17 permits are from 1<sup>st</sup> July 2016 to 23<sup>rd</sup> December 2016
- That the permit validity period runs from 1<sup>st</sup> July 2016 to 31<sup>st</sup> March 2017 to align with the financial year and avoid overlap with the fishing season
- That the permit cost increase to £500
- Inclusion of a definition of 'auxiliary hydraulic equipment' to reflect the wording of the Poole Harbour Dredge Permit byelaw
- A catch return submission deadline for 14 days and requirement to identify buyer(s)
- Requirement to acknowledge legislation and provide contact details

The proposed changes to the permit conditions will not result in the issuing of permits having an adverse effect on the site.

9.4 The mitigation measures provided by the dredge permit are designed to ensure that the dredge fishery in Poole Harbour will not have an adverse effect on the features and supporting habitats for the site. They reflect the advice from Natural England, which outlines that to protect the SPA, pSPA Ramsar and SSSI, the permit should seek to;

- Provide a network of areas where there is little or no noise and visual disturbance and sediment disturbance including; bird sensitive areas, areas where declines in some bird species have been observed (Brands Bay, Wych Lake and Lytchett Bay) that are likely to be in part attributable to site specific pressures, Mediterranean gull nesting sites at Seagull Island, areas where sediment recovery is likely to be slow (low energy sites), fringing saltmarsh, reedbed and lowland water habitats supporting breeding birds
- Exclude or manage intensity where high levels of sediment disturbance could result in release of contaminants (Holes Bay)
- Manage shellfish dredging throughout the Harbour in a way that minimises its impact on prey availability and disturbance, for example through restrictions in the number of permits, the design of the pump and dredge used and restrictions in the timing of when the fishery should take place

- Ensure measures are taken to protect habitats (eelgrass) that are potentially sensitive to damage if they are at risk of exposure to shellfish dredging

The following section fully defines the mitigation measures against the potential impacts of the dredge fishery in Poole Harbour.

9.5 The Authority has laid down the following mitigation measures for the proposal that will help ensure that shellfish dredging avoids impacts on the following attributes:

**a) Disturbance caused by human activity affecting the foraging and roosting overwintering waterbird assemblage, avocet, black tailed godwit, shelduck, Eurasian spoonbill and little egret**

The frequency, duration and/or intensity of disturbance affecting the foraging and roosting overwintering waterbird assemblage, avocet, black tailed godwit, Eurasian spoonbill, little egret and shelduck should not reach levels which significantly affects the feature.

Natural England advise that shellfish dredging activity can cause noise and visual disturbance to features when taking place a key times of year for overwintering species and in proximity to important feeding and roosting sites. The significance of this disturbance is likely to depend on the availability of alternative undisturbed areas for birds; and the frequency, seasonality and intensity at which shellfish dredging takes place. Significant numbers of black tailed godwit are present between September and March; significant numbers of avocet between September and February and significant numbers of shelduck are present between October and March.

- The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation. In addition, the closure of loopholes from previous regulation i.e. the ability to fish for clam year round in Brands Bay, has resulted in improved enforcement of unregistered/unlicensed fishing (declined by 75% since July 2015) resulting in an overall reduction in dredge fishing effort across the Harbour.
- Dredging is excluded year round from areas identified as preferred feeding and roosting sites for avocet at Holes Bay, Lytchett Bay and the upper reaches of Wych and Middlebere Lakes. These areas provide alternative undisturbed areas for roosting and feeding bird populations throughout the year.
- No fishing vessels are able to access Brownsea Lagoon where avocet preferentially feed, where there are important roosts for avocet, black tailed godwit, Eurasian spoonbill, little egret and shelduck and components of the waterbird assemblage feed and roost.

- Dredging activity is prohibited between 24<sup>th</sup> December and 25<sup>th</sup> May each year, corresponding to the period of highest sensitivity to disturbance due to the likelihood of cold weather and depleted food resources prior to migration. Dredging is therefore prohibited during January to March when significant numbers of black tailed godwit, shelduck and component species of the waterbird assemblage are present in the Harbour.
- Dredging is excluded from overwintering, feeding and roosting bird sensitive areas at Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Keyworth Bay and parts of Arne Bay and Brands Bay (Appendix 4) during key sensitive times of the year for bird species between 25<sup>th</sup> May and 1<sup>st</sup> July, 1<sup>st</sup> November and 24<sup>th</sup> December. The inclusion of part of Brands Bay provides an additional area afforded protection during sensitive periods.
- Dredging activity is only permitted between 0600 and 1800 each day and is not permitted on a Sunday. This has been a reduction in the hours available to fish when compared to previous regulations for the Harbour.
- There are restrictions in the design and size of the pump and dredge used including a maximum horsepower of 15 for the pump, therefore restricting the noise output to minimise disturbance and the fluidisation of the seabed.

#### **b) Change in extent and distribution of supporting non-breeding habitat**

The extent and distribution of suitable habitat (either within or outside the site boundary) which supports overwintering waterbird assemblage, avocet, black tailed godwit, shelduck, Eurasian spoonbill and little egret for all stages of the non-breeding period (moulting, roosting, loafing, and feeding) is maintained.

Natural England advise that the main eelgrass beds within the intertidal sediment communities in Poole Harbour are known to support fish eating species such as red breasted mergansers as well as providing a food source for dark bellied brent geese. Physical damage could occur from shellfish dredging if it takes place within this habitat. The direct impact of shellfish dredging on seagrass beds is significant through uprooting shoots and cutting through shoots which immediately reduces seagrass density and biomass.

- The Southern IFCA 'Bottom Towed Fishing Gear Byelaw' prohibits bottom towed fishing gear activity within designated seagrass beds in Whitley Lake in Poole Harbour (Appendix 6). The byelaw has been in place since December 2013 and there have been no recording breaches of the legislation since it was introduced.

### **c) Change in extent and distribution of supporting breeding habitat**

The extent, distribution and availability of suitable breeding habitat which supports common tern, Sandwich tern and Mediterranean gull for all stages of their breeding cycle (courtship, nesting, and feeding) is maintained.

Mediterranean gulls nest primarily at Seagull Island in the Wareham Channel. Shellfish dredging, if taking place in close proximity to saltmarsh nesting sites could potentially cause erosion of this supporting breeding habitat. Common and Sandwich tern nest at Brownsea Lagoon.

- No fishing vessels are able to access Brownsea Lagoon.
- The dredge fishing season runs between 25<sup>th</sup> May and 23<sup>rd</sup> December each year. Dredge fishing activity will not take place between the start of the key Mediterranean gull breeding period (1<sup>st</sup> April) and the 25<sup>th</sup> May.
- Dredging activity is only permitted between 0600 and 1800 each day and is not permitted on a Sunday. This has been a reduction in the hours available to fish when compared to previous regulations for the Harbour.
- The Southern IFCA 'Poole Harbour Roosting Sites Code of Practice (CoP)' (Appendix 7) aims to avoid disturbance to nesting and roosting bird species and promote the protection of supporting breeding habitat within specific areas of Poole Harbour. During the 2015-16 dredge season all permit holders complied with the CoP.
- An increase in the overall area of Poole Harbour available to dredge fishing activity during the period of 1<sup>st</sup> July to 31<sup>st</sup> October, encompassing the sensitive period for Seagull Island allows for the spread of effort more widely across the Harbour, reducing overall effort in the vicinity of Seagull Island.

### **d) Disturbance of nesting common tern, Sandwich tern and Mediterranean gull and effects on breeding population (productivity and survival)**

The frequency, duration and/or intensity of disturbance affecting nesting common tern and Mediterranean gull should not reach levels which substantially affects the feature. Overall breeding productivity and adult survival is at a level which is consistent with maintaining the structure and abundance of the population of Mediterranean gulls at or above its current or target level, whichever is the higher for all stages of its breeding cycle (courtship, nesting, feeding) is maintained.

Natural England advise that disturbance of Mediterranean gull nesting sites from fishing taking place in proximity to Seagull Island could cause a decline

in the annual productivity or breeding success of the population (i.e. the number of chicks successfully raised per breeding pair per year) and this may adversely affect the overall size and structure of the breeding population and its long term viability. There is also common tern nesting sites at Brownsea Island.

- The dredge fishing season runs between 25<sup>th</sup> May and 23<sup>rd</sup> December each year. Dredge fishing activity will not take place between the start of the key Mediterranean gull breeding period (1<sup>st</sup> April) and the 25<sup>th</sup> May.
- The Southern IFCA 'Poole Harbour Roosting Sites Code of Practice (CoP)' (Appendix 7) aims to avoid disturbance to nesting and roosting bird species and promote the protection of supporting breeding habitat within specific areas of Poole Harbour with particular reference to avoiding disturbance of Mediterranean gulls for the period when the breeding (1<sup>st</sup> April to 1<sup>st</sup> August) overlaps with the dredge fishing season under the permit.

The code of practice sets out the following provisions to minimise disturbance to breeding and roosting bird species and promote the protection of supporting breeding habitat within specific areas of Poole Harbour:

- Avoid fishing in close proximity to saltmarsh areas
- When moving around areas of saltmarsh keep speed to a maximum of 6 knots
- Avoid landing or disembarking on any saltmarsh area
- Avoid contact between a vessel and any part of the saltmarsh
- When operating in areas defined under section 5.4 of the Poole Harbour Dredge permit during the period when these areas are open between 1<sup>st</sup> July and 1<sup>st</sup> November avoid excessive noise, beyond that caused by deployment of gear

The code of practice sets out the following provisions to minimise disturbance of Mediterranean Gull between 25<sup>th</sup> May and 1<sup>st</sup> August:

- Avoid dredge fishing between the three parts of Seagull Island
- Avoid contact between a vessel and any part of Seagull Island
- When moving around or between parts of Seagull Island keep speed to a maximum of 6 knots
- Avoid excess noise, beyond that caused by deployment of gear, when in close proximity to any part of Seagull Island

During the 2015-16 dredge season all permit holders complied with the CoP. Compliance with the CoP will continue to be monitored.

- An increase in the overall area of Poole Harbour available to dredge fishing activity during the period of 1<sup>st</sup> July to 31<sup>st</sup> October, encompassing the sensitive period for Seagull Island allows for the spread of effort more

widely across the Harbour, reducing overall effort in the vicinity of Seagull Island.

- Fishing vessels are unable to access Brownsea Lagoon which is identified as the site of principle and possibly only nesting colony of Sandwich terns within Poole Harbour as well as an area where common tern are known to breed.

**e) Reduction in key prey species supporting overwintering waterbird assemblage, avocet, black tailed godwit, shelduck and little egret**

Maintain the overall prey availability of key prey species of preferred prey sizes which supports overwintering waterbird assemblage, avocet, black tailed godwit and shelduck.

Natural England advise that sediment disturbance as a result of shellfish dredging can potentially impact on bird prey availability, prey size and the birds ability to forage. This can be through removal (mortality) of target and non-target species and impacts on non-target prey availability through changes in habitat structure of the intertidal sediment communities. Survey work to assess sediment structure and infaunal composition indicated that due to the large variety of other activities occurring in the Harbour such as illegal clam fishing, anthropogenic pollution and bait dragging, it was difficult to isolate effects of the licensed clam dredging activity on infaunal communities and that pump-scoop fishing did not appear to have a significant impact of its own when other factors were taken into account (Main, 2005).

Shelduck is currently in decline (which has been attributed at least in part to site specific pressures). Shelduck feed throughout the Harbour, favouring the areas of Keysworth, Holes Bay and Brands Bay (Pickess, 2007). Areas where avocet preferentially feed are relatively small heightening the importance of maintaining key prey items in these areas (Brownsea Lagoon, Wych Lake, Middlebere Lake and upper parts of Holes Bay). Further data from Caldow *et al.*, 2007 indicates that the manila clam is exploited by oystercatchers during the winter lean period from mid-January providing an important food source. The prohibition on dredge fishing activity from 24<sup>th</sup> December to 25<sup>th</sup> May mitigates over-wintering bird disturbance during this lean period.

- The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation. In addition, the closure of loopholes from previous regulation i.e. the ability to fish for clam year round in Brands Bay, has resulted in improved enforcement of unregistered/unlicensed fishing (declined by 75% since July 2015) resulting in an overall reduction in dredge fishing effort across the Harbour.

- Dredging is excluded from overwintering, feeding and roosting bird sensitive areas at Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Keyworth Bay and parts of Arne Bay and Brands Bay (Appendix 4) during key sensitive times of year for bird species between 25<sup>th</sup> May and 1<sup>st</sup> July, 1<sup>st</sup> November and 24<sup>th</sup> December.
- Dredging is excluded year round from areas identified as preferred feeding and roosting sites at Holes Bay (shelduck), Lytchett Bay and the upper reaches of Wych and Middlebere Lakes (shelduck). These areas provide alternative undisturbed areas for roosting and feeding bird populations throughout the year. These sites are also identified as being lower energy sites therefore the year round exclusion of dredge activity will prevent disturbance of the sediment structure in these sites by this activity.
- Brands Bay has been included as an additional bird sensitive area where dredging will be prohibited during key sensitive times of the year for bird species between 25<sup>th</sup> May and 1<sup>st</sup> July, 1<sup>st</sup> November and 24<sup>th</sup> December.
- Dredging is excluded all year round from Holes Bay (an area known in parts to have a high level of metal contamination within the sediment). This avoids the release of heavy metals from sediment disturbance by shellfish dredging which could also impact on prey availability.
- Dredging will not have a direct impact of the prey of fish eating species with no interaction between the gear used and these species in the water column.
- Dredging activity is only permitted between 0600 and 1800 each day and is not permitted on a Sunday. This has been a reduction in the hours available to fish when compared to previous regulations for the Harbour.
- Restrictions on the design of the dredge and pump used will limit the efficiency of the activity and the quantity of species removed. Dredges must be constructed of rigid bars having spaces of not less than 18mm between them. The overall dredge size is restricted to 460mm in width by 460mm in depth by 300mm high and the contents of the dredge may only be removed after the dredge has been lifted into the vessel.
- Only one pump is permitted on board any vessel and any hoses connected to the pump and/or dredge should have a diameter of no greater than a 3 inch inlet and a 3 inch diameter outlet. The maximum horsepower of the pump is restricted to 15.
- A riddle with 18mm bar spacing is mandatory for the sorting of shellfish and any shellfish must be sorted, with any discards re-deposited, forthwith. Within the Southern IFCA District, 18mm dredge and riddle spacing has been found to allow the retention of 79-99% of clams greater than 35mm in length (the European minimum size) and only 5-10% of clams less than 35mm.

**f) Reduction in key prey species supporting breeding common tern, Sandwich tern and Mediterranean gull**

Maintain the overall prey availability of key species of preferred prey sizes which supports common tern, Sandwich tern, little egret, Eurasian spoonbill and Mediterranean gull.

Natural England advise that sediment disturbance as a result of shellfish dredging can potentially impact on bird prey availability, prey size and the birds ability to forage. This can be through removal (mortality) of target and non-target species and impacts on non-target prey availability through changes in habitat structure of the intertidal sediment communities. Dredging activity is less likely to pose a risk to the prey availability of common tern and Mediterranean gull as dredging will not directly impact the terns fish prey, while gulls have a wide ranging diet.

- The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.
- The sheltered areas in Poole Harbour of Holes Bay, Lytchett Bay and the upper Wych Lake and Middlebere Lake, which are subject to lesser degrees of wave and tidal action, are excluded from the fishery all year round, providing areas where there will be no removal of target or non-target species and preserving areas highlighted as preferential feeding areas for Avocet. Caldow *et al.* (2005) found that the quieter, sheltered areas of Poole Harbour, including Lytchett Bay showed greatest numerical densities of macro-invertebrates in the intertidal mudflats. In addition, no fishing vessels are able to access Brownsea Lagoon providing another area where no target or non-target species will be removed by dredge fishing.
- Restrictions on the design of the dredge and pump used will limit the intensity of the activity and the quantity of species removed. Dredges must be constructed of rigid bars having spaces of not less than 18mm between them. The overall dredge size is restricted to 460mm in width by 460mm in depth by 300mm high and the contents of the dredge may only be removed after the dredge has been lifted into the vessel.
- Only one pump is permitted on board any vessel and any hoses connected to the pump and/or dredge should have a diameter of no greater than a 3 inch inlet and a 3 inch diameter outlet. The maximum horsepower of the pump is restricted to 15.
- A riddle with 18mm bar spacing is mandatory for the sorting of shellfish and any shellfish must be sorted, with any discards re-deposited, forthwith. Within the Southern IFCA District, 18mm dredge and riddle spacing has been found to allow the retention of 79-99% of clams greater than 35mm in

length (the European minimum size) and only 5-10% of clams less than 35mm.

- Monitoring has been carried out in 2015 under a project run by Bournemouth University to assess soft sediment habitats and invertebrate community's pre and post the start of the dredge season. In addition, the Southern IFCA carries out an annual bivalve stock assessment survey prior to the opening of the dredge season to assess the clam and cockle populations across the Harbour.

**g) Change in physical topography of intertidal feeding areas for black tailed godwits**

Maintain the density of channel networks within intertidal feeding areas for black tailed godwits.

Natural England advise that intense fishing could possibly alter the natural channel networks within intertidal feeding areas for black tailed godwits.

- The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.
- The increase in overall area of Poole Harbour available for shellfish dredging will further reduce intensity over any one specific site.
- Dredging activity is only permitted between 0600 and 1800 each day and is not permitted on a Sunday. This has been a reduction in the hours available to fish when compared to previous regulations for the Harbour.

**h) Conservation Measures - Management measures to maintain or restore structure, function and supporting processes associated with features and supporting habitats are undermined or compromised**

In order to manage bird disturbance in Poole Harbour, the Poole Harbour Aquatic Management Plan has identified bird sensitive areas where visual and noise disturbance is likely to be particularly significant to the bird features. Users of Poole Harbour are asked to avoid these areas at key times of the year (Nov-Mar for overwintering bird sensitive areas and Apr-Jun for breeding bird sensitive areas) if carrying out activities that may disturb the birds. These areas are Keyworth, Arne Bay, Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Brands Bay and parts of Lytchett Bay and Holes Bay.

- The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.
- Dredging is excluded year round from areas identified as preferred feeding and roosting sites for avocet at Holes Bay, Lytchett Bay and the upper reaches of Wych and Middlebere Lakes. These areas provide alternative undisturbed areas for roosting and feeding bird populations throughout the year.
- Dredging is excluded from overwintering, feeding and roosting bird sensitive areas at Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Keysworth Bay and parts of Arne Bay and Brands Bay (Appendix 4) during key sensitive times of year for bird species between 25<sup>th</sup> May and 1<sup>st</sup> July, 1<sup>st</sup> November and 24<sup>th</sup> December. The inclusion of part of Brands Bay provides an additional area afforded protection during sensitive periods.
- The development of management through extensive consultation with stakeholders involved in the dredge fishery helped to develop proportionate management whilst achieving conservation objectives, resulting in higher levels of compliance with the regulations.
- At any time after the permits have been issued, the Authority may review the suitability of permit conditions, attach conditions to the permit and vary or revoke conditions attached to the permit following a set process and having regard to the Authority's duties and obligations under section 153 and 154 of the Marine and Coastal Access Act 2009, advice by Natural England, scientific data and/or any Habitats Regulations Assessment.

#### **i) Poole Harbour Special Protection Area extension, pSPA**

In response to a review of information from the Joint Nature Conservation Committee (JNCC), breeding seabird data and distribution and abundance data for waterbirds in Poole Harbour, Natural England have identified additional areas and species that need to be considered for protection under the SPA. The recommendation from this review is to extend the Poole Harbour SPA to include all areas below Mean Low Water mark which lie within the Harbour entrance to ensure that all areas of marine habitat which are exploited for resting, roosting or feeding are included. Also, the recommendation is for the addition of three species; Sandwich tern, spoonbill and little egret for which Poole Harbour regularly supports greater than 1% of the population. The proposed extension became a potential SPA (pSPA) on 21 January 2016 and the features and species proposed for inclusion are considered as part of this Appropriate Assessment.

## 10. Site Condition

- 10.1 Bird count data (WeBs data) analysed by Natural England in 2012 highlighted a decline in the number of overwintering birds in some sectors of Poole Harbour including Lytchett Bay (shelduck, redshank and dunlin), Brands Bay (shelduck, redshank, dark bellied brent geese, dunlin) and Wych Lake (shelduck, black tailed godwit, dunlin). The areas of Lytchett Bay and the upper reaches of Wych Lake will be prohibited to dredge fishing activity at all times and the lower reaches of Wych Lake along with Brands Bay will be prohibited to dredge fishing activity during key sensitive times of year for roosting, feeding and breeding birds between 25<sup>th</sup> May and 1<sup>st</sup> July and 1<sup>st</sup> November to 24<sup>th</sup> December. Dredging is prohibited in all areas of the Harbour during the most sensitive period of 24<sup>th</sup> December to 25<sup>th</sup> May each year.
- 10.2 The main concern from the Condition Assessment of the Poole Harbour SSSI, carried out in 2010, was high inputs of nitrogen into Poole Harbour and the consequent algal mat growth which is at levels that could impact on bird prey availability and bird foraging behaviour. The main inputs of nitrogen to the system are from diffuse agricultural sources and it could be an extended period of time before these levels of nitrates in groundwater entering the Harbour begin to decline. In the meantime there is little that can be done to reduce algal mat growth.
- 10.3 A further concern is the possible reduction in the abundance and variety of benthic invertebrates with a decline in biomass of some 26% between surveys conducted in 2002 and 2009. The differences seen may be due to year to year fluctuations in natural variability and differences in the sampling methodology however changes are still at a magnitude to cause concern and require future surveys. The prohibition of dredge fishing activity seasonally and temporally increases the protection afforded to these areas of the Harbour by creating areas that are permanently closed and adding a bird sensitive area at Brands Bay which did not form part of the previous management scheme under the Southern IFCA byelaw 'Prohibition on using or carrying a shellfish dredge, scoop or handrake in certain areas of Poole Harbour'.
- 10.4 There is no clear evidence to indicate that there is a long term significant effect of legal shellfish dredging by pump scoop dredge on infaunal community composition and survey work to assess sediment structure and infaunal composition indicated that due to the large variety of other activities occurring in the Harbour, such as illegal clam fishing, anthropogenic pollution and bait dragging, it was difficult to isolate effects of the licensed clam dredging activity on infaunal communities and that pump-scoop fishing did not appear to have a significant impact of its own when other factors were taken into account (Main, 2005).
- 10.5 Further data from Caldow *et al.*, 2007 indicates that the Manila clam is exploited by oystercatchers during the winter lean period from mid-January providing an important food source. The prohibition on dredge fishing activity

from 24<sup>th</sup> December to 25<sup>th</sup> May mitigates over-wintering bird disturbance during this suggested lean period.

## 11. Future Monitoring

### 11.1 Avoiding disturbance of breeding Mediterranean gulls and impacts on the saltmarsh habitat

Monitor compliance with the Poole Harbour Roosting Sites Code of Practice (CoP) and its success as a measure to avoid disturbance to breeding and roosting bird species and promote the protection of supporting breeding habitat within certain areas of Poole Harbour. This will be assessed as part of existing compliance patrols in the Harbour.

### 11.2 Avoiding impacts on the food availability

A survey was carried out in 2015 to assess the impacts of pump-scoop dredging on the soft-sediment habitats and invertebrate communities within Poole Harbour. The survey involved the collection of sediment and invertebrate cores in some of the areas defined under the permit as open during 1<sup>st</sup> July to 31<sup>st</sup> October (Keysworth, Arne Bay, Wych Lake, Middlebere Lake, Brands Bay, Ower Bay, Newton Bay).

The survey was a Before-After-Control-Impact design and compared samples taken 7 days prior to the opening of the dredge fishing season in 2015 (1<sup>st</sup> July 2015) to those taken at 7 and 30 days after the opening of the dredge fishing season. This allows for multiple comparisons between sites and accounts for temporal variations in measured outcomes during analysis. Sediment characteristics were determined using particle size analysis and invertebrate communities assessed to the lowest possible taxonomic level. The survey was carried out using a local fishing vessel, allowing primary stakeholder engagement in the process of assessing the fishery. The results from this survey are currently in draft form but indicate that there is no large-scale change in the overall biotope of the study sites with the identification that similar work would be beneficial in future years to assess for any longer term changes to the sites.

Since 2003, a Poole Harbour Bivalve stock survey has taken place with subtle alterations to the methodology in 2009, 2010 and 2011. Sampling has taken place annually with the last survey carried out in June 2015. There were further modifications to the survey in 2015 with samples being collected using a pump-scoop dredge to ensure that the data collected was more comparable to the fishing method employed by the permit holders. 23 shellfish beds were defined across the Harbour with between 1 and 5 dredges taken within each bed depending on size. For each sample, the clam species and cockles were separated out and each individual measured across the maximum dimension to the nearest millimetre. Each sample was then weighed before being returned alive to the fishery.

Comparisons between data collected as part of the survey in 2015 and previous years are limited due to the change in the method of sampling however the data collected in 2015 provided a baseline against which future survey data is compared. The survey was repeated in May 2016 using the same method of obtaining samples from a fishing vessel using a pump-scoop dredge. Additional shellfish beds were sampled in 2016 bringing the total number of sites to 27, ensuring that the sampling was representative of the whole Harbour including all the main fishing areas used during the dredge season. The number of dredges per shellfish bed were standardised to three. As in 2015 samples of clam species and cockle were retained, measured and weighed before being returned alive to the fishery. In addition, in 2016, a second survey was carried out to assess the juvenile populations of clam and cockle. The same 27 sites were sampled using a specially designed hand-held dredge which was used to sample a 1m long section of the seabed. As with the pump-scoop dredge, three samples were taken for each shellfish bed. The samples obtained using this method were sieved with the shellfish retained for analysis in terms of numbers of juveniles of different species, size measurements and weight. The combination of both parts of the survey in 2016 will allow a better understanding of the clam and cockle populations in the Harbour as a whole and will give an indication of the proportion of the population which could be recruited to the fishery in future years.

The 2016 survey methodology will be carried out annually. The data will also be analysed as part of a PhD project looking at sustainable fisheries management in Poole Harbour.

- 11.3 Monitoring of fishing effort and compliance will be carried out as part of existing compliance patrols as well as target enforcement work as required, this will include monitoring of key times of the year and key parts of the site for the SPA bird features.

## 12. Conclusion

- 12.1 Taking into account all the information provided in the Appropriate Assessment, it is the opinion of the Authority that the issuing of permits for the 2016-2017 season under the Poole Harbour Dredge Permit Byelaw will not prevent the site from achieving its conservation objectives and will have **no adverse effect** upon the integrity of the Poole Harbour SPA, pSPA and Ramsar site. Through the criteria required to be eligible for consideration of a permit and the permit conditions, as outlined in Appendix 3, the rationale for this assumption is:
- 12.2 That the number of permits issued remains at 45. The number of permits will continue to be capped at this level for the 2016-17 season. Improved regulation through the permit prohibits unlicensed/unregistered dredging activity, with a decrease of 75% in illegal activity since 1<sup>st</sup> July 2015, and

provides more effective enforcement of the legislation which has resulted in an overall reduction of dredge fishing effort across Poole Harbour.

- 12.3 That the permit conditions specifying restrictions on catch, reporting, gear type and gear construction as well as defining spatial and temporal restrictions will continue to mitigate against any potential impact of the fishery on the features and supporting habitats of the site.
- 12.4 That the use of a flexible permit allows the Authority to review the suitability of the permit conditions, attach conditions to the permit and vary or revoke conditions attached to the permit at any time after the permits have been issued, following a set process. Changes can therefore be made having regard to the Authority's duties and obligations under sections 153 and 154 of the Marine and Coastal Access Act 2009, advice by Natural England, scientific data and/or any future Habitats Regulations Assessment.
- 12.5 That monitoring of the fishery continues to take place as outlined in section 11 to monitor the outcomes of the mitigation put in place and assessed under this Assessment, so as to conclude that the activity is not preventing the site from achieving its conservation objectives.

## **Decision**

**That the Southern Inshore Fisheries and Conservation Authority issues 45 permits for the 2016-2017 season under the Poole Harbour Dredge Permit Byelaw to permit the activity of using, retaining on board, storing or transporting a dredge within Poole Harbour.**

**APPENDIX 1: SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY**

**APPROPRIATE ASSESSMENT**

**Table A: Southern Inshore Fisheries and Conservation Authority Appropriate Assessment table for the Poole Harbour SPA showing the potential for issuing permits to use, retain on board, store or transport a dredge within Poole Harbour under the Poole Harbour Dredge Permit Byelaw to affect designated status**

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURING	PREVENTATIVE MEASURES
Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet)	All habitats	Disturbance caused by human activity (minimising disturbance)	The frequency, duration and/or intensity of disturbance affecting foraging and roosting should not reach levels that substantially affects the feature.	Shellfish dredging activity can cause noise and visual disturbance (either alone or in combination with other plans and projects) to the feature when taking place at key times of the year for the overwintering species and in proximity to important feeding and roosting sites. The significance of this disturbance is likely to depend on the availability of alternative undisturbed areas for birds; and the frequency, seasonality and intensity at which shellfish dredging takes place.	Avocet are present in large numbers between September and February. Avocet have a localised distribution with respect to their preferred feeding (Wych Lake, Middlebere Lake and Brownsea Lagoon) and roosting sites (Brownsea Lagoon, the further reaches of Wych Lake and Middlebere Lake and north of Holes Bay). This is possibly linked to the distribution of their prey.  Disturbance should be minimised across the site at key times of the year for this species but it is particularly important that disturbance of this feature is kept to a minimum at the locations listed above due to the lack of suitable alternative supporting habitat.	<ul style="list-style-type: none"> <li>○ Exclusion of dredging year round from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake covers areas identified as preferred feeding and roosting sites for avocet.</li> <li>○ No fishing vessels are able to access Brownsea Lagoon where avocet preferentially feed and roost.</li> <li>○ Disturbance is avoided in other areas of the Harbour through:</li> <li>○ The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.</li> <li>○ Dredging activity is prohibited between 24<sup>th</sup> Dec and 25<sup>th</sup> May each year. This corresponds with the period of highest disturbance sensitivity due to the likelihood of cold weather and depleted food resources prior to migration.</li> <li>○ During the dredge fishing</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
<p>Internationally important populations of regularly occurring Annex 1 bird species (e.g. Mediterranean gull, common tern, Sandwich tern)</p>	<p>All Habitats</p>					<p>season, fishing activity is excluded from overwintering, feeding and roosting bird sensitive areas at Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Keyworth and parts of Arne Bay and Brands Bay during key sensitive times of year (1<sup>st</sup> Nov-24<sup>th</sup> Dec and 25<sup>th</sup> May to 1<sup>st</sup> July).</p> <ul style="list-style-type: none"> <li>○ The inclusion of an additional bird sensitive area at Brands Bay</li> <li>○ Dredging activity is only permitted between 06:00 and 18:00 each day.</li> <li>○ There are restrictions in the design and size of the pump and dredge used</li> </ul>
		<p>Disturbance caused by human activity (minimising disturbance)</p>	<p>The frequency, duration and/or intensity of disturbance affecting nesting common tern, Sandwich tern and Mediterranean gull should not reach levels which substantially affects the feature.</p>	<p>Disturbance of Mediterranean gull nesting sites from fishing taking place in proximity to Seagull Island could cause a decline in the annual productivity or breeding success of the population (i.e. the number of chicks successfully raised per breeding pair per year) and this may adversely affect the overall size and age-structure of the breeding population and its</p>	<p>Breeding Mediterranean gulls are present in significant numbers between April and August.</p> <p>Shellfish dredging activity is known to occur in proximity to Seagull Island. The shallow nature of the area and pattern of dredging activity means vessels are most likely to be operating at slow speeds in this area.</p> <p>The main breeding colony of Mediterranean gull is found at Seagull Island. Shellfish dredging will be subject to a code of conduct in the area of Seagull Island.</p>	<ul style="list-style-type: none"> <li>● The dredge fishery season runs between 25<sup>th</sup> May and 23<sup>rd</sup> December each year. Dredge fishing activity will not take place between the start of the key Mediterranean gull breeding period (1<sup>st</sup> April) and the 25<sup>th</sup> May.</li> <li>● The Southern IFCA 'Poole Harbour Roosting Sites Code of Practice (CoP)' aims to avoid disturbance to nesting and roosting bird species and promote the protection of supporting breeding habitat within specific areas of Poole Harbour with particular reference to avoiding disturbance of Mediterranean gulls for the period when the breeding (1<sup>st</sup> April to 1<sup>st</sup> August) overlaps with the dredge fishing</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet, Mediterranean gull, common tern, Sandwich tern, little egret and Eurasian spoonbill)	All sub-features			long-term viability.  Common and Sandwich tern nest at Brownsea Lagoon where there is no fishing access and would therefore not be exposed to disturbance.	Common tern breed at Brownsea Lagoon, which fishing vessels are unable to access.  Brownsea Island lagoon is the site of the principle and probably only nesting colony of Sandwich terns in Poole Harbour.	<p>season under the permit.</p> <ul style="list-style-type: none"> <li>The Code of Practice sets out the following in relation to Mediterranean gulls:</li> <li>Avoid dredge fishing between the three parts of Seagull Island</li> <li>Avoid contact between a vessel and any part of Seagull Island</li> <li>When moving around or between parts of Seagull Island keep speed to a maximum of 10 knots</li> <li>Avoid excessive noise, beyond that caused by deployment of gear, when in close proximity to any part of Seagull Island</li> <li>An increase in the overall area of Poole Harbour that is available to dredge activity during the sensitive period for Seagull Island will reduce the intensity and concentration of fishing activity in this area</li> </ul>
		Absence of obstructions to view lines	No increase in obstructions to existing bird view lines.	N/A	N/A	N/A
		Conservation Measures	Maintain or restore the structure, function and supporting processes associated with the feature and it's supporting habitat through	In order to manage bird disturbance in Poole Harbour the Poole Harbour Aquatic Management Plan has identified Bird Sensitive Areas, which have been	Clams and cockles are found within intertidal mudflats in overwintering bird sensitive areas and fishing takes place close to breeding bird sensitive areas for Mediterranean gulls.	<ul style="list-style-type: none"> <li>Dredge fishing activity is excluded from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake providing areas which are undisturbed for roosting and feeding bird populations throughout the year.</li> <li>During the dredge fishing season, fishing activity is</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
<p>Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet, Mediterranean gull, common tern, Sandwich tern, little egret and Eurasian spoonbill)</p>	<p>All sub-features</p>		<p>management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.</p>	<p>identified as areas where visual and noise disturbance is likely to be particularly significant to the bird features. Users are asked to avoid these areas at key time of year (Nov-Mar for overwintering bird sensitive areas and Apr-Jun for breeding bird sensitive areas) if carrying out activities that may disturb the birds.</p>		<p>excluded from the areas of Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Keyworth and parts of Arne Bay and Brands Bay during key sensitive times of year (1<sup>st</sup> Nov-24<sup>th</sup> Dec and 25<sup>th</sup> May to 1<sup>st</sup> July).</p> <ul style="list-style-type: none"> <li>• The Southern IFCA 'Poole Harbour Roosting Sites Code of Practice (CoP)' aims to avoid disturbance to nesting and roosting bird species and promote the protection of supporting breeding habitat within specific areas of Poole Harbour with particular reference to avoiding disturbance of Mediterranean gulls for the period when the breeding (1<sup>st</sup> April to 1<sup>st</sup> August) overlaps with the dredge fishing season under the permit.</li> <li>• The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.</li> <li>• The development of management through extensive consultation with stakeholders involved in the dredge fishery has helped develop proportionate management whilst achieving conservation objectives resulting higher levels of compliance with regulations.</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
<p>Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet, Mediterranean gull, common tern, Sandwich tern, little egret and Eurasian spoonbill)</p>						<ul style="list-style-type: none"> <li>At any time after the permits have been issued, the Authority may review the suitability of permit conditions, attach conditions to the permit and vary or revoke conditions attached to the permit following a set process and having regard to the Authority's duties and obligations under section 153 and 154 of the Marine and Coastal Access Act 2009, advice by Natural England, scientific data and/or any Habitats Regulations Assessment.</li> </ul>
	Shallow inshore waters	Extent and distribution of habitat	No decrease in extent from an established baseline, subject to natural change.	N/A	N/A	N/A
		Food availability	Presence and abundance of prey species should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
<p>Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet, Mediterranean gull, common tern, Sandwich tern, little egret and Eurasian spoonbill)</p>						
	<p>Intertidal sediment communities</p>	<p>Extent and distribution of supporting non-breeding habitat, seagrass</p>	<p>The extent and distribution of suitable habitat (either within or outside the site boundary) which supports the feature for all stages of the non-breeding period (moulting, roosting, loafing, and feeding) is maintained.</p>	<p>The main eelgrass beds within the intertidal sediment communities in Poole Harbour are known to support fish eating species such as red breasted mergansers as well as providing a food source for dark bellied brent geese. Physical damage could occur from shellfish dredging if it takes place within this habitat. The direct impact of shellfish dredging on seagrass beds is significant through uprooting shoots and cutting through shoots which immediately reduces seagrass</p>	<p>Bottom towed fishing gear activity is prohibited from all seagrass beds within Poole Harbour.</p>	<ul style="list-style-type: none"> <li>The Southern IFCA 'Bottom Towed Fishing Gear Byelaw' prohibits bottom towed fishing gear activity within designated seagrass beds in Whitley Lake in Poole Harbour.</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
<p>Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet, Mediterranean gull, common tern, Sandwich tern, little egret and Eurasian spoonbill)</p>	<p>Intertidal sediment communities</p>			<p>density and biomass.</p>		
		<p>Food availability (function and supporting processes)</p>	<p>Maintain availability of key prey species of preferred prey sizes which supports the feature.</p>	<p>Sediment disturbance as a result of shellfish dredging (and in combination with other activities e.g. bait digging and bait dragging) can potentially impact on bird prey availability, prey size and the birds ability to forage. This can be through removal (mortality) or target and non-target species and impacts on non-target prey availability through changes in habitat structure of the intertidal sediment communities.</p>	<p>Dredge fishing activity occurs over intertidal sediment habitat within the Harbour.</p> <p>Areas where avocet preferentially feed are relatively small heightening the importance of maintaining their key prey items in these areas (Brownsea Lagoon, Wych Lake and Middlebere Lake). The amphipod <i>Corophium volutator</i> is known to be an important prey item for avocet and has a relatively localised distribution linked to lower salinity with high densities in Middlebere Lake and the upper parts of Holes Bay.</p> <p>Dredging activity is less likely to pose a risk to the prey availability of common tern, Sandwich tern and Mediterranean gull.</p>	<ul style="list-style-type: none"> <li>• Holes Bay and the upper Wych Lake and Middlebere Lake are excluded from the fishery all year round.</li> <li>• Vessels are unable to access Brownsea Lagoon</li> <li>• Restrictions in the design of the pump and dredge used</li> <li>• Ongoing monitoring will aim to quantify impacts of activity by comparing sediment structure and benthic community composition in areas used for dredge fishing and areas excluded from the fishery.</li> <li>• Requirement to sort shellfish and return any deposits forthwith</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important populations of regularly occurring Annex 1 bird species (e.g. avocet, Mediterranean gull, common tern, Sandwich tern, little egret and Eurasian spoonbill)	Intertidal sediment communities					
	Saltmarsh	Extent and distribution of supporting non-breeding habitat	The extent and distribution of suitable habitat (either within or outside the site boundary) which supports the feature for all stages of the non-breeding period (moulting, roosting, loafing, and feeding) is maintained.	Shellfish dredging if taking place in close proximity to saltmarsh roost sites could potentially also cause erosion of this supporting non-breeding habitat.	Fishing activity does not take place within close proximity of saltmarsh.	N/A
		Extent and distribution of supporting breeding habitat	The extent, distribution and availability of suitable breeding habitat which supports feature for all stages of their breeding cycle (courtship, nesting, feeding) is maintained.	Mediterranean gulls nest primarily at Seagull Island in the Wareham channel. Shellfish dredging if taking place in close proximity to saltmarsh nesting sites could potentially cause erosion of this supporting	Shellfish dredging activity is known to occur in proximity to Seagull Island, the shallow nature of the area and pattern of dredging activity means vessels most likely to be operating at slow speed in this area.  No fishing vessels are able to access Brownsea Lagoon.	<ul style="list-style-type: none"> <li>The dredge fishery season runs between 25<sup>th</sup> May and 23<sup>rd</sup> December each year. Dredge fishing activity will not take place between the start of the key Mediterranean gull breeding period (1<sup>st</sup> April) and the 25<sup>th</sup> May.</li> <li>The Southern IFCA 'Poole Harbour Roosting Sites Code of Practice (CoP)' aims to avoid disturbance to nesting and roosting bird species and</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURING	PREVENTATIVE MEASURES
	Saltmarsh			breeding habitat.  Common and Sandwich tern nest at Brownsea Lagoon where there is no fishing access.		<p>promote the protection of supporting breeding habitat within specific areas of Poole Harbour with particular reference to avoiding disturbance of Mediterranean gulls for the period when the breeding (1<sup>st</sup> April to 1<sup>st</sup> August) overlaps with the dredge fishing season under the permit.</p> <ul style="list-style-type: none"> <li>• Increase in overall area of the Harbour available to dredge activity during the sensitive period for Seagull Island will reduce intensity and concentration of activity in this area</li> </ul>
		Food availability	Presence and abundance of prey species should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A
		Vegetation characteristics	Vegetation height throughout areas used for roosting should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A
	Reedbed	Extent and distribution of habitat	No decrease in extent from an established baseline, subject to natural change.	N/A	N/A	N/A

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Water bird Assemblage	All Habitats	Disturbance caused by human activity (minimising disturbance)	The frequency, duration and/or intensity of disturbance affecting foraging and roosting should not reach a level that substantially affects the feature.	Shellfish dredging activity can cause noise and visual disturbance (either alone or in combination with other plans and projects) to the feature when taking place at key times of the year for the overwintering species and in proximity to important feeding and roosting sites. The significance of this disturbance is likely to depend on the availability of alternative undisturbed areas for birds; and the frequency, seasonality and intensity at which shellfish dredging takes place.	<p>Shellfish dredging activity will be restricted during key sensitive overwintering period, fishery closed between 24<sup>th</sup> December and 25<sup>th</sup> May inclusive each year</p> <p>Shellfish dredging in overwintering, feeding and roosting sites restricted during key times of year</p> <p>No Shellfish dredging occurring in Lytchett Bay, Holes Bay, upper Wych Lake and Middlebere Lake at any time</p> <p>Shellfish dredging activity restricted to between 06:00 and 18:00</p>	<ul style="list-style-type: none"> <li>• The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.</li> <li>• Dredge activity prohibited during most sensitive seasonal period, 24<sup>th</sup> Dec to 25<sup>th</sup> May inclusive</li> <li>• Exclusion of dredging from overwintering, feeding and roosting bird sensitive areas at key times of year</li> <li>• Inclusion of additional bird sensitive area to those named in Poole Harbour Aquatic Management Plan at Brands Bay</li> <li>• Exclusion of dredging year round from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake providing alternative undisturbed areas for bird species and reducing disturbance in particularly sensitive areas</li> <li>• Daily temporal restriction to dredging, only permitted between 06:00 and 18:00</li> <li>• Restrictions in the design of the pump and dredge used</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Black tailed Godwit	All Habitats	Disturbance caused by human activity (minimising disturbance)	The frequency, duration and/or intensity of disturbance affecting foraging and roosting should not reach levels that substantially affects the feature.	<p>Significant numbers of black tailed godwit are present between September and March.</p> <p>Shellfish dredging activity can cause noise and visual disturbance (either alone or in combination with other plans and projects) to the feature when taking place at key times of year for the overwintering and in proximity to important feeding and roosting sites. The significance of this disturbance is likely to depend on the availability of alternative undisturbed areas for birds; and the frequency and intensity at which shellfish dredging takes place.</p> <p><b>Location of main roost sites:</b> other than Brownsea Lagoon and Middlebere Creek (where the birds roost at the edge of</p>	<p>Shellfish dredging activity restricted during key sensitive overwintering period, fishery closed between 24<sup>th</sup> December and 25<sup>th</sup> May inclusive each year</p> <p>Shellfish dredging in overwintering, feeding and roosting sites restricted during key times of year</p> <p>No Shellfish dredging occurring in Lytchett Bay, Holes Bay, upper Wych Lake and Middlebere Lake at any time</p> <p>Shellfish dredging activity restricted to between 06:00 and 18:00</p>	<ul style="list-style-type: none"> <li>• Upper Middlebere Lake excluded from the fishery year round</li> <li>• No vessels are able to access Brownsea Lagoon</li> <li>• The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.</li> <li>• Dredge activity prohibited during most sensitive seasonal period, 24<sup>th</sup> Dec to 25<sup>th</sup> May inclusive</li> <li>• Exclusion of dredging from overwintering, feeding and roosting bird sensitive areas at key times of year</li> <li>• Inclusion of additional bird sensitive area to those named in Poole Harbour Aquatic Management Plan at Brands Bay</li> <li>• Exclusion of dredging year round from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake providing alternative undisturbed areas for bird species and reducing disturbance in particularly sensitive areas</li> <li>• Daily temporal restriction to dredging, only permitted between 06:00 and 18:00</li> <li>• Restrictions in the design of the pump and dredge used</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Black tailed Godwit	All Habitats			<p>the water or partly immersed) this wader normally roosts on <i>Spartina</i> saltmarsh with occasional small groups occurring on wet agricultural land (Pickess, 2007).</p> <p><b>Main foraging areas:</b>  Normally this is a nomadic species within the Harbour. Flocks tend to congregate in one bay to feed for a number of days or weeks before moving on to another bay or creek. Their roost attendance is thus limited to the area in which they are feeding (Morrison, 2002).  With the exception of Brownsea Lagoon it was noted that preferred feeding sites were all in areas of fine silt and had medium to high biomass of <i>Hediste diversicolor</i> (Pickess, 2007).</p>		

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Shelduck	All Habitats	Disturbance caused by human activity (minimising disturbance)	The frequency, duration and/or intensity of disturbance affecting foraging and roosting should not reach levels that substantially affects the feature.	Shellfish dredging activity can cause noise and visual disturbance (either alone or in combination with other plans and projects) to the feature when taking place at key times of the year for the overwintering species and in proximity to important feeding and roosting sites. The significance of this disturbance is likely to depend on the availability of alternative undisturbed areas for birds; and the frequency, seasonality and intensity at which shellfish dredging takes place.	<p>Current concerns that Shelduck are declining in Poole Harbour and that trends do not mirror those seen nationally and regionally and are therefore likely to be linked to site specific pressures.</p> <p>Significant numbers of shelduck are present between October and March.</p>	<ul style="list-style-type: none"> <li>• Upper Middlebere Lake excluded from the fishery year round</li> <li>• No vessels are able to access Brownsea Lagoon</li> <li>• The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.</li> <li>• Dredge activity prohibited during most sensitive seasonal period, 24<sup>th</sup> Dec to 25<sup>th</sup> May inclusive</li> <li>• Exclusion of dredging from overwintering, feeding and roosting bird sensitive areas at key times of year</li> <li>• Inclusion of additional bird sensitive area to those named in Poole Harbour Aquatic Management Plan at Brands Bay</li> <li>• Exclusion of dredging year round from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake providing alternative undisturbed areas for bird species and reducing disturbance in particularly sensitive areas</li> <li>• Daily temporal restriction to dredging, only permitted between 06:00 and 18:00</li> <li>• Restrictions in the design of the pump and dredge used</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
<p>Internationally important assemblage including internationally important populations of migratory species</p>	<p>All Habitats</p>	<p>Supporting habitat: food availability within supporting habitat</p>	<p>Maintain availability of key prey species at preferred prey sizes.</p>	<p>Sediment disturbance as a result of shellfish dredging (and in combination with other activities e.g. bait digging and bait dragging) can potentially impact on bird prey availability, prey size and the birds ability to forage. This can be through removal (mortality) or target and non-target species and impacts on non-target prey availability through changes in habitat structure of the intertidal sediment communities.</p>	<p>Activity occurs over intertidal sediment habitat within the Harbour.</p> <p>Shelduck feed throughout the Harbour but favoured sections are Keyworth, Holes Bay and Brands Bay (Pickess, 2007).</p> <p>Significant numbers occur October to March.</p>	<ul style="list-style-type: none"> <li>• Dredge activity prohibited during most sensitive seasonal period, 24<sup>th</sup> Dec to 25<sup>th</sup> May inclusive</li> <li>• Exclusion of dredging from overwintering, feeding and roosting bird sensitive areas at key times of year including Keyworth.</li> <li>• Inclusion of additional bird sensitive area to those named in Poole Harbour Aquatic Management Plan at Brands Bay</li> <li>• Exclusion of dredging year round from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake providing alternative undisturbed areas for bird species and reducing disturbance in particularly sensitive areas</li> <li>• Restrictions in the design of the pump and dredge used</li> <li>• Ongoing monitoring will aim to quantify impacts of activity by comparing sediment structure and benthic community composition in areas used for dredge fishing and areas excluded from the fishery.</li> <li>• Requirement to sort dredge contents and return any deposits forthwith.</li> </ul>
		<p>Landform</p>	<p>Maintain the density of channel networks within intertidal feeding areas for black tailed godwits.</p>	<p>Intense fishing could possibly alter the natural channel networks through a change in topography.</p>	<p>No intense activity over areas defined for distribution of feeding black tailed godwit.</p>	<ul style="list-style-type: none"> <li>• Increase of overall area of the Harbour available for dredging reducing intensity over any one specific site</li> <li>• Restriction of effort allows better management of clam and cockle</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important assemblage including internationally important populations of migratory species	All Habitats					populations, leading to greater densities over a wider area reducing area specific intensity.
		Conservation Measures	Maintain or restore the structure, function and supporting processes associated with the feature and it's supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.	That permit conditions are not complied with or undermined or are unsuitable, resulting in reduced ability to maintain or restore the structure, function and supporting processes associated with the feature and supporting habitats. In order to manage bird disturbance in Poole Harbour the Poole Harbour Aquatic Management Plan has identified bird sensitive areas where visual and noise disturbance is likely to be particularly significant to the bird features. Users are asked to avoid these areas at key times of the year (Nov-Mar for overwintering bird sensitive areas and	Ability to review, attach, revoke or vary permit conditions by Authority removes the impact of permit conditions being unsuitable over a long time period  Improved ability to enforce permit conditions, reducing impact of unregistered/unlicensed activity	<ul style="list-style-type: none"> <li>• Dredge fishing activity is excluded from Holes Bay, Lytchett Bay, upper Wych Lake and Middlebere Lake providing areas which are undisturbed for roosting and feeding birds all year round.</li> <li>• During the dredge fishing season, activity is excluded from the areas of Wych Lake, Middlebere Lake, Newton Bay, Ower Bay, Keyworth and parts of Arne Bay and Brands Bay during key sensitive times of year (1<sup>st</sup> Nov-24<sup>th</sup> Dec and 25<sup>th</sup> May to 1<sup>st</sup> July).</li> <li>• The Southern IFCA 'Poole Harbour Roosting Sites Code of Practice (CoP)' aims to avoid disturbance to nesting and roosting bird species and promote the protection of supporting breeding habitat within specific areas of Poole Harbour with particular reference to avoiding disturbance of Mediterranean gulls for the period when the breeding (1<sup>st</sup> April to 1<sup>st</sup> August) overlaps with the dredge fishing season under the permit.</li> <li>• The number of permits issued reflects the current number of permit entitlements issued for the 2015-16 season. Improved</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important assemblage including internationally important populations of migratory species	All Habitats			Apr-Jun for breeding bird sensitive areas) if carrying out activities that may disturb the birds.		<p>regulation prohibits unlicensed/unregistered dredging activity and allows more effective enforcement of legislation.</p> <ul style="list-style-type: none"> <li>• Development of management through extensive consultation with stakeholders involved in the dredge fishery helped develop proportionate management whilst achieving conservation objectives resulting in better compliance with the regulations.</li> <li>• At any time after the permits have been issued, the Authority may review the suitability of permit conditions, attach conditions to the permit and vary or revoke conditions attached to the permit following a set process and having regard to the Authority's duties and obligations under section 153 and 154 of the Marine and Coastal Access Act 2009, advice by Natural England, scientific data and/or any Habitats Regulations Assessment.</li> </ul>

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important assemblage including internationally important populations of migratory species	All Habitats					
	Shallow inshore waters inc. lagoons	Extent and distribution of habitat	No decrease in extent from an established baseline, subject to natural change.	N/A	N/A	N/A
		Food availability	Presence and abundance of food species should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A
Intertidal sediment communities	Extent and distribution of supporting non-breeding habitat, seagrass	The extent and distribution of suitable habitat (either within or outside the site boundary) which supports the feature for all stages of the non-breeding period (moulting, roosting, loafing, and feeding) is maintained.	The main eelgrass beds within the intertidal sediment communities in Poole Harbour are known to support fish eating species such as red breasted mergansers as well as providing a food source for dark bellied brent geese. Physical damage could occur from shellfish dredging if it takes place within this habitat. The direct impact of shellfish dredging on seagrass beds is significant through	Bottom towed fishing gear activity prohibited from seagrass beds in Poole Harbour.	<ul style="list-style-type: none"> <li>• Southern IFCA 'Bottom Towed Fishing Gear Byelaw' prohibits bottom towed fishing gear activity within designated seagrass beds in Whitley Lake in Poole Harbour.</li> </ul>	

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important assemblage including internationally important populations of migratory species	Intertidal sediment communities			uprooting shoots and cutting through shoots which immediately reduces seagrass density and biomass.		
		Food availability (function and supporting processes)	Maintain availability of key prey species of preferred prey sizes which supports the feature.	Sediment disturbance as a result of shellfish dredging (and in combination with other activities e.g. bait digging and bait dragging) can potentially impact on bird prey availability, prey size and the birds ability to forage. This can be through removal (mortality) or target and non-target species and impacts on non-target prey availability through changes in habitat structure of the intertidal sediment communities.	Activity occurs over intertidal sediment habitat within the Harbour.	<ul style="list-style-type: none"> <li>• Dredge gear type restrictions under permit conditions restrict species that can be taken</li> <li>• Ongoing monitoring will aim to quantify impacts of activity by comparing sediment structure and benthic community composition in areas used for dredge fishing and areas excluded from the fishery.</li> </ul>
		Absence of obstructions to view lines	No increase in obstructions to existing view lines.	N/A	N/A	N/A

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important assemblage including internationally important populations of migratory species	Saltmarsh	Extent and distribution of supporting non-breeding habitat	The extent and distribution of suitable habitat (either within or outside the site boundary) which supports the feature for all stages of the non-breeding period (moulting, roosting, loafing, and feeding) is maintained.	Shellfish dredging if taking place in close proximity to saltmarsh roost sites could potentially also cause erosion of this supporting non-breeding habitat.	N/A	N/A
		Food availability	Presence and abundance of crustaceans, annelids, fish and molluscs should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A

FEATURE	SUPPORTING HABITATS	ATTRIBUTE	TARGET	POTENTIAL IMPACT	NATURE AND LIKELIHOOD OF IMPACT OCCURRING	PREVENTATIVE MEASURES
Internationally important assemblage including internationally important populations of migratory species	Saltmarsh	Food Availability	Presence and abundance of soft leaved and seed bearing plants should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A
		Vegetation characteristics	Vegetation height throughout the areas used for roosting should not deviate significantly from an established baseline, subject to natural change.	N/A	N/A	N/A
		Absence of obstructions to viewlines	No increase in bird obstructions to existing viewlines.	N/A	N/A	N/A