AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 9.1 Fish and Shellfish Consultation Responses

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

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TABLE 1: SCOPING RESPONSES

Consultee	Scoping Opinion ID/Page	Summary of Comment Received	How this has been addressed by the Applicant
Planning Inspectorate ('PINS')	4.4.2	The Inspectorate notes that no study area is defined in the Scoping Report. The study area should be clearly defined and justified in the Environmental Statement ('ES'). Supporting figures should be provided, such as the location of spawning and nursery grounds.	The study area has been defined in this ES chapter (see Figure 9.1 of the ES Volume 2 (document reference 6.2.9.1)).
PINS	4.4.3	It is noted that baseline section of the Scoping Report does not clearly identify the conservation status of the fish and shellfish species discussed. The ES should identify, value, and assess impacts on protected species and species of conservation concern, where significant effects are likely.	The conservation status, value and impacts on protected species and species of conservation concern have been identified in Sections 9.5 and 9.6 of this ES chapter. The impacts to species have been assessed in this chapter, and a Habitat Regulations Assessment ('HRA') Report (Document reference 6.8.1) is provided as part of the Application.
PINS	4.4.4	Appropriate cross-referencing between this aspect chapter and other relevant aspects, such as physical processes and marine water and sediment quality, should be included in the ES.	Cross referencing to relevant aspects in other chapters has been applied to this ES chapter.

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Marine Management Organisation ('MMO')	2.1	Further to advice stated in the MMO Environmental Impact Assessment (EIA) Scoping Opinion of 22 June 2018, the MMO notes that reference to *Maja squinado* (the scientific name which preceded *Maja brachydactyla*) has been edited to superfamily level, *Majoidea*. The MMO also notes that potential impacts to egg-bearing shellfish, such as the edible crab (*Cancer pagurus*), will be considered in the ES.	Egg bearing shellfish (crab and lobster) are considered in Section 9.6 of this ES chapter.
MMO	2.3	Temporary habitat disturbance, temporary increase in suspended sediments, noise and vibration, and habitat loss have been scoped in. The MMO agrees with these conclusions and would expect to see associated temporary loss of fishing grounds to be given mitigation consideration through the EIA process.	Theses impacts have been considered in Section 9.6 of this ES chapter. Loss of fishing grounds is assessed within Chapter 12 (Commercial Fisheries) of the ES Volume 1 (document reference 6.1.12) and mitigation is proposed.
MMO	2.4	During the scoping process, it is anticipated that interested parties will be to provide additional datasets that can be incorporated into the baseline surveys and assessments, where appropriate. The MMO acknowledges that a significant proportion of activity within the area is conducted by vessels smaller than 10 metres (RSK Environment Ltd.,	Table 9.2 below and Table 12.2 within Chapter 12 (Commercial Fisheries) provides the details of the additional consultation undertaken to date with fisheries stakeholders. The information collected during these consultations has

Consultee	Scoping Opinion ID/Page	Summary of Comment Received	How this has been addressed by the Applicant
		2010), which highlights the importance of consultation with local fisherman and both Southern and Sussex Inshore Fisheries and Conservation Authorities (IFCAs) to gain data and information on this fleet.	been used to inform this chapter as well as Chapter 12 (Commercial Fisheries).
MMO	2.5	Details of quality standards have not been provided, which is to be expected at this stage. The MMO expects these to be detailed in the ES. This is further clarified in Table E2 of the scoping report.	Chapter 7 (Marine Water and Sediment Quality) of the ES Volume 1 (document reference 6.1.7) presents the findings of the potential impacts of the Proposed Development on water and sediment quality.
Natural England ('NE')	Page 4	Habitat loss from (operation) has been listed as a potential impact for the receptors; intertidal and benthic ecology and fish and shellfish. The loss from the initial construction stage would be regarded as a one off event in comparison to any habitat loss impacts from the operation stage. On this basis, Natural England recommends that habitat loss during the construction phase should be scoped in for the appropriate receptors.	Section 9.6 of this ES chapter assesses habitat loss as a temporary impact resulting from the temporary mattressing for Horizontal Directional Drilling ('HDD') works during the construction stage. Permanent habitat loss resulting from the longer term placement of non-burial cable protection is assessed during operational stage.
NE	Section 1.8	In addition to impacts on the designated sites listed above, the EIA will need to consider the potential impacts upon habitats or species listed within the	Native oysters have been described within Section 9.5 and assessed within Section 9.6 of this chapter.

Consultee	Scoping Opinion ID/Page	Summary of Comment Received	How this has been addressed by the Applicant
		UK and Hampshire Biodiversity Action Plans and suggest suitable mitigation should a negative impact arise. For example, construction work could increase suspended sediment concentrations and this could result in smothering effects on beds of native oysters (*Ostrea edulis*) within the Solent.	
Environment Agency ('EA')	Page 7	We are pleased to see the inclusion of migratory fish species in Section 9, in particular salmon, sea trout and European eel. We agree with Table 9.2, and with the proposed methodology in Section 9.4.	The baseline information for migratory fish is described within Section 9.5 and assessed within Section 9.6 of this ES chapter.

TABLE 2: CONSULTATION PRIOR TO PUBLICATION OF THE PRELIMINARY ENVIRONMENTAL INFORMATION REPORT (PEIR)

Consultee	Date (Method of Consultation)	Discussion	Summary of Outcome of Discussions
Sussex IFCA	22 June 2018 (email). 19 September 2018 (meeting in Shoreham).	Request made for several black bream reports: Sussex IFCA (2011) Side Scan sonar data of black sea bream nests. Sussex IFCA (2014) Kingmere Marine Conservation Zone ('MCZ') side scan sonar survey report. The Proposed Development was introduced. The types and ranges of the fisheries in the study area were discussed, as well as concerns about the Proposed Development.	Reports forwarded by email 23 August 2018. Additional information given about black bream nest surveys on the south-east coast of the Isle of Wight by the Southern IFCA. Detailed information on fisheries operating in the Sussex IFCA District out to 6 nmi and the byelaws that regulate fishing activities.
Southern IFCA	23 June 2018 (email). 18 September 2018 (Meeting in Poole).	Request made for information on the black bream surveys on the south-east coast of the Isle of Wight The Proposed Development was introduced. The types and ranges of	Figures and data sheet of the area surveyed and nests that were found forwarded on 6 September 2018. The data was caveated as survey conditions were difficult and data should only be used as confirmation of presence.

Consultee	Date (Method of Consultation)	Discussion	Summary of Outcome of Discussions
		the fisheries in the study area were discussed, as well as concerns about the Proposed Development.	Detailed information on fisheries operating in the Sussex IFCA District out to 6 nmi and the byelaws that regulate fishing activities.
MMO	20 September 2018, Portsmouth.	The Proposed Development was introduced. The types and ranges of the fisheries in the study area were discussed, as well as concerns about the Proposed Development.	Detailed information on fisheries in The Solent, and vessel operating practices.
Portsmouth, Isle of Wight and Selsey Fisheries Stakeholders	18 and 19 September 2018	The Proposed Development was introduced. The types and ranges of the fisheries in the study area were discussed, as well as concerns about the Proposed Development.	Detailed information on fisheries operating in the vicinity of the Proposed Development
EA	24 October 2018 (email).	Inquiry regarding migratory fish routes and data for the south coast of the UK around the Isle of Wight.	Email reply received (23 November 2018). Information given on EA data sources (Trac Fish), anecdotal reports and piling restrictions. This information has been used to inform this chapter (Section 9.5 and 9.6)

Consultee	Date (Method of Consultation)	Discussion	Summary of Outcome of Discussions
NE	Consultation on HDD methods in Langstone Harbour (teleconference and emails 16 July 2018)	NE recognised that Langstone Harbour possesses the full suite of designations and as such, features such as those (but not limited to) below will need to be given consideration: Grasslands Lagoons Strandline communities Saltmarsh Seagrass Mudflats Native Oyster Overwintering birds (noise and visual impacts) If the HDD entry and exit holes are anywhere near the marine environment that may directly affect the marine environment then NE would generally require survey work to be undertaken. However, as the HDD compound and exit and entry holes will be above Mean High Water Springs ('MHWS') (and as pollution prevention measures should be in	Noted. This chapter discusses impacts relating to the Native Oyster. Chapter 8 (Intertidal and Benthic Habitats, document reference 6.1.8) and Chapter 16 (Onshore Ecology, document reference 6.1.16) presents assessments on saltmarsh and seagrass and overwintering birds.

Consultee	Date (Method of Consultation)	Discussion	Summary of Outcome of Discussions
		place in the HDD compound above MHWS) then NE has advised that it would not be proportionate to ask for surveys, but that consideration to the designated features/habitats of Langstone Harbour can be undertaken by desk based assessment using datasets available in the public domain. NE has habitats datasets available on their website and the Langstone Harbour environment officer should be contacted as they hold a wealth of knowledge on the area.	

TABLE 3: PEIR CONSULTATION RESPONSES

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
MMO	The PEIR has identified sandeels as keystone species and a potentially sensitive fish receptor which was highlighted in the MMO's Scoping Opinion. The report presents a short characterisation of potential suitable habitat to support sandeels using Particle Size Analysis (PSA) data of sediments taken from samples collected for the benthic surveys. These have then been classified based on sandeel habitat preference identified by Greenstreet *et al*., (2010). The PEIR states that no samples were taken from outside the Marine Cable Route. The report states that 'only two sample locations (sampling station 24 and 41) were found to be suitable for sandeel habitat based on sandeels preference for medium and coarser sediments (0.25 to < 2.0 mm diameter)' and that both of these were in French waters. Further, the PEIR states 'no suitable habitat was identified within the Proposed Development'.	Acknowledged.
MMO	The potential effects of Electro-Magnetic Fields (EMF) emitted by the interconnector cables have only been considered for elasmobranchs. Other electrosensitive species such as salmonids and cod should also be considered in the ES. The MMO (2014) review of post-consent offshore windfarm monitoring data is referred to in Section 9.6.4.4 and details that the report concluded that here is no evidence to suggest that	This chapter has been updated to include consideration of salmon and cod (Section 9.6.5). This chapter has been updated but it is recognised that the MMO study also considers a number of Round 2 Projects.

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	EMF pose a significant risk to elasmobranchs at the site or population level, and little uncertainty remains. This conclusion is based on studies undertaken from smaller round one projects and there still remains uncertainty surrounding the potential effects of EMF for larger applications. This uncertainty must be reflected in the final ES. The MMO does however note that where possible cables will be buried (approximately 90 % of the cable route) and cable protection will be used if needed (approximately 19 km), which will reduce the EMF.	It is agreed that while there is little or no evidence of significant effects, there is still some uncertainty regarding the effects of EMF on elasmobranchs from larger cables. This is acknowledged in Section 9.6.5.
MMO	If monitoring is determined to be necessary for shellfish communities, it is important to consider the monitoring method to ensure it is appropriate for the target species (e.g. pots for crab/lobster, traps for cuttlefish, dredging for scallops).	Acknowledged. The assessment undertaken within this chapter does not identify the need for monitoring of fish and shellfish.
MMO	The approach outlined in Sections 4, 9.4 and 12.4 is sufficient and is consistent with other applications of a similar nature.	Acknowledged.
MMO	Shellfish comments raised by the MMO in our Scoping Opinion (EIA/2018/00011) have been incorporated into the PEIR.	Acknowledged.
MMO	The impacts identified are consistent with those indicated in previous shellfish advice, and the importance of shellfish within the area is highlighted.	Acknowledged.
MMO	No specific mitigation measures are detailed for shellfish ecology, and establishment of an Inshore Fisheries Working	Acknowledged. The assessment of potential impacts on Proposed Project on commercial

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	Group is proposed to mitigate impacts to the local UK inshore fleet which is welcomed. In addition, the proposal to undertake an over-trawlability assessment to mitigate against seabed obstacles, including exposed cables is also welcomed.	fisheries, and the consideration of appropriate mitigation is included within Chapter 12 (Commercial Fisheries).
MMO	It is noted that there is the potential for the works to cause disruption to spawning and nursery grounds for various fish and shellfish species within the works corridor area due to sediment displacement etc. It is noted that in Section 12.5.4.1 there is also the potential for works to effect ongoing projects, such as the Solent Oyster Restoration project by The Blue Marine Foundation.	Acknowledged.
MMO	The MMO notes that whiting spawning grounds are not presented in Figure 9.4. This should be included in the ES.	Whiting spawning grounds was presented in map a) of Figure 9.4 of the ES Volume 2 (document reference 6.2.9.4).
MMO	Table 9.7 presents a list of Valued Ecological Receptors (VER). Given the proposed cable Landfall is within Eastney in the Solent and part of the Marine Cable Corridor falls within the 12 nautical mile (nmi) inshore waters, both allis shad and twaite shad have been highlighted as VERs. Their associated Wildlife and Countryside Act 1981 ('WCA') designations should be acknowledged in the final ES. Further, seahorses are also acknowledged within the PEIR as being present along the south coast. Both the Short Snouted (*Hippocampus*	This chapter has been updated and considers these species (Section 9.5.3).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	hippocampus) and spiny seahorse (*Hippocampus guttulatus*) are also listed on the WCA, which should also be recognised within the ES.	
MMO	The MMO Scoping Opinion recommended the use of the MarineSpace *et al.,* (2013) methodology to assess the potential suitability of habitat to support sandeels. This incorporates sandeel sediment habitat preference references (Greenstreet *et al.,* 2010; Holland et al., 2005; Macer 1966; Reay 1970; Van der Kooij et al., 2008; Wright et al., 1998 and Wright et al., 2000), as well as British Geological Survey sediment data, Vessel Monitoring Systems (VMS) data, spawning habitat references (Coull et al, 1998 and Ellis *et al.,* 2012) and used the Folk classification (Folk, 1954) to determine whether habitat may be 'preferred'4 or 'marginal5' to support sandeels. According to the MarineSpace classification most of the UK Marine Cable Route PSA samples are defined as marginal sandeel habitat (Figure 10 in Appendix 8.1 of the PEIR). Further the MMO acknowledges that Figure 12.9 identifies that the sandeel fishery coincides with UK inshore section of Marine Cable Corridor which would suggest that sandeels are present in a higher density in this area. Therefore, in the MMO's opinion, the proposed development area may contain habitat which can support sandeels and should be reflected in the ES.	This chapter has been updated to include the use of MarineSpace *et al*. (2013a) methodology (Section 9.5.3) This chapter has been updated with details of the sandeel fishery (Section 9.5.3 and 9.5.5).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
MMO	The PEIR recognises that Black seabream nesting areas are present along the south coast, however, there does not appear to be any discussion of the potential effects from the proposed project upon them. The MMO recommends that potential effects on Black seabream nesting areas are considered in the ES. The MMO do however acknowledge that identified spawning areas are located away from the Marine Cable Route (Figure 9.5 of the PEIR).	Potential impacts from the Proposed Development to which black seabream are sensitive are assessed in the impact assessment in Section 9.6.
MMO	The MMO notes that Objective 12 of the South Inshore and South Offshore Marine Plan (2018) includes policies to avoid, minimise or mitigate significant adverse impacts on natural habitat and species including: S-FISH-4-HER which requires proposals to consider herring spawning mitigation in the area highlighted in Figure 26 (within the technical annex to the Plan) during the period 1 November to the last day of February annually. The PEIR identifies that herring spawning grounds are present within the study area, though Table 9.5 incorrectly identifies that they are of low intensity. Ellis *et al.,* 2012 has not assigned a spawning intensity as the herring grounds used in the report are a replication of the Coull *et al.,* (1998) grounds. IHLS data has been cited in the report with the Applicant stating that herring are present but 'not in high densities'. The MMO disagrees with this statement.	The error in Table 9.4 is acknowledged. This chapter has been updated to rectify this (Table 9.4).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
MMO	IHLS data from the southern North Sea shows that there are high larval densities recorded (refer to Annex 1 Figure 1 which presents the 2016/2017 IHLS data). The PEIR section on pelagic species does not discuss herring spawning grounds and the MMO would expect this to be included as the proposed cable route transects the downs spawning grounds (and associated areas of high and very high herring larval densities). It is stated that "due to the small area of potential impact and temporary nature, it is considered that temporary habitat disturbance/loss is not significant on herring spawning". The assessment to calculate the spatial extent of herring spawning grounds is based Ellis *et al.,* (2012) which is effectively based on Coull *et al.,* 1998 spawning grounds. The MMO does not support this approach as the calculated area can over or under-represent spawning grounds and is solely based on substrate suitability. This approach does not take into account recent IHLS larval density data (the best representation of recent spawning activity) as well as water quality, topography etc. which are also factors in areas where herring spawn. The impact assessment does not consider potential cumulative effects of this project in combination with other activities that may impact upon the downs herring population.	This chapter provides a detailed baseline on the extent of herring spawning in the English Channel (Section 9.5.3) and its potential on the Marine Cable Corridor. The chapter has been updated (Section 9.5.3) to include 2007-2017 IHLS data, and seabed suitability for spawning in addition to as Coull *et al.,* 1998 and Ellis *et al.,* 2012. The revised assessment does not calculate the spatial extent of herring spawning grounds based on Ellis *et al.,* (2012) or Coull *et al.,* (1998). A cumulative impact assessment has been undertaken and is presented in Section 9.7. This chapter already assesses disturbance to adult herring (including gravid adults) from noise and vibration. This chapter has been updated to include assessment on potential entrainment/removal of herring eggs and larvae (Section 9.6.4).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	The MMO acknowledges that potential effects of Suspended Sediment Concentrations (SSC) have been considered but disturbance to gravid adults, effects on herring spawning ground site integrity, potential entrainment/removal of herring eggs and larvae in a highly productive spawning ground has not been fully considered and needs to be further assessed in the ES.	
MMO	The PEIR has not considered or acknowledged whether dredging operations may cause entrainment of fish eggs, larvae, juveniles or adults. The MMO recommends that this is considered further in the ES.	This chapter has been updated to include assessment on entrainment by dredging activities (Section 9.6.4).
MMO	The MMO acknowledges that the PEIR has considered the following data sources that were recommended in our Scoping Opinion: Environment Agency's transitional and coastal waters (TraC) Fish Monitoring Programme surveys, the Cefas Young Fish Survey, the Solent Seabass Pre-recruit Survey, International Herring Larvae Survey (IHLS), Fish Atlas of the Celtic Sea, North Sea and Baltic Sea and Langstone Harbour Small Fish Survey. The limitations of these data sources (Table 9.3) have also been considered.	Acknowledged.
MMO	Migratory species (Atlantic salmon, sea trout, lampreys, shads, and European eel adults and elvers) which may occur within	Acknowledged.

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	the proximity of the cable throughout the year have also been considered	
MMO	Most of the impacts appear to be identified and the MMO notes that some additional assessments will be presented in the ES, including: • Assessment of impacts arising from construction and operation of flotation pits, use of a Trailer Hopper Suction Dredging ('THSD') for trenching and vessel groundings; • Assessment of impacts from increased Suspended Sediment Concentrations ('SSC's') on protected and/or sensitive features in proximity to the Marine Cable Corridor; • Assessment of potential impacts from driven ducts as part of the HDD works at Eastney on protected and/or sensitive features; • Cumulative Effects Assessment ('CEA'); • HRA for Special Area of Conservation ('SAC') with fish/shellfish interest features; and • MCZ Assessment.	This comment is acknowledged. The use of flotation pits as part of the cable installation methodology or Trailing Suction Hopper Dredger ('TSHD') for trenching is no longer proposed and is not included within Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (document reference 6.1.3). Assessment of effects from increased SSC has been undertaken in Section 9.6.3 informed by assessment under taken within Chapter 6 (Physical Processes) of the ES Volume 1 (document reference 6.1.6) which includes plume dispersion modelling for dredge disposal activities. Sediment plume dispersion modelling has been undertaken and is presented within Appendix 6.2 (Modelling Technical Report) of the ES Volume 3 (document reference 6.3.6.2).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
		The grounding of installation vessels has been assessed under temporary habitat disturbance/loss in this chapter (Section 9.6.4) An assessment of potential impacts from driven ducts as part of the HDD works has been assessed in Section 9.6.4 of this chapter. A cumulative impact assessment has been undertaken and is presented in Section 9.7 A HRA Report (document reference 6.8.1) has been produced and supports the Application. A MCZ Assessment has been produced in support the Application and is presented as Appendix 8.5 (Marine Conservation Assessment) of the ES Volume 3 (document reference 6.3.8.5).
MMO	Embedded mitigation measures have not been fully resolved at this stage as the design is still evolving. It is assumed that mitigation measures embedded into the design (e.g. cable burial, use of appropriate construction techniques, pollution prevention measures) or which constitute industry standard environmental plans and best practice will be in place. Embedded mitigation has been included within the assessments, though not all assessments are completed, it is	Acknowledged. This chapter has been updated to include embedded mitigation measures (Sections 9.6.2) with no further mitigation requirements have been identified (Section 9.9).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	recognised that the need for mitigation measures may need to be revisited.	
MMO	Once a suitable/appropriate herring assessment has been completed and presented in the ES it can be determined whether species specific mitigation measures are required.	This chapter has been updated to include IHLS data to inform the assessment (Section 9.5.3).
MMO	The PEIR has focused on the UK side of the English Channel median line in terms of fish characterisation, which is appropriate. The report states that no potential transboundary effects have currently been identified in UK waters and fish assemblage composition is similar on both sides of the channel.	Acknowledged.
MMO	The MMO notes that Figure 12.9 identifies that the sandeel fishery coincides with the UK inshore section of Marine Cable Corridor. The MMO recommends that the ES considers potential in combination effects to sandeel from habitat loss and fishery displacement.	The sandeel fishery, as identified by Southern IFCA, which coincides with the inshore section of the Marine Cable Corridor is not a commercial fishery, but an area where sandeels are collected as angling fishing bait. This chapter has been updated to reflect the presence of sandeel and the potential effect from temporary habitat disturbance/loss (Section 9.5 and 9.6). Any potential effect of displacement of inshore fisheries is assessed in Chapter 12 (Commercial Fisheries).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
		The cumulative effects of other projects/plans are assessed in Section 9.7; this section also considers the interaction of combined effects on receptors. An in combination assessment has also been undertaken in relation to HRA. This assessment assesses the potential significant in combination effects on features of designated sites, of which sandeels are not included, as they are not designated features.
MMO	In the fish matrix cumulative assessment, presented in Appendix 9.1, all marine aggregate licence areas are scoped out of a stage 3 and 4 assessment as the 'addition of the activities undertaken as part of the Proposed Development will not significantly add to the impact of the dredge activity that will be ongoing within the aggregate extraction zone'. It is noted that it is anticipated that approximately 600,000 to 1,700,000 m^3 of sediment along the Marine Cable Corridor will need to be cleared by Mass Flow Excavator and/or dredging with 200 vessel movements and predicted plume extent of no more than 2 km. Some aggregate licence areas are located within 2 km to the proposed cable route and therefore considerate should be considered whether there is the potential for cumulative effects between the proposed interconnector installation activities and marine aggregate dredging.	The long list of cumulative projects has been updated (see Appendix 9.2 (Fish and Shellfish Cumulative Assessment Matrix) of the ES Volume 3 (document reference 6.3.9.2), Chapter 29 (Cumulative Effects) of the ES Volume 1 (document reference 6.1.29) and Figures 29.1-29.5 of the ES Volume 2 (document references 6.2.29.1 to 6.2.29.5)). The cumulative assessment has been updated to include consideration of aggregate dredging sites as shown in Figure 29.3.

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
MMO	Table 9.7 provides a description of the stock status (stable/declining) for the VER's identified. The categorisations for some of species listed appears to be incorrect (e.g. undulate ray which is currently undefined (ICES, 2018)). It is presumed some of this information is obtained from ICES stock assessments, but it is not clear from the PEIR whether this is the case. The source information for these designations should be confirmed in the final ES alongside full references.	This chapter has been updated to include the stock assessment reference (see Table 9.8).
MMO	The MMO notes that Section 9.5.4.6 states that "Commercial fisheries data shows that 'shad' are caught in both the coastal and offshore ICES rectangles, confirming they are widespread across the Channel". Shad cannot be commercially targeted in UK coastal waters, furthermore shad cannot be intentionally harmed or killed within coastal waters (12 nm fishery limit) due to their protection under WCA. When reviewing and presenting commercial fisheries data within the ES it should be acknowledged where there are limitations in the data and consideration should be given to whether catch rates may be influenced by protection measures or fishing restrictions. In this specific case that shad landings in 30E8 and 30E9 will be limited due to their protection under WCA and that therefore this data is not entirely representative of shad distributions within these rectangles, which should be reflected in the final ES.	Acknowledged. Any limitations to the data used that could arise from protection under the WCA has been reflected in the chapter.

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
MMO	European smelt abundance and distribution is discussed in Section 9.5.4.10 and states that 'European smelt are recorded as being commercially landed from ICES Division VII.7.d but were absent from surveys undertaken by CEFAS and both Sussex and Southern IFCAs'. However, survey sampling methodology and gear selectivity are likely to affect catchability of non-target species; the Cefas survey data used to inform the report are not designed to capture or suitable to specifically target smelt. The limitations and suitability of survey design for targeting species should be considered when discussing survey data that is being used to infer species' distribution and abundance. This should be reflected in the final ES.	This chapter has been updated to reflect the limitations of data sources (Table 9.2).
NE	Natural England welcomes the application of Chartered Institute of Ecology and Environmental Management ('CIEEM') guidelines to inform the assessment methodology. We have reviewed this methodology and agree with the approach taken to identify and assess potential impacts upon Valued Ecological Receptors ('VERs').	Acknowledged.
NE	We note that assessments for fish and shellfish do not consider the following methods, as described in Chapter 3 – Description of the Proposed Development:	This comment is acknowledged. The use of flotation pits as part of the cable installation methodology or TSHD for cable trenching is no longer proposed and is not

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	• Use of flotation pits to enable installation vessels to approach closer to shore; • Grounding of installation vessels on the seabed at low tide; • Use of a Trailing Suction Hopper Dredger ('TSHD') vessel to create the trench for pre-lay installation; and • Potential driving of four ducts into the seabed at HDD marine exit/entry at Eastney Landfall (approx. 1-1.6 km off the coast at Eastney). It is understood that a more detailed assessment of potential significant impacts on sensitive receptors will be undertaken and presented in the ES; and a Habitats Regulations Assessment ('HRA') Report will also be provided as part of the final application. Given the proximity of some of these methods to the shoreline, we would highlight the importance of assessing potential noise/vibration and suspended sediment impacts upon fish species which are known to migrate along the coast (i.e. Atlantic salmon and sea trout).	included within Chapter 3 (Description of the Proposed Development). Assessment of effects from increased SSC has been undertaken in Section 9.6.4 informed by the assessment under taken within Chapter 6 (Physical Processes) including plume dispersion modelling. Sediment plume dispersion modelling has been undertaken and is presented within Appendix 6.2 Modelling Technical Report of the ES. An assessment of potential impacts from driven ducts as part of the HDD works has been assessed in Section 9.6.4 of this chapter. The grounding of installation vessels has been assessed under temporary habitat disturbance/loss in this chapter (Section 9.6.4). An assessment of potential impacts from driven ducts as part of the HDD works has been assessed in Section 9.6.3 of this chapter. Those fish migratory fish species which are sensitive to noise and vibration and SSC which use the inshore area for migration are assessed in this chapter (Section 9.6.4). Species that are

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
		Annex II features of designated sites are all assessed within the HRA Report which supports the Application.
NE	Similarly, we note that the impact to SAC and Marine Conservation Zone ('MCZ') features from increased SSC is not included within the PEIR document due to a lack of suitable resolution in the model outputs in these nearshore areas. The assessment of these features will be undertaken in line with further refinement in the deposit locations of dredged material (paragraph 9.6.3.32). We recommend that the Applicant liaises with the Environment Agency to determine the importance of these nearshore areas to migratory species which are designated features of the River Avon SAC and River Itchen SAC. Additionally, the assessment of potential SSC impacts upon the short-snouted seahorse should be informed by data for the Bembridge proposed Marine Conservation Zone ('pMCZ') and Selsey Bill and the Hounds pMCZ. These data are available via Defra's published consultation on sites proposed for designation in the third tranche of Marine Conservation Zones.	Acknowledged. The EA has been consulted regarding the importance of the nearshore areas to migratory fish. In addition, the data sources identified have been used in the MCZ assessment for SSC on short-snouted sea horse, where relevant.
NE	We note that an assessment of the potential effects of the Proposed Development on MCZs has not been included in the PEIR, but will be undertaken and presented as part of the final ES. We have reviewed the MCZs that have been screened in	Acknowledged. Poole Rocks MCZ has been included in Appendix 8.5 (Marine Conservation Zone assessment).

Consultee	Summary of Comment Received	How this has been addressed by the Applicant
	to the fish and shellfish assessment (Table 9.6, page 9-27) and are satisfied that the correct sites have been identified. However, it should be noted that Poole Rocks is also a proposed Marine Conservation Zone for nesting black seabream, which should be included in this assessment	
NE	The assessment identifies a potential impact upon native oyster resulting from temporary habitat disturbance/loss, but concludes that this impact is not significant. This conclusion is based on the reasoning that the impacted area represents a small proportion of the available habitat so, although oysters may be affected, the numbers are likely to be low (paragraph 9.6.3.13). Similarly, the assessment acknowledges that oysters may be subject to a temporary increase in suspended sediments and smothering during construction, but such areas are likely to be highly localised and return to within comparable background concentrations within a short time frame (days). As such, this impact is not considered to be significant (paragraph 9.6.3.35). It should be noted that the Solent's native oyster population is severely depleted; and efforts are being made by the Blue Marine Foundation to restore this species. Given that the native oyster is identified as having a high sensitivity to disturbance, smothering and increases in SSC, we recommend that should oysters be present in the Solent section of the Marine Cable Corridor, measures should	Acknowledged. Consultation with the Southern IFCA via email (12 June 2019) has been undertaken to assess if the cable route passes through any oyster beds. Spatial data was provided by the Southern IFCA (25 July 2019) and all oyster beds identified were in the Solent and Southampton Water. None of the oyster beds identified overlapped or are within the vicinity of the Proposed Development. Therefore, no direct impacts on known oyster beds are considered to occur. As numbers of oysters within the Marine Cable Corridor are likely to be low, and translocation is not required. SSC from HDD activities and cable installation in the Solent is expected to be 200 mg/l for 1 km which is within natural variation. Smothering is not expected to extend beyond the Marine Cable Corridor. Therefore, effects on oysters are not significant

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	be taken to mitigate potential impacts. One option of mitigation is to apply the Southern IFCA's Oyster Translocation Protocol prior to construction commencing. Therefore, we recommend that the Applicant liaises with the Southern IFCA to ascertain the potential presence of oysters and explore the feasibility of applying this protocol.	
EA	Further assessment is required in relation to the impacts on migratory fish, in particular from noise and vibration on certain species such a Sea Trout, Salmon and Eel.	Acknowledged. This chapter has been updated to include the effect of noise and vibration on sea trout, salmon and eel (Section 9.6.4)
EA	Section 9.4.4.3. Should any of the methods listed in this section, or any alternatives be selected or proposed, then these will need to be assessed and included in the ES.	The use of flotation pits for construction/installation of the cables and use of TSHD for trenching is no longer proposed. The grounding of installation vessels has been assessed under temporary habitat disturbance/loss in Section 9.6.4. An assessment of potential impacts from driven ducts as part of the HDD works has been assessed in Section 9.6.4 of this chapter.
EA	Section 9.4.4.7. We agree that a Habitat Regulations Assessment ('HRA') will need to be produced and submitted as part of the Application.	Acknowledged. The HRA Report supports the Application.

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EA	Table 9.3. We agree that Transitional and Coastal waters ('TraC') surveys will partly provide a baseline of data for migratory species. As acknowledged, these surveys are only undertaken once or sometimes twice a year, and therefore may not capture all migratory species present at different times of the year. We agree that deeper water fish species are likely to be under represented.	Acknowledged.
EA	Section 9.6.3.26. We agree with the inclusion of fish and shellfish of conservation importance, namely Eel, Atlantic Salmon, Brown/Sea Trout, and other migratory fish such as River and Sea Lamprey, and Allis and Twaite Shad.	Acknowledged.
EA	Section 9.5.4.7. The presence of Sea Trout has been confirmed by observation in Langstone and Portsmouth Harbour. The presence of Salmon is also confirmed in Portsmouth Harbour as demonstrated by survey data on the River Wallington. Therefore, regard must be given for these species.	Acknowledged.
EA	Sections 9.6.3.29 & 9.6.3.52. The background concentration of suspended solids is required to enable these figures to be used in context. We also need to understand how far these suspended solids will move. Therefore, currently we are unable to agree that temporary increase in suspended solids is	This chapter has been updated and informed by the results of Chapter 6 (Physical Processes) including plume dispersion modelling undertaken for dredge disposal activities (Section 9.6).

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	not significant for Salmon and Sea Trout. This issue should be addressed within the ES.	
EA	Sections 9.6.3.53/54/55. We agree there is potential for elvers to be present within the proposed development. We agree that a temporary increase in suspended solids is not significant for Eel, Sea and River Lamprey and Twaite and Allis Shad.	Acknowledged.
EA	Section 9.6.3.60. Salmon, Sea Trout and Eel must be included as hearing specialist fish, and it must be demonstrated within the ES that there will be no impact on these species from noise and vibration.	This chapter has been updated to include consideration of potential effects from noise and vibration on salmon, sea trout and eel (Section 9.6.4).
EA	Section 9.6.3.67. Salmon and Sea Trout have not been included in this section. As hearing specialist fish, these need to be assessed against the noise and vibration generated by HDD. If these are to be screened out, then evidence needs to be provided. Such evidence can be provided by a review of relevant literature.	This chapter has been updated to include consideration of potential effects from noise and vibration on salmon and sea trout (Section 9.6.4).
EA	Section 9.6.4.2. The potential impact of EMF on migratory salmonids has not been included. If these are to be screened out then evidence needs to be provided. Such evidence can be provided by a review of relevant literature.	This chapter has been updated to include assessment of the potential effects of EMF on migratory salmonids (Section 9.6.5).
EA	Table 9.7. Species of commercial importance should also include Brown Trout (rod and line) and Eel (commercial eel fishery).	Both the brown trout (rod and line) and eel fishery (commercial eel fishery) are conducted in a riverine environment with no overlap with the

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		Proposed Development. Therefore, no connectivity exists with these fisheries. They are not therefore considered in this chapter (or Chapter 12 (Commercial Fisheries)) as species of commercial importance. The potential impacts on eels and brown trout have been assessed in this chapter.
EA	Table 9.8. Cable depth is cited as being between 0.6 and 5.1 metres. It is unclear how the depth of cable will be determined at any given location. This should be specified within the ES. The likelihood of impact, on migratory fish, from suspended solids and/or others, is increased the deeper the depth of the trench.	Cable burial depth is dependent on seabed conditions. Cable burial depths are informed by a project specific Cable Burial Risk Assessment and discussed in Chapter 3 (Description of the Proposed Development). The effects of increased SSCs resulting from construction activities on migratory fish is assessed in this chapter (Section 9.6.4). The potential for likely significant effects from increased SSC on Annex II migratory fish is also assessed within the HRA Report which supports the Application.
EA	Table 9.9. This table will need to be re-assessed in light of our comments in regard to Chapter 9.	The summary of effects table (Table 9.13) has been updated to reflect the additional receptors included in the assessment.

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EA	Section 9.9.1.6. We agree that cumulative effects of this and other projects needs to be included in the ES.	Acknowledged. See Section 9.7.
EA	Section 9.9.1.10 We cannot agree with the conclusion of no potentially significant effects until our comments in regard to Chapter 9 are addressed.	Acknowledged.
EA	Section 9.10.1.1 We agree that an HRA is required for SAC's with fish features listed.	Acknowledged. The HRA Report supports the Application.
Southern IFCA	Within the Southern IFCA district the proposed works have the potential to interact with the Solent Maritime SAC, and the Chichester and Langstone Harbour SPA, as well as the associated SSSI's and RAMSARs. Considering the proposals, the decision to use HDD to travel underneath Langstone Harbour in particular is one the Authority supports. Due to the various environmental designations the area the cable would travel in the North West of the Harbour is closed to Bottom Towed Fishing Gear and the protection the area is afforded as a result would be jeopardised if works were to be undertaken over the intertidal areas. The use of HDD is also considered appropriate method avoiding significant interaction with the Solent Maritime SAC outside of Langstone Harbour seaward from Landfall of the cable.	Acknowledged.

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Cachalot Charters	With view to our activity in the area behind the Nab Tower down to the puller buoy, this area we mainly fish in spring (May to August as this is the migration season for smooth-hound and tope, also the time black bream come to breed at Bullock Patch. The proposal undertaken at these time would cause determent to the fish. The least damage would occur if this section was arranged in winter.	Impacts to black seabream, specifically on the Bullock Patch, and on tope and smooth-hounds are considered in this chapter (Section 9.6).
Bembridge Angling Club	The planned route seems to go right across the area known as "Bullocks Patch". Bullocks Patch is one of the few nesting areas for Black Bream between the Nab Tower & Selsey Bill. Sussex IFCA has been heavily involved in protecting the Black Bream breeding site further east at Kingmere Rocks so it would be very unfortunate if your planned route could not be moved so as to pass significantly east of Bullocks Patch. From the point of view of the members of Bembridge Angling Club, I see no other major issues with the proposed route.	Impacts to black seabream, specifically on the Bullock Patch, and on tope and smooth-hounds are considered in this chapter (Section 9.6).