

PROJECT:

Fenit Deep Water Berth Maintenance Dredging MMO Report

PREPARED BY: Sarah Madden

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Executive Summary

Mizen Archaeology Ltd. was contracted by *Kerry County Council* to conduct Marine Mammal Observations for maintenance dredging works of the deep-water berth in Fenit Harbour in Co. Kerry relating to foreshore license FS007041 and dumping at sea licence S0007-03. The works were carried out during the period between 22 April and 16 May 2021.

The operations comprise of dredging, ploughing, and disposal at sea.

A total observation effort of 113 hours and 45 minutes was accrued over the course of the project by a dedicated MMO trained to JNCC standards, with 161 hours and 50 minutes of sound-producing activities.

Grey and Harbour seals were the majority of sightings within and beyond the mitigation zone with 5 and 4 sightings respectively. All dolphin sightings occurred on the morning of 01 May 2021 and were outside the mitigation zone. Dredging and ploughing operations were delayed 0 times and disposal at sea operations were delayed 0 times over the course of the project.

Compliance with National Parks and Wildlife Service (NPWS) guidelines has been achieved.

Introduction

This report relates the results of Marine Mammal Observation (MMO) of dredging operations in Fenit Harbour under foreshore licence FS007041 and dumping at sea licence S0007-03. *Dutch Dredging* was the main contractor for the dredging works. *Mizen Archaeology* was engaged to undertake marine mammal observation (MMO) during the project. The dredging works are part of a ten-year maintenance dredging plan to remove sediment build up at Fenit Deep-water Berth.

1.1 Project Duration

Dredging and ploughing operations ran from 22 April to 16 May 2021. Disposal at sea operations ran from 23 April to 16 May 2021.

Dredging, ploughing and disposal at sea operations took place during daylight hours between 07:00 and 19:00, 7 days per week, with a maximum of 3,000m³ of material disposed per day. Stoppages occurred due to unexpected breakdowns, inclement weather, and turbidity levels.

1.2 Legislation

Legislation relating to the protection of marine mammals is set out by the Minister for Arts, Heritage and the Gaeltacht as official guidelines and codes of practice under Regulation 71 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). The Habitats Directive applies within Ireland's 200 nautical mile limit for the protection of species and to the Continental Shelf for habitats.

Under these regulations all marine mammal species normally occurring in Ireland must be given protection and Special Areas of Conservation (SACs) must be given proper conservation actions.

Due to potential detrimental effect on these animals from certain types of acoustic survey equipment, the National Parks and Wildlife Service (NPWS) advise *the reduction of unnecessary artificial sound signals and associated energy into the marine environment every effort should be made by marine users and operators to (a) minimise the duration and power/energy output of their sound-producing activity, and (b) seek greater technical efficiencies for the removal of unnecessary or unwanted signals/frequencies and for the benefit of the aquatic acoustic environment.*

Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (2014) published by the National Parks and Wildlife Service (NPWS) sector of Department of Arts, Heritage and the Gaeltacht outline source sound work types, risks associated with them, and proper mitigation. The Guidelines associated with activities undertaken the dredging project in Fenit Harbour are reproduced hereunder:

Dredging

The excavation of sand, gravel, loose rock and other material from the seabed during dredging operations is common, particularly in coastal waters where harbour works and channel maintenance commonly require such activity. Many different types of dredging device are in operation worldwide ranging from hopper dredges to suction-, bucket- or grab-type arrangements.

In addition to the sound from attendant vessels, dredging operations have been reported to produce low frequency omnidirectional sound of several tens of Hz to several thousand Hz (and up to approximately 20 kHz) at sound pressure levels of 135-186 dB re: 1 μ Pa^{3,44,45}. Therefore some coastal dredging operations can be detected at received levels (RL) exceeding ambient sound more than 10km from shore³. While sound exposure levels from such operations are thought to be below that expected to cause injury to a marine mammal, they have the potential to cause lower level disturbance, masking or behavioural impacts, for example.

Dredging activity tends to occur in a fixed area for a prolonged period of days or weeks. Therefore it has the potential to introduce continuous anthropogenic sound at levels that may impact upon marine mammal individuals and/or local populations and the risk of acoustic impacts associated with this activity should be considered to ensure good environmental management. (NPWS 2014, p.14).

1.3 Location

Fenit Harbour is located on south-east side of Tralee Bay. The bay is enclosed from the Atlantic by the Maharee spit which extends northwards from the Dingle peninsula. Fenit Harbour is a mixed function seaport, where fishing, freight import and export, and a 136 berth marina are the main forms of business.



Figure 1 Location of Fenit Harbour dredging and disposal site.

1.4 Scope of works

A ten-year plan for maintenance dredging is in place to remove the annual build-up of sediment in Fenit Harbour; the last maintenance dredging took place in 2016. For the 2021 phase of dredging, 60,000m³ of material was removed. A plough was utilized to move material from difficult-to-reach areas into a better position for the dredger. A maximum of 3,000m³ of material is allowed for disposal per 24-hour period.

The outer manoeuvring area was dredged to a depth of -5.0m below C.D. with a slope down to -7.5m below C.D. for the commercial shipping channel and berth.



Figure 2 Dredging areas in Fenit Harbour, image from Dutch Dredging Method Statement.

Dredging and ploughing operations were permitted to commence once the MMO had completed a pre-start watch of 30 minutes and deemed the 100m exclusion zone to be free of marine mammals. Any marine mammals within 100m of the dredging vessel resulted in a delay until the mammal moved outside the 100m mitigation zone or 30 minutes had passed and the mammal was not seen again within the mitigation zone.

Once dredging or ploughing operations began, any breaks in sound of 30 minutes or longer required a pre-start watch. The MMO maintained contact with dredging crews via VHF radios and verbal contact while on the bridge of the dredger.



Figure 3 Location of disposal at sea.

Disposal at sea took place in an area of c.100ha, located 3km west of the coast at Carrahan Lower townland and approximately 1.5km north-northwest of Fenit Island in the outer part of Tralee Bay. It lies between 1.5km to 2.5km south and southeast of Illaunnabarnagh and Mucklaghmore Islands, which are small rocky outcrops.

Disposal at sea operations were permitted to commence once the MMO had ensured that no marine mammals were within the disposal site and a 500m exclusion zone was maintained.

2. Marine Mammal Observation of Fenit Harbour

2.1 Assessment of risk for marine mammals

A marine mammal risk assessment report was compiled as a component of the Assessment of Impact on the Environment for the project. The assessment reviewed the marine mammal activity in the vicinity of proposed dredging operations within the Fenit Harbour using data from their database of marine mammal sightings from years 2008 to 2014, data from the National Biodiversity Data Centre (NBDC) and reports on previous works within the vicinity. The predicted impacts and mitigation measures contained in the report are reproduced hereunder;

No sensitive areas are evident within the vicinity of Fenit Harbour or dump site based on the data accessed, so it is unlikely the proposed works will cause disturbance at a sensitive location or time during their life cycle. Bottlenose dolphins from the Shannon Estuary have been found to frequent Tralee Bay during the summer months but were recorded mainly around the Maharees and Brandon Bay areas, up to 15km from Fenit Harbour. Dredging is due to take place outside of the summer months when highest numbers of dolphins have been recorded in the area (O'Brien and Berrow 2017, p.27).

2.2 Marine mammals in Fenit Harbour

Marine mammals in Irish waters can broadly be separated into two types: cetaceans, which include whales, dolphins, and porpoise; and pinnipeds, which includes seals. Otters in Ireland are riverine but there are some small coastal populations which use the sea as a foraging ground for eel, crab, sea urchin, and mollusks (*Otter- A guide to Ireland's protected habitats & species*, 2020).

Datasets

Three main datasets for marine mammals in Irish waters were utilized to establish the distribution and occurrence of species likely to be sighted during the period of works:

- The National Biodiversity Data Centre (NBDC) online database of species (accessed at www.biodiversityireland.ie on 20 April 2021)
- Online databases of sightings of marine mammals from Ireland-specific marine mammal research groups (accessed www.iwdg.ie and <https://www.orcaireland.org/latest-reports> on 20 April 2021)
- The National Parks and Wildlife Service (NPWS) database of seal sightings, which collects data on all seal sightings and seal population surveys from 1960-2013 with over 5,450 sightings recorded for the island.

Other documents which provided accurate and site-specific information and were utilized during the period of works:

- Appendix 4 of the National Parks and Wildlife Service (NPWS) guidance document (2013) which provides generalised maps of marine mammal distribution and habitat in Irish waters.

Pinnipeds

The main two types of seals found in Ireland are the Grey seal (*Halichoerus grypus*) and the Harbour/Common Seal (*Phoca vitulina*). These two types make up a majority of findings all along the Irish coast. These mammals are listed as E.U. Directive Annex II species and are protected in all EU waters (Habitats Directive 2020).

The grey and harbour seal populations of Ireland have been surveyed in 2003, 2011/2012, and most recently in 2017/2018. While the overall population of both species has had an increase over the years, the data shows that the south-west consistently has the lowest distribution of both species (Morris & Duck 2019, p.5).

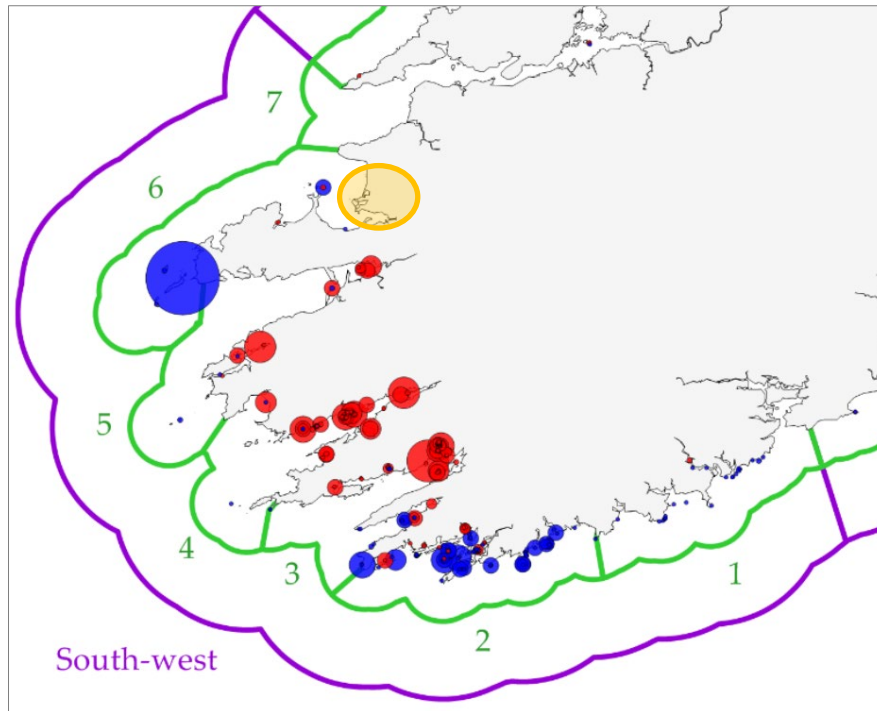


Figure 4 Distribution of Harbour seals (red) and Grey seals (blue), excerpt from image in Morris & Duck (2019, p.4). Fenit is located in Area 6 (highlighted with yellow circle).

Region	Area	Harbour seals 2003	Harbour seals 2011/2012	Harbour seals 2017/2018	Grey seals 2003	Grey seals 2011/2012	Grey seals 2017/2018
South-west							
	1	10	0	5	13	28	46
	2	52	88	115	58	198	411
	3	422	363	393	10	55	88
	4	399	345	441	8	11	12
	5	36	90	131	2	11	12
	6	0	1	22	45	150	22
	7	8	1	4	2	0	1

Table 1 Seal population numbers from Morris & Duck (2019, p.5) for the South-west region of Ireland. Fenit is located in Area 6.

The NWPS Seal Survey database lists 4 sightings for grey seals and 2 sightings for harbour seals between 1983 and 2012. The most recent seal survey carried out by the NWPS of the Tralee Bay area took place in 2012 and recorded one harbour seal haul out location and one grey seal haul out where there were a number of individuals moulting (Duck and Morris, 2013).

Dredging operations in 2016 in Fenit Harbour required marine mammal observation. Three grey seals were recorded during the works (O'Dwyer 2016, p.14). A geophysical survey in 2020 recorded three sightings of seals during the works but were too far to properly identify species (Mizen Archaeology 2020).

<i>Species</i>	<i>Date</i>	<i>Location</i>
<i>Grey seal</i>	<i>17/08/2003</i>	<i>Ballyheigue</i>
<i>Grey seal</i>	<i>01/01/1983-31/12/1983</i>	<i>Ballyheigue Bay</i>
<i>Harbour seal</i>	<i>28/09/1991</i>	<i>Brendan's Island</i>
<i>Grey seal</i>	<i>17/08/2003</i>	<i>Tralee Bay</i>
<i>Grey seal</i>	<i>02/09/2012</i>	<i>Tralee Bay</i>
<i>Harbour seal</i>	<i>02/09/2012</i>	<i>Tralee Bay</i>

Table 2 Seal sightings listed in NWPS Seal Sightings database (2020).

Grey seals (*Halichoerus grypus*)

Grey seals occur in greatest numbers on the western seaboard of Ireland although significant numbers also occur on the east and southeast coasts. They breed on exposed rocky shores, on sand bars or in sea caves with ready access to deep water. Other haul-out areas for the grey seal are located on exposed rocky areas or steeply shelving sandbanks (Ó Cadhla et al. 2007). Grey seals have a wide foraging range and distribution and have been known to use feeding/foraging sites more hundreds of kilometres from haul-out sites. Feeding sites are impacted by available prey (Kiely 2000, p.5-6).



Plate 1 Grey seal in profile, note characteristic streaky colouration and 'long Roman nose'.

Harbour seals (*Phoca vitulina*)

Harbour seals are the smaller of the two seal species and prefer sand or mudflats as their haul-out locations. Similar to grey seals, they prefer the west coast due to less human interference. Breeding takes place in June and moulting in July and August (*Common Seal | National Parks & Wildlife Services, 2020*).



Plate 2 Harbour seal. Note characteristic small round head, forward eyes and distinctive snout.

Otter (*Lutra lutra*)

Otters are on the Annex II of the E.U. Habitats Directive and are listed as a 'qualifying interest' species within the Tralee Bay and Maharees Peninsula, West to Cloghane SAC (site no. 2070). They are often seen feeding in the SAC but it is unknown if they breed there (NWPS 2013, p.5). Ten otter sightings in Tralee Bay are recorded in NBDC (NBDC 2020).



Plate 3 Otter.

Walrus (*Odobenus rosmarus*)

A single juvenile walrus was sighted on Valentia Island, Co. Kerry in mid-March 2021. Walruses are rarely seen this far south of the Arctic Circle, but there have been slightly less than two dozen walrus sightings in Irish waters since the first one spotted in the Shannon in 1897 (O'Sullivan 2021). The walrus was identified on a beach in Wales in early April (O'Riordan 2021).



Plate 4 Walrus juvenile in Valentia Island, 14 March 2021. (Photo: Alan Houlihan).

Cetaceans

Previous MMO reports and marine mammal population surveys suggest that bottlenose dolphins, common dolphins, Risso's dolphins, and basking sharks would be the most likely species to be seen at Tralee Bay. Other whale species and harbour porpoises have been noted further offshore past the Maharee Islands (O'Brien and Berrow 2017, p.14-18).

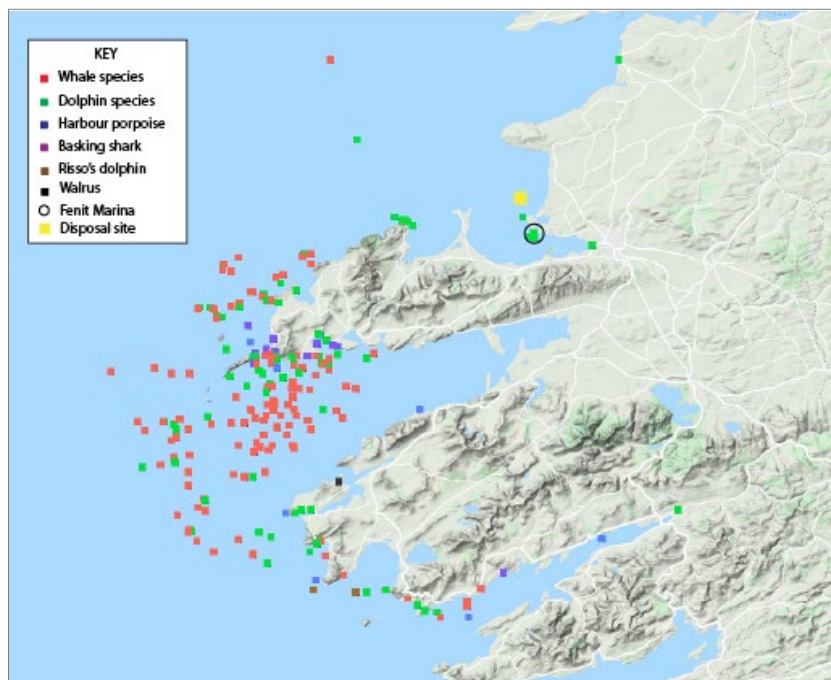


Figure 5 Cetacean distribution near Tralee Bay April 2020- April 2021, image altered from IWDG Sightings database (April 2021).

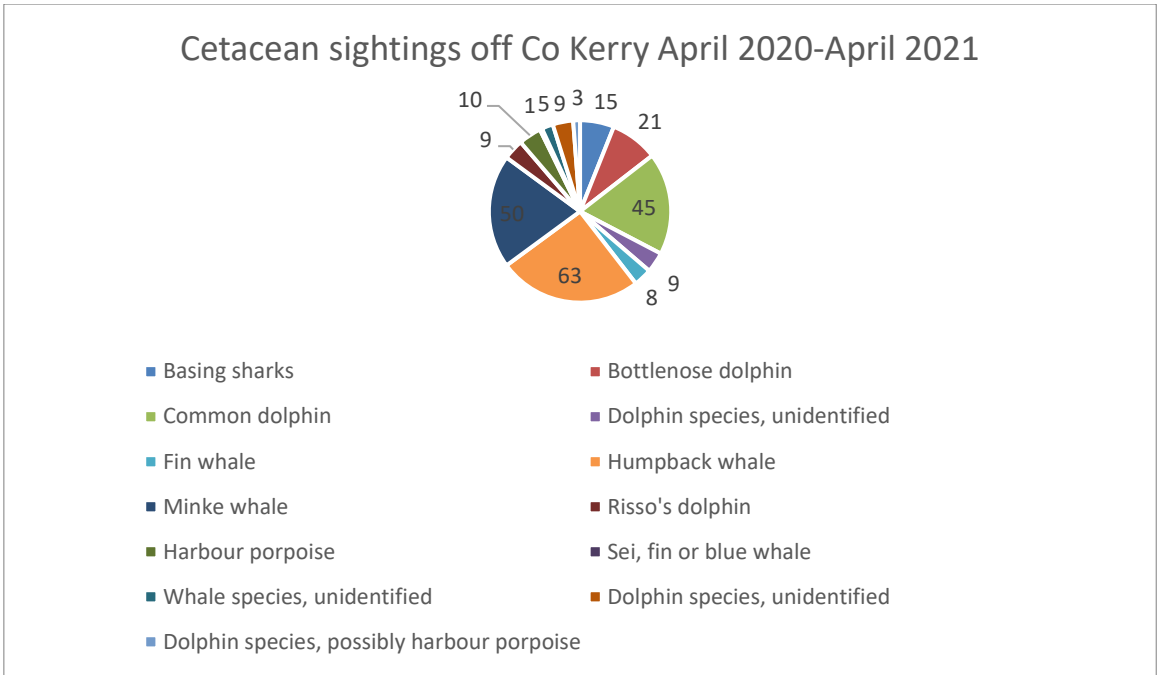


Figure 6 Cetacean sightings off Co Kerry from April 2020-April 2021. Data from IWDG Sightings database, 2021.

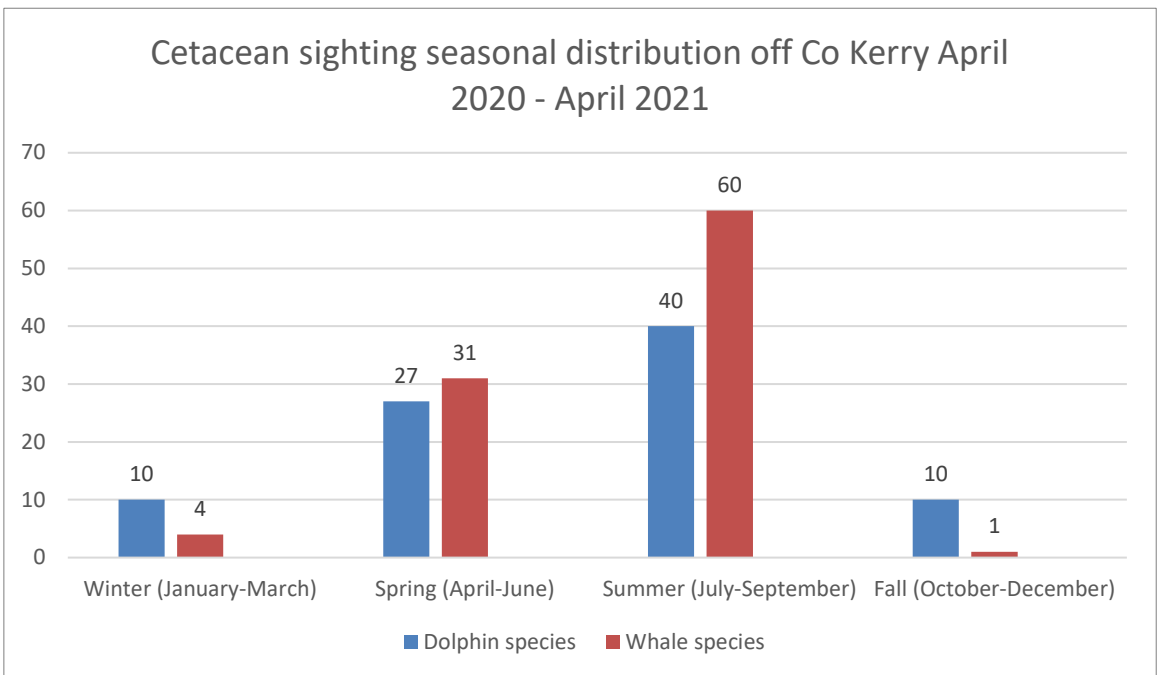


Table 3 Whale and dolphin sighting distribution throughout year off Co Kerry April 2020-April 2021. Data from IWDG Sightings database, 2021.

Bottlenose Dolphin (*Tursiops truncatus*)

Previous MMO reports and surveys report bottlenose dolphin group sizes ranging from 22 to 55 individuals. Berrow and O’Brien believe that these dolphins are likely part of the Shannon Estuary population, due to the proximity to the Shannon Estuary SAC where they are a resident species (2013). Over 50% of sightings in Tralee Bay are bottlenose dolphins (O’Brien and Berrow

2017, p.14), five of which occurred in 2019 and three occurred in 2020. Bottlenose dolphins are the most prevalent species sighted in Tralee Bay.

#	EVENT DATE	SPECIES	NO. ANIMALS	LOCATION	RECORD ID
1	21/10/2020	bottlenose dolphin	3	Fenit, Tralee Bay - Co. Kerry	36440
2	26/09/2020	dolphin species, possibly harbour porpoise	2	Fenit, Tralee Bay - Co. Kerry	36118
3	24/07/2020	bottlenose dolphin	3	Fenit, Tralee Bay - Co. Kerry	35633
4	15/07/2020	bottlenose dolphin	3	Fenit, Tralee Bay - Co. Kerry	35597

Figure 7 Results for all cetacean sightings in Tralee Bay, Fenit, Ballyheigue and Banna Strand listed for 20/04/2020-20/04/2021 (IWDG database).



Plate 5 Bottlenose dolphins. Image from National Biodiversity Data Centre (NWPS National Biodiversity Data Centre 2021).

Common dolphin (*Delphinus delphis*)

Common dolphins have also been noted in Tralee Bay with groups ranging from 1 to 18 individuals (O'Brien and Berrow 2017, p.15). Common dolphins were seen by the crew in the Celtic Sea while the *Mahury* crossed from the Netherlands, however no common dolphins were sighted off Co Kerry before or during dredging works.



Plate 6 Common Dolphins in the Goban Spur South of Ireland (Photo: Wikipedia contributor: mmo iwdg, 2010).

Risso's dolphin (*Grampus griseus*)

Numerous sightings of Risso's dolphins in the southwest Ireland may be an important local concentration of the species (Pollack *et al.* 1997; Hammond *et al.* 2002). Risso's dolphins have been sighted six times between 2000 and 2017 (O'Brien and Berrow 2017, p.16).

No sightings have been recorded in Tralee Bay in the year prior to the dredging works.



Plate 7 Russo's dolphin pod. Image from National Biodiversity Data Centre (NWPS National Biodiversity Data Centre 2021).

Basking Sharks (*Cetorhinus maximus*)

The basking shark is the second-largest shark in the world and is one of three plankton-eating species. Basking sharks are migratory and are present in Irish waters from April to September, often in shallow coastal habitats. Large groups are often sighted at 'hotspots' particularly in

West Cork and Co Kerry. Three basking shark sightings have been recorded in the outer Tralee Bay in 2016 (O'Brien and Berrow 2017, p.17-18), but none were sighted in the area in 2020. Basking sharks were noted around Slea Head and the Blasket Islands at the end of April 2021 (OrcaIreland 2021).



Plate 8 Basking shark (Photo by: Ireland's Wildlife Tours, 2013).

Harbour porpoise (*Phocoena phocoena*)

All harbour porpoise sightings in Tralee Bay have been west of the Maharee Islands, although a number were noted near Ballyheigue during Static Acoustic Monitoring (SAM) in 2009 (Berrow and O'Brien 2013). The lack of sightings is due to the shy nature of the species (O'Brien and Berrow 2017, p.15). No sightings have been recorded in Tralee Bay in the year prior to the dredging works.



Plate 9 Harbour Porpoise. Image from National Biodiversity Data Centre (NWPS National Biodiversity Data Centre 2021).

Minke Whale (*Balaenoptera acutorostrata*)

Minke whales are the most frequently recorded baleen whales in Irish waters and can be seen off most headlands around the whole island throughout the year, although they tend to be more prevalent in the south and west and during the months of May and October. Minke whales are the second most-frequently sighted whale species off the coast of Co Kerry after humpback whales (*Whales in Irish waters, 2020*).

A number of minke whales were recorded during the ‘feeding frenzy’ off the Dingle Peninsula in August 2020 (Mac an tSithigh, 2020). A single minke whale was recorded for the outer Tralee Bay area in 2016 (O’Brien and Berrow 2017, p.17-18).



Plate 10 Minke whale. Image from National Biodiversity Data Centre (NWPS National Biodiversity Data Centre 2021).

Humpback Whale (*Megaptera novaengliae*)

Humpback whales are regularly recorded off the coast of Ireland and in high numbers during winter months (Ryan et al. 2015), with 46% of humpback sightings off Co Kerry (Conroy 2020). Average Co Kerry coast residency varies from six weeks to three months (Kelleher 2020). During August 2020, a pod of more than twelve humpbacks were sighted in a ‘feeding frenzy’ off Co Kerry as they followed large shoals of sprat close to the Dingle Peninsula (Mac an tSithigh 2020). A single sighting of a humpback whale was recorded for the outer Tralee Bay area (O’Brien and Berrow 2017, p.17-18).



Plate 11 Humpback whale. Image from NOAA Fisheries (Species Directory: Humpback whale, 2020).

Fin whale (*Balaenoptera physalus*)

Fin whales are typically seen off the south coast of Ireland during winter months and have been recorded between Sleah Head, Co. Kerry and Hook Head, Co. Wexford following the seasonal movements of sprat and herring between June to February (Marine Institute 2020). Fin whales were recorded during the feeding frenzy off the Dingle Peninsula in August 2020 (Mac an tSithigh 2020).



Plate 12 Fin whale. Image from Firmm (Heyer, 2000).

Various whale species

The coast of Kerry sees many whale species, many of which prefer deeper waters. Large whales have occasionally made their way into the shallower waters of Tralee Bay.

A group of long-finned pilot whales live stranded in 2002 and returned to Tralee Bay for a few days in 2009 but have not been seen in the area since (O'Brien and Berrow 2017, p.16).

Two killer whales were spotted a few miles south of the Skelligs in 2010 and have been noted in Blasket Sound in years previous (*Whales in Irish waters*, n.d.).

2.3 Details of Marine Mammal Observers

The observation was carried out by experienced JNCC trained marine mammal observer Sarah Madden.

2.4 Platforms involved in the project.

Dredging operations were carried out by the *Mahury*, a trailing suction hopper dredger (TSHD). The hopper has a capacity of 700-1,000m³ depending on the material.



Plate 13 TSHD 'Mahury' alongside at Fenit Marina 2021.

Ploughing operations were undertaken by the *Peter* with plough attachment. The *Peter* was also utilized for bathymetric surveys.



Plate 14 The Peter ploughing in Fenit 2021.

A total of 50 monitored ploughing and dredging operations took place from 22 April to 16 May 2021.

A total of 66 monitored disposal operations took place from 23 April to 16 May 2021.



Figure 8 Aerial view of Fenit Harbour and Marina and the 100m exclusion zone.

3. Details of the observation platform used for marine mammal monitoring

Monitoring of dredging primarily took place from the bridge and deck of the *Mahury*. Specific details regarding the observation platform are found below.

3.1 Mahury

The *Mahury* is a trailing suction hopper dredger. The bridge is 10m above sea level and allows clear, unobstructed 360° viewing of the surrounding area. The deck outside the bridge was also utilized and offered the same viewing advantages. The bow is 8m above sea level. This offered unobstructed views during disposal at sea but could only be accessed during calm weather.



Plate 15 View from bridge looking forward of TSHD 'Mahury' en route to disposal site in Tralee Bay.

4. Details of all sound-producing operations/activities undertaken during the period of works

4.1 Ploughing and Dredging

Ploughing and dredging were done in conjunction with one another. Ploughing operations commenced on 22 April 2021 to prepare for the dredging operations which began on 23 April.

A total of 50 ploughing and dredging operations took place from 22 April to 16 May 2021.

All ploughing and dredging operations were carried out between 07:00 to 19:00, all monitoring took place during daylight hours. All operations commenced once a pre-watch of 30 minutes deemed the 100m mitigation zone clear of marine mammals. The MMOs scanned the area by

eye and 7x50 reticle binoculars. Verbal contact with the dredging crew was maintained on the bridge, and VHF radios were used when the MMO monitored from the bow.

4.2 Disposal at sea

A total of 66 monitored disposal at sea operations took place over the course of the project from 23 April to 16 May 2021.

All operations were carried between 07:00 to 19:00, all monitoring took place during daylight hours. All operations commenced once the disposal site was deemed clear of marine mammals and no marine mammals were within 500m of the *Mahury*. The MMOs scanned the area by eye and 7x50 reticle binoculars. Verbal contact with the dredging crew was maintained on the bridge, and VHF radios were used when the MMO monitored from the bow.

5. Details of monitoring watches conducted for marine mammals.

A total of 113 hours and 45 minutes of monitoring effort was compiled under the entire duration of the project. Of this, 37 hours and 4 minutes was conducted while dredging, ploughing and disposal at sea operations produced sound. All remaining effort occurred prior to any operations starting. Full details of monitoring effort carried out during this project can be found in Appendix II.

Marine mammal observations were undertaken during all operations during daylight hours for the entire duration of the project. No operations were recorded as non-compliant.

Environmental data were recorded at the beginning and end of each watch, including sea state using the Beaufort scale and wind directions and speed. All relevant forms were completed at the end of each working day as well as a detailed log of operations.

<i>Description</i>	<i>Number of operations</i>	<i>Duration of sound (HH:MM)</i>	<i>Duration of monitoring effort (HH:MM)</i>	<i>Duration of sound-production during monitoring effort (HH:MM)</i>
<i>Dredging & ploughing</i>	50	134:59	70:03	29:42

<i>Disposal at sea</i>	66	26:51	43:42	7:22
<i>Total operations</i>	116	161:50	113:45	37:04

Table 4 Breakdown of sound and monitoring efforts throughout duration of the project.

5.1 Dredging at Fenit Harbour

A total of 70 hours and 3 minutes of monitoring effort was completed during ploughing and dredging operations. Of this, a total of 29 hours and 42 minutes of effort was conducted while sound producing operations were ongoing while the remaining monitoring effort occurred prior to the operation started. Full details of monitoring effort carried out during this project can be found in Appendix II.

Monitoring conditions 22 April to 16 May 2021 were generally good but poor weather did occur.

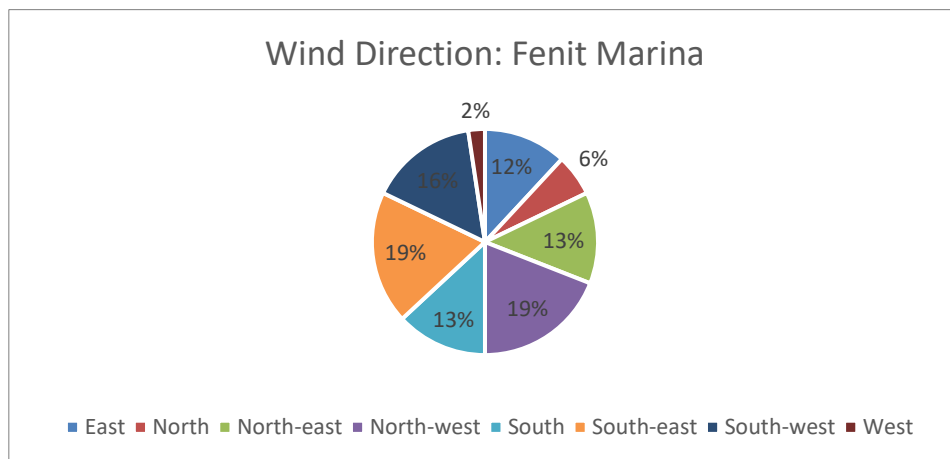


Table 5 Breakdown of wind direction data recorded during monitoring effort in Fenit Marina..

Visibility was generally good during the project with the mitigation zone always clear for observation. High visibility (>10 km) accounted for 80% of all operations. Poor visibility was logged 0 times during dredging and ploughing operations. The rest of dredging and ploughing operations were logged with moderate visibility (1-5km) and good visibility (5-10km) at 5% and 15% respectively.

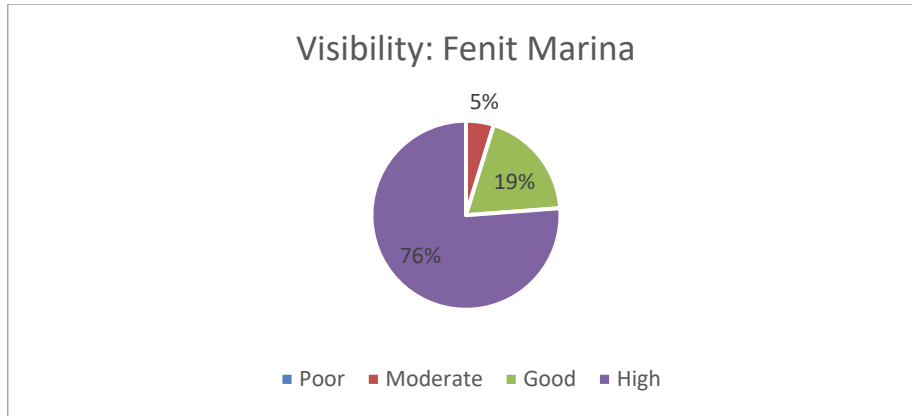


Table 6 Breakdown of visibility data recorded during monitoring effort in Fenit Marina.

Sea state was good for the majority of observations during the project. The majority of observations (76%) were carried out in a sea state of ≤ 1 , while remainder were carried out in sea states 2 and 3. The highest sea state recorded was sea state 3 and this accounted for 11 observations.

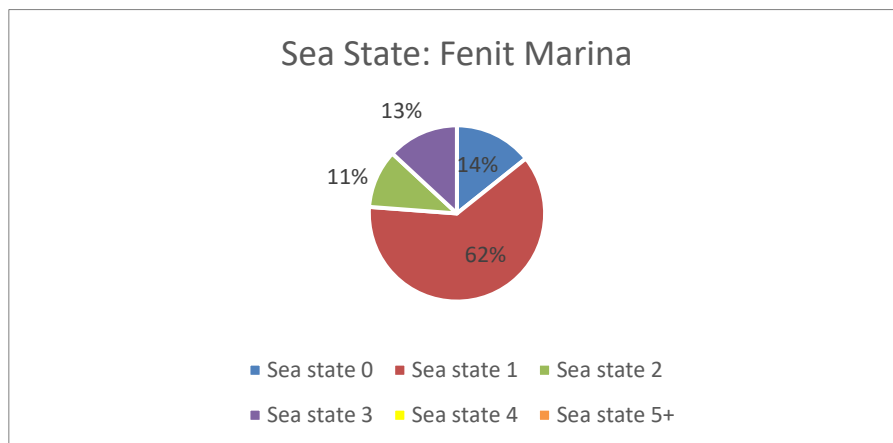


Table 7 Breakdown of sea state data recorded during monitoring effort in Fenit Marina.

5.2 Disposal at sea

A total of 43 hours and 42 minutes of monitoring effort was completed during disposal at sea operations. Of this, a total of 7 hours and 22 minutes of effort was conducted while sound producing operations were ongoing while the remaining monitoring effort occurred prior to the operation started. Full details of monitoring effort carried out during this project can be found in Appendix II.

Sightings conditions during the project were generally good but poor weather did occur, with fewer disposal at sea operations due to high swell and high winds on 03 May 2021.

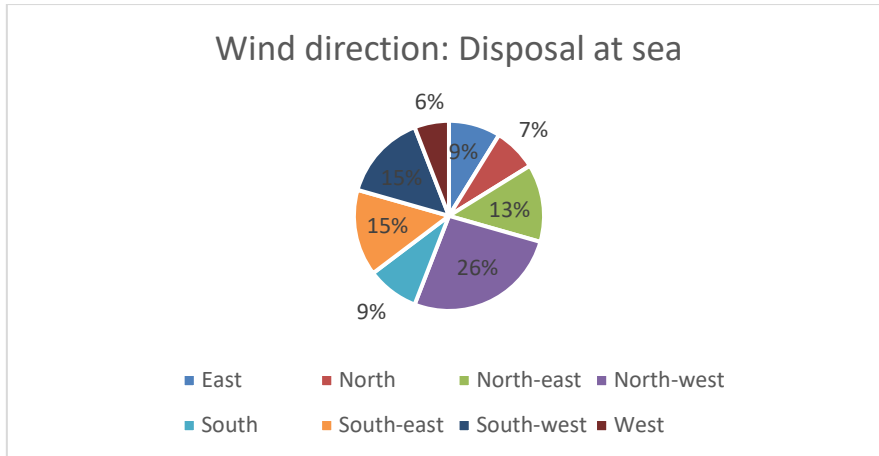


Table 8 Breakdown of wind direction data recorded during monitoring effort during disposal at sea operations.

Visibility was good during the project with the mitigation zone always clear for observation. High visibility (>10km) accounted for 72% of disposal at sea operations. The rest of all disposal at sea operations were logged with moderate (1-5km) and good (5-10) visibility at 10% and 18% respectively. Poor visibility was logged 0 times during disposal at sea operations.

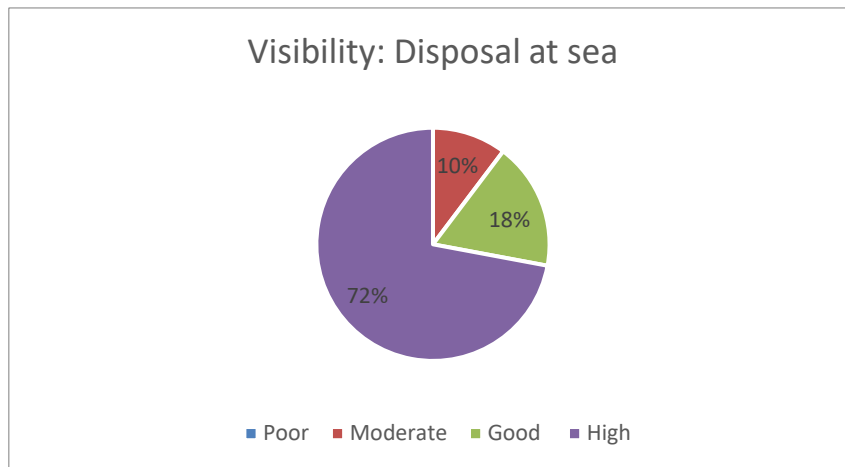


Table 9 Breakdown of visibility data recorded during monitoring effort in Fenit Marina.

Sea state was good for the majority of observations during the project. The majority of observations (46%) were carried out in a sea state of ≤ 1 , while remainder were carried out in sea states 2 and 3. The highest sea state recorded was sea state 3 and this accounted for 8 observations.

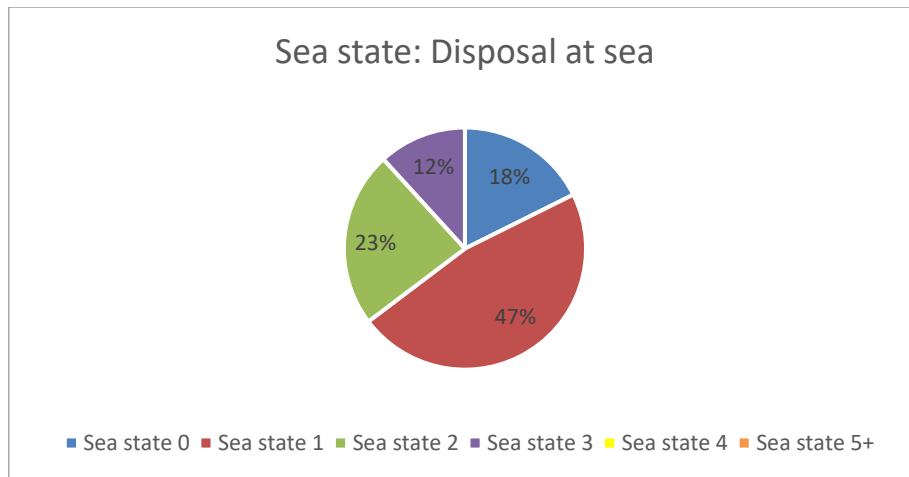


Table 10 Breakdown of sea state data recorded during monitoring effort in Fenit Marina.

6. Details of all marine mammal sightings recorded

There were 19 sightings of marine mammals during the dredging project. These consisted of 13 seal sightings (5 were confirmed grey seal sightings, 4 were confirmed harbor seals) and 6 bottlenose dolphin sightings.

Ploughing and dredging operations were delayed 0 times due to marine mammals sighted within the 100m mitigation zone. All other sightings within the mitigation zone were after sound producing operations had begun and no further action was needed.

Disposal at sea operations were delayed 0 times due to marine mammals sighted within the 500m mitigation zone.

Sighting forms can be found in Appendix III.

<i>Species</i>	<i>Number of sightings</i>	<i>Sightings during dredging and ploughing operations</i>	<i>Sightings during disposal at sea operations</i>
<i>Grey seal</i>	<i>5</i>	<i>2</i>	<i>3</i>
<i>Harbour seal</i>	<i>4</i>	<i>2</i>	<i>2</i>
<i>Seal, unidentified</i>	<i>4</i>	<i>1</i>	<i>3</i>
<i>Bottlenose dolphin</i>	<i>6</i>	<i>2</i>	<i>4</i>
<i>Total</i>	<i>19</i>	<i>7</i>	<i>12</i>

Table 11 Breakdown of sightings based on sound-production during the project.

6.1 Details of all marine mammal sightings recorded during monitoring watches at Fenit Harbour

There were 7 sightings of marine mammals during the ploughing and dredging operations at Fenit Harbour. Of the seal sightings, 4 were confirmed harbour seal sightings and 5 were grey seal. Bottlenose dolphins were sighted twice.

Of the 50 pre-watch sightings that occurred before ploughing and dredging works no operations required a delay start due to mammals being outside the 100m mitigation zone. All other sightings within the mitigation zone were after dredging operations had begun and no further action was needed.

<i>Species</i>	<i>Total number of sightings</i>	<i>Number of individual sightings</i>	<i>Number of group sightings</i>
<i>Grey seal</i>	<i>2</i>	<i>2</i>	<i>0</i>
<i>Harbour seal</i>	<i>2</i>	<i>2</i>	<i>0</i>
<i>Seal, unidentified</i>	<i>1</i>	<i>1</i>	<i>0</i>
<i>Bottlenose dolphin</i>	<i>2</i>	<i>0</i>	<i>2</i>
<i>Total</i>	<i>7</i>	<i>5</i>	<i>2</i>

Table 12 Individual and group sightings during dredging and ploughing operations.

<i>Species</i>	<i>Sightings: Pre-start</i>	<i>Sightings: Operation at stop</i>	<i>Sightings: Operations ongoing</i>
<i>Grey seal</i>	<i>0</i>	<i>2</i>	<i>0</i>
<i>Harbour seal</i>	<i>1</i>	<i>0</i>	<i>1</i>
<i>Seal, unidentified</i>	<i>0</i>	<i>1</i>	<i>0</i>
<i>Bottlenose dolphin</i>	<i>0</i>	<i>2</i>	<i>0</i>
<i>Total</i>	<i>1</i>	<i>5</i>	<i>1</i>

Table 13 Sightings during dredging and ploughing operations based on sound-production.

6.2 Details of all marine mammal sightings recorded during monitoring watches during disposal at sea

There were 12 sightings of marine mammals during the disposal at sea operations. Of the 8 seal sightings, 3 were confirmed grey seals and 2 were harbour seals by the MMO. All bottlenose dolphin sightings occurred on the morning of 01 May 2021.

Of the 12 pre-watch sightings that occurred before disposal at sea works, none required a delayed start. All sightings were outside the disposal site and more than 500m from *Mahury* and no further action was needed.

<i>Species</i>	<i>Sightings during disposal at sea operations</i>	<i>Number of individual sightings</i>	<i>Number of group sightings</i>
<i>Grey seal</i>	3	3	0
<i>Harbour seal</i>	2	2	0
<i>Seal, unidentified</i>	3	3	0
<i>Bottlenose dolphin</i>	4	0	4
<i>Total</i>	12	8	4

Table 14 Individual and group sightings during disposal at sea operations.

<i>Species</i>	<i>Number of sightings within 500m mitigation zone</i>	<i>Number of sightings outside 500m mitigation zone</i>
<i>Grey seal</i>	0	3
<i>Harbour seal</i>	0	2
<i>Seal, unidentified</i>	0	2
<i>Bottlenose dolphin</i>	0	4
<i>Total</i>	0	12

Table 15 Sightings within and outside of the 500m mitigation zone during disposal at sea operations.

6.2 Details of all marine mammal sightings recorded outside monitoring watches (e.g., incidental observations), including records from additional personnel on board

There were 2 sightings of marine mammals outside of monitoring watches for dredging, ploughing and disposal at sea operations. Both sightings were of grey seals and were while dredging and ploughing operations were at a stop.

There were 0 sightings of marine mammals outside of monitoring watches for disposal at sea operations.

7. Details of any problems encountered during marine mammal monitoring, start-up procedures, ramp-up (soft- start) procedures or during full scale operation/activity.

No problems were encountered.

8. Conclusions

A total of 113 hours and 45 minutes of monitoring effort were completed from 22 April to 16 May 2021. A total of 50 pre-start watches were carried out prior to ploughing and dredging operations. A total of 66 pre-start watches were carried out prior to disposal at sea operations.

No marine mammals were sighted within the 100m mitigation zone throughout the ploughing and dredging portion of the project. Delay starts were required 0 times.

No marine mammals were sighted within the 500m mitigation zone during disposal at sea operations. Delay starts were required 0 times.

Due to the method of dredging and the limited time mammals spent near the operations, it is highly unlikely that the activities had any significant impact on marine mammals in the area during this period of works.

Compliance with National Parks and Wildlife Service (NPWS) guidelines and project permit conditions was achieved for the project running between 22 April and 16 May 2021.

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Appendix I : Record of Operation/Activity

Type of operation or activity	Date	Time when ramp-up/soft-start began [if any] (GMT/UTC)	Time when equipment reached full power GMT	Time when equipment stopped or shut down GMT	Who carried out the monitoring for marine mammals? (Job Title)	Start time of monitoring for marine mammals [Pre-start-up] GMT	End time of monitoring for marine mammals GMT	Reason for non-detection of marine mammals? (e.g. sea state, swell, glare, poor light, fog, rain, etc.)	Were hydrophones used? (Yes/No)	Were marine mammals present in the 30/60 mins before start-up? (Yes/No)	If Yes, give time when marine mammals were last seen (GMT/UTC)	If marine mammals were present, what action was taken? (e.g., delay ramp-up/soft start, delay full start-up)
Ploughing	22/04/2021		13:40	16:30	MMO	13:00	14:00		No	N		
Ploughing	23/04/2021		06:53	08:00	MMO	05:45	07:15		No	N		
Dredging	23/04/2021		15:55	16:40	MMO	12:30	16:10		No	N		
Dump at sea	23/04/2021		17:27	17:33	MMO	16:50	17:35		No	N		
Dredging	24/04/2021		06:15	07:15	MMO	05:45	06:30		No	N		
Dump at sea	24/04/2021		07:55	08:02	MMO	07:25	08:05		No	N		
Dredging & ploughing	24/04/2021		12:20	16:11	MMO	11:30	12:30		No	N		
Dump at sea	24/04/2021		13:59	14:04	MMO	13:30	14:05		No	N		
Dump at sea	24/04/2021		17:01	17:06	MMO	16:30	17:05		No	N		
Dredging	25/04/2021		06:20	07:10	MMO	05:45	06:35		No	N		
Dump at sea	25/04/2021		07:52	07:57	MMO	07:20	07:55		No	N		
Ploughing	25/04/2021		12:08	14:07	MMO	11:20	12:30		No	N		
Dredging	25/04/2021		13:10	14:25	MMO	12:45	13:30		No	N		
Dump at sea	25/04/2021		15:08	15:14	MMO	14:30	15:15		No	N		
Ploughing	26/04/2021		06:15	07:10	MMO	05:45	06:45		No	N		

Dredging	26/04/2021	06:38	07:15	MMO	05:45	06:45	No	N		
Dump at sea	26/04/2021	07:54	08:00	MMO	07:20	08:00	No	N		
Dredging	26/04/2021	14:28	15:00	MMO	11:20	14:45	No	N		
Dump at sea	26/04/2021	15:34	15:41	MMO	15:05	15:40	No	N		
Dredging & ploughing	27/04/2021	06:15	06:56	MMO	05:45	06:30	No	N		
Dump at sea	27/04/2021	07:34	07:39	MMO	07:00	07:40	No	N		
Dredging	27/04/2021	08:22	09:06	MMO	07:50	08:30	No	N		
Dump at sea	27/04/2021	09:50	09:55	MMO	09:20	09:55	No	N		
Dredging	28/04/2021	06:30	07:22	MMO	05:45	06:45	No	N		
Dump at sea	28/04/2021	08:01	08:07	MMO	07:30	08:05	No	N		
Dredging	28/04/2021	09:03	09:51	MMO	08:15	09:15	No	N		
Dump at sea	28/04/2021	09:30	10:35	MMO	10:00	10:35	No	N		
Ploughing	28/04/2021	16:02	17:43	MMO	15:25	16:15	No	N		
Dredging	29/04/2021	06:15	14:30	MMO	05:45	06:45	No	N		
Dump at sea	29/04/2021	07:44	07:55	MMO	07:10	07:50	No	N		
Dump at sea	29/04/2021	09:52	10:04	MMO	09:25	10:00	No	N		
Dump at sea	29/04/2021	12:23	12:29	MMO	11:50	12:30	No	N		
Dredging	30/04/2021	06:11	07:08	MMO	05:40	06:45	No	Y	07:02	Not in mitigation zone
Dump at sea	30/04/2021	07:43	07:50	MMO	07:10	07:50	No	N		
Dredging	30/04/2021	08:27	09:30	MMO	07:55	08:45	No	N		
Dump at sea	30/04/2021	10:04	10:10	MMO	09:30	10:10	No	N		
Dredging	30/04/2021	10:59	11:44	MMO	10:25	11:15	No	N		
Dump at sea	30/04/2021	12:31	12:27	MMO	11:50	12:25	No	N		
Dredging	30/04/2021	13:00	14:00	MMO	12:30	13:10	No	N		

Dump at sea	30/04/2021	14:44	14:50	MMO	14:10	14:50	No	Y	15:39	Not in mitigation zone
Dredging	01/05/2021	06:20	07:22	MMO	05:45	06:25	No	N		
Dump at sea	01/05/2021	08:00	08:06	MMO	07:30	09:00	No	Y	08:53	Not in mitigation zone
Dredging	01/05/2021	08:52	09:24	MMO	09:00	09:20	No	N		
Dump at sea	01/05/2021	10:02	10:08	MMO	09:20	10:10	No	N		
Dredging	01/05/2021	10:47	11:30	MMO	10:15	11:00	No	N		
Dump at sea	01/05/2021	12:15	12:20	MMO	12:00	12:30	No	N		
Dredging	01/05/2021	13:06	14:04	MMO	12:30	13:15	No	N		
Dump at sea	01/05/2021	14:43	14:49	MMO	14:10	14:50	No	N		
Dredging & ploughing	02/05/2021	06:21	13:20	MMO	05:45	06:45	No	N		
Dump at sea	02/05/2021	08:02	08:07	MMO	07:30	08:07	No	Y	08:43	Not in mitigation zone
Dump at sea	02/05/2021	09:47	09:52	MMO	09:20	10:00	No	Y	10:28	Not in mitigation zone
Dump at sea	02/05/2021	11:30	11:36	MMO	11:15	11:36	No	N		
Dump at sea	02/05/2021	13:22	13:27	MMO	12:50	13:30	No	N		
Dredging & ploughing	03/05/2021	06:15	11:20	MMO	05:45	06:20	No	N		
Dump at sea	03/05/2021	07:27	07:32	MMO	06:50	07:30	No	N		
Dump at sea	03/05/2021	09:42	09:50	MMO	09:20	09:50	No	N		
Ploughing	03/05/2021	12:26	14:55	MMO	11:20	12:45	No	N		
Dredging	04/05/2021	06:15	07:17	MMO	05:45	06:30	No	N		
Dump at sea	04/05/2021	08:06	08:11	MMO	07:20	08:10	No	N		

Dredging & ploughing	04/05/2021	08:47	14:10	MMO	08:15	09:00	No	N		
Dump at sea	04/05/2021	10:21	10:27	MMO	09:50	10:30	No	N		
Dump at sea	04/05/2021	12:20	12:25	MMO	11:50	12:25	No	N		
Dredging	05/05/2021	06:15	06:53	MMO	05:45	06:25	No	N		
Dump at sea	05/05/2021	07:30	07:35	MMO	07:00	07:35	No	Y	08:11	Not in mitigation zone
Dredging & ploughing	05/05/2021	08:11	15:57	MMO	07:40	08:15	No	Y	08:54	Not in mitigation zone
Dump at sea	05/05/2021	09:35	09:40	MMO	08:55	09:40	No	N		
Dump at sea	05/05/2021	11:40	11:46	MMO	11:20	11:46	No	N		
Dump at sea	05/05/2021	14:02	14:07	MMO	13:30	14:05	No	N		
Dredging	06/05/2021	06:15	07:11	MMO	05:45	06:25	No	N		
Dump at sea	06/05/2021	07:48	07:54	MMO	07:15	07:55	No	N		
Dredging & ploughing	06/05/2021	08:39	17:45	MMO	08:00	08:45	No	N		
Dump at sea	06/05/2021	09:39	09:45	MMO	09:00	09:45	No	N		
Dump at sea	06/05/2021	11:41	11:46	MMO	11:10	11:45	No	Y	12:24	Not in mitigation zone
Dump at sea	06/05/2021	13:58	14:04	MMO	13:25	14:05	No	N		
Dredging	07/05/2021	06:15	07:21	MMO	05:45	06:25	No	N		
Dump at sea	07/05/2021	08:00	08:06	MMO	07:30	08:05	No	N		
Dredging	07/05/2021	08:48	09:26	MMO	08:15	09:00	No	N		
Dump at sea	07/05/2021	10:07	10:13	MMO	09:30	10:10	No	N		
Dredging & ploughing	07/05/2021	10:50	16:15	MMO	10:20	11:10	No	N		
Dump at sea	07/05/2021	12:15	12:23	MMO	11:45	12:20	No	N		
Dump at sea	07/05/2021	14:27	14:38	MMO	13:50	14:35	No	N		

Dredging & ploughing	08/05/2021	06:26	16:27	MMO	05:45	06:35	No	N		
Dump at sea	08/05/2021	08:12	08:22	MMO	07:40	08:20	No	N		
Dump at sea	08/05/2021	10:47	10:55	MMO	10:10	10:55	No	N		
Dump at sea	08/05/2021	13:31	13:39	MMO	13:00	13:40	No	N		
Dredging & ploughing	09/05/2021	06:26	17:45	MMO	05:45	06:45	No	N		
Dump at sea	09/05/2021	08:08	08:13	MMO	07:30	08:10	No	N		
Dump at sea	09/05/2021	10:19	10:25	MMO	09:50	10:25	No	N		
Dump at sea	09/05/2021	12:59	13:06	MMO	12:20	13:05	No	N		
Dredging & ploughing	09/05/2021	15:26	15:34	MMO	14:50	15:30	No	N		
Dump at sea	10/05/2021	06:21	16:25	MMO	05:45	06:35	No	N		
Dump at sea	10/05/2021	08:14	08:20	MMO	07:40	08:20	No	N		
Dump at sea	10/05/2021	10:22	10:32	MMO	09:50	10:30	No	Y	11:18	Not in mitigation zone
Dump at sea	10/05/2021	12:45	12:50	MMO	12:10	12:50	No	N		
Dredging & ploughing	11/05/2021	15:50	15:13	MMO	14:35	15:15	No	N		
Dump at sea	11/05/2021	06:18	15:40	MMO	05:45	06:25	No	N		
Dump at sea	11/05/2021	07:48	07:56	MMO	07:20	07:55	No	N		
Dump at sea	11/05/2021	10:25	10:32	MMO	09:50	10:30	No	N		
Dump at sea	11/05/2021	13:02	13:12	MMO	12:25	13:10	No	N		
Dredging & ploughing	12/05/2021	06:17	13:02	MMO	05:45	06:25	No	N		
Dump at sea	12/05/2021	07:39	07:45	MMO	07:10	07:45	No	N		
Dump at sea	12/05/2021	09:44	09:58	MMO	09:15	10:00	No	N		
Dump at sea	12/05/2021	12:15	12:25	MMO	11:45	12:25	No	N		
Ploughing	12/05/2021	15:20	16:45	MMO	13:15	15:30	No	N		
Dredging & ploughing	13/05/2021	06:18	13:35	MMO	05:45	06:35	No	N		
Dump at sea	13/05/2021	07:48	07:55	MMO	07:20	07:50	No	N		
Dump at sea	13/05/2021	09:55	10:06	MMO	09:20	10:00	No	N		

Dump at sea	13/05/2021	12:16	12:25	MMO	11:40	12:20	No	N	
Ploughing	13/05/2021	14:23	16:40	MMO	13:50	14:35	No	N	
Dredging & ploughing	14/05/2021	06:20	10:58	MMO	05:45	06:35	No	N	
Dump at sea	14/05/2021	07:54	08:22	MMO	07:20	08:15	No	N	
Ploughing	14/05/2021	11:43	15:55	MMO	11:10	11:50	No	N	
Ploughing	15/05/2021	10:15	11:30	MMO	09:45	10:30	No	N	
Ploughing	15/05/2021	12:15	17:00	MMO	11:35	12:25	No	N	
Dredging & ploughing	16/05/2021	06:28	08:45	MMO	05:50	06:40	No	N	
Dump at sea	16/05/2021	09:24	09:31	MMO	08:50	09:30	No	Y	09:55 Not in mitigation zone

Appendix II : Record of Monitoring Effort

Type of operation or activity	Date (dd, mm, yyyy)	Initials	Time you began monitoring for marine mammals GMT	Time you stopped monitoring for marine mammals GMT	Duration of monitoring watch (minutes)	Duration of the sound producing operation/ activity while you were monitoring for marine mammals (minutes)	Start Lat/Long Mosition (if static/ moving) (Lat , Long)	End Lat/Long Mosition (if moving) (Lat , Long)	Wind direction & Beaufort wind force (e.g., SW 2)	Sea State (WMO) 0 to 9	Swell height Choose from: 0 = no swell L = 0-1 m M = 1-2 m H = 2+ m	Visibility Choose from: P = < 1 km M = 1-5 km G = 5-10 km H = >10 km
Ploughing	22/04/2021	SM	13:00	14:00	60	20	52°16.220 9°51.633		SE2	3	L	H
Ploughing	22/04/2021	SM	15:30	16:00	30	30	52°16.220 9°51.633		SE2	3	L	H
Ploughing	22/04/2021	SM	16:00	16:30	30	30	52°16.217 9°51.620	52°16.220 9°51.633	SE2	3	M	H
Ploughing	23/04/2021	SM	05:45	07:15	90	20	52°16.220 9°51.633		SE2	3	L	H
Ploughing	23/04/2021	SM	08:10	08:30	20	0	52°16.220 9°51.633		SE3	3	L	H

Ploughing	23/04/2021	SM	12:00	12:30	30	0	52°16.220 9°51.633		SE2	2	L	H
Dredging	23/04/2021	SM	12:30	16:10	220	15	52°16.220 9°51.633		SE3	3	M	H
Dump at sea	23/04/2021	SM	16:50	17:35	45	3	52°16.080 9°53.300	52°18.987 9°53.891	SE2	2	L	H
Dredging	24/04/2021	SM	05:45	06:30	45	15	52°16.220 9°51.633		SE2	2	L	H
Dump at sea	24/04/2021	SM	07:25	08:05	35	7	52°16.080 9°53.300	52°19.032 9°53.899	SE2	2	L	H
Dredging	24/04/2021	SM	11:30	12:30	60	10	52°16.220 9°51.633		SE2	2	L	H
Dump at sea	24/04/2021	SM	13:30	14:05	35	3	52°16.080 9°53.300	52°19.034 9°54.080	SE2	1	L	H
Dump at sea	24/04/2021	SM	16:30	17:05	35	3	52°16.080 9°53.300	52°19.034 9°54.080	SE2	1	L	H
Dredging	25/04/2021	SM	05:45	06:35	50	15	52°16.220 9°51.632	52°16.257 9°51.479	E1	1	0	H
Dump at sea	25/04/2021	SM	07:20	07:55	25	2	52°16.080 9°53.300	52°19.067 9°54.028	E1	1	0	H
Ploughing	25/04/2021	SM	11:20	12:30	70	22	52°16.220 9°51.632	52°16.219 9°51.580	E1	1	0	H

Dredging	25/04/2021	SM	12:45	13:30	45	45	52°16.220 9°51.632	52°16.245 9°51.471	E1	1	0	H
Dump at sea	25/04/2021	SM	14:30	15:15	45	4	52°16.080 9°53.300	52°18.949 9°54.068	E1	1	0	H
Dredging & ploughing	26/04/2021	SM	05:45	06:45	60	30	52°16.220 9°51.632	52°16.252 9°51.477	E0	0	0	H
Dump at sea	26/04/2021	SM	07:20	08:00	40	3	52°16.080 9°53.300	52°19.009 9°54.116	E0	0	0	H
Dredging	26/04/2021	SM	11:20	14:45	205	17	52°16.220 9°51.632	52°16.216 9°51.628	NW1	0	0	H
Dump at sea	26/04/2021	SM	15:05	15:40	35	3	52°16.080 9°53.300	52°19.166 9°54.134	NW1	1	L	H
Dredging & ploughing	27/04/2021	SM	05:45	06:30	45	15	52°16.220 9°51.632	52°16.257 9°51.496	NW1	0	0	H
Dump at sea	27/04/2021	SM	07:00	07:40	40	3	52°16.080 9°53.300	52°19.166 9°54.134	NW1	2	L	G
Dredging	27/04/2021	SM	07:50	08:30	40	8	52°16.080 9°53.300	52°16.252 9°51.517	NW2	1	L	G

Dump at sea	27/04/2021	SM	09:20	09:55	35	3	52°16.080 9°53.300	52°19.164 9°54.243	NW1	1	L	G
Dredging	28/04/2021	SM	05:45	06:45	60	15	52°16.220 9°51.632	52°16.231 9°51.633	NW1	1	0	H
Dump at sea	28/04/2021	SM	07:30	08:05	35	4	52°16.080 9°53.300	52°19.305 9°54.185	NE1	2	L	H
Dredging	28/04/2021	SM	08:15	09:15	45	12	52°16.080 9°53.300	52°16.265 9°51.499	NE1	1	0	H
Dump at sea	28/04/2021	SM	10:00	10:35	35	5	52°16.080 9°53.300	52°19.336 9°54.002	NE1	1	L	H
Ploughing	28/04/2021	SM	15:25	16:15	50	13	52°16.220 9°51.632		N2	1	0	H
Dredging & ploughing	29/04/2021	SM	05:45	06:45	60	30	52°16.220 9°51.632	52°16.262 9°51.537	NE0	0	0	H
Dump at sea	29/04/2021	SM	07:10	07:50	40	5	52°16.080 9°53.300	52°19.812 9°54.584°	NE0	1	0	H
Dredging & ploughing	29/04/2021	SM	08:00	08:30	30	30	52°16.080 9°53.300	52°16.234 9°51.506	NE0	0	0	H
Dump at sea	29/04/2021	SM	09:25	10:00	35	6	52°16.080 9°53.300	52°19.237 9°54.232	N1	1	L	H

Dredging & ploughing	29/04/2021	SM	10:00	10:45	45	45	52°16.080 9°53.300	52°16.230 9°51.511	N1	0	0	H
Dump at sea	29/04/2021	SM	11:50	12:30	40	6	52°16.080 9°53.300	52°19.246 9°54.847	NW1	1	L	H
Dredging	30/04/2021	SM	05:40	06:45	65	35	52°16.220 9°51.632	52°16.255 9°51.571	NE0	0	0	H
Dump at sea	30/04/2021	SM	07:10	07:50	40	7	52°16.080 9°53.300	52°19.140 9°54.533	NE0	0	0	H
Dredging	30/04/2021	SM	07:55	08:45	50	18	52°16.080 9°53.300	52°16.252 9°51.434	NE0	1	0	H
Dump at sea	30/04/2021	SM	09:30	10:10	40	6	52°16.080 9°53.300	52°19.041 9°54.248	NE0	0	0	H
Dredging	30/04/2021	SM	10:25	11:15	50	16	52°16.080 9°53.300	52°16.241 9°51.615	NE1	1	0	H
Dump at sea	30/04/2021	SM	11:50	12:25	35	4	52°16.080 9°53.300	52°19.044 9°53.917	NE1	1	L	H
Dredging	30/04/2021	SM	12:30	13:10	40	10	52°16.080 9°53.300	52°16.237 9°51.456	N1	1	0	H

Dump at sea	30/04/2021	SM	14:10	14:50	40	6	52°16.080 9°53.300	52°18.982 9°53.632	N1	1	L	H
Dredging	01/05/2021	SM	05:45	06:25	40	5	52°16.220 9°51.632	52°16.245 9°51.581	E0	1	0	H
Dump at sea	01/05/2021	SM	07:30	08:20	50	6	52°16.080 9°53.300	52°19.358 9°54.082	E0	0	0	H
Dredging	01/05/2021	SM	08:20	09:20	60	28	52°16.080 9°53.300	52°16.166 9°51.553	E0	0	0	H
Dump at sea	01/05/2021	SM	09:20	10:10	50	6	52°16.080 9°53.300	52°19.393 9°54.040	E0	0	0	H
Dredging	01/05/2021	SM	10:15	11:00	45	13	52°16.080 9°53.300	52°16.268 9°51.455	E0	1	0	H
Dump at sea	01/05/2021	SM	12:00	12:20	20	5	52°16.080 9°53.300	52°19.377 9°53.851	NW0	1	L	H
Dredging	01/05/2021	SM	12:30	13:15	45	9	52°16.080 9°53.300	52°16.271 9°51.436	NW0	1	0	H
Dump at sea	01/05/2021	SM	14:10	14:50	40	6	52°16.080 9°53.300	52°19.128 9°53.812	NW0	1	L	H

Dredging & ploughing	02/05/2021	SM	05:45	06:35	55	14	52°16.220 9°51.632	52°16.251 9°51.599	SE0	1	0	H
Dump at sea	02/05/2021	SM	07:30	08:07	37	5	52°16.080 9°53.300	52°19.150 9°54.010	NE0	0	0	H
Dump at sea	02/05/2021	SM	08:07	08:45	38	38	52°16.080 9°53.300	52°16.248 9°51.430	NW0	0	0	H
Dump at sea	02/05/2021	SM	09:20	10:00	40	5	52°16.080 9°53.300	52°19.198 9°53.683	W0	0	0	H
Dump at sea	02/05/2021	SM	10:00	10:40	40	40	52°16.080 9°53.300	52°16.254 9°51.419	W0	0	0	H
Dump at sea	02/05/2021	SM	11:15	11:36	21	6	52°16.080 9°53.300	52°19.020 9°54.236	W0	0	0	H
Dredging & ploughing	02/05/2021	SM	11:45	12:20	35	35	52°16.080 9°53.300	52°16.238 9°51.436	W0	1	0	H
Dump at sea	02/05/2021	SM	12:50	13:30	50	5	52°16.080 9°53.300	52°19.004 9°53.996	W1	1	L	H
Dredging & ploughing	03/05/2021	SM	05:45	06:20	35	5	52°16.220 9°51.632		S4	3	L	M

Dump at sea	03/05/2021	SM	06:50	07:30	40	3	52°16.080 9°53.300	52°18.955 9°53.480	SW4	3	M	M
Dredging & ploughing	03/05/2021	SM	07:40	08:15	35	35	52°16.080 9°53.300	52°16.270 9°51.459	SW4	3	L	M
Dump at sea	03/05/2021	SM	09:20	09:50	30	8	52°16.080 9°53.300	52°19.337 9°54.207	SW4	3	M	M
Ploughing	03/05/2021	SM	11:20	12:40	80	14	52°16.220 9°51.632		W4	3	L	G
Dredging	04/05/2021	SM	05:45	06:30	45	15	52°16.220 9°51.632	52°16.261 9°51.500	NW2	2	L	H
Dump at sea	04/05/2021	SM	07:20	08:10	50	4	52°16.080 9°53.300	52°19.368 9°53.971	NW2	2	L	H
Dredging & ploughing	04/05/2021	SM	08:15	09:00	45	12	52°16.080 9°53.300	52°16.258 9°51.599	NW2	1	0	H
Dump at sea	04/05/2021	SM	09:50	10:30	40	6	52°16.080 9°53.300	52°19.348 9°53.643	NW2	1	L	H
Dredging & ploughing	04/05/2021	SM	10:30	11:15	45	45	52°16.080 9°53.300	52°16.258 9°51.599	NW2	1	L	H
Dump at sea	04/05/2021	SM	11:50	12:25	35	5	52°16.080 9°53.300	52°19.256 9°54.198	NW2	1	L	H

Dredging	05/05/2021	SM	05:45	06:25	40	10	52°16.220 9°51.632	52°16.268 9°51.413	NW1	1	L	H
Dump at sea	05/05/2021	SM	07:00	07:35	35	5	52°16.080 9°53.300	52°18.187 9°53.695	NW1	1	L	H
Dredging & ploughing	05/05/2021	SM	07:40	08:15	35	4	52°16.080 9°53.300	52°16.252 9°51.532	NW1	1	0	H
Dump at sea	05/05/2021	SM	08:55	09:40	45	5	52°16.080 9°53.300	52°19.296 9°53.853	NW1	1	L	H
Dredging & ploughing	05/05/2021	SM	09:45	10:20	45	45	52°16.080 9°53.300	52°16.288 9°51.481	NW1	1	0	H
Dump at sea	05/05/2021	SM	11:20	11:46	26	6	52°16.080 9°53.300	52°19.027 9°53.625	NW1	1	L	H
Dump at sea	05/05/2021	SM	13:30	14:05	35	3	52°16.080 9°53.300	52°19.730 9°53.638	NW1	1	L	H
Dredging	06/05/2021	SM	05:45	06:25	40	10	52°16.220 9°51.632	52°16.287 9°51.445	NE1	1	0	H
Dump at sea	06/05/2021	SM	07:15	07:55	40	6	52°16.080 9°53.300	52°19.199 9°53.663	NE1	1	L	H

Dredging & ploughing	06/05/2021	SM	08:00	08:45	45	9	52°16.080 9°53.300	52°16.266 9°51.554	NE1	1	0	H
Dump at sea	06/05/2021	SM	09:00	09:45	45	6	52°16.080 9°53.300	52°19.038 9°53.598	NE1	1	0	H
Dredging & ploughing	06/05/2021	SM	09:50	10:30	40	40	52°16.080 9°53.300	52°16.234 9°51.437	NE1	1	0	H
Dump at sea	06/05/2021	SM	11:10	11:45	35	5	52°16.080 9°53.300	52°19.332 9°54.238	N1	1	0	H
Dredging & ploughing	06/05/2021	SM	11:50	12:35	45	45	52°16.080 9°53.300	52°16.275 9°51.438	N1	1	0	H
Dump at sea	06/05/2021	SM	13:20	14:05	45	6	52°16.080 9°53.300	52°19.338 9°53.984	N1	2	L	H
Dredging	07/05/2021	SM	05:45	06:25	45	10	52°16.243 9°51.589	52°16.230 9°51.506	E1	1	0	H
Dump at sea	07/05/2021	SM	07:30	08:05	35	5	52°16.080 9°53.300	52°19.352 9°53.666	E1	1	L	H
Dredging	07/05/2021	SM	08:15	09:00	45	12	52°16.080 9°53.300	52°16.243 9°52.467	E1	1	0	H
Dump at sea	07/05/2021	SM	09:30	10:10	40	3	52°16.080 9°53.300	52°19.144 9°53.618	SE1	1	L	H

Dredging & ploughing	07/05/2021	SM	10:20	11:10	50	20	52°16.080 9°53.300	52°16.260 9°51.443	SE1	1	0	H
Dump at sea	07/05/2021	SM	11:45	12:30	35	5	52°16.080 9°53.300	52°18.973 9°53.611	SE1	2	L	H
Dredging & ploughing	07/05/2021	SM	12:30	13:10	40	40	52°16.080 9°53.300	52°16.252 9°51.601	SE1	2	L	H
Dump at sea	07/05/2021	SM	13:50	14:35	45	8	52°16.080 9°53.300	52°19.387 9°54.166	SE2	2	L	G
Dredging & ploughing	08/05/2021	SM	05:45	06:25	40	9	52°16.220 9°51.632	52°16.237 9°51.653	SW2	1	L	G
Dump at sea	08/05/2021	SM	07:40	08:20	40	8	52°16.080 9°53.300	52°19.378 9°53.847	SW2	2	L	G
Dredging & ploughing	08/05/2021	SM	08:30	09:15	45	45	52°16.080 9°53.300	52°16.255 9°51.449	SW2	1	L	G
Dump at sea	08/05/2021	SM	10:10	10:55	45	8	52°16.080 9°53.300	52°19.357 9°53.602	SW2	2	L	G
Dredging & ploughing	08/05/2021	SM	11:00	11:40	40	40	52°16.080 9°53.300	52°16.410 9°51.557	SW2	1	L	G
Dump at sea	08/05/2021	SM	13:00	13:40	40	8	52°16.080 9°53.300	52°19.160 9°53.673	SW3	3	L	M
Dredging & ploughing	09/05/2021	SM	05:45	06:45	60	19	52°16.220 9°51.632	52°16.233 9°51.637	S3	2	L	M

Dump at sea	09/05/2021	SM	07:30	08:10	40	2	52°16.080 9°53.300	52°19.047 9°53.622	S3	3	M	G
Dredging & ploughing	09/05/2021	SM	08:25	09:10	45	15	52°16.080 9°53.300		S3	2	L	H
Dump at sea	09/05/2021	SM	09:50	10:25	35	6	52°16.080 9°53.300	52°19.350 9°54.181	S3	3	M	G
Dredging & ploughing	09/05/2021	SM	10:30	11:20	50	10	52°16.080 9°53.300	52°16.282 9°51.466	S3	3	L	G
Dump at sea	09/05/2021	SM	12:20	13:05	25	6	52°16.080 9°53.300	52°19.381 9°53.888	S3	3	M	H
Dredging & ploughing	09/05/2021	SM	13:10	14:00	50	16	52°16.080 9°53.300	52°16.268 9°51.510	S3	2	M	G
Dump at sea	09/05/2021	SM	14:50	15:30	40	4	52°16.080 9°53.300	52°19.398 9°53.633	SW3	3	L	G
Dredging & ploughing	10/05/2021	SM	05:56	06:35	50	14	52°16.220 9°51.632	52°16.263 9°51.574	SW1	1	0	H
Dump at sea	10/05/2021	SM	07:40	08:20	40	6	52°16.080 9°53.300	52°19.130 9°53.560	SW2	1	L	G
Dredging & ploughing	10/05/2021	SM	08:30	09:10	40	10	52°16.080 9°53.300	52°16.299 9°51.491	SW1	1	0	M
Dump at sea	10/05/2021	SM	09:50	10:30	40	8	52°16.080 9°53.300	52°19.055 9°53.669	SW1	2	L	M

Dredging & ploughing	10/05/2021	SM	10:35	11:15	50	8	52°16.080 9°53.300	52°16.041 9°51.700	SW1	1	0	G
Dump at sea	10/05/2021	SM	12:10	12:50	40	5	52°16.080 9°53.300	52°19.178 9°54.271	SW2	2	L	M
Dredging & ploughing	10/05/2021	SM	12:55	13:35	40	9	52°16.080 9°53.300	52°16.261 9°51.436	SW2	1	0	H
Dump at sea	10/05/2021	SM	14:35	15:15	40	8	52°16.080 9°53.300	52°19.130 9°53.591	SW3	2	L	G
Dredging & ploughing	11/05/2021	SM	05:45	06:25	40	4	52°16.220 9°51.632	52°16.300 9°51.491	S2	3	M	H
Dump at sea	11/05/2021	SM	07:20	07:55	35	6	52°16.080 9°53.300	52°19.234 9°53.580	S2	3	M	H
Dredging & ploughing	11/05/2021	SM	08:00	09:00	60	60	52°16.080 9°53.300	52°16.231 9°51.462	S2	1	L	H
Dump at sea	11/05/2021	SM	09:50	10:30	40	5	52°16.080 9°53.300	52°19.301 9°53.592	SE2	2	L	M
Dredging & ploughing	11/05/2021	SM	10:40	11:25	45	45	52°16.080 9°53.300	52°16.260 9°51.566	SE1	2	L	G

Dump at sea	11/05/2021	SM	12:25	13:10	45	8	52°16.080 9°53.300	52°19.190 9°54.179	S1	2	L	M
Dredging & ploughing	12/05/2021	SM	05:45	06:25	40	8	52°16.220 9°51.632	52°16.381 9°51.600	SE0	0	0	G
Dump at sea	12/05/2021	SM	07:10	07:45	35	6	52°16.080 9°53.300	52°19.121 9°53.938	SE0	0	L	G
Dredging & ploughing	12/05/2021	SM	08:00	08:45	45	45	52°16.080 9°53.300	52°16.243 9°51.481	SE0	0	0	H
Dump at sea	12/05/2021	SM	09:10	10:00	45	16	52°16.080 9°53.300	52°19.155 9°53.844	SE0	0	0	H
Dredging & ploughing	12/05/2021	SM	10:10	10:50	40	45	52°16.080 9°53.300	52°16.32 9°51.64	SE1	1	0	G
Dump at sea	12/05/2021	SM	11:45	12:25	40	10	52°16.080 9°53.300	52°19.13 9°53.820	N1	1	L	G
Ploughing	12/05/2021	SM	13:15	15:30	135	10	52°16.220 9°51.632		N0	1	0	H
Dredging & ploughing	13/05/2021	SM	05:45	06:35	50	17	52°16.080 9°53.300	52°16.252 9°51.487	NW0	1	0	H
Dump at sea	13/05/2021	SM	07:20	07:50	30	2	52°16.080 9°53.300	52°19.010 9°54.255	NW0	2	0	H
Dredging & ploughing	13/05/2021	SM	08:00	08:35	35	35	52°16.080 9°53.300	52°16.235 9°51.485	NW0	1	0	H

Dump at sea	13/05/2021	SM	09:20	10:00	40	5	52°16.080 9°53.300	52°19.246 9°54.221	NW1	1	L	H
Dredging & ploughing	13/05/2021	SM	10:10	10:55	45	45	52°16.080 9°53.300	52°16.364 9°51.567	NW1	1	L	H
Dump at sea	13/05/2021	SM	11:40	12:20	40	4	52°16.080 9°53.300	52°19.364 9°53.567	NW1	1	L	H
Dredging & ploughing	13/05/2021	SM	13:00	13:30	30	30	52°16.080 9°53.300	52°16.220 9°51.632	NW1	1	0	H
Ploughing	13/05/2021	SM	13:50	14:35	45	12	52°16.220 9°51.632		NW1	1	0	H
Dredging & ploughing	14/05/2021	SM	05:45	06:35	50	15	52°16.220 9°51.632	52°16.287 9°51.554	S0	1	0	H
Dump at sea	14/05/2021	SM	07:20	08:15	55	11	52°16.080 9°53.300	52°19.036 9°53.691	S0	1	L	H
Ploughing	14/05/2021	SM	08:30	09:05	35	35	52°16.270 9°51.860		S0	1	0	H
Ploughing	14/05/2021	SM	11:10	11:50	40	8	52°16.220 9°51.632		S1	1	0	H
Ploughing	15/05/2021	SM	05:52	07:08	76	0	52°16.220 9°51.632		S1	1	0	G
Ploughing	15/05/2021	SM	09:45	10:30	45	15	52°16.260 9°51.701		SW1	1	0	H
Ploughing	15/05/2021	SM	11:35	12:35	60	20	52°16.220 9°51.632		SW2	1	0	H

Ploughing	15/05/2021	SM	14:00	14:30	30	30	52°16.220 9°51.632		SW2	1	0	H
Ploughing	15/05/2021	SM	15:00	15:30	30	30	52°16.220 9°51.632		SW1	1	0	H
Ploughing	15/05/2021	SM	16:00	16:25	25	25	52°16.220 9°51.632		SW2	1	0	G
Ploughing	16/05/2021	SM	05:45	06:40	12	12	52°16.220 9°51.632		NE0	0	0	G
Dredging & ploughing	16/05/2021	SM	07:20	08:10	50	50	52°16.220 9°51.589	52°16.240 9°51.600	NE0	1	L	G
Dump at sea	16/05/2021	SM	08:50	09:30	40	6	52°16.080 9°53.300	52°19.371 9°54.263	NW0	1	L	H

Appendix III : Non-compliance

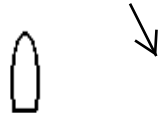
There were no non-compliant operations under the period of 22 April and 16 May 2021.

Appendix IV: Sighting Forms

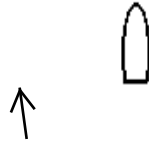
Sighting No	Species	# Individs.	Date (dd/mm/yy)	MMO (initials)	In mitigation zone? (Y or N)	Operation type	Sound production at time of sighting	Comments
1	Harbour seal	1	30/04/2021	SM	N	Dredging	Prewatch	
2	Harbour seal	1	30/04/2021	SM	N	Dredging	Operation underway	
3	Seal, unidentified	1	30/04/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
4	Seal, unidentified	1	30/04/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
5	Harbour seal	1	01/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
6	Bottlenose dolphin	5	01/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
7	Bottlenose dolphin	3	01/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
8	Bottlenose dolphin	3	01/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
9	Bottlenose dolphin	5	01/05/2021	SM	N	Dredging	Sound production at stop	Return from DAS
10	Bottlenose dolphin	3	01/05/2021	SM	N	Dredging	Sound production at stop	Return from DAS
11	Bottlenose dolphin	3	02/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site

12	Harbour seal	1	02/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
13	Grey seal	1	04/05/2021	SM	Y	Dredging	Sound production at stop	INCIDENTAL: sound at stop-prepping for DAS run
14	Grey seal	1	04/05/2021	SM	Y	Dredging	Sound production at stop	INCIDENTAL: work stopped for day; noticed by Thomas on bridge
15	Grey seal	1	05/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
16	Seal, unidentified	1	05/05/2021	SM	N	Dredging	Sound production at stop	Return from DAS
17	Grey seal	1	06/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
18	Grey seal	1	10/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site
19	Seal, unidentified	1	16/05/2021	SM	N	Dump at sea	Sound production at stop	En route to DAS site


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick)		Dredging <input checked="" type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (specify) <input type="checkbox"/>
Date (dd/mm/yyyy) 30/04/2021	Time (Local) 06:50-07:02	Time (GMT/UTC) 05:50-06:02		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.220 9°51.633				Water depth (metres) (if available) c.2-5m		
Species recorded Phoca vitulina (Harbour seal)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 1		No. of adults	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Small round dark head with forward eyes Distinct snout and forehead Dark colour Approximately 1-1.5m length				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Spyhopping and diving... possibly feeding as there were many seagulls in the area as well.				Direction of travel of animals (compass points or degrees) 135-140°		
Activity of platform/vessel Dredging		Operation/activity under way (when animals first seen) <i>Yes / No / <u>Pre-Start watch</u></i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 540m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick)		Dredging <input checked="" type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (specify) <input type="checkbox"/>
Date (dd/mm/yyyy) 30/04/2021	Time (Local) 07:22-07:38	Time (GMT/UTC) 06:22-06:38		Sighting Record no. 2		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.263 9°51.505				Water depth (metres) (if available)		
Species recorded Phoca vitulina (Harbour seal)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 1		No. of adults	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Small round dark head with forward eyes, a distinct snout and forehead and approximately 1-1.5m length				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Spyhopping and diving, possibly feeding as there were many seagulls in the area as well.				Direction of travel of animals (compass points or degrees) 135 --> 140°		
Activity of platform/vessel Dredging		Operation/activity under way (when animals first seen) <u>Yes</u> / No / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 550m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 30/04/2021	Time (Local) 09:02	Time (GMT/UTC) 08:02		Sighting Record no. 3		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.779 9°54.753				Water depth (metres) (if available) c.2-5m		
Species recorded Seal, unidentified			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Seal It wasn't possible to obtain detailed description as the seal was at a distance of 500m and dived immediately after being spotted.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Was swimming at surface but dived as soon as I saw it.				Direction of travel of animals (compass points or degrees) 170°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 500m		

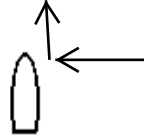
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (<input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 30/04/2021	Time (Local) 10:45	Time (GMT/UTC) 09:45		Sighting Record no. 4		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.700 9°54.701				Water depth (metres) (if available) c.5-10m		
Species recorded Seal, unidentified			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Seal It wasn't possible to obtain detailed description as the seal was at a distance of 400m and dived immediately after being spotted.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) → 		
Behaviour Was swimming at surface but dived as soon as I saw it.				Direction of travel of animals (compass points or degrees) 340°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 400m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 30/04/2021	Time (Local) 15:39	Time (GMT/UTC) 14:39		Sighting Record no. 5		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.800 9°53.620				Water depth (metres) (if available) c.5-12m		
Species recorded Phoca vitulina (Harbour seal)			Certainty of identification (underline) <i>Definite</i> / probable / possible			
Total number of animals (best estimate) 1		No. of adults	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Small round dark head with forward eyes Distinct snout and forehead Approximately 1-1.5m length				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Swam at surface towards vessel.				Direction of travel of animals (compass points or degrees) 360°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 200m		

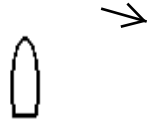
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 01/05/2021	Time (Local) 08:47-08:53	Time (GMT/UTC) 07:47-07:53		Sighting Record no. 6		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.830 9°53.632				Water depth (metres) (if available) c.10m		
Species recorded Tursiops truncatus (Bottlenose dolphin)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 5		No. of adults 5	No. of juveniles	No. of calves		
Maximum number (estimated total) 5		Minimum number (estimated total) 3				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) All individuals had a uniform grey colour with no discernible patterns, a central dorsal fin halfway down back and short beaks				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour They swam at the surface towards Mahury, bow-riding for a few minutes.				Direction of travel of animals (compass points or degrees) 60-40°		
Activity of platform/vessel DAS		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 10m		

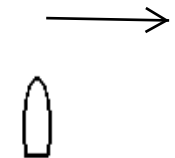
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 01/05/2021	Time (Local) 08:47-08:53	Time (GMT/UTC) 07:47-07:53		Sighting Record no. 7		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.830 9°54.632				Water depth (metres) (if available) c.10-15m		
Species recorded Tursiops truncatus (Bottlenose dolphin)			Certainty of identification (underline) <i>Definite</i> / probable / possible			
Total number of animals (best estimate) 3		No. of adults 2	No. of juveniles 1	No. of calves		
Maximum number (estimated total) 3		Minimum number (estimated total) 3				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) All three dolphins had a grey uniform colour with no patterns, a central dorsal fin halfway down back and short beaks. The juvenile was considerably smaller than the adults and swam very close to one of the adults.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Swam slowly along surface, and was visible for approx. 5 minutes.				Direction of travel of animals (compass points or degrees) 70°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 500m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 01/05/2021	Time (Local) 08:55	Time (GMT/UTC) 07:55		Sighting Record no. 8		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.830 9°53.632				Water depth (metres) (if available) c.9-22m		
Species recorded Tursiops truncatus (Bottlenose dolphin)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 3		No. of adults 2	No. of juveniles 1	No. of calves		
Maximum number (estimated total) 3		Minimum number (estimated total) 2				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) All three of the dolphins had a uniform grey colour with no patterns, a central dorsal fin halfway down back and short beaks.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Slow swimming at surface. The juvenile was notably smaller and swam close to one of the adults.				Direction of travel of animals (compass points or degrees) 360 --> 10°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 500m		

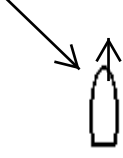
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) Returning from disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 01/05/2021	Time (Local) 09:05-09:11	Time (GMT/UTC) 08:05-08:11		Sighting Record no. 9		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.791 9°53.701				Water depth (metres) (if available) c.9-12m		
Species recorded Tursiops truncatus (Bottlenose dolphin)			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 5		No. of adults 5	No. of juveniles	No. of calves		
Maximum number (estimated total) 5		Minimum number (estimated total) 3				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) All 5 dolphins had uniform grey colour, a have central dorsal fin half way down back and short beaks.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Slow swimming at surface.				Direction of travel of animals (compass points or degrees) 255 --> 270°		
Activity of platform/vessel Returning from disposal site		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 1200m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) Returning from disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 01/05/2021	Time (Local) 09:05-09:11	Time (GMT/UTC) 08:05-08:11		Sighting Record no. 10		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.791 9°54.701				Water depth (metres) (if available) c.5-10m		
Species recorded Tursiops truncatus (Bottlenose dolphin)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 3		No. of adults 3	No. of juveniles	No. of calves		
Maximum number (estimated total) 3		Minimum number (estimated total) 2				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) The three dolphins displayed a uniform grey colour, a central dorsal fin half way down back and had short beaks.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) → 		
Behaviour Slow swimming at surface.				Direction of travel of animals (compass points or degrees) 230 --> 245°		
Activity of platform/vessel Returning from disposal site		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 400m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) en route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 02/05/2021	Time (Local) 08:39-08:43	Time (GMT/UTC) 07:39-07:43		Sighting Record no. 11		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.299 9°53.519				Water depth (metres) (if available) c.5-12m		
Species recorded Tursiops truncatus (Bottlenose dolphin)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 3		No. of adults 3	No. of juveniles	No. of calves		
Maximum number (estimated total) 3		Minimum number (estimated total) 3				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) All three dolphins had a grey uniform colour with no patterns, a central dorsal fin halfway down back and short beaks.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour The dolphins swam quickly at surface towards Mahury to bow-ride. As Mahury was traveling slowly, they did not bow-ride for long and swam away after 2-3 minutes.				Direction of travel of animals (compass points or degrees) 220 --> 240°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 600 --> 10m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 02/05/2021	Time (Local) 10:38	Time (GMT/UTC) 09:38		Sighting Record no. 12		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.520 9°53.700				Water depth (metres) (if available) c.5-10m		
Species recorded Phoca vitulina (Harbour seal)			Certainty of identification (underline) <i>Definite</i> / probable / possible			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Dark grey with spots, approximately 1m in length, small round head with forward eyes. a distinct forehead and snout.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Swam at surface.				Direction of travel of animals (compass points or degrees) 50°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 550m		

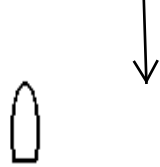
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick)		Dredging <input checked="" type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (specify) <input type="checkbox"/>
Date (dd/mm/yyyy) 04/05/2021	Time (Local) 08:18	Time (GMT/UTC) 07:18		Sighting Record no. 13		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input type="checkbox"/>	
Spotted incidentally by you or someone else					<input checked="" type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details: <u>Spotted by MMO when dredging activities were complete for the day</u>						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.272 9°51.485				Water depth (metres) (if available) c.2-5m		
Species recorded Halichoerus grypus (Grey seal)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Grey colour with light streaks, long Roman nose and approximately 2m in length.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Swam at surface and did a dive roll.				Direction of travel of animals (compass points or degrees) 230°		
Activity of platform/vessel Dredging		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 120m		

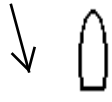
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick)		Dredging <input checked="" type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (specify) <input type="checkbox"/>
Date (dd/mm/yyyy) 04/05/2021	Time (Local) 15:52	Time (GMT/UTC) 14:52		Sighting Record no. 14		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input type="checkbox"/>	
Spotted incidentally by you or someone else					<input checked="" type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details: <u>Spotted by a crew member after dredging was completed for the day</u>						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.220 9°51.633				Water depth (metres) (if available) c.7.5m		
Species recorded Halichoerus grypus (Grey seal)			Certainty of identification (underline) <u>Definite</u> / probable / possible			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Grey colour with light streaks, long Roman nose, c.2m in length. Patterns on head and back look very similar to the sighting 13.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Swam at surface, checking out Mahury's bow.				Direction of travel of animals (compass points or degrees) 20°		
Activity of platform/vessel Dredging		Operation/activity under way (when animals first seen) Yes / <u>No</u> / Pre-Start watch		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 5m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (<input checked="" type="checkbox"/> <i>fy</i>)
Date (dd/mm/yyyy) 05/05/2021	Time (Local) 08:11	Time (GMT/UTC) 07:11		Sighting Record no. 15		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.711 9°51.624				Water depth (metres) (if available) c.7-12m		
Species recorded Halichoerus grypus (Grey seal)			Certainty of identification (underline) <i>Definite / <u>probable</u> / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Grey colour with light streaks, long Roman nose and double chin, c.2m in length.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Eating a fish at surface.				Direction of travel of animals (compass points or degrees) 20°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 150m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) Returning from disposal site		Dredging <input checked="" type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (specify) <input type="checkbox"/>
Date (dd/mm/yyyy) 05/05/2021	Time (Local) 08:50-08:54	Time (GMT/UTC) 07:50-07:54		Sighting Record no. 16		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.131 9°54.578				Water depth (metres) (if available)		
Species recorded Seal, unidentified			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Grey seal				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour The seal was spy-hopping and made a quick dive roll.				Direction of travel of animals (compass points or degrees) 120°		
Activity of platform/vessel Returning from disposal site		Operation/activity under way (when animals first seen) <i>Yes / No / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 290m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 06/05/2021	Time (Local) 12:45	Time (GMT/UTC) 11:24		Sighting Record no. 17		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°17.300 9°54.690				Water depth (metres) (if available) c.10-12m		
Species recorded Halichoerus grypus (Grey seal)			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Large grey head with light streaks, a long Roman nose, double chin and approximately 2m in length.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour The seal was spy-hopping and made a quick dive roll.				Direction of travel of animals (compass points or degrees) 220°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 1160m		

DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) En route to disposal site		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 10/05/2021	Time (Local) 11:02	Time (GMT/UTC) 10:02		Sighting Record no. 18		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S. Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°16.806 9°54.726				Water depth (metres) (if available) c. 10-12m		
Species recorded Halichoerus grypus (Grey seal)			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles		No. of calves	
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Brownish grey head, eyes far back on head, long roman nose, and approximately 2m in length.				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) ↑ 		
Behaviour Swimming at surface with kelp stem in its mouth.				Direction of travel of animals (compass points or degrees) 320°		
Activity of platform/vessel En route to disposal site		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 200m		

DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS*Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.*

Operation/Activity (please tick) DAS		Dredging <input type="checkbox"/>	Drilling <input type="checkbox"/>	Pile Driving <input type="checkbox"/>	Blasting <input type="checkbox"/>	Other (s <input checked="" type="checkbox"/> fy)
Date (dd/mm/yyyy) 16/05/2021	Time (Local) 09:55	Time (GMT/UTC) 08:55		Sighting Record no. 19		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					<input checked="" type="checkbox"/>	
Spotted incidentally by you or someone else					<input type="checkbox"/>	
Other (please specify)					<input type="checkbox"/>	
Details: <u>en route DAS</u>						
Platform type & name (e.g. ship, rig, headland) Mahury TSHD				Observer's name S.Madden		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 52°15.990 9°52.560				Water depth (metres) (if available) c.5-10m		
Species recorded Seal, unidentified			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles	No. of calves		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Seal, could not ID species				Photograph or video taken Yes / <u>No</u>		
				Direction of travel of animals in relation to platform/vessel (draw arrow) ↙ 		
Behaviour Dived too quickly to ID				Direction of travel of animals (compass points or degrees) 300°		
Activity of platform/vessel DAS		Operation/activity under way (when animals first seen) <i>Yes / <u>No</u> / Pre-Start watch</i>		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 2320m		