

Falmouth Docks Development: Appropriate Assessment Addendum - Falmouth Bay to St Austell Bay SPA

Project name **Falmouth Docks Development**
Project no. **1620015743-006**
Client **A&P Group**

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1 Introduction

1.1 Objective

This Habitats Regulations Assessment (HRA) Appropriate Assessment (AA) addendum has been prepared by Ramboll UK Ltd (Ramboll) in response to comments received from Natural England (NE) on the HRA report¹ submitted as part of the marine licence application for the proposed redevelopment at Falmouth Docks (MLA/2025/00157).

As requested by NE and the Marine Management Organisation (MMO) as part of ongoing consultation, this addendum provides further information on the potential effects on the Falmouth Bay to St Austell Bay Special Protection Area (SPA). It is not intended as a standalone document and should be read alongside the HRA report.

The note addresses specific points raised regarding:

- Visual disturbance of qualifying feature bird species during construction and operational phases of the project, including from vessel movements;
- Operational pressures on the SPA from e.g. increased activity by cruise vessel and floating offshore wind (FLOW) devices;
- Consideration of effects on supporting habitats (dredging, disposal, suspended sediment);
- The temporal coverage of the bird survey data supporting the assessment; and
- Habituation of SPA features to modelled disturbance.

1.2 Construction Stage

1.2.1 Disturbance (Visual, Lighting and Noise)

During the demolition and construction stage, the temporary presence of construction equipment and vessels—including dredgers, workboats, piling rigs, and HGVs on land—is not expected to result in significant visual disturbance to the three SPA qualifying feature bird species, namely wintering populations of great northern diver *Gavia immer*, black-throated diver *Gavia arctica* and Slavonian

¹ Ramboll, 2025. Falmouth Docks Development, Habitats Regulations Assessment Report, 15743-RAM-FD-SW-RP-EV-00017

grebe *Podiceps auritus*. As has been stated within the Environmental Statement (ES) and HRA Report, the site is an active and busy port with regular and year-round vessel movements. The range of vessels that use the site in its current setting are demonstrated in Figure 1 to 5, which form an important baseline consideration.

In the context of the construction of the proposed development, the proposed construction vessels are expected to be of a similar nature and scale, or smaller, to vessels that regularly use the site, as captured by Table 1. Additionally, as the construction works would predominantly take place from water, the presence of either a construction vessel or dredger and barge would temporarily 'displace' an operational vessel from being able to berth alongside; therefore no additionality of visual disturbance effects is anticipated.

Table 1: Schedule of berths per month from 2023 for N Queens, S Queens, Duchy and County

Berth	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
	Number of vessels alongside per month (2023)											
North Queens	4	7	3	4	2	2	2	1	5	3	0	2
South Queens	1	3	5	1	3	2	6	5	2	2	3	4
Duchy	1	5	3	2	2	6	1	1	2	3	1	1
County	1	3	7	7	9	9	10	8	9	9	4	4

When considering the construction programme overall, a worst-case scenario has been adopted for the purposes of this assessment. As set out within ES Chapter 5 (5.2.10), the assessed construction programme of the proposed development is a worst-case scenario. The demolition and construction is anticipated to be undertaken over an approximately 42-month period, with the majority of the wharfs completed after 27 months. Any permutation of the demolition and construction programme in which the wharfs are constructed independently of each other, and in succession rather than in parallel/overlapping, is generally considered to be a better case than the indicative programme assessed within the ES and HRA, in terms of environmental impacts and effects. This is due the demolition and construction activities being less intense and not overlapping in relation to presence of construction vessels and activities, which will reduce the potential for disturbance effects, whilst still being regarded as temporary effects in terms of duration.

In terms of vessel movements during construction, the most significant vessel movements would be associated with the disposal of the dredged material that is suitable for disposal at sea. It is proposed that suitable material is taken to the disposal site at Falmouth Bay by barge with a capacity of 700 m³. In order to ensure that the process is efficient, it is likely that two barges would be in operation, with one barge always alongside the dredger to accept arisings, whilst the other is transiting to the disposal site. Based on the indicative programme, it is estimated that, as a worst case, this could equate to a maximum of 4 - 6 one-way barge movements per day for the duration of the dredging, which is anticipated to last approximately 36 weeks for the material that is suitable for disposal at sea.

Historic and aerial survey records have documented SPA bird features near Castle Point and Pendennis Point, including sightings of Black-throated Diver. Peak counts occurred in February and March, reflecting seasonal distribution patterns. Digital aerial surveys in winter 2020/21, recorded low numbers of Black-throated Diver (three individuals in February, nine in March) and noted high variability in diver presence across the SPA. These findings are consistent with WeBS survey data (2024), which recorded

limited SPA birds within the proposed FLOW dock basin and mapped Great Northern Diver movements as using the area as a foraging site (HRA Appendix 2, Maps 1–7).

Across all surveyed locations, observations consistently showed low usage: additional purchased WeBS data from Carrick Roads recorded only one Black-throated Diver and one Great Northern Diver in January 2022, with zero Slavonian Grebes across all dates. Outer Carrick Roads showed six Great Northern Divers in January 2020, but none in December 2021. Penryn River recorded zero individuals of any target species across a two-year span. These results confirm that target SPA bird presence near the port is consistently low.

Survey data (HRA Appendix 2, Maps 2–7) shows that great northern diver were observed to forage and dive near the site, with probable records of black-throated diver observed at a distance from the site. Slavonian grebes were not recorded during surveys. These observations are in keeping with the known sensitivities and recommended buffer distances of the target species; for non-breeding great northern diver, the recommended buffer distance is 100 – 350 m, and for black-throated diver the recommended buffer distance is greater than 1,000 m.

Black-throated Divers—among the more disturbance-sensitive of the three SPA species—were potentially observed within approximately 1,000 m of the docks in the northern part of the survey area, although identification was not confirmed (5NORTH; HRA Appendix 2). This location falls within their recommended non-breeding disturbance buffer² i.e. the distance from a disturbance source beyond which they would be expected to be found. Therefore, for black-throated diver a preferential behaviour to avoid the main shipping channel within Carrick Roads is displayed, further reducing the likelihood of a disturbance effect as a result of the proposed development as birds would remain at a sufficient distance such that a disturbance effect would not occur.

Given the consistent vessel activity in the channel between the docks and the observed bird locations closer than 1,000 m (see AIS data shown in Figure 6), it is reasonable to conclude that this species is habituated to existing levels of visual and noise disturbance associated with a shipping channel and will continue to preferentially avoid this area.

Great northern diver activity was recorded within 25 m and more frequently between 525–775 m northeast/east of the site. Their presence during six of 12 surveys, including within 275 m on three separate visits, suggests opportunistic behaviour and tolerance to existing port operations; in HRA Appendix 2 Maps 2-4, Great northern divers were observed diving towards the site in many cases. These dive patterns indicate that these birds are accustomed to navigating in and around vessel movements, and similar movements already exist in the baseline setting. The presence of great northern diver in close proximity to the site on numerous occasions during the bird survey supports this conclusion of habituation. Their prey species, such as crab and flatfish, are not considered to be sensitive to airborne and underwater noise levels associated with the industrial and maritime nature of activities at the site. This is supported by the presence of Great northern divers foraging and diving in close proximity (within 275 m) of the quayside, east of the Western Wharf and around the Eastern Breakwater.

AIS data from the site (Figure) demonstrates that frequent and consistent vessel movements occur within the estuary, including during winter months when the SPA target species are present. Furthermore, dredge disposal will follow marked shipping channels, ensuring minimal disruption to the birds and allowing them to continue accessing inner parts of the SPA for feeding or resting. Survey data

² Goodship, N.M. and Furness, R.W. (MacArthur Green), 2022. Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

does not suggest that the construction area is a key hotspot of bird activity, indicating that birds are already preferentially using the rest of the SPA site.

Both great northern diver *Gavia immer* and black-throated diver *Gavia arctica* may avoid areas of high shipping intensity but can habituate to familiar vessel types, with disturbance more likely from novel ships³. The likelihood of novel disturbance in the context of the site setting is considered to be low and no Likely Significant Effects (LSE) on SPA target features is anticipated^{4,5,6}. Additionally, SPA birds are mobile and capable of ranging across the full 25,898.62 ha SPA area, so localised construction activities are not anticipated to restrict their movement or use of the site. Aerial surveys confirm low numbers of Black-throated Diver and high variability in diver presence scattered across the SPA, with only 5-7% of predicted observations in the estuarian / creek areas of the SPA. Peak counts occurred in February and March⁷. These findings suggest that SPA bird distribution is dynamic and influenced by broader environmental factors, rather than localised dock activity.

As target SPA birds (and their prey) were noted to be very mobile, it is considered that they would be able to move across and forage in the total 25,898.62 ha SPA area and beyond in response to any temporary disturbance from demolition and construction activities, including vessel movements; disturbance from airborne and underwater noise and vibration is therefore not considered to give rise to any barrier to SPA birds' movements or their prey's movements during the demolition and construction stage.

Bird survey data (HRA Report: Appendix 2) recorded no target SPA birds within the location of the proposed FLOW deck area. Although Great Northern Divers were observed, their movements indicated foraging swim paths rather than flight activity (HRA Appendix 2, Maps 1–7), suggesting that the area is not critical for key SPA bird activities. While NE reference Black-throated Diver presence near Castle Point and Pendennis Point, these areas are spatially separated (over 1.5 km) from the dredge footprint and show notable interannual variation³. These locations are beyond the recommended buffer distances for all three SPA target species; and disturbance as a result of underwater construction noise, that could affect diving birds, is not expected to occur at this distance (ES Technical Appendix 7.1 – Underwater Noise sets out the worst-case extent of noise propagation resulting from the construction of the proposed development).

While numbers remain low, the presence of both species within their respective buffer zones and in proximity to active shipping lanes suggests that disturbance alone does not prevent usage. These findings support the conclusion that the proposed development is unlikely to significantly alter existing bird distribution or movement patterns, particularly for species already demonstrating tolerance to current activity levels.

³ Liley, D., Fearnley, H., Waldon, J. & Jackson, D., 2014. Distribution and Ecology of wintering grebes and divers in the Falmouth-St. Austell pSPA. Unpublished report by Footprint Ecology for Natural England

⁴ Jarrett, D., Calladine, J., Cook, A.S.C.P., Upton, A., Williams, J., Williams, S., Wilson, J.M., Wilson, M.W., Woodward, I. & Humphreys E.M. (2022) Behavioural responses of non-breeding waterbirds to marine traffic in the near-shore environment. Bird Study, Vol. 68, No. 4, pp. 443-454 <https://doi.org/10.1080/00063657.2022.2113855>

⁵ Fliessbach K.L., Borkenhagen K., Guse N., Markones N., Schwemmer P., Garthe S. (2019) A Ship Traffic Disturbance Vulnerability Index for Northwest European Seabirds as a Tool for Marine Spatial Planning. Frontiers in Marine Science, Vol. 6, pp. 192, <https://doi.org/10.3389/fmars.2019.00192>

⁶ Mendel, B., Schwemmer, P., Peschko, V., Müller, S., X Burger, C., Schubert, A., Heinänen, S., Dorsch, M., Kleinschmidt, B., Žydelis, R., Morkūnas, J., Quillfeldt, P. & Nehls, G. (2019). A novel approach for assessing effects of ship traffic on distributions and movements of seabirds. Journal of Environmental Management, Vol. 251, Article 109511 <https://doi.org/10.1016/j.jenvman.2019.109511>

⁷ Rogerson, K., Williams, A.J., & McGovern S. 2022. Surveys of Falmouth Bay to St Austell Bay SPA Winter 2020/21. Natural England Commissioned Reports. Report number 111



Figure 1: Seajacks Leviathan GI rig docked and jacked up alongside South of Queens



Figure 2: Seajacks Leviathan GI rig docked alongside the location of the proposed FLOW deck



Figure 3: Vessel and GI rig docked alongside the location of the proposed FLOW deck



Figure 4: Neptune offshore wind GI rig adjacent to the Northern Arm



Figure 5: Two cruise vessels alongside County and Duchy Wharfs, RFA vessel to the North of Queens Wharf

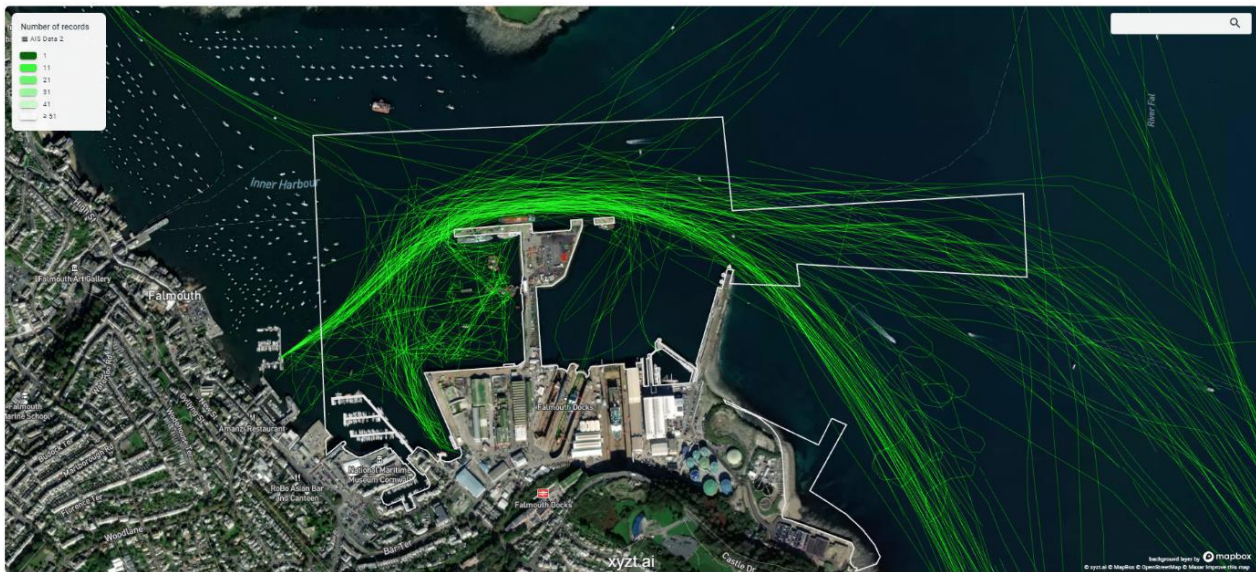


Figure 6: AIS data⁸; 14 days - 24 October 2023 12:00 to 07 November 2023 12:00 – Numbers indicate number of moves



Figure 7: Typical lighting scenario of cruise and military vessels alongside County and Duchy Wharfs

The potential for LSE as a result of the introduction of light during construction is assessed within Table 5.4 of the HRA Report. Lighting used during construction will be limited to regulatory marine navigation lights and task-based illumination of working areas. As described in ES Chapter 18: Seascape, Landscape and Visual Impact Assessment (SLVIA), Section 8, the site already operates with continuous lighting across Queens Wharf, Duchy Wharf, and the western edge of Western Wharf, including floodlights, lamps, and red navigational lighting for security and safety reasons. It must be noted that these light sources are those within the direct control of Falmouth Docks Engineering Company, and additional light sources from vessels on site, adjacent marinas and waterside infrastructure and vessel

⁸ Note that the Navigation Risk Assessment (ES Technical Appendix 2.9) verified the AIS data with observed vessel data from CCTV. It was reported that AIS data accounted for approximately 10 % of the total observed vessel traffic movements, and therefore significantly underrepresents the baseline vessel movements.

users are present and form part of the baseline setting as shown in Figure 7. SPA target features, notably Great northern divers, are therefore considered to be habituated to this lighting regime, due to their recorded use of the port area (HRA Report, Appendix 2). No significant change in lighting levels is anticipated during construction, and no adverse effects on nighttime visual receptors have been identified.

1.2.2 Supporting Habitats

The proposed dredge activity and dredge disposal have been assessed for potential effects on SPA bird distribution and movement patterns (HRA Report: Table 5.4). All disposal will occur at licensed offshore sites outside the SPA boundary (ES Chapter 6: Coastal Processes and Sediment Regime), eliminating direct risk to supporting habitats. Sediment plume modelling has been undertaken at the disposal site; Figure 8 shows predicted mean increase in suspended sediment concentration. No adverse effect on integrity to the SPA was concluded as a result of disposal activities.

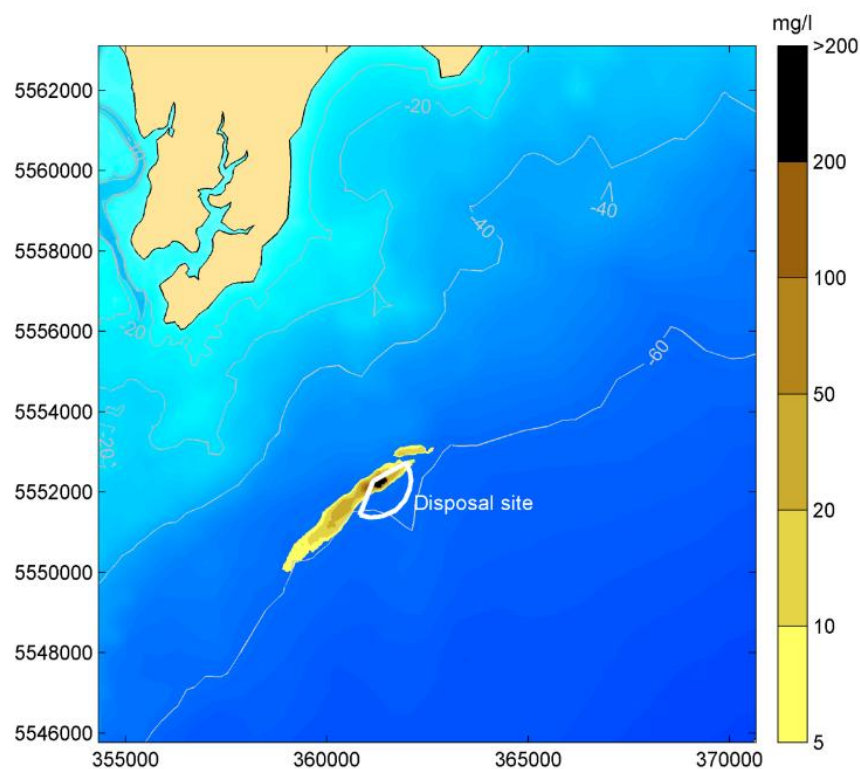


Figure 8: Predicted mean increase in depth-averaged suspended sediment concentration resulting from disposal of uncontaminated sediment at the disposal site

With regards to suspended sediment concentrations, significant work has been undertaken to ensure that sediment mobilisation is minimised during dredge activities. Modelled outputs for increases in suspended sediment concentration (Technical Appendix 6.3 – Sediment Plume Modelling) demonstrate that increased suspended sediment concentrations during dredging would predominantly be constrained to within the red line boundary and would not extend to the SPA site boundary.

Mitigation will be in place to minimise sediment mobilisation and re-suspension. All material would be dredged using backhoe methods, with an enclosed 10 m³ (or smaller) bucket system in all areas proposed to be dredged. In addition dredge activities will be restricted to the period from 1.75 hours

before low water to 1.75 hours before high water (i.e. on the late ebb, early flood tide). The restriction of dredging to this tidal window significantly minimises the spatial extent of any sediment plume to within 300 m of the dredged area; survey data demonstrates that this area is not typically used by SPA target features for core diving and foraging activity.

1.3 Operational Stage

1.3.1 Visual Disturbance/Lighting

The existing site serves as a frequent destination for cruise, commercial fisheries, freight and Ministry of Defence (MoD) vessels throughout the year, with peak activity occurring during the cruise season (01 April to 31 October inclusive). Currently, approximately 8–9 vessels visit the site per month during this period, and this is expected to increase by 11 additional Excellence Class vessels annually (ES Chapter 4; Proposed Development Description; Section 7). Excellence Class cruise ships already frequent Falmouth, although they typically anchor in the bay and utilise tenders to bring passengers ashore. Consequently, the entry of these ships into the Special Protection Area (SPA) is not a novel occurrence. Additionally, it should be considered that multiple small boats are likely to cause greater disturbance than a single large vessel. Freight vessel movements are also projected to rise modestly, with an additional 12 vessels per year, bringing the total to approximately 24 freight movements annually. Other berthing vessels, including MoD and commercial fishing vessels, are not anticipated to exceed current baseline levels (ES Chapter 4; Section 7). As vessels of this nature routinely pass through the SPA, and given the continued presence of SPA bird features within the area (HRA; Appendix 2), the proposed increase in vessel movements remains consistent with existing operational patterns and is therefore not expected to result in significant visual disturbance to SPA birds.

During operation, lighting will remain consistent with existing dock infrastructure, and vessels will be encouraged to extinguish unnecessary external lighting to protect the nighttime landscape (ES Chapter 18; Section 9.3). During construction of FLOW hubs, the presence of cranes may temporarily introduce elevated light sources above the typical skyline, but this change is assessed as 'slight' in magnitude and remains within the character of existing industrial lighting (ES Chapter 18; Section 8). SPA bird surveys recorded no individuals within the western dock basin, which is the most consistently illuminated area of the site (HRA; Appendix 2, Map 1). Given the species' habituation to existing lighting regimes and the temporary nature of lighting requirements and operational controls, no Likely Significant Effect relating to lighting is anticipated during the operational stage.

1.3.2 Noise disturbance

During the operational stage, activities such as vessel movements, cargo handling, and FLOW maintenance are expected to produce airborne and underwater noise levels comparable to existing dock operations (HRA; Table 5.4). The projected increase in cruise and freight vessels is minor and occurs within the context of an already active port and industrial site. FLOW-related activities, including crane operations, will be infrequent and comparable to current practices. ES Chapter 14: Noise and Vibration, provides baseline and projected noise levels, which are not considered to significantly increase and therefore would not cause disturbance to SPA birds, and any elevated noise is expected to be spatially confined to the immediate dock area. Cumulative noise impacts have been assessed as negligible.

1.3.3 Maintenance Dredging and Habitat Integrity

The need for ongoing maintenance dredging post-construction has been identified to ensure safe operational depths are maintained. However, any maintenance dredging required at the site would be of a significantly smaller scale than the initial capital dredge. It is estimated that approximately 8,000 m³

every five years—or up to 16,000 m³ over a ten-year period—may be required, with dredging activity predominantly confined to the eastern berth pocket (ES Chapter 4; Section 4.4). This area lies adjacent to existing dock structures and is already subject to regular anthropogenic disturbance. The removal of sediment would be highly localised and limited in volume, with no expansion into undisturbed or ecologically sensitive areas of the SPA.

Given the spatial confinement of the activity and the modest sediment volumes involved, maintenance dredging is not considered to give rise to a Likely Significant Effect with respect to substrate or substratum removal. Furthermore, the frequency and scale of dredging are consistent with existing operational practices, and the works would be undertaken using a backhoe dredger on an adjusted flood tide as per the capital dredge, in order to control sediment dispersion (ES Chapter 4, Section 4.4). SPA bird features are not known to forage or roost within the eastern berth pocket, and wintering bird surveys have recorded no SPA species in the proposed FLOW deck area (HRA; Appendix 2). Accordingly, the proposed maintenance dredging is not expected to result in habitat degradation, prey displacement, or disturbance to qualifying features of the SPA.

1.3.4 Habituation and 'novel' FLOW presence

NE highlight the sensitivity of SPA bird features—particularly divers and grebes—to human disturbance, citing evidence from interactions with offshore wind farms^{9,10}. However, the available studies primarily examine impacts from operational wind farms, which involve rotating blades and continuous marine activity. These studies report significant displacement of sensitive species such as divers, linked to turbine operation and broader site activity. In contrast, the proposed development involves non-operational FLOW devices that will remain static during assembly and be towed slowly through the SPA under controlled conditions. These activities are temporary, and do not involve rotating blades or persistent marine operations. However, it is important to note that the FLOW assembly would occur within the context of an active dock, which could be considered a persistent marine operation. This distinction ensures that the assessment appropriately reflects the nature of the operations involved. As such, the findings from operational wind farm studies are not considered to be applicable to the characteristics of FLOW assembly.

As set out above, SPA bird species appear to be habituated to vessel-related disturbance at the existing site and surroundings within the shipping channel. A cross reference of the berthing schedule to bird survey visits shows that during the first bird survey (28/11/23), the CEFAS Endeavour (approximately 18 m high and 75 m long) was docked on the southern side of Queens Wharf, coinciding with a peak count of six individuals. In the second survey (20/12/23), RFA Mounts Bay (33 m high, 177 m long) was docked on the northern side of Queens Wharf, while Rufus Castle (39 m high, 28 m long) was present on the southern side of Queens Wharf, with five individuals recorded. The wintering bird surveys conducted in 2023/2024 recorded no SPA birds within the western dock basin. Mapped Great Northern Diver movements indicated foraging (diving) behaviour, not flight activity. The proximity of SPA birds to the site ranges from 25 m in one instance, however sightings were typically between 500 – 750 m from the site. The correlation of bird sightings and vessel presence demonstrates that visual disturbance does not occur, and these birds are habituated to the presence of large vessels. It is important to note that this evidence pertains specifically to the species observed during the survey, not to all SPA species.

⁹ Mendel, B., Schwemmer, P., Peschko, V., Müller, S., Schwemmer, G., Mercker, M. & Garthe, S. (2019) Operational offshore wind farms and associated ship traffic cause profound changes in distribution patterns of Loons (*Gavia spp.*). *Journal of Environmental Management*, Vol. 231, pp. 429-438 <https://doi.org/10.1016/j.jenvman.2018.10.053>

¹⁰ Garthe, S., and Hüppop, O. 2004. Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index. *Journal of Applied Ecology* 41: 724-734

Nonetheless, the presence of FLOW devices is not considered to be a novel presence when set in the context of the images of current site uses above; notably GI rigs are considered to present a similar structure to a proposed FLOW device in situ.

While habituation is known to vary by species, individual, and environmental context¹¹, the survey data suggest that Great northern divers in particular in this location are tolerant of ongoing marine operations. Great Northern Divers, for example, have a recommended non-breeding buffer distance of 100 m, yet were observed foraging within 25 m of vessels during the survey period. This aligns with existing findings which report that Great Northern Divers typically tolerate slow-moving vessels within 10–25 m, responding by swimming or diving rather than flushing.

These behavioural patterns, combined with site-specific observations, support the conclusion that Great northern divers in this location are habituated to existing marine movements and infrastructure, and given the similar buffer distance recommendations for Slavonian grebe it can be inferred that a similar level of habituation would be present. Black-throated divers have demonstrated preferential avoidance of the area (not just the site) owing to a frequent shipping channel and would continue to do so. Therefore, similar vessel presence during the operational stage of the proposed development is unlikely to result in significant displacement or behavioural disruption.

Visual presence and movement of FLOW structures disturbing SPA bird features have been assessed in the HRA and supporting ES (Chapter 18; SLVIA). A worst-case scenario assumes the presence of a fully assembled FLOW device and crane infrastructure for up to two weeks, with visibility assessed from multiple coastal viewpoints. It's important to consider that LVIA conclusions for human receptors cannot be directly applied to birds. However, it should be noted that tall existing structures of similar size, form, height, material, and colour are already present in the area, which provides useful context for the assessment of potential impacts on SPA bird features.

The temporary presence of FLOW devices, including turbines and crane infrastructure, introduces a structural and visual change within the dock basin. However, this is comparable to previous docked structures at Falmouth (see Figures 2 and 3) and is not expected to result in a Likely Significant Effect on SPA bird features. FLOW devices will remain non-operational while docked, with assembly limited to a two-week period, scheduled during suitable weather conditions. Only one fully integrated device will be present at any time, with a second base awaiting integration alongside either Duchy or the proposed FLOW deck. While docked, FLOW hubs are bladeless, reducing visual impact and disturbance risk. The hub height is 125 m, and the total height with blades reaches 230 m—consistent with existing infrastructure. During towing, the FLOW device will pass briefly and infrequently through the SPA, with static blades to avoid any collision risk.

Falmouth Docks currently functions as a designated 'dock of refuge' for vessels in distress, requiring accommodation of emergency arrivals. In this context, the proposed two-week construction window of a FLOW device represents a minor and foreseeable activity, within the control of FDEC, compared to the potentially undefined scale, nature and duration of refuge-related vessel arrivals.

Based on current site-specific evidence and the worst-case visual assessment, the FLOW structures are not considered to present an adverse effect on site integrity.

Overall, based on baseline data and the nature of the existing docks and proposed development, it is concluded that there will be no adverse effects on the integrity of the SPA. No specific mitigation in

¹¹ Blumstein, D.T. 2016. Habituation and sensitization: new thoughts about old ideas. *Anim. Behav.* 120: 255–262

relation to the SPA is deemed necessary. Embedded mitigation during construction and demolition is set out within an Outline Construction Environmental Management Plan and includes:

- Dredging will be undertaken using a backhoe dredger(s) with a 10 m³ (or smaller) lidded bucket, to minimise sediment mobilisation and release;
- Dredging will be undertaken non-continuously and according to tides: dredging to be undertaken specifically from 1.75 hours before low water to 1.75 hours before high water.
- Piling, compaction, breaking and demolition would not occur in the evening, weekends and night-time;
- Only one piling rig would be active at a time, with no more than 4 hours of percussive piling per day
- Vibro-piling would be utilised where reasonably practicable and where appropriate to achieve required pile depths
- Soft start piling would be used for any percussive piling.