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Our ref: CAS-EA1
Your ref: P/22/076/FUL
P/22/077/FUL
P/22/078/FUL

6 February 2023

Dear Olivia

APPLICATION FOR THE INSTALLATION OF GEOBAGS AT PERIGLIS TO REPLACE THE CORE OF EXISTING DUNES, WRAPPED IN GEOTEXTILE AND COVERED WITH EXCAVATED MATERIAL AND TO STABLILISE THE DUNE CREST WITH GEOMAT TO ENCOURAGE RE-VEGETATION. INSTALLATION OF ROCK BAGS AT PORTH COOSE TO HEIGHTEN THE EXISTING PROTECTION, BACKED BY EARTH BUND AND INSTALLING ROCK ARMOUR AT THE BOTTOM OF THE EXISTING SNE WALL AT PORTH KILLIER. TO REDUCE THE RISK OF COASTAL FLOODING ON ST AGNES. (EIA DEVELOPMENT) (MAJOR DEVELOPMENT) LAND ADJ TO WASTE SITE, THE QUAY, ST AGNES, ISLES OF SCILLY

Thank you for providing the objection raised by Natural England (NE) on 12 January 2023, their reference 513542.

In the following response, I deal with the individual points raised in the same order as those raised by NE. I quote their objection in italics and provide the project's response underneath.

NE General Comment

The application currently does not have a map of the development for any of the sites in relation to the features of the designated sites and site boundaries. The first step would therefore be to create a map showing the development in relation to the features of the designated sites and review the conservation objectives on Designated Sites View and reflect on both the distance from the coastal defence and any impact pathways from the designated sites and the site features and objectives.

Response to this comment

Each Habitat Regulations Assessment (HRA) contains a figure showing the site location in relation to each of the designated sites. The distances from each designation to the site boundary are detailed in Tables 2-3 to 2-11 of the Environmental Statement (Volume I).

A map of each site will be provided with updated redline boundaries on each with the HRAs, when completed.

NE Objection 1 (General – SAC Coastal Squeeze)

1) *Natural England understands that currently none of the sites are located within the SAC, as the Annex I feature 'Mudflats and sandflats not covered by seawater at low tide' is mainly concerned with lower shore sandflats. However, holding the line in the face of future sea level rise could prevent the landward progression of this Annex I feature. As the SAC extends over the lower shore of all of the sites, a coastal squeeze assessment for all of the defence works is required to inform the HRA, so that the impacts on the SAC over the full lifetime of the defences can be fully assessed.*

   AND

   [Great Popplestone] *The impacts of coastal squeeze on the SAC habitat need to be assessed due to the potential lengthening of the period of HTL SMP policy.*

   AND

   [Stinking Porth] *There are potential implications for bird usage, and the proposed works could contribute to coastal squeeze of the SAC intertidal habitat that needs to be assessed.*

   AND

   [Great Porth] *The proposed profile aligns fairly well with the existing profile, but raised crest may cause some wave reflection and beach lowering which could impact the SPA. Impacts of coastal squeeze need to be assessed, as for the sites above.*

   AND

   [Kitchen Porth] *There are potential implications for bird usage and preventing natural morphological rollback (within a NAI unit) could have impact on the SAC intertidal habitat via coastal squeeze and this needs to be assessed.*

Response to objection 1

Natural England (NE) suggest that holding the line as sea level rises will result in coastal squeeze of the SAC Annex I feature 'Mudflats and sandflats not covered by seawater at low tide'. However, the SAC is no closer than 50 m to any of the proposed works.

None of the shorelines at which works are proposed are currently retreating significantly. This is partly because all sites already have formal or informal coastal works present or already have naturally hard shorelines (eg at Kitchen Porth). The proposed works mainly protect the various shorelines against coastal inundation by raising the height of the coastline. No works will be situated below MHWS once constructed, so they are adjoined not by the SAC Annex I feature, but by sand beaches and cobble embankments.

Since no significant coastal erosion is occurring at any of the sites, 50 m of distance between the SAC Annex I feature and the works provides adequate space for the migration of the Annex I feature as sea level rises. Without the works, coastal squeeze following sea level rise would occur to the same degree as with the works.

A full assessment of coastal squeeze will be undertaken if this interim assessment is insufficient and presented in an additional report to support the ES. This will be in accordance with guidance contained within the Environment Agency document "What is coastal squeeze?" (2021) for the assessment of coastal squeeze.

The findings of this coastal squeeze assessment will be integrated into the HRA assessments. If works are identified to influence the location of Mean High Waters and Mean Low Waters, potential impacts on the SPA area/boundary and habitat attributes will be considered.

NE Objection 2 (General – Nesting Potential)

2) *The HRA assessments do not refer to the updated SPA designation (the site was renotified in 2020), consequently the features are not assessed correctly however, the correct species are included.*

   The SPA currently has a recover objective for its features therefore the assessments need to consider if the proposals will be inhibiting recovery potential, this is important if areas of soft substrate or boulders with potential nest cavities are going to be lost in favour of areas that offer less nesting potential.

Response to objection 2

The HRA assessments will be updated to reflect the updated SPA designations and the potential impacts of the proposals on recovery potential.

NE Objection 3 (St Agnes)

3) *The HRA does not consider biosecurity risks appropriately. This is of particular importance for the current mouse and rat free St. Agnes complex (Natural England understands that Bryher is also mouse free). Introduction of mammalian invasive species presents a significant risk to the SPA but is not covered in the HRA. One pregnant rodent has the potential to result in complete removal of SPA breeding seabirds within a few years. The assessment needs to include the activities of both bringing in material and the plant required for the works and any landing craft that may be involved.*

Response to objection 3

The biosecurity risk represented by rats is covered in the Environmental Statement (ES) at page 185 in Volume I. Mitigation measures are proposed and a biosecurity risk assessment is suggested prior to project activities being started. The project engaged early with the Wildlife Trust's seabird recovery project officer to request her assistance in this planning and the contractors already are aware they need to use appropriate measures while delivering materials to the islands to avoid introducing rats. This information will also be included in the HRAs.

Regarding mice on Bryher, the Wildlife Trust project officer advises that no data is available to her that indicates whether or not mice are present on the island.

NE Objection 4 (General – Biodiversity Net Gain)

4) *We note the lack of quantified enhancements and biodiversity net gain (further details below), and advise that it may be possible to incorporate features into this sort of works that support the SPA, subterranean nest boxes and protected spaces in the boulders that provide nesting spaces, and this should be considered.*

AND

Natural England are disappointed to see no quantified Biodiversity Net Gain as part of this proposed development.

Development should provide net gains for biodiversity in line with the NPPF paragraphs 174(d), 179 and 180. Development also provides opportunities to secure wider environmental gains, as outlined in the NPPF (paragraphs 8, 73, 104, 120,174, 175 and 180). We advise you to follow the mitigation hierarchy as set out in paragraph 180 of the NPPF and firstly consider what existing environmental features on and around the site can be retained or enhanced or what new features could be incorporated into the development proposal. Where onsite measures are not possible, you should consider off site measures.

Natural England's Biodiversity Metric 3.1 may be used to calculate biodiversity losses and gains for terrestrial and intertidal habitats and can be used to inform any development project.

Natural England's Environmental Benefits from Nature tool may be used to identify opportunities to enhance wider benefits from nature and to avoid and minimise any negative impacts. It is designed to work alongside Biodiversity Metric 3.1 and is available as a beta test version.

Response to objection 4

Opportunities for Biodiversity Net Gain (BNG) have been discussed with the CEO of the Wildlife Trust, to ensure that suitable and useful actions are taken. He notes that the creation of additional rock armour by the project is likely to provide nesting opportunities without further intervention, since the additional volume of rock will increase the number of interstitial spaces available for nesting birds to choose from. He doesn't recommend installing nest boxes within the rock armour, since they are likely to degrade over time and require replacing.

He also advises the following list of potential BNG actions may be appropriate to select from:

a) Providing a cleared section of back-dune on Bryher, in association with the proposed removal of previous rock armour from the beach at Popplestones, as an opportunity for encouraging pioneer vegetation in the SSSI
b) Constructing a storm petrel nesting station, similar to the example at Skokholm, Pembrokeshire (https://britishbirds.co.uk/content/conservation-action-petrel-station) on St Agnes, using local stone walling experts
c) Opening up dense marginal vegetation in Big Pool on St Agnes (dominated at present by *Juncus* and *Bolboschoenus* and others) to benefit wetland flora and fauna and to provide open areas for migratory birds
d) Works in the vicinity of Big Pool, St Agnes such as vehicle trafficking and/or small scrapes in the sandy soil, which are very likely to benefit important plants of bare areas such as rare clovers and chamomile in the SSSI
e) Running vehicles over access tracks and grassed areas on all the islands to encourage regeneration of grassland and bare ground plant species
f) Funding mechanical vegetation clearance to promote heathland and reduce vigour of bracken (helping breeding gulls) in Gugh SSSI. This could also be extended to a game-changing project to finding a way to provide an off-grid water supply, allowing the Wildlife Trust to consult locally and then introduce stock (goats and/or cattle) with invisible fencing through GPS collars.
g) Two priority actions in Heathy Hill & Rushy Bay SSSI to (i) increase our efforts in clearing *Carprobotus* (ice-plant / Hottentot fig) to benefit Dwarf Pansy and dune flora; and (ii) cutting gorse, bramble and invasive non-native shrubs at Heathy Hill.

NE Objection 5 (General – Sequential Working)

5) *Via direct engagement we understand that… sequential working might not be possible and request further clarification on the viability of this proposed mitigation measure.*

Response to objection 5

The project recognises the impact that working on multiple sites could have on wintering birds. To reduce this impact, where parallel working is preferred to meet project delivery schedules it will be organised so that works do not take place on adjacent beaches. For example, works at Stinking Porth and Great Porth N would not be allowed in parallel, but works at Stinking Porth and Green Bay would be allowed in parallel. The EcIA and HRAs will be updated to reflect this information.

NE Objection 6 (General – Seals)

6) *We advise that the HRA should include the mitigation that works will not take place if a Seal is hauled out on the beach. Disturbance to a hauled out seal can lead to physical harm if fleeing, and further impacts such as energy wastage if at rest, the beach should be checked by an appropriate person, if a seal is present they should back off to avoid it moving away and works should not take place until the seal has moved on its own fruition.*

Response to objection 6

The project will include the mitigation that works will not take place if a seal is hauled out on the beach or foreshore within 200 m of the works. The EcIA and HRAs will be updated to include this mitigation measure. Works will not resume until the seal has moved on its own accord. The inclusion of the nominated distance avoids the works at Green Bay or Popplestones (respectively 280 m and 380 m long) being halted if a seal is present at the other end of the beach. This distance is based on various guidance on avoiding impacts on seals that recommend people stay from 20 m to 50 m away on land and 100 m to 200 m in the water. Since the plant being used for construction are likely to be more intrusive to seals than people, the nominated distance is 400% greater than the greatest avoidance distance recommended for people.

NE Objection 7 (Great Popplestone)

7) *Following upper beach/foredune reprofiling, planting with native species could help to prevent uncontrolled erosion, whilst maintaining some dynamism.*

Response to objection 7

The project intends to replant with native species, as it has already committed to at Porth Hellick (as part of conditions for planning permission) and Porthloo (without being required by planning permission conditions) on St Mary's.

NE Objection 8 (Great Popplestone)

8) *Natural England recognises the need to work with natural processes where possible and therefore supports the removal of the rock armour, which is an unnatural feature within the SSSI. The hard defence is likely to reflect wave energy during storm events, which could cause beach lowering in adjacent areas. The revetment also has the potential to be a barrier to cross shore and longshore sediment processes, especially in light of*

future sea level rise projections. Future sea level rise may cause outflanking and ultimately exposure of the rock revetment, which would accentuate impacts on wave processes, local dune morphology and sediment transport.

It is, however, noted that a natural coarse sediment beach ridge is present within the vicinity of the rock armour. It must be ensured that only the imported boulders are removed and all natural beach material is reinstated in the appropriate location.

Sand re-distribution from the specified area currently occupied by scrub is not advised. From a geomorphological perspective, increasing the scale of interference in the dune system by removing it from elsewhere in the system would lead to artificial levels of bare sand and a system not attuned to abiotic conditions. The SSSI VAM states that "dune management should aim to allow for all stages of the succession to be present on the site". The area of scrub has not significantly increased since 2007 and is likely to be representative of the limited sediment supply to the hinterland and climatic conditions. Both of these factors set limits on the natural mobility of dune systems. As the dune system rolls back in future, the vegetation community is likely to change.

The preferred option would be to regrade the sand at the location of rock removal and allow natural accretion to take place. It is appreciated that no sediment has been/is intended to be lost from the system as a direct consequence of the rock armour placement and removal. The elevation of the localised area will be slightly decreased, but it is anticipated that the foredune/upper beach would accrete over time and possibly move slightly more landwards. Increasing the mobility of this section of foredune will enhance local foredune dynamics, which would have biodiversity benefits, but would also allow sand to transfer further landwards, similar to the effect of notching or a blowout in the foredunes (Schwartz et al. 2018). This would allow the dune system to become more dynamic and resilient to sea level rise in the future.

Although the above approach could have long term benefits, it is noted that it may affect the FCERM function of the dune system during storm events in the short term, whilst accretion takes place. Accretion may be slow due to the width of the beach and available sediment supply. Monitoring will be necessary to assess the evolution of the impacted area. Sand accretion could be enhanced by the placement of brushwood or fencing, but this would be a form of stabilisation which would reduce the potential benefits gained from the rock armour removal. If proven necessary from an FCERM perspective, imported sand could be used to raise the elevation of the works area, but this would need to be shown to be the minimum requirement to re-establish previous levels and sediment with similar characteristics to the existing sand would need to be sourced from elsewhere.

[W]e advise that reprofiling the existing sediment as suggested [at the site where previous rock armour was removed] *would be the best approach as the beach sediment budget has been positive in recent years, so the outcome should be that new sediment will raise up the upper beach in time (and some sand will be blown inland).*

The impacts of removal of rock armour from the upper beach/foredune should be discussed/assessed within the ES.

Response to objection 8

The area of existing scrub proposed for clearance and transfer to the rock armour site previously received sand excavated from the beach when rock armour was placed there in 1994. If the rock armour is removed, transfer of sand by the project from the area it was

placed in the 1990s back to its original site would reinstate the sedimentary environment to the position it was in the 1990s.

The Wildlife Trust advises that this proposed activity of scrub clearance would provide an opportunity to meet the SSSI VAM goal of "*dune management should aim to allow for all stages of the succession to be present on the site*" by providing an area suitable for the early successional stages of back dune habitat, which is very limited in extent in the SSSI at present.

In the foredune area, the action of the sea already produces sufficient early successional stages. This proposal would also encourage early successional stages in the back dune area.

The Wildlife Trust advises, from a site visit, that all the scrub species that would be cleared from the area from which sand was moved are present elsewhere in the SSSI and there is little especial intrinsic wildlife value in the area of scrub at present. The Wildlife Trust expects that with grazing now in place in this area, scrub removal/sand winning would result in a long-term increase in diversity and make the area more wildlife-rich than at present.

The activity of placing local sand in the foredunes and upper beach area to fill the hole created when the previously-placed rock armour is removed would avoid a gap being left in the dunes, which in the short-term could be more vulnerable to coastal flooding until natural dune accretion processes have filled the hole again. The impacts of removal of rock armour from the upper beach/foreshore has been discussed in Chapter 4: Coastal Processes of ES Volume I.

Replacing the original sand back to its origin on the beach and foredune would avoid leaving this weak point in the dunes and would increase the confidence of local residents that the proposed works are reducing flood risk appropriately.

Local sand is proposed to be used to fill this hole rather than importing additional sand, because local sand will have a grain size distribution, colour and shape closer to the pink Scillonian granite sand than any available source of sand from the mainland. This means dune-building processes are likely to proceed in a similar way to previous decades and the risk is reduced that (particularly) a non-local grain size distribution would modify local aeolian sediment transport patterns.

The white Cornish granite rock armour to be removed from the upper beach from the previous works can readily be differentiated from local pink Scillonian granite, so it is unlikely that contractors would mistake the two types of rock. They would move only the white Cornish granite.

NE Objection 9 (Great Popplestone)

9) *A potential board walk over this area to retain access to the beach with infill of locally sourced rocks and cobbles to help establish the beach crest.*

   There are currently no plans/mapping showing the location and details of this element of the works at this site, and these need to be provided and these works need to be included as part of this assessment.

Response to objection 9

The potential boardwalk is removed from the proposed works at present. If it is still seen as necessary when the major works have commenced, a separate application for Assent will be made. Any such works can be commissioned independently of the proposed major works on Bryher.

NE Objection 10 (Great Popplestone, Great Porth)

10) The works will take place within the [various] *SSSIs and it is proposed to use areas within the SSSIs for site compounds and material storage.*

The works will directly impact the vegetation for which the site is designated through the provision of access tracks to the proposed work sites at Great Popplestone/Great Porth. There is the potential for the tracks to directly damage rare plants for which the SSSIs [are] *designated.*

The access tracks and site compounds and material storage areas should be assessed, allocated and clearly marked on maps. Using the mitigation hierarchy, these should be in areas that avoid impacts to the vegetation for which the site is designated. We advise to carry out the required surveys (at the appropriate time of year) and detail and proposed mitigation and further monitoring if required, which we request to be consulted on by condition to determine the extent of the impacts and if any mitigation proposed will be effective.

Response to objection 10

The access tracks, site compounds and material storage areas are shown on Figures 2-28, 2-9 and 2-30 of ES Volume I. Assessment of potential impacts of these has been included within Chapter 5: Biodiversity and Nature Conservation.

The ES states that an ECoW will be present to set out all construction routes to avoid SSSI vegetation. Given the likelihood of changes in the vegetation structure between the surveys and the works taking place it was agreed with the IoS Wildlife Trust that this was the best way to ensure that SSSI vegetation was protected.

NE Objection 11 (Green Bay)

11) Planting the constructed dune with native species could apply here.

Response to objection 11

Planting the constructed cobble embankment will be undertaken by the project using appropriate local species.

NE Objection 12 (Kitchen Porth)

12) Further to the above comments Table 5-8 of the ES (within the Bryher – All sites section) details potential impacts on the Pool of Bryher and Popplestone Bank SSSI and states that Direct damage if alternative access track is used… full vegetation survey of the dunes to be impacted should be carried out at an appropriate time of year. Any rare plants found will need to be suitably translocated prior to the works taking place.

If this alternative access track is required Natural England requests consultation on the survey results and translocation plan by condition, before any works commence.

Response to objection 12

The project is happy for a condition to be included in the planning permission that Natural England should be consulted on the survey results and any translocation plan required before works commence. The surveys, as detailed above, will be carried out prior to the works taking place. All efforts will be made to place access tracks away from areas of SSSI designated or sensitive vegetation. Translocation will only be carried out as a last resort after agreement with Natural England / the Wildlife Trust.

NE Objection 13 (St Agnes General)

13) For the proposed works at Periglis, Porth Killier and Porth Coose, there appears to be a misinterpretation of the extent of the SSSI. For all sites the SSSI extent is down to MHWS and therefore includes the upper beach and dune ridge. There are multiply references within the submitted documents to the works being adjacent to the SSSI and the assessments that relate to this incorrect assumption need to be revisited.

The site is within Big Pool and Browarth Point SSSI, designated for vascular plant assemblages. Of particular relevance within the citation: "The strandline vegetation at the back of Porth Killier, Porth Coose and Periglis Bay is particularly notable for the population of sea radish Raphanus maritimus *and sea kale* Crambe maritima *growing in association with frosted orache* Atriplex laciniata *and Babington's orache* A. glabriuscula*".*

Therefore, the direct impacts of defence construction on the SSSI vascular plant assemblages (specifically those on the upper beach and dune ridge) have not been fully considered or mitigated for any of the sites. Although the dunes are not notified for specific habitat interest, they could support notified species. The main sites which need to consider impacts on the SSSI qualifying features are Periglis (where the dune ridge is to be excavated) and Porth Coose (where fill material will be placed on the top and rear of the dune).

If these works do receive the required permissions we would also advice planting with native dune species on the constructed dunes at Periglis and Porth Coose.

Response to objection 13

The project is happy for a condition to be included that replanting with native dune species on the constructed dunes at Periglis and Porth Coose should be required. As stated, the dunes are not a notified habitat interest of the SSSI and the species of interest were not recorded in these areas. The ES will be updated to reflect this and describe the species and impacts found there.

NE Objection 14 (Porth Killier)

14) At this site the works will reduce beach lowering in front of the existing defence, and outflanking at the eastern end. We don't have any major geomorphological concerns, as these issues would continue in a NAI scenario, until the wall was undermined and failed. However, the footprint of the defence obviously constitutes habitat loss and holding the line could have coastal squeeze impacts.

Natural England question whether alternative options, e.g. wall removal and setback defence, should have been considered?

Response to objection 14

Wall removal and setting back the defences were considered at the early design stage. However, wall removal effectively would cause regular saltwater flooding of the Great Pool and cricket pitch area of the island, because the seawall integrates a high stone wall at the edge of the access track at the margins of the sea, preventing overtopping during substantial high tides.

Retreating the sea defences at this location would remove access to this part of the island, requiring taking of land and construction of a new access track. It also would require substantial removal of a Scheduled Monument.

Both these activities would provide insufficient benefit to justify the substantial costs and would not be eligible for Environment Agency Grant in Aid.

NE Objection/Comment 15 (Porth Coose)

15) The majority of works are to the rear of the crest and we understand that there is no space for a setback option, so it appears that all avoidance options have been explored. Increasing the height will increase wave reflection, but the upper part of the beach is already protected by a concrete mattress, so the risk to the upper beach face profile is minimal. Over time, it is likely that more of the concrete mattress could become more exposed. The ES notes that some parts of it are already exposed as cobbles have been thrown over the crest during large storm events. Increasing wave reflection could increase cobble mobilisation at the top of the beach during large storms, but it is unlikely to significantly erode due to the size of the material and the presence of the mattress.

Response to objection 15

The concrete mattress is unlikely to become more exposed over time, because the proposed rock bags at the crest of the existing sea defences will prevent cobbles from being thrown over the defences during high seas, and thereby being lost to the beach frontage as happens at present.

At present the cobbles that are found on the beach are mobilised by storm waves and photos indicate that these are periodically translocated to the landward side of the crest via overwashing. The placement of the rock bags will considerably reduce overwashing meaning a reduction in loss of cobbles from the beach.

The question remains whether this will lead to exposure of the concrete mattress. Photos show that in small pockets the mattress is already exposed. During storm events it would be expected that beach sediments (predominantly sands, gravels and cobbles) would be mobile within the tidal frame, and possibly beyond. Given the placement of the rock bags there is potential for sediment to be drawn down from the upper beach profile to be deposited lower down in the tidal frame, thus exposing the rock mattress to erosive wave forces. If exposure occurs and the mattress is subject to repeated storm wave activity there is potential for it to be damaged.

However, it is expected that the sediment transported down the beach profile would later be re-deposited higher in the profile under reduced wave conditions. Wind-blown sand may also add to accretion at the backshore, perhaps more so given the presence of the rock bags reducing material lost over the ridge.

Notably, repeated beach topographic surveys suggest that the beach has accreted in cross-sectional area between September 2007 to September 2020 (as well as between September 2019 to September 2020), see table. Most of this accretion has occurred at the lower and upper limits of the three profiles.

It could be suggested that exposure of the rock mattress is likely to be a seasonal issue rather than a long(er) term trend.

Table 1: Profile Cross-Sectional Area for Porth Coose

Profile Cross-Sectional Area				
Profile	Autumn to Autumn		Baseline to Autumn	
	Sept 2019 to Sept 2020		Sept 2007 to Sept 2020	
	CSA Diff (m²)	% Change	CSA Diff (m²)	% Change
6e02295	11.0	4	8.2	3
6e02296	7.3	3	10.2	5
6e02297	3.7	1	5.5	2

Elements of the ES Coastal Processes chapter will be amended to better reflect this Plymouth Coastal Observatory data and present it so that it provides a more representative assessment of the condition of the beach.

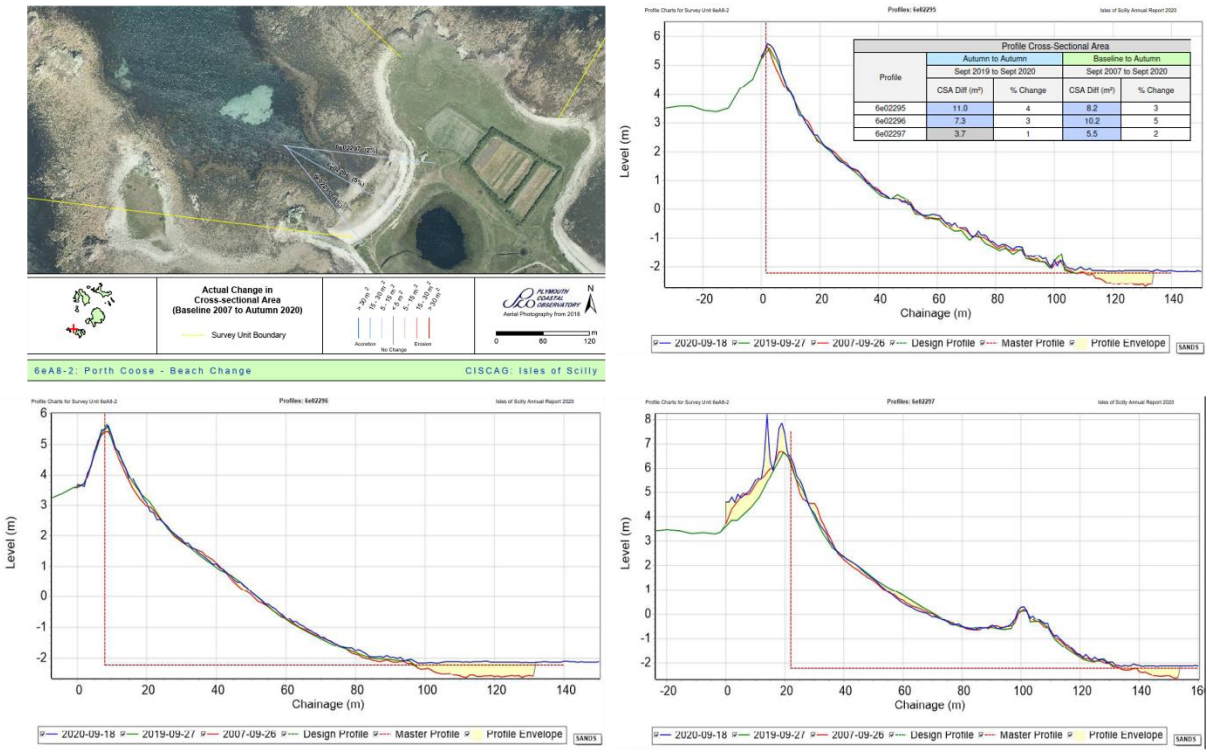

Figure 1: Porth Coose: Plymouth Coastal Observatory data obtained from three beach profile transects (2007 – 2020).

The profile data suggests that sediment appears to be accreting at lower tidal elevations along each of the transects, with more limited levels of accretion higher in the tidal frame. Profile 6e02295, in the SW of the embayment has accreted sediment at the crest ridge when compared with the 2007 baseline and the previous year's survey. Profile 6e02297, to the NE of the bay saw minor sediment gains and losses on the seaward side at the crest ridge with sediment gains on the landward side of the crest when compared with the 2007 baseline and the previous year's survey.

This material is likely to have been mobilised by wave activity and overwashing. The consequence being this sediment has been lost from the beach system; notably this material would not have been overwashed had the rock bags been in place.

Collectively the three profile transects, and associated profile cross sectional area (CSA) suggests the beach at Porth Coose has accreted sediment between September 2019 to September 2020 and between the September 2007 (baseline) to September 2020 (Table 1).

NE Objection 16 (Periglis)

16) The ES indicates that the dune ridge appears to be in a long-term erosional trend, with evidence of erosion and oversteepening in some locations. Sand-filled dumpy bags were placed on the seaward edge of the dune ridge following the 2014 event in an attempt to reduce further erosion. Although some accretion has been noted around bags, this should not detract from the fact that the long-term trend for the dune ridge is erosional. During storm events, sediment is eroded from the existing dune face, causing steepening and retreat of the ridge. With rising sea levels, erosion of the dune ridge would be anticipated to accelerate.

As the long-term trend of the existing dune crest is predominantly erosional, it can be inferred that both advancing the alignment of the dune crest seaward and raising the elevation of the dune crest within the proposed design is highly likely to exacerbate erosion of the dune face during storm events. As the defence prevents natural rollback, the dune face will become sacrificial, and exposure and undermining of the geobags will occur, as has been observed on other wave-exposed sites where the net dune sediment budget is negative. On exposure of the vertical, resistant surface of the geobags, wave reflection is likely to occur, which could subsequently erode and steepen the beach face. The strandline as viewed on aerial imagery is overlapping with the toe of the proposed defence; therefore, it would be anticipated that this sensitive area would be subject to erosion following construction of the defence.

The SMP policy for this unit is Hold The Line for all three epochs. However, alternative options, such as a setback defence, could significantly reduce impacts on the SSSI and should therefore be fully considered.

Response to objection 16

Although Natural England rely on the Environmental Statement (ES) for part of their objection information, the ES is inaccurate.

The independent Plymouth Coastal Observatory annual surveys for this beach from 2007 to 2020 shows that the trend for Periglis is actually accretional (Figure 1). These data include observations both before the 2014 storm and after the 2014 storm.

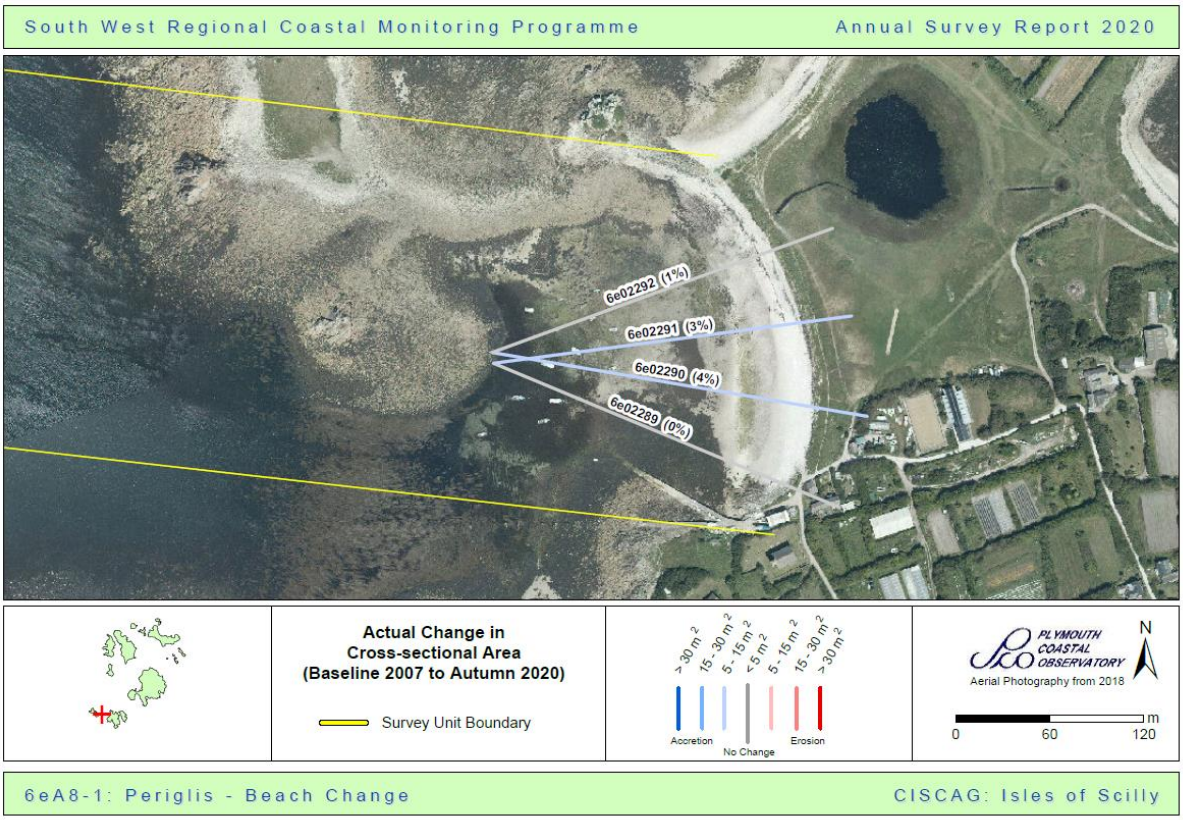

Figure 1: Actual changes in cross-sectional area at Periglis beach, from autumn 2007 to autumn 2020. Positive percentages would indicate accretion, while negative percentages would indicate erosion. All cross sections at Periglis show no change or up to 4% accretion over this period (PCO 2020).

As with Porth Coose, some elements of the ES Coastal Processes chapter will be amended to better reflect the Plymouth Coastal Observatory data and present it so that it provides a more representative assessment of the condition of the beach.

Beach profile data suggest an overall increase in CSA along 3 of the 4 transects with marginal losses on one transect (6e02289) when compared against the baseline (Table 2).

A similar assessment as undertaken for Porth Coose will be completed, with further consideration given to the proposed design specification.

Table 2: Profile cross-sectional area for Periglis

Profile Cross-Sectional Area				
Profile	Autumn to Autumn		Baseline to Autumn	
	Sept 2019 to Sept 2020		Sept 2007 to Sept 2020	
	CSA Diff (m²)	% Change	CSA Diff (m²)	% Change
6e02289	13.6	5	-1.3	0
6e02290	15.8	6	10.8	4
6e02291	10.3	4	8.4	3
6e02292	1.3	0	1.8	1

Despite this actual positive trend to accretion at Periglis over this 13-year period, the project proposes to move the geobags further back within the dune in response to the objection. Shifting the geobags rearward will increase the volume of material excavated. In the northern part of the dune, this is likely to remove the dune entirely before reconstruction is undertaken. The project proposes to move the bags back 3 m laterally compared to the

originally submitted designs towards the back of the dunes, to minimise the volume of additional material to be excavated and associated increased costs.

This design modification is not likely to change the environmental impact of the proposed works, but it is likely to require working more frequently from behind the dunes at Periglis, rather than from the beach. The existing red line diagram provides adequate space in which this form of working can take place.

The placement of the geobags and broader design specification may require further consideration. Whilst limited profile data suggests an accretionary trend the expectation would be for the beach at Periglis to narrow in time as a response to sea level rise.

NE Objection 17 (Periglis)

17) The cumulative impacts of storms and future sea level rise will likely eradicate existing strandline vegetation and remove any potential for re-establishment, as the defence will prevent rollback and natural morphological adaptation of the beach profile. The impacts of this type of erosion on the strandline vegetation, which is a designated feature within the SSSI, need to be considered within the ES.

The SMP Policy for this unit is Hold The Line for all three epochs. However, alternative options, such as setback defence, could significantly reduce impacts on the SSSI and should therefore be fully considered.

A vegetation survey should be carried out detailing and quantifying the loss of the SSSI site's features, from all site compounds and access roads. Site compounds and access roads should avoid the SSSI completely, and if this is not possible seek the least impactful alternative. We advise to carry out the required surveys (at the appropriate time of year) and proposed mitigation and further monitoring if required, which we request to be consulted on by condition to determine the extent of the impacts and if any mitigation proposed will be effective.

Response to objection 17

The project acknowledges the need to carry out detailed vegetation surveys of the SSSI features and to propose monitoring and mitigation. The project is happy for a condition to be made in the planning permission that Natural England must be consulted on the extent of the impacts and if any mitigation proposed will be effective.

The project intends to plant the Porth Coose works and replant the dunes at Periglis following completion of the works but will consult with Natural England and the Wildlife Trust to ensure this is effective.

The ES states that an ECoW will be present to set out all construction routes to avoid SSSI vegetation. Given the likelihood of changes in the vegetation structure between the surveys and the works taking place it was agreed with the IoS Wildlife Trust that this was the best way to ensure that SSSI vegetation was protected.

NE Objection 18 (Lower Town Beach)

18) The ES states that St Martin's SSSI is designated for its geological interest and is not actively managed. The statement indicates that the SSSI is only important for its geological interest which is not the case as St Martin's flats form the largest area of sand exposed at low water within the Isles of Scilly. They are a fine example of moderately exposed sandy shores dominated by bivalves, burrowing heart urchins and polychaetes. The nature of this habitat is notable since it supports species that would normally occur offshore in coarse shells and gravel deposits. Natural England regards the works at Lower Town Beach as minor in nature however, as the habitat is sheltered and unpolluted, being remote from most major sources of disturbance the assessment should include consideration of the impacts resulting from increased boat usage and the potential for pollution incidents from the provision of the removable slipway enhancing beach access, and the risk from pollution incidents by providing the open grid product appropriate for vehicle loading.

Response to objection 18

The proposal to improve the beach access at Lower Town Beach is unlikely to increase boat usage over St Martin's Sedimentary Shore SSSI and to generate increased associated pollution, because the only boats using the access are existing boats owned by St Martin's residents. From extensive discussion with residents, typically these boats are removed from the water in autumn and stored in the boat park behind the beach. The boats are returned to the water to lie on moorings in spring.

Improving access is unlikely to result in more boats being purchased by St Martin's residents, or more instances during the year when they are moved to and from the beach.

The proposed works are intended to remove the need to place rubble, small rock and ram on the beach, which is undertaken periodically by island residents to provide a firm surface for the trailers and tractors.

The proposed demountable boat access system could be rolled up and stored between periods in which it is required. This would reduce the impact of the rubble, small rock and ram being placed on the beach and reduce the impact of the proposed demountable ramp.

NE Objection 19 (MCZ)

19) These works are sited near to the above Marine Conservation Zone however, an MCZ assessment has not been submitted with this application. Natural England advice that the MCZ assessment should be carried out identifying any potential pathway by which impacts from the development would affect the interest features of the site.

Response to objection 19

A MCZ assessment has been prepared and will be submitted to Natural England and the Environment Agency for them to consider the potential impacts of the proposed works at St Martin's on the habitats and species within the Tean MCZ. The MCZ identifies potential pathways by which impacts from the development would affect interest features of the site.

NE Objection 20 (Priority Species)

20) The ES should thoroughly assess the impact of the proposal on protected species and the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List', published under S41 of the NERC Act 2006.

We would advise that your authority requests further detail on how any loss of priority habitat will be avoided, mitigated or compensated. If net loss cannot be avoided or mitigated by use of alternative methods, we suggest that appropriate compensation is secured. This should consider biodiversity enhancement and net gain where possible. We advise that an appropriate planning condition or obligation is attached to any planning permission to secure these measures.

Response to objection 20

An assessment of impacts on protected species and habitats, along with proposed mitigation measures, is included within Chapter 5: Biodiversity and Nature Conservation (ES Volume I). Additional opportunities for compensatory habitat, enhancement and net gain are proposed above at the response to objection 4. If net loss cannot be avoided or mitigated for by use of alternative methods, these compensation measures will be secured.

NE Note 21 (SMP)

Natural England note that a large proportion of the defence works are within NAI (No Active Intervention) policy units. Natural England questions if these proposed defences conform to SMP policy. Where the defence policy in the Shoreline Management Plan is NAI under the scenario of testing of the SMP policy, this outlines that the policy was chosen in some cases to satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Response to Note 21

The SMP is in the process of a 'Refresh' by Cornwall and the Isles of Scilly Coastal Advisory Group (CISCAG). The SMP Refresh process reviewed and added detail to SMP policies in 2022, but it wasn't able to change them. However, during this process CISCAG recognised that some of the SMP policies for the Isles of Scilly needed fundamentally reviewing and updating to reflect better understanding, improved evidence and new proposals that had emerged since the policies originally were written in 2010. Policy Sub-Categories were added in the SMP Refresh to clarify the Policy intents, but only within the limitations of the definitions provided. CISCAG recognised that a more comprehensive review was needed.

CISCAG subsequently updated the SMP Action Plan to include the measure of completing a comprehensive FCERM Strategy for the Isles of Scilly to consider how to address coastal flooding and erosion on the islands in the medium to long term, including responding to climate change. This Strategy (to be completed) will include a detailed review of SMP Policies and Intents and recommend changes where appropriate.

The 'local activity only' Policy Sub-Category is intended to provide the ability to undertake geographically-limited coastal defence works within this policy unit to protect key assets or features. This allows no active intervention to occur where assets are not at risk, but for the assets to be protected in the short-term, while long-term solutions to asset vulnerability are developed.

As part of the SMP Refresh, Policy intents have been provided with Sub-Categories for various frontages on the off-islands. The refreshed Policy intents and Sub-Categories are outlined in Table 3. The St Martin's Flats area is not included in the Table because the proposed works are non-structural and temporary and would not provide immovable sea defences.

Most of the proposed works are therefore consistent with SMP Policies and Sub-Categories. However, two of the remaining eight policy units have Policy intents for no active intervention and Sub-Categories of 'do not defend'.

h) In the case of Green Bay on Bryher, the proposed works over a short length of the policy unit augment the height of an existing natural cobble embankment to reduce the likelihood that coastal flooding will cause extended saltwater inundation of the Green and loss to the boatyard business, three residences and an electricity substation within the floodable area. The Green Bay works can be reversed readily by cutting and removing the geotextile fabric bags used to provide a solid core to the augmented embankment.

ii) In the case of Kitchen Porth on Bryher, the proposed works reduce coastal overtopping of the Kitchen Porth hinterland and erosion of the ram cliff at one end of the bay. This is intended to reduce the likelihood that flooding would isolate two residences at Kitchen Porth and cause damage to an electricity substation.

Although these two proposed activities are not consistent with the SMP as it stands, the proposed works have an expected life of about 25 years. They're intended to provide some time to consider the long-term strategic approach that the Isles of Scilly might use to deal with the real threat of sea-level rise and other climate changes.

Table 3: SMP management policies with feedback from the SMP Refresh 2022-23

Policy Unit		SMP Management Policy				
ID	**Name**	**Stage**	**Policy**	**Sub-Category**	**Policy Rationale / Intent of Management**	**Feedback**
45.1	**Great Porth North**	Present	Hold The Line	Maintain/Replace	Policy intent in the short term is HTL to allow monitoring to continue. The preferred approach medium to longer term is to manage any risks with the wide vegetated upper beach allowing the system to respond naturally to sea level rise. There is potential risk for property and development if defences fail which could lead to potential economic justification for continuation of HTL strategy beyond epoch 1, under which policy extensive works are underway. Note, the adopted policy is NAI / HTL for the medium and long-term.	This is a difficult area to manage. The present policy and sub category are correct, however the longer term approach is a difficult one to address and we may need to review the policy approach as part of that.
		Intermediate	No Active Intervention	Local Activity Only		
		Target	No Active Intervention	Local Activity Only		
45.2	**Stinking Porth**	Present	No Active Intervention	Local Activity Only	Policy intent is to allow natural coastal evolution to occur to support conservation of designated features. There may be potential for wave overtopping and inundation to affect Great Pool which is an important water resource. Extensive proposed works across all units may not align to SMP policy. Part of the same protection as units 45.2, 45.3, 45.4, 45.5.	This is a difficult area to manage. The present policy and sub category are correct, however the longer term approach is a difficult one to address and we may need to review the policy approach as part of that.
		Intermediate	No Active Intervention	Local Activity Only		
		Target	No Active Intervention	Local Activity Only		
45.4	**Great Popplestones**	Present	Hold The Line	Maintain/Replace	Only small amount of recession likely with short term HTL policy only to allow for continuation of monitoring to establish whether NAI is sustainable in the long term. There are water resource issues associated with the Great Pool and the policy only applies for the area fronting the pool. Extensive proposed works across all units may not align to SMP policy.	This is a difficult area to manage. The present policy and sub category are correct, however the longer term approach is a difficult one to address and we may need to review the policy approach as part of that.
		Intermediate	No Active Intervention	Local Activity Only		
		Target	No Active Intervention	Local Activity Only		

45.8	**Kitchen Porth**	Present	No Active Intervention	Do not Defend	Allow natural coastal evolution to occur to support conservation of designated features. Extensive proposed works across all units may not align to SMP policy.	SUB CATEGORY PROPOSAL Present: NO ACTIVE INTERVENTION / LOCAL ACTIVITY ONLY Intermediate: NO ACTIVE INTERVENTION / LOCAL ACTIVITY ONLY Target: NO ACTIVE INTERVENTION / LOCAL ACTIVITY ONLY Local critical assets require defending (coastal defence works underway which will need maintaining moving forward) - these include a freshwater well and an electricity substation.
		Intermediate	No Active Intervention	Do not Defend		
		Target	No Active Intervention	Do not Defend		
45.12	**The Brow to Works Point [Green Bay]**	Present	No Active Intervention	Do not Defend	Allow natural coastal evolution to occur to support conservation of designated features. Extensive proposed works to protect locally critical infrastructure across all units may not align to SMP policy.	Possibly realign the policy unit boundary to extend further south to include the current works, then keep this current policy unit as is.
		Intermediate	No Active Intervention	Do not Defend		
		Target	No Active Intervention	Do not Defend		
46.11	**Pereglis Slips to Ginamoney Carn [Periglis]**	Present	Hold the Line	Maintain/Replace	Policy intent is continued HTL as defences prevent saline contamination of drinking water. There are potential issues of seawater percolation through the embankment. Although policy intent is continued HTL, the sustainability of how this is done in the longer term needs to be considered.	
		Intermediate	Hold the Line	Maintain/Replace		
		Target	Hold the Line	Maintain/Replace		
46.12	**Ginamoney Carn to Browarth Point [Porth Coose]**	Present	Hold the Line	Maintain/Replace	Policy intent is continued HTL as defences prevent saline contamination of drinking water.	
		Intermediate	Hold the Line	Maintain/Replace		
		Target	Hold the Line	Maintain/Replace		
46.14	**Browarth Point to Kallimay Point [Porth Killier]**	Present	No Active Intervention	Local Activity Only	Little justification for continuation of HTL policy. Allow natural coastal evolution to occur to support conservation of designated features. Localised HTL to prevent undermining of wall to prevent water getting into Great Pool area links to policy in units 46.11 and 46.12. Note, the adopted policy is NAI / HTL for all three epochs.	Critical access road and fresh water supplies (Big Pool) requires protection.
		Intermediate	No Active Intervention	Local Activity Only		
		Target	No Active Intervention	Local Activity Only		

NE Note 22 (CEMP)

NE notes that the CEMP submitted as part of the application will require updating once the further assessments/information has been provided.

Response to Note 22

Updated mitigation measures will be included within an updated CEMP.

NE Point 22 (Protected Landscapes)

NE advise that a Local Landscape Assessment be used to guide the landscape's sensitivity to this type of development.

Response to Note 23

The local LCA has been used to inform the baseline presented in Chapter 8: Landscape and Visual (ES Volume I).

Full responses are provided above to many of the objections from Natural England. Additional material will be provided for some remaining elements of objections not dealt with above, in updates and additions to the Environmental Statement and HRAs/EcIA.

These proposed updates and additions are summarised in Table 4 below.

Table 4: Remaining objection elements to be dealt with in an update to the ES / HRAs

No.	Objection	Update/addition to be provided in ES / HRAs
Gen.	Maps of sites	To be provided with updated redline boundaries within the HRAs
1	Coastal squeeze	Full assessment to be undertaken if required by NE, if interim assessment provided here is insufficient, and added to ES
2	Nesting potential	HRAs to be updated to reflect updated SPA designations and potential impacts on recovery potential
5	Sequential working	EcIA and HRAs to be updated to note approach to avoiding sequential working on adjacent beaches
6	Seals present	EcIA and HRAs to be updated to include mitigation measure for seals
13	St Agnes	Updates to describe species and impacts found in SSSI
15	Porth Coose processes	Updates to coastal processes chapter to note detail of changes that have occurred at the site, and manner in which processes operate
16	Periglis processes	Updates to coastal processes chapter to note detail of changes that have occurred at the site, and manner in which processes operate
19	MCZ assessment	A draft MCZ assessment has been completed for Tean MCZ (attached) and will be submitted for response by Natural England and the Environment Agency then included in the ES

The applicant is committed to undertaking this project in an environmentally appropriate manner. Informal discussions with any organisations or individuals are welcomed, to help identify more suitable ways of completing the works.

Yours sincerely,

Stephen Swabey
Project Director, Climate Adaptation Scilly

References

Natural England (2011) “Isles of Scilly seagrass mapping (NECR087)” http://publications.naturalengland.org.uk/file/82006

Plymouth Coastal Observatory [PCO] (2020) “South West Regional Coastal Monitoring Programme – Annual Survey Report Isles of Scilly 2020”, 219 pp. https://www.coastalmonitoring.org/pdf_download/?metadata_id=557900