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Widemouth Beach Dune Management Plan

CEC3683 Making Space for Sand
13 October 2026

Document Control

Revision	Prepared by	Checked by	Approved by
First Issue **31/03/2026**	Hannah Boylan FdSc Ecologist	Steve Adams BA(Hons), MSc, MCIEEM, CEnv Principal Ecologist	Steve Adams BA(Hons), MSc, MCIEEM, CEnv Principal Ecologist

Disclosure

The information, opinion and advice which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct and the British Standard for Biodiversity – Code of Practice for Planning and Development (2013). We confirm that the opinions expressed are our true and professional bona fide opinions.

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Summary

Site and methods	
Purpose of report	To provide a Beach Dune Management Plan to guide restoration of habitats at Widemouth.
Site assessed	Widemouth
Area (ha)	~ 10.37ha
Location:	Grid reference: SS 19887 02298 What3words:booth.forum.goodnight
Planning Authority involved	Cornwall Council

Survey methods	UK Habitat Classification Biodiversity Net Gain Condition Assessment
Date of assessment	UK Habitat Classification: June 2023 BNG Condition Assessment: December 2023
Weather on date of assessment	UK Habitat Classification - Sunny, ~21°C BNG Condition Assessment - Overcast ~8°C

1. Introduction

1.1. Background

1.1.1. Making Space for Sand is being delivered through Cornwall Council in collaboration with Cornwall Wildlife Trust (CWT), University of Plymouth (UoP), South West Coastal Monitoring (SWCM) and Cornwall Community Flood Forum (CCFF). The project is funded by DEFRA as part of the Flood and Coastal Resilience Innovation Programmes (FCRIP), which are managed by the Environment Agency (EA). The programmes will drive innovation in flood and coastal resilience and adaptation to a changing climate.

1.1.2. The aim of the Making Space for Sand Project is to enable the creation of sustainable and resilient communities that can capitalise on their natural resource to increase economic and resilience opportunities. Encouraging the more sustainable use and development of the coastal fringe, will allow for a more natural, ecosystem approach to coastal management to be taken where traditional coastal protection is not possible.

1.1.3. Four zones have been identified to define the beach/dune area and are defined as:

1.1.4. Beach Zone – The wet beach area has been defined using Mean Low Water Spring (MLWS) and Mean High Water Spring (MHWS) contours extracted from all LiDAR data captured by SWCM. The Beach Zone will therefore encompass the area between the MHWS and MLWS contours, with volumes for this area extracted from each LiDAR surface.

1.1.5. Mobile Zone – This area is defined as the active dune face and embryo dune1 from MHWS +1 m to the back of the mobile area, often distinguished by vegetation depth or urban development. The Mobile Zone has been defined using aerial imagery from 2007 to 2021 and historic OS maps and has been verified through site visits.

1.1.6. Fixed Zone – This area is defined by permanent dune vegetation that may also include scrub or invasive species, effectively denoting vegetation atop sandy soil.

1.1.7. Developed Zone – This is defined as urban development areas (i.e., car parks, unnatural grassy areas, roads, houses etc.) which have been built atop previously present dune systems.

1.1.8. For the purpose of this report, efforts have been concentrated on the Mobile and Fixed Zones as shown in Figure 1.

1.2. Aims and objectives

1.2.1. This report details the specific plans for the dunes at Widemouth, it is supported by the overarching strategic document CEC3683 Making Space for Sand Beach Dune Management Plan Strategic Document.

1.3. Site location

1.3.1. Widemouth Bay (Figure 1) is a west-facing beach on the North Cornwall coast, located immediately west of the settlement of Widemouth, and c.3.5km south-southeast of the town of Bude. The survey site consists of two distinct areas; the northern section and the southern section which are separated by a public car park. Running parallel to the eastern survey boundary of the dune complex is Marine Drive. There are several car parks and amenity access points within the dune system. Widemouth Bay is a popular attraction in the area and has a high number of visitors accessing the beach via the dune system. The Southwest Coast Path also runs through the dune complex. The site is bound in part by soft and intermediate (between hard and soft) rock cliffs. There are several unnamed streams and watercourses which enter the dune system and ultimately discharge into wetland areas and onto the beach.

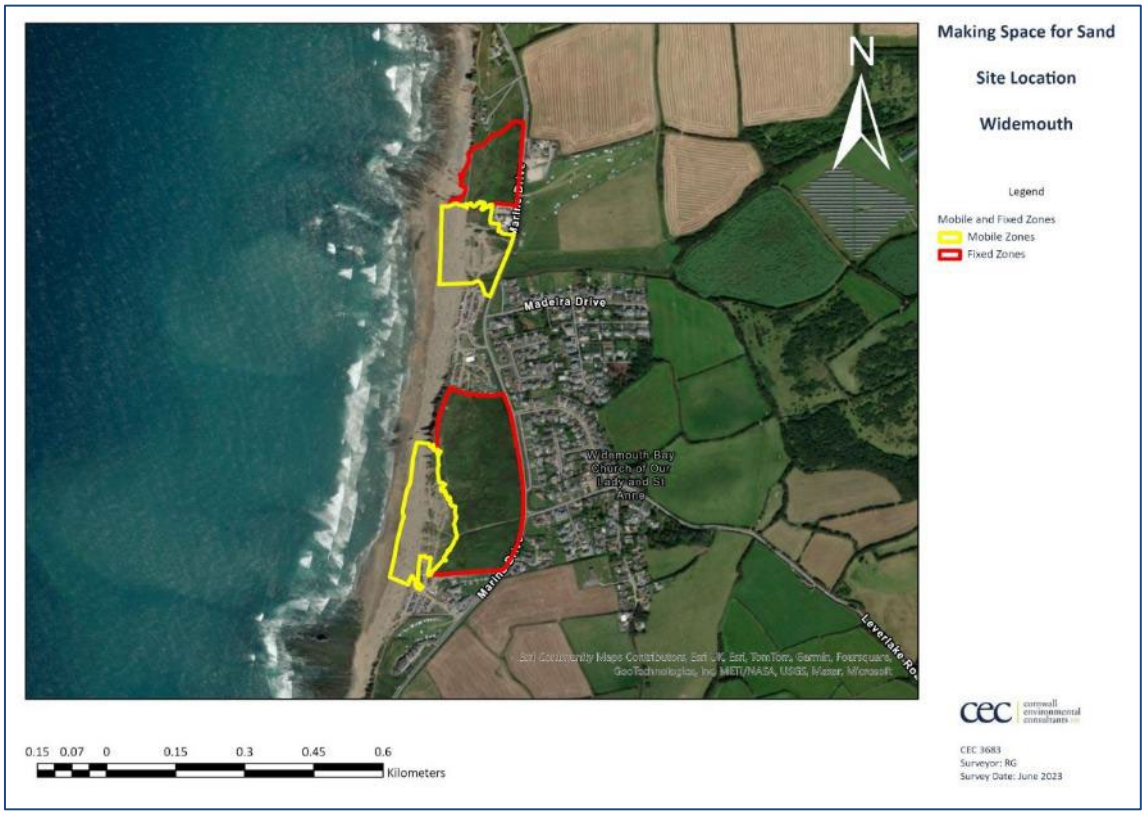


Figure 1: Site Location

1.3.2. The dune area at Widemouth is divided into a northern and southern section, with a car park and café in the middle. The southern dune is vegetated; however, this is predominantly scrub, with some fragmented areas of open dune at the toe.

1.3.3. The northern section of the dune has a combination of dune, scrub and wetland area. The dune area has been restored from a former overflow car park, this was rock armour fronted and largely devoid of vegetation, aerial imagery show that the car park was active until after 2010, the addition of Christmas trees to trap wind blown sand and promote vegetative regrowth has been successful in restoration efforts.

2. Shoreline Management Plan Policy Units

2.1.1. Shoreline Management Plan 2011 SMP2 - Cornwall Council

2.1.2. The Shoreline Management Plan (SMP), specifically SMP2 for Cornwall and the Isles of Scilly, is a strategic, long term coastal management policy document adopted by Cornwall Council. It provides a broad assessment of how the coast is likely to change over time and sets out recommended approaches for managing coastal erosion and flood risk in a sustainable way, more information about this plan can be found in the Beach Dune Strategic Overview Document.

2.1.3. Widemouth is within Policy Development Zone 16 (PDZ 16) under Management Area (MA) MA39. There are three Policy Units (PUs) associated with Widemouth, PU39.2 is associated with Black Rock and South Widemouth and PU39.3 is associated with North Widemouth. The dune area is covered by both of these policies. PU39.1 is associated with the cliffs either side of the beach. The assigned policy for the medium term along the dune area is managed realignment, which means to manage the coastal processes to realign the 'natural' coastline configuration, either seaward or landward. There is also a sub policy of natural features which is where the intent is to maintain the integrity of the natural feature i.e. the dune, to provide a defence function rather than fix its position, by active management of the natural feature but no structural intervention.

2.1.4. However, in the long term no active intervention (NAI) is the policy, which is a decision not to invest in providing or maintaining defences or natural coastline with a sub policy of local activity only, where works to repair or construct short stretches of defences within a long length of otherwise NAI shoreline might be permitted to provide local protection (e.g. to a slipway, access point or isolated properties).

Table 1:PU39.1 Undefended Cliff

Timeframe	SMP Policy	Sub Policy
Medium Term (2025 -2055)	No active intervention	Do not defend
Long Term (2055 - 2105)	No active intervention	Do not defend

Table 2:PU39.2 Black Rock/South Widemouth

Timeframe	SMP Policy	Sub Policy
Medium Term (2025 -2055)	Managed realignment	Natural features
Long Term (2055 - 2105)	No active intervention	Local activity only

Table 3: PU39.3 North Widemouth

Timeframe	SMP Policy	Sub Policy
Medium Term (2025 -2055)	Managed realignment	Natural features
Long Term (2055 - 2105)	No active intervention	Local activity only

2.1.5. N.B the short term time frame ended in Cornwall in 2025.

2.1.6. Widemouth Bay is, in physical coastal terms, an extremely dynamic area, being west facing and therefore exposed to the prevailing conditions, particularly significant wave and wind action. This part of the north Cornish coastline, is very prone to cliff landslides. Cliff recession is evident in the area however, the sediment of the beach is more likely from offshore deposits than from the eroded cliffs.

2.1.7. There is currently limited development adjacent to the beach, comprising two car parks one to the north with café, toilet facilities, and lifeguard station, and to the south with café and holiday apartments. All

development is located behind an armourstone rock revetment, which was constructed a number of years ago. The revetment is the responsibility of Cornwall Council and as such, any maintenance works required on this structure are their responsibility. The revetment sits above Mean High Water Spring (MHWS) and runs for approximately 400 metres, between the low sandstone and shale cliffs to the south and north of the proposed site. The car park is mainly grass and compacted sand, but has a hard surface road linking the car park with the unclassified minor road, which runs north from Widemouth to Bude.

2.1.8. Given the already constrained nature of the beach and the lack of any substantial assets protected by the revetment, there is seen to be little justification for continuing to maintain the revetment in its current position. It may be far more sustainable to withdraw maintenance for the current defensive line and look to undertake managed realignment of the shoreline position. It is possible that the current route of Marine Drive could provide a suitable point to realign to, however monitoring of actual erosion rates once the revetment was no longer effective would be critical in dictating whether realignment to this position would be sustainable beyond 2105.

2.1.9. The dune system located behind the revetment is in a generally poor condition. Natural and uninterrupted functioning of the dunes is an important aspect of the overall health and stability of the northern end of Widemouth Sand and should be encouraged. Cornwall Council have, in the past, had sand-dune management polices in place where netting aimed to capture and hold sand in place between the rock armour revetment and the northern end of the car park. This area is particularly vulnerable to damage from visitors gaining access to the beach from the car park.



Figure 2: Shoreline Management Plan Areas and Policy Units

3. Historical Imagery and Mapping Change

3.1. Historical Imagery

3.1.1. A review of available historical map imagery (Georeferenced Maps viewer - Map images - National Library of Scotland , 2025) has been undertaken to assess the change in the dune at Widemouth.

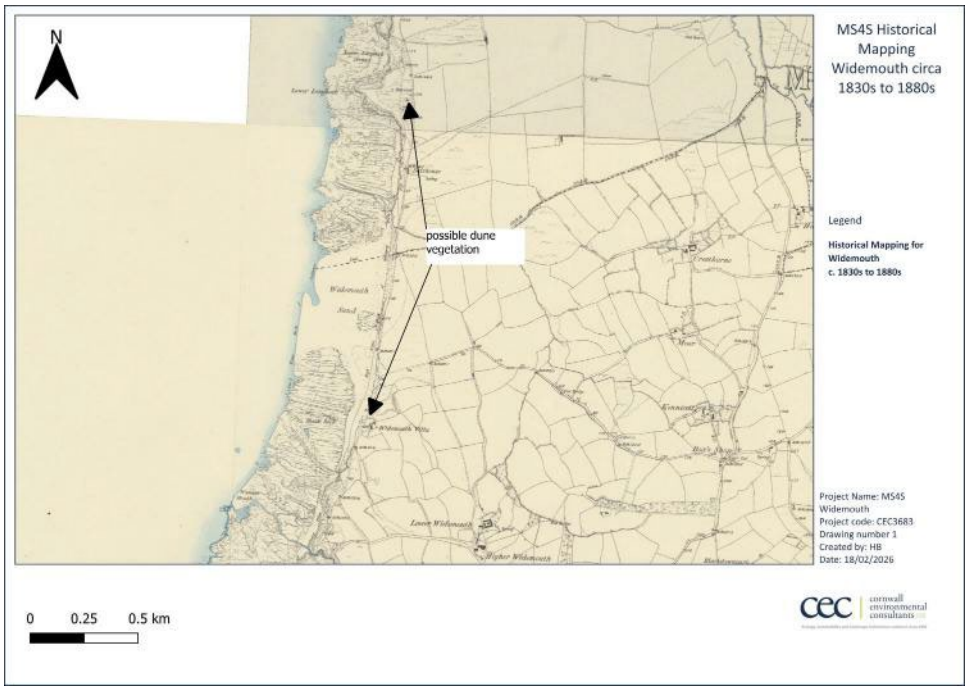


Figure 3: Historical Mapping from Widemouth c. 1830-1880

3.1.2. The earliest available images date from the 1830-1880s, these show that the vegetation extended back along the cliffs across the width of the bay, the vegetation shown is rough pasture, indicating that this could likely be dune vegetation. Aside from Widemouth Villa, there is no residential development in the area, and only a few marked roads.

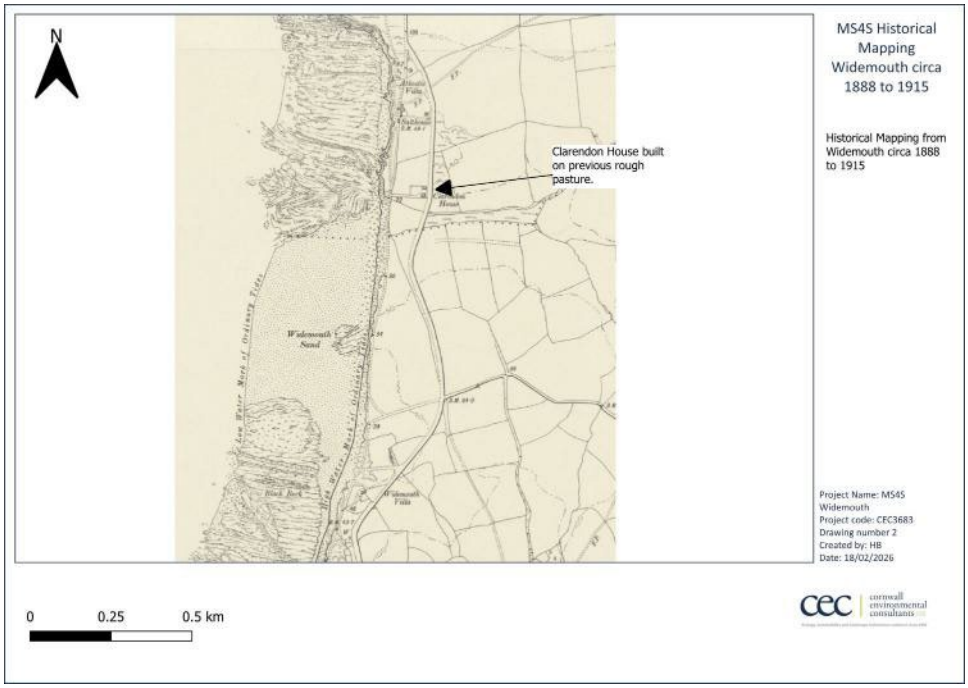


Figure 4: Historical Mapping from c. 1888 - 1915

3.1.3. In mapping available from 1888-1915, a second building, Clarandon House, is on the site of what is now called the Beachhouse, there has been no additional development aside from this. Clarandon House is within an area previously flagged as rough pasture vegetation. The network of roads has now increased.

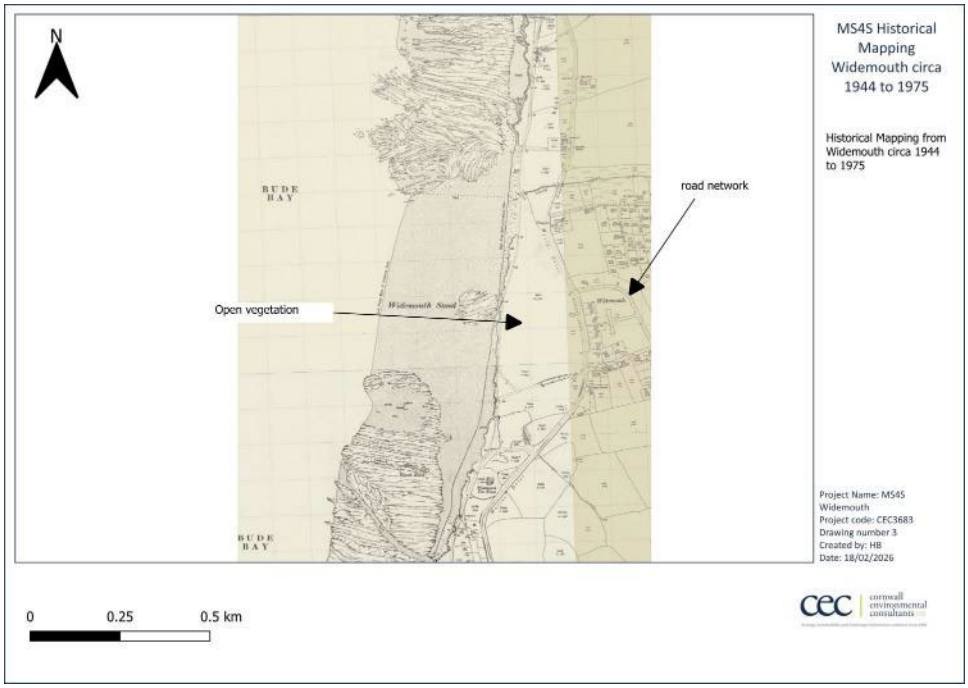


Figure 5: Historical mapping for Widemouth c. 1944 to 1975

3.1.4. The mapping imagery from 1944-1974 shows a small settlement, with a network of roads. The area seaward of Widemouth settlement is still an area of open vegetation.



Figure 6: Aerial Imagery of Widemouth

3.1.5. Present day aerial photography shows that there has been an increase in the developed area to the east of the dunes. It also shows a number of carparks within the dune footprint.

4. Historical Features and Designations

4.1. Historic Features

4.1.1. A review of historical features has been undertaken from Cornwall Council's historic and natural environment mapping. See Figure 7.

4.1.2. Key Historical Features within 200m of the site include:

- *Prehistoric:* Neolithic & Mesolithic flint findspot, submarine forest
- *Roman:* occupation site and coin findspot
- *Medieval:* sand pit
- *Post-medieval:* saltworks, 18th Century house, trackways, and quarries
- *WW2:* tank traps, posts, beach defences, bomb craters, pillboxes,
- *Other*, enclosure.

4.1.3. The majority of the features shown date back to WW2 and were part of the beach defences, most of these features will have been removed and it is not anticipated that they will have an impact on the restoration works to be undertaken. However, coastal erosion and dune mobility may expose currently buried archaeological and historical features within the dune system. If archaeological remains or previously unrecorded historical features are exposed during management works or through natural erosion processes, works in the immediate area should cease and advice sought from Cornwall Council's Strategic Historic Environment Service (Historic Environment Record team).

4.1.4. Cornwall Council Historic Environment Service: https://www.cornwall.gov.uk/her Email: her@cornwall.gov.uk Tel: 0300 1234 202.

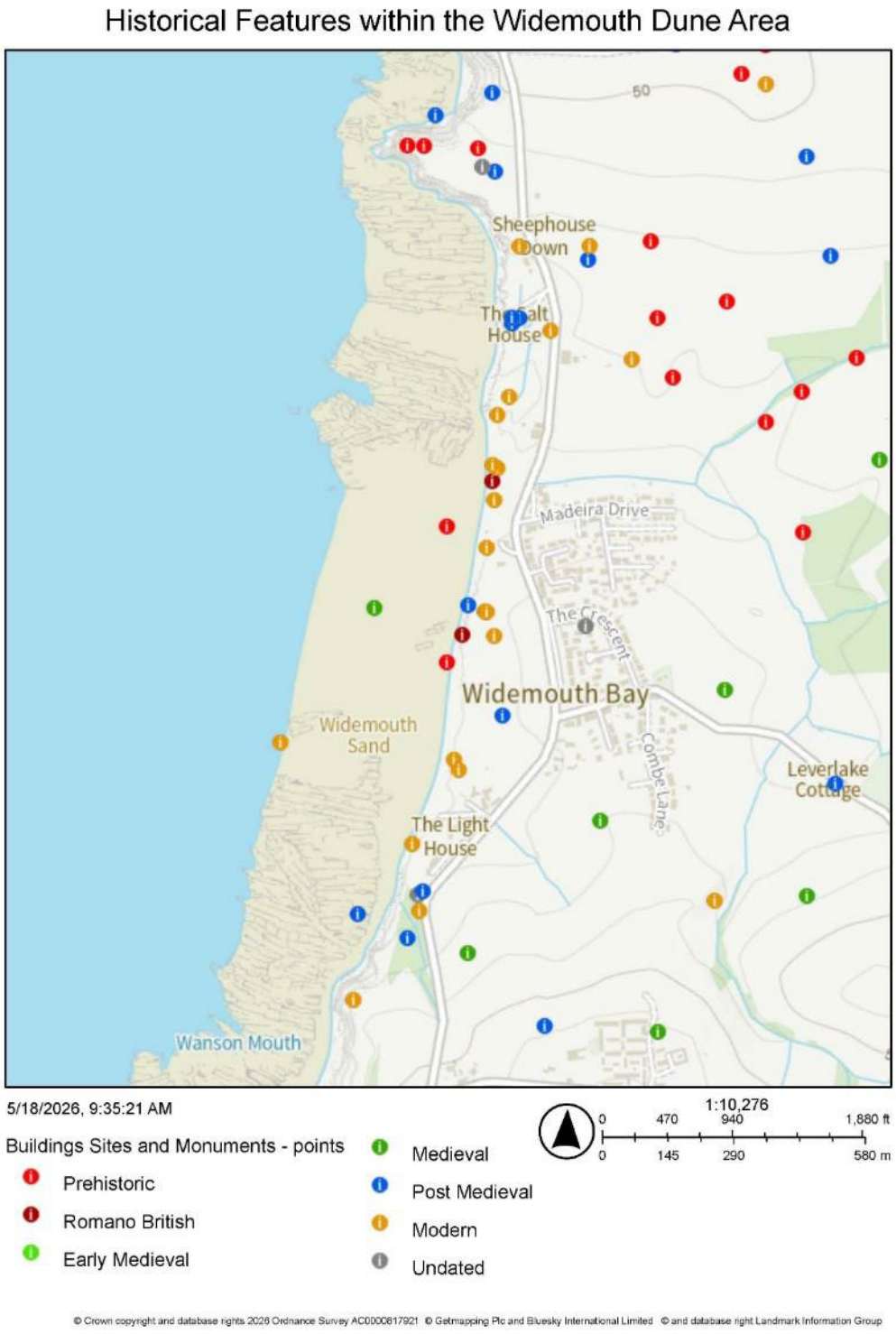


Figure 7: Historical Features within the Widemouth Dune Area

4.2. Biological, landscape and geological designations

4.2.1. Table 4 below identifies the statutory and non-statutory biological, landscape and geological designations within and adjacent to Widemouth, see Figure 8: Biological Designated Sites in relation to Mobile and Fixed Zones.

Table 4: Biological, landscape and geological designations

Category	Designation Type	Name / Status	Designated for
Biological	Special Area of Conservation (SAC)	Widemouth Bay is set partly within **Tintagel-marsland-clovelly-coast SAC**	Primarily selected for the Annex I habitats: Vegetated sea cliffs of the Atlantic and Baltic Oceans Old Sessile oak woods with Blechnum in the British Isles European Dry Heaths are also present.
Biological	Special Protection Area (SPA)	None	N/A
Biological	Marine Conservation Zone (MCZ)	Widemouth Bay is set partly within **Hartland Point to Tintagel MCZ**	Designated for the habitats: Coastal saltmarshes and saline reedbeds Low energy intertidal rock condition Moderate energy intertidal rock High energy intertidal rock Intertidal coarse sediment Intertidal sand and muddy sand Moderate energy infralittoral rock High energy infralittoral rock Moderate energy circalittoral rock High energy circalittoral rock Subtidal coarse sediment Subtidal sand And the species: Fragile sponge & anthozoan communities on subtidal rocky habitats Honeycomb worm (*Sabellaria alveolata*) reefs Pink sea-fan (*Eunicella verrucosa*)
Biological	Site of Special Scientific Interest (SSSI)	Widemouth Bay is set adjacent to **Boscastle to Widemouth SSSI**	The coastal slopes supporting a mosaic of maritime grassland, heathland and scrub. Maritime western heath with Ling, Bell Heather *Erica cinerea* and Western Gorse *Ulex gallii*. It is also designated for its geology * see details below.

Category	Designation Type	Name / Status	Designated for
Biological	Local Nature Reserve (LNR)	None	N/A
Biological	County Wildlife Site (CWS)	Widemouth Bay is set partly within the **Upton to Bude CWS**	Habitats of Principal Importance (HPI) Maritime Cliff and Slopes Species of Principal Importance (SPI) cinnabar moth (numerous historic records for other Lepidotera including large blue); adder and common lizard
Landscape	Cornwall National Landscape	Widemouth Bay is set within the **Pentire Point to Widemouth Section 2**	Craggy coastline, with dramatic contorted and folded slates, shales and volcanic roacks, with some sandstone to the north.
Landscape	Conservation Area	None	N/A
Geological	Geological Site of Special Scientific Interest (SSSI)	Widemouth Bay is set adjacent to **Boscastle to Widemouth SSSI**	* There are five geological conservation review localities within the Boscastle to Widemouth SSSI, This site is comprised of extensive coastal exposures, where the typically developed basinal Namurian of south-west England is clearly exposed. The entire Namurian represented by the Crackington formation is visible within the site, and the presence of rare goniatites has been vital in unravelling the complicated local stratigraphy. The section provides an excellent display of the sedimentary features associated with shallow water turbidites and is of considerable interest for its spectacular structural features. Widemouth is considered an outstanding site for studies of palaeogeography, sedimentation and tectonics.
Geological	Cornwall Geo Conservation Site	Widemouth Bay is partly within **Upton Coast County Geological Site**	Upper Carboniferous Bude Formation sediments and structures, Quaternary at Widemouth.
NB: Not all of the designations identified above fall within or directly overlap the site; some are adjacent to the dune system and have been included for ecological context. Dune restoration and management activities are unlikely to adversely affect these adjacent designations and would not normally require specific consent where works do not directly affect the designated site or its qualifying feature			

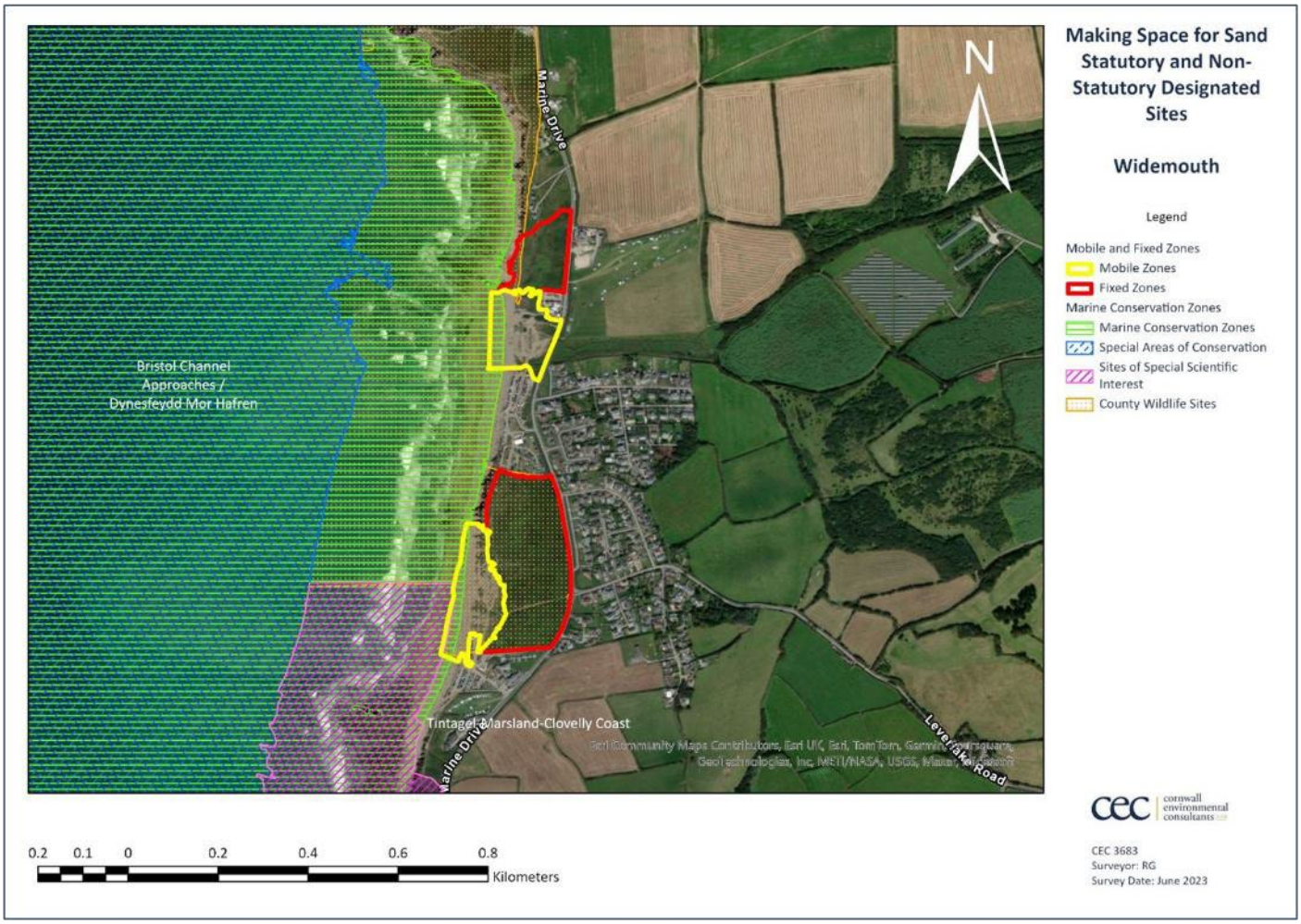


Figure 8: Biological Designated Sites in relation to Mobile and Fixed Zones

4.2.2. As the dunes are partly within the Tintagel – Marsland – Clovelly Coast Special Area of Conservation (SAC) and the Hartland Point to Tintagel Marine Conservation Zone (MCZ) and the Boscastle to Widemouth Site of Special Scientific Interest (SSSI) consultation with Natural England is required, as the works are for nature conservation and will enhance dune habitat there are likely to be no concerns.

5. Ecology

5.1. Baseline

5.1.1. A baseline survey for Widemouth was undertaken in June 2023 see Figure 9 and Figure 10.

Reference Ecosystems

5.1.2. Through the assessment of historic mapping, it is assumed that the reference ecosystem is a mosaic of shifting dune with marram and dune grassland. Although there is some of this habitat remaining, a significant amount has been lost to development and erosion, the remaining habitat is becoming fragmented and under pressure from encroaching scrub.

5.1.3. The UK Habitat Classification of shifting dune with marram refences the species marram, sea sandwort and sea couch. For dune grassland the species referenced are red fescue, lady's bedstraw, pyramidal orchid and wild thyme.

5.2. Habitat mapping

5.2.1. As an output of the Making Space for Sand project ecological data was collected in 2023 and included the mapping of habitats at this location. This was done based on UK Habitat Classification, with a project specific methodology for scrub habitat. This was due to there being no suitable classification of 'dune scrub'. As a result, any scrub on dunes was mapped within the scrub broad habitat category in order to make more meaningful restoration gains to dune habitat.



Figure 9: Baseline Habitats Widemouth North

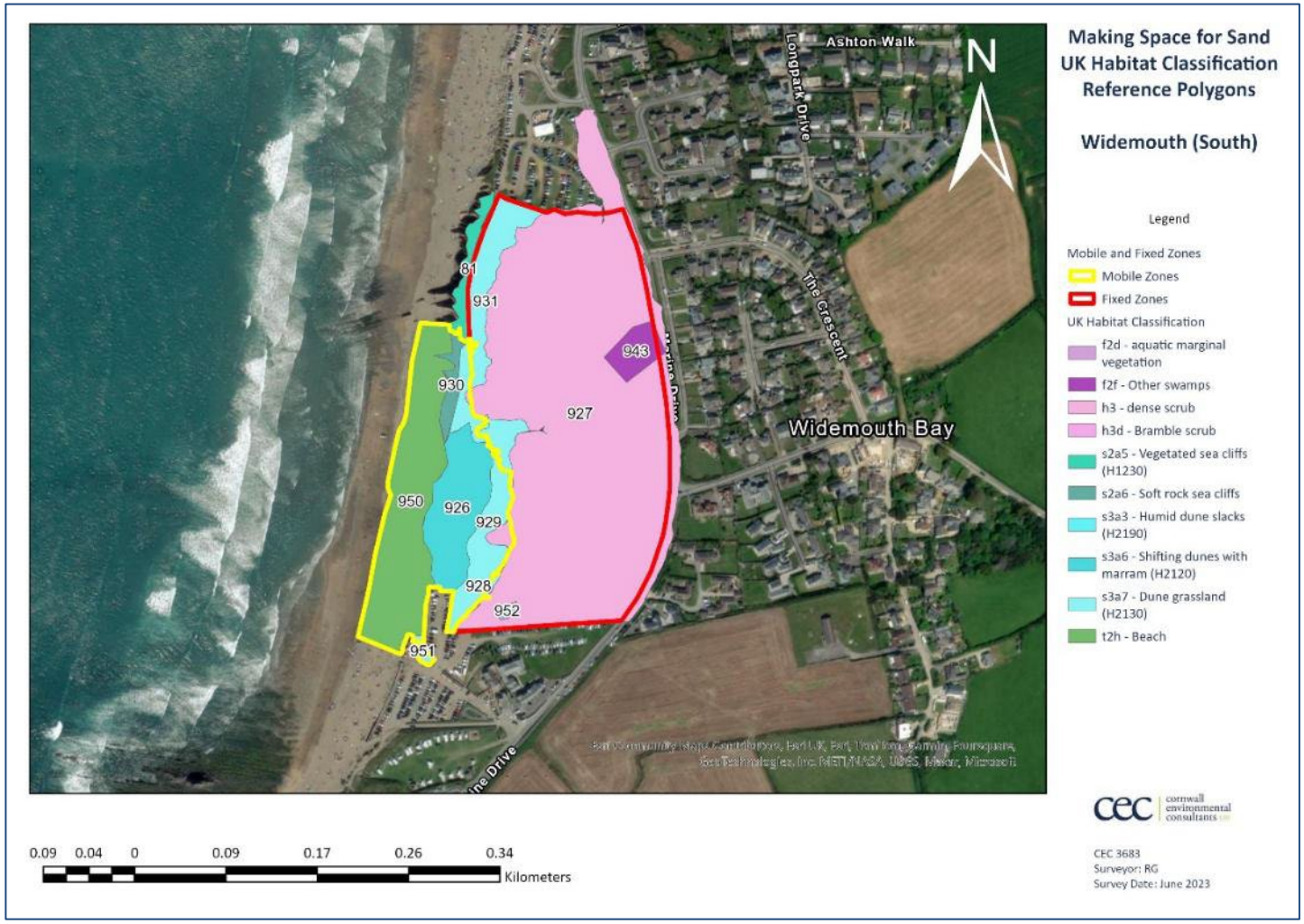


Figure 10: Baseline Habitats Widemouth South

5.3. Site survey recorded habitats.

5.3.1. Across the site 10.37 ha of vegetated habitat was mapped. Areas of beach extending into the sea were not mapped.

Open Dune

Shifting dunes with marram (s3a6)

5.3.2. The Open Dune area equates to ~1.41ha, approximately 14% of the site and includes habitats of Shifting Dunes with Marram (s3a6). This habitat type refers to polygon number 926 and shown in blue/green on the above Figure 10. All polygons classify as open dune under the Phase 1 Habitat Distribution.

5.3.3. Polygons showing Shifting Dune with Marram (s3a6) under UK Habitat Classification are also classified as Habitats of Principal Importance. These areas are established dunes, where marram is the dominant species. The habitat condition is described as predominantly 'poor' under BNG condition assessment. Other species recorded within the dune area include sea bindweed (polygon 926) and sea holly (polygon 926 and the beach).

5.3.4. A small area of the non-native, Schedule 9 listed invasive species of sour fig (polygon 926) was present in the south of the site. This has the potential to impact further the condition of the dunes should efforts not be made to control the spread. In order to maintain and enhance these habitats, removal of invasives within and in the surrounding polygons is key.

5.3.5. This area of shifting dune is subject to large number of visitors which results in trampling of the habitat. The presence of dog's results in nutrient enrichment from their fouling as well as potential disturbance of notable and protected species by dogs off-lead.

Dune grassland (s3a7)

5.3.6. The fixed dune area equates to ~0.78ha, approximately 7.5% of the site and includes the habitat Dune Grassland (s3a7). This habitat type refers to polygon 951, 928, 929, 931, 933, 940, 944 and 947 shown in light blue on the above Figure 9 and Figure 10. All polygons classify as open dune under Phase 1.

5.3.7. Polygons showing Dune Grassland (s3a7) under UK Habitat Classification are also classified as Habitats of Principal Importance. These areas are established dunes, where species such as lady's bedstraw and red fescue are present. The habitat condition is described as predominantly 'poor' under BNG condition assessment.

5.3.8. The Schedule 9 invasive non-native species Japanese rose was present within this habitat in the northern survey section (polygon 933). If efforts are not made to remove and control this species it will further negatively impact the condition of the dunes. In order to maintain and enhance these habitats, removal of invasives within the surrounding polygons is key to allowing succession and to allow the habitats the best chance of retaining good condition.

5.3.9. Areas of scattered mixed and bramble scrub have encroached onto the fixed dune grassland, particularly in polygons 933, 944 and 947 and will continue to encroach if not managed. In the east of the site, running parallel with Marine Drive the dune complex was covered with inaccessible dense scrub (polygon 927 and 937). This habitat has likely covered areas that were previously fixed dune grassland. Although scrub can offer habitat for a number of species, it can become dominant resulting in the loss of the important and sensitive dune grassland habitat. Efforts should be made to reduce and control these areas of dense scrub, allowing the dune habitat to recover.

5.3.10. This area of dune grassland is also subject to large number of visitors.

Vegetated sea cliffs (s2a5)

5.3.11. The vegetated sea cliff area equates to ~0.19ha, approximately 2% of the site and includes habitats Vegetated Sea Cliffs (s2a5). This habitat type refers to polygon 930 and 945 shown in light green on the above Figure 9 and Figure 10.

5.3.12. Polygons showing Vegetated Sea Cliffs (s2a5) under UK Habitat Classification are also classified as an Annex I habitat. These are areas of vegetation on top of rock cliffs with no hard engineering. The habitat condition is described as predominantly 'poor' under BNG condition assessment.

5.3.13. The Southwest Coast Path runs through this habitat which results in high footfall from the public. This negatively impacts its ecological condition and value of this habitat.

5.3.14. The presence of dogs' results in nutrient enrichment from their fouling as well as potential disturbance of notable and protected species by dogs off-lead.

Reedbeds (f2e)

5.3.15. The reedbed area equates to ~0.04ha, approximately 0.4% of the site and includes habitats Reedbed (f2e). This habitat type refers to polygon 938 shown in purple on the above Figure 9.

5.3.16. Polygons showing Reedbed (f2e) under UK Habitat Classification are also classified as a Habitat of Principal Importance. This habitat is present on an unnamed stream which enters the site in the east, passing under Marine Drive. The habitat condition is described as predominantly 'poor' under BNG condition assessment.

5.3.17. The non-native invasive Schedule 9 species Japanese rose (polygon 933) is present close to this habitat in the northern survey section. If efforts are not made to remove and control this species it could negatively impact the condition of the reedbed habitat further. In order to maintain and enhance these habitats, removal of invasives within the surrounding polygons is key to allowing succession and allow the habitats the best chance of retaining good condition. Currently there are only a small number of individual plants which could easily be removed.

5.3.18. Scattered scrub is also present in adjacent polygon 933. Scrub could encroach on the reedbed habitat which will negatively impact the condition of this important habitat. In order to maintain and enhance these habitats, removal of scrub and invasives within and in the surrounding polygons is key.

Other swamps (f2f)

5.3.19. The Other Swamps area equates to ~0.68ha, approximately 6.5% of the site. This habitat type refers to polygon numbers 936, 942 and 943 shown in purple on the above Figure 9 and Figure 10.

5.3.20. Polygons showing Other Swamps (f2f) under UK Habitat Classification are also classified as Habitats of Principal Importance. These areas are waterlogged and appear to be fed by the unnamed watercourses and drainage from land to the east and north. The habitat condition is described as predominantly 'poor' under BNG condition assessment. Other species including meadowsweet, cock's-foot grass and wild celery were present here.

5.3.21. Dense and scattered scrub is present within this habitat and continues to encroach onto this habitat (polygons 927, 937, 941 and 946). This has negatively impacted the important wetland areas and could reduce the ecological condition of this habitat further. In order to maintain and enhance these habitats, removal of areas of scrub within and in the surrounding polygons is key. This will allow the other swamps habitats to recover and increase the area's ecological condition and value.

Aquatic marginal vegetation (f2d)

5.3.22. The Aquatic Marginal Vegetation area equates to ~0.13ha, approximately 1.2% of the site and includes habitats Reedbed (f2d). This habitat type refers to polygon 953 and 952 shown in mauve on the above Figure 9 and Figure 10.

5.3.23. Polygons showing Aquatic marginal vegetation (f2d) are mapped under UK Habitat Classification. This habitat was present in both the northern and southern section's adjacent to the nutrient-poor shallow waters with aquatic vegetation on sand and within the waterlogged areas fed by watercourses and drainage. The habitat condition is described as both 'good' for polygon 953 and 'poor' for polygon 952 under BNG condition assessment. Other species recorded within this habitat were purple loosestrife and *Typha* and *Phragmites* species.

5.3.24. It wasn't possible to fully access these areas to survey them due to dense scrub.

5.3.25. Dense and scattered scrub was present adjacent to this habitat (polygon 927 and 937) and will continue to encroach onto this habitat. This has negatively impacted the important wetland areas and could reduce the ecological condition of this habitat further. In order to maintain and enhance these habitats, removal of areas of scrub within and in the surrounding polygons is key. This will allow the aquatic marginal vegetation habitats to recover and increase the areas ecological condition and value.

Humid Dune Slacks (s3a3)

5.3.26. Humid Dune Slacks area equates to ~0.03ha, approximately 0.3% of the site. This habitat type refers to polygon numbers 953 and 948 shown in blue on the above Figure 9 and Figure 10.

5.3.27. Polygons showing Humid Dune Slacks (s3a3) under UK Habitat Classification are also classified as a Habitat of Principal Importance. These habitats are present in both the northern and southern survey sections. These areas are present on established dune grassland within dense and scattered scrub. The habitat condition is described as 'good' for polygon 953 and 'poor' for polygon 948 under BNG condition assessment.

5.3.28. Dense and scattered scrub is present surrounding this habitat and will continue to encroach onto this habitat (polygons 927, 937, 941 and 946). This has negatively impacted the important Humid Dune Slack areas and could reduce the ecological condition of this habitat further. In order to maintain and enhance these habitats, removal of areas of scrub within and in the surrounding polygons is key. This will allow the Humid Dune Slack habitats to recover and increase the areas ecological condition and value.

5.3.29. There are historical records for the near threatened marsh pennywort (Red List England) from within this habitat. The Humid Dune Slack polygon 948 couldn't be accessed to check if this species still existed. The change in habitat and conditions within and surrounding the area may result in this species no longer being present.

5.3.30. It was not possible to fully access these areas to survey as vegetation was too dense in some areas.

Scrub

Mixed scrub (h3h)

5.3.31. Mixed scrub equates to ~6.29ha, approximately 60% of the site. This habitat type refers to polygon numbers 937, 927, 934 and 931 shown in light pink and dark pink on the above Figure 9 and Figure 10.

5.3.32. These polygons have been assessed as being in 'poor' and 'moderate' condition under the BNG metric and are classified as h3 'mixed dense scrub' under the UK Habitat Classification.

5.3.33. Improvement could be made to the scrub condition if there were to be clearings and glades made within

the scrub to allow the growth of small herbs. Scrub cover is important for species such as reptiles and nesting birds as the tight structure provides shelter opportunities however it can become dominant, negatively impacting the sensitive dune habitats.

5.3.34. Schedule 9 Invasive non-native species *montbretia* was recorded on the edges this dense scrub habitat (polygon 927 on a footpath and on the northern boundary of this polygon adjacent to the car park). If areas of scrub are cleared to create clearings and glades this species may take hold. Removal of this species is recommended.

Bramble (h3d)

5.3.35. Bramble scrub equates to ~0.59ha, approximately 5.6% of the site and includes habitats of bramble scrub (h3d). This habitat type refers to polygon 941 and 946. There are scattered areas of bramble scrub within polygon 936, 953 and 933.

5.3.36. There is a large amount of scattered and dense bramble cover within the dune system. Bramble scrub has a fixed condition within the BNG metric and therefore no condition assessment is undertaken.

5.3.37. Bramble scrub is not condition assessed within the BNG metric.

5.3.38. Bramble scrub can offer suitable habitat to protected and notable species, such as reptiles and nesting birds, however, this plant also has the ability to become dominant resulting in the loss and negative impact to the sensitive dune habitats.

Cornish hedgerow

5.3.39. This habitat was not recorded during the surveys. However, there is anecdotal evidence that a Cornish hedgerow running adjacent to a footpath was present within what is now an area of scattered and dense scrub. From aerial photography it appears this habitat may be within polygon 936.

5.3.40. Cornish hedgerows offer an important habitat to a number of notable and protected species. Clearance and restoration of this habitat will increase the ecological value of the site.

Rivers and streams

5.3.41. The rivers and streams area includes habitats Rivers and Stream (f2e). This habitat type refers to linear habitat located within polygon 938 on the above Figure 9.

5.3.42. Linear habitat showing Rivers and Streams (r) are mapped under the UK Habitat Classification. There are a number of unnamed watercourses which flow into both the northern and southern survey sections. The northern survey section had an unnamed watercourse flowing from the north through polygon 936 as well as unnamed watercourses which flowed through the reedbed from the east, through polygon 938. It appeared some of these watercourses, in particular the ones entering the site in the east were drainage from neighbouring land, including run-off from roads with road drains located at the edge of this habitat, these watercourses flowed through polygons 937, 942, 943 and 927. It was not possible to fully survey these watercourses as they ran through inaccessible dense scrub vegetation.

5.3.43. A detailed assessment of the condition of Rivers and Streams on-site was not undertaken as part of this survey.

5.3.44. Areas of dense and scattered scrub have encroached into the watercourses and the areas surrounding the watercourses and will continue to encroach if not managed (polygons 927 and 937 as well points within 933). Although scrub can offer habitat for a number of species, it can become dominant resulting in the loss of the important wetland habitat. Efforts should be made to reduce and control these areas of dense scrub, allowing the dune habitat as a whole, to recover.

Non-native Invasive Plants

5.3.45. There were several Schedule 9 non-native invasive plants recorded during the site survey, these included Japanese rose (polygon 933), sour fig (polygon 926) and montbretia *(*polygon 927). Non-native and invasive tamarisk (polygon 939 and 934) and red valerian (recorded across the site) were also recorded on-site.

5.3.46. Breakdown of the Habitat types and their percentage cover can be seen in Table 5.

Table 5: Breakdown of baseline habitats - Widemouth

Habitat Type	Percentage Cover
Shifting Dunes with marram	14%
Dune grassland	7.5%
Vegetated sea cliffs	>5%
Reedbeds	>5%
Other swamps	6.5%
Aquatic marginal vegetation	>5%
Nutrient-poor shallow waters with aquatic vegetation on sand	>5%
Mixed scrub	60%
Bramble Scrub	5.6%
Rivers and streams	N/A

*total may not equal 100% due to rounding.

5.3.47. The data collected at Widemouth shows that there is a dominant scrub cover which will over stabilise the dune and decrease its resilience. The presence of scrub at this density will cause an increase in organic matter in the substrate which when breaking down will increase the nutrient loading on the dunes, detrimental to the desired dune habitat.

5.3.48. Through anecdotal evidence, there are records of a Cornish hedge which has been lost through the encroachment of scrub. Cornish hedges offer important habitat to a number of notable species so clearance and restoration of this will improve the ecological value of the site.

5.3.49. Although there is limited vegetation diversity within the dune area, the site is also home to vegetated sea cliffs which are also an Annex 1 habitat and hosts a relatively diverse species range important for invertebrate communities and protected species. Other important species include Reedbeds, swamps and aquatic marginal vegetation. The presence of these wet habitats are also important for invertebrate communities and the species which prey on them.

5.3.50. The presence of invasive species at Widemouth (recorded as being Japanese rose, sour fig and montbretia) is detrimental to the condition of the dunes, without suitable control measures put in place this will result in the loss of irreplaceable habitats.

5.3.51. There are a number of possibilities for Biodiversity Net Gain by the enhancement and creation of habitats of a higher distinctiveness, this is associated with the removal of invasive species at the site, and enhancements to the scrub area.

Biodiversity Net Gain (BNG)

5.3.52. A BNG Baseline was undertaken in December 2023. The baseline results are shown below in Table 6.

Table 6: Biodiversity Net Gain Baseline

On site baseline	Coastal Sand Dunes	18.02
	Maritime Cliff and Slope	1.85
	Scrub (mixed)	23.09
	Scrub (bramble)	0.26
	Scrub (blackthorn)	3.55
	Wetland	5.67
	Urban	0.07
Total		53.70

5.3.53. The baseline BNG assessment for Widemouth shows that despite having a relatively low area, coastal sand dunes have a significantly higher BNG score than that of the scrub habitat.

5.3.54. Opportunities for BNG include the enhancement of the scrub to create glades and rides which will increase foraging and navigation opportunities for small mammals and birds, along with scrub removal from areas mapped as sand dune.

5.3.55. In the areas that are mapped as scrub with Japanese rose dominant (polygon 933) removal of this non-native species will create more sand dune.

6. Coastal Change

6.1.1. Coastal change refers to the natural and human induced processes that will change features of the coastline. These can be caused by a number of factors, either in isolation or combination. These include erosion, sediment deposition, sea level rise, storm events and human activity. Observations of change can be made, however they cannot be entirely managed and so building resilience is fundamental to adapt to these changes.

6.2. Topographic Data

6.2.1. Between 2007 and 2025, the period considered in this report, there has been a total of 39 topographic surveys at Widemouth, four of which are baseline surveys, 32 are interim surveys and three are post-storm surveys.

6.2.2. Analysis of topographic data suggests the survey unit has eroded between 2007 and 2024. Particularly post the winter period of 2013/2014 where the beach experiences a reduction in volume. There have been some signs that the beach began to recover in recent years.

6.2.3. Analysis of the combined profile (the combination of the mobile and beach zone) can be seen in the below graph. This shows that Widemouth has been eroding at -2.2m^2y^{-1}. See Figure 11.

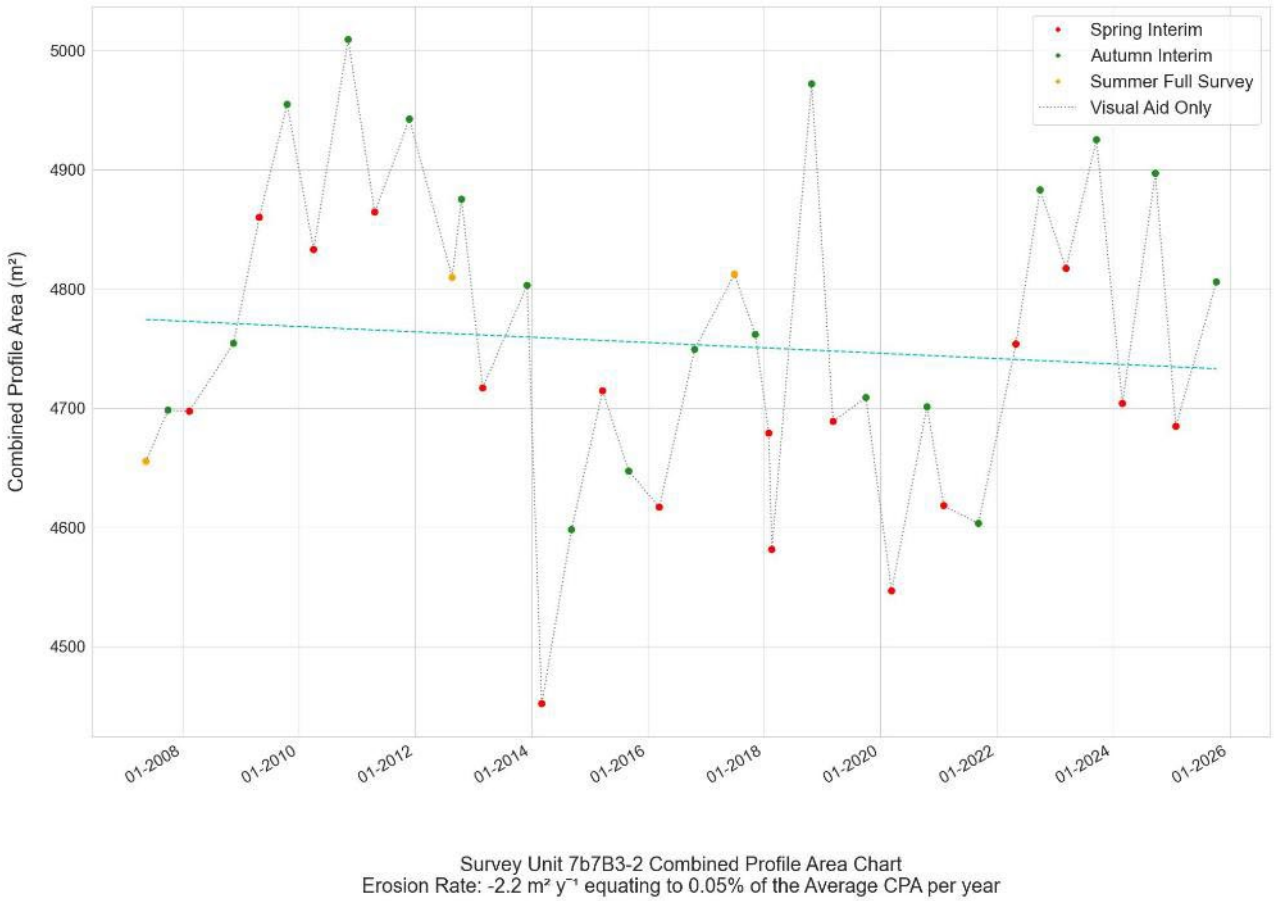


Figure 11: The combined profile analysis for Widemouth, including spring (red), summer (yellow) and autumn (green) surveys completed between 2008 and 2025

6.3. LiDAR Data

6.3.1. In addition to the topographic surveys, LiDAR (Light Detection and Ranging) is used to gather data. This is a remote sensing technology that measures distances to the Earth's surface, creating precise, 3D maps of environments. It is increasingly used in topographic surveys, and environmental monitoring. See Figure 12 for the Beach Zone Volume over time and Figure 13 for the Mobile Zone (dune) Volume over time. The R^2 values show how well the trend line explains the variation in the data, with values closer to 1 indicating a stronger fit and values closer to 0 indicating a weaker fit.

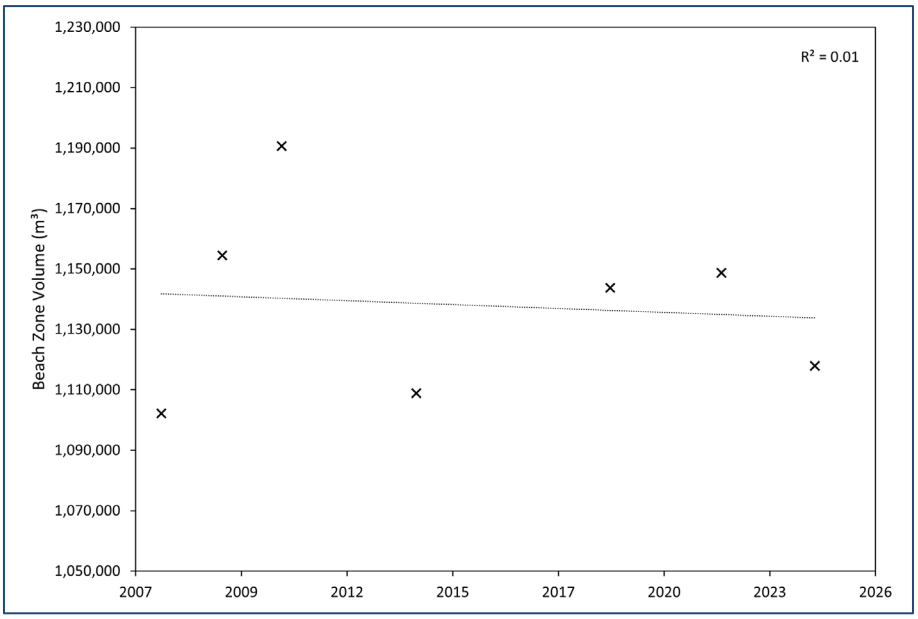


Figure 12: Beach Zone Volume from 2007 to 2025 LiDAR data

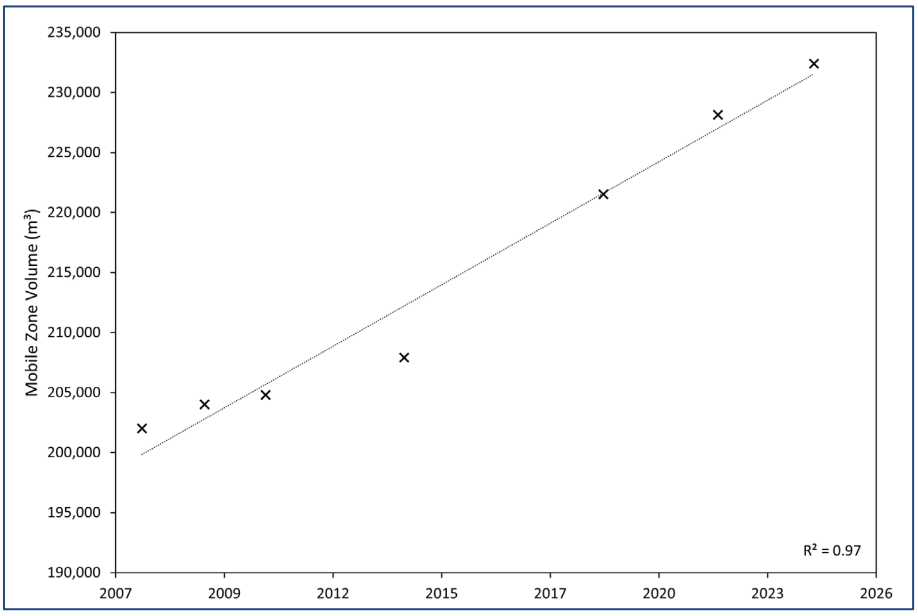


Figure 13: Mobile Zone Volume from 2007 to 2025 LiDAR data

6.3.2. Volume extracted from 6 LiDAR flights from 2007 to 2022 (Figure 11) have shown the Mobile Zone to have

continual accretion, with the most significant between 2014 and 2019. The storms of 2013-2014 did not impact the mobile zone in the same way that is has other sites.

6.3.3. The Beach Zone (Figure 12) exhibited a more variable response, as would be expected from the more fluctuating Beach Zone accretion is not as linear as that of the Mobile Zone (Figure 13) which experienced an erosive period in the 2009 and 2010 data with a consistent trend of accretion thereafter.

6.3.4. The Dune Toe contours have retreated up to 5-9 m across the length of the dune system. Overall Widemouth beach has remained relatively stable between 2007 and 2024, despite large fluctuations in material from the 2013/14 winter storms.

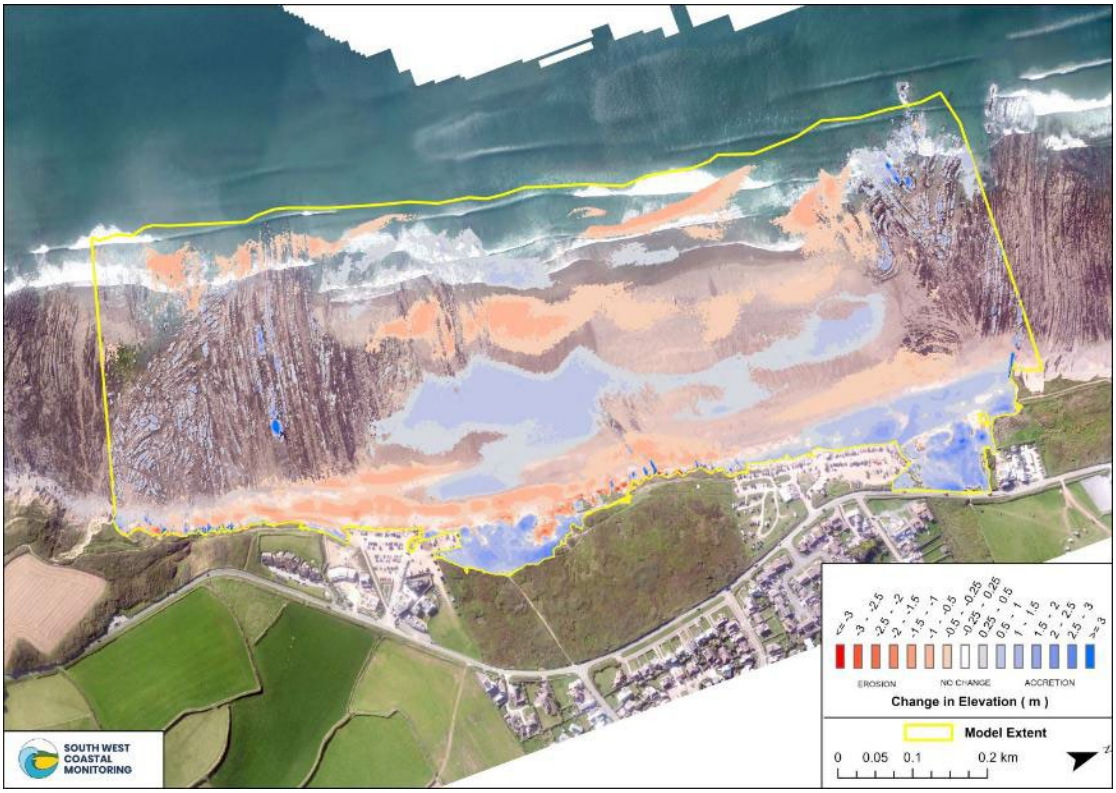


Figure 14: LiDAR Change in elevation model from 2007 to 2024

6.3.1. Figure 14 shows the overall change in elevation across the beach and mobile zone areas as a visual model from 2007 to 2024, showing accretion of material in blue, and erosion in red.

6.4. Dune Toe Modelling

6.4.1. Sediment is defined as natural material that has broken down by weathering and erosion, this includes sand, silt and clay. Movement of sediment on beach areas forms part of natural geomorphological process, however changes in weather including more extreme storm events can result in a greater loss of sediment from our beaches.

6.4.2. The toe of the dune is defined as where the dune and beach separate, the data collected defines this as the vertical limit of the beach profile that is impacted by wave action. This has been determined by the sum of Mean High Water Spring level, and the wave runup height during 1% exceedance events.

6.4.3. In the case of Widemouth, it can be seen from the report that the modelling from 2007-2020 that the dune is retreating (~0.07m/yr) and gaining volume (~0.94m3/m/yr). This data is presented in the time series change graphs below.

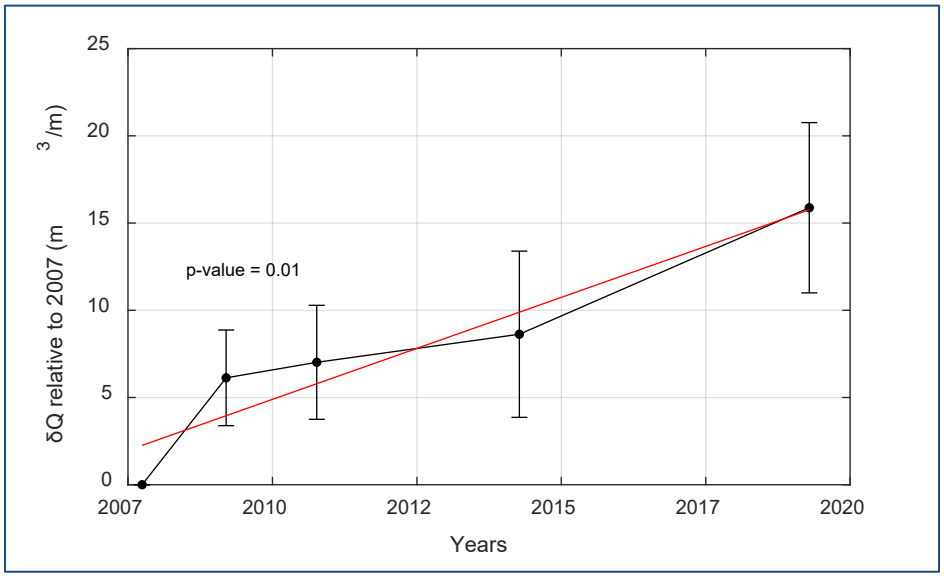


Figure 15: Time series change in dune volume at Widemouth from 2007 – 2019

6.4.4. Figure 15 shows the change in dune volume, as calculated by LiDAR data, from 2007 to 2019. This shows the dune is accreting with the black dots indicating the value relative to 2007, the error bars showing potential error in the LiDAR data and the red line showing the linear regression. This shows since the analysis started, the volume gain has been ~15m^3/m.

6.4.5. Figure 16 below shows the change in the dune toe position from 2008 to 2019, derived from LiDAR data relative to 2008. Again, the black dots showing the value, the error bars showing standard deviation of the longshore distribution, the red line showing linear regression. This shows erosion since analysis began of ~1m in total.

6.4.6. Please note that the p-value shows how likely the observed data would be if there were no real effect: small p-values (close to 0) suggest the data are unlikely under that assumption, and large p-values (close to 1) suggest the data are compatible with no effect. In this case the p-value of 0.01 means that the result is statistically significant, and the below p-value of 0.57 is not statistically significant.

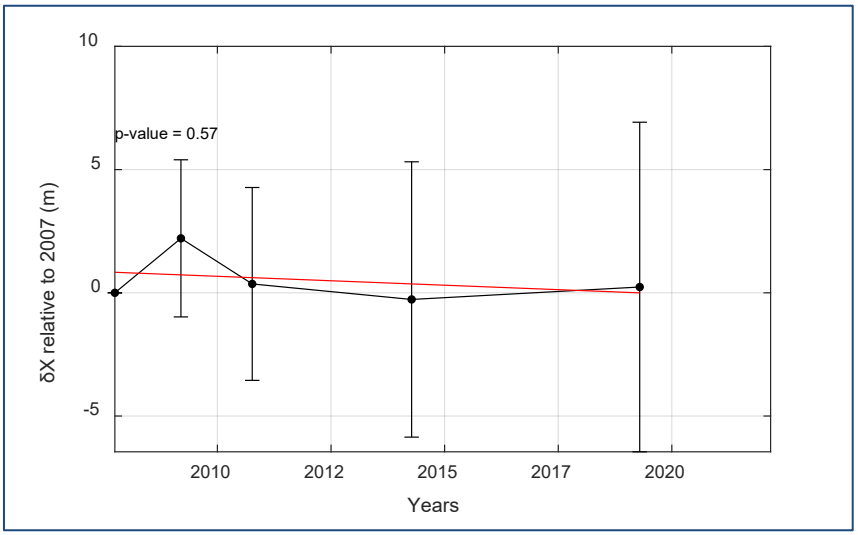


Figure 16: Time series change in dune toe at Widemouth 2007-2019

6.5. Predicting Future Change

National Coastal Erosion Risk Mapping (NCERM)

6.5.1. The National Coastal Erosion Risk Mapping (NCERM) is an initiative by the Environment Agency to project areas in England at risk from coastal erosion. The dataset was updated in 2024 and published in early 2025. (data.gov.uk).

6.5.2. This mapping provides a baseline of coastal erosion for the coastline of England. The national coastal erosion risk map (NCERM) shows the areas at risk of coastal erosion until 2105. Predicting the exact position of an eroding shoreline over time is difficult. The influence of sea level rise on erosion rates in the longer term is also uncertain. The rate of erosion can vary depending on the geology and the natural processes at the coast. Hard rocks are worn away slower than softer material such as sand. This means erosion may not be the same along a stretch of coast.

6.5.3. Erosion risk zones displayed on the map include the area between the backshore feature (such as a cliff) and the Mean High Water Spring (MHWS) tidal position. These are shown for three climate change scenarios:

6.5.4. Present Day (2020) –uses historical erosion rates to provide future projections without calculating any additional impacts of climate change and rising sea levels. Shown in Figure 18 and Figure 19 as beige

6.5.5. Climate Change Higher Central –uses sea level rise data from 70th percentile (UK Climate Projections 2018 (UKCP18) Representative Concentration Pathway (RCP)8.5 climate projection. Shown in Figure 17 and Figure 18 as light purple.

6.5.6. Climate Change Upper End –uses sea level rise data from 95th percentile UKCP18 Representative Concentration Pathway (RCP) 8.5 climate projection. Shown in Figure 17 and Figure 18 as dark purple.

6.5.7. This means using the Climate Change Upper end as an example, that 95% of the possible scenarios fall below this level, while 5% fall above it. The RCP 8.5 value is a scenario used in climate modelling that considers the continued growth and production of greenhouse gas emissions. When planning for coastal change these worst-case scenarios, through more precautionary, help ensure that coastal management is, in the longer term, more resilient.

6.5.8. Unless otherwise stated, the erosion risk zones are based on the scenario that the Shoreline Management Plan (SMP) policy for the area has been delivered. A change in the policy, or the ability to deliver the policy intent, may affect the erosion projections.

6.5.9. The map provides the best estimate of coastal erosion risk at a national scale. It uses the best available national and local data along with methods which can be applied at a national scale. The erosion projections associated with NCERM are intended for guidance and cannot provide details for individual properties. The NCERM data considers the predominant risk at the coast and frontages considered to be more at risk from flood risk or areas of complex cliff are not always included.

National Coastal Erosion Risk Mapping Projections (NCERM)

6.5.10. The NCERM projection lines show the latest projected erosion lines based on a range of different scenarios. For the example of modelling how this may impact the mapped habitats, the projections of 'No Active Intervention' for the long term (to 2105) have been used. Figure 17 and Figure 18 below, show the medium and long-term probabilities of erosion.

6.5.11. The area at risk of coastal erosion for Black Rock and South Widemouth under Managed Realignment until 2055 and then No Active Intervention until 2105 with Present Day Climate is 9m by 2055 and 23m by

2105, for Climate Change Higher Central it is 13m (2055) and 42m (2105) and for Climate Change Upper End it is 14m (2055) and 47m (2105).

6.5.12. The area at risk of coastal erosion for North Widemouth under Managed Realignment until 2055 and then No Active Intervention until 2105 is 7m by 2055 and 17m by 2105, for Climate Change Higher Central it is 10m (2055) and 31m (2105) and for Climate Change Upper End it is 11m (2055) and 35m (2105). see Figure 17 and Figure 18

6.5.13. The reason there is a gap shown in the erosion line at this location is that in the areas where flooding is the main source of risk to people and property behind the shoreline, no erosion projections are shown. However, there can sometimes be minor risks from erosion or a connection between flood and erosion processes. The map shows a clear boundary between flood and erosion risk areas, but the actual transition between flood and erosion risk zones is usually less distinct in reality. Though the NCERM data is being updated to display these areas, at the time of writing these plans, this data was not available.

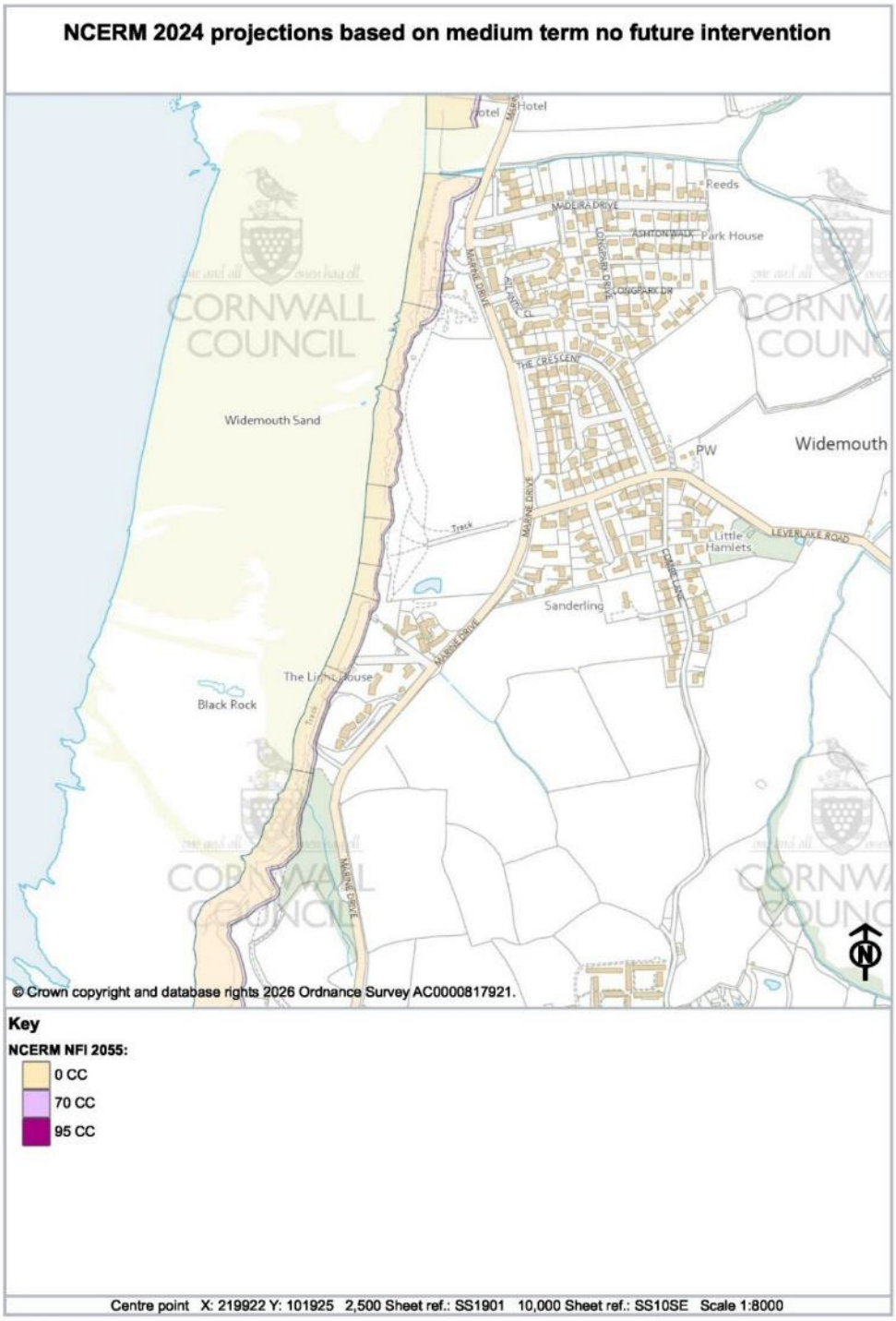


Figure 17: NCERM medium term projections, based on no future interventions

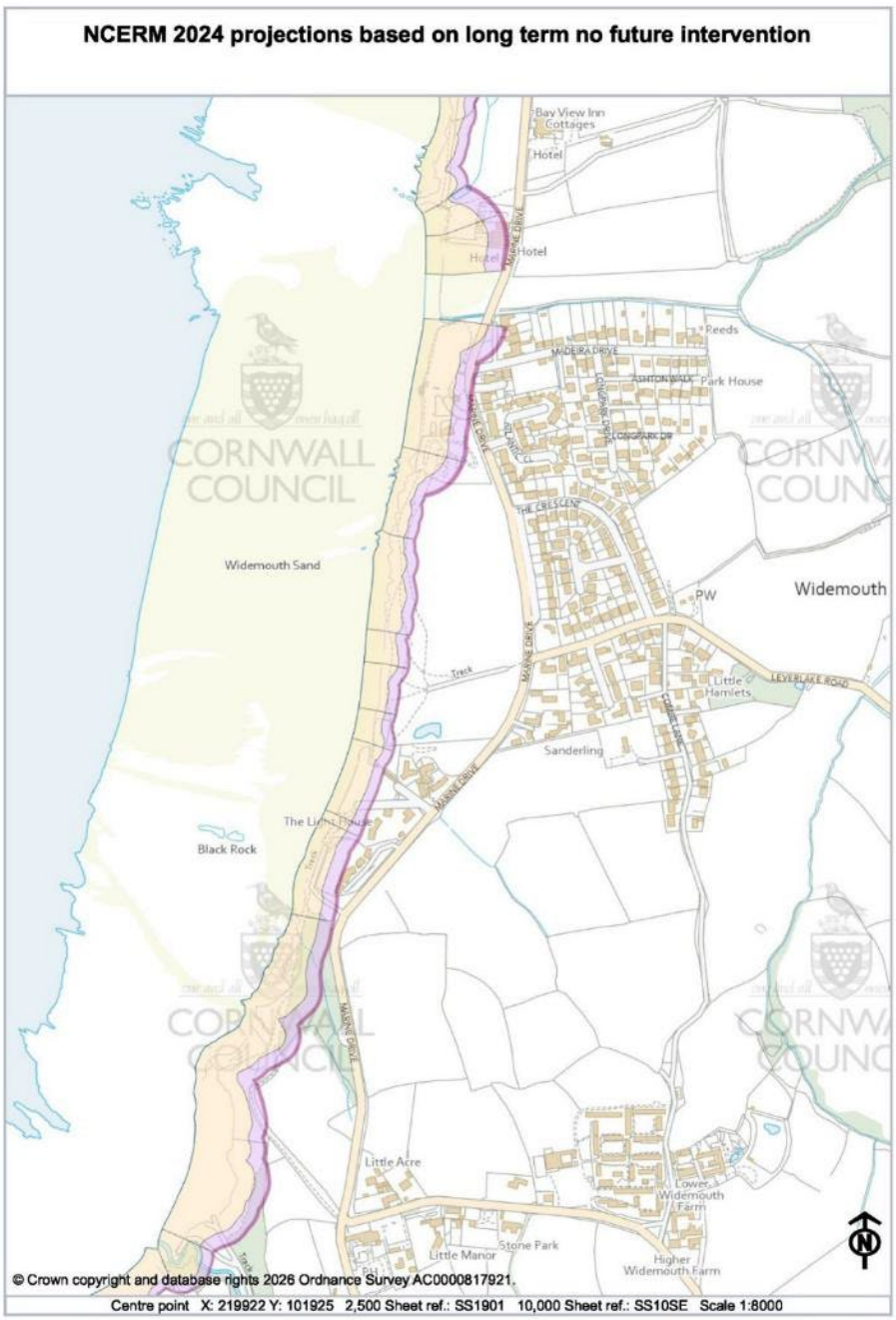


Figure 18: NCERM long term projections, based on no future interventions

Bruun Rule Projections

6.5.14. As part of the Making Space for Sands project, the University of Plymouth have analysed 31 dune systems within the Making Space for Sand project, full results can be seen in the Dune Evolution Report and accompanying paper 'Predicting dune evolution on a regional scale for coastal management' (Brodie *et al* 2025). The main aim of the paper is to develop and evaluate an approach for coastal managers to predict the future position of the beach-dune interface as a result of sea level rise (SLR) along a varied coastline.

6.5.15. To achieve this aim, the following objectives have been set:

- quantify dune change (dune toe position and dune sediment volume) for 31 Cornish dune sites using airborne LiDAR;
- develop a robust methodology for extracting the environmental parameters required for applying the Bruun Rule (see 4.3.1);
- apply the Bruun Rule to 31 Cornish beach-dune sites;
- relate the historic rates of dune change with the Bruun Rule predictions; and
- evaluate the use of the Bruun Rule in combination with historic rates of retreat for predicting the impact of SLR on dune systems on a regional scale

6.5.16. At Widemouth, sediment is currently accreting within the dune footprint, however there will still be retreat of the dune toe under the Bruun Rule Projections, with sea level rise the estimated rate of retreat at the location is 26m (0.2m per year) from the 2020 toe position by 2100 based on 50% confidence

6.5.17. Where projections and modelling take place, a 'confidence interval' is applied. The confidence interval is a range of values in which the true value lies. In the case of the Bruun rule projections, where there is a 5% confidence, this indicates a low probability of this occurrence, whereas a 95% confidence indicates an almost certain chance. The Bruun rule projection lines are shown at 50% confidence, meaning that there is an equal chance of the dune to retreating to this point as not, with the 90% interval applied (the range from 5%-95%).

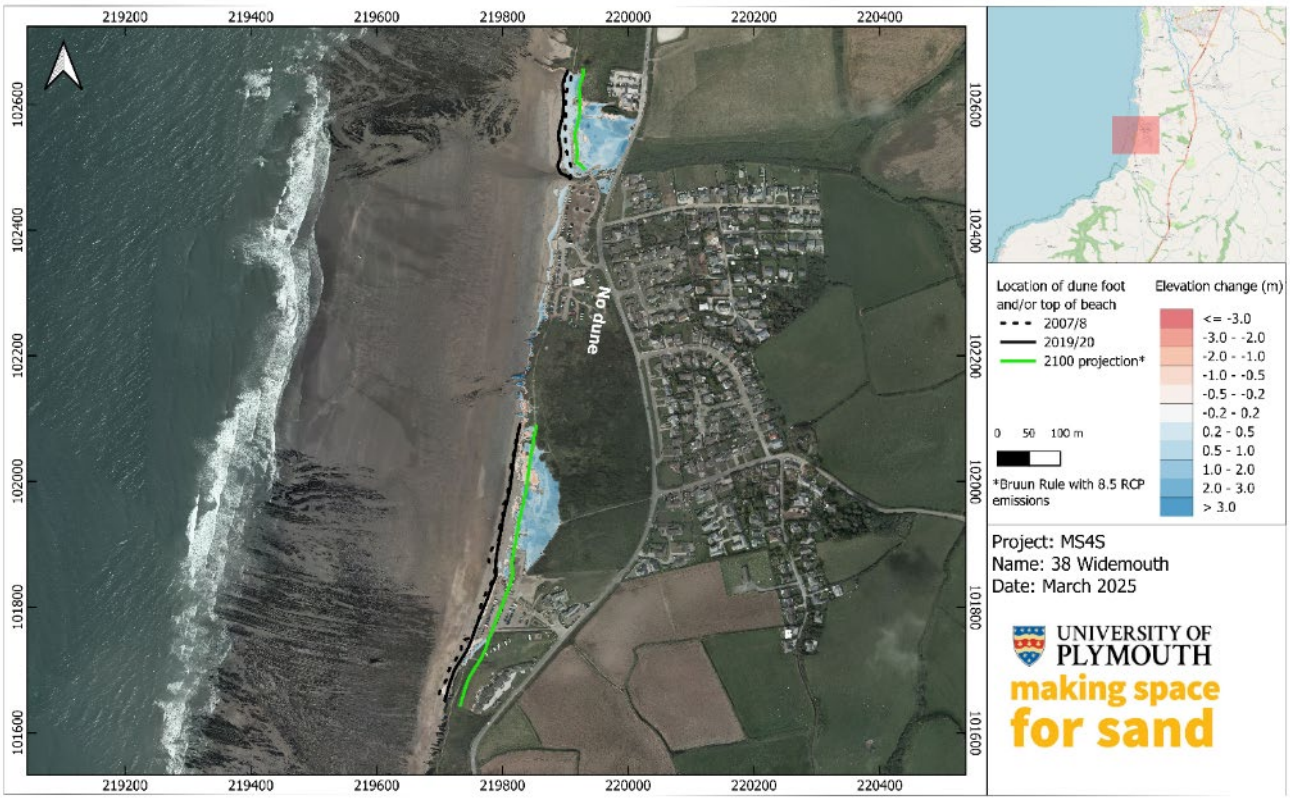


Figure 19: Elevation changes, historic dune toes and Brunn Rule projections for Widemouth

6.5.18. The visual presented in Figure 19 shows projected changes elevation and the dune toe at Widemouth.

6.5.19. The areas shaded blue show an increase in elevation, this is from the accumulation of sediment. The visual shows that across the length of the current dune toe there will be erosion due to the loss of sediment from the beach area. The deeper the shade of red or blue, the greater the level or erosion or accumulation.

6.5.20. The solid black line marks the edge of the dune toe and/or the top of the beach as seen by data collected in 2019/2020.

6.5.21. The solid green line marks the projected rate of erosion by 2100 at 50% confidence, by using the Bruun Rule. This assumes the highest baseline climate change scenario where emissions continue to rise throughout the twenty-first century, Representative Concentration Pathway (RCP 8.5).

6.5.22. The shaded green area either side of the solid green line visualises the 90% confidence interval for the projection, indicating how the situation could be better or worse than projected.

6.6. Habitat loss from modelling predictions

6.6.1. By using the modelling and the baseline habitat data, predictions in habitat loss can be calculated.

Table 7: Projected Loss from NCERM Mapping

Habitat Type	Area Loss	% Loss	Area Retained	% Retained
Dense scrub	0.2	3	5.9	97
Mixed Scrub	0.2	0.3	0.5	99.7
Bramble Scrub	0.2	0.2	0.2	99.8
Vegetated Sea Cliffs	0.19	100	0	0
Soft Rock Sea Cliffs	0.1	100	0	0
Shifting dunes with Marram	1.4	97	0.04	3
Dune Grassland	1.04	70	0.45	30
Humid dune slacks	0.01	62	0.01	38
Aquatic marginal vegetation	0.05	58	0.04	42
Other swamps	0.1	13	0.7	87
Reedbeds	0.04	100	0	0
TOTAL	3.6	32	7.8	68

6.6.2. Analysis of the mapped habitat information (Table 7) shows that under the NCERM long term, no future intervention, 5% confidence scenario, there will be a loss of 3.6ha of habitat, 32% of the land mapped. Within this, a total of 2.44ha of dune habitat is at risk of being lost. See Figure 20 and Figure 21.

6.6.3. Other important habitats at risk of being lost are the vegetated sea cliffs, which are also a habitat of principal importance. While coastal erosion will create new cliff faces and vegetated cliffs will continue to exist at Widemouth, the projections indicate a 100% loss of the current cliffs within the affected area.

6.6.4. The exercise of predicting habitat loss from projections is repeated in below, made under the Bruun Rule projections

6.6.5. Using the predicted dune toe line from the Bruun rule data, the potential habitat loss up to 2100 can be estimated.

6.6.6. If this prediction were to a uphold, a total habitat loss is projected to be ~1.2ha (Table 4), out of the total mapped area of ~10.37ha. This equates to 10% of the current mapped area being lost.

Table 8: Habitat Loss and Projections for Widemouth from the Bruun Rule

Habitat Type	Area Loss	% Loss	Area Retained	% Retained
Dense scrub	0.001	0.03	6.14	99.97
Mixed Scrub	0	0	0.7	100
Bramble Scrub	0.09	23	0.3	77
Vegetated Sea Cliffs	0.2	100	0	0
Soft Rock Sea Cliffs	0.1	100	0	0
Shifting dunes with Marram	0.4	25	1.09	75
Dune Grassland	0.4	28	1.08	72
Humid dune slacks	0	0	0.02	100
Aquatic marginal vegetation	0.004	4	0.09	96
Other swamps	0	0	0.7	100
Reedbeds	0	0	0.04	100
TOTAL	1.2	10	10.2	90

6.6.7. The loss and retention data from the Bruun Rule projections draw many parallels to that of the NCERM projections, however the following limitations must be considered when comparing the data:

- The projections are from two different scenarios – NCERM showing no future interventions, at 5% confidence up to 2105 and Bruun being 50% confidence up until 2100.
- Bruun projections are limited to the sandy dune area only, meaning that where the 'line' stops, and extension had to be made to extend to the edge of the mapped habitat area.

6.6.8. When considering both datasets, there is a greater proportion of habitat loss from the NCERM projections, with almost a complete loss of the important shifting dunes with marram habitat. This is contrary to the Bruun Projections where the loss is projected to be ~25%, this is echoed in the loss of the dune grassland habitat which similarly shows ~28% loss.

6.6.9. Levels of scrub loss and retention are similar across both projections. The wetter habitats such as humid dune slacks, aquatic marginal vegetation, other swaps and reedbeds show proportionally different loss/retention, however, these habitats occupy a very small areas meaning that the smallest difference in loss/retention can make a large difference in the proportionality.

6.6.10. Whichever modelling approach is applied—whether the Bruun Rule or NCERM—the long-term trajectory points toward coastal dune squeeze. Both frameworks indicate that rising sea levels and ongoing shoreline adjustment will drive landward migration of the beach–dune system while fixed backshore constraints limit that movement. As a result, the dunes will become progressively narrowed reducing their capacity to dissipate wave energy and buffer inland areas from erosion and flooding. The modelling suggests that the current degree of natural resilience and coastal protection will be sustained only in the short to medium term, after which their protective effectiveness is likely to diminish without adaptive management or additional space for landward migration

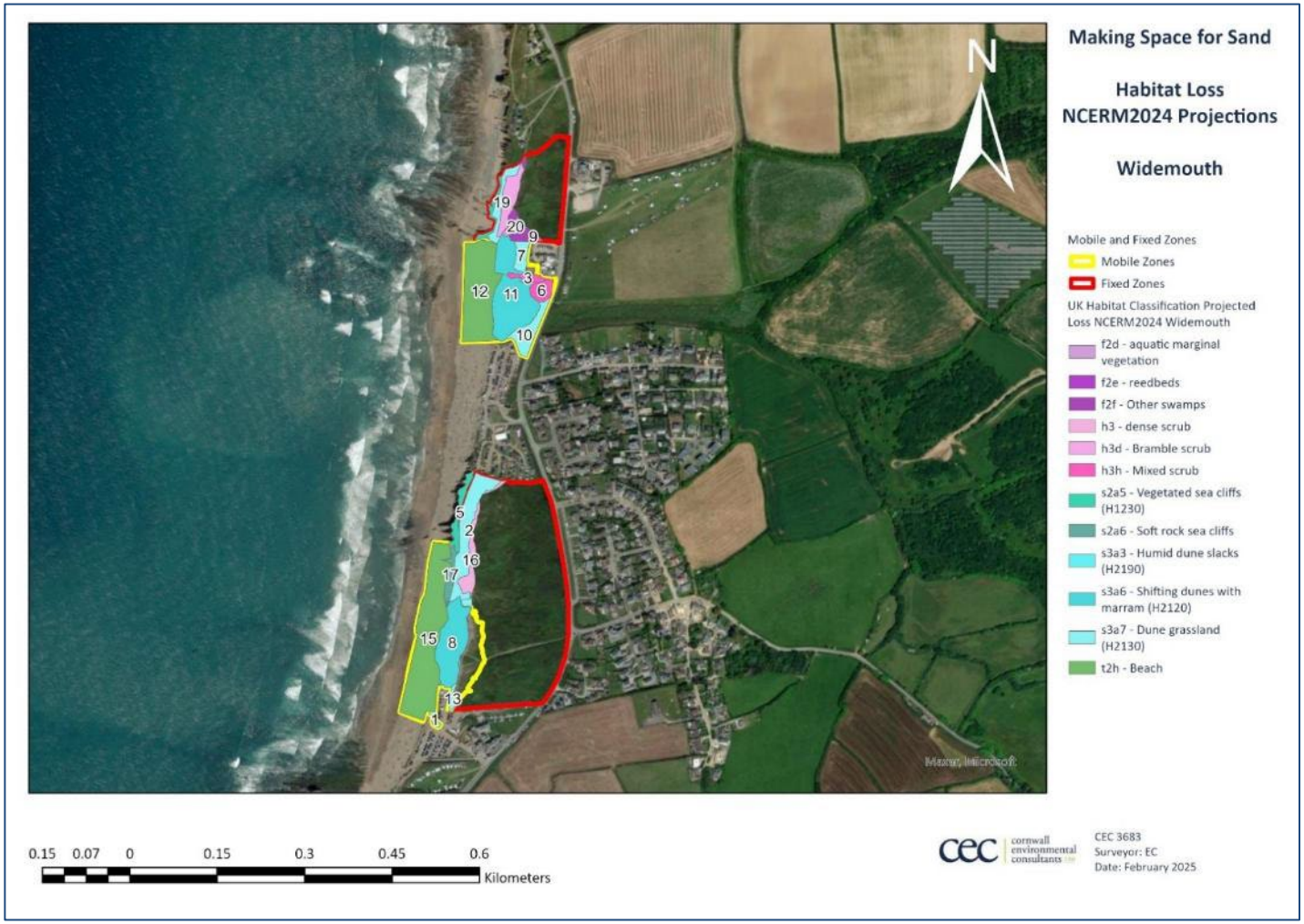


Figure 20: Projected Habitat Loss (NCERM)

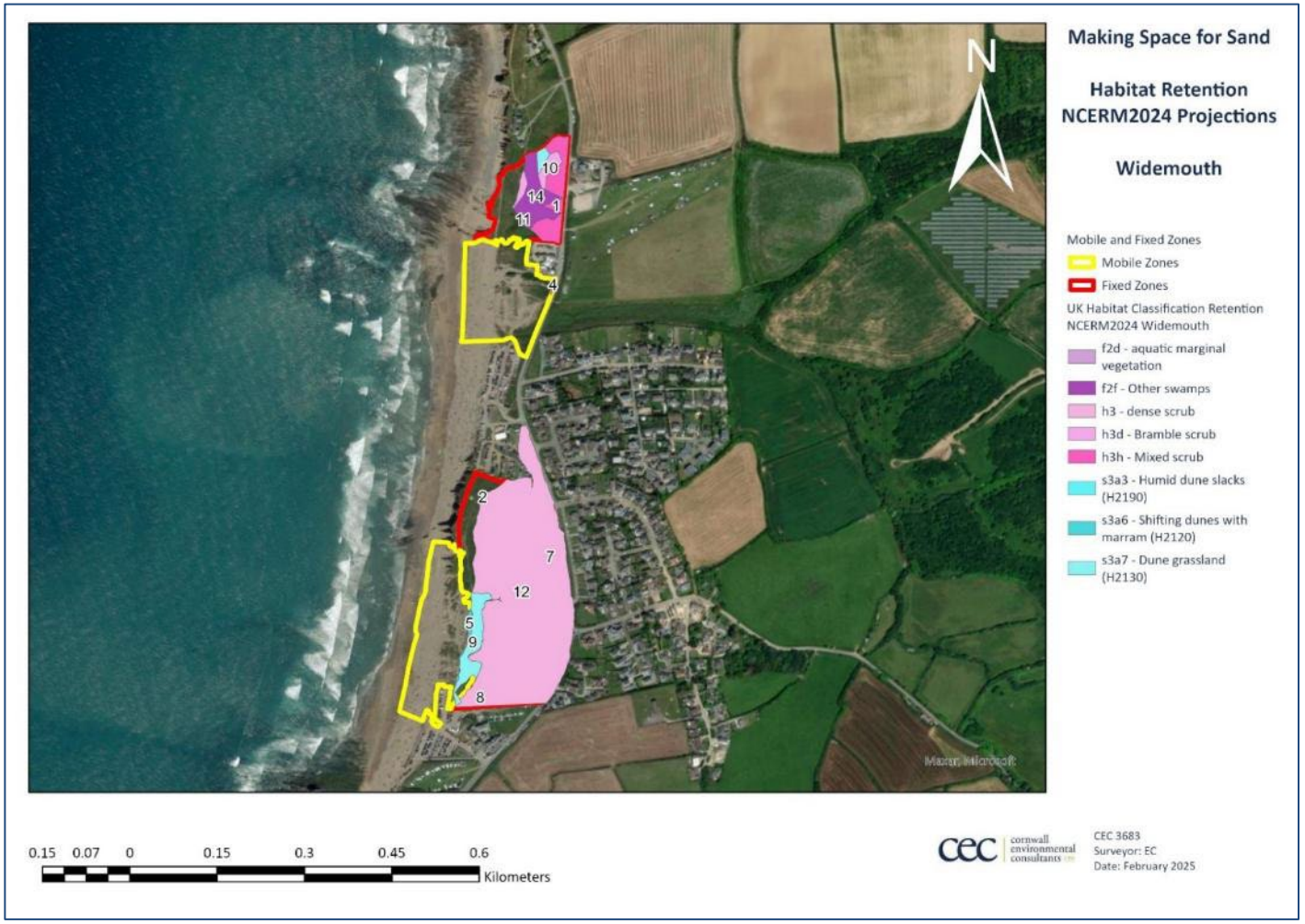


Figure 21: Projected Habitat Retention 2024

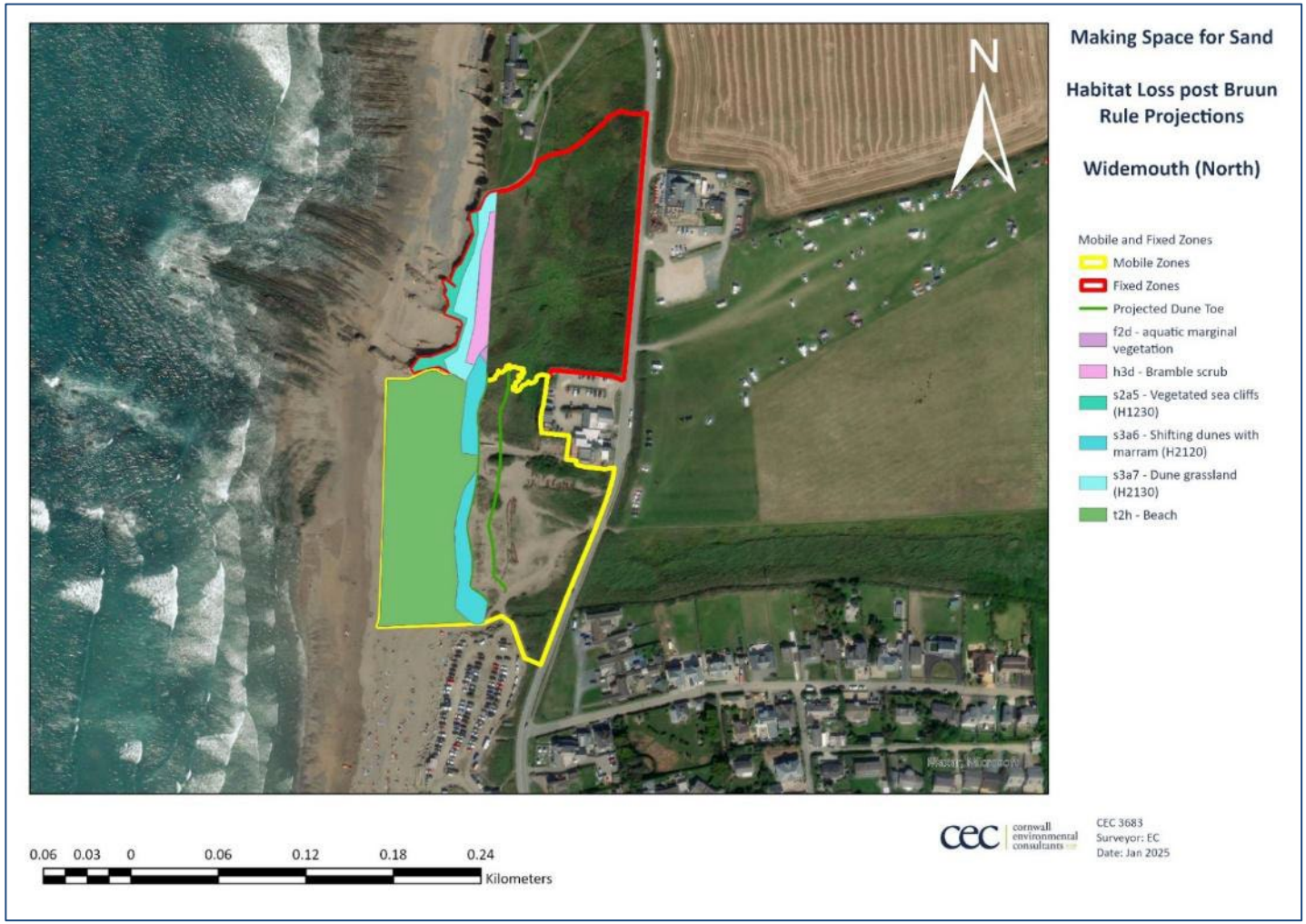


Figure 22: Projected Habitat Loss Widemouth North (Bruun Rule)

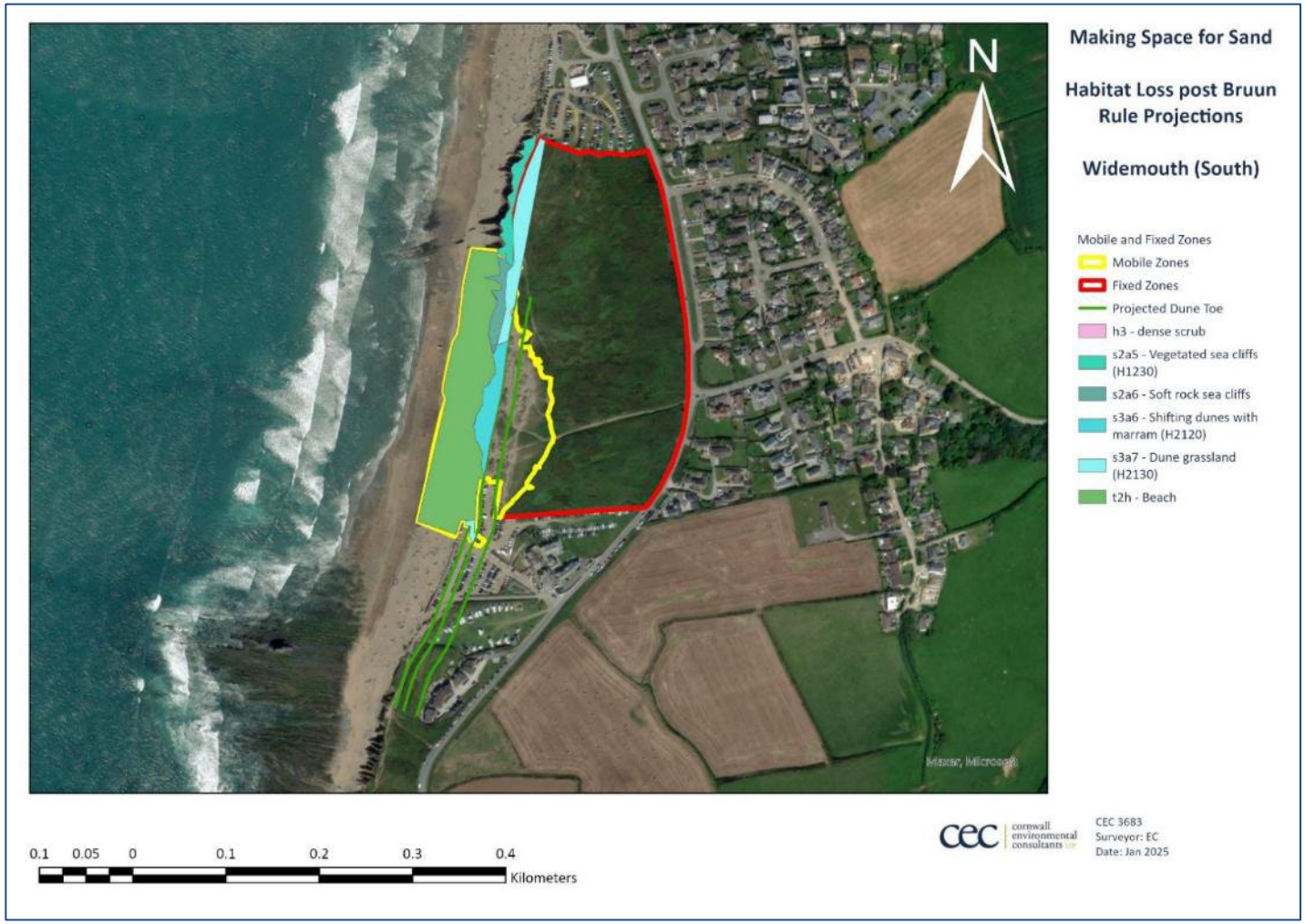


Figure 23: Projected Habitat Loss Widemouth South (Bruun Rule)

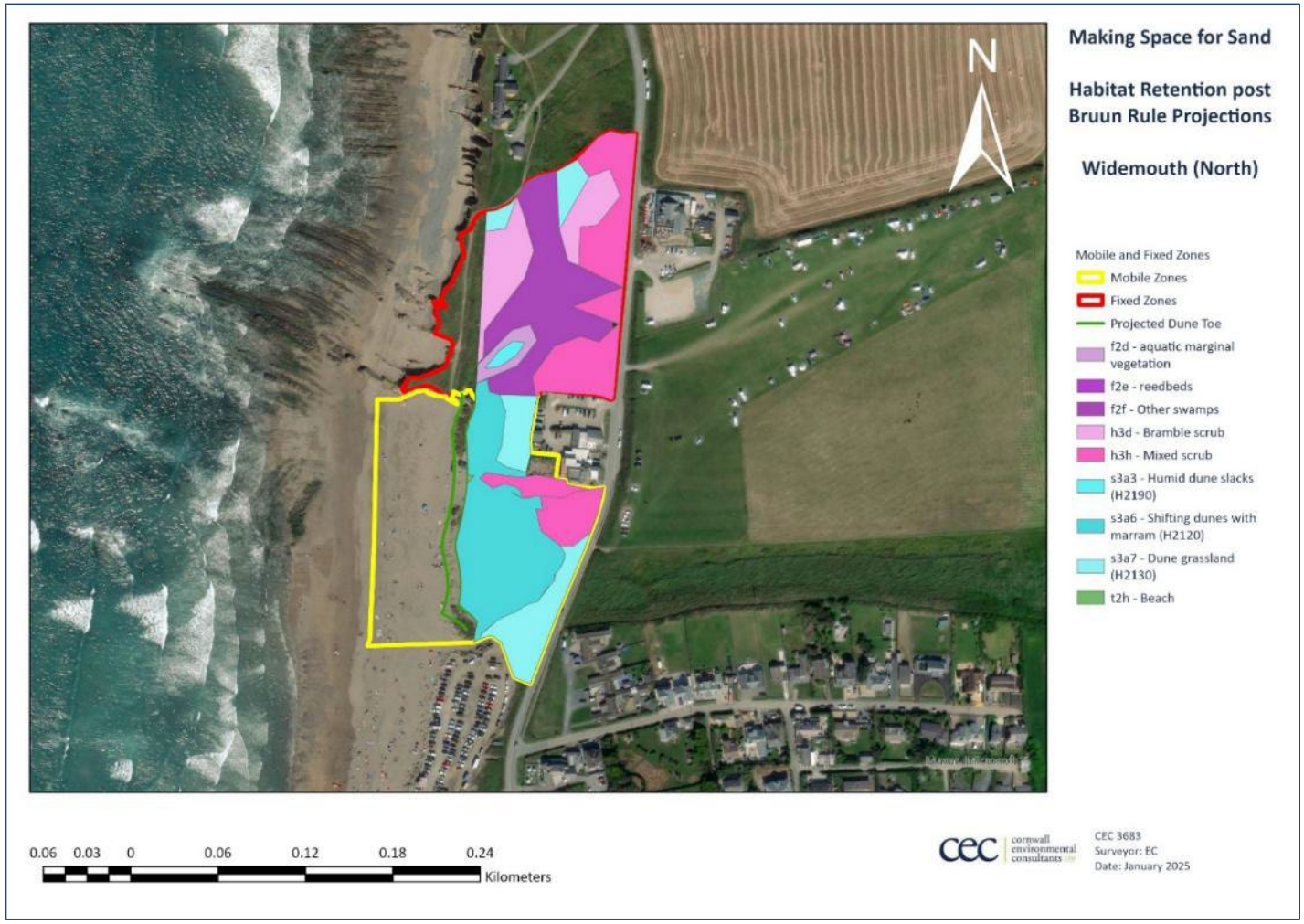


Figure 24: Projected Habitat Retention Widemouth North (Bruun Rule)



Figure 25: Projected Habitat Retention Widemouth South (Bruun Rule)

6.7. Infrastructure at risk

6.7.1. Maps showing the relationship between the projected NCERM erosion extents and adjacent infrastructure are provided below in Figure 26 in Figure 27.

6.7.2. Looking across both the Widemouth North and Widemouth South maps, the infrastructure potentially affected extends beyond the assets directly intersected by the NCERM erosion projections. The mapped erosion zones encompass or approach a range of assets including the beach car parks, café building, coastal revetment, sections of the local road network, residential properties and commercial premises. These assets provide important access, recreational, residential and economic functions within Widemouth Bay and could become increasingly vulnerable as coastal change progresses.

6.7.3. It is important to note that the NCERM projections represent a potential future shoreline position rather than the point at which impacts first occur. As the coastline retreats towards the projected erosion extents, areas landward of the erosion line are likely to experience increasing coastal influence, including erosion, storm damage, tidal inundation and disruption to access. Consequently, infrastructure may be affected before the projected erosion line directly reaches an asset. The NCERM projections should therefore be used as a strategic indicator of future risk and to help inform long-term adaptation planning.

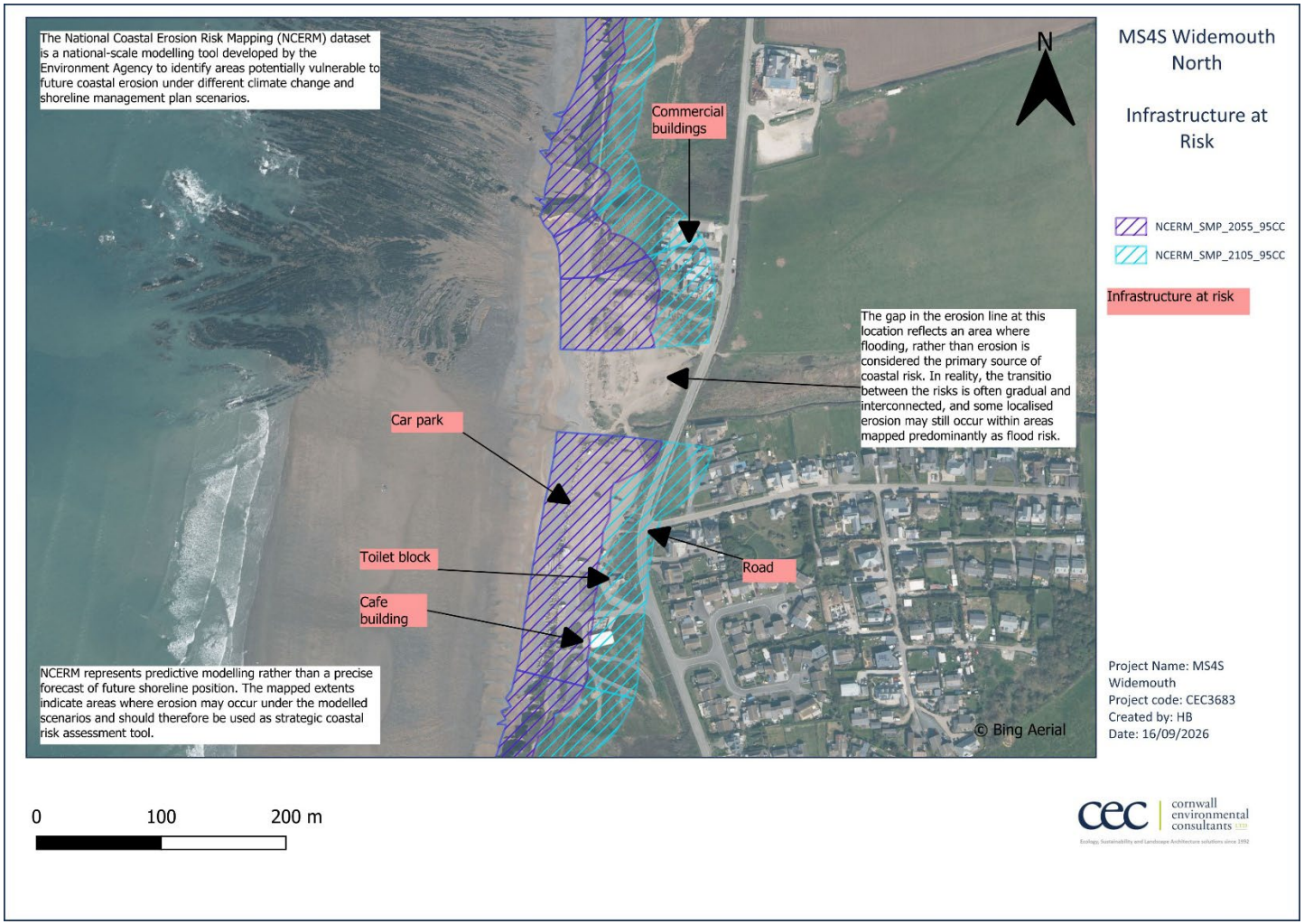


Figure 26: Infrastructure at risk North Widemouth

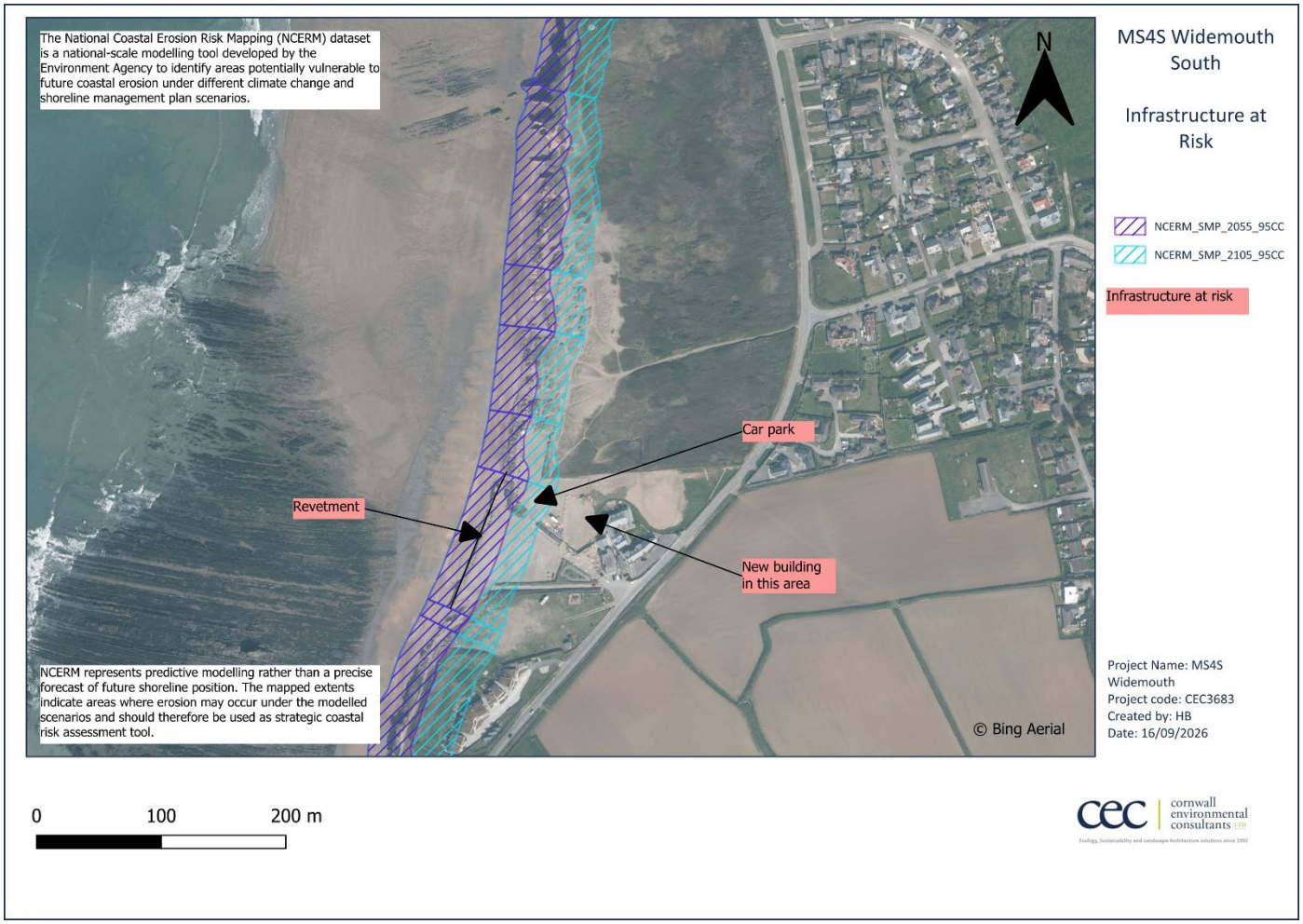


Figure 27: Infrastructure at risk South Widemouth (background map pre 2020)

7. Management Plan

Full details for the timelines for management and seasonal restriction can be found in the document CEC3683 Beach Dune Management Plan Strategic Overview.

7.1. Strategic Context and Vision

7.1.1. Widemouth Bay lies within a highly dynamic coastal environment where the beach–dune system functions as a natural defence against coastal flooding and erosion. The Shoreline Management Plan (SMP2) policies for the Widemouth frontage (PU 39.1, 39.2 and 39.3) establish a long-term approach centred on working with natural processes, centred on working with natural coastal processes and adapting to future coastal change. Within the dune frontage covered by PU 39.3, the SMP specifies an intent to "establish a naturally functioning dune system by managing ongoing realignment of the dunes to improve both their natural defence function and environmental quality".

7.1.2. NCERM mapping indicates that, in addition to the dune system itself, a number of assets including roads, parking areas, access routes, commercial premises, residential properties and sections of coastal defence infrastructure may become increasingly vulnerable to coastal change over the longer term. Management actions within this plan therefore seek to maximise opportunities for dune adaptation and roll-back where appropriate, while recognising that wider adaptation planning may be required by infrastructure owners and the Local Authorities in the future.

7.1.3. In accordance with the SMP, the long-term management approach at Widemouth is to:

- Maintain and enhance a resilient, naturally functioning dune system that can adapt to sea-level rise and storm events.
- Support natural sediment movement, dune mobility and realignment, except where necessary to protect key access points or infrastructure.
- Balance coastal protection with biodiversity enhancement, recognising dunes as both a priority habitat and an essential natural flood defence.
- Embed community stewardship and understanding, ensuring that public access, recreation and conservation objectives work together.

7.1.4. The dune system at Widemouth is recognised as a natural buffer against coastal flooding and erosion, a mosaic of Habitats of Principal Importance including shifting dunes, dune grassland, dune slacks and reedbed habitats. It is also a valued landscape and recreational resource, and an ecologically sensitive transition zone between marine and terrestrial environments.

7.2. Baseline Condition and Key Issues

7.2.1. The Widemouth dune system is influenced by a combination of ecological, coastal and recreational pressures which affect its current condition and its ability to respond naturally to future coastal change. The key issues identified through field survey, habitat assessment and review of available coastal information are summarised below and form the basis for the management recommendations within this plan..

1. Habitat Condition – scrub encroachment, poor condition dune habitats and non-native invasive species

7.2.2. Detailed habitat mapping, field survey and BNG condition assessment indicate that much of the dune system is currently in poor ecological condition. Although the dunes support characteristic species including marram, sea holly, sea bindweed, lady's bedstraw and red fescue, habitat condition is reduced by widespread scrub encroachment and the presence of invasive non-native species, including Japanese rose, sour fig, montbretia, tamarisk and red valerian. These species can suppress characteristic dune vegetation, alter habitat structure and impede natural dune processes, reducing both biodiversity value and ecological resilience.

7.2.3. As a result, the natural zonation of mobile, to semi-fixed to fixed dune is interrupted, weakening natural dune processes and reducing resilience to coastal change

2. Ongoing Erosion, High Footfall Pressures and Disturbance

7.2.4. The Widemouth dune frontage experiences episodic storm erosion, dune toe retreat and seasonal profile change, consistent with SMP-led expectations of natural realignment under the managed realignment and no-active-intervention policies for PU 39.1–39.3.

7.2.5. At the same time, the dune complex is subject to high visitor pressure, which leads to trampling of shifting dunes, dune grassland and sea cliff vegetation, compaction and vegetation loss, nutrient enrichment and wildlife disturbance caused by dog fouling and off-lead dogs, erosion of narrow access routes.

3. Limited space for dune roll-back (Coastal Squeeze)

7.2.6. The dune system at Widemouth is relatively narrow in several sections and is constrained landward by infrastructure such as Marine Drive, car parks and established access routes. This limits the ability of dunes to migrate landward in response to sea-level rise, creating coastal squeeze.

7.2.7. Where dune grassland and shifting dunes have historically extended further inland (e.g., polygons 927 & 937), these areas are now dominated by dense, inaccessible scrub. This further restricts roll-back potential while preventing the natural re-establishment of dune habitat.

7.2.8. Future management must therefore:

- Maximise ecological resilience within the current footprint,
- Restore areas of scrub-dominated former dune,
- Avoid artificial stabilisation that reduces adaptive capacity,
- Encourage landward migration and habitat change

7.3. Required consent

7.3.1. Any works that are taking place in the dune environment must be done with the landowner's consent in this case, Cornwall Council who are supportive of the proposed management approach. Delivery of the management plan is likely to involve Cornwall Council and its contractor Cormac, with local community support from environmental groups such as the Widemouth Task Force (WTF).

7.3.2. The dunes are immediately adjacent to the Tintagel–Marsland–Clovelly Coast Special Area of Conservation (SAC), Hartland Point to Tintagel Marine Conservation Zone (MCZ) and Boscastle to Widemouth Site of Special Scientific Interest (SSSI). Consultation with Natural England will therefore be required prior to undertaking relevant management works. As the proposed works are intended to

support nature conservation and improve the condition and functioning of the dune habitat, they are considered likely to be compatible with the conservation objectives of the designated sites; however, this should be confirmed through consultation with Natural England.

7.4. Past/Recent Management

The Widemouth Task Force

7.4.1. The Widemouth Task Force (WTF) is a long-established local community group that has undertaken a range of practical activities along the beach and dune system for many years. Their ongoing stewardship has played an important role in maintaining and enhancing the dunes, particularly through local volunteer involvement and community engagement. WTF are working in collaboration with Cornwall Council. Recent work has included using the Council contractor Cormac to remove large areas of scrub and creating new pathways through the upper dunes. This has enabled native species to re-establish and allowed sand to move more freely. Other activities have included the placement of Christmas trees across the entire dune front to act as windbreaks and trap wind blown sand, an area which at the time of writing has become vegetated with marram.

7.4.2. The Widemouth Task Force has also supported public understanding of dune management through interpretation and community outreach. This has included collaborating on the design of a new interpretation board produced by Making Space for Sand and Cornwall Wildlife Trust, by providing images and information to help explain the importance of dune flora and sensitive dune management. The group also uses a variety of media channels to inform residents about planned activities and volunteer opportunities.

Cornwall Wildlife Trust (CWT)

7.4.3. At the time of writing, Cornwall Wildlife Trust, supported through the Making Space for Sand project, has been working alongside Widemouth Task Force to support hands-on dune and scrub management across the site. This has included providing tools, equipment, infrastructure, wildlife identification training and general guidance, to enable volunteer work parties to achieve more.

7.4.4. Cornwall Wildlife Trust has also monitored the progress of dune and scrub management through digital mapping, enabling management progress to be recorded and shared with the local community through the Widemouth Task Force website.



Figure 28: Christmas tree planting by community group

7.5. Future Management

7.5.1. Management of the Widemouth dune system must respond to its current poor ecological condition, ongoing erosion, and limited capacity for landward roll-back, within the context of Shoreline Management Plan policy (PU 39.2/39.3 Managed Realignment). The overarching approach is therefore to establish a naturally functioning dune system by managing ongoing realignment of the dunes to improve ecological resilience and work with coastal processes.

Table 9:Future Management at Widemouth

Action	Short Term	Medium Term	Long Term	Who
Scrub management see Section 8.1	Maintain glades and informal seating areas to retain a mosaic of open and sheltered habitat in existing scrub area. Create and maintain *scalloped edges on the seaward side to improve microhabitats and allow dune migration eastwards. Scrub management on dunes should aim to remove scrub before it over stabilises the habitat.	Monitor scrub expansion and adjust glade size to maintain habitat diversity, to prevent encroachment on to dunes and to prevent habitat progressing into woodland. Review scallop effectiveness every 2 – 5 years, adapt scallop shapes to align with dune movement trends. On the dunes, monitoring of encroaching scrub and removal should keep taking place.	Allow natural retreat of scrub where dune roll-back occurs; re-site seating if threatened by erosion or dune migration. Allow further landward dune movement in line with SMP No Active Intervention approach; remove or reconfigure scallops as coastline shifts	Landowner/ Community Group
Invasive Non-native Species see Section 8.1	Removal of Japanese rose, sour fig and montbretia which can be found at various locations across the site. Protect adjacent dune grassland. Map and monitor regrowth.	Monitor regrowth; extend removal areas if spread increases. Monitor regrowth of native species – if none growing consider planting native salt tolerant species.	Periodic maintenance control only. Prevent re-establishment through rapid response strategy Ongoing monitoring of overtly mobile sediment that might have been released from the INNS removal.	Landowner with support from Community group
Plant marram grass or salt tolerant species in areas of INNS removal and dune reestablishment – See Section 8.2	Plant marram or salt-tolerant species if no natural colonisation after two years.	Monitor toe stability. Replant where storm damage occurs. Avoid over-stabilisation. Monitor areas of	Allow natural reshaping of dune toe where space permits. Stabilise only where SMP requires protection	Landowner with support from Community group

Action	Short Term	Medium Term	Long Term	Who
		INNS removal, only replant if no natural colonisation after two years.	of assets. Allow vegetation zones to shift landwards as dune system naturally rolls back; maintain resilience by supporting natural succession.	
Access management – car parks	Mark parking bays to concentrate vehicle use within defined areas; transplant dune grassland; protect orchid-supporting area. Install boulders to remove northern parking area and allow dune roll back.	Re-survey dune vegetation; expand dune set-back zones if SMP monitoring identifies increasing erosion risk. Consider similar action for the south car park Assess dune movement into northern car park area, consider extending or adjusting boulder line if realignment requires further retreat of the car park. Develop outline adaptation options for roads, parking areas and visitor access should monitoring indicate increasing pressure from coastal erosion or dune migration	Plan for phased landward relocation of roads and parking in line with SMP medium–long-term policies for adaptation under coastal change. Support full dune roll-back into parking areas if erosion accelerates, reconfigure car park layout accordingly.	Landowner
Access management – paths through scrub	Cutting as required to maintain access through the scrub. Sow coastal grass and wildflower mix to stabilise high-footfall paths	Monitor vegetation take; re-seed if necessary. Scrub to be cut back regularly to maintain paths.	Monitor vegetation take; re-seed if necessary. Scrub to be cut back regularly to maintain paths and adapt/ relocate paths if dune migration requires.	Landowner with support from Community group
Access management – paths through dunes See Sections 8.3 and	Monitor erosion and desire lines through the dunes	Rationalise paths as habitat recolonises, consider fencing in	Maintain sustainable access aligned with dune morphology. Relocate paths if	Landowner with support from Community group.

Action	Short Term	Medium Term	Long Term	Who
8.4		high erosion areas.	dune migration requires.	
Intellectual access (signage and education) – See Section 8.3	Install temporary signs when scrub or dune works take place.	Refresh signage. Introduce digital interpretation (QR codes, monitoring updates). Social Media updates. Annual guided walks.	Update messaging as dune position shifts and SMP adaptation measure progress. Relocate or redesign board if dune roll-back or car park changes require asset movement under long-term SMP policy	Landowner with support from Community Group
Management of overtly mobile sediment – See Section 8.4	Monitor wind-blown sand affecting car park. Use soft engineering (sand fencing, brushwood) to trap sand. Avoid hard structures	Consider formalising car parking spaces in southern car park (similar to north car park) and leaving the western edge for dune roll back.	Accept natural mobility as core function. Intervene only for safety or significant infrastructure threat.	Landowner with support from Community group
Monitoring and review	Establish fixed-point photography, vegetation surveys and dune profiling. Regular monitoring of INNS.	5 Year ecological survey. 5 year review of Mgt plan. Update management in response to storm events and coastal projections.	5 year rolling reviews aligned with SMP updates.	Landowner/ Community Group / Southwest Coastal Monitoring/Ecologist
Community Stewardship	Support already established Widemouth Task Force with tools, training and coordination.	Transition toward greater independence with secured funding streams	Fully embedded local stewardship	Landowner / community group

* Scalloped edges of scrub are gently curved, uneven boundaries between scrub and open areas, designed to create a more natural shape and provide a greater variety of sheltered spots and habitats for wildlife than straight, hard edges.

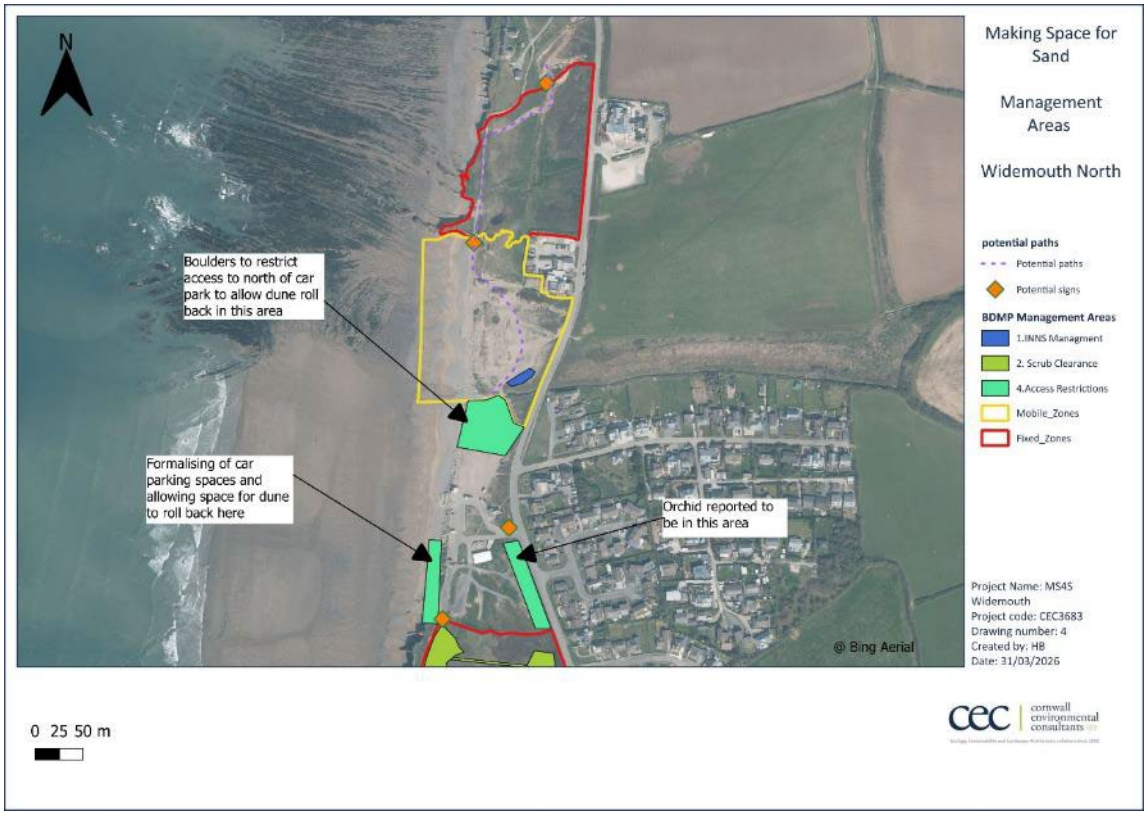


Figure 29: Management Areas (north)

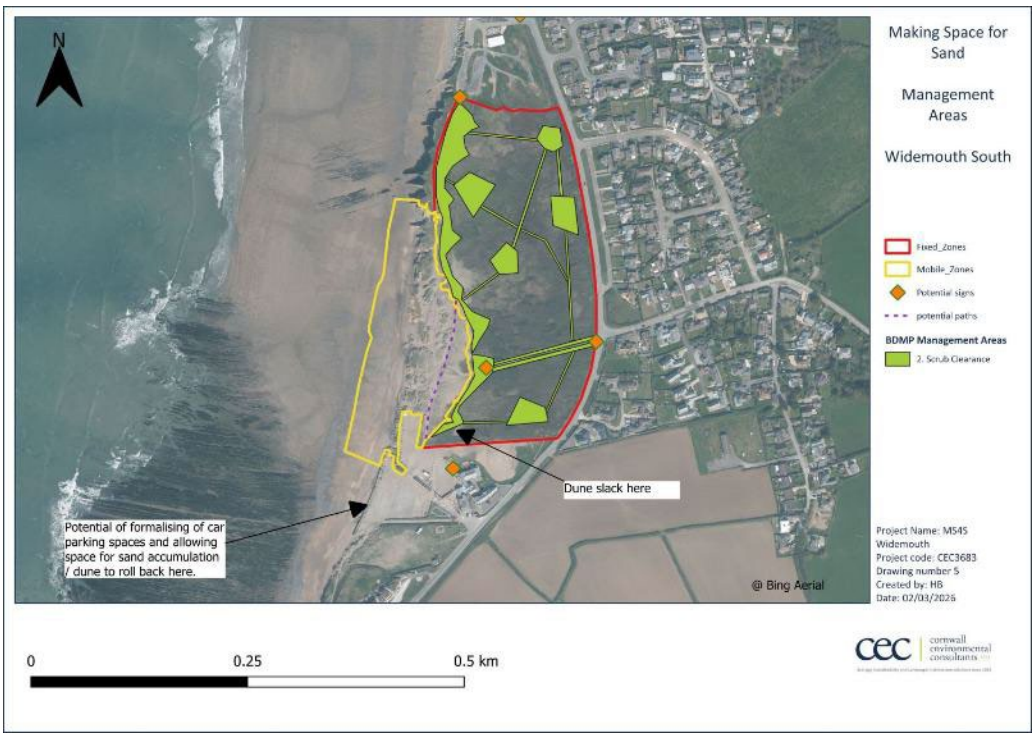


Figure 30: Management Areas (south)

7.6. Short-term Planned Management Activities

Scrub Management

7.6.1. There is a large area of scrub at Widemouth which provides valuable habitat, particularly for birds, and is also highly valued by the local community. Scrub clearance works began mechanically during December 2024, creating a series of glades and rides, while the hard edge of the scrub along the seaward side was reconfigured to create a scalloped edge. In the short term, no substantial further reduction in the overall extent of this established scrub area is proposed. Management should instead seek to maintain the existing mosaic of scrub, glades, rides and open edges, preventing the scrub from closing over areas that have already been opened up. The scalloped seaward edge should also be maintained to provide a varied transition between scrub and open dune habitat and to allow the development of grassy margins.

7.6.2. Within the wider dune system, however, it's important to prevent excessive scrub encroachment by removing it before it begins to over-stabilise the dunes and continuing to monitor the site to maintain a dynamic, functioning habitat.

7.6.3. Also, of note in this area, is an area of dune slack, scrub should be moved back from this to open it up. See Figure 30 for location.



Figure 31: Paths and glades cut into scrub

Invasive Non-native Species (INNS) Removal (for more detail see Section 8.1)

7.6.4. The level of recorded invasives at Widemouth was relatively low. Species such as sour fig and montbretia can be dug by hand, in the case of montbretia all corms (small, rounded, underground storage organs, similar to bulbs, that hold food reserves and help the plants regrow each year) should be removed. Japanese rose has been recorded in the northern section of the site, (see Figure 29) at the time of writing this is still a small amount, however, this species has the capacity to spread with vigour and dominate. As this stage it could still be removed by hand using tree poppers/hand digging.

7.6.5. Work should concentrate initially around the Japanese rose stand to the north (see Figure 29), reducing its spread, and protecting the adjacent dune grassland, along with removal of sour fig and montbretia, which is found throughout the site. This will help to improve habitat condition across the site.

7.6.6. These species may require different removal techniques as their growth forms and methods of spread vary significantly. Sour fig (Figure 32) is generally best removed by hand, ensuring every stem node and root fragment is lifted as even very small pieces readily re-root and regenerate.



Figure 32: Sour fig at Widemouth

7.6.7. It is also advisable to remove montbretia (Figure 33) by hand, digging out the whole plant including all corms and rhizomes by removing soil from around the base carefully to expose the whole corm chain and lifting plants in small sections to avoid breaking the corm chains which can cause rapid regrowth. **AVOID strimming or cutting only the tops as this strengthens the corm**.



Figure 33: Montbretia (photo by Dr Sally Lucker - Budding Nature)

7.6.8. Japanese rose (Figure 34) also spreads through rhizomes but have several viable control options depending on patch size and site sensitivity, ranging from full excavation to targeted herbicide treatment, see Table 10 which discusses the advantage and disadvantages of INNS removal and disposal methods for the site and each species.



Figure 34: Japanese rose

Salt Tolerant Species Planting

7.6.9. Salt tolerant species planting is not required in the short term, other than where INNS removal has taken place, or where new areas of dune have been allowed to re-establish naturally. In which case, marram grass and other appropriate salt-tolerant species may be planted if deemed necessary following monitoring, where no natural colonisation has occurred after two years. See Table 13 for suitable species.

Access Management

7.6.10. There are proposed access restrictions to be put in place within the northern section of the survey area. This will involve the replication of a management strategy which has previously been employed by the landowner. By stopping the use of this area as a car park, sand can be allowed to roll back into the area. This can be supplemented by measures to 'trap' the sand using methods like Christmas trees or chestnut paling. Using Christmas trees usually means that they will be placed on site early in the year, some delay in planting marram may be advisable - to wait until the growing season and to allow for some sand to accumulate, to be stabilised.

7.6.11. The placement of boulders along the northern car park boundary will remove an area of parking and will create space for dune roll back into areas where sand naturally accumulates.

7.6.12. Also in the northern car park, formalising parking spaces will limit vehicle spread and allow the western and eastern margins to be reclaimed by dune vegetation. This will include transplanting dune grassland from areas within the car park that currently support small patches of habitat. An area to the north-east will be excluded from any reconfiguration due to reports of orchids occurring there.

7.6.13. Several paths in the scrub area may become muddy due to localised wet ground conditions. To prevent continued erosion a locally appropriate coastal grass and wildflower seed mix will be sown to stabilise these routes and encourage vegetation cover that is resilient to light recreational use. Any seed used should be sourced from a supplier specialising in UK-native coastal species to ensure suitability, favouring robust fine-leaved grasses for resilience to trampling and using wildflower components only in locations that will not be subjected to heavy footfall.

7.6.14. In general, fragmentation is advantageous for dune habitat especially in areas of dense invasive species and scrub, but sometimes there may be areas, such as areas of new planting, where footfall is undesirable.

Fencing around new areas of dune that are establishing is recommended. See Table 14 for the advantages and disadvantages of types of fencing.

Intellectual Access

7.6.15. An interpretation board had been installed at the time of writing. The board provides information on the site's wildlife, dune restoration efforts (including the use of recycled Christmas trees and transplanted marram grass), and ongoing scrub management. It also outlines the challenges faced in maintaining a dynamic dune system and highlights practical ways visitors can help, supporting responsible access and wider community engagement.

7.6.16. For suggestions/examples of additional signage that would be beneficial in Widemouth, see Section 8.3

7.7. Medium Term Management

Scrub Management

7.7.1. Ongoing management is required to keep the glades, paths and dune slack area open, along with making sure the scrub is not encroaching onto dune habitat.

7.7.2. Review scallop effectiveness every 2 – 5 years, adapt scallop shapes to align with dune movement trends and avoiding encroachment onto the dunes.

7.7.3. To prevent scrub from maturing into woodland, small, dispersed patches should be cut back on a yearly rotational basis, ensuring that no adjacent areas are managed in the same year and maintaining the open structure of the dune habitat.

Invasive Non-native species (INNS) removal

7.7.4. Monitoring for the return of Japanese rose, sour fig and montbretia with immediate removal if found is recommended. Areas where INNS have been removed should also be monitored to assess whether they are being naturally recolonised by locally occurring native dune and salt-tolerant plant species. Where natural recolonisation is limited or absent, the need for supplementary planting using appropriate locally occurring species should be considered.

7.7.5. These species are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), and care must therefore be taken during their removal and disposal to prevent their spread. Further information on their legislative status is provided in Appendix A, with the advantages and disadvantages of the different disposal methods set out in Table 11.

Access management

7.7.6. Visitor movement and habitat responses should be monitored, and additional sensitive areas may be identified for restriction; because in the long term, paths may need to be moved due to erosion of the coastline.

7.7.7. Coastal monitoring and erosion projections should be reviewed periodically to identify whether future adaptation of access routes, parking provision or visitor infrastructure may be required. While current access arrangements remain appropriate, ongoing shoreline recession may necessitate the phased relocation of some facilities and access routes further landward to maintain public access while allowing natural dune roll-back and realignment in accordance with SMP policy.

7.7.8. Paths can be delineated in many ways, chestnut paling, bark mulch, board walks and post and rope. See Table 14 for the advantages and disadvantages on each type



Figure 35: Example of post and rope fencing

Intellectual Access

7.7.9. In the medium to long term, interpretation and public engagement should continue to evolve in response to changing management priorities, available funding and community interest. On-site interpretation should prioritise simple, robust and easily maintained signage suitable for the exposed coastal environment. Information that is likely to require regular updating, such as dune monitoring results, seasonal changes and current management activities, should instead be provided through existing websites and social media channels where practicable.

7.7.10. Social media updates and annual guided walks will help maintain public understanding and support for any management on the dunes, providing flexible, low-cost ways to share progress and highlight the ecological value of the dune system.

7.7.11. Future signage and interpretation should focus on key messages such as the importance of native dune species, the impacts of dumping garden waste, responsible dog ownership, and the rationale behind management works including scrub cutting, Christmas-tree brash interventions and invasive species removal. Interpretation should also explain the naturally dynamic nature of the coastline, including erosion, dune movement and landward roll-back, and why access, parking and other infrastructure may need to adapt as the coastline changes. Collectively, these measures will help visitors understand both the ecological management of the dunes and the need to adapt to ongoing coastal change..

7.7.12. Given the strong sense of community ownership at Widemouth, and the high level of public interest in how the site is managed, engagement should extend beyond on-site signage. Public meetings, social media updates, and direct communication with the local community should be used to explain the rationale behind management actions, particularly where works may appear intensive or visually disruptive. This will help ensure that visitors understand why such measures are necessary, maintain

public support, and encourage continued involvement in volunteer-led stewardship.

Management of overtly mobile sediment – see Section 8.4 for more detail

7.7.13. In the medium term, the management of Black Rock car park, at the southern end of Widemouth Bay, should respond to observed coastal change and increasing movement of wind-blown sand. If sand movement begins to affect the functioning of the car park, consideration could be given to formalising parking areas using a similar approach to that already undertaken at the northern Widemouth car park, including geomeshing and seeding where appropriate. Any such works should retain space along the seaward edge for natural dune encroachment and landward movement of sand, balancing the continued use of the car park with the need to allow the dune system to respond naturally to coastal change.

7.7.14. Initially sand trapping may be required on the west of the car park, see Table 14 for the advantages and disadvantages of various sand trapping techniques.



Figure 36: Example of using chestnut paling and marram planting to trap sand

Monitoring and review

7.7.15. Monitoring is an integral part of dune management. Ideally, ecological condition will be assessed by a qualified ecologist undertaking vegetation surveys every five years. Specifically, looking at dune condition, assessing whether INNS have returned, and whether areas of bare sand are naturally being colonised by native dune species, these surveys will inform whether more INNS removal is required and whether supplementary planting is necessary to restore habitat or stabilise sand.

7.7.16. Access infrastructure and signage should also be monitored regularly by the landowner, to ensure they remain effective in directing footfall and preventing erosion where not needed and fragmentation where it is. Responsibility for managing windblown sand affecting adjacent roads, car parks or neighbouring properties will remain with the landowner.

7.7.17. Ongoing coastal change at Widemouth is already monitored through the regional South West Coastal Monitoring Programme, which provides periodic beach profile, topographic and aerial survey data. It is recommended that these existing data are reviewed regularly and as part of the five-year review of this management plan to identify changes in shoreline and dune position and inform future management decisions.

Community stewardship

7.7.18. Ideally, community stewardship will play an increasingly significant role in the long-term care and management of the dunes at Widemouth. The Widemouth Task Force were a well-established group before the MS4S project, and the CWT Community Engagement Officer has so far supported the group by providing tools, and further coordination and training is to be given on removal of INNS and monitoring which ideally the group will be able to take on board into the future. Following the end of this funding, the aim is for the community to become increasingly independent in supporting the ongoing management of the dunes, with locally led initiatives sustaining ongoing management works. In the longer term, stewardship would ideally become fully embedded within the community, fostering a strong sense of ownership, continuity and resilience, and providing an enduring complement to the wider management framework for the Widemouth dunes

7.8. Long term management

7.8.1. In the longer term, management will transition toward maintaining a dynamic, diverse dune system, rationalising access, using soft sediment management techniques, and preparing for adaptation where realignment may ultimately be required. If this is to happen, there will be space for the dune system to migrate and be able to function naturally.

7.8.2. Should coastal change progress in line with current projections, Cornwall Council may need to develop longer-term adaptation options for Marine Drive and associated highway infrastructure to maintain access while allowing natural dune roll-back and shoreline realignment. Any relocation should seek to maintain public access while maximising space for natural dune roll-back and habitat migration

7.8.3. All actions will be guided by monitoring, periodic review, and partnership working led by Cornwall Council as Coast Protection Authority, supported by the Landowner, environmental partners and community stewardship.

8. Appropriate Management Techniques

8.1. Invasive Non-Native Species (INNS) Management

8.1.1. Landowners have a legal and ethical duty to manage INNS.

8.1.2. The species that are having the most detrimental impact on the dunes at Widemouth are Japanese Rose, montbretia and sour fig. Japanese rose is particularly problematic as it over-stabilises the dunes, reducing the natural shifting dynamics that many native plants rely on, and they shade out and out compete other species, leading to a loss of plant diversity and altering the structure of the dune ecosystem.

8.1.3. The removal of INNS should be carried out in the short and medium term, with the aim of completely eradicating them from the dunes. In the longer term, ongoing monitoring is essential, with any new growth promptly removed before the species can take hold again.

8.1.4. See Table 10 for potential scrub/INNS removal methods and how appropriate they are in this area and for the species required to be removed.

Table 10: Potential scrub/INNS removal methods

Management Type	Advantages	Constraints	Suitable course of action for the site and species
Heavy plant	Fast for large areas of scrub / invasives Effective at removing large root systems Invasives less likely to grow back Less physically demanding	Requires good site access for machinery Limited by steep slopes Not suitable for sensitive areas – may damage good surrounding habitat Expensive – machinery and operative High dune disturbance	Yes – with funding for scrub clearance areas Would only be effective on Japanese Rose. Too much risk of leaving re-rooting fragments for sour fig and montbretia
Small machinery	Faster than hand removal Effective at weakening persistent species Minimal set up required Ideal for narrow access	Limited by very steep slopes May damage surrounding vegetation (but more able to select than heavy machinery) Require equipment and trained operative Risk of regrowth Easily breaks corms and rhizomes	Yes – but only for Japanese Rose area
Hand digging	Most selective and dune friendly Allows full removal of	Labour intensive Slow progress – can lead to disheartened volunteers	Yes – all species can be removed in this way

Management Type	Advantages	Constraints	Suitable course of action for the site and species
	roots/corms/nodes Good control for small/medium patches	Requires careful technique to avoid leaving fragments/ risk of regrowth	
Herbicide Treatment	Can treat inaccessible areas Effective for persistent species If done correctly (i.e. weed wipe, spot spraying, or treating stumps after cutting) reduces off-target damage to other dune vegetation. Best used when infestations are localised, preventing the species from forming dense thickets. Less physically demanding	Expensive machinery and operative Risk of poisoning nontarget animals and plants if not applied carefully. Timing is restricted to late summer to early autumn due to high leaf area and good herbicide uptake. Chemical use may be limited by site sensitivity, proximity to water, other legal restrictions. Requires careful handling and legal compliance Will need a trained professional to carry out. May need repeat applications Not popular with the public	Yes – if there are the funds this is an option as a last resort as discussed in paragraphs 8.1.5 and 8.1.6 It works well on large stands of Japanese rose, although effectiveness is variable on montbretia and sour fig.
Cutting back plants to prevent seed dispersal	Can remove a large amount of vegetation quickly Less physically demanding than removing roots Useful preparation for herbicide treatments	Not effective alone unless the species disperses by seed	No – the species involved spread by rhizomes, in the case of montbretia cutting would strengthen the plant
Grazing	Good for large areas Can reach rough terrain Can create habitat diversity Low cost compared to machinery	The species involved in Widemouth are unpalatable Grazing would have no impact on underground structures Would need animal husbandry and fencing	No for INNS– this would not reduce the spread of any of these species Not viable given the space, open access and use of land.

8.1.5. The use of herbicides within dune systems should be considered only as a last resort for the control of invasive non-native species where there is a clear ecological justification. Alternative management

approaches should be considered first and herbicide should only be used where non-chemical methods are unlikely to provide effective control, would result in greater ecological damage, or are not realistically achievable due to site constraints, available resources or the scale of the infestation.

8.1.6. Where herbicide use is deemed necessary, application should be undertaken by trained and certified operators using the minimum quantity required to achieve the management objective. Herbicides should be applied in a highly targeted manner, for example through stump treatment, weed wiping or spot application to regrowth, rather than through broad-scale spraying. This helps minimise impacts on non-target species, reduces damage to surrounding dune vegetation and supports the long-term restoration of naturally functioning dune habitats.

8.1.7. After removing, disposal is an important part of the process, see Table 11 for disposal methods and suitability for Widemouth.



Figure 37: Japanese rose at Widemouth



Figure 38: Sour fig at Widemouth

Table 11: Disposal of Invasive Species

Disposal type	Advantages	Constraints	Suitable course of action for the site
Burying INNS (with permit)	Allows on-site disposal Suitable for rhizomatous plant material (Japanese rose)	Requires an environmental permit. Conditions of permit must be followed. Not suitable for sensitive habitats without permission	No - there are limited areas on site where burial would be an option
Burying INNS without permission	Cost effective Avoids need for permit	Must comply with RPS178 conditions Only allowed on land of low habitat value (Sand dunes are not considered low value)	No – there are limited areas on site where burial would be an option
Burning INNS on site	Reduces volume of waste Effective for killing plant material so regrowth doesn't occur	Requires a D7 exemption Must comply with local byelaws Poor air quality for nearby neighbours	No – Too close to residential and commercial areas, and the nature of the species being removed (sour fig being very succulent and waxy) it would not be suitable.
Composting	Low cost On site disposal	Not considered suitable for the INNS at Widemouth as some fragments may survive composting	No – sour fig and montbretia re-grow too easily
Off-site disposal (licenced waste carrier)	Most secure and compliant disposal method Suitable for contaminated soil and plant material Full audit trail via waste transfer notes	Requires use of a licensed waste carrier Waste must be taken to an authorised landfill or disposal site. Higher cost	Yes – suitable for large scale disposal

*Never chip invasive species, many of them can grow from small pieces.

8.1.8. Given the proximity of the site to residential and commercial areas, and the nature of the species being removed (sour fig being very succulent and waxy) it would not be suitable to burn material on site.

8.1.9. There are limited areas across the site where burial of material could be facilitated.

8.1.10. Removal via a licenced waste contractor is the most suitable course of action but it should be noted it has a cost associated with it.

8.2. Planting of marram and other salt tolerant plants.

8.2.1. The planting of marram and other salt tolerant plants may be required in the medium term in areas where INNS removal has been successful, and where sand is being allowed to accumulate in the northern car park, also in the future if erosion should become an issue, perhaps due to a scarp being created during a storm and stabilisation may be required. Establishing vegetation in this area helps reduce erosion, enhances habitat quality and promotes dune resilience.

8.2.2. In areas where marram is to be used to stabilise sand, planting should be undertaken during the spring or autumn growing season see Table 12 for advice on planting. Then monitoring of this area should be conducted, in particular noting as to whether other species colonise. If after two to three years it is still solely marram, the planting of other salt tolerant species is advised.

8.2.3. When it comes to sourcing marram, it is always best if it can be harvested from an area nearby where it is abundant, this is so the grass is well suited to the local conditions, helps to continue the particular genetics of the grass in the area, and is also a sustainable and cost effective way of obtaining it.

8.2.4. It is not always possible, to harvest marram from site if the area to be planted is large and requires more plants than can be harvested. In that case it can be sourced in two ways. One option is to work with the National Wildflower Centre at the Eden Project, who are able to grow marram grass from seed collected directly from the site. This guarantees that any planted material matches the local genetic stock. However, this approach requires a significant lead in period to collect seed, propagate plants and grow them to a suitable planting size, and it is typically more expensive than purchasing commercially available stock. Despite this, it provides the strongest ecological justification and long term benefit to the dune system.

8.2.5. The other option is to source marram grass from a reputable supplier specialising in UK native species. This is a quicker and often more cost-effective option than commissioning propagation from local collected seed. These nurseries generally provide marram of broad UK provenance, suitable for dune restoration and compliant with native species guidelines. While this does not provide the same level of genetic fidelity as using seed collected directly from Widemouth, it still ensures that planting stock is UK origin and appropriate for coastal environments. This approach is therefore well suited to projects where time or budget constraints limit the ability to grow plants from site specific seed.



Figure 39: Marram planting at Marazion

Table 12: Marram planting

Action	Timing	Method
Harvesting marram – to be done if there is an area of marram grass that is plentiful and close to the location	If harvesting do it at the same time as the planting	Plants selected for removal should be green and young. Plants may be removed by using a spade. The objective is to loosen the root system within the sand. This can be achieved by carefully inserting the spade alongside the target roots and moving it back and forth to loosen the sand, allowing the plant to be pulled out by hand. Removed plants should retain as much healthy root material as possible.
Source marram grass of local genetic provenance	Lead-in period required (seed collection + several months' propagation time.	Work with the National Wildflower Centre (Eden Project) to grow marram from seed collected at Widemouth. This is a more expensive option but ensures the planted marram is genetically matched to the site and maintains the integrity of local dune flora.
Source marram grass from a UK native-species specialist supplier	Can be ordered and delivered within standard nursery lead times	Purchase marram from a supplier specialising in UK-native coastal species. This is generally faster and more affordable than bespoke propagation, though it does not guarantee precise local genetic provenance. Plants will, however, be UK-origin and suitable for dune restoration.
Planting Marram	Marram grass may be planted at any time of year, but preferably September to April. March is the most favourable planting month, as there are less environmental impacts to contend with such as storms, frost and sea swells.	Holes or slots to be dug roughly 30 – 50 cm apart, loosely in a checkerboard pattern to ensure good coverage, while avoiding an overly regular planting arrangement. Divide the marram grass into small bundles for planting. Plant the marram grass in the sand so it sits as deep as it was previously (or deeper), helping to prevent roots from being exposed by sand movement before the plant is established.
Shielding marram from wind	At the same time as planting.	If the marram is planted in a windblown area the new plants will show signs of stress and planting may fail, so some kind of shielding may be necessary, see Table 14 for shielding and fencing techniques pros and cons.

8.2.6. Similarly, following scrub and invasive species control, it is recommended to monitor the cleared areas. Assessment should focus on natural recolonisation and recovery of dune vegetation which is preferable to active planting. Allowing natural regeneration supports native biodiversity and reduces management intervention. However, if after two to three years no species are found to be growing in the area, the planting of marram and other salt tolerant plants is recommended to enhance the botanical diversity within the dunes. See Table 13 for suitable species.

8.2.7. In the medium and long term, managed realignment of the road and presumably the buildings that line the road will leave space for the dune system to migrate to. Debris should be cleared completely. This allows natural dune regeneration in this area, and will promote coastal resilience, rather than constrained management around infrastructure.

8.2.8. In this case, as above, natural recolonisation is preferable, but monitoring should flag up any areas where

stabilisation is critical, and the planting of marram and salt tolerant plants may be necessary in these areas.

Table 13: Suitable species for planting into the dunes.

Species	Scientific Name
Sand sedge	*Carex arenaria*
Sea bindweed	*Calystegia soldanella*
Sea holly	*Erygium maritimum*
Sea rocket	*Cakile maritima*
Sea spurge	*Euphorbia paralias*

8.2.9. These should be purchased from specialist native plant suppliers such as Naturescape British Wildflowers | Seeds. Bulbs & Plants | Naturescape



Figure 40: Marram planting and chestnut paling in the Crantock dunes



Figure 41: Sea holly - salt tolerant species

Access

8.2.10. Table 14 outlines a range of management measures used to manage and direct public access in sand-dune systems, helping to protect sensitive habitats from trampling and erosion in some areas, but also help to fragment other areas. Many of these techniques can also be applied to shield newly planted vegetation or to trap and stabilise highly mobile sand, supporting dune restoration and recovery. The accompanying table summarises each method, describing its main advantages and disadvantages, and indicates whether it is suitable for access management, planting protection, or sand-retention objectives.

Table 14: Types of access management, new planting shielding and sand retention.

Method	Pros	Cons	Suitable for access	Sheild new planting	sand retention
Chestnut Paling	Excellent sand-trapping ability Visually acceptable / traditional coastal appearance Durable and biodegradable Effective at forming embryo dunes Doubles as an access-control measure	Higher cost than other materials Needs maintenance after storms Can become buried, needing re-setting Potential trip hazards if damaged Leaves behind metal when degrades	Yes	Yes	Yes
Plastic / geotextile netting	Low cost Lightweight and easy to install, good for temporary works Reasonably effective at sand capture	Significant microplastic and debris risk Short lifespan Wildlife entanglement risk Can look untidy when weathered	Yes	Yes	Yes
Recycled Christmas trees	Extremely effective at trapping sand Fully biodegradable Quick to create embryo dunes Good community involvement activity	Short-lived (1–2 years) Requires large, clean supply – only available at certain times of year Needs anchoring to prevent blow-around Can look messy	No	Yes	Yes
Bark mulch / brash / dune matting	Reduces surface wind speed Helps stabilise blowouts Creates microsites for germination	Can wash away in storms Adds nutrients (undesirable in dune systems) May import weed seeds Provides minimal physical access control	No	Yes	Yes

Method	Pros	Cons	Suitable for access	Sheild new planting	sand retention
Post and Rope Barriers	Excellent at directing public access Cheap and quick to install Low visual impact Flexible and easily moved	No sand-trapping function People sometimes step over Ropes sag / vandalism risk	Yes	Yes	No
Straw bales	Reduces wind erosion effectively Very cheap Fully biodegradable Useful for emergency stabilisation	Very short lifespan Introduces nutrients High weed-seed risk Can blow away without secure staking Not typically used in the UK	No	No	Yes
Boardwalks **	Extremely effective at guiding access Protects vegetation completely Accessible (pushchairs, wheelchairs) Long lifespan	Expensive Requires engineering May become buried in mobile dunes Can become hazardous if not kept in good condition Can't move the path. Visually prominent	Yes	No	No
Wire fencing (grazing enclosures)	Allow controlled grazing Protects planting from trampling Long lasting compared with rope	Can appear visually intrusive Expensive	Yes	Yes for protection but not wind	No

8.2.11. NOTE**: Boardwalks are a widely used access-management tool in sand-dune systems, providing a clear, durable route that helps keep visitors away from sensitive vegetation and erosion-prone areas. They are particularly effective where footfall is high, as they reduce trampling pressure and help stabilise adjacent dune surfaces by concentrating movement in a single corridor. However, boardwalks also have limitations: in highly mobile dune systems they can become buried by sand, undermined, or structurally damaged, leading to frequent repairs and high long-term maintenance costs. Their fixed alignment can also become unsuitable over time as dune morphology naturally shifts, meaning paths may need redesigning or relocating. Although they deliver strong access control benefits, these drawbacks mean that boardwalks are most useful in locations where visitor pressure is significant and dune movement is moderate enough to avoid continual intervention.

8.3. Signage

8.3.1. Clear, well-placed signage is an important tool for gaining public support for dune-management work, helping visitors understand why certain interventions are happening and encouraging responsible behaviour. Good signs can guide people onto designated paths, remind dog walkers to pick up after their pets, and explain the purpose of activities such as scrub clearance, fencing or temporary access restrictions. By providing simple, positive messages, signage helps build trust and reduces conflict, making visitors more likely to cooperate with conservation efforts. Signs can vary widely in cost—from durable, professionally printed interpretation boards to lower-cost options such as laminated A4 signs used during short-term works. Using a mixture of permanent and temporary signs gives managers flexibility to communicate both long-term messages and timely updates about ongoing habitat restoration.

Ideas for signs

8.3.2. Install interpretive signage explaining:

- Why dunes move
- Why invasive species are removed
- What special/important species may be living here
- Why fencing is necessary
- Role of marram grass

8.3.3. Use QR codes linking to:

- Dune management updates
- Volunteer opportunities
- Biodiversity monitoring results
- South West Coastal Monitoring data

8.3.4. Another way to increase awareness and understanding of the dunes would be to work with Widemouth Task Force to deliver seasonal guided walks.

8.3.5. See figures below for examples of signs that can be used on the dunes:



Figure 42: Example of small disk explaining why access is restricted



Figure 43: Example of small disk sign showing the way through the scrub at Widemouth



Figure 44: Simple cost-effective signpost



Figure 45: Example of a sign highlighting a special species



Figure 46: Example of interpretation board – history trail at Summerleaze, Bude



Figure 47: Example of rubbing trail at Par Sands



Figure 48: Example of interpretation board at Widemouth Bay



Figure 49: Example of interpretation board at Par Sands

8.4. Overtly Mobile Sediment

8.4.1. Overtly mobile sediment is not currently a significant issue at Widemouth. The prevailing winds tend to move sand northwards, where it has been intentionally allowed to accumulate and contribute to natural dune development. The only other location where sand movement may present challenges is the southern car park. Although no changes have been planned at this stage, should sand begin to cause operational or access issues, a similar approach to that used in the northern car park could be adopted. This would involve formalising parking spaces to limit vehicle spread and intentionally leaving the western edge unconfined, creating space for sand to accumulate and form a new dune area.

8.4.2. Where appropriate, sand-trapping measures—such as chestnut paling, brushwood bunds, or recycled Christmas trees (as previously used) see Table 14—could be employed to help stabilise wind-blown sand, along with planting of marram grass to encourage natural dune growth. Together, these measures would support natural coastal processes while maintaining the functionality of the car park and enhancing the resilience of the dune system.

8.4.3. Storms could also lead to scouring of the dune, and for mobile sand to become an issue where it isn't currently and so the following management actions should be implemented.

Mid-Term Actions (2 - 5 years)

- Increase monitoring of known problem areas, particularly after storm events or periods of strong onshore winds.
- Remove sand from critical car park access points where safety is compromised.
- Install temporary brushwood or sand fencing to trap wind-blown sediment.
- Construct temporary containment bunds where immediate protection of adjacent properties is required.
- Undertake targeted marram planting in small, priority areas to stabilise exposed sand.
- Maintain and repair sand fencing and bunds in the appropriate areas to ensure continued effectiveness.
- Review monitoring data to identify recurring hotspots and refine intervention locations.
- Engage with landowners to coordinate management efforts and reduce isolated interventions.

Long-Term Actions

- Allow shoreline evolution and sediment mobility to proceed naturally. Support natural dune development and sediment accretion processes through ongoing soft management.
- Facilitate adaptation of infrastructure and land use to accommodate managed realignment of the road.
- Reduce reliance on reactive sand clearance by promoting resilient dune systems.
- Maintain adaptive management, reviewing actions in response to climate change and evolving coastal dynamics

8.5. Biodiversity Net Gain

8.5.1. The success of the above management techniques will be able to be measured by Biodiversity Net Gain condition assessments. As mentioned in section 5.3.2 opportunities for BNG include the removal of INNS and the implementation of scrub management. Along with the introduction of appropriate salt-tolerant species which would increase species diversity, improve habitat condition, and enhance long-term and ultimately improve the condition of the habitat, thereby resulting in a measurable increase in the BNG score.

9. Monitoring Plan

Overview

9.1.1. Monitoring is an essential component of dune management at Widemouth, enabling the landowner and volunteer groups to understand how the system is responding to scrub management, invasive species removal, changes in vegetation cover, visitor access and coastal processes. At present, there is no dedicated funding for structured monitoring. As such, this plan outlines a pragmatic, low-cost approach relying primarily on volunteers, the landowner, and free external datasets. If future funding opportunities, grants, or partnerships arise, the monitoring programme could be enhanced or expanded to include more detailed ecological and geomorphological assessments.

Invasive Non-Native Species (INNS) Monitoring

- Undertake simple walkover surveys twice a year (spring and late summer).
- Volunteers or the landowner can record locations of Japanese rose, sour fig and montbretia using printed maps, mobile photos or free GPS apps.
- Early detection of regrowth will help direct volunteer work parties.
- If funding becomes available, INNS mapping could be expanded and digitised; this aligns with best practice for managing invasive species such as sour fig, montbretia, and Japanese rose, which all re-establish readily from fragments or persistent underground structures

Monitoring Vegetation Recovery in Cleared Areas

- Use fixed-point photographs every six months to track natural regeneration following scrub removal and INNS clearance.
- Record whether bare sand is being colonised by pioneer dune species such as marram or sand couch, or whether scrub is returning.
- If areas remain bare after two years, supplementary planting (e.g., marram transplants) may be required when resources allow; establishment typically takes 2–3 years.
- Future grants could support structured vegetation surveys, particularly those aligned with Common Standards Monitoring attributes for dune habitats.

Path and Visitor Access Monitoring

- Check designated paths on dunes and popular desire lines and the paths within the scrub area once per summer season.
- Note any new trampling, widening of routes or vegetation damage.
- Findings can guide small, low cost interventions such as temporary signage, minor path adjustments or grass seeding in the scrub area.
- With funding, more durable access controls on the dunes (e.g., chestnut paling) could be introduced if necessary.

Monitoring of Mobile Sand

- Volunteers should complete simple walkovers twice a year and after major storms.
- Record sand drift onto paths, roads, car parks or other properties and any blowouts forming.
- If funds become available, temporary fencing, brushwood, or planting could be used more proactively.

Signage Effectiveness and Condition

9.1.2. (Installation of new signs will depend on available resources.)

- Inspect signs annually, ideally before peak holiday season.
- Check for fading, damage, missing signs, or signs that no longer meet visitor needs.
- Replacement or installation of new signs will depend on available resources.
- Grant funding could support more durable interpretation panels, while smaller funds could support the small disk information signs as used in Dynamic Dunescapes sites.

Professional Ecological Survey (Funding Dependent)

- A full dune condition assessment by a qualified ecologist should ideally be completed every five years.
- This would include vegetation composition, INNS distribution and scrub cover, following Common Standards Monitoring guidance for sand dunes.
- At present this is not possible without funding, but monitoring evidence collected by volunteers will strengthen future funding applications.

South West Coastal Monitoring Programme (SWCM)

- The SWCM provides long-term, standardised coastal monitoring for the South West, including biannual topographic beach surveys, LiDAR flights at intervals, and periodic aerial imagery, all freely available for Widemouth.
- Since 2007, SWCM has undertaken repeated surveys at Widemouth, including 38 topographic surveys and multiple LiDAR datasets that track beach levels, dune toe position and volumetric change.
- Their interactive dashboard also allows users to view historic profile change and generate beach-unit reports.
- These datasets should be reviewed at least every five years alongside the ecological survey to support adaptive dune management, particularly in the context of storm impacts, beach recovery and long-term dune erosion

9.1.3. See Table 16 for a summary of this information.

Table 15: Short Term, Medium Term and Long Term Monitoring

Timescale	Monitoring focus	Activities	Frequency	Lead/Responsibility
Short term	Invasive Non-Native Species (INNS)	Walkover surveys to identify Japanese rose, sour fig, montbretia. Record locations using printed maps, phone photos, or free GPS apps. Identify regrowth early to direct volunteer work parties	Twice yearly (spring and late summer)	Volunteers / Landowner
Short term	Vegetation Recovery in Cleared Areas	Fixed-point photos to track recolonisation. Check if bare sand is colonising with pioneer dune species or reverting to scrub. Identify areas needing supplementary marram planting.	Every 6 months	Volunteers / Landowner / Ecologist if funded
Short Term	Path & Visitor Access Monitoring	Inspect formal paths, dune paths, scrub paths and desire lines. Note new trampling, widening, vegetation loss. Inform low-cost fixes (signage, path adjustments, grass seed).	Once per summer season	Volunteers / Landowner
Short Term	Mobile Sand Monitoring	Walkovers to identify sand drift onto paths, roads, car parks and properties. Record developing blowouts.	Twice yearly and after major storms	Volunteers / Landowner
Short Term	Signage Condition and Effectiveness	Check installed signs for damage, fading, missing panels. Assess whether signage still meets visitor needs. Assess whether signage stops damaging behaviour by the public	Annually (before peak season)	Landowner / Volunteers
Medium Term	Supplementary Planting Needs	Review areas failing to recolonise naturally after 2+ years. Identify locations suitable for marram or other dune species planting such as blow outs after storms etc.	Linked to vegetation monitoring cycle	Landowner / Ecologist if funded

Timescale	Monitoring focus	Activities	Frequency	Lead/Responsibility
Medium Term	Durable Access Management	Determine if trampling pressure warrants more robust controls such as chestnut paling. Determine whether delineation of paths should be replaced or moved	As required	Landowner
Medium Term	INNS management	Check for regrowth, map and remove as soon as possible if found	Ongoing	Landowner / Volunteers
Medium Term	Vegetation Surveys	Structured ecological surveys if funding available.	Every 5 years	Qualified Ecologist
Medium Term	SWCM Dataset Review	Review topographic profiles, LiDAR and aerial imagery to assess beach levels, dune toe movement, storm responses. Compare long term trends with on ground observations.	Every 5 years alongside ecological survey	Landowner / Ecologist
Long Term	Full Dune Condition Assessment	Comprehensive survey of vegetation, condition, INNS and scrub cover	Every 5 years (funding dependent)	Qualified Ecologist
Long Term	Adaptive Dune Management	Use combined evidence from volunteers, ecological surveys and SWCM data to adjust scrub control, access, planting and sediment management.	Ongoing formal review every 5 years	Landowner / Community Groups
Long Term	Signage Replacement / Upgrade	• Upgrade to durable interpretation panels when grants allow; maintain smaller low cost posters in interim.	As funding allows	Landowner / Volunteers

9.2. Funding

9.2.1. At the time of writing a Community Engagement Officer organises work parties and engages volunteers at Widemouth, along with procuring hand tools for the control and removal of invasive species, this has been funded by the MS4S project.

9.2.2. As the area is under a No Active Intervention policy there is unlikely to be any public funding for flood or erosion management, so in the future other sources of funding will be required

9.2.3. Finding community and environmental grants is easiest when you use a combination of databases, government services, environmental organisations and corporate or charitable funders. Helpful places to look include:

9.2.4. Grant search databases

- GrantFinder, Grants Online, and Funds Online – large databases covering national and local funding.
- Charity Excellence Framework – free "Funder Finder" tool.
- 360GrantNav – lets you explore UK funder data.
- My Funding Central – for smaller charities and community groups.

9.2.5. Government and local authority portals

- Find a Grant (GOV.UK) – official government funding search.
- Local councils – often run "Community Chest," climate funds, community ownership funds, or small local grant schemes.
- DEFRA – supports environmental and biodiversity initiatives.
- Landfill Communities Fund – delivered through bodies like Enovert for local green projects.

9.2.6. Environmental organisations and trusts

- The Wildlife Trusts – share opportunities for community nature work.
- Groundwork – grants and support for environmental improvements.
- National Lottery Community Fund – major funder of community led projects.
- Environmental Funders Network (EFN) – connects to environmental philanthropic funders.

9.2.7. Corporate and foundation schemes

- Aviva Community Fund – resilience and climate related projects.
- Veolia Environmental Trust – biodiversity and green space improvements.
- Tesco Stronger Starts and Asda Foundation – small local community grants.
- Naturesave Trust – conservation and sustainability funding.

9.2.8. Energy and sustainability specific funding

- Community Energy Fund – renewable energy projects.
- Salix Finance – public sector decarbonisation.
- Ashden Trust – climate and sustainable development focus.

9.2.9. Tips for searching

- Use keywords like "biodiversity," "climate action," "sustainability," "green space," "community garden."
- Contact local CVS (Council for Voluntary Service) for tailored advice.
- Check local supermarkets – many run small community grant schemes

10. Pictogram

KEY DUNE SPECIES



Eryngium maritimum - Sea holly, upright branching stems up to 60cm, cone of thistle like greenish-white or blue flowers with a ruff of spiny bracts, July to September



Euphorbia paralias - Sea spurge, upright stems up to 60cm with fleshy, grey-green leaves, cup-shaped greeny-yellow flowers June to October. Their milky white sap is toxic.



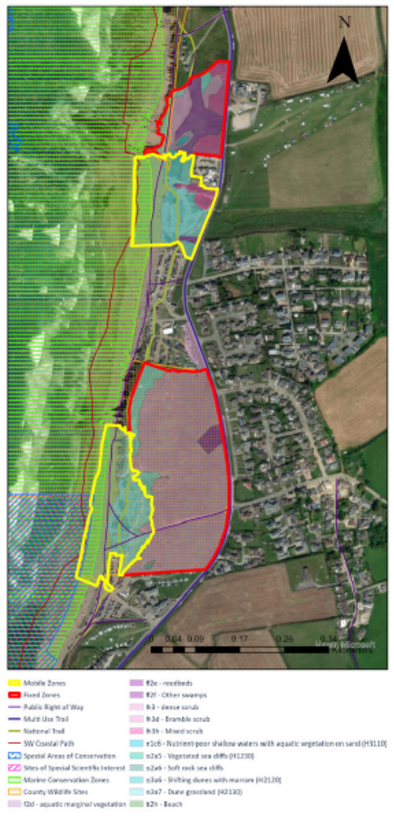
Calystegia soldanella - Sea bindweed is a trailing, rhizomatous perennial up to 1m across but only 10cm tall. Succulent stems, kidney-shaped leaves, pink upward-facing, trumpet-shaped flowers with five white stripes, in summer.



Typha latifolia – Bulrush is a deciduous, rhizomatous perennials with long strap-shaped leaves, found in Dune Slack marginal aquatic habitat in full sun.



Ammophila arenaria - Marram grass, dense, grey/green spiky tufts of rolled long thin leaves, flowers July and August, it's fibrous matted roots help to bind the sand and stabilise the dunes.



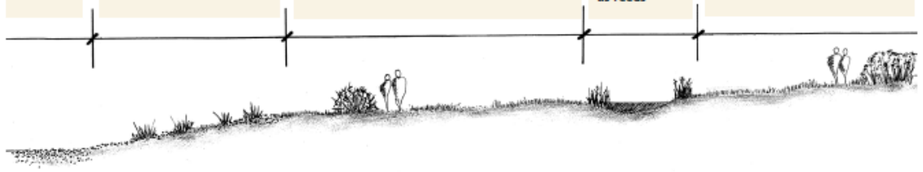
BEACH

SHIFTING DUNE
Where the embryo dunes have created stability in the substrate, marram grass establishes further stabilising the substrate by allowing more sand to accumulate. With more organic matter water retention increases and microhabitats allow a wider diversity of vegetation to colonise.

DUNE GRASSLAND
Here the diversity of species out compete marram, red fescue being a key competitor. Blowouts/ exposed bare sand areas caused when roots become damaged are important for the dune ecology. Erosion within these areas can be accelerated by excess trampling, grazing and burrowing. These can occur naturally or by human intervention to open up bare areas of sand to allow the recreation of a mosaic of dune habitats. Carex arenaria (Sand sedge) is a key coloniser and starts the process of stabilising these areas.

DUNE SLACKS the terrain drops to the water table, can be seasonally or permanently wet. An accumulation of nutrients/ organic matter, supports different species such as reeds

DUNE GRASSLAND
The diversity of plants increases the humus content in the substrate making it more suitable for the establishment of scrub species, and eventually woodland.



OPPORTUNITIES AND CONSTRAINTS

1. Much of the site lies within Upton and Bude County Wildlife Site, run and owned by Cornwall Wildlife Trust.
2. **Scrub control** - Scrub has increased replacing important dune habitats particulary in Dune Grassland, and Dune Slacks. It needs to be cleared allow a mosaic of dune species to colonise increasing biodiversity.
3. **Control of invasive species** - remove small colonies of plants before they spread, and replace with desireable dune species. The following plants are listed under Schedule 9 of the Wildlife and Countryside Act 1981 as invasive species and their treatment would be:
   - Rosa rugosa (Japanese Rose) – small stands removed by hand, larger areas treated with a deciduous specific herbicide which is not detrimental to the surrounding grass species.
   - Crocosmia x crocosmiiflora (Montbretia) treated using hand tools, ensuring that all underground corms are collected.
   - Carpobrotus edulis (Hottentot Fig) treated using hand-tools, ensuring all underground nodules are removed.

   Other species which are non native and invasive in the dune environment are:
   - Centranthus ruber (Red Valerian) – removed manually by hand
   - Tamarix (Tamerisk) can be manually removed by hand or mechanically
4. **Garden escapes** - Discourage the disposal of garden waste, and the spread of garden plants into the important and sensitive dune habitat.
5. **Signage** – displaying infromation to highlight the sensitive ecosystems within the sand dunes, and how dog waste creates nutrient enrichment, adversely affecting the delicate habitat. Encourage owners to clear up after their dogs, and keep them close or on a lead especially in nesting season.
6. **Mange access** – discourage people from trampling protected and notable plant species. Fencing can also be used to protect sensitive areas.

UNWANTED PLANTS IN THE DUNE ECOSYSTEM



Crocosmia x crocosmiiflora - Montbretia is a vigorous, clump forming perennial listed on Schedule 9 of the UK Wildlife & Countryside Act as an invasive species. It has long thin pale green leaves which grow from a corm. Typically up to 60cm in height with, slightly arching spikes of orange flowers, 3-5cm across during the



Carpobrotus edulis - Hottentot fig is a non native creeping, mat-forming succulent species listed on Schedule 9 of the UK Wildlife & Countryside Act as an invasive species. It grows all year round with pink or yellow flowers produced May to September.



Centranthus ruber - Red valerian, is a non native woody-based perennial, up to 1m in height with grey-green leaves and dense clusters of crimson, pink or white, slightly fragrant flowers from late spring to autumn.

Other unwanted speices on the dunes include Rosa rugosa - Japanese rose
Tamarix - Tamarisk

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WIDEMOUTH BEACH Making Space for Sand

Photographic credits - Cornwall Environmental Consultants : Dr Sally Lucker - Budding Nature : Cornwall Wildlife Trust

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12. List of Appendices

A. Schedule 9 Wildlife and Countryside Act 1981 as amended Part II

B. Condition Assessments

Condition Sheet: WETLAND Habitat Type

Habitat Types

Grassland - Floodplain wetland mosaic and CFGM - See the Statutory Biodiversity Metric User Guide.
Wetland - Blanket bog
Wetland - Depression on peat substrates (H7150)
Wetland - Fens (upland and lowland)
Wetland - Lowland raised bog
Wetland - Oceanic valley mire [1] (D2.1)
Wetland - Purple moor grass and rush pastures
Wetland - Reedbeds
Wetland - Transition mires and quaking bogs (H7140)

Habitat Description

For Oceanic valley mires - see EUNIS

See the Statutory Biodiversity Metric User Guide for Floodplain wetland mosaic (FWM) and coastal and floodplain grazing marsh (CFGM). For CFGM also see the below:

Coastal and floodplain grazing marsh UK BAP Priority Habitat description

Priority Habitat Inventory (England) - data.gov.uk

All other wetland habitats - see UK Habitat Classification (UKHab):

UKHab

On-site or off-site, site name and location		**Survey date and Surveyor name**											
		Survey reference (if relating to a wider survey)											
Limitations (if applicable)		**Habitat parcel reference**											
		6636	6634	6633	6635	6632							
		Grid reference											
Condition Assessment Criteria		**Criterion passed (Yes or No)**											**Notes (such as justification)**
Core Criteria - must be assessed for **all wetland habitat types**:													
A	The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. **Note - this criterion is essential for achieving Good condition.**	n	n	n	n	n							
B	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present.[1]	n	n	n	n	n							
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	n	y	y	y	n							
D	Cover of scrub and scattered trees are less than 10%.	y	n	n	n	n							
E	Cover of bare ground is less than 5%.	n	n	n	n	n							
F	There is an absence of invasive non-native plant species[2] (as listed on Schedule 9 of WCA[3]) and species indicative of suboptimal condition[4] make up less than 5% of ground cover.	y	y	y	y	y							
Additional Criterion - must be assessed for **Fen and Purple moor grass and rush pasture** habitats only:													
G	No more than 25% of the habitat area has a continuous cover of litter (such as dead vegetation) preventing regeneration.												
Additional Criterion - must be assessed for **Bog** habitats only:													

H	Sphagnum moss *Sphagnum* spp. and cottongrasses *Eriophorum* spp. are at least Frequent[5]. Cover of ericaceous dwarf shrubs[6] is less than 75%.												
Additional Criterion - must be assessed for **Reedbed** habitats only:													
I	The reedbed has a diverse structure with between 60% and 80% reeds *Phragmites australis* . Other areas may include open water (at least 10%), species-rich fen[7] and or wet woodland.												
Additional Criterion - must be assessed for **Floodplain wetland mosaic and CFGM** only:													
J	All ditches recorded within the habitat achieve Good condition as assessed using the Ditch condition sheet.												
Essential criterion achieved (required for Good condition) Yes or No:		n	n	n	n	n							
Number of criteria passed		2	2	2	2	1							

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**											
Results for habitats requiring assessment of 6 criteria (Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1)):													
•Passes 5 or 6 core criteria, including criterion A.	Good (3)												
•Passes 3 or 4 core criteria; OR •Passes 5 core criteria but fails criterion A.	Moderate (2)												
•Passes 2 or fewer core criteria.	Poor (1)	x	x	x	x								
Results for habitats requiring assessment of 7 criteria - core criteria and additional criterion specified for habitat type - all habitat types except Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1):													
•Passes 5 or 6 core criteria including criterion A; AND •Passes additional criterion G, H, I or J (choose the one specified for the habitat type).	Good (3)												
•Passes 4 or 5 of 7 criteria; OR •Passes 6 of 7 criteria but fails criterion A or additional criterion G, H, I or J (choose the one specified for the habitat type).	Moderate (2)												
•Passes 3 or fewer criteria.	Poor (1)												

Suggested enhancement interventions to improve condition score

Condition Sheet: COASTAL Habitat Type

UK Habitat Classification (UKHab) Habitat Types
Sparsely vegetated land - Coastal sand dunes **Sparsely vegetated land - Coastal vegetated shingle** **Sparsely vegetated land - Maritime cliff and slopes**

Habitat Description

See UKHab

On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	

		Habitat parcel reference										
		7208	7205	7206	7209	7211	7210	7215	8641	7216	7217	
		Grid reference										
Condition Assessment Criteria												
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its specific habitat type, with characteristic indicator species present in the typical successional stages, transitions and or mosaics, at sufficient cover and frequency to be a good example.[1] **Note - this criterion is essential for achieving Good condition.**	n	n	n	n	n	n	n	y	n	y	
B	Vegetation structure (sward height variation, zonation) is varied and not uniform.	n	n	n	n	n	y	n	y	y	n	
C	Naturally open ground or bare surfaces are present as part of a sequence of colonisation and succession.	n	n	n	n	n	n	n	n	n	n	
D	Coastal processes needed to support the habitat are functional and are not modified by hard engineering or other forms of negative intervention.	n	n	n	n	n	n	n	n	n	n	
E	The landform reflects the interaction of coastal processes and geology, and there is a varied topography present supporting the relevant range of habitat types.	y	y	n	y	n	n	n	y	n	y	
F	There is an absence of invasive non-native species[2] (as listed on Schedule 9 of WCA[3]). Combined cover of species indicative of suboptimal condition[4] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	y	y	y	y	y	y	y	y	y	n	
G	Any scrub (including bramble *Rubus fruticosus* agg.) present accounts for less than 10% of the area within the habitat or bare substrate matrix. Blocks of scrub or woodland, which might be desirable in their own right should be classified and mapped separately.	y	y	y	y	n	y	y	y	n	n	
H	Water quality and quantity (for example, seasonal fluctuations in dune slacks or seepages on cliff slopes) is sufficient to support the range of water-dependent parts of the habitat.	y	y	y	y	n	y	y	y	y	y	
	Essential criterion achieved (Yes or No)	n	n	n	n	n	n	n	y	n	y	

Number of criteria passed		4	4	3	4	1	4	3	6	3	3	
Condition Assessment Result (out of 8 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 7 or 8 criteria including essential criterion A	Good (3)											
Passes 5 or 6 criteria; OR Passes 7 criteria excluding essential criterion A	Moderate (2)								x			
Passes 4 or fewer criteria	Poor (1)	x	x	x	x	x	x	x		x	x	

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 - General coastal species indicative of suboptimal condition: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , bramble, white willow *Salix alba* hybrids, sea buckthorn *Hippophae rhamnoides* (only outside its restricted native range), and non-native garden plants.

Grassland species indicative of suboptimal condition: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* and cow parsley *Anthriscus sylvestris* .

Heathland species indicative of suboptimal condition: bracken *Pteridium aquilinum.*

There may be additional relevant species local to the region and or site.

Condition Sheet: COASTAL Habitat Type

UK Habitat Classification (UKHab) Habitat Types
Sparsely vegetated land - Coastal sand dunes **Sparsely vegetated land - Coastal vegetated shingle** **Sparsely vegetated land - Maritime cliff and slopes**

Habitat Description

See UKHab

On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	

		Habitat parcel reference										
		557	7146	7145								
		Grid reference										
Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	The parcel represents a good example of its specific habitat type, with characteristic indicator species present in the typical successional stages, transitions and or mosaics, at sufficient cover and frequency to be a good example.[1] **Note - this criterion is essential for achieving Good condition.**	n	n	n								
B	Vegetation structure (sward height variation, zonation) is varied and not uniform.	n	n	n								
C	Naturally open ground or bare surfaces are present as part of a sequence of colonisation and succession.	n	n	n								
D	Coastal processes needed to support the habitat are functional and are not modified by hard engineering or other forms of negative intervention.	n	n	n								
E	The landform reflects the interaction of coastal processes and geology, and there is a varied topography present supporting the relevant range of habitat types.	n	y	y								
F	There is an absence of invasive non-native species[2] (as listed on Schedule 9 of WCA[3]). Combined cover of species indicative of suboptimal condition[4] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	y	y	y								
G	Any scrub (including bramble *Rubus fruticosus* agg.) present accounts for less than 10% of the area within the habitat or bare substrate matrix. Blocks of scrub or woodland, which might be desirable in their own right should be classified and mapped separately.	n	y	y								
H	Water quality and quantity (for example, seasonal fluctuations in dune slacks or seepages on cliff slopes) is sufficient to support the range of water-dependent parts of the habitat.	y	y	y								
Essential criterion achieved (Yes or No)		n	n	n								

Number of criteria passed		2	4	4								
Condition Assessment Result (out of 8 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 7 or 8 criteria including essential criterion A	Good (3)											
Passes 5 or 6 criteria; OR Passes 7 criteria excluding essential criterion A	Moderate (2)											
Passes 4 or fewer criteria	Poor (1)	x	x	x								

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 - General coastal species indicative of suboptimal condition: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , bramble, white willow *Salix alba* hybrids, sea buckthorn *Hippophae rhamnoides* (only outside its restricted native range), and non-native garden plants.

Grassland species indicative of suboptimal condition: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* and cow parsley *Anthriscus sylvestris* .

Heathland species indicative of suboptimal condition: bracken *Pteridium aquilinum.*

There may be additional relevant species local to the region and or site.

Condition Sheet: SCRUB Habitat Type

Habitat Types

Heathland and shrub - Blackthorn scrub
Heathland and shrub - Gorse scrub
Heathland and shrub - Hawthorn scrub
Heathland and shrub - Hazel scrub
Heathland and shrub - Mixed scrub
Heathland and shrub - Dunes with sea buckthorn (H2160)
Heathland and shrub - Willow scrub

Habitat Description

For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)
For other scrub types see:	ukhab – UK Habitat Classification

On-site or off-site, site name and location		**Survey date and Surveyor name**	
		Survey reference (if relating to a wider survey)	
Limitations (if applicable)		**Habitat parcel reference**	7207, 7212, 7213
		Grid reference	

	Condition Assessment Criteria	**Criterion passed (Yes or No)**			**Notes (such as justification)**
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana* , common juniper *Juniperus communis* , sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens* , which can be up to 100% cover).	Y	Y	Y	
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	N	N	
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	N	Y	Y	
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Y	N	Y	
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	N	N	
	Number of criteria passed	2	2	3	

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	x
Passes 2 or fewer criteria	Poor (1)	x

Suggested enhancement interventions to improve condition score

PART II

PLANTS

Common name	***Scientific name***
[F18Alexanders, Perfoliate]	[F18Smyrnium perfoliatum]
[F18Algae, Red]	[F18Grateloupia luxurians]
[F18Archangel, Variegated Yellow]	[F18Lamiastrum galeobdolon subsp. argentatum]
[F18Azalea, Yellow]	[F18Rhododendron luteum]
[F19[F18Balsam, Himalayan]]	[F19[F18Impatiens glandulifera]]
[F18Cotoneaster]	[F18Cotoneaster horizontalis]
[F18Cotoneaster, Entire-leaved]	[F18Cotoneaster integrifolius]
[F18Cotoneaster, Himalayan]	[F18Cotoneaster simonsii]
[F18Cotoneaster, Hollyberry]	[F18Cotoneaster bullatus]
[F18Cotoneaster, Small-leaved]	[F18Cotoneaster microphyllus]
[F18Creeper, False Virginia]	[F18Parthenocissus inserta]
[F18Creeper, Virginia]	[F18Parthenocissus quinquefolia]
[F18Dewplant, Purple]	[F18Disphyma crassifolium]
[F19[F18Fanwort]]	*[F19[F18Cabomba caroliniana]]*
[F18Fern, Water]	*[F18Azolla filiculoides]*
[F18Fig, Hottentot]	*[F18Carpobrotus edulis]*
[F18Garlic, Three-cornered]	[F18Allium triquetrum]
[F19Hogweed, Giant]	[F19Heracleum mantegazzianum]
[F19[F18Hyacinth, water]]	*[F19[F18Eichhornia crassipes]]*
[F20Kelp, Giant]	[F20Macrocystis angustifolia]
[F20Kelp, Giant]	[F20Macrocystis integrifolia]
[F20Kelp, Giant]	[F20Macrocystis laevis]
Kelp, Giant	Macrocystis pyrifera

***Changes to legislation:** Wildlife and Countryside Act 1981, SCHEDULE 9 is up to date with all changes known to be in force on or before 06 May 2026. There are changes that may be brought into force at a future date. Changes that have been made appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes*

[F20Kelp, Japanese**]**	**[**F20Laminaria japonica**]**
[F18Knotweed, Giant**]**	**[**F18Fallopia sachalinensis**]**
[F18Knotweed, Hybrid**]**	**[**F18Fallopia japonica x Fallopia sachalinensis
[F18Knotweed, Japanese**]**	**[**F18Fallopia japonica**]**
[F21Knotweed, Japanese**]**	**[**F21Polygonum cuspidatum**]**
[F18Leek, Few-flowered**]**	***[**F18 Allium paradoxum**]***
[F18Lettuce, water**]**	***[**F18 Pistia stratiotes**]***
[F18Montbretia**]**	**[**F18Crocosmia x crocosmiiflora**]**
[F19**[**F18Parrot's-feather**]]**	***[**F19**[**F18 Myriophyllum aquaticum**]]***
[F19**[**F18Pennywort, Floating**]]**	***[**F19**[**F18 Hydrocotyle ranunculoides**]]***
[F18Potato, Duck**]**	**[**F18Sagittaria latifolia**]**
[F19**[**F18Primrose, Floating Water**]]**	**[**F19**[**F18Ludwigia peploides**]]**
[F19**[**F18Primrose, Water**]]**	**[**F19**[**F18Ludwigia grandiflora**]]**
[F18Primrose, Water**]**	**[**F18Ludwigia uruguayensis**]**
[F18Rhododendron**]**	**[**F18Rhododendron ponticum**]**
[F18Rhododendron**]**	**[**F18Rhododendron ponticum x Rhododendron maximum**]**
[F19**[**F18Rhubarb, Giant**]]**	**[**F19**[**F18Gunnera tinctoria**]]**
[F18Rose, Japanese**]**	**[**F18Rosa rugosa**]**
F22	**F22**
. . .	. . .
[F18Seafingers, Green**]**	**[**F18Codium fragile**]**
[F21Seafingers, Green**]**	**[**F21Codium fragile tomentosoides**]**
[F20Seaweed, Californian Red**]**	**[**F20Pikea californica**]**
[F20Seaweed, Hooked Asparagus**]**	**[**F20Asparagopsis armata**]**
Seaweed, Japanese	Sargassum muticum
[F20Seaweeds, Laver (except native species)**]**	**[**F20Porphyra spp except -**]**
	[F20p. amethystea**]**
	[F20p. leucosticta**]**
	[F20p. linearis**]**
	[F20p. miniata**]**
	[F20p. purpurea**]**
	[F20p. umbilicalis**]**

***Changes to legislation:** Wildlife and Countryside Act 1981, SCHEDULE 9 is up to date with all changes known to be in force on or before 06 May 2026. There are changes that may be brought into force at a future date. Changes that have been made appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes*

[F18Stonecrop, Australian Swamp (otherwise known as New Zealand Pygmyweed)**]**	**[**F18Crassula helmsii**]**
[F20Wakame**]**	**[**F20Undaria pinnatifida**]**
[F19**[**F18Waterweed, Curly**]]**	***[**F19**[**F18*Lagarosiphon major***]]***
[F23**[**F18Waterweeds**]][**F23Waterweeds (except Nuttall's Waterweed)**]**	**[**F23**[**F18All species of the genus Elodea.**]][**F23All species of the genus Elodea, except Elodea nuttallii**]**

Textual Amendments

F18 Entries in Sch. 9 Pt. 2 added (E.W.) (6.4.2010) by The Wildlife and Countryside Act 1981 (Variation of Schedule 9) (England and Wales) Order 2010 (S.I. 2010/609), **art. 2(4)**

F19 Words in Sch. 9 Pt. 2 omitted (E.W.) (1.12.2019) by virtue of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (S.I. 2019/527), art. 1(1), **Sch. 4 para. 1(3)(b)(i)** (with art. 1(2)(4)) (as amended by S.I. 2019/1213, regs. 1, **2(2)**)

F20 Words in Sch. 9 Pt. 2 added (17.3.1992) by S.I. 1992/320, **art. 3**

F21 Entries in Sch. 9 Pt. 2 removed (E.W.) (6.4.2010) by virtue of The Wildlife and Countryside Act 1981 (Variation of Schedule 9) (England and Wales) Order 2010 (S.I. 2010/609), **art. 2(5)**

F22 Words in Sch. 9 Pt. 2 omitted (E.) (4.5.2021) by virtue of The Wildlife and Countryside Act 1981 (Variation of Schedule 9) (England) Order 2021 (S.I. 2021/236), arts. 1(b), **2(3)**; and words in Sch. 9 Pt. 2 omitted (W.) (10.9.2025) by virtue of Legislation (Procedure, Publication and Repeals) (Wales) Act 2025 (asc 3), s. 9(2)(d), **Sch. 1 para. 53(b)**

F23 Words in Sch. 9 Pt. 2 substituted (E.W.) (1.12.2019) by The Invasive Alien Species (Enforcement and Permitting) Order 2019 (S.I. 2019/527), art. 1(1), **Sch. 4 para. 1(3)(b)(ii)** (with art. 1(2)(4)) (as amended by S.I. 2019/1213, regs. 1, **2(2)**)

Note. The common name or names given in the first column of this Schedule are included by way of guidance only; in the event of any dispute or proceedings, the common name or names shall not be taken into account.**]]**

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