

Marine Conservation Zone (MCZ) Stage 1 Assessment

Environment Agency record of assessment (Stage 1, Part 1)

Published: 22/02/2022

Stage 1 assessment: Part 1 - Is there a significant risk of hindering the conservation objectives?

This is a record of the assessment of the risk of the PPP (detailed in section 1) hindering the achievement of the conservation objectives for the MCZ(s). It is to meet our duties under Sections 125-126 of the Marine and Coastal Access Act 2009. If there is, or may be, a significant risk, this record is used to notify Natural England. The Marine Conservation Zones assessed are:

Isles of Scilly: Smith Sound Tide Swept Channel

Revision	Date	Description	By	Review	Approved
P01	February 2023	Draft	HW	JH	
P02	April 2023	Submission to NE			

This record || was / was not || sent to Natural England.

|| For EPR permits only (excluding Flood Risk Activity Permits): An additional component charge for habitats assessment was levied / was not levied / was not applicable for this application ||

1. Permission, plan or project (PPP) details

Type of PPP: Flood and Coastal Erosion Risk Management

Environment Agency reference:

National grid reference: SV877084, SV877086, SV879085

Site/project name or reference: Isles of Scilly Sea Defences – St Agnes, Porth Killier, Periglis Beach and Porth Coose

2. Description of proposal

This assessment relates to the proposed works at three sites Porth Killier, Periglis Beach and Porth Coose on St Agnes as part of the coastal flood protection works across the islands off the Isles of Scilly. The objective of the proposed works on St Agnes is to prevent further coastal erosion and reduce flood risk.

Background:

The Council of the Isles of Scilly (CloS) is proposing to construct coastal flood protection works at nine sites on islands of the Isles of Scilly. The works aim to

sensitively restore the natural strength and adaptive flexibility of the extensive dunes across inhabited islands to improve the value of flood protection (ecosystem) services they provide. Three of these sites are located on St Agnes.

Porth Killier

Coastal erosion and flood risk at Porth Killier presents a risk of inundation and contamination at the Big Pool, along with a risk of undermining the road that runs along the southern extent of Porth Killier and residential and non-residential properties and infrastructure in the vicinity.

The Porth Killier site has been divided into three areas of intervention: the sea wall; the eastern end; and the western end. Overtopping has not occurred at the western end and therefore no works are proposed there.

Proposed works:

The seawall

- Implementation of a rock scour protection at the foundation of the seawall. Wider toe protection of 0.3 to 1.0 tonne rock size with a minimum width of 3m is recommended to protect the wall from undermining and failure, and also to reduce overtopping.
- A 30m section of the eastern side of the wall has been identified as the most damaged and as such, a 3m toe-berm of 0.3 to 1.0 tonne rock armour toe berm is proposed here. In some locations where damage is more severe, local repairs may be required prior to placing the rocks.
- A 35m section on the western side has been identified as the least damaged and as such, the rock toe here will be characterised by 1.9m wide 0.3 to 1.0 tonne rocks and 1.1m of cobbles, which will tie into the existing rock headland.
- Rock material will be sourced locally where possible but will need to be imported if unavailable.

Eastern end

- Construction of a rock structure revetment with 0.3 to 1 tonne material to reduce halt ram erosion. The rock revetment would be placed up to the crest of the underside of the ram/outcrop to reduce the cut back towards the road. In order to minimise the volume of rock required, rock armour will be protected by a cobble toe that will make use of existing materials.
- The presence of the revetment will improve the stability of the halt ram and also act as a reduction to wave overtopping events.

Construction Methodology

- It is anticipated that construction of the proposed scheme at Porth Killier will be undertaken over approximately 41 days between September and October 2023.

- The working area will be demarcated and secured using perimeter security fencing (Heras fencing or similar).
- Materials will either be delivered directly to Porth Killier beach by barge using the landing site on the beach, and moved to the adjacent temporary storage area, or if not feasible, landed at the closest site and transported along the access track.
- It is assumed that after delivery, materials, including rock armour, will be transported using a 20 tonne truck, or alternative smaller vehicle if required due to the width of the track and stored in the temporary storage area. It is anticipated that deliveries will be staggered.
- Construction works at Porth Killier will entail implementation of a rock scour protection at the foundation of the sea wall at the western end, and construction of a rock structure revetment at the eastern end through placement of rock armour and cobbles which will tie into the existing rock headland on the western side.
- It is assumed that a 360° 20 tonne excavator and a 6 tonne dumper truck will be used for the construction works. 0.3 to 1 tonne rocks will be placed at the foundation of the seawall, with a minimum width of 3m. On the eastern side of the seawall which is most damaged, an excavator will move 0.1 to 3 tonne rocks to create a 3m toe-berm at the bottom of a 30m section of the seawall. On the western side of the seawall which is the least damaged, an excavator will move 0.1 to 3 tonne rocks to create a 1.9m toe along a 35m section of the seawall. Cobbles sourced from the beach will also be moved to the western side of the seawall and will tie into the existing rock headland.
- At the eastern end of Porth Killier, an excavator and dumper truck will be used to construct a rock structure revetment with 0.3 to 1 tonne material. Cobbles sourced from the beach will be moved to provide a protective cobble toe to the rock revetment.
- Once complete, the working area will be demobilised and all plant and construction materials will be removed from site.

Periglis Beach

Defences at Periglis provide protection for residential and non-residential properties, infrastructure and Big Pool. As such, there is a need to increase these defences which suffer from frequent erosion.

Proposed Works:

- Protection of Periglis beach through use of geobags, laid on a geomat and wrapped in geotextile, and covered with excavated cobble/sand material along most of the bay. Part of the existing material at the top of the beach (mix of sand and cobbles) will be excavated, from the seaward face, to allow the positioning of geobags in the existing footprint in the core of the dune/bank. The

geobags will be filled with dry sand of density around 1600kg/m³. If sand material is not available, the geobags may be filled with graded local or imported rocks using high performance nets.

- The geobags will be covered/protected by a mix of local sand and cobbles and topped up by locally excavated material where available. As such, the geobags will not be exposed directly to the waves and will not be directly visible. The fill will be protected with a matting to encourage establishment of vegetation and to provide additional erosion protection. The new reshaped seaward slope will follow the natural slope of the existing dune/bank.
- Crest elevations will be raised to approximately +7.5m, and crest widths increased to reach a minimum of 4m to prevent overtopping. In order to achieve this increase in elevation, the existing dune/bank will be topped up and covered using local materials with biodegradable matting to retain the material whilst the grasses and plants establish. The natural plant fibres will provide a system of erosion control of the material positioned over the top of the dune/bank, while local flora gets naturally established. A local source of recharge sediment will be used for the dunes/banks. If no local material is available, filling material will be imported, possibly from local quarries in Cornwall.
- The slipway already has a stop log fitting and stop logs and therefore no further action is required.
- This approach will enhance the dune/ bank stability and will provide a robust and permanent approach in terms of protection from coastal erosion.

Construction Methodology:

- It is anticipated that construction of the proposed scheme at Periglis will be undertaken over approximately 62 days between November 2023 and January 2024.
- The working area will be demarcated and secured using perimeter security fencing (Heras fencing or similar).
- Materials will either be delivered directly to Periglis by barge using the landing site on the Periglis beach, and moved to the adjacent temporary storage area, or if not feasible, landed at the closest site and transported along the access track (using the alternative access route during wet periods).
- It is assumed that after delivery, materials will be transported using a 20 tonne truck, or alternative smaller vehicle if required due to access constraints. It is anticipated that deliveries will be staggered.
- Construction works at Periglis will entail the excavation and movement of existing material at the top of the beach (mix of sand and cobbles) on the seaward face using a 360° 20 tonne excavator. A geotextile will be laid in the excavation with geocontainers filled with dry sand or rocks placed into the core of the dune/bank and covered/protected by a mix of local sand

and cobbles, topped up by excavated material. A geomat will be laid on top of the existing bank, and it will be raised through deposition of excavated materials, or other local recharge, on top of it.

- Once complete, the working area will be demobilised and all plant and construction materials will be removed from site. The footpath running behind the crest will be reinstated.

Porth Coose

Porth Coose provides protection to Big Pool, important freshwater habitat, wells, aquifers and local infrastructure. Defences have historically been severely overtopped and as such enhanced defences are required.

Proposed works:

- Provision of a more robust and wider ridge crest along the entire length of the Porth Coose. The crest elevation would be increased through recharge using local and imported material, with rock bags with the rear filled with site won material to grade to existing levels.
- The bags will be placed on a prepared geotextile surface at the top of the slopes and fill material is to be placed behind to tie in the top of the bags to the ground behind. A geomat will be placed to stabilise this slope and encourage establishment of vegetation.
- The crest elevation will be increased to prevent overtopping and should be at approximately +7.3m.

Construction Methodology:

- It is anticipated that construction of the proposed scheme at Porth Coose will be undertaken over approximately 23 days between October and November 2023.
- The working area will be demarcated and secured using perimeter security fencing (Heras fencing or similar).
- Materials will either be delivered directly to Porth Coose beach by barge using the landing site on the adjacent Periglis beach, and moved to the adjacent temporary storage area, or if not feasible, landed at the closest site and transported along the access track (using the alternative access track during wet periods).
- It is assumed that after delivery, materials will be transported using a 20 tonne truck, or alternative smaller vehicle if required. It is anticipated that deliveries will be staggered.
- Construction works at Porth Coose will entail the increase of crest elevation through recharge using movement of material, with a rock mattress (rock bag) laid directly on the existing crest on top of a geotextile. It is assumed that a 360° 20 tonne excavator will be used to move material.
- Site won material from the excavation will be used to tie into existing ground. It is assumed that any excess material will be moved to the spare sand storage area to the north east.

- Once complete, the working area will be demobilised and all plant and construction materials will be removed from site. The footpath running behind the crest will be reinstated.

3. Map(s) showing PPP location and MCZ(s)



Figure 1 Location of proposed works on St Agnes in relation to Isles of Scilly: Smith Sound Tide Swept Channel MCZ

4. MCZs requiring assessment¹

The small-scale nature of the proposed works means that the zone of influence was, on a precautionary basis, taken to be 1km from the red line boundary shown in 4. The Marine Conservation Zone included within this zone of influence is also presented in 4.

Table 1: Marine Conservation Zones requiring assessment

Marine Conservation Zone	Complete list of designated features
Isles of Scilly: Smith Sound Tide Swept Channel Marine Conservation Zone	<ul style="list-style-type: none">• High Energy Intertidal Rock• Moderate Energy Intertidal Rock• Spiny Lobster <i>Palinurus elephas</i>

5. Conservation objectives

The assessment will consider the risk of significantly hindering the site's conservation objectives.

¹ This is based on screening criteria the Environment Agency consider appropriate to identify possible significant risk

Table 2: Conservation Objectives

Site name: Isles of Scilly: Smith Sound Tide Swept Channel Marine Conservation Zone
Version: 1 Date: 19/03/2021

Conservation objectives for Isles of Scilly: Smith Sound Tide Swept Channel MCZ:

The conservation objective of the zone is that the protected habitats are:

- Maintained in favourable condition if they are already in favourable condition.
- Brought into favourable condition if they are not already in favourable condition.

For each protected habitat favourable condition means that, within a zone:

- Its extent is stable or increasing.
- Its structure and functions, its quality, and the composition of its characteristic biological communities (including diversity and abundance of species forming part or inhabiting the habitat) are sufficient to ensure that its condition remains healthy and does not deteriorate.

Any temporary deterioration in condition is to be disregarded if the habitat is sufficiently healthy and resilient to enable its recovery.

For each species of marine fauna, favourable condition means that a population within a zone is supported in numbers which enable it to thrive, by maintaining:

- The quality and quantity of its habitat
- The number, age and sex ratio of its population

Any alteration to a feature brought about entirely by natural processes is to be disregarded when determining whether a protected feature is in favourable condition.

6. Risks (pressures) relevant to the type of PPP being assessed

These are the reasonably foreseeable risks for this type of PPP, assessed using the Supplementary Advice on Conservation Objectives for Isles of Scilly: Smith Sound Tide Swept Channel MCZ (Natural England, 2021b). Possible risks that might occur during the proposed works at St Agnes that could impact on the habitats in the Isles of Scilly: Smith Sound Tide Swept Channel MCZ are detailed in **Error! Reference source not found.** Where possible, these risks have been summarised broadly, rather than considered separately for different habitats.

Given the small scale of the works, its temporary nature and the relatively short proposed construction time, some of these risks listed within the Supplementary Advice on Conservation Objectives are not relevant to the proposed works being assessed; these are:

- Loss of key structural and influential species
- Changes to presence and spatial distribution of biological communities
- Changes to extent and distribution
- Changes to sediment total organic carbon content
- Changes in species composition of competent communities
- Changes in energy/exposure
- Changes in topography
- Changes in physico-chemical properties
- Reduction in water quality through decrease in dissolved oxygen
- Reduction in water quality through increased nutrient levels
- Changes to hydrodynamic regime

Risks that are not considered to be foreseeable outcomes of the proposed works at Lower Town Beach are not included in Table 3 and are not considered further.

Table 3: Threats to Isles of Scilly: Smith Sound Tide Swept Channel MCZ

Threat Type	Relevant Feature
Introduction and spread of non-native species and pathogens	All features
Changes to sediment composition and distribution	All features
Decrease in water quality through increase in levels of contaminants	All features
Decrease in water quality through increase in levels of turbidity	All features

7. MCZ assessment table

This section is a record of the screening for each risk (pressure) and the qualifying features that could be sensitive to that risk. The features may be grouped if they will be affected in the same way and the screening is the same for each feature. If appropriate, the assessment may be considered at a site level, rather than feature by feature.

The individual conservation objectives for each feature are not started in this table; rather, it is assumed that for all features the objective to recover and improve on current conditions. It is assumed that if the PPP would not hinder feature improvement, it would not hinder any conservation objective for maintenance of current condition either.

Table 4: MCZ assessment table

Threat	Protected feature(s) that could be impacted	Capable of affecting either the protected species of the MCZ, or any ecological or geomorphological process on which the conservation of any protected feature of the MCZ is dependent?	Will there be any in-combination with other plans or projects on the feature?	Can impacts be mitigated for in the proposed method statement?	Will the conservation objective for the feature(s) be hindered?
Introduction and spread of non-native species and pathogens	All features	<p>Yes - There is potential for the proposed works to impact designated features through the introduction and spread of non-native species and pathogens.</p> <p>Hottentot Fig is locally abundant adjacent to the works area, although none was recorded within the site boundary and therefore an invasive species management plan will be put in place to ensure that the proposed works do not cause further spread of Hottentot Fig across the site.</p> <p>Brown rats pose a threat to nesting birds within the Isles of Scilly, Materials will be delivered by barge which could potentially provide a pathway</p>	No	Yes - To ensure that no non-native species or pathogens are spread to the proposed site as a result of plant movement or contaminated PPE, strict biosecurity measures will be implemented, ensuring that equipment is clean and free of any specimens of both native and invasive non-native species before, during, and upon completion of site work. This will be done by following Check-Clean-Dry procedures and ensuring adequate biosecurity measures are available for day-to-	No

Threat	Protected feature(s) that could be impacted	Capable of affecting either the protected species of the MCZ, or any ecological or geomorphological process on which the conservation of any protected feature of the MCZ is dependent?	Will there be any in-combination with other plans or projects on the feature?	Can impacts be mitigated for in the proposed method statement?	Will the conservation objective for the feature(s) be hindered?
		<p>for rats to be brought on to the island which has been rodent-free following the Isles of Scilly Seabird Recovery Project. are all contained in rodent proof containers.</p> <p>It is considered unlikely that these species would have an impact upon the features of this MCZ, however, mitigation to avoid their spread has been included in the CEMP (ES Volume II) and summarised here.</p>		<p>day site work. A toolbox talk will be given to all site staff regarding the importance of biosecurity on site.</p> <p>Biosecurity measures will be put in place to ensure the proposed works do not facilitate the spread of Brown rats across the site. Measures include the use of rope guards on the vessel transporting construction material and ensuring food and waste onboard are all contained in rodent proof containers. All local biosecurity measures to ensure that the works do not facilitate the spread of Brown Rats will be adhered to and documented in a biosecurity risk assessment.</p> <p>Following the procedures stated above, it is considered that there will be no significant effects on designated features as a result of non-native species or pathogens in the MCZ.</p>	
Changes to sediment	All features	Yes – As part of the proposed works a vessel will be used to transport construction materials	No	Yes - Any disturbance to sediment via the barge landing will be	No

Threat	Protected feature(s) that could be impacted	Capable of affecting either the protected species of the MCZ, or any ecological or geomorphological process on which the conservation of any protected feature of the MCZ is dependent?	Will there be any in-combination with other plans or projects on the feature?	Can impacts be mitigated for in the proposed method statement?	Will the conservation objective for the feature(s) be hindered?
composition and distribution		to site, this is likely to be in the form of a barge. There is potential that the landing of the barge on site will impact designated features through disturbing or compaction of sediment. Any disturbance to sediment via the barge landing will be temporary and localised. There is also potential that the landing of the barge and the tracking of vehicles across the site may result in a small amount of sediment movement and compaction.		temporary and localised. To minimise disturbance and habitat degradation plant will keep to agreed haul routes and not stray outside of these areas. It is considered that in this case the haul routes will rapidly recover following the completion of the works. Following the procedures stated above, it is considered that there will be no significant effects on sediment composition and distribution in the MCZ.	

Threat	Protected feature(s) that could be impacted	Capable of affecting either the protected species of the MCZ, or any ecological or geomorphological process on which the conservation of any protected feature of the MCZ is dependent?	Will there be any in-combination with other plans or projects on the feature?	Can impacts be mitigated for in the proposed method statement?	Will the conservation objective for the feature(s) be hindered?
Decrease in water quality through increase in levels of contaminants	All features	Yes – There is the potential to negatively impact designated features through pollution incidents. Appropriate mitigation measures will therefore be implemented through the construction phase to ensure that water quality is not adversely affected through pollution incidents and the release of contaminants from site.	No	Yes - Best guidance pollution prevention will be followed to minimise the risk of any such event, including a secure store for chemicals and vehicles off the beach, use of drip-trays for refuelling, and the carrying of spill-kits while carrying out works. No refuelling of machinery will occur within 7m of any waterbody. A toolbox talk will be given to all site staff for pollution prevention and incident response. All site staff will undertake emergency drills for incident response.	No
Decrease in water quality through increase in levels of turbidity	All features	Yes – As part of the proposed works a vessel will be used to transport construction materials to site, this is likely to be in the form of a barge. There is potential that the landing of the barge on site will impact designated features through disturbing sediment and therefore increasing turbidity levels, affecting water quality.	No	Yes - Any increases in turbidity via the barge landing will be temporary and localised and it is therefore considered that there will be no significant effects on sediment composition and turbidity in the MCZ.	No

8. Information / Advice (if applicable)

This section summarises the information and/or advice requested/received during the assessment.

Environment Agency internal advice and consultation (if applicable)

No advice was requested.

Natural England information / advice (if applicable)

No advice was requested.

Third party information / advice (if applicable)

No advice was requested.

9. References

GOV.UK (2019a) *Isles of Scilly MCZ: factsheet*. Available Online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/926991/mcz-isles-of-scilly-2019.pdf [Accessed: 28/02/2023]

GOV.UK (2019b) *Isles of Scilly MCZ: Feature Maps*. Available Online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/926990/isles-scilly-mcz-feature-maps.pdf [Accessed: 28/02/2023]

Natural England (2021a) *Natural England Conservation Advice for Marine Protected Areas - Isles of Scilly: Smith Sound Tide Swept Channel MCZ*. Available Online: [Marine site detail \(naturalengland.org.uk\)](https://www.naturalengland.org.uk/marine/marine-site-detail) [Accessed: 28/02/2023]

Natural England (2021b) *Isles of Scilly: Smith Sound Tide Swept Channel MCZ – Supplementary Advice on Conservation Objectives*. Available online: [Designated Sites View \(naturalengland.org.uk\)](https://www.naturalengland.org.uk/sites-view) [Accessed: 28/02/2023]

10. Decision

The Environment Agency concludes that there is || no significant risk / a significant risk and intends to refuse the application or not proceed with the activity / need for further assessment. ||

Name of Environment Agency officer:

Job title:

Date: || Select date ||

Marine Conservation Zone (MCZ) Stage 1 Assessment

Environment Agency record of assessment (Stage 1, Part 2)

Stage 1 assessment: Part 2 - Are there other means of proceeding that would create a substantially lower risk?

This is a record of the assessment of whether there are other means of proceeding that would create a substantially lower risk. It is to meet our duties under Sections 125-126 of the Marine and Coastal Access Act 2009. This record starts at Section 11 because it follows on from Stage 1, Part 1 which covers the assessment of whether there is a risk of hindering the achievement of the conservation objectives for the MCZ.

11. Assessment

There are no other means of proceeding with a substantially lower risk to the MCZ or its conservation objectives.

12. Decision

The Environment Agency || are satisfied that there is no other means of proceeding with the PPP / concludes that there are other means of proceeding with the PPP. ||

Name of Environment Agency officer:

Job title:

Date: || Select date ||

Marine Conservation Zone (MCZ) Stage 1 Assessment

Environment Agency record of assessment (Consultation)

13. Consultation

Date sent to Natural England: || Select date ||

Date response received from Natural England: || Select date ||

Do Natural England have concerns about the assessment? || Yes / No ||

Do Natural England have concerns about the decision? || Yes / No ||

Natural England advice

Write here...

Name of Natural England officer:

Job title:

Date: || Select date ||