

Mumbles Coastal Protection Project

Wintering Bird Survey

Draft

June 2021

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A large, abstract geometric pattern on the right side of the page, composed of overlapping triangles and quadrilaterals filled with diagonal lines in shades of blue and green.

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Contract

This report describes work commissioned by Lee Selway, on behalf of Amey Consulting. Jonathan Harrison of JBA Consulting carried out this work

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Purpose

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Abbreviations

BTO	British Trust for Ornithology
CBC	Common Bird Census
EC	European Commission
EU	European Union
NRW	Natural Resource Wales
OBC	Outline Business Case
PAR	Project Appraisal Report
PPW	Planning Policy Wales
SAC	Special Areas of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TAN	Technical Advice Note
WeBS	Wetland Bird Survey

1 Introduction

1.1 Project background

JBA Consulting was commissioned by Amey Consulting to carry out an additional wintering bird survey as requested by Natural Resources Wales (NRW) to inform the development of the Mumbles Coastal Protection project. This project forms part of the Welsh Governments Coastal Risk Management Programme. The project involves works to improve the standard of protection of the existing Mumbles seawall to reduce the threat of coastal flooding and erosion risk. There is also the potential for the scheme to provide improvements to the existing promenade and surrounding amenity areas.

A desk study provided records for a number of wintering and migratory bird species associated with the intertidal areas, including all species that are part of the designation of the adjacent Blackpill, Swansea Site of Special Scientific Interest (SSSI). As such, the wintering bird species listed as features of the SSSI are regarded as of national value.

This survey was commissioned to update surveys carried out by Arup at the Project Appraisal Report (PAR) stage. The previous surveys focus on high tide roosts of wintering birds that were absent from the previous survey.

1.2 Location

Mumbles Bay is located near Swansea in South Wales (Figure 1-1). The project extends from Knab Rock slipway in the southeast (approx. grid reference SS 62394 87729) to beyond the Dairy Car Park in the northwest (approx. grid reference SS 61579 88472) with part within Blackpill Site of Special Scientific Interest (SSSI). The existing primary defence comprises a sloped concrete revetment in the southeast for a length of approximately 500m and a vertical sea wall in the northwest for a length of approximately 700m. Secondary defences are also present along the frontage, generally in the form of a set-back masonry wall, although to the northwest a grassed embankment behind the promenade acts as the secondary defence.



Figure 1-1: Extent of Mumbles Coastal Defence Scheme.

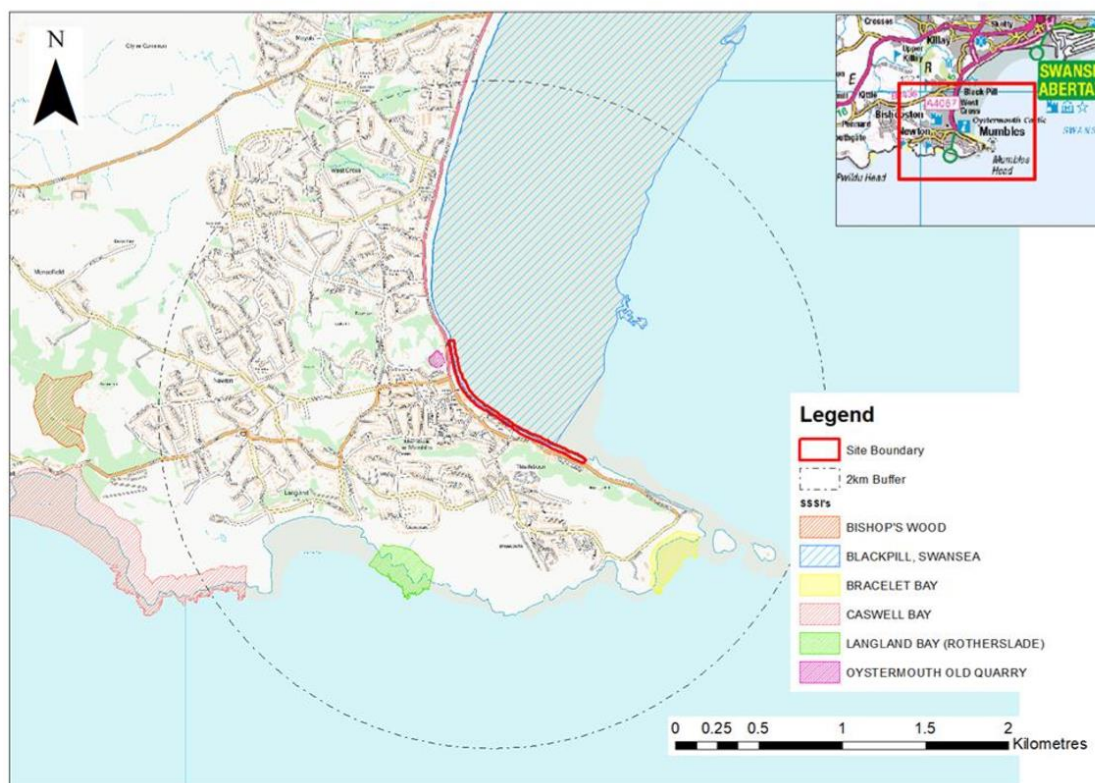


Figure 1-2: Location of SSSI's in relation to Mumbles Coastal Defence Scheme.

1.3 Proposed Works

The Outline Business Case (OBC) concluded that the preferred solution to manage the risk and achieve the scheme objectives would be to:

- Widen the promenade to approximately 6m by replacing the 80m length of existing sea wall;
- Repoint and patch repairs to the remaining 500m length of sea wall;
- Encase the existing concrete revetment with a new rock armour revetment;
- Construct a new parapet wall along the full length of both defences with a raised crest level;
- Raise land locally to maintain visibility along the length of the promenade; and
- Place rock armour at the toe of all defences to reduce the risk of erosion of the foreshore.

1.4 Arup Winter Bird Survey 2020 Summary

Arup undertook winter bird surveys once a month from January to March 2020. The survey involved the monitoring of target species on the foreshore through the tidal cycle.

January had the highest number of birds recorded with their numbers waning through to March.

Only six target species that form part of the SSSI designation were recorded over the survey period and all of which are considered to be either Red or Amber listed (Table 1-1).

Table 1-1: Arup Wintering Bird Survey 2020 peak Target Species bird count

Species	January Count	February Count	March Count
Oystercatcher	171	50	20
Curlew	4	4	2
Bar-tailed godwit	-	-	2
Turnstone	45	20	14
Dunlin	540	213	-
Redshank	7	4	2

During high tide, no birds were present apart from at Mumbles pier and no high-tide roosts were found within the proposed works area. At mid tide, more waders were present at Mumbles pier and also to the north-west of the proposed works. There were less birds during low tide compared to mid tide with the majority on the tide line, approximately 300m from the proposed works.

At every visit, there was high disturbance on the foreshore from human activity, such as from the leisure or fishing on the promenade, that would regularly result in the disturbance of waders on the foreshore.

2 Legislation

2.1 Planning Policy Wales (11th Edition, February 2021)

Planning Policy Wales (PPW) sets out the broad principles for the operation of the planning system in Wales. The document contains general commitments to sustainable development and improving the social, economic, environmental, and cultural well-being of Wales. It is supplemented by a series of Technical Advice Notes (TAN) and Circulars. Together these documents comprise national planning policy in Wales, which should be taken into account by local planning authorities in the preparation of development plans and assessment of planning applications.

2.2 The Wildlife and Countryside Act 1981 (as amended)

The EC Birds Directive is transposed into UK legislation under the Wildlife and Countryside Act 1981 (as amended). All birds, their nests and eggs are protected under and, essentially, it is therefore an offence to intentionally or recklessly:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while it is in use or being built;
- take or destroy the egg of any wild bird, or
- disturb any wild bird listed on Schedule 1 of the Wildlife and Countryside Act while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.
- cause adverse impacts to the integrity of European designated sites (including Ramsar sites), and / or qualifying features of these sites (SPA and Special Areas of Conservation (SAC), known as Natura 2000 sites).

3 Methodology

The JBA surveys mirrored the previous report to allow comparison and continuation of the results. Monthly vantage point surveys were carried out from October 2020 to April 2021. The surveys involved two surveyors equipped with binoculars/a telescope and located at key vantage points along the coast to monitor all target bird species using the proposed development area and making a note of species, behaviour, location and abundance. In order to view obscured areas the promenade were walked by a single surveyor whilst the 2nd surveyor surveyed the foreshore. By taking this approach, and in combination with the data already collected, we will be able to fully assess the potential disturbance to migratory and wintering birds in the proposed works area. The surveys covered high tide each month as well as a mid or low tide surveys.

This approach is in-line with the BTO Common Bird Census (CBC) and Wetland Bird Survey (WeBS) techniques and the 'look-see' methodology (Marchant 1983 & Bibby et al., 2000) where a surveyor familiar with the species of interest records all birds present (including peak counts per area) within a set boundary.

Table 3-1 shows the dates, tidal state and the prevailing weather conditions there the surveys were carried out in.

Table 3-1: Survey dates and conditions

Survey date	Tidal State	Weather Conditions
2 nd October 2020	Mid to High	15°C, 1/5 rain, Vis >1km Cloudy blustery with light rain
5 th November 2020	Low to Mid	14°C, 4/5 rain, Vis 1km Cloudy,
25 th November 2020	High to Mid	16°C, 0/5 rain, Vis >1km Sunny, warm,
4 th December 2020	High	6°C, 0/5 rain, Vis >1km Cloudy and cold
17 th December 2020	Mid to Low	4°C, 0/5 rain, Vis >1km cold with slight breeze
8 th January 2021	Mid to High	11°C, 0/5 rain, Vis >1km Cloudy
22 nd January 2021	Low to Mid	5°C, 1/5 rain, Vis >1km Cloudy with moderate breeze
4 th February 2021	High	7°C, 1/5 rain, Vis >1km Cloudy
16 th February 2021	Low to Mid	7°C, 0/5 rain, Vis >1km Cloudy
9 th March 2021	High	9°C, 3/5 rain, Vis >1km Cloudy
22 nd March 2021	Mid to Low	11°C, , 1/5 rain, Vis >1km Strong wind, heavy shower
16 th April 2021	High	13°C, 1/5 rain, Vis >1km Cloudy

4 Results

4.1 Site Summary

The foreshore in front of the proposed scheme is intertidal up to the sea wall. The intertidal area directly in front of the proposed works area consists of a mix of sediments with a range of boulders, cobbles, and pebbles on the surface.

The upper part of this littoral zone comprises a shingle bank, consisting of medium to coarse shingle of small rocks, pebbles, and gravel. The beach material is likely to be unstable, and the coarse nature of the material results in higher rates of drying during low tide. It is therefore unlikely that large numbers of macrofauna are found in this environment and it provides little habitat for foraging bird species. The surveys found this to be the case with no wading bird species recorded within 50m of the existing sea wall.

Further out into the bay the mixed sediments range from muds, with gravel and sand components, to pebbles, cobbles, and boulders. Mixed sediments that are generally muddy tend to support infaunal communities similar to that of mud/sandy mud shores and have the potential to provide a food source for a range of bird species. The surveys found that these areas were the most frequented by wading bird species and these areas were utilised between mid and low tide.

4.2 Survey Results

The full survey peak counts can be found in table 4-1, this identifies where and when peak counts have been recorded. Findings were largely in line with the previous survey recording low use of the intertidal areas in front of the scheme area by a range of waders and wildfowl. A total of six target bird species were recorded: Oystercatcher *Haematopus ostralegus*, Curlew *Numenius arquata*, Bar-tailed Godwit *Limosa lapponica*, Turnstone *Arenaria interpres*, Dunlin *Calidris alpina* and Redshank *Tringa totanus*.

High tide roosts were not identified within or adjacent to the proposed scheme and for the most part all birds had left the foreshore in front of the scheme area 2 hours either side of high tide.

For the most part relatively low numbers of birds were recorded utilising the extensive mudflats. Peak counts were recorded in December, January and February with Oystercatcher the only species recorded in relatively high numbers with a peak count of 65 and counts of over 20 recorded at every visit. In line with the previous report these were only recorded foraging at mid or low tide.

Bar-tailed Godwits were recorded during the migratory period, however, these were in low numbers (peak count of 9) and recorded approximately 500m from the proposed scheme around the mean low water mark .

Table 4-1: Peak bird counts and behaviours

Species	Peak Counts	Number of times recorded	Behaviour
Bar-tailed godwit	12 (October)	3	Foraging in the intertidal zone at low tide. Approx. 80m from the sea wall.
Cormorant	6 (January)	8	Loafing on spits of mud revealed at low tide. Also recorded on the pier
Curlew	7 (January)	5	Foraging in the intertidal zone at mid tide. Closest record approx. 50m from the sea wall
Dunlin	36 (December)	4	Small flock foraging in the intertidal zone at low tide. Approx. 80m from the sea wall.
Grey Heron	3 (January)	5	Foraging to the west at the waters edge at low tide
Knot	28 (December)	1	Small flock recorded once foraging at low tide.
Little Egret	4 (February)	6	Foraging to the west at the water's edge at low tide
Oystercatcher	68 (December)	12	Recorded foraging in the intertidal zone at every visit. However, usually moved east as high tide reached the sea wall. Closest bird was recorded approx.. 30m from the sea wall.
Redshank	5 (January)	6	Foraging in intertidal zone at low tide
Ringed Plover	14 (December)	5	Foraging at waters edge at mid and low tide
Shelduck	12 (December)	8	Foraging in intertidal and in open water.

5 Conclusions

This report agrees with the conclusions of the previous surveys that the risk of disturbance to wintering bird species including those identified as features of interest in the adjacent SSSI is low. Birds were not recorded in high densities, and were recorded between 200m and 600m away from the proposed scheme towards the tide line at mid and low tide.

Given that the use of the beach by large numbers of people walking dogs or undertaking other leisure activities caused large amounts of disturbance on the beach. In these events birds would be flushed from areas used for foraging or loafing but would generally fly less than 50m before resettling. When flushed continually along a beach, birds would return to their original areas after 150-200m. Given that the birds present are already habituated to large amounts of disturbance, it is not considered that disturbance due to the works will result in a significant impact upon wintering birds. Birds were not recorded in high densities at the upper intertidal area, and given that the works will likely be carried out at low tide, it is considered that birds will not be significantly disturbed by the proposed works. It should be noted that there is ample alternative foraging and loafing habitat available nearby, however, surveys of this area were not undertaken given the likely minimal impact of the proposed works.

Given the current use of the upper tidal zone and the likelihood that works will not take place during high tide it is not considered that a seasonal or tidal constraint will be required to mitigate impacts to wintering birds.

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