Attachment 5 - Preliminary visual appraisal

Star of the South Offshore Wind Farm EES referral

Star of the South

Preliminary Seascape Visual Impact Appraisal

Prepared by Hansen Partnership - April 2020

CONTENTS

Version	Title	Date	Issuer	Notes / changes
P	Preliminary SLVIA Report	30/03/2020	SS	Final draft for AECOM/SOTS review
A	Preliminary Seascape Visual Impact Appraisal	31/03/2020	SS	-
B	Preliminary Seascape Visual Impact Appraisal	01/04/2020	SS	Minor text edits

FIGURES

ABBREVIATIONS

Abbreviation	Term
EES	Environment Effects Statement
LCA	Landscape Character Area
LVIA	Landscape and Visual Impact Assessment
OWF	Offshore Wind farm
SLVIA	Seascape Visual Impact Assessment or Seascape and Visual Impact Appraisal.
TLVE	Theoretical Limit of Viewshed Extent
VLPWA	Visual Landscape and Planning in Western Australia
WTGs	Wind Turbine Generators
ZTV	Zone of Theoretical Visibility

GLOSSARY

Term	Definition
Actual visual sensitivity	The actual visibility of a proposed development from a particular view point. It is determined during the visual impact assessment phase and considers all existing features of the landscape - rather than a theoretical based viewshed.
Baseline Assessment	The assessment of existing landscape conditions and statutory designations relevant to the area of landscape within the site study area.
Baseline studies	Work done to determine and describe the environmental conditions against which any future changes can be measured or predicted and assessed.
Development	Any proposal that results in a change to the landscape and/or visual environment
Feature	Particularly prominent or eye-catching elements in the landscape, or a particular element of the project proposal.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environ-mental resource in its own right and on people's views and visual amenity.
Landscape Character	A distinct, recognisable and consistent pattern of elements that occur in the landscape that make one landscape different from another, rather than better or worse.
Landscape Character Area	Distinct areas of landscape that are relatively homogenous in character and share a combination of geological, hydrological, topographical, drainage, vegetative, land use and settlement layout features.
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape, and the unique combination of elements and features that make a defined area of land distinctive.
Landscape Significance	The importance of a landscape as designated in statutory documents.

1 INTRODUCTION

Hansen Partnership have been engaged by AECOM Australia Pty. Ltd. (AECOM) to prepare a Preliminary Seascape Visual Impact Appraisal for the proposed Star of the South Project (the Project).

This preliminary visual appraisal has been undertaken to assess a component of this Project: an offshore wind farm consisting of up to 400 wind turbines which would be located between seven and 26 kilometres from the Victorian coast and may be visible from some coastal locations under certain conditions.

In preparation of this assessment, the following documents have been reviewed and inform the assessment:

- Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978
- Star of the South Draft EES Referral prepared by AECOM Australia Pty Ltd (Version 6, November 2018)

1.1 PURPOSE OF THIS REPORT

As the Project is located both within Victorian and Commonwealth jurisdictions, it is being referred under the Environment Effects Act 1978 (Vic) ('EE Act') and the Environment Protection and Biodiversity Conservation Act 1999 (Cth) ('EPBC Act'). The purpose of this report is to assess the potential visual impacts associated with the Project for the purposes of informing and supporting these referrals to determine the potential for significant environmental effects. The purpose of this report is to assess whether there would be visual impacts associated with the Project to inform the EES Referal required for the Project.

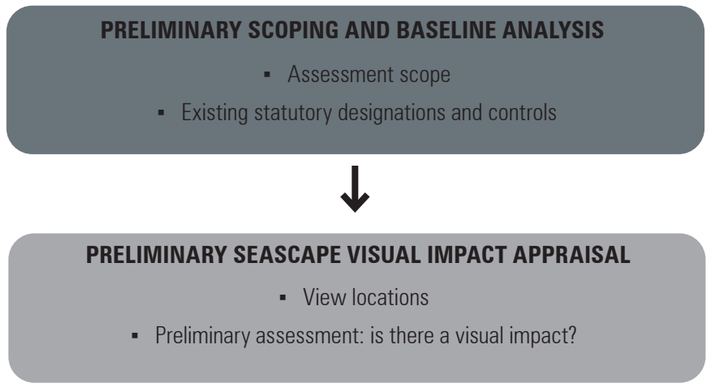
This visual appraisal provides a level of information required for the purposes of an EES referral and to support an EPBC referral. The limitations of this appraisal (considered in the context of a full technical assessment) are outlined in *Section 6.2 Limitations*. A full impact assessment would be prepared for the purposes of an EIA.

As such, this report forms conclusions only on the visibility of the proposed offshore wind farm, noting that any proposed visible object can have a visible impact.

A full impact assessment required for an EIA would provide a comprehensive assessment of landscape value and rather than concluding only on the visibility of the proposed offshore wind farm, would assess the magnitude of visual impact.

1.2 APPROACH

This report documents the approach to the Preliminary Seascape Visual Impact Appraisal undertaken by Hansen Partnership Pty. Ltd. for the purposes of an EES Referral.



The report provides a preliminary outline of existing statutory designations relevant to the assessment, and an assessment of visual impact at two representative locations.

The report subsequently provides assessment of whether there would be a visual impact.

The preliminary appraisal is grounded on best practice methodology to the extent considered appropriate for the purpose of this report. The methodology is outlined in *Section 3 Methodology.*

2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The following project description has been informed by AECOM, and describes the components of the proposed development that are assessed within this preliminary visual appraisal report:

Star of the South (the Project) comprises an offshore wind farm, supporting electricity transmission assets required to transfer energy generated by the wind farm to the existing network, and modifications to existing ports and harbours required to support the construction and operation of the wind farm. The Project would supply renewable electricity to the Australian electricity market and play a key role in supporting Victoria's transition to a clean electricity supply.

The key components of the Project are:

- Offshore wind assets, including wind turbine generators (WTGs), substructures installed on foundations and a network of subsea cables connecting strings of WTGs together and connecting the WTGs to the offshore transmission assets.
- Offshore transmission assets, including substation platforms, substructures installed on foundations and subsea export cables to connect the wind farm to the Gippsland coast
- Onshore transmission infrastructure, including substations, to provide a connection to the National Electricity Market (NEM) in the Latrobe Valley
- Existing port and harbour modifications to support project construction and operations.

The Project would be located within Commonwealth and Victorian jurisdictions. The offshore wind farm, connecting subsea cables and offshore substations would be located in Commonwealth waters, within the boundary of the Exploration Licence Area (the Licence Area) (issued under an Exploration Licence granted by the Commonwealth Government in March 2019) (refer to Fig. 1 in this report).

The subsea export cables would be located in the Licence Area, Commonwealth waters, and Victorian coastal waters. The onshore transmission infrastructure and existing port and harbour modifications are proposed within Victorian jurisdiction. The onshore transmission infrastructure would be located within the Wellington Shire and/or City of Latrobe. The proposed port and harbour modifications are located within the South Gippsland and/or Mornington Peninsula Shires.

2.2 COMPONENTS RELEVANT TO VISUAL IMPACT APPRAISAL

The following project components and their effects are relevant to this preliminary appraisal:

- Up to 400 offshore Wind Turbine Generators (WTGs)

Assumptions regarding the preliminary appraisal of components relevant to visual impact are outlined in *Section 6.3 Assumptions* of this report.

The onshore transmission lines for the Project are proposed to be predominately underground, and therefore visual impacts of the infrastructure would be minimised. Overhead lines would most likely be used to facilitate connection to the preferred connection point. The extent of overhead transmission line will be known when the design is further progressed.

The proposed substations are another potential source of visual impact however, a full assessment of the potential visual impacts of the onshore transmission assets will be undertaken when the design is further progressed.

2.3 PROJECT LOCATION AND REGIONAL CONTEXT

[1]Star of the South (the Project) comprises an offshore wind farm, supporting electricity transmission assets required to transfer energy generated by the wind farm to the existing network, and modifications to ports and harbours required to support the construction and operation of the wind farm.

The proposed offshore wind farm is located between approximately seven and 26 kilometres off the coast of central Gippsland, within Commonwealth waters. In March 2019, the Commonwealth Government granted an Exploration Licence for the conduct of offshore wind energy research and exploration off the coast of Gippsland, Victoria. The proposed boundary of the wind farm is defined by the Exploration Licence Area (the Licence Area) which comprises an area of approximately 500 square kilometres (*refer to Figure 1. Gippsland Regional Context Map).*

The proposed wind farm will transmit electricity, via offshore cables, to shore in the vicinity of Reeves Beach and/or McGaurans Beach. Onshore transmission infrastructure will then transmit electricity from the coast of central Gippsland to the Latrobe Valley through rural areas within the Shire of Wellington and City of Latrobe

1 Aecom, *Star of the South EES Referral Draft 2, Version 6 November 2018*

Star of the South Wind Farm

Gippsland Regional Context Map

Legend

- Ramsar wetland
- Municipal boundary
- Exploration Licence Area
- Major Roads
- Extent of Victorian Waters
- Major towns
- Coastal towns
- 1 Corner Inlet Marine & Coastal Park
- 2 Nooramunga Marine & Coastal Park
- 3 Wilsons Promontory National Park
- 4 Ninety Mile Beach

Project Ref: 2019.520
Scale 1:1,000,000@A3
Date: 28/02/2020
Revision: B

0 20 40
10 30 50km

hansen partnership pty ltd
melbourne| byron bay | vietnam
level 4 136 exhibition st
melbourne vic 3000
t 61 3 9654 8844 **f** 61 3 9654 8088
e info@hansenpartnership.com.au
w hansenpartnership.com.au

hansen

figure 1 *Gippsland Regional Context Map*

3 METHODOLOGY

3.1 OVERVIEW OF METHOD

This report documents the approach to the preliminary Seascape Visual Impact Appraisal undertaken by Hansen Partnership Pty. Ltd. It is a limited assessment based on industry best practice as articulated by key reference documents, including *Visual Landscape and Planning in Western Australia*[1] *and Guidelines for Landscape and Visual Impact Assessment*.[2]

The methodology for preliminary appraisal occurs in the following phases:

Phase 1 - Scope

- Description of the site location and context
- Acquisition of base data, information and briefings to identify main components of the proposal relevant to the assessment

Phase 2 - Preliminary Baseline Assessment

- General review of statutory designations relevant to the assessment
- Determination of representative locations for assessment (limited to two locations)
- Preliminary analysis of physical landscape features for each location
- Preliminary analysis of statutory significance for each location

Phase 3 - Preliminary Visual Impact Appraisal

- Representative viewpoint selection for each location
- Preliminary assessment of anticipated visibility

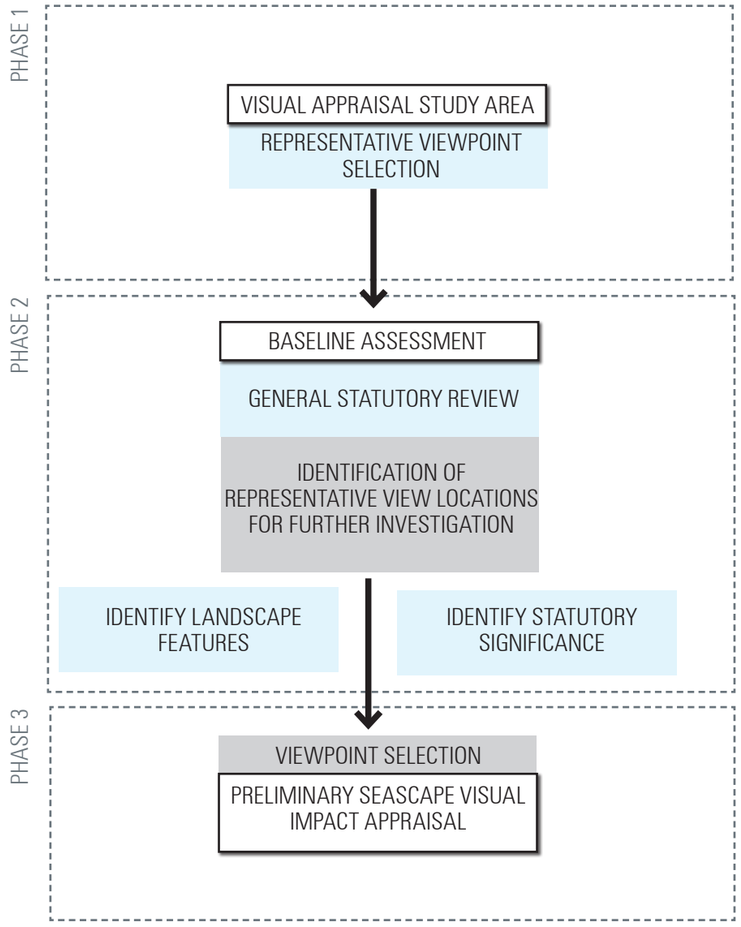


figure 2 *Hansen Partnership Pty. Ltd. Preliminary Visual Appraisal Methodology*

1 Department for Planning and Infrastructure, *Visual Landscape and Planning in Western Australia, a Manual for Evaluation, Assessment, Siting and Design*, November 2007

2 Landscape Institute and Institute of Environmental Management & Assessment, *Guidelines for Visual Impact Assessment*, Third Edition, 2013.

3.2 STUDY AREA (ZONE OF THEORETICAL VISIBILITY)

The Zone of Theoretical Visibility (ZTV) determines the study area of the visual appraisal. It includes land which theoretically, is exposed to effects of the proposed development. The Study Area is determined through the following methods:

- Viewshed Mapping
- The Theoretical Limit of Viewshed Extent (TLVE)

It is important to emphasise that the process undertaken to determine the study area is a 'virtual' exercise. In this regard, it presents what can be described as a 'worst case scenario'. As such, this is not a definitive representation of the visibility (or otherwise) of a proposed development, but rather is used to guide the subsequent identification of view locations.

3.2.1 THEORETICAL LIMIT OF VIEWSHED EXTENT

The boundary extent of the study area is determined by the Theoretical Limit of Viewshed Extent (TLVE). This is a standard measure that determines the distance from a proposed development at which the vertical height of the proposed development occupies a specified percentage of the vertical field of view.

'Human Factors in Design' (Dreyfuss, 1960)[1] provides guidance with respect to the field of view of the human eye, and describes a normal horizontal and vertical field of view as comprising approximately 60 degrees (horizontal) and 20 degrees (vertical).

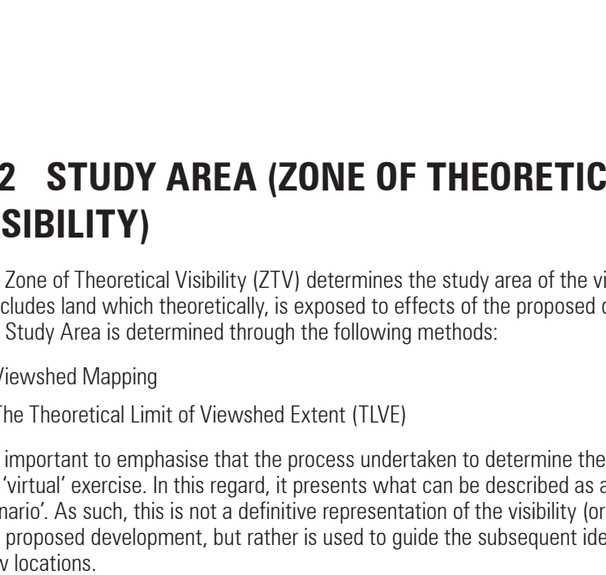


figure 3 *Field of view diagram*

In the absence of intervening topographical features which would otherwise limit the extent of a particular viewshed, it is theoretically possible for a viewshed to have an infinite extent. To address this, in circumstances where topography does not provide a limit to viewshed extent, a limitation can be applied on the basis of the known characteristics of the human eye field of view.

For this visual appraisal, an assumption has been made that any object which occupies less than 5% of the human eye vertical field of view (equivalent to 1 degree) is unlikely to result in an unacceptably-high visual impact, due to the relatively small proportion of the total field of view it would occupy.

A 1-degree vertical angle measured from an origin point to a horizontal distance of 1km yields a height at that distance of 17m above the level of the origin point. Conversely, an object of that height, at a distance of 1km from an origin point (or viewing point) will occupy a vertical field of view not greater than 1 degree (or 5% of the vertical field of view).

This relationship can hence be applied to any structure with a vertical height and can be used to determine an appropriate viewshed extent. For the purposes of this preliminary visual appraisal, the TLVE has been calculated for the proposed offshore Wind Turbine Generators: based on turbine heights at 190m above sea level, a maximum TLVE would be 11km.

On the basis that there would be up to 400 WTG units within seascape views, the boundary extents of the study area have been extended further than typically considered acceptable, to 35km, in the interest of demonstrating the visual presence of the proposed WTGs from locations with significant statutory designations (i.e. Wilsons Promontory National Park).

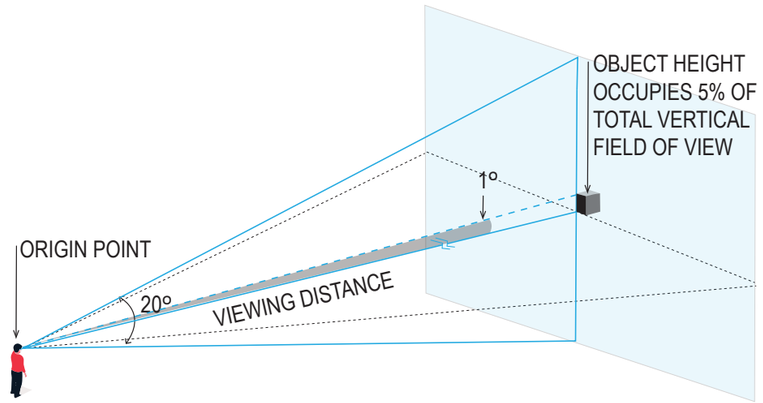


figure 4 *Theoretical limit of viewshed extent diagram*

3.3 VIEWPOINT SELECTION

For the purpose of a preliminary visual appraisal, two view locations were selected for consideration in the preliminary report on the basis that they:

- comprise of public vantage points in locations where higher concentrations of people are anticipated by virtue of their proximity to existing recreational, commercial and civic facilities; and/or
- contain public vantage points in locations with significant statutory landscape designation.

These two locations are detailed in *Section 6.4 Assessment of visual impact from representative view locations* of this report.

Community consultation would be sought at a future stage in order to identify additional view locations for a full visual impact assessment..

1 'Human Factors in Design', Dreyfuss 1960

4 GENERAL STATUTORY REVIEW

4.1 OVERVIEW

The visual appraisal study area hosts a number of places recognised for their visual and recreational values at the Commonwealth, State and local level, including Wilsons Promontory, Nooramunga Marine Park and Environs and Ninety Mile Beach Coast.

This preliminary planning policy, controls and guidelines review is limited to the two representative view locations identified for preliminary appraisal within this report: Woodside Beach, and Sealers Cove located within the Wellington Shire Municipality, and South Gippsland Shire, respectively.

The following general statutory review considers the statutory landscape significance of the above locations within the context of the planning frameworks for both municipalities, including: legislation, state provisions, local planning policies, and overlays.

Following this general review, further analysis of the baseline conditions for each view location is located in *Section 5* of this report where planning zones and overlays relevant to each view location are listed.

4.2 LEGISLATION

4.2.1 COMMONWEALTH LEGISLATION

Environment Protection and Biodiversity Conservation 1999 Act (EPBC Act)

The Star of the South Wind Farm Project is likely to be assessed by the Commonwealth under the Environment Protection and Biodiversity Conservation 1999 Act (EPBC Act). It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places.

The objectives of the EPBC Act are to:

- *Provide for the protection of the environment, especially matters of national environmental significance*
- *Conserve australian biodiversity*
- *Provide a streamlined national environmental assessment and approvals process*
- *Enhance the protection and management of important natural and cultural places*
- *Control the international movement of plants and animals (wildlife), wildlife specimens and products made or derived from wildlife*
- *Promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources*
- *Recognise the role of indigenous people in the conservation and ecologically sustainable use of australia's biodiversity*
- *Promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.*

4.2.2 STATE LEGISLATION

The Marine and Coastal Act 2018

The Marine and Coastal Act (the Act) covers the planning and management of the marine and coastal environments in Victoria. The objectives of the act which are relevant to visual and landscape values are:

- *to protect and enhance the marine and coastal environment; and*
- *to promote a diversity of experiences in the marine and coastal environment; and*
- *to promote the ecologically sustainable use and development of the marine and coastal environment and its resources in appropriate areas;*

The Act enforces the development of the *Marine and Coastal Policy (2020) (refer to Section 4.3.1 of this report).*

The Planning and Environment Act 1987

The purpose of this Act is to establish a framework for planning the use, development and protection of land in Victoria in the present and long term interests of all Victorians.

4.3 POLICY

4.3.1 STATE POLICY

52.32 Wind Energy Facility

This clause applies to land used and developed or proposed to be used and developed for a Wind energy facility. The purpose of this provision is:

- *To facilitate the establishment and expansion of wind energy facilities, in appropriate locations, with minimal impact on the amenity of the area.*

Currently, this provision provides direction for the development of wind energy facilities on land only and does not provide direction for development of offshore wind energy facilities.

Marine and Coastal Policy 2020

The Policy guides decision makers in the planning, management and sustainable use of our coastal and marine environment. It provides direction to decision makers including local councils and land managers on a range of issues such as dealing with the impacts of climate change, population growth and ageing coastal structures.

The Policy came into operation in March 2020, superseding the 'policy for decision making' parts of the Victorian Coastal Strategy (VCS) 2014.

4.3.2 LOCAL POLICY: WELLINGTON SHIRE

Municipal Strategic Statement:

The Wellington Municipal Strategic Statement (MSS) identifies key influences for the municipality (21.02) and includes a range of objectives and strategies relating to the retention and enhancement of visual and Landscape values. Relevant chapters are described below:

21.03 Vision – Strategic Framework

The Wellington 2030 document is a visioning document providing strategic guidance to the shire up to year 2030. This document has been incorporated into the Wellington Planning Scheme.

This document includes Strategic Framework Plans which identify key directions for future land use planning and development, and where these directions will be promoted. They also identify specific heritage places and National Parks, whose special values need to be protected.

12.02-1S Protection of Coastal Areas

The objective of this clause is to recognise the value of coastal areas to the community, conserve and enhance coastal areas and ensure sustainable use of natural coastal resources. Of relevance to the visual values of the coast, the clause seeks to ensure development is sensitively sited and designed and respects the character of coastal settlements.

21.13 Environment and Landscape values

This clause identifies that infrastructure development can have significant detrimental effects on the landscape, and that the rural amenity of the Shire is an asset which warrants protection. In particular, this clause states:

Residents and tourists derive pleasure from the scenic values of the rural landscapes. Even the highly modified areas of the Shire possess high Landscape values.

A series of objectives have been developed in response to protecting the environmental and Landscape values. Wellington Shire recognises the scenic value of its rural landscapes both natural, and modified. The following strategies relating to these objectives are considered relevant to the proposed Golden Beach Gas proposal:

21.13-1 Rural and Natural Landscapes:

The objective of the Rural and Natural Landscapes policy are to:

- *Promote the use of appropriate building materials, the retention of native vegetation and revegetation that enhance the scenic landscapes of the Shire's rural areas.*
- *Protect locally significant views and vistas that contribute to the character of coastal and coastal hinterland areas.*

21.13-3 Coastal Landscape Character Significance

Based on the Landscape Character Areas identified in the Coastal Spaces Landscape Assessment Study (2006), this clause sets objectives and strategies to enhance and protect the landscape character of the following relevant areas:

- *Between Settlements in coastal locations;*
- *Between settlements and hinterland locations; and*
- *The specific character area defined as Ninety Mile Coast.*

The objectives are to:

- *Minimise the visual impact of signage and infrastructure, particularly adjacent to the Gippsland Lakes or Ninety Mile Beach or areas of high visibility.*
- *Retain the natural and undeveloped character of the coastal strip between settlements by avoiding or carefully siting and designing development and using colours and materials which are appropriate in a coastal environment and minimise contrast with the surrounding landscape.*
- *Retain a dominant natural character, particularly within 500 metres of the coast, by setting development back from the coast in flatter locations, avoiding loss of vegetation and minimising the visibility and impact of pedestrian and vehicular access paths and site servicing on the coastal landscape.*
- *In open rural areas, set buildings back long distances from roads and/or group buildings in the landscape among substantial landscaping of indigenous or non-invasive exotic / native feature planting (including existing shelterbelts).*
- *Site infrastructure away from highly scenic locations, key views and near-coastal locations, or underground wherever possible in the case of powerlines and other utility services.*
- *Use vegetation to screen infrastructure from key viewing corridors and public use areas.*
- *Protect locally significant views and vistas that contribute to the character of coastal and coastal hinterland areas, particularly from the Longford-Loch Sport Road to Lake Wellington and Lake Reeve and to the coastal dunes of the Ninety Mile Beach.*

22.08 Ninety Mile Beach Policy

This policy applies to the use, development and subdivision of land along the Ninety Mile Beach between the Honeysuckles and Paradise Beach, which includes Golden Beach. The policy recognises that coastal subdivisions of the Ninety Mile Beach have for many years been considered inappropriate due to lack of infrastructure and impacts on the coastal and lakes environment.

The Wellington Coast states within this policy that it will provide for the settlement, recreation, tourism and environmental aspirations of the community. Settlement patterns and development outcomes will respond to the values and capacities of the natural environment, the cost of infrastructure, and which seek to include equitable solutions for all ratepayers and landowners in the Shire

4.4 PLANNING FRAMEWORK OVERLAYS

Refer to Chapter 3: Baseline Analysis for planning overlay and zone information specific to the following locations: Port Albert, Woodside Beach, Mcloughlins Beach, and Sealers Cove.

4.4.1 OVERLAYS WITHIN THE WELLINGTON PLANNING SCHEME

42.03 Environmental Significance Overlay - Schedule 1 (ESO1): Coastal and Gippsland Lakes Environs

In relation to visual and Landscape values, this schedule to the ESO recognises that the Ninety Mile Beach and Gippsland Lakes and their environs are some of the most significant environmental, landscape, and recreational areas within the State of Victoria. The relevant objectives of the overlay are to:

- *To conserve and enhance the environmental quality of the coastal area.*
- *To protect and enhance the natural beauty of the coastal landscape.*
- *To protect and enhance the visual amenity and landscape of the coastal area.*

ESO1 applies to the use or development of land along the Ninety Mile Beach and the Gippsland Lakes hinterland and aims to minimise the impact of human activities on the ecological values of the coastal and lakes environments. A permit is required for vegetation removal/alteration, building construction (some limited exceptions are provided), works and subdivision.

42.01 Significant Landscape Overlay – Schedule 1 (SLO1): Ninety Mile Beach

Ninety Mile Beach is protected by SLO1 on the basis of its unique combination of landscapes and the visual values. The land is protected by a series of official designations - National Park, Wildlife Reserve, and Coastal Park - that recognise its scenic values. The landscape is characterised by large swathes of indigenous vegetation including coastal heath, mangroves, and dune grasses, and there are vast ocean views along its entirety.

The relevant character objectives of this protective overlay to the proposed development are:

- *To strengthen and protect indigenous coastal vegetation and ensure that it is the dominant feature of the landscape at the coastal edge.*
- *To ensure that development in and around existing settlements does not impact on the characteristics of the landscape, including the natural and unbuilt character along Ninety Mile Beach*
- *To minimise any increase in development visible above the dunes and coastal vegetation outside settlements, when viewed from the beach, foreshore or offshore.*
- *To avoid buildings set high on dunes or development that will be visible on the skyline.*
- *To minimise the visual impact of signage and infrastructure adjacent to Ninety Mile Beach or in areas of high visibility*
- *To protect landscape character and attributes that are consistent with the Aboriginal cultural heritage values of the area.*

42.02 Environmental Significance Overlay - Schedule 2 (ESO2): Wetlands

In relation to visual and Landscape values, this overlay recognises wetlands as 'particularly rich habitats supporting many rare species' and 'a valuable resource for recreational activities'.

The objectives of ESO2 are:

- *To protect and enhance the ecological, habitat, aesthetic, scientific, floristic, faunal, cultural, educational, and recreation values of wetlands through the control of development.*
- *To implement obligations under international, national, State, or other agreements to protect and enhance plant and animal species and habitats.*

43.02 Design and Development Overlay – Schedule 9 (DDO9): Port Albert and Palmerston

This overlay applies to the township of Port Albert. The design objectives of DDO9 provide broad decision-making guidance in relation to new development, in order to protect the natural and built character of Port Albert. These objectives include, but are not limited to:

- *To ensure existing and future development located within the Precincts shown on Map 1 (Precinct Boundary Map) below does not detract from the natural and built character of Port Albert.*
- *To provide an opportunity to consider the effect of the design of buildings on their surrounds.*

The objects are intended to reflect those contained within the Port Albert and Palmerston

Urban Design Guidelines (2007)

43.02 Design and Development Overlay – Schedule 16 (DDO16): Woodside Beach

This overlay applies to the township of Woodside Beach where the land use zones allow for residential/holiday dwellings. The design objectives of DDO16 provide broad decision-making guidance in relation to the built form of new buildings, in order to protect the coastal township character of Woodside Beach. These objectives include, but are not limited to:

- *To encourage the design of new buildings in residential areas that minimise their visual impact on the prevailing natural landscape.*
- *To ensure that buildings are designed and sited to avoid being visually obtrusive, particularly in terms of creating a silhouette above a skyline or existing tree canopy line when viewed from surrounding streets, properties or coastal areas.*
- *To ensure that buildings are designed and sited to avoid being visually obtrusive, particularly in terms of creating a silhouette above a skyline or existing tree canopy line when viewed from surrounding streets, properties or coastal areas.*

43.02 Design and Development Overlay – Schedule 17 (DDO17): Mcloughlins Beach

This overlay applies to the township of Mcloughlins Beach where existing residential/holiday single storey properties are located. The design objectives of DDO17 provide broad decision-making guidance in relation to the built form of new buildings, in order to protect the coastal township character of Mcloughlins Beach. These objectives include, but are not limited to:

- *To encourage the design of new buildings in residential areas that minimise their visual impact on the prevailing natural landscape.*
- *To ensure that buildings are designed and sited to avoid being visually obtrusive, particularly in terms of creating a silhouette above a skyline or existing tree canopy line when viewed from surrounding streets, properties or coastal areas.*

4.4.2 OVERLAYS WITHIN THE SOUTH GIPPSLAND PLANNING SCHEME

42.01 Environmental Significance Overlay - Schedule3 (ESO3): Coastal Settlements

This overlay applies to land within Wilson Promontory National Park, including Sealers Cove. The objectives to be achieved by the overlay are:

- To protect and enhance the natural beauty of the coastal area.
- To protect and enhance the environmental quality of the coastal area.
- To minimise the risk of erosion, pollution and destruction of the environment through poorly managed development.
- To ensure that development adjacent to coastal areas is compatible with the environment and does not result in adverse impacts on coastal processes.

5 BASELINE ANALYSIS OF VIEW LOCATIONS

A preliminary baseline analysis has been prepared for two selected locations: Woodside Beach and Sealers Cove.

5.1 WOODSIDE BEACH

Woodside Beach is located approximately 30km east of Yarram, and provides access to Ninety Mile Beach *(refer to Fig. 5)*. The town has a population of 95 residents[1]. Motorists travelling toward the town on the primary access road (Woodside Beach Road) experience a transition from uniformly flat pastures and agricultural farming, to low density residential settlement, to vegetation lined roadsides filtering views towards caravan and camping sites. As the road nears the coast, facilities including public toilets, picnic tables, car parking and the Woodside Surf Life Saving club building are set behind a continuous raised coastal vegetated dune, concealing views toward the coast *(refer to Fig. 6)*. Tracks across the high dune provide access to and views of the beach.

Planning zones:

Woodside Beach is comprised of the Township Zone (TZ), Low Density Residential Zone (LDRZ), and Public Purpose and Recreation Zone (PPRZ). Development within the TZ can not be seen from the primary access road on account of dense shrubby vegetation adjacent to the road. The PPRZ provides for public activities amenities, and services.

A Public Conservation and Resource zone applies to the coastline that runs parallel between the raised dune and the shoreline. The purpose of this zone is:

- *To protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values.*
- *To provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes.*
- *To provide for appropriate resource-based uses.*

Refer to *Fig. 7* for map of planning zones within Woodside Beach.

Planning Overlays:

Several overlays provide guidance to development within Woodside Beach, including:

- Design and Development Overlay Schedule 16 (DD016) which aims to ensure that new buildings do not become dominant within the existing natural landscape and that they enhance the 'coastal township character' of Woodside Beach.
- 42.01 Environmental Significance Overlay - Schedule 1 (ESO1): Coastal and Gippsland Lakes Environs
- 42.02 Environmental Significance Overlay - Schedule 2 (ESO2): Wetlands

These overlays are applied to land north of the primary dune which runs parallel between the settlement and the coastline. The objectives of these overlays are outlined in Section 4.4.1 of this report.

Refer to *Fig.8* for map of planning overlays within Woodside Beach.

figure 5 *Photograph taken on Ninety Mile Beach, near Woodside Beach access track looking west*

figure 6 *Photograph taken at Woodside Beach near Woodside Beach Road*

1 Australian Bureau of Statistics (2016)

5.1.1 PLANNING MAP: WOODSIDE BEACH ZONES

VICTORIA State Government | Environment, Land, Water and Planning

Planning Scheme Zones

Residential Zones

- LDRZ - Low Density Residential Zone
- TZ - Township Zone

Rural Zones

- FZ - Farming Zone

Public Land Zones

- PPRZ - Public Park and Recreation Zone
- PCRZ - Public Conservation and Resource Zone
- RDZ1 - Road Zone-Category 1

NORTH

0 0.2 0.4

Kilometres

Map Projection: GDA 1994 VICGRID94
Print Date: 18/02/2020

figure 7 *Woodside Beach Planning Zones Map*

5.1.2 PLANNING MAP: WOODSIDE BEACH OVERLAYS

VICTORIA State Government | Environment, Land, Water and Planning

Planning Scheme Overlays
Environment and Landscape
ESO - Environmental Significance Overlay
Heritage and Built Form
DDO - Design and Development Overlay

NORTH
0 0.2 0.4
Kilometres

Map Projection: GDA 1994 VICGRID94
Print Date: 18/02/2020

figure 8 *Woodside Beach Planning Overlays Map*

5.2 SEALERS COVE

Sealers Cove is located approximately 80km south-east of Leongatha, and is within Wilsons Promontory National Park. Access to the beach is achieved via an established walking trail, or by boat. Sealers Cove features a camping ground however, the natural features remain dominant.

The crescent shaped beach is partially enclosed by surrounding land, which is contrasts against the flat sand on account of its high elevation and dense vegetation cover*(refer to Fig. 9)*. Long distant views are afforded across the water, with offshore islands appearing on the horizon line.

Planning zones:

Sealers Cove falls within the Public Conservation and Resource zone. This zone covers all of Wilsons Promontory National Park. The purpose of this zone is:

- *To protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values.*
- *To provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes.*
- *To provide for appropriate resource-based uses.*

Refer to *Fig. 10* for map of planning zones applied to Sealers Cove.

Planning Overlays:

- 42.01 Environmental Significance Overlay - Schedule 3 (ESO3): Coastal Settlements

The objectives of this overlay are outlined in Section 4.4.2 of this report.

Refer to *Fig. 11* for map of planning overlays applied to Sealers Cove.

figure 9 *Photograph taken at Sealers Cove looking north*

5.2.1 PLANNING MAP: SEALERS COVE ZONES

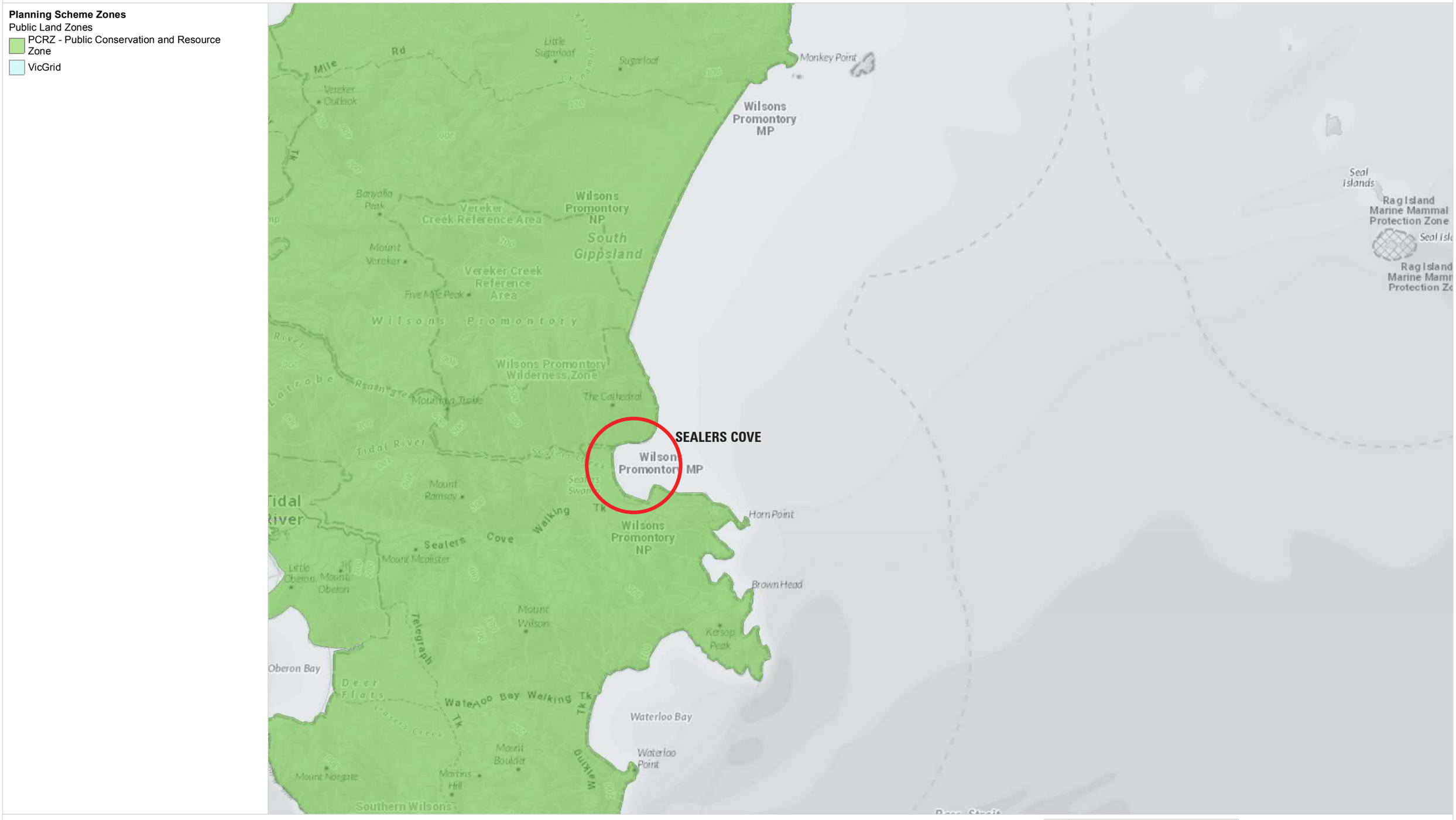
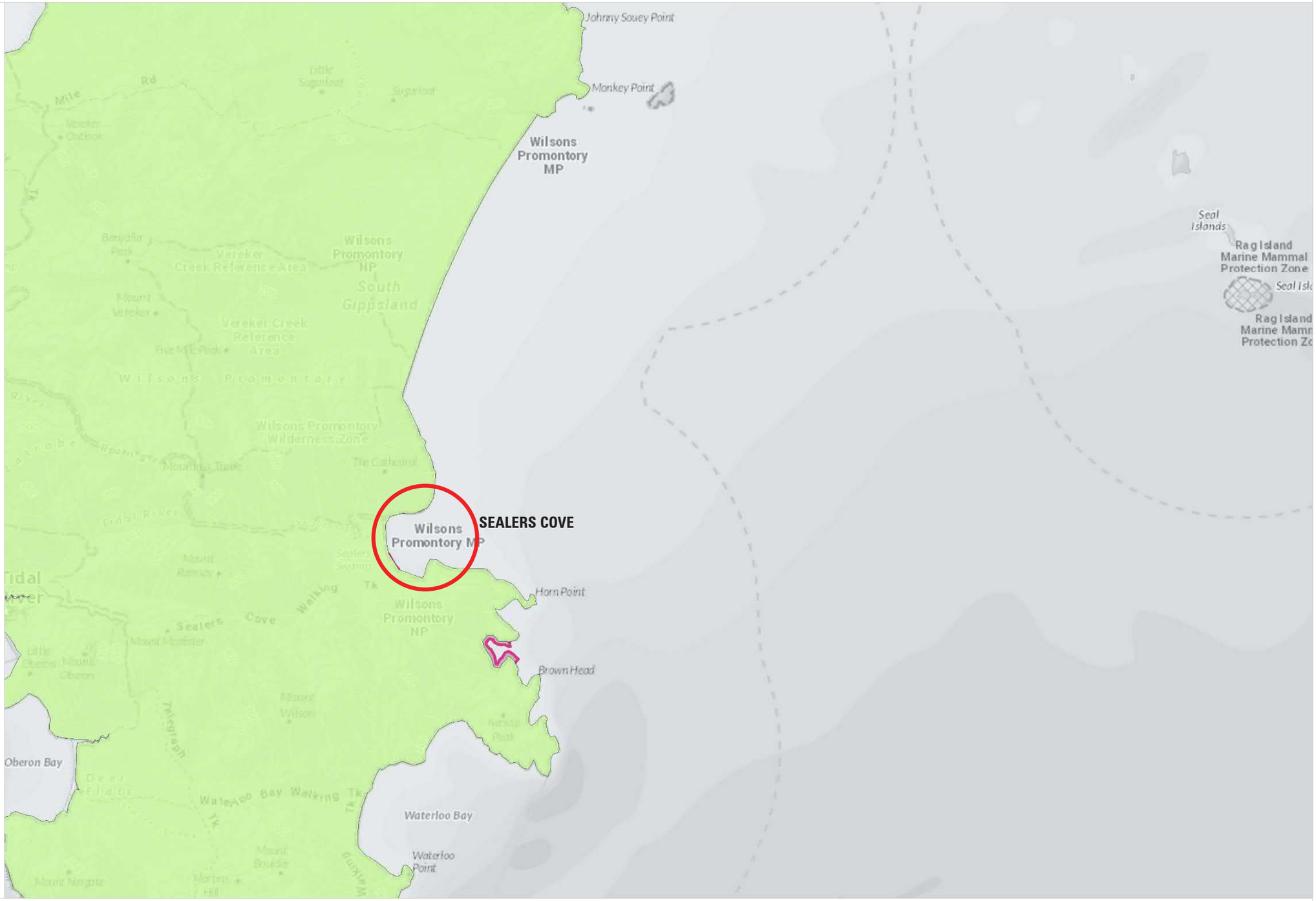


figure 10 *Sealers Cove Planning Zones Map*

5.2.2 PLANNING MAP: SEALERS COVE OVERLAYS

VICTORIA State Government | Environment, Land, Water and Planning

Planning Scheme Overlays
Environment and Landscape
ESO - Environmental Significance Overlay
Heritage and Built Form
HO - Heritage Overlay
VicGrid



NORTH
0 2 4
Kilometres

Map Projection: GDA 1994 VICGRID94
Print Date: 27/03/2020

figure 11 *Sealers Cove Planning OverlaysMap*

6 VISUAL IMPACT APPRAISAL

6.1 INTRODUCTION

This section of the assessment aims to determine whether there is a visual impact incurred due to the proposed development, through the process of undertaking the following:

- Identifying and describing the representative views from each of the two view locations considered for this preliminary appraisal: Woodside Beach and Sealers Cove; and
- Preparing an 'existing view' image for each of the two view locations, that is representative of views experienced at these locations. This is a photograph taken with a fixed 50mm camera lens with a 40 degree* horizonal field of view, and a 27 degree vertical field of view.

Using these 'existing view' images as points of reference, the impacts occured will be described and the preliminary appraisal formed on this basis will conclude whether or not a visual impact would occur for each representative viewpoint.

*Image produced for Viewpoint 2: Sealers Cove (*refer to Fig. 15*) represent an approximate 65 degree horizontal field of view and 27 degree vertical field of view. The expanded horizontal field of view has been provided to reflect a more holistic representation of the visual experience for visitors arriving at Sealers Cove via the walking track, with the Cove visually and physically defined by the headlands at its northern and southern ends.

6.2 LIMITATIONS

Due to the preliminary nature of this report, the extent of the assessment has been limited to that required for the purposes of an EES referral and to support an EPBC referral form. Therefore, the following areas of assessment which would typically be included in a full SLVIA or LVIA have not formed a part of the processes in determining preliminary appraisal:

- Landscape value has not been assessed. Landscape value assessment is achieved through more extensive baseline analysis work, fieldwork and utilising guidance taken from benchmarking documents. Determining the Landscape value informs the extent to which a view location may be impacted upon visually by the proposed development. As such, this preliminary report forms conclusions only on the presence of visual impact, rather than the magnitude of visual impact.
- The number of view locations assessed within this report is limited to two representative view locations only. Community consultation would be sought in order to determine a larger number of view locations for assessment in a full SLVIA report.
- Photomontages showing the 'proposed view' have not been prepared for this preliminary report. In lieu of this, the report provides descriptions of the anticipated visibility based on assumed heights of the WTGs (refer to *section 6.3 Proposed Wind Turbine Generators*) and the distances calculated between the proposed development and view location.
- Recommendations for appropriate measures to assist in ameliorating any resultant visual impact are not provided within this preliminary appraisal.

6.3 ASSUMPTIONS

Proposed Wind Turbine Generators (WTGs)

The description of the visibility of the proposed WTGs is based upon the assumption there will be up to 400 WTG units each of the same form and materiality (based on a generic turbine profile), and each unit being approximately 200-metres in total height above sea level.

The proposed boundary of the wind farm is defined by the Exploration Licence Area (the Licence Area) which comprises an area of approximately 500 square kilometres *(refer to Figure 1. Gippsland Regional Context Map)*.

6.4 APPRAISAL OF VISUAL IMPACT FROM REPRESENTATIVE VIEW LOCATIONS

Two representative view locations have been selected and 'existing view' images prepared for each as a basis for description of the visibility of the proposed offshore wind farm. The preliminary appraisal of two representative view locations for each scenario includes:

- View location 1 - located at Woodside Beach Lookout, Woodside Beach, some 10 kilometres from the proposed offshore wind farm.
- View location 2 - located at Sealers Cove, Wilsons Promontory National Park, some 33 kilometres from the proposed offshore wind farm.

A detailed description of the location, existing visual features, and visibility of the proposed offshore wind farm within the existing view is provided for each of the above view locations over the following pages.

6.4.1 View location 1: Woodside Beach

Location

View location 1 is located at Woodside Beach Lookout, Woodside Beach. The distance from this location to the proposed offshore wind farm is approximately 10 kilometres.

Visual features

The following description of the existing view is based upon the view shown in *Fig. 13 View location 1: Woodside Beach Existing View*

The foreground of the view consists of dense coastal shrubs. Beyond the foreground there are uninterrupted views across the ocean to the horizon.

Rationale for selection

This view location was selected on the basis that it is representative of views from the coastline at Woodside Beach. The view is located at a lookout along an access track from the Woodside Beach picnic ground leading to Ninety Mile Beach.

Anticipated visibility

Turbines are likely to be visible on the horizon across the full extent of horizontal angle of view. Given the turbine locations are at least 10km from the viewing point, they will likely occupy no more than 4% of the vertical angle of view, with the base of many turbines being beyond the horizon.

Preliminary visual impact:

On the basis of the anticipated visibility described above, this assessment concludes that turbines will be visible, and therefore, the proposed offshore wind farm will result in a visual impact. The magnitude of this impact will be assessed through a full LVIA and SVIA as part of ongoing planning and project development work.

figure 12 *Woodside Beach View Location Map*

Star of the South
Offshore Infrastructure

View location 1
from Woodside Beach, facing South towards subject site

Existing view

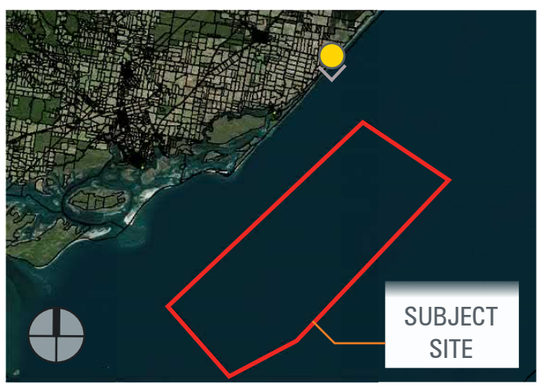
figure 13 *View location 1: Woodside Beach Existing View*

Photograph taken:
2:20 pm on the 17/02/20
Photo taken at:
160cm above ground level

View location:
e: 498120.6660
n: 5733027.5325
rl: 7.4015

Approx. distance from proposed OWF:
10km

Photomontage created by:
TT - B.LA
Images created using:
3ds max 2020, Corona renderer 5, autocad 2020, adobe photoshop, illustrator & indesign cc 2020
Method used to collect relevant data:
Photo locations obtained on site by Geocomp Consulting pty ltd on the 17/02/20
Camera:
Canon EOS 5Ds Digital SLR
Camera lens:
Canon EF 50mm f/1.8 USM



Camera location

project ref: 2019/520
dwg no.: VIA-001
date: 31/03/20
revision: A

hansen partnership pty ltd
melbourne | byron bay | vietnam
level 4 136 exhibition st
melbourne vic 3000
t 61 3 9654 8844 **f** 61 3 9654 8088
e info@hansenpartnership.com.au
w hansenpartnership.com.au

6.4.2 View location 2: Sealers Cove

Location

View location 2 is located at Sealers Cove in Wilsons Promontory National Park. The distance to the proposed offshore wind farm is approximately 33 kilometres.

Visual features

The following description of the existing view is based upon the view shown in *Fig 15: View location 2: Sealers Cove Existing View*

The foreground of the view shows part of Sealers Cove Beach, and the middle-ground comprises of a wide expanse of water. The edges of the view are framed by densely vegetated headlands which define the northern and southern extent of Sealers Cove. Some islands appear on the horizon.

Rationale for selection

This view location was selected on the basis that it is representative of views from the eastern coast of Wilsons Promontory National Park. The view location is north of the entrance to the beach from the Sealers Cove trail.

Anticipated visibility

Turbines are likely to be visible on the horizon in a north-easterly direction, between bearings of 50 degrees and 70 degrees. Given the turbine locations are at least 33km from the viewing point, they will likely occupy no more than 1.5% of the vertical angle of view, with the base of all turbines being beyond the horizon.

Preliminary visual impact:

On the basis of the anticipated visibility described above, this assessment concludes that turbines will be visible, and therefore, the proposed offshore wind farm will result in a visual impact. The magnitude of this impact will be assessed through a full LVIA and SVIA as part of ongoing planning and project development work.

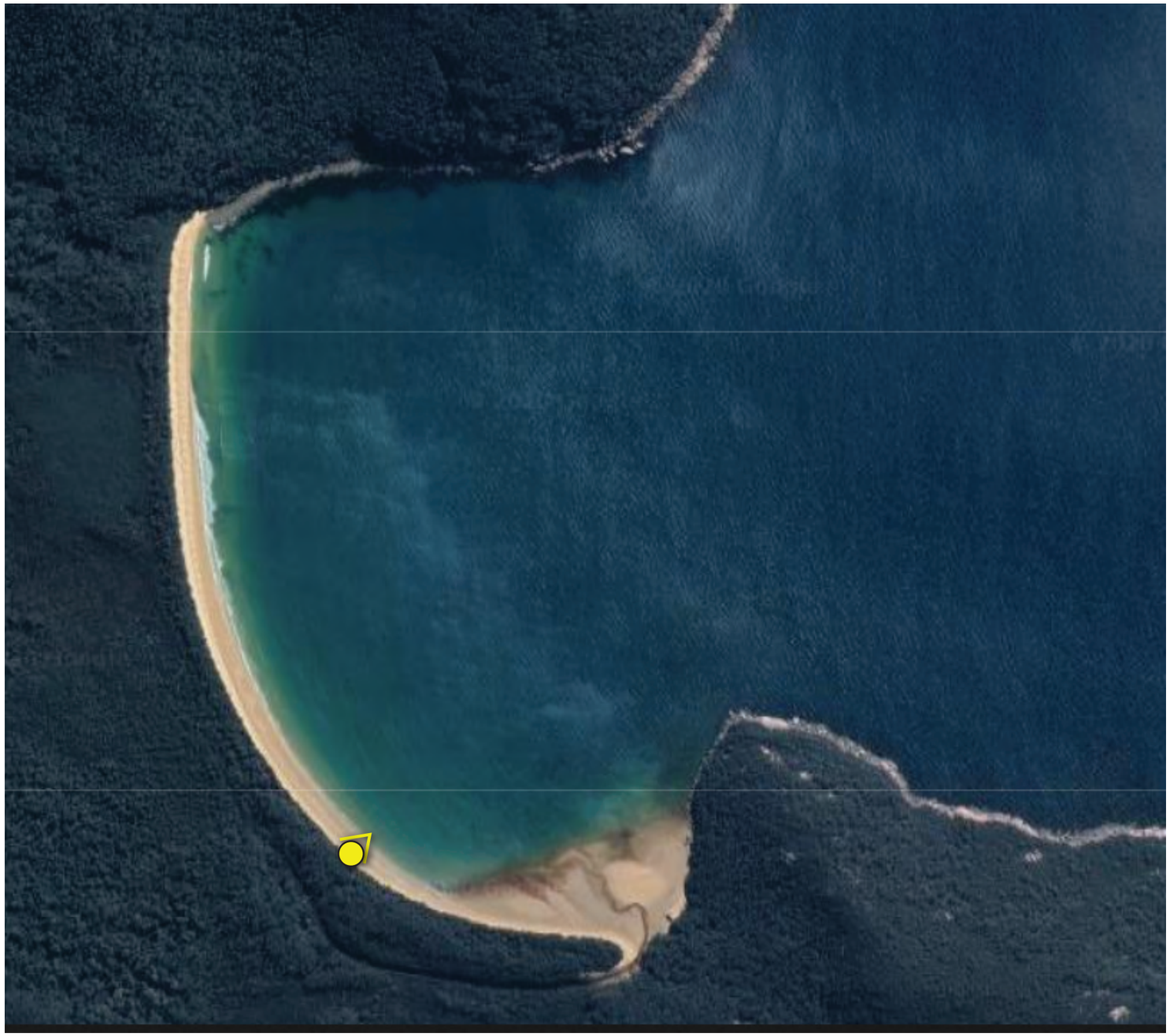


figure 14 *Sealers Cove View Location Map*

Star of the South
Offshore Infrastructure

View location 2
from Sealers Cove, facing North East towards subject site

Existing view

figure 15 *View location 2: Sealers Cove Existing View*

Photograph taken:
12:02 pm on the 19/03/20
Photo taken at:
160cm above ground level

View location:
e: 451169.9800
n: 5680806.8300
rl: 0.00

Approx. distance from proposed OWF:
33km

Photomontage created by:
TT - B.LA
Images created using:
3ds max 2020, Corona renderer 5, autocad 2020, adobe photoshop, illustrator & indesign cc 2020
Method used to collect relevant data:
Photo locations obtained on site by hand-held GPS device (mobilephone) by Hansen Partnership Pty Ltd on the 19/03/20
Camera:
Canon EOS 5Ds Digital SLR
Camera lens:
Canon EF 50mm f/1.8 USM

Camera location

project ref: 2019/520
dwg no.: VIA-002
date: 31/03/20
revision: A

hansen partnership pty ltd
melbourne | byron bay | vietnam
level 4 136 exhibition st
melbourne vic 3000
t 61 3 9654 8844 **f** 61 3 9654 8088
e info@hansenpartnership.com.au
w hansenpartnership.com.au

7 CONCLUSION

7.1 VISUAL IMPACT APPRAISAL

Two representative view locations have been assessed to determine whether or not a visual impact would occur as a result of the proposed offshore wind farm. Based upon images of the existing view, the anticipated visibility has been described and informed the following summary:

- View location 1 - located at Woodside Beach Lookout, Woodside Beach, some 10 kilometres from the proposed offshore wind farm. There is a visual impact.
- View location 2 - located at Sealers Cove, Wilsons Promontory National Park, some 33 kilometres from the proposed offshore wind farm. There is a visual impact.

This preliminary Visual appraisal concludes that a visual impact would occur as a result of the Project. The magnitude of this impact will be assessed through a full LVIA and SVIA as part of ongoing planning and project development work.