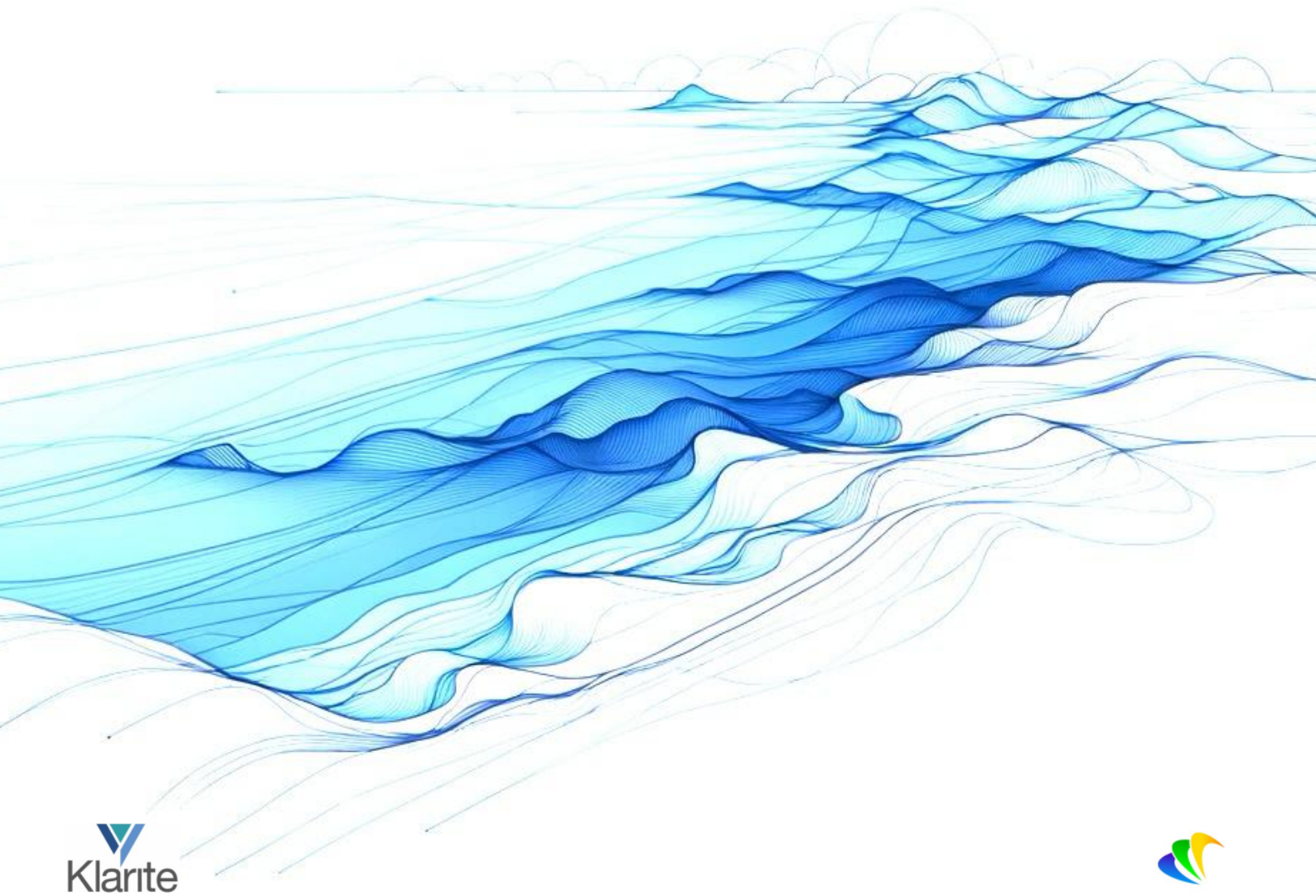
REGIA
Marine Seismic Survey

Impact Assessment
Light Emissions

Appendix E9: REG-EP-028-E9

Rev 4

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Klarite

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1 Introduction

This document presents an assessment of an environmental aspect between the Regia Marine Seismic Survey (**Regia MSS**) and the existing environment that may be affected by that aspect. This environmental aspect was identified by the Preliminary Environmental Impact and Risk Assessment (**PEIRA**) (Appendix B4) for further assessment.

1.1 Purpose and Scope

This assessment is the second stage of the environmental assessment. Its purpose is to rank the impact according to the criteria set out in the Environmental Assessment Process found in Appendix B3. The purpose of this stage of the assessment is to demonstrate that the impact can be managed to an acceptable level through the adoption of mitigation measures and the setting of an appropriate environmental performance outcome.

The measures adopted because of consultation and because of the assessment will be carried through to the ALARP assessment which occurs in stage three of the overall assessment process. Recommendations will be made if there is any further assessment required in the third stage of the assessment.

1.2 Consultation in Preparation of the EP

This document presents analysis of an environmental aspect between the Regia Marine Seismic Survey (Regia MSS) and the existing environment that may be affected by that aspect. This environmental aspect was identified by the Preliminary Environmental Impact and Risk Assessment (PEIRA) (Appendix B4) for further assessment.

This document was first published in draft form to the Document Library of the Regia MSS Consultation Hub on 11 September 2023. This was done to acknowledge that the final full Environment Plan (EP) can be a large document that is difficult for readers to digest in the 30-day public comment period. As such, the public and relevant persons were invited to comment on the document with an explicit request for readers to provide feedback on:

- The accuracy of the described environment that may be affected.
- Any omissions of environmental values and sensitivities relevant to the environmental aspect.
- Any errors or omissions of scientific/peer reviewed literature that should be considered.
- Any errors or omissions of relevant legislation or documents of standing that should be considered.
- Any further mitigation or management measures that should be considered.

1.3 Modifications Arising from Further Assessment

To ensure this environmental assessment remains contemporary, accurate, and reflects feedback from the regulator and relevant persons, this document will be updated from time-to-time. In particular, the CGG environmental assessment process requires consideration of whether further assessment was needed to verify, or dive deeper into a topic, to further improve the predictive quality of the assessment. When this has occurred, reference to such changes will be communicated in the Recommendation section and identified at relevant points in the assessment.

2 Aspect – Light Emissions

2.1 How the Aspect Occurs

Navigational and safety lighting on the seismic and support vessels emit light when operating at night.

2.2 Extent and Duration of the Aspect

Duration: 90 days

Vessel navigational and safety lighting will be required at night for the duration of the activity.

Extent: Operational Area +20 km

The National Light Pollution Guidelines for Wildlife (CoA 2023) detail that where there is important habitat for listed species that are known to be affected by artificial light within 20 km of a project, species specific impacts should be considered through an Environmental Impact Assessment.

The 20 km extent provides a precautionary limit based on observed effects of sky glow on marine turtle hatchlings demonstrated to occur at 15-18 km and fledgling seabirds grounded in response to artificial light 15 km away (CoA 2023). Seabird grounding, as described in Rodriguez et al. (2014), relates to impacts of onshore fixed light sources such as streetlights and buildings and the effect this can have on young fledgling birds making their first flight from their nests to the open ocean. Subsequently, 20 km is adopted as the extent of light emissions for the impact assessment.

For zooplankton, fish and invertebrates, the Guidelines detail that for vessel lights zooplankton and their vertebrate predators to descend away from the surface; these effects occurred at depths of up to 200 m, and up to 200 m horizontally from the light source. Experiments using light traps also detailed that some fish and zooplankton species are attracted to light sources (Meekan et al. 2001), with traps drawing catches from up to 90 m (Milicich et al. 1992). Thus, for zooplankton, invertebrates, and fish the extent of impact is within 200 m of the light source.

3 Cause-Effect Pathway

The Preliminary Environmental Impact and Risk Assessment (PEIRA) (Appendix B4) identified a cause-effect pathway for light for the following environmental components and their social, cultural, and economic features:

- Plankton.
- Invertebrates.
- Fish.
- Birds.
- Marine reptiles.
- People and communities.
- Marine mammals.
- Coastal communities.

The PEIRA (Appendix B4) identified that the environmental impact of light to the following environment components was ranked as having a negligible level of effect and are not assessed further:

- Marine mammals.
- Coastal communities.

4 Description of the Existing Environment that may be Affected by the Activity

As detailed in the Section 2.2, the Operational Area plus 20 km has been adopted as the extent of light emissions for the impact assessment to light sensitive species such as marine turtles, seabirds, and migratory shorebirds, thus a Protected Matters Search to identify these species was undertaken for the Operational Area plus 20 km with the report available in Appendix B5.

As detailed in the Section 2.2, the Operational Area plus 200 m has been adopted as the extent of light emissions for the impact assessment to light sensitive species such as zooplankton, invertebrates, fish, thus a Protected Matters Search to identify these species was undertaken for the Operational Area with the report available in Appendix B5.

Annex 3 details those species that may be affected by light from the PMST report and identifies any biologically important areas and conservation advice or management plans.

4.1 Zooplankton

The PMST Report (Appendix B5) identified that the area potentially affected by light emissions out to 20 km overlaps the Bonney Coast Upwelling Key Ecological Feature (Appendix B12 MAP-REG-EPM-003) which is a seasonal upwelling that brings cold nutrient rich water to the sea surface and supports regionally high productivity. Krill and potentially other zooplankton productivity are a key feature of the upwelling providing a food source for several threatened species, including the blue whale, migrate into the area to forage (CoA 2015a).

Zooplankton is likely to be present throughout the Operational Area as in all marine environments.

4.2 Invertebrates

Studies by the Museum of Victoria found that invertebrate diversity was high in southern Australian waters although the distribution of species was patchy, with little evidence of any distinct biogeographic regions (Wilson and Poore 1987). This is supported by studies in the eastern part of the Operational Area undertaken by Beach Energy (2022) and Cooper Energy (2017) that found:

- In water depths from 20 – 70 m much of the seabed to ~ 60 m water depth was sand or fine gravel. No epifauna were observed and the biological component was likely to be primarily in-faunal or pelagic. Beyond 60 m water depth, this broad flat area has a sparse cover of filter-feeding epifauna dominated by sponges and also probably hydrozoans, bryozoans, and algae.
- In water depths from 70 to 104 m, samples percent cover of epifauna ranged from 0 to 80% but on average the percent cover was typically no more than 37%. Of the individual epibenthic organisms, Gastropoda sp. 2 (a cone shell) and crionids (featherstars) were the most abundant.

The Operational Area overlaps the Southern Squid Jig Fishery and Southern and Eastern Scalefish and Shark Fishery Commonwealth Trawl Sector where there has been low, medium and high levels of fishing intensity during 2010 to 2023. Details on these fisheries is provided in Appendix E1: Physical Presence. The Southern Squid Jig Fishery targets a single species, Gould's squid, using either hand operated or mechanically powered jigs. Squid jigging typically occurs midwater at depths between 50 and 100 m at night using large lights that illuminate the waters around a boat. Southern and Eastern Scalefish and Shark Fishery Commonwealth Trawl Sector can retain Gould' squid.

4.3 Fish

The PMST Report identified multiple fish species or species habitat within the area potentially affected by light emissions out to 200 m. Annex 3 provides a summary of the PMST Report. None of these fish species were identified to be undertaking biologically important behaviours or have BIAs or habitat critical to the survival of the fish species within the area potentially affected by light

emissions. Three threatened fish species were identified from the PMST Report and are discussed below.

Southern Bluefin Tuna (*Thunnus maccoyii*) has been removed from the February 2025 PMST Reports for all areas searched, as it is no longer listed as a threatened species under the EPBC Act (DCCEEW 2024k). This species is retained for assessment based on a precautionary approach remains appropriate to assess this species that was only recently delisted, the species known relevance to regional fisheries, and to accurately reflect the passage of time over which this EP has been constructed.

The Australian Grayling is a small to medium-sized, slender, silvery fish with soft-rayed fins lacking any spines. It is endemic to south-eastern Australia, including Victoria, Tasmania and New South Wales, and is a migratory species that inhabits estuarine waters and coastal seas as larvae/juveniles, and freshwater rivers and streams as adults (Backhouse et al. 2008).

The Blue Warehou is a medium-sized, deep-bodied fish, reaching a maximum total length of 90 cm and a maximum weight of 7 kg (TSSC 2015). Globally, the Blue Warehou is confined to Australian and New Zealand waters predominantly in coastal shelf, upper continental slope and seamount waters offshore from New South Wales, Tasmania, Victoria and South Australia (TSSC 2015). Blue Warehou is a target species for the Tasmania Scalefish Fishery.

The Orange Roughy is a demersal fish targeted by the Southern and Eastern Scalefish and Shark Fishery. They are widely distributed throughout the world and forms dense spawning and feeding aggregations on or near topographic features such as seamounts, canyons and plateaus (DCCEEW 2023). No spawning or feeding aggregation areas have been identified in the area that may be affected by light emissions.

Southern Bluefin Tuna can grow to 225 cm in length and 200 kg in weight (TSSC 2010). They are a highly migratory species that occurs globally in waters between 30°S and 50°S forming on single global population (TSSC 2010). In Australian waters, they range from northern Western Australia, around the southern region of the continent, to northern New South Wales (TSSC 2010). Southern Bluefin Tuna are a target species for the Southern Bluefin Tuna Fishery.

Most of the listed marine ray-finned fish species identified in the PMST report for the area affected by light emissions are syngnathids, which includes seahorses and their relatives (sea dragon, pipehorse and pipefish). Most of these species are associated with seagrass meadows, macroalgal seabed habitats, rocky reefs and sponge gardens located in shallow, inshore waters (e.g., protected coastal bays, harbours and jetties) less than 50 m deep (Fishes of Australia, 2015). They are sometimes recorded in deeper offshore waters, where they depend on the protection of sponges and rafts of floating seaweed such as sargassum.

4.4 Birds

The PMST Report identified multiple bird species or species habitat within the area potentially affected by light emissions. Annex 3 provides a summary of the PMST Report. Several of these bird species were identified to be undertaking biologically important behaviours and/or have BIAs that the area potentially affected by light emissions overlaps. Table E9-1 provides a summary of this information. No habitat critical to the survival of the bird species were identified within the area potentially affected by light emissions overlaps.

PMST searches were run again prior to resubmission (Rev 2) to ensure any changes to species or listings were identified to control for passage of time. Conservation Advice has also been updated for several species and subsequent changes have been made to Appendix B2 and Annex 3 relevant to the assessment of light emissions include:

- Changes to EPBC Act status of several species
    - Red Knot is listed as Vulnerable (previously Endangered)
    - Sharp-tailed Sandpiper is listed as Vulnerable (previously not listed as threatened)
    - Sooty Shearwater is listed as Vulnerable (previously not listed as threatened)
    - Western Alaskan Bar-tailed Godwit is listed as Endangered (previously Vulnerable)
    - Common Greenshank is listed as Endangered (previously not listed as threatened)

    - Ruddy Turnstone is listed as Vulnerable (previously not listed as threatened)
    - Latham's Snipe is listed as Vulnerable (previously not listed as threatened)
    - Blue-winged Parrot is listed as Vulnerable (previously not listed as threatened)
- Updates to conservation advice for several species
    - Conservation Advice for *Calidris canutus* (Red Knot) (DCCEEW 2024)
    - Conservation Advice for *Calidris acuminata* (Sharp-tailed Sandpiper) (DCCEEW 2024a)
    - Conservation Advice for *Ardenna grisea* (Sooty Shearwater) (DCCEEW 2023i)
    - Conservation Advice for *Limosa lapponica baueri* (Bar-tailed Godwit western Alaskan) (DCCEEW 2024b)
    - Conservation Advice for *Tringa nebularia* (Common Greenshank) (DCCEEW 2024e)
    - Conservation Advice for *Arenaria interpres* (Ruddy Turnstone) (DCCEEW 2024c)
    - Conservation Advice for *Gallinago hardwickii* (Latham's Snipe) (DCCEEW 2024d)
    - Conservation Advice for *Neophema chrysostoma* (Blue-winged Parrot) (DCCEEW 2023l)
    - Conservation Advice for *Calidris ferruginea* (Curlew Sandpiper) (DCCEEW 2023m)
    - Conservation Advice for *Numenius madagascariensis* (Far Eastern Curlew) (DCCEEW 2023n)
    - Conservation Advice for *Charadrius leschenaultii* (Greater Sand Plover) (DCCEEW 2023o)

All changes listed above remain relevant after the PMST searches were rerun prior to resubmission of Rev 3, with two additional changes also noted:

- Breeding BIA added for Short-tailed Shearwater within the area potentially affected by light emissions.
- Breeding BIA removed for Wedge-tailed shearwater from the area potentially affected by light emissions.

These changes have been incorporated throughout the EP and the impact assessment has been revised accordingly [Section added in response to Matters: I16 and I17].

4.4.1 Albatrosses and Petrels

Twelve albatross and two petrel species are identified as having foraging, feeding or related behaviour and/or BIAs within the area potentially affected by light emissions (Table E9-1). These BIAs cover either most or all the South-east Marine Region (CoA 2015a). It is likely these species will forage in the EMBA. In addition, the common diving-petrel breeds on Lady Julia Percy Island which is within the area potentially affected by light emissions.

Albatrosses and petrels are among the most oceanic of all seabirds and seldom come to land unless breeding (CoA 2021). Albatross and petrel species exhibit a broad range of diets and foraging behaviours, and hence at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is those waters south of 25° where many species spend much of their foraging time (CoA 2021).

Albatrosses have a widespread distribution throughout the southern hemisphere. They feed mainly on cephalopods, fish and crustaceans, using surface feeding or plunge diving to seize their prey (ACAP 2020). Albatrosses are colonial, usually nesting on isolated islands and foraging across oceans in the winter months with most observations along the edge of the continental shelf (CoA 2021).

Petrels are oceanic and have a widespread distribution throughout the southern hemisphere. They are colonial and breed on sub-Antarctic and Antarctic islands in a circumpolar band generally between 40°S and 60°S. Petrel species feed on small fish, cephalopods (octopus, squid and cuttlefish) and crustaceans along the edge of the continental shelf and open waters (CoA 2021).

Table E9-1 - Bird Species Biologically Important Behaviours and/or BIAs within the Area Potentially Affected by Light Emissions.

Receptor	Biologically Important Behaviour
Albatross	
Antipodean Albatross	Foraging, feeding or related behaviour likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-059)
Black-browed Albatross	Foraging, feeding or related behaviour likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-060)
Buller's Albatross	Foraging, feeding or related behaviour likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-071)
Campbell Albatross	Foraging, feeding or related behaviour likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-061)
Indian yellow-nosed Albatross	Species or species habitat likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-063)
Northern Buller's Albatross	Foraging, feeding or related behaviour likely to occur within area
Northern Royal Albatross	Foraging, feeding or related behaviour likely to occur within area
Salvin's Albatross	Foraging, feeding or related behaviour likely to occur within area
Shy Albatross	Foraging, feeding or related behaviour likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-066)
Southern Royal Albatross	Foraging, feeding or related behaviour likely to occur within area
Wandering Albatross	Foraging, feeding or related behaviour likely to occur within area
	Foraging BIA (Appendix B12 MAP-REG-EPM-072)
White-capped Albatross	Foraging, feeding or related behaviour likely to occur within area
Petrels	
Common Diving Petrel	Breeding known to occur within area
	Foraging, Breeding BIA (Appendix B12 MAP-REG-EPM-062)
Northern Giant Petrel	Foraging, feeding or related behaviour likely to occur within area
Other	
Australasian Gannet	Foraging, Aggregation BIA (Appendix B12 MAP-REG-EPM-073)
Black-faced Cormorant	Breeding known to occur within area
Cape Gannet	Breeding known to occur within area
Double-banded Plover	Roosting known to occur within area
Greater Crested Tern	Breeding known to occur within area
Grey-tailed Tattler	Roosting known to occur within area
Lesser Sand Plover	Roosting known to occur within area
Little Curlew	Roosting likely to occur within area
Little Penguin	Breeding known to occur within area
Marsh Sandpiper	Roosting known to occur within area
Orange-bellied Parrot	Migrating likely (Appendix B12 MAP-REG-EPM-058)
Pacific Golden Plover	Roosting known to occur within area
Pied Stilt	Roosting known to occur within area
Pin-tailed Snipe	Roosting likely to occur within area
Red-capped Plover	Roosting known to occur within area
Red-necked Avocet	Roosting known to occur within area
Red-necked Stint	Roosting known to occur within area

Receptor	Biologically Important Behaviour
Ruddy Turnstone	Roosting known to occur within area
Sanderling	Roosting known to occur within area
Satin Flycatcher	Breeding known to occur within area
Sharp-tailed Sandpiper	Roosting known to occur within area
Silver Gull	Breeding known to occur within area
Short-tailed Shearwater	Breeding known to occur within area
	Foraging, Breeding BIA (Appendix B12 MAP-REG-EPM-065)
Swinhoe's Snipe	Roosting likely to occur within area
Wedge-tailed Shearwater	Foraging BIA (Appendix B12 MAP-REG-EPM-067)
Whimbrel	Roosting known to occur within area
White-bellied Sea-eagle	Breeding known to occur within area
White-fronted Tern	Foraging, feeding or related behaviour likely to occur within area
Wood Sandpiper	Roosting known to occur within area

4.4.2 Shearwaters

The Short-tailed Shearwater was identified as breeding known to occur (Lady Julia Percy Island) and a foraging and breeding BIA to be present within the area potentially affected by light emissions (Table E9-1). The Short-tailed Shearwater migrates to the Northern hemisphere for the austral winter and generally only present in Australian waters from September to May. They are common in the South-east Marine Region and largely found on numerous islands off Victoria and Tasmania during breeding (Baker and Hamilton 2013, Skira et al. 1996). During breeding they conducts a bimodal feeding strategy, alternating short foraging trips to local waters with long foraging trips (up to 17 days) to the Polar Frontal Zone. Short trips allow greater chick provisioning at the sacrifice of body condition, which is then recovered in richer subantarctic waters. Diet includes fish particularly myctophids, crustaceans and squid (Weimerskirch and Cherel 1998).

The Wedge-tailed Shearwater was identified as having a foraging BIA within the area potentially affected by light emissions (Table E9-1). The foraging BIA is associated with Muttonbird Island, however, a review of the DCCEEW Species Profile and Threats Database (SPRAT), Atlas of Living Australia and South-east Marine Region Profile did not provide any information on the Victorian Muttonbird Island Wedge-tailed Shearwater colony. The DCCEEW SPRAT profile does not show any locations for the Wedge-tailed Shearwater in Victoria, and Beaver (2018) details Montague Island in NSW was the southernmost known colony, however, in 2017 breeding individuals of Wedge-tail Shearwaters were discovered a couple of hundred kilometres further south on Gabo Island Lighthouse Reserve, Victoria near the NSW border.

Movement patterns of the Wedge-tailed Shearwater are poorly known but populations at the northern and southern extremities of the known range are migratory, departing nests in early April to early May and spending the nonbreeding season in the tropics (DCCEEW 2023a). In Australia, Wedge-tailed Shearwaters have been observed feeding along the junction between inshore and offshore water masses. There is no detailed analysis of the diet of Australian adult Wedge-tailed Shearwater's, however tropical residing Wedge-tailed Shearwater birds are known to mostly consume fish, some cephalopods, insects, jellyfish and prawns (DCCEEW 2023a). Food is taken by contact-dipping, dipping, surface-seizing and, rarely, deep-plunging up to 2 m deep (DCCEEW 2023a).

4.4.3 Australasian Gannet

The Australasian Gannet was identified as having foraging and aggregation BIAs within the area potentially affected by light emissions (Table E9-1). The BIA is a 40 km buffer around Portland where the Australasian Gannet breeds between July and March.

The Australasian Gannet generally feeds over the continental shelf or inshore waters. Their diet is comprised mainly of pelagic fish, but also squid and garfish. Prey is caught mainly by plunge-diving, but it is also seen regularly attending trawlers (CoA 2015a).

4.4.4 Orange-bellied Parrot

The Orange-bellied Parrot was identified as migrating likely within the area potentially affected by light emissions (Table E9-51). The Orange-bellied Parrot breeds in Tasmania during summer, migrates north across Bass Strait in autumn and spends winters on the mainland. The migration route includes the west coast of Tasmania and King Island (Appendix B12 MAP-REG-EPM-058).

Birds depart the mainland for Tasmania from September to November (Green 1969). The southward migration is rapid (Stephenson 1991), so there are few migration records. The northward migration across western Bass Strait is more prolonged (Higgins & Davies 1996). The parrot's breeding habitat is restricted to south-west Tasmania, where breeding occurs from November to mid-January mainly within 30 km of the coast. The species forage on the ground or in low vegetation (Loyn et al. 1986). During winter, on mainland Australia, Orange-bellied Parrots are found mostly within 3 km of the coast. In Victoria, they mostly occur in sheltered coastal habitats, such as bays, lagoons and estuaries. The orange bellied parrot may overfly the coastal waters of the area potentially affected by light emissions, however, parrots do not alight or forage out at sea.

4.4.5 Little Penguin

The Little Penguin was identified as breeding known to occur within the area potentially affected by light emissions (Table E9-1). However, no breeding biologically important areas (BIAs) were identified with the area potentially affected by light emissions and the nearest breeding BIA is at King Island and is ~ 30 km from the area potentially affected by light emissions.

During consultation breeding colonies were also identified on Lady Julia Percy Island / Deen Maar, and Middle Island [Event ID 2023]. It is understood that even though these colonies do not represent breeding or foraging BIAs, they are of significant value to local communities. Breeding typically occurs from September to February. [Paragraph added in response to Matter: B02]

The Little Penguin is the smallest penguin species and is endemic to Australia and New Zealand. In Australia, the species occurs from Western Australia (Carnac Island) to New South Wales (Broughton Island) and Tasmania. The distribution is not continuous, with sections of the southern coast of Australia without occurrence of breeding colonies (CoA 2020a).

The Little Penguin breeds during the austral autumn to summer months, however, the breeding season can vary between individuals, locations and years. They are the only truly nocturnal penguin species on land and during this period, adults always arrive after dusk and leave before dawn (CoA 2020a). Following nesting the adults go out to sea to feed prior to the moulting season which occurs between December and February. During this period the feathers are not waterproof, and the birds need to stay on land. At these times they are particularly vulnerable to land predators and interference. Moulting is followed by another feeding period prior to commencing breeding again. [Paragraph added in response to Matter: B02].

This species is a generalist feeder, with large variability in diet amongst colonies and even between years at the same colony. They feed mainly on clupeids, such as anchovy *Engraulis austalis* and sardines *Sardinops sagax*, when feeding chicks, but they may also feed on krill *Nyctiphanes australis* and several species of cephalopods at all stages of breeding (CoA 2020a).

4.4.6 Shorebirds

Twenty-four shorebirds were identified as breeding or roosting within the area potentially affected by light emissions (Table E9-1). These species are commonly found on coastal shores including beaches and rocky shores and either feed at low tide on worms, crustaceans and molluscs or fish species or feed on aquatic biota. Many of the wader species are migratory travelling from the Northern Hemisphere in non-breeding months. Most inhabit intertidal mudflats, rocky islets, sand beaches, mangroves, rocky coastline and coral reefs. Roosting occurs in similar habitats and species

are found feeding on fish, crustaceans, aquatic insects, as well as plants and seeds (Higgins & Davies 1996).

4.5 Turtles

The PMST Report identified three turtle species within the area potentially affected by light emissions, green, leatherback and loggerhead turtle. Annex 3 provides a summary of the PMST Report. No BIAs or habitat critical to the survival of the species were identified.

The PMST Report identifies leatherback and loggerhead turtles breeding likely to occur within the area potentially affected by light emissions. However, this is not supported by other information sources:

- South-east Marine Region Profile (DSEWPaC 2012): The region is an important feeding area for the leatherback turtle which is a pelagic feeder that is regularly found in the high latitudes of all oceans. No major nesting has been recorded in Australia, but the species is regularly seen and known to forage in the waters of the South-east Marine Region. Loggerhead turtle species or species habitat known to occur with South-east Marine Region.
- Recovery Plan for Marine Turtles in Australia (DoEE 2017): Does not identify breeding grounds for leatherback or loggerhead turtles in Victoria or waters off Victoria.
- Species Profile and Threats Database: Details that loggerhead turtles show fidelity to both their feeding and breeding areas but does not identify any breeding area in Victoria or waters off Victoria.
- Species Profile and Threats Database: Details that leatherback turtles are regularly found in waters offshore from Victoria with feeding recorded in the coastal waters of all Australian States, however no breeding or nesting sites are detailed in Victoria.

Green turtles' nest, forage and migrate across tropical northern Australia. Green turtles spend their first 5-10 years drifting on ocean currents. Green turtles are predominantly found in Australian waters off the Northern Territory, Queensland, and Western Australian coastlines, with limited numbers in NSW, Victoria and South Australia (DoEE 2017).

Small numbers of leatherback turtles' nest on the Cobourg Peninsula (NT) and there are unconfirmed accounts of leatherback turtles nesting in Western Australia. Leatherback turtles are more commonly found foraging in Australian waters along the east coast and in Bass Strait. The southern waters of Australia are one of five identified foraging sites (where area restricted behaviour occurs) for Leatherback turtles (DoEE 2017).

There are two genetically distinct stocks of loggerhead turtles nesting in Australia, one in Queensland (known as the south-west Pacific stock) and one in Western Australia. Loggerhead turtles forage in all coastal states and the Northern Territory, but are uncommon in South Australia, Victoria and Tasmania (DoEE 2017)

4.6 People and Communities

4.6.1 Social and Economic Features

During consultation, as presented in Annex 2, objections and claims were raised regarding concerns of impacts on the ecosystem, including commercially fished squid and coastal birds, which may impact tourism and local enjoyment of the area. These species are described in Sections 4.2 and 4.4, respectively.

As detailed in Section 3, the PEIRA (Appendix B4) identified that the environmental impact of light to coastal communities was ranked as having a negligible level of effect and is not assessed further.

4.6.2 Cultural Features

Several invertebrate species including torbos, pipis, abalone, limpets, mussels, elephant snails, crayfish/lobster, crabs and squid are identified as culturally significant to the Gunditjmara People as both a resource and in harvesting as a cultural practice (GMTOAC, 2023). Barnabeel (oyster), murrabal

(mussel), bam bam (crayfish), abalone and pipi are also culturally important resources to the Wadawurrung People (WTOAC, 2020). Invertebrate species are an important traditional, social and economic resource for the Eastern Maar People. Abalone, cockles and crayfish are collected as tucker along the coast (EMAC, 2015) (Appendix F3, Section 3.16.1).

Short-tailed shearwaters (mutton birds) are identified as being culturally significant to the Gunditjmara People and are used in harvesting practice (GMTOAC, 2023). Shearwaters are also identified as culturally significant species to the Eastern Maar people, along with gannets and Little Penguins (Appendix F3, Section 3.16.1).

Two Native Title determinations were identified as being within the area potentially affected by light emissions, Eastern Maar and Gunditjmara (Appendix B12 MAP-REG-EPM-092), including the currently under consultation Nyamat Mirring (GMTOAC, 2023). The respective Native Title determinations encompass cultural obligations and responsibilities which arise from Country and law and ensure that customs and beliefs are upheld (GMTOAC, 2023). They also recognise Traditional Owner rights to land, waters and other resources – rights to access, use and manage these resources for economic as well as cultural benefits (EMAC, 2015). For the Gunditjmara people, Native Title also includes culturally significant sites such as the 'Convincing Ground' (Appendix F3, Section 3.16.1).

Point Nepean, and the Mornington Peninsula, was identified as an area of high cultural importance (Appendix F3, section 3.16). However, the area is not with the area potentially affected by light emissions.

Access to Country is described as highly valued and a key aspect of cultural maintenance (Woods, 2020) and Country represents a deep, intrinsic connection to the land, a source of identity, nurturing individuals and communities through shared knowledge, stories, values, and traditions passed down through generations. For those who live away, the bond remains strong, with frequent returns to reconnect with both the land and the community, reinforcing their role in caring for and preserving Country (EMAC, 2015).

5 Relevant Legislative Requirements

CGG has considered all the relevant legislative requirements, conservation management and recovery plans for all species that may be affected (see Appendix B2). Measures that will be adopted to demonstrate how these requirements will be meet are as follows:

- Marine Assurance System ensure compliance of contracted vessels with the Navigation Act and relevant marine orders related to the management of light.
- It is standard practice for CGG to conduct OVID-Style inspections which will ensure that all vessels have and implement a Vessel Lighting Management Plan.

These measures will ensure that light emissions will be reduced to a level where wildlife will not be disrupted within, nor displaced from, important habitat; and will be able to undertake critical behaviours such as foraging, reproduction and dispersal. Recovery objectives of all relevant conservation advice have been considered in Appendix B2 and impacts to recovery are not predicted to any bird species.

6 Defining Acceptable Levels of Impact

CGG defined acceptable levels of impact and risk as part of its decision-making processes and published them as part of its consultation efforts, inviting relevant persons to comment on their appropriateness. During the preparation of the EP, it became clear that aspect specific statements would be necessary to create a stronger link between the defined acceptable level and the predictions of impacts and risks.

As such, Table E9-2 shows the general acceptable level statements which cover the whole of the activity (which are consistent across all environmental impacts and risks), and the corresponding aspect specific defined acceptable levels established for this assessment. The defined acceptable levels found in this section are subsequently carried through the prediction of impacts in this document, to the demonstration found in Section 10.[1]

Table E9-2 - Defined acceptable levels of impact from artificial light

Category	Defined Acceptable Levels (General)	Defined Acceptable Levels (Aspect Specific)	Rationale
Principles of ESD	The petroleum activity results in temporary / reversible, small scale, and/or low intensity environmental damage.	**Birds** Artificial light will be managed so wildlife is not disrupted within, nor displaced from important habitat, and is able to undertake critical behaviours such as foraging, reproduction and dispersal. **Turtles** Turtles continue to utilise the area without disruption to critical life-cycle behaviours. **Fish, Invertebrates, and Zooplankton** Artificial light exposure to fish, invertebrates, and zooplankton will not exceed those produced by other marine users during nighttime operations in the region and will not cause impacts at a population level.	Artificial light is known to disorient seabirds and other wildlife, altering their flight patterns, increasing collision risk, and disrupting critical behaviours such as nocturnal foraging or resting. Light pollution is identified as a high-risk threat in the Recovery Plan for Marine Turtles in Australia (DoEE 2017). This acceptable level aligns with Commonwealth marine wildlife protection guidelines and supports ecosystem integrity. It is consistent with the aims of the National Light Pollution Guidelines for Wildlife (CoA 2023) for the management of artificial light and aligns with the Recovery Plan for Marine Turtles in Australia (DoEE 2017).
	The impact and risk assessment process are based on sufficient information to understand if: Serious/irreversible environmental damage is predicted; or The application of the precautionary principle is applied in the presence of scientific uncertainty.		
	Environmental management of the activity must not be inconsistent with EPBC Act Management Plans and Recovery Plans.		
Biological	Impacts and risks to biological features will be temporary / reversible, small scale, and/or low intensity environmental damage at population levels.		

[1] Note: The acceptable levels related to demonstrating ALARP and the adoption of specific measures to ensure the effectiveness of control measures can be found in Appendix F2 and B3 respectively. As they are criteria integral to the acceptance of the Environment Plan, and they a documented elsewhere, these criteria are not discussed further in this assessment.

Category	Defined Acceptable Levels (General)	Defined Acceptable Levels (Aspect Specific)	Rationale
Ecological	Impacts and risks to ecological features will be temporary / reversible, small scale, and/or low intensity damage to the overall health, diversity, or functioning of the ecosystem.		
Economic	Affected persons will not be worse off because of the activity.	Industries, livelihoods, and ecosystem services remain viable, with no sustained financial or operational consequences resulting from changes in species behaviour, abundance, or access to resources.	For species and sensitivities with social, cultural and/or economic values, if the potential ecological impact or risk is deemed acceptable, it is likely that the corresponding impact on social, cultural and/or economic values will also be considered acceptable, as the physical presence and health of these species are key for maintaining their social, economic and cultural roles. Therefore, predicted levels of impact for social, cultural and economic values for species will be assessed on a receptor level.
Cultural	Impacts and risks to cultural features including cultural values, traditions, or practices, will be temporary / reversible, small scale, and/or low intensity.	Culturally important species, places, and practices can continue without disruption to their role, accessibility, or long-term viability.	
Social	Measures have been adopted based on the consultation process to address relevant objections and claims of relevant persons. The views of public have been considered in the impact and risk assessment.	People and communities can continue engaging with the natural environment, recreational activities, and heritage values without experiencing long-term or irreversible disruption.	
Company	Environmental impacts and risks are consistent with the CGG impact and risk assessment process such that for an impact or risk the effect/ consequence rating is medium or below.	As per the general levels.	CGG is a company familiar with managing the effects of seismic surveys, including light, on the marine environment, and its global operational history supports the reliability of its internal assessment process. The use of CGG's impact and risk matrix, when consistently applied, has not resulted in unacceptable environmental outcomes, which indicates the process produces conservative and realistic assessment outcomes.

7 Consultation Input

CGG carried out the consultations required by the regulations to:

- Improve the predictive quality of this assessment by seeking relevant person input into the preparation of the EP.
- To verify the description of the environment that CGG produced as part of its environmental assessment process through information provided to CGG by relevant persons.
- Receive objections or claims about the adverse effects of the activity on a relevant person's functions, interests, or activities.

The information received from relevant persons can be found in each relevant person consultation report. It has been considered in the preparation of this assessment.

Objections or claims about the adverse of the effects of the activity can also be found in each relevant person's consultation report. They have been assessed for merit and CGG has written a statement of its response to each objection or claim. Any objection or claim relevant to this assessment and subsequently considered in its preparation can be found in Annex 2.

8 Minimisation of Impacts Through Activity Design

As part of planning and design of the activity several activity limitations were considered in accordance with the hierarchy of controls and through the consultation process (see Annex 2). These limitations were evaluated to determine whether the source of impact could be eliminated or substituted through changes in the timing, technology, or design of the activity. As described in Appendix F3, section 3.16.2, due to the interconnection between the tangible and intangible cultural values, all activity limitations are relevant to safeguarding social, economic, and cultural features and values, ensuring protection across all areas.

8.1 Elimination

Elimination involves removing the source of an impact or risk entirely through changes to the activity design. In some cases, this may reduce one impact while introducing others, requiring careful consideration of environmental trade-offs. One main option was considered:

Elimination of Light Emissions from the Regia MSS

Eliminating light emissions from the Regia MSS would require removing all non-essential lighting, including navigational lights. While this could reduce exposure for light-sensitive fauna, doing so would increase the risk of vessel collisions, compromise crew safety, and breach international maritime safety obligations. These outcomes carry significantly higher environmental and operational risks, such as marine fuel spills or emergency response failures, which outweigh the potential benefit of reduced light emissions.

In this case, the trade-off clearly supports retaining navigational lighting, with impact reduction instead achieved through vessel lighting management practices that minimise unnecessary illumination. As a result of this analysis, there are no viable elimination options available for managing light emissions. The impact pathway remains and requires further consideration through substitution.

8.2 Substitution

Where elimination is not viable, substitution involves altering the timing, location, or sequencing of the activity to reduce the likelihood or consequence of the impact. Two main options were considered:

Seasonal Avoidance of Light-Sensitive Species

One option considered was avoiding survey operations during periods when light sensitive species are most likely to be present in the region. While this could reduce light exposure for certain individuals, implementing this option would have required the survey to be delayed or staged in multiple non-continuous phases. This would have significantly extended the total duration of the activity, increasing vessel presence and compounding impacts such as underwater noise, fuel use, and light emissions. In addition, the broad distribution and mobile nature of light-sensitive species in the area meant that any marginal benefit gained from this timing change would have been uncertain and limited. The trade-off between potential benefit and the increase in duration and cumulative environmental impact was not justified, and this option was rejected.

Daylight-Only Operations

A second substitution option considered was restricting operations to daylight hours only, thereby removing artificial light emissions at night. While this would effectively remove the light-related impact pathway for nocturnally active light sensitive species, it would also double the number of operational days required to complete the survey. This extended duration would result in increased impacts to a range of other environmental values, all of which are affected by the presence and duration of the survey. Again, the environmental trade-off of protecting one group of species at the expense of broader and potentially more sensitive receptors was not considered acceptable, and this option was also rejected.

These considerations demonstrate that reasonable substitution options were explored during the planning and environmental assessment process. However, none were adopted, as each would have introduced greater environmental impacts overall or resulted in unacceptable trade-offs. The residual light emissions associated with the activity are therefore not avoidable through substitution, and their impacts are addressed through assessment and management.

9 Predicted Levels of Impact

Ambient light is defined as the light that is already present within an environment. Any additional emission of light will result in a change in the ambient light. Natural ambient light sources offshore are dominated by solar and lunar luminescence but can also include bioluminescence emission from some marine organisms and incandescence emissions from electromagnetic radiation expressed as lighting.

The primary sources of artificial lighting in the offshore marine environment during the Regia MSS will result from the deck and navigational lights onboard the survey vessels. Deck areas need to be always lit for personnel safety, with deck lighting typically consisting of bright white lights focused on working areas. Spot lighting may be required for in-sea inspection, deployment, and retrieval of survey equipment. Navigational lights are typically elevated on the vessel, outwards facing, and of lesser intensity than deck lighting.

The impacts of the changes in ambient light from the vessel are discussed below.

9.1 Change in Fauna Behaviour

For the light impact assessment, the process outlined in the National Light Pollution Guidelines for Wildlife (CoA 2020) is used. The aim of the guidelines is that artificial light will be managed so wildlife is:

1. Not disrupted within, nor displaced from, important habitat.
2. Able to undertake critical behaviours such as foraging, reproduction and dispersal.

The Wildlife Conservation Plan for Seabirds (CoA 2020a) details that all species of seabird are vulnerable to impacts from lighting. The National Light Pollution Guidelines for Wildlife (CoA 2023) details those seabirds active at night while migrating, foraging or returning to colonies are most at risk. Fledglings are more affected by artificial lighting than adults due to the synchronised mass exodus of fledglings from their nesting sites. They can be affected by lights up to 15 km away.

The National Light Pollution Guidelines for Wildlife (CoA 2023) details that there is evidence that night-time lighting of migratory shorebird foraging areas may benefit the birds by allowing greater visual foraging opportunities. However, where nocturnal roosts are artificially illuminated, shorebirds may be displaced, potentially reducing their local abundance if the energetic cost to travel between suitable nocturnal roosts and foraging sites is too great. Artificial lighting could also act as an ecological trap by drawing migratory shorebirds to foraging areas with increased predation risk.

The National Light Pollution Guidelines for Wildlife (CoA 2023) details that artificial light can interfere with daily and seasonal light cues for zooplankton, invertebrates and fish resulting in changes in behaviour.

The Recovery Plan for Marine Turtles (DoEE 2017) details that artificial light poses a threat to marine turtles because it disrupts critical behaviours as they use light as an orientation cue. Artificial light can inhibit nesting by females (Salmon 2003) and can disrupt hatchling orientation and sea finding behaviour (Philibosian 1976; Witherington and Bjorndal 1991).

9.1.1 Birds

Twelve albatross and two petrel species are identified as having foraging, feeding or related behaviour and/or BIAs within the area potentially affected by light emissions (Table E9-1). These BIAs cover either most or all the South-east Marine Region (CoA 2015a). It is likely these species will forage in the EMBA. In addition, the common diving-petrel breeds on Lady Julia Percy Island which is within the area potentially affected by light emissions.

The National Recovery Plan for Albatrosses and Petrels (CoA 2022) identifies that seabirds are at risk of disorientation at night from artificial light sources and that seabird interactions have been reported across the marine infrastructure sectors including vessels. The paper cited (Black 2005) detailed that the species involved in the incidents were consistently small burrow nesting petrels with events

occurring in conditions of reduced visibility and in the vicinity of major burrowing petrel breeding sites. The use of ice-lights or other deck lighting was a key factor in all three incidents recorded.

No breeding sites for albatrosses or petrels are present within the area potentially affected by light emissions.

Albatrosses forage most actively during daylight and are less active at night because their ability to see and capture prey from the air is reduced (Phalan et al. 2007). Petrels seem more likely to forage during both that day and night (Brooke (2004) cited on Animal Diversity Web (2020), DCCEEW 2023a).

Though the National Recovery Plan for Albatrosses and Petrels (CoA 2022) identifies marine lighting as a threat to albatrosses and petrels it does not provide a risk category as the number of species affected in or outside Australian jurisdiction as nil.

Two shearwater species were identified within the area potentially affected by light emissions. The Wedge-tailed Shearwater was not identified in the PMST Report for the area potentially affected by light emissions (Appendix B5) though a foraging BIA was. The foraging BIA is a buffer around Muttonbird Island, Victoria but there is not data to support that this species breeds on the Victorian Mutton Island but there is data to support that they breed on Muttonbird Island in NSW. This species is listed as marine and migratory and does not have a recovery plan or conservation advice. Light has not been identified as a threat to this species in the SPRAT profile (DCCEEW 2023a) or the Wildlife Conservation Plan for Seabirds (CoA 2020a).

The Short-tailed Shearwater breeds on Lady Julia Percy Island which is within the area potentially affected by light emissions. This species is listed as marine and migratory and does not have a recovery plan or conservation advice. The Wildlife Conservation Plan for Seabirds (CoA 2020a) details that light pollution represents a potential threat to this species in parts of its range. A number much higher than anticipated, of (predominantly juvenile) shearwaters were found dead or injured as a result of being attracted to lights and grounded over a 15-year period of patrols on Phillip Island, Victoria (1999-2013).

During consultation breeding colonies of Little Penguin were also identified on Lady Julia Percy Island / Deen Maar, and Middle Island [Event ID 2023]. Breeding typically occurs from September to February. Studies suggest that penguins were habituated to artificial lights and were unaffected by low level (15 lux) increase in artificial illumination (Rodriguez et al. 2016). [Paragraph added in response to Matter: B02]

The Orange-bellied Parrot migration route overlaps the area potentially affected by light emissions. The Orange-bellied Parrot is classed as critically endangered and there are about 50 remaining in the wild (DELWP 2016a). Survey activities may overlap the period when Orange-bellied Parrot migrates between Tasmania and Victoria between late February to early April (Australian Museum 2020). The Orange-bellied Parrot Recovery Plan identifies illuminated structures and illuminated boats as a potential barrier to migration and movement (DELWP 2016).

Of the other bird species identified from the PMST Report (Appendix B5) that may occur within the area potentially affected by light emissions, the following had conservation advice that identified that disturbance can result from night lighting or that light pollution has indirect impacts on habitat critical to survival; Bar-tailed Godwit (western Alaskan) (DCCEEW 2024b), Common Greenshank (DCCEEW 2024e), Curlew Sandpiper (DCCEEW 2023m), Far Eastern Curlew (DCCEEW 2023n),Greater Sand Plover (DCCEEW 2023o) Latham's Snipe (DCCEEW 2024d), Lesser Sand Plover (TSSC 2016), Ruddy Turnstone (DCCEEW 2024c) and Sharp-tailed Sandpiper (DCCEEW 2024a). These species are migratory wetland species.

The predicted effect level to birds from light emissions is assessed as minor (some affect but not considered significant or long lasting, no overall threat to populations) based on:

- The presence of birds within the area potentially affected by light emissions is expected to be representative of their wide distribution in southern Australian waters during the survey period.
- The increase in light level intersecting the coastline at Warrnambool, Middle Island and Lady Julia Percy Island would be comparable to that associated with light emissions from typical

marine traffic and short-duration, minor changes in ambient light in these locations is unlikely to cause behavioural changes or result in injury/mortality to the Little Penguin. [Paragraph added in response to Matter: B02]

- As the area potentially affected by light emissions overlaps a number of foraging and breeding BIAs, the migratory route for the critically endangered, Orange-bellied Parrot and areas where birds are likely or known to be foraging, breeding or roosting all vessels will have a Vessel Lighting Management Plan to minimise external light emissions as required by the National Light Pollution Guidelines.
- As all survey vessels will have a Vessel Lighting Management Plan such that effects to birds from light emissions are predicted to be temporary and not result in significant or lasting effects.

The uncertainty level for impact to birds from light emissions is assessed as low based on:

- Peer review literature and studies have been used to inform the impact assessment.
- A conservative 20 km area has been used for assessment of impacts for birds as recommended by the National Light Pollution Guidelines for Wildlife (CoA 2023) which details that the 20 km is a precautionary limit based on observed effects of sky glow on marine turtle hatchlings demonstrated to occur at 15-18 km and fledgling seabirds grounded in response to artificial light 15 km away.
- The 20 km area has been used for assessment of impacts for birds does not consider that survey vessels will have a Vessel Lighting Management Plan to minimise external light emissions, thus the area of potential impact will be significantly less than 20 km.
- The impact assessment has been undertaken as per the National Light Pollution Guidelines for Wildlife (CoA 2023).
- Mitigation and management measures recommended by the National Light Pollution Guidelines for Wildlife (CoA 2023) relevant to vessels have been assessed and all survey vessels will have a Vessel Lighting Management Plan to minimise external light emissions as required by the National Light Pollution Guidelines.

The predicted level of impact based on the effect (minor) and uncertainty (low) is assessed as low. For birds the predicted levels of impact are clearly below the pre-defined acceptable levels of impact and the mitigation and management measures in place provide sufficient confidence in the predicted effect levels.

9.1.2 Fish, Invertebrates and Zooplankton

Normal working lights on marine research vessels—and, by implication, lights from other sources including fishing boats, cargo vessels, recreational watercraft, jetties and oil and gas platforms—have been shown to cause zooplankton and their vertebrate predators to descend away from the surface; these effects occurred at depths of up to 200 m, and up to 200 m horizontally from the light source (Berge et al. 2020 in DCCEEW 2022). Since most zooplankton need to ascend to forage on phytoplankton near the water's surface, light pollution may lead to an overall reduction in zooplankton, with cascading effects on their predators, and so on up the food chain (DCCEEW 2022).

Phototactic behaviour (the attraction to artificial light) has been observed both in fish and squids with some species known to have a positive phototaxis by moving towards and aggregating in the illuminated zone of artificial lights (Ibrahim and Hajisamae 1999). Hence fishing with artificial lights (surface light) is one of the most advanced and successful methods to increase the catch rate of squid and pelagic fish (Nguyen and Winger 2019).

Experiments using light traps have found that some fish and zooplankton species are attracted to light sources (Meekan et al., 2001), with traps drawing catches from up to 90 m (Milicich et al., 1992). Lindquist et al (2005) concluded from a study of larval fish populations around an oil and gas platform in the Gulf of Mexico that an enhanced abundance of clupeids (herring and sardines) and engraulids (anchovies), both of which are highly photopositive, was caused by the platforms' light fields. The concentration of organisms attracted to light results in an increase in food source for predatory species and marine predators are known to aggregate at the edges of artificial light halos. Hernandez

& Shaw (2002), in a similar light trap study, noted that juvenile tunas (Scombridae) and jacks (Carangidae), which are highly predatory, may have been preying upon concentrations of zooplankton attracted to the light field of the platforms. This could potentially lead to increased predation rates compared to unlit areas.

The predicted effect level to fish, invertebrates and zooplankton from light emissions is assessed as minor (some affect but not considered significant or long lasting, no overall threat to populations) based on:

- There are no biologically important areas or habitat critical to the survival of fish or invertebrate species within or adjacent to the area potentially affected by light emissions.
- For threatened or listed fish species identified in the PMST Report, none of the recovery plans, conservation advice or conservation listings identify light emissions as a threat.
- No fish spawning or aggregation areas were identified within the area potentially affected by light emissions.
- The presence of fish and invertebrates within the area potentially affected by light emissions is expected to be representative of their wide distribution in southern Australian waters during the survey period.
- The area potentially affected by light emissions relevant to zooplankton, invertebrates, and fish (200 m) overlaps a small portion of the Bonney Coast Upwelling Key Ecological Feature which during November to April results in increased productivity, consisting of krill and other zooplankton, within the area. Thus, all vessels will have a Vessel Lighting Management Plan to minimise external light emissions as required by the National Light Pollution Guidelines. This will ensure that krill and other zooplankton associated with the Bonney Coast Upwelling Key Ecological Feature are not affected by light emissions associated with the survey vessels.
- Several threatened species including the blue whale migrate into the Operational Area and area that may be affect by light, to forage. As the Regia MSS will occur during the November to April season, when foraging typically occurs, all vessels will have a Vessel Lighting Management Plan to minimise external light emissions as required by the National Light Pollution Guidelines. This will ensure that krill and other zooplankton are not affected by light emissions associated with the survey vessels.
- As all survey vessels will have a Vessel Lighting Management Plan to minimise external light emissions, light emissions will be significantly less and not aimed into the water as per squid fishing vessels, thus attraction of squid to the moving survey vessels is unlikely.
- Effects to fish, invertebrates and zooplankton that may be present in the area potentially affected by light emissions are predicted to be temporary and not result in lasting effects.

The uncertainty level for impact to fish, invertebrates and zooplankton from light emissions is assessed as low based on:

- Peer review literature and studies have been used to inform the impact assessment.
- The impact assessment has been undertaken as per the National Light Pollution Guidelines for Wildlife (CoA 2023).
- Mitigation and management measures recommended by the National Light Pollution Guidelines for Wildlife (CoA 2023) relevant to vessels have been assessed and all survey vessels will have a Vessel Lighting Management Plan to minimise external light emissions as required by the National Light Pollution Guidelines.

The predicted level of impact based on the effect (minor) and uncertainty (low) is assessed as low. For fish the predicted levels of impact are clearly below the pre-defined acceptable levels of impact and the mitigation and management measures in place provide sufficient confidence in the predicted effect levels.

9.1.3 Turtles

Light pollution is identified as a high-risk threat in the Recovery Plan for Marine Turtles in Australia (DoEE 2017) with the action of: *Artificial light within or adjacent to habitat critical to the survival of marine turtles will be managed such that marine turtles are not displaced from these habitats.*

No habitat critical to the survival of marine turtles or biologically important areas have been identified within or adjacent to the area potentially affected by light emissions, from the Recovery Plan for Marine Turtles in Australia (DoEE 2017) or PMST Report (Appendix B5).

The PMST Report (Appendix B5) identifies leatherback and loggerhead turtles breeding likely to occur within the area potentially affected by light emissions. However, as detailed in the Section 4.5 this is not supported by other information sources. Thus, it is likely that the three marine turtle species identified in the PMST Report (green, leatherback and loggerhead) may be present within the area potentially affected by light emissions and may undertake critical behaviours such as foraging, but it is unlikely that they are undertaking breeding.

As there are no habitat critical to the survival of marine turtles within or adjacent to the area potentially affected by light emissions, thus displacement of turtles by artificial light from these areas is not predicted.

Marine turtles use light as an orientation cue, and therefore artificial light has the potential to inhibit nesting by adult females and disrupt the orientation and sea-finding behaviour of hatchlings (CoA 2023; DoEE 2017). The general guidance is that turtles require naturally illuminated beaches for successful nesting and sea-finding behaviour (DoEE 2017a; Limpus et al. 2015; Robertson et al. 2016).

Artificial lighting may adversely affect hatchling sea-finding behaviour in two ways: disorientation – where hatchlings crawl on circuitous paths; or misorientation – where they move in the wrong direction, possibly attracted to artificial lights (CoA 2023). Hatchlings have been observed to respond to artificial light up to 18 km away during sea finding (CoA 2023).

No nesting beaches are present within the area potentially affected by light emissions so disruption to turtle nesting, hatchling orientation, sea-finding and dispersal behaviour is not predicted.

The predicted effect level to marine turtles from light emissions is minor (some affect but not considered significant or long lasting, no overall threat to populations) based on:

- There is no habitat critical to the survival of marine turtles within or adjacent to the area potentially affected by light emissions, thus displacement of turtles by artificial light from these areas is not predicted.
- No nesting beaches are present within the area potentially affected by light emissions so disruption to turtle nesting, hatchling orientation, sea-finding and dispersal behaviour is not predicted.
- The Recovery Plan for Marine Turtles in Australia (DoEE 2017) identifies light pollution as a threat to nesting turtles and hatchlings. Light emissions have not been identified as a threat to turtles away from nesting beaches (i.e. there is no inhibition of orientation cues noted in open waters). There are no nesting beaches within the area potentially affected by light emissions.
- The area potentially affected by light emissions does not represent key foraging, breeding, migration, or aggregation areas for marine turtles; and marine turtle presence is expected to be representative of their wide distribution in southern Australian waters during the survey period.
- Changes to biologically important behaviours (such as nesting, hatchling orientation, sea-finding and dispersal behaviour) for marine turtles is not predicted.
- Effects to turtles that may be present in the area potentially affected by light emissions are predicted to be minor or insignificant and are unlikely to result in lasting effects.

The uncertainty level for impact to turtles from light emissions is assessed as low based on:

- There are long-term tagging studies of sea turtles in Australia, and there are no nesting habitats are BIAs identified within or adjacent to the area that may be affected by may be affected by light emissions.
- The Recovery Plan for Marine Turtles in Australia (DoEE 2017) identifies light pollution as a threat to nesting turtles and hatchlings. Light emissions have not been identified as a threat to turtles away from nesting beaches (i.e. there is no inhibition of orientation cues noted in open waters). There are no nesting beaches within the area potentially affected by light emissions.
- Peer review literature and studies have been used to inform the impact assessment.
- The impact assessment has been undertaken as per the National Light Pollution Guidelines for Wildlife (CoA 2023).
- Mitigation and management measures recommended by the National Light Pollution Guidelines for Wildlife (CoA 2023) relevant to vessels have been assessed and all contracted vessels will have a Vessel Lighting Management Plan to minimise external light emissions as required by the National Light Pollution Guidelines.

The predicted level of impact based on the effect (minor) and uncertainty (low) is assessed as low. For turtles the predicted levels of impact are clearly below the pre-defined acceptable levels of impact and the mitigation and management measures in place provide sufficient confidence in the predicted effect levels.

9.2 People and Communities

9.2.1 Cultural Features

The presence of lighting associated with the activity has potential to impact cultural features and heritage values through the following ways:

- Cultural obligations to care for Country: Environmental impacts may be assumed to impact rights and obligations to care for Sea Country.
- Knowledge of Country/customary law and transfer of knowledge: Indirect impacts to communities practicing these skills will inherently occur when threats to Sea Country values are felt.
- Connection to Country: Where people are displaced or disrupted (e.g., during colonisation) or where there is a loss of technical skills or environmental knowledge this may damage connection to Country (McDonald and Phillips, 2021).
- Access to Country: Impacts to access to Country can occur in areas that were traditionally accessed by First Nations peoples.

Deen Maar and two Native Title determinations were identified as being within the area potentially affected by light emissions, Eastern Maar and Gunditjmara (Appendix B12 MAP-REG-EPM-092), including the currently under consultation Nyamat Mirring (GMTOAC, 2023).

Consultation and literature review indicated the importance of connection to coastal and marine areas for indigenous culture.

The predicted effect level to cultural features from light emissions is minor (some affect but not considered significant or long lasting) based on:

- Commercial shipping companies and commercial fishing vessels transit adjacent to and within the Operational Area and the Southeast Marine Region is one of the busiest shipping regions in Australia and Bass Strait is one of Australia's busiest shipping routes. Vessel lighting may be seen at night from Deen Maar and Native Title areas, however, they would not be distinguishable from any other vessel that may be in the area. Survey vessels will become less distinguishable as they move further away from the coast as the survey is undertaken. Over the 90 day survey the vessels will spend the majority of the time undertaking acquisition within the Active Source Area which is at its closest point >20.7 km from the mainland and >17 km from Deen Maar (adhering to activity limitation: no discharge of sound source within 17km of Deen Maar), at these distances it is unlikely that the vessels would be noticeable at night.

- Light emissions will not exclude Traditional Owners from Country including Sea Country.
- Light emissions will not obstruct access to resources or locations that have been or may continue to be used for traditional practices such as harvesting, hunting, gathering, or camping.
- There is no threat or impediment from the activity on the transmission of knowledge of Country/customary law and transfer of knowledge by light emissions. This is particularly true when there are no predicted effects to light sensitive species of cultural significance at populations levels, to ecosystem integrity, or biodiversity preservation.

The uncertainty level for impact to cultural features from light emissions is assessed as low based on:

- No cause-effect pathway has been identified for light emissions affecting access to Country, including Sea Country, knowledge of Country/customary law and transfer of knowledge or connection to Country.
- Peer review literature and studies have been used to inform the impact assessment, and the impact assessment has been undertaken as per the National Light Pollution Guidelines for Wildlife (CoA 2023) for light sensitive species of cultural significance.
- Mitigation and management measures recommended by the National Light Pollution Guidelines for Wildlife (CoA 2023) relevant to vessels have been assessed and all contracted vessels will have a Vessel Lighting Management Plan to minimise external light emissions.

The predicted level of impact based on the effect (minor) and uncertainty (low) is assessed as low. For cultural features the predicted levels of impact are clearly below the pre-defined acceptable levels of impact and the mitigation and management measures in place provide sufficient confidence in the predicted effect levels.

9.3 Measures Adopted to Manage Environmental Impacts

Measures adopted to ensure environmental impacts will be of an acceptable level and ALARP.

Measure	Measure Type	Details and Justification
Vessel Lighting Management Plan	Resource	Contracted vessels are required to have a Vessel Lighting Management Plan to minimise light emissions while meeting vessel navigational light requirements. The Lighting Management Plan will also cover the process for handling of birds, releasing of birds and reporting to DCCEEW in the case of protected species.
Light Minimisation	Responsibility	Vessel crew to be aware of their requirement to minimise non-essential light emissions.
Minimise non-essential lighting	Practice	For all survey vessels, the following will be implemented where it does not contravene vessel lighting requirement for safe navigation: – Non-essential lights switched off when not in use. – Window blinds closed at night. – Shield lights and contain light spill on the deck unless required for safe operations. – Use of suitable light types recommended in the National Light Pollution Guidelines.
CGG Marine Assurance System	System	The CGG Marine Assurance System ensure compliance of contract vessels with legislative requirements including the Navigation Act, MARPOL, COLREGS and Marine Orders.
Survey Environment Advisor	Person	This person is the primary environmental authority on the vessel and has a role related to environmental management and performance on the vessel, along with specific responsibilities for the management of fauna interactions.
Sail Line Plan	Resource	Ensures that the survey vessel will remain within the scope and boundaries of the EP and reflects the activity limitations.
OVID-Style Inspection	Practice	The pre-survey inspections of all contracted vessels will confirm that the light management plan is in place and that the crews are aware of their responsibilities to minimise non-essential lighting.
Activity Specific Induction	Practice	All vessel crew will undertake an activity specific induction, which will include information about the requirements for management of light.

10 Demonstration Impacts will be of an Acceptable Level

10.1 Principles of ESD

Temporary, Reversible, Small Scale and Natural Variation

As discussed in the impact assessment, the activity is expected to result in short-term and reversible impacts from artificial light, primarily associated with vessel navigation and safety lighting during night operations. These impacts are limited to the duration of the activity, which is less than 90 days, and are geographically confined to the Operational Area plus a precautionary 20 km buffer for birds and turtles, and 200 m for fish, zooplankton, and invertebrates. The predicted changes in fauna behaviour are minor in effect, with no long-term or population-level consequences anticipated. Peer-reviewed literature, field studies, and adherence to national guidelines support the conclusion that the activity will not cause lasting changes to the environment.

Based on sufficient information

The assessment was informed by a range of peer-reviewed scientific literature, national guidelines (e.g. the National Light Pollution Guidelines for Wildlife), field data from previous studies in the region, and expert input. The quality and sufficiency of this information enabled robust conclusions about the potential impacts. Where uncertainty existed, precautionary buffer distances were applied (e.g. 20 km for birds and turtles), and conservative assumptions were used in the absence of local data. No serious or irreversible impacts were predicted, and the precautionary principle was not triggered.

Activity not inconsistent with EPBC Act

The environmental management measures adopted for the activity are not inconsistent with the EPBC Act, including relevant Management and Recovery Plans. Species considered include listed marine turtles, seabirds, and migratory shorebirds. The Recovery Plan for Marine Turtles (DoEE 2017), Wildlife Conservation Plan for Seabirds (CoA 2020a), Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) and species recovery plans were reviewed, with vessel lighting measures aligned to their recommendations. All contracted vessels will implement Vessel Lighting Management Plans to avoid disruption to critical behaviours such as foraging, reproduction and dispersal. No habitat critical to the survival of listed species is present within the area potentially affected by light emissions.

10.2 Biological and Ecological Categories

Biological features assessed are fish, zooplankton, invertebrates, birds, and turtles that are identified as light sensitive in the National Light Pollution Guidelines for Wildlife (CoA 2023). Impacts are predicted to be minor and reversible, confined to localised areas near the vessels (within 200 m for aquatic species, and up to 20 km for avian and turtle species). There are no population-level consequences predicted, and no critical habitats or aggregation areas overlap the affected area. Phototactic behaviour in squid and fish may cause localised effects, but these are common in the region due to existing fishing activity. The implementation of light management measures ensures impacts remain low in intensity and scale.

The activity is predicted to cause only minor and temporary changes in the behaviour of individual species without affecting ecosystem structure or function. The Bonney Coast Upwelling, a Key Ecological Feature, slightly overlaps with the area affected by light emissions, but no disruption to ecological processes is predicted. Vessel lighting is not expected to significantly alter food webs, and all emissions will be minimised through a structured lighting management approach. No impacts are predicted at an ecosystem level.

10.3 Economic, Cultural and Social Categories

The cultural heritage review, desktop research and consultation with relevant persons confirmed that light emissions from the activity are not expected to result in material disadvantage. The activity occurs more than 17 km offshore and is of short duration. No disruption to fishing grounds,

recreational use, or tourism was identified because of artificial light. Measures such as minimising non-essential lighting help avoid interference with amenity values or access to key resources.

Cultural values assessed included the significance of invertebrates, seabirds, and connection to Country for Traditional Owners. No direct disturbance to cultural sites or practices will occur. The presence of lighting from vessels may be visible from Native Title areas, as per any other vessels in the area, but will not disrupt cultural access or obligations. The short duration and offshore distance of the activity, coupled with mitigation measures, ensure that cultural connections and practices can continue without interruption.

Consultation identified concerns related to impacts on birds, squid, and ecosystem integrity. These were considered in the assessment, and several design and management measures were adopted in response. These include requiring all vessels to implement Vessel Lighting Management Plans and undertaking pre-survey inspections to ensure compliance. As these values are closely tied to the physical presence and health of the species, the corresponding social, cultural and economic impacts are likewise considered acceptable. The measures directly address objections by reducing impacts to culturally significant species, commercial species, and biodiversity values.

10.4 Consistency with Company Processes

The impact assessment followed the methodology in Appendix B3 and applied the impact assessment process as per the National Light Pollution Guidelines for Wildlife (CoA 2023) and was informed through consultation input and relevant persons feedback. The predicted level of effect to light sensitive fauna and people and communities was assessed as minor, with a low level of uncertainty, resulting in a low predicted impact level. The predicted spatial extent of light emissions was compared against known distributions, behavioural sensitivities, and key ecological features. This confirmed that potential impacts are localised and temporary, confined to the vicinity of the light source. All mitigation measures consistent with regulatory guidance and good industry practice were incorporated. As no threshold exceedances or high-consequence outcomes were identified, the final consequence ratings remain within company-defined limits.

The impact assessment has demonstrated that the effect of light emissions to light sensitive fauna (birds, fish, invertebrates, zooplankton, and turtles) and people and communities, has a:

- Predicted level of effect of minor (2).
- An uncertainty level of low (2).
- Predicted level of impact of low (4).

11 Environmental Performance Outcomes

Environmental Performance Outcomes (EPOs) are measurable and activity-specific outcomes that describe the environmental performance the titleholder must achieve to ensure impacts and risks are managed to acceptable levels. EPOs are critical to the structure of an Environment Plan because they form the clear link between the defined acceptable level of impact and the predicted level of environmental consequence. Each EPO must be measurable, achievable, and within the control of the titleholder to implement, providing a transparent and enforceable statement against which performance can be assessed.

Table E9-3 - Environmental Performance Outcomes and Justifications

Defined Acceptable Level (From Table E9-2)	Environmental Performance Outcome	Rationale
Artificial light will be managed so wildlife is not disrupted within, nor displaced from, important habitat, and is able to undertake critical behaviours such as foraging, reproduction and dispersal.	**Biologically important behaviours within a BIA or outside a BIA can continue while the activity is being undertaken.**	These EPOs are supported through adherence to the Vessel Light Management Plan, which includes documented procedures for minimising light intensity and optimising directional control. Evidence of performance may include lighting audits, crew training records, absence of wildlife disturbance incidents and verification that lighting is consistent with safe navigational standards while minimising ecological risk.
Artificial light exposure to fish, invertebrates, and zooplankton will not exceed those produced by other marine users during nighttime operations in the region and will not cause impacts at a population level.	**Light emissions will be reduced to minimum levels for safe operations and navigation in accordance with the Vessel Management Plan**	
Turtles continue to utilise the area without disruption to critical life-cycle behaviours.	**Light emissions are managed to avoid displacing turtles or disrupting nesting, foraging, or migratory behaviours within or near biologically important areas.**	
Industries, livelihoods, and ecosystem services remain viable, with no sustained financial or operational consequences resulting from changes in species behaviour, abundance, or access to resources.	**Social, cultural, and economic features are protected, sustaining their value for people and communities.**	Predicted impacts to economic receptors (e.g. squid) are temporary, reversible, small-scale, and light emissions will be reduced to minimum levels for safe operations and navigation, thus commercial squid fishers will not be worse off because of the activity.
Culturally important species, places, and practices can continue without disruption to their role, accessibility, or long-term viability.		Predicted impacts to biological receptors (fish, invertebrates, birds, turtles) are temporary, reversible, small-scale, and light emissions will be reduced to minimum levels for safe operations and navigation. Vessel lighting associated with petroleum activity may be visible from Native Title areas, but due to distance and duration, it is not predicted to impact associated cultural values.

Defined Acceptable Level (From Table E9-2)	Environmental Performance Outcome	Rationale
People and communities can continue engaging with the natural environment, recreational activities, and heritage values without experiencing long-term or irreversible disruption.		Predicted impacts to biological receptors (fish, invertebrates, birds, turtles) are temporary, reversible, small-scale, and light emissions will be reduced to minimum levels for safe operations and navigation.
Environmental impacts and risks are consistent with the CGG impact and risk assessment process such that for an impact or risk the effect/ consequence rating is medium or below.	**The activity is conducted such that environmental impacts and risks remain within the range assessed as medium or lower, with mitigation measures in place and functioning as intended.**	This EPO enables ongoing assessment of effectiveness through internal reviews and operational audits. It provides a clear link between the risk assessment process and implementation strategy, supporting regulatory compliance and continuous improvement without requiring environmental outcome monitoring.

12 Recommendations

The predicted level of impact is low for all light sensitive fauna and people and communities, and below pre-defined acceptable levels. Good industry practice (including legislation and standards) has been applied; therefore, impacts are of an acceptable level to all species. The orange-bellied parrots migratory path has a small overlap with the Operational Area and due to the conservation status of this species it should be assessed for cumulative impact pathways with light from other reasonably foreseeable projects or activities. This can be found in Appendix F1.

13 Document Control

Date	Revision	Update
6 June 2023	A	Draft prepared for initial comment
20 August 2023	B	Update based on comments and relevant person feedback
11 Sept 2023	0	Approved for release on Regia MSS website
20 Dec 2023	1	EP submission to NOPSEMA
23 October 2024	2	Updated following NOPSEMA assessment
16 April 2025	3	Updated following NOPSEMA OMR 1 Letter
6 December 2025	4	Updated following NOPSEMA OMR 2 Letter

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Annex 1

Public Comment

The following consultation feedback was received since the beginning of the public comment period starting 25 January 2024. Table E9-4 shows how this feedback has been incorporated into the environmental assessments.

Table E9-4 - Public comment input.

Matter	Matter ID	Changes made arising from public comment
Matter: Acknowledgement of breeding colonies	B02	CGG has included additional detail in EP Appendix E9 to assess impacts to breeding colonies at Middle Island and Deen Maar and other coastal locations in response to these claims.
Matter: Geographic range and all species need to be defined and considered	I16	CGG has considered these claims and has rerun the PMST reports to ensure that all information on the likely/known presence of relevant species within the area, as well as information on their protection status, Biologically Important Areas (BIAs) and behaviours is up to date. The updated PMST reports are provided in full in EP Appendix B5.
Matter: Lack of detail on EPBC-listed species and enforceable measures	I17	CGG has considered these claims and has rerun the PMST reports to ensure that all information on the likely/known presence of relevant species within the area, as well as information on their protection status, Biologically Important Areas (BIAs) and behaviours is up to date. The updated PMST reports are provided in full in EP Appendix B5.

Annex 2

Objections and Claims Raised from Consultation

During the consultation process relevant persons were invited to raise objections and claims about the adverse effects of the activity. An assessment of merit of each objection or claim has been made by CGG which can be found in the consultation report using the Feedback ID number shown in Table E9-5. If an objection or claim had merit and was relevant to this assessment it has been included in the table below.

Table E9-5 - Objections and Claims raised from consultation.

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4033	Claim that seismic testing is proven to damage and kill marine life.	The titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable.	1024
4356	Concerns about the harm and damage to the marine ecosystem.	Titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the marine environment within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2831
4357	The stakeholder raised an objection to seismic surveys as they negatively affect the fishing industry, local economy and environment.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of commercial fish species and sensitive species within the area of operation. The MSS will also not impact the local economy. Mitigation plans are in place to reduce any impacts to as low as practicable.	424
4050	Concern about the destruction of smaller sealife and the wounding of larger marine animals due to seismic blasting.	Regia EP has conducted thorough assessments of the literature for all relevant receptors including plankton, fish, invertebrates, birds, turtles, and marine mammals. The Regia MSS is required to define acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan. Measures to minimise adverse impacts on relevant biological receptors in the region and	1669

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		relevant mitigation measures are outlined in the EP.	
4051	Concern about the detrimental impacts on marine animals.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable.	1452
4063	Concern for various birds and little penguins and the effects of sound and light.	Impacts from underwater sound and artificial light on birds, including little penguins, are assessed in the Environmental Plan (EP) and can be found in E5 and E9. Further assessment of little penguins was also undertaken by CGG to demonstrate that environmental impacts and risks arising from the activity will be of an acceptable level. Measures to minimise adverse impacts on birds in the region are also outlined in the EP.	1783
4067	Concern regarding the repeated seismic blasting in the area, which may have effects on marine life. Stakeholder is questioning the impact of multiple blasts and the potential for further exploration by other companies, particularly regarding the sale of seismic data.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable. Cumulative impacts are also assessed as negligible.	879
4068	Concerned about the harm being inflicted on oceans by unnecessary gas exploration.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable.	1656
4069	Concerned about the harm being inflicted on oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1673
4073	Concerns about impacts both reputational and physical to the region if the activity is allowed.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population	1244

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable.	
4075	Concerns about marine life and ecosystems.	The effects of underwater sound have been extensively assessed based on the latest scientific literature. CGG has committed to a variety of protective measures for various marine fauna (see G1)	2117
4076	Concerns about potential disturbance to the marine environment, including marine parks and areas of Biological Importance.	The titleholder acknowledged this concern and noted that potential impacts to the marine environment including marine parks and biologically important areas as a result of the Regia MSS is assessed in E1 to E9 and F3 of the EP. There will be no activities with Australian Marine Parks. All areas of biologic importance have been identified and assessment in the respective impact and risk assessments.	2278
4077	Concerns about potential harm to zooplankton, whales, dolphins, sharks, seals, the Bonney Upwelling, rock lobster fishery and other local fishing industries.	Titleholder has undertaken a comprehensive assessment of all available scientific literature to develop an appropriate EP. All potential risks have been identified with appropriate mitigation methods applied where necessary. There are no identified levels of harm that would endanger the population stability of any taxa.	722
4078	Concerns about seismic testing and drilling rigs impacting marine life and fishing activities.	Titleholder has undertaken a comprehensive assessment of all available scientific literature to develop an appropriate EP. All potential risks have been identified with appropriate mitigation methods applied where necessary. There are no identified levels of harm that would endanger the population stability of any taxa.	917
4081	Concerns about the impact on whale habitat, endangered marine life, and commercial fisheries	Titleholder acknowledged this concern and noted that potential impacts to whales and relevant endangered marine species is assessed in the EP Chapters on underwater sound and light (E2-E7, and E9). Any interactions with seismic are mitigated and managed through spatial boundaries and a comprehensive fauna management plan. Advised that control measures to reduce impacts to commercial fishers as a result of displacement are outlined in the EP and include Adjustment Protocol stipulates an adjustment process will be implemented if a commercial fisher has a financial loss due to the Regia MSS. The adjustment process will be developed in consultation with the fishery associations that represent the	4551

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		commercial fishers that fish within the Operational Area.	
4085	Concerns of damage to the marine environment by seismic blasting and gas extraction	All available scientific evidence is used to inform the environmental assessment on seismic impacts. There are no impacts identified that will affect the population stability of any taxa.	825
4088	Condemns seismic testing, asserting that it is deadly to marine life and unacceptable for ocean ecosystems. Call for a total ban, citing the large number of marine animals harmed by the practice. Argument that the destruction of marine ecosystems and the fishing industry is unjustifiable and express frustration, telling the parties responsible to stop.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable. Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	422
4093	Doubted the effectiveness of mitigation measures and believed the reports/information provided were absent of action /intention.	The mitigations applied by CGG are industry standard and comply with government policy. They have been proven to be as effective as reasonably practical for a number of years. The measures adopted to protect species from the aspects of the activity are found in the respective impact and risk assessments.	2830
4096	Environmental Risk: Concerns about the environmental impact of seismic testing on marine life and the clash between business interests and environmental protection.	Regia EP has conducted thorough impact assessments for all relevant receptors including plankton, fish, invertebrates, birds, turtles, and marine mammals, in relation to underwater sound and artificial light as aspects of the activity. Other marine users have also been considered in another impact assessment that considers physical presence as an aspect of the activity. The Regia MSS is required to define acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to	2766

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan. Measures to minimise adverse impacts on relevant biological receptors in the region and relevant mitigation measures are outlined in the EP.	
4118	Impact on marine animals, which are the livelihood of the community.	Regia EP has conducted thorough impact assessments for all relevant receptors including plankton, fish, invertebrates, birds, turtles, and marine mammals. The Regia MSS will not impact the population stability of any taxa within the area of operation. Measures to minimise adverse impacts on relevant biological receptors in the region and relevant mitigation measures have been outlined in the EP.	2274
4123	Insufficient information about potential damage from seismic testing.	The titleholder is confident that sufficient relevant and available information has been used to inform this this EP and to complete a comprehensive assessment of relevant aspects of the activity. Information used based around sound, peer reviewed scientific literature.	4190
4130	Lasting and unrecoverable damage mentioned.	The titleholder acknowledged the feedback, noting that risks and impacts are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on marine life are outlined in the EP in G1.	4808
4131	Light pollution concerns related to the activity.	Title holder has undertaken a thorough analysis and assessment of all relevant literature related to light impacts on the environment. Impacts are assessed as low and there are multiple measures in place to minimise impacts.	1247
4133	Mass destruction of marine populations through the blasting process.	Regia EP has conducted thorough impact assessments for all relevant receptors including plankton, fish, invertebrates, birds, turtles, and marine mammals. The Regia MSS will not impact the population stability of any taxa within the area of operation. Measures to minimise adverse impacts on relevant biological receptors in the region and relevant mitigation measures have been outlined in the EP.	2274
4136	Mention of considerable damage to marine life outweighing the benefits of mapping seafloors for gas drilling.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in	1389

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		place to reduce any impacts to as low as practicable.	
4145	Opposes seismic exploration claiming it is dangerous to all marine life. Cannot ensure zero risk.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable. Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	427
4146	Opposes seismic testing, claiming it will have catastrophic effects on marine life due to high decibel blasting sounds. States activities can harm various marine species and may cause whales to beach themselves from the pain, making them unacceptable in a whale sanctuary area.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable. Regia EP has found seismic impacts to cetaceans can be mitigated and managed through appropriate timing of the survey and a comprehensive fauna management plan	537
4154	Questions a previous statement that indicated there would be no mortal effects from seismic activities.	The titleholder acknowledged the feedback, noting that impacts and risks to the marine environment are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on the marine environment are outlined in the EP in G1.	2088
4158	Reference to the destruction and degradation of the marine environment observed during diving trips.	The titleholder acknowledged the feedback, noting that impacts and risks to the marine environment are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on the marine environment are outlined in the EP in G1.	2830

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4175	Seismic blasting is harmful and disruptive to marine life of many species.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on marine life are outlined in the EP in G1.	3343
4176	Seismic blasting negatively affects not only whales but also crucial marine life, including fish, crustaceans, and zooplankton, all of which play vital roles in the marine ecosystem.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on marine life are outlined in the EP in G1.	2074
4177	Seismic blasting would have a significant negative effect on marine creatures and ecosystems.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on marine life are outlined in the EP in G1.	3343
4186	Stakeholder expressed concern about the destruction and depletion of the ocean due to the activity.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2963
4187	Stakeholder expressed concern about the potentially devastating impact of seismic testing on ocean marine life.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts to marine life are outlined in the EP in G1.	3209
4189	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation	1653

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	
4190	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1655
4191	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1659
4192	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1661
4193	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels.	1662

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	
4194	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1663
4195	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1665
4196	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1667

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4197	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1670
4198	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1672
4199	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2586
4200	Stakeholder noted that dolphins use clicks and whistles as a complex form of communication, with observations of bottlenose dolphins using distinctive whistles for individuals within their pod, similar to how humans use names. Claimed that blasts from seismic testing could cause temporary and permanent hearing loss in dolphins and whales, citing instance near Peru, where some 900 long-beaked common	A Preliminary Environmental Impact and Risk Assessment is undertaken during an impact assessment process (our PEIRA is available here). The PEIRA is compiled to identify environmental values and sensitivities, to provide an evaluation of the environmental impacts and risks associated with the project. The PEIRA is then used to inform the environmental assessment documents, and as above, the environmental impact and risk	2886

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
	dolphins and black porpoises washed up dead along a stretch of beach, shown to have had fractures in their ear bones and signs of bleeding from their middle ears. - LINK provided.	treatments, which are being uploaded in the document library. The draft Environmental Impact Assessments are in the document library now, for review and feedback. For transparency we are uploading the entire documents, however if there is a concern you would like a summary or specific information on, please let us know. Further information on marine mammal treatments is covered below in response to concern 6.	
4211	Stakeholder stated they were extremely concerned about the risks, damage and destruction caused by exploration activities in the marine environment.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan.	1049
4217	Strong objection to the proposal for 3D seismic blast in the Otway Basin due to harm to oceans and unacceptable environmental impact or risk.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable.	1656
4218	Strong opposition to seismic testing in the ocean due to its effects on both wildlife and the fishing industry. Individual firmly disapproves of the practice.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to as low as practicable. Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan.	425

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4253	The possible effects to marine life and ecosystems are my primary concern	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2117
4259	The proposed works will harm and damage the climate and ocean life.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2256
4260	The protection of wildlife in the Otway Basin is directly affected by drilling and seismic surveying.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan.	1901
4265	The seismic process is going to affect local marine life, ecosystems, and the climate in the community.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to defined acceptable levels and as low as reasonably practicable.	1259
4267	The Stakeholder also objected to the project on the basis that it would	Acceptable levels of impact are established based on relevant up-to-	2064

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
	impact every marine creature and sea bird.	date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan. Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	
4270	The stakeholder asserts seismic surveying has been proven to be harmful and disruptive to marine life of many species.	Regia EP has conducted thorough impact assessments for all relevant receptors including plankton, fish, invertebrates, birds, turtles, and marine mammals. The Regia MSS will not impact the population stability of any taxa within the area of operation. Measures to minimise adverse impacts on relevant biological receptors in the region and relevant mitigation measures have been outlined in the EP.	3343
4274	The stakeholder claims that seismic exploration poses a significant danger to marine life in general. This claim suggests a strong opposition to the practice due to its perceived harmful effects on the marine ecosystem as a whole.	The titleholder publicly responded to this interactive map comment explaining that legislative framework in Australia permits some impact from offshore petroleum if it is managed and of an acceptable level. We believe that responsible development of gas is essential for maintaining the current quality of life we all enjoy and ensuring we pass that quality of life on to future generations. Gas is part of the Labour governments energy transition plan.	2107
4276	The stakeholder does not accept the blasting activity as beneficial or more important than existing marine life and structures.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2255
4278	The stakeholder expresses an active interest in the wellbeing of the coastline and its flora and fauna, indicating a general concern for environmental conservation.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of	1325

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	
4285	The stakeholder noted the following concerns as a resident of Port Fairy: Noise (land and sea), impact on marine life, potential impacts on the environment and the future potential if gas is found.	We are also concerned about the welfare of marine fauna. We have undertaken an impact assessment process that includes whale, seals, pelagic and shorebirds. As part of this assessment, we must show that impacts to these species will be of an acceptable level. We have determined that it is acceptable to have temporary behavioural changes, such as moving away from the survey vessel, and no injury or long-term impacts. Our Preliminary Environmental Impact and Risk Assessment document has been published on the project website and is available here. We are also publishing environmental impact, risk and mitigation documents as they are completed, in the document library. We are publishing the entire documents in order to remain transparent, but I have also attached a summary document.	1747
4301	The stakeholder stated that the proposed activity is environmentally unsound irrespective of the assessment process and predicted environmental risk.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1747
4306	The stakeholder was concerned about potential negative impacts of gas exploration and development on Country, the marine and coastal environment, the local economy, Traditional Owners, and local communities.	The titleholder acknowledged the feedback, noting that all relevant impacts are assessed in the Environmental Plan (EP) and can be found in E1-E9. Measures to minimise adverse impacts on functions, interests and activities on relevant receptors are also adopted and can be found in G1.	3152
4309	The stakeholder was concerned about the impact on marine life sensibilities and populations.	Regia EP has conducted thorough impact assessments for all relevant receptors including plankton, fish, invertebrates, birds, turtles, and marine mammals. The Regia MSS will not impact the population stability of any taxa within the area of operation. Measures to minimise adverse impacts on relevant biological receptors in the region and relevant mitigation measures have been outlined in the EP.	2273

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4315	The statement suggests that the significant harm caused by seismic activity to marine life and commercial fisheries, along with the existing natural gas supplies and climate change issues, renders the industrialisation of Port Fairy's coastline unacceptable. It emphasises community disapproval of allowing major oil companies to profit at the expense of the local environment and tourism.	We believe impacts from our activity can be managed to below acceptable levels. Further development of the offshore area would be subject to multiple future approvals. The visual impact from this survey would be temporary and similar to the shipping/fishing activity that already occurs in the region (Event ID 2076).	2076
4319	There are concerns regarding the potential impacts of seismic surveys on penguins, diving birds, and other marine fauna. Stakeholders are particularly worried about how the noise and disturbance from these surveys could affect the breeding and foraging behaviours of these species.	This effects of sound on birds were initially assessed in E4 and further assessments for penguins can be found in F3. Birds can also be affected by artificial light, which has been assessed in E9. The conclusion is that the measures adopted to protect foraging birds will mean that impacts are of an acceptable level.	2006
4354	Uncertainty about the full extent of damage to the marine ecosystem.	Titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the marine environment within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2831
4358	The stakeholder was concerned about the impacts on flora and fauna being damaged and killed away from the coastline.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any flora or fauna within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2821
4362	Concerns about the lack of environmental reviews of seismic surveys at necessary scales to assess, mitigate and monitor impacts.	The titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The titleholder responded providing links to large scale studies on seismic undertaken in Australian waters and offered to provide individual with impact assessments when they became available.	1389
4363	Stakeholder noted opposition to the harmful effects on marine life and the pristine coast.	The titleholder provided information on identifying potential impacts and risks and putting mitigations in place such as, conducting survey during time of year marine mammals are less likely to be in area, reducing sound source to lowest setting and reducing number of times activated, implementing marine mammal and fish monitoring programs, exclusion zones, following strict NOPSEMA guidelines. Provided link to PEIRA and document library on website.	786

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4364	Concern about the future of ocean health for children and sea life, including whale children.	Titleholder responded in Event ID: 1416, describing CGG's commitment to safeguarding marine mammals, the assessment process, regulations and measures currently in place. The stakeholder was provided with consultation information and invited to engage.	1410
4004	Seismic blasting in our ocean so close to our beautiful home is deeply concerning given the toll will inevitably take on sea life and further unknown impacts.	The titleholder acknowledged the feedback, noting that impacts and risks to sea life are assessed in the Environmental Plan (EP) and can be found in Appendices E1 to E9 and F3. Measures to minimise adverse impacts to sea life are outlined in the EP in G1.	2757
4057	Concern about the long-lasting impacts of the proposed activity on marine life and coastlines, highlighting ecological and cultural repercussions.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation nor interfere with cultural practices or values. Mitigation plans are also in place to reduce any impacts to as low as practicable.	1022
4061	Concern about the welfare of whales, seals, and birds due to the activity.	The titleholder acknowledged concerns outlined in email regarding welfare of whales, seals and birds due to the activity.	4061
4417	The relevant person was concerned that about the proposed seismic activity effecting the behaviours of certain species.	Event ID 6880 - The Regia team responded in-meeting that the first half of the EP is associated with assessment work undertaken prior to commencing the activity. First and foremost, because there are so many different species, they explained that they had grouped species together from a physiological perspective. Secondly, the Regia team explained that their focus is on the mega-fauna and species which have protection under the EPBC act.	6880

Annex 3

Light Sensitive Species

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Fish							
Australian Grayling	Species or species habitat may occur within area	Vulnerable				None identified	Conservation Advice *Prototroctes maraena* Australian Grayling (TSSC 2021)
Blue Warehou	Species or species habitat known to occur within area	Conservation Dependent				None identified	Commonwealth Listing Advice *Seriolella brama* Blue Warehou (TSSC 2015)
Orange Roughy, Deep-sea Perch, Red Roughy	Species or species habitat likely to occur within area	Conservation Dependent				None identified	None identified
Australian Smooth Pipefish, Smooth Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse	Species or species habitat may occur within area				Listed	None identified	None identified
Brushtail Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Common Seadragon, Weedy Seadragon	Species or species habitat may occur within area				Listed	None identified	None identified

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Deepbody Pipefish, Deep-bodied Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Hairy Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Halfbanded Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Javelin Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Knifesnout Pipefish, Knife-snouted Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Leafy Seadragon	Species or species habitat may occur within area				Listed	None identified	None identified
Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Mother-of-pearl Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Port Phillip Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Pugnose Pipefish, Pug-nosed Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Red Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Ringback Pipefish, Ring-backed Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Robust Pipehorse, Robust Spiny Pipehorse	Species or species habitat may occur within area				Listed	None identified	None identified
Sawtooth Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Short-head Seahorse, Short-snouted Seahorse	Species or species habitat may occur within area				Listed	None identified	None identified
Spiny Pipehorse, Australian Spiny Pipehorse	Species or species habitat may occur within area				Listed	None identified	None identified

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Spotted Pipefish, Gulf Pipefish, Peacock Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Tucker's Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish	Species or species habitat may occur within area				Listed	None identified	None identified
Seabird							
Antipodean Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	Foraging Whole South-east Marine Region	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Australasian Gannet					Listed	Foraging: year round 40 km buffer around coast off Portland	None identified
Black-browed Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	Foraging Whole South-east Marine Region	National Recovery Plan for Albatrosses and Petrels (CoA 2022) Commonwealth Listing Advice on Black-browed Albatross (Thalassarche melanopris) (TSSC 2005)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Blue Petrel	Species or species habitat may occur within area	Vulnerable			Listed	None identified	Conservation Advice Halobaena caerulea Blue Petrel (TSS 2015)
Buller's Albatross, Pacific Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	Foraging	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Campbell Albatross, Campbell Black-browed Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	Foraging Whole South-east Marine Region	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Common Diving-Petrel	Breeding known to occur within area				Listed	Foraging: year round Breeding: July – January Buffer around Tasmania and Victoria	None identified
Fairy Prion	Species or species habitat known to occur within area				Listed	None identified	Wildlife Conservation Plan for Seabirds (CoA 2020a)
Flesh-footed Shearwater, Fleshy-footed Shearwater	Species or species habitat known to occur within area		Migratory	Migratory Marine Birds	Listed (as Puffinus carneipes)	None identified	Wildlife Conservation Plan for Seabirds (CoA 2020a) Commonwealth Listing Advice on Ardenna carneipes (Flesh-footed Shearwater) (TSSC 2014)
Gould's Petrel, Australian Gould's Petrel	Species or species habitat may occur within area	Endangered				None identified	Gould's Petrel (Pterodroma leucoptera leucoptera) Recovery Plan (DEC NSW 2006)
Greater Crested Tern	Breeding known to occur within area		Migratory	Migratory Wetlands Species	Listed (as Sterna bergii)	None identified	Wildlife Conservation Plan for Seabirds (CoA 2020a)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Grey-headed Albatross	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022) Approved Conservation Advice for Thalassarche chrysostoma (Grey-headed Albatross) (DEWHA 2009)
Little Penguin	Breeding known to occur within area				Listed	None identified	Wildlife Conservation Plan for Seabirds (CoA 2020a)
Indian Yellow-nosed Albatross	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	Foraging Most of the South-east Marine Region	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Northern Buller's Albatross, Pacific Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable			Listed (as Thalassarche sp. nov.)	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Northern Giant Petrel	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022) Commonwealth Listing Advice on Macronectes halli (Northern Giant-Petrel) (TSSC 2001)
Northern Royal Albatross	Foraging, feeding or related behaviour likely to occur within area	Endangered	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Salvin's Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Short-tailed Shearwater	Breeding known to occur within area		Migratory	Migratory Marine Birds	Listed (as Puffinus tenuirostris)	Foraging Buffer around Tasmania	None identified

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
						including Bass Strait Breeding	
Shy Albatross	Foraging, feeding or related behaviour likely to occur within area	Endangered	Migratory	Migratory Marine Birds	Listed	Foraging Whole South-east Marine Region	National Recovery Plan for Albatrosses and Petrels (CoA 2022) Conservation Advice Thalassarche cauta Shy Albatross (TSS 2020)
Soft-plumaged Petrel	Species or species habitat may occur within area	Vulnerable			Listed	None identified	Conservation Advice Pterodroma Mollis Soft-plumaged Petrel (TSS 2015a)
Sooty Albatross	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Sooty Shearwater	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as *Puffinus griseus*)	None identified	Wildlife Conservation Plan for Seabirds (CoA 2020a) Conservation Advice for *Ardenna grisea* (Sooty Shearwater) (DCCEEW 2023i)
Southern Giant-Petrel, Southern Giant Petrel	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Southern Royal Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Wandering Albatross	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Wedge-tailed Shearwater			Migratory Marine Birds	Migratory Marine Birds	Listed	Foraging	Wildlife Conservation Plan for Seabirds (CoA 2020a)
White-capped Albatross	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed	None identified	National Recovery Plan for Albatrosses and Petrels (CoA 2022)
Shorebird							
Australasian Bittern	Species or species habitat known to occur within area	Endangered				None identified	Conservation Advice *Botaurus poiciloptilus* Australasian Bittern. Threatened Species Scientific Committee (TSSC 2019a)
Australian Fairy Tern	Species or species habitat known to occur within area	Vulnerable				None identified	Approved Conservation Advice for *Sternula nereis nereis* (Fairy Tern) (DSEWPaC. 2011) National Recovery Plan for the Australian Fairy Tern (*Sternula nereis nereis*) (DAWE 2020)
Australian Painted Snipe	Species or species habitat known to occur within area	Endangered			Listed - overfly marine area (as *Rostratula benghalensis (sensu lato)*)	None identified	Approved Conservation Advice for *Rostratula australis* (Australian Painted Snipe) (DSEWPaC 2013) National Recovery Plan for the Australian Painted Snipe (*Rostratula australis*) (CoA 2022a)
Bar-tailed Godwit	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Black-eared Cuckoo	Species or species habitat known to occur within area				Listed - overfly marine area (as *Chrysococcyx osculans*)	None identified	None identified
Black-faced Cormorant	Breeding known to occur within area				Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Black-faced Monarch	Species or species habitat may occur within area		Migratory	Migratory Terrestrial Species	Listed - overfly marine area	None identified	None identified
Blue-winged Parrot	Species or species habitat known to occur within area	Vulnerable			Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) Conservation Advice for *Neophema chrysostoma* (Blue-winged Parrot) (DCCEEW 2023l)
Cattle Egret	Species or species habitat may occur within area				Listed - overfly marine area (as *Ardea ibis*)	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Common Greenshank, Greenshank	Species or species habitat known to occur within area	Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) Conservation Advice for *Tringa nebularia* (Common Greenshank). (DCCEEW 2024e)
Common Sandpiper	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Curlew Sandpiper	Species or species habitat known to occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Conservation Advice for *Calidris ferruginea* Curlew Sandpiper (DCCEEW 2023m)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Double-banded Plover	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Eastern Curlew, Far Eastern Curlew	Species or species habitat known to occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed	None identified	Conservation Advice for *Numenius madagascariensis* (Far Eastern Curlew) (DCCEEW 2023n)
Eastern Hooded Plover, Eastern Hooded Plover	Species or species habitat known to occur within area	Vulnerable			Listed - overfly marine area (as *Thinornis rubricollis rubricollis*)	None identified	Conservation Advice *Thinornis rubricollis rubricollis* Hooded Plover (eastern) (DoE 2014)
Fork-tailed Swift	Species or species habitat likely to occur within area		Migratory	Migratory Marine Birds	Listed - overfly marine area	None identified	None identified
Brown Skua	Species or species habitat may occur within area				Listed (as *Catharacta skua*)	None identified	None identified
Gang-gang Cockatoo	Species or species habitat known to occur within area	Endangered				None identified	Conservation Advice for *Callocephalon fimbriatum* (Gang-gang Cockatoo) (DAWE 2022)
Greater Sand Plover, Large Sand Plover	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed	None identified	Conservation Advice for *Charadrius leschenaultia* (Greater Sand Plover) (DCCEEW 2023o) Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Grey Falcon	Species or species habitat likely to occur within area	Vulnerable				None identified	Conservation Advice *Falco hypoleucos* Grey Falcon (TSSC 2020a)
Grey-tailed Tattler	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed (as *Heteroscelus brevipes*)	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Hooded Plover, Hooded Dotterel	Species or species habitat known to occur within area				Listed - overfly marine area (as *Thinornis rubricollis)*	None identified	None identified
Latham's Snipe, Japanese Snipe	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) Conservation Advice for *Gallinago hardwickii* (Latham's Snipe) (DCCEEW 2024d)
Lesser Sand Plover, Mongolian Plover	Roosting known to occur within area	Endangered	Migratory	Migratory Wetlands Species	Listed	None identified	Conservation Advice *Charadrius mongolus* Lesser Sand Plover (TSSC 2016) Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Little Curlew, Little Whimbrel	Roosting likely to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Little Tern	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as *Sterna albifrons*)	None identified	Commonwealth Listing Advice on *Sterna albifrons sinensis* (Little Tern (Western Pacific)) (TSSC 2002) Conservation Advice for *Sternula albifrons* (Little Tern) (DCCEEW 2025) Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Magpie Goose	Species or species habitat may occur within area				Listed - overfly marine area	None identified	None identified
Marsh Sandpiper, Little Greenshank	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit	Species or species habitat known to occur within area	Endangered				None identified	Conservation Advice for *Limosa lapponica baueri* Bar-tailed Godwit (western Alaskan) (DCCEEW 2024b)
Orange-bellied Parrot	Species or species habitat known to occur within area	Critically Endangered			Listed - overfly marine area	None identified	Commonwealth Listing Advice on *Neophema chrysogaster* (TSSC 2006). National Recovery Plan for the Orange-bellied Parrot, *Neophema chrysogaster* (DEWLP 2016)
Osprey	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Pacific Golden Plover	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Painted Honeyeater	Species or species habitat may occur within area	Vulnerable				None identified	Conservation Advice *Grantiella picta* Painted Honeyeater (DoE 2015b) National Recovery Plan for the Painted Honeyeater (*Grantiella picta*) (DAWE 2021)
Plains-wanderer	Species or species habitat likely to occur within area	Critically Endangered				None identified	Conservation Advice *Pedionomus torquatus* Plains-wanderer (DoE 2015a) National Recovery Plan for the Plains-wanderer (*Pedionomus torquatus*) (DoE and SA DEWNR 2016)
Pectoral Sandpiper	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Pied Stilt, Black-winged Stilt	Roosting known to occur within area				Listed - overfly marine area	None identified	None identified

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Pin-tailed Snipe	Roosting likely to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Rainbow Bee-eater	Species or species habitat may occur within area				Listed - overfly marine area	None identified	None identified
Red Knot, Knot	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Conservation Advice for *Calidris canutus* Red Knot (DCCEEW 2024) Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Red-capped Plover	Roosting known to occur within area				Listed - overfly marine area	None identified	None identified
Red-necked Avocet	Roosting known to occur within area				Listed - overfly marine area	None identified	None identified
Red-necked Stint	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Regent Honeyeater	Species or species habitat may occur within area	Critically Endangered				None identified	Conservation Advice *Anthochaera Phrygia* Regent Honeyeater (DoE 2015) National Recovery Plan for the Regent Honeyeater (*Anthochaera phrygia*) (DoE 2016)
Ruddy Turnstone	Roosting known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) Conservation Advice for *Arenaria interpres* (Ruddy Turnstone) (DCCEEW 2024c)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
Rufous Fantail	Species or species habitat known to occur within area		Migratory	Migratory Terrestrial Species	Listed - overfly marine area	None identified	None identified
Sanderling	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed	None identified	None identified
Satin Flycatcher	Breeding known to occur within area		Migratory	Migratory Terrestrial Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Sharp-tailed Sandpiper	Roosting known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) Conservation Advice for *Calidris acuminata* (Sharp-tailed Sandpiper) (DCCEEW 2024a)
Silver Gull	Breeding known to occur within area				Listed (as *Larus novaehollandiae*)	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Swift Parrot	Species or species habitat likely to occur within area	Critically Endangered			Listed - overfly marine area	None identified	National Recovery Plan for the Swift Parrot (*Lathamus discolor*) (Saunders & Tzaros 2011) Conservation Advice *Lathamus discolor* Swift Parrot (TSSC 2016a)
Swinhoe's Snipe	Roosting likely to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Whimbrel	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
White-bellied Sea-Eagle	Breeding known to occur within area				Listed	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)

Common Name	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Biologically Important Area	Management Plan Conservation Advice Listing Advice
White-throated Needletail	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Terrestrial Species	Listed - overfly marine area	None identified	Conservation Advice *Hirundapus caudacutus* White-throated Needletail (TSSC 2019)
Wood Sandpiper	Roosting known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area	None identified	Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015)
Yellow Wagtail	Species or species habitat may occur within area		Migratory	Migratory Terrestrial Species	Listed - overfly marine area	None identified	None identified
Turtles							
Green Turtle	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed	None identified	Recovery Plan for Marine Turtles (DoEE 2017)
Leatherback Turtle, Leathery Turtle	Breeding likely to occur within area	Endangered	Migratory	Migratory Marine Species	Listed	None identified	Recovery Plan for Marine Turtles (DoEE 2017) Approved Conservation Advice for *Dermochelys coriacea* (Leatherback Turtle*)* (DEWHA 2008)
Loggerhead Turtle	Breeding likely to occur within area	Endangered	Migratory	Migratory Marine Species	Listed	None identified	Recovery Plan for Marine Turtles (DoEE 2017)