

## Southern Fleurieu Coastal Action Plan

# Second Valley (Kauweyerlongga)<sup>1</sup>

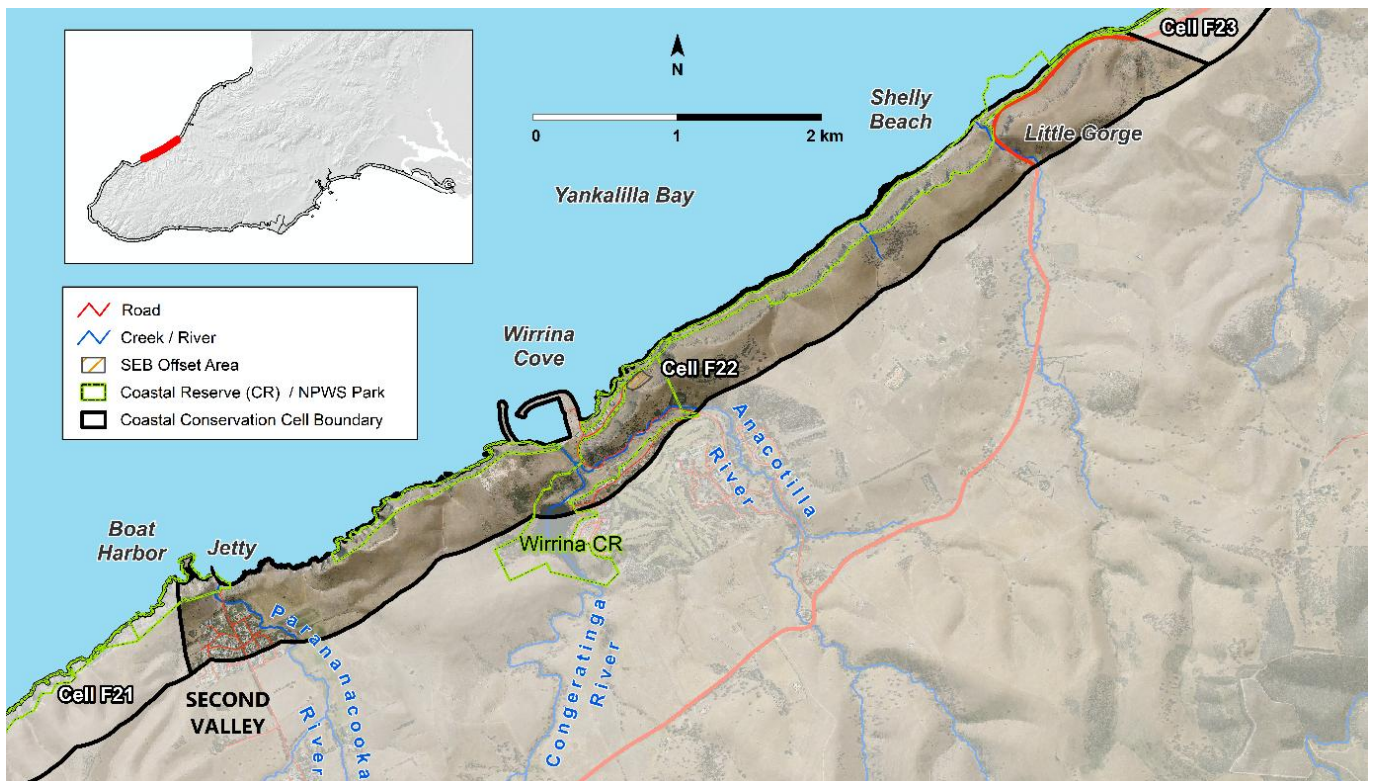
## to Lady Bay (Yangkalyilla)

### Cell F22

#### Overview

Two coastal townships within this cell align with the locations of the two estuaries in the cell, the Parananacooka River (Second Valley) and the Congeratinga – Anacotilla River (Wirrina). Backed by valleys and high cliffs that have been largely cleared of vegetation and grazed by stock, high value conservation pockets of vegetation do, however, still persist on private and public lands. These areas represent an opportunity to restore habitats for various flora and fauna communities. Small beaches support limited dune vegetation but also provide potential habitat for beach-nesting and shorebird species.

Nearshore environments host a range of marine habitats, providing refuge for a great diversity of marine species, both flora and fauna. This and the natural values of the cell attract community interest and bring increasing numbers of visitors to this part of the coastline, often reaching capacity for existing infrastructure and facilities. Weed populations continue to threaten areas of biodiversity value, erosion of coastal slopes and cliff lines from grazing and past clearance mobilises soils into creeks and gullies towards estuaries and marine environments.



<sup>1</sup> "Kauweyerlongga, place of fresh water and sea, is the earliest recorded traditional language word (Kurna Meyunna) for the area of Second Valley. It was recorded in 1838. Yangkalyilla was recorded around 1836 when Colonel Light's survey team camped in the area. It means the place where something keeps hanging (rocks on cliff)" (Karl Winda Telfer, personal communications, November 2025).

## Traditional Owner and First Nations cultural heritage and connection to land and sea Country

This cell is of high cultural value and significance to the Kurna Patpangga Meyunna people. The Country is part of several Dreaming stories, including Tjilbruke/Tjirbuki, which is a coast and sea songline story. The area features places, artefacts, plants and animals of high cultural and human value, including caves, fish traps and fishing grounds, seasonal campgrounds, sleeping places, and places of creation story and spiritual practices. This cell includes registered and un-registered Aboriginal heritage sites; more broadly, all the lands and waters are of importance to the Kurna Patpa and Mullawirra Meyunna.

*Please respect that cultural concepts and content included in this plan are the Aboriginal Cultural and Intellectual Property (ACIP) of Karl Winda Telfer of the Mullawirra Meyunna (Kurna Meyunna) (cells 20-27). They may not be used or adapted by any other parties without consent.*

### Cell detail

This cell extends from Boat Harbour, Second Valley approximately 8km to the coastal dunes southwest of the Lady Bay township. Two estuaries are located within this cell, at the mouth of the Parananacooka River (Second Valley) and the Congeratinga – Anacotilla River (Wirrina). This cell is in the District Council of Yankalilla local government area.

### Tenure, Land Use and Values

Pocket recreation beach and fishing jetty at Second Valley. The marina and boat ramp at Wirrina is used for mooring and launching vessels. Tiny estuarine environments at Second Valley and at Wirrina (modified by works at the coastline and dam nearby inland), are found in this cell. Scenic values of rugged, undeveloped high cliffs. A number of historic shipwrecks are located offshore from Second Valley.

Resort development at Wirrina Cove and in the Congaratinga valley and slopes that is largely cleared for grazing land. There are fragmented coastal reserves to the north of Wirrina and north of Second Valley. The largest connected council reserve within the District Council of Yankalilla is located within this cell of 32 Ha. Since 2012, the waters surrounding this cell are within the boundaries of the Encounter Marine Park.

Native title has not been established for this cell. The Federal Court did not determine native title for Kurna Yerta Aboriginal Corporation over the lands south of Myponga to the edge of the Ngarrindjeri determination (3.5km northeast of Cape Jervis). Kurna Patpangga Meyunna maintain cultural and historical connections to this region, the formal determination was limited to areas from Lower Light in the north to Myponga in the south.

Bryars (2013) notes that the cell is utilised for commercial and recreational fishing and boating, as well as recreational diving, snorkeling and swimming at the limited beach spaces. Second Valley is regionally important as a shore-based recreational diving site, with access to Lassiter's Reef and other inshore reefs.

Recently formed coastal community group at Wirrina undertakes revegetation and restoration activities across the public land parcels of the dunes and coastal slopes, reducing weeds and increasing species diversity. Friends of the Hooded Plover Fleurieu Peninsula (supported by BirdLife Australia) monitor and raise awareness of beach-nesting and shorebird species within the cell. Private landowners are working to reduce weed threat and erosion and gullying through restricting stock access to cliff lines.

### Landforms

High cliffs (c.50m), with talus slopes, discontinuous boulder beach fronted by shore platforms. Low wave energy pocket beaches are found. Small creeks are incised in their lower courses (Caton et al., 2007).

Three areas supporting geological monuments (1120, 1111, 1110) exist within this cell and support some of the most ancient rocks in the state, which are exposed in this part of the coast: Geological Monument 1110 Little Gorge – Mouth of the Congeratinga River – shore platform: basement rocks (Aldgate Sst.), folding, metamorphism, intrusions, pegmatite (Barossa Complex). Geological Monument 1111 coast and hinterland at Wirrina: basement contact overturned, deformed pebbles, folding, Permian glacial deposits. Geological Monument 1120 Second Valley Beach and Headland: mesoscopic folds, lineation not easily seen elsewhere in the Mt Lofty Ranges.

The Second Valley Coastal Cliffs Geological Site is also listed as a State Heritage place (reference 14171) as the coastal cliffs of Second Valley, both in the harbour area and to the north and south, contain excellent exposures which supply a wealth of geological information important to the interpretation of the complex tectonic evolution of the Adelaide Fold Belt. A second state heritage place is listed as the Second Valley Seawall, Causeway, Bridge and Jetty (reference 16260) and is a rare complex on the Fleurieu Peninsula. The 1855 stonework and 1910 jetty represent a link to South Australia's early maritime, agricultural, industrial and mining heritage, most notably the wheat industry of the 1840s-1860s.



Second Valley and jetty (foreground) with high coastal cliff and slopes heading along the coast to Wirrina marina (top)  
(Coast Protection Board, March 2024)

## Terrestrial biodiversity

Coastal cliff and slopes throughout the cell still support isolated pockets of remnant vegetation within gullies, exposed cliffs and creek lines. Despite a past of heavy grazing and vegetation clearance, a good diversity of vegetation communities still persists in varying degrees of condition along cliff tops from Second Valley to Wirrina; north-east of Wirrina values are low, apart from isolated vegetation blocks (Caton et al 2007). Habitat for significant bird species, geological heritage and vegetation associations (threatened status rating, rarity of the community within South Australia, numbers of species endemic to this region, and priority of sites with threatened flora), all give value to this cell.

Woodland communities exist across the coastal slopes including *Olearia axillaris* tall open shrublands and adjoining *Allocasuarina verticillata* low woodland on the hillside SW above the Wirrina Cove Marina. The coastal cliffs to the NW of the marina still support pockets of the vegetation from the *Allocasuarina verticillata* Low Woodland community, despite areas of weed invasion and past grazing.

The coastal cliff line between Wirrina and Lady Bay supports a linear strip of *Olearia ramulosa* mid open shrubland, with the coastal slopes and valley behind containing patches of *Eucalyptus fasciculosa* low woodland. A small significant environmental benefit (SEB) area covering 1.2 Ha exist on the coastal slopes to the northeast of the Wirrina marina. The high cliff at the northern boundary of the cell has small areas of *Eucalyptus fasciculosa* low woodland, adjoining *Eucalyptus fasciculosa*, *Allocasuarina verticillata* low woodland patches.

Both Second Valley and Wirrina have very limited areas of coastal dune. However, remnants of small pockets to individual plants of the *Olearia axillaris* + *Leucopogon parviflorus* Shrubland association still persist.

Flora species of conservation significance recording in this cell include Leafy Twig-rush (*Cladium procerum*), Twining Purslane (*Calandrinia volubilis*), Leafless Cherry (*Exocarpos aphyllus*), Red-flower Lotus (*Lotus cruentus*), Australian Boxthorn (*Lycium australe*), and Forked Twinleaf (*Roepera confluens*).

Conservation rated fauna species recorded in this cell include Peregrine Falcon (*Falco peregrinus macropus*) and Common Sandpiper (*Actitis hypoleucos*), Hooded Plover (*Thinornis cucullatus cucullatus*), Caspian Tern (*Hydroprogne caspia*), Congolli (*Pseudaphritis urvillii*) and Greater Crested Tern (*Thalasseus bergii cristatus*).

Vegetation clearance has limited suitable habitats for many fauna species, however the isolated nature and cliff lines likely provide refuge and valued habitat for a range of seabirds species including the White-Bellied Sea Eagle (*Haliaeetus leucogaster*), Eastern Osprey (*Pandion haliaetus cristatus*), Little Pied Cormorant (*Microcarbo melanoleucos melanoleucos*), Australian Pied Cormorant (*Phalacrocorax varius hypoleucos*), Greater Crested Tern (*Thalasseus bergii cristatus*), and Silver Gull (*Chroicocephalus novaehollandiae novaehollandiae*).

The Hooded Plover (*Thinornis cucullatus cucullatus*), vulnerable in South Australia, is known to successfully nest and forage across the length of Shelly Beach, Lady Bay. The isolated nature of the beaches and nearshore rocky platforms in this cell provide foraging habitats for shorebirds, including Sooty Oystercatchers (*Haematopus fuliginosus fuliginosus*), Caspian (*Hydroprogne caspia*) and Greater Crested Terns (*Thalasseus bergii cristatus*), Silver (*Chroicocephalus novaehollandiae novaehollandiae*) and Pacific Gulls (*Larus pacificus georgii*). Seagrass wrack (also known as Beach cast wrack) found regularly on beaches has an important ecological function recycling nutrients back to coastal waters as well as protection and stabilisation of the shoreline and coastal dunes by acting as a trap that binds drifting sands and reduces sand erosion during winter (PIRSA 2014). Beach wrack also provides an important role as habitat and shelter for Hooded Plovers (*Thinornis cucullatus cucullatus*) and Pied (*Haematopus longirostris*) and Sooty Oystercatchers (*Haematopus fuliginosus fuliginosus*) as well as other shorebirds and juvenile fish. Beach cast wrack collection within Encounter Marine Park is prohibited in all zones except general managed use zones. Therefore, no removal of beach wrack is permitted in this cell.



Shelly Beach and intertidal shore platforms. One of several shacks that are likely at risk due to storm surge and high tide inundation (C Taylor)

Multiple common butterfly species that are observed across the Fleurieu Peninsula are found in this cell, including Southern Grass-dart (*Ocybadistes walkeri hypochlora*), White-banded Grass-dart (*Taractrocera papyria papyria*), Meadow Argus (*Junonia villida calybe*), Australian Painted Lady (*Vanessa kershawi*), Australian Admiral (*Vanessa itea*), Lesser Wanderer (*Danaus petilia*), Monarch (*Danaus plexippus plexippus*), Long-tailed Pea-blue (*Lampides boeticus*), Two-spotted Line-blue (*Nacaduba biocellata biocellata*), Wattle Blue (*Theclinessthes miskini miskini*), Salt-bush Blue (*Theclinessthes serpentatus serpentatus*) and Common Grass-blue (*Zizina otis labradus*) (Stolarski 2024). Many of the species of conservation significance do not occur in this cell, as their host plants are not present or are in low numbers and unable to support reintroduction from neighbouring cells.

### **Estuaries (Parananacooka River and Congeratinga – Anacotilla River)**

The Parananacooka River and Congeratinga – Anacotilla Rivers are recognised estuaries (DEH 2007).

The Parananacooka River estuary at Second Valley is approximately 15-30 metres wide with modified upper reaches, and tidal movement impacts the lower reaches, with sea wrack usually present across the beach. Telfer and Milne (2014) describe the habitat potential of the estuary as poor, with <10% stable habitat present and no visible instream wood/logs/snags or other stable habitat present. The dominant vegetation is a Common Reed (*Phragmites australis*) +/- Cumbungi (*Typha domingensis*) Sedgeland and plant surveys recording 14 native plant species, indicating an “Excellent” level of diversity for this type of plant community Common Reed (*Phragmites australis*), Narrow-leaf Bulrush (*Typha domingensis*) and Lignum (*Duma florulenta*) swamps in permanent water). Two conservation rated species present include Large Bindweed (*Calystegia sepium*) and Coast Plover-daisy (*Leiocarpa supina*) and the estuary likely provides habitat for Common Sandpiper (*Actitis hypoleucos*) and Spotless Crake (*Porzana tabuensis*) due to the extensive reedbeds (Telfer and Milne 2014). Fish biodiversity and water quality monitoring surveys have been undertaken at Parananacooka lower catchment. These surveys indicate it supports a small range of diadromous fish species, including Common Galaxias (*Galaxias maculatus*) and Congolli (*Pseudaphritis urvillii*) (Schmarr et al. 2022).



*Parananacooka River estuary enters the sea adjacent to the jetty across the beach through the gap in the seawall (Coast Protection Board, March 2024)*

## Estuarine Habitats: Parananacooka Creek



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0 75 150 300 Metres

- Estuary Extent
- Beach
- Shore Platform
- Channel
- Estuarine Flat

Fig 22.1 Parananacooka River estuarine habitats


The Congeratinga – Anacotilla River estuary at Wirinna is approximately 10-15m wide and has been modified by the construction of the adjacent Wirinna Marina, with flow of the creek line having been diverted, the estuary now connecting to the sea with some tidal influence through the marina. Telfer and Milne (2014) describe the habitat potential of the estuary as poor, with <10% stable habitat present and no visible instream wood/logs present. The dominant vegetation is a Narrow-leaf Bulrush (*Typha domingensis*), Sea Rush (*Juncus kraussii*) Sedgeland with pockets of Common Reed (*Phragmites australis*) upstream of estuary boundary (Telfer and Milne 2014). Plant surveys recorded of 16 native plant species, indicating an “Excellent” level of diversity for this type of plant community, Common Reed (*Phragmites australis*), Narrow-leaf Bulrush (*Typha domingensis*) and Lignum (*Duma florulenta*) swamps in permanent water). Species with conservation ratings observed include Large Bindweed (*Calystegia sepium*) and Asian Pennywort *Centella (Centella asiatica)*.




*Congeratinga – Anacotilla River estuary has an altered mouth due to the construction of the Wirinna ‘Sunset Cove’ marina and has been redirected west from its natural alignment (Coast Protection Board, March 2024)*

# Estuarine Habitats: Congeratinga River




0
75
150
300 Metres

- Channel
- Beach
- Estuarine Flat
- Estuary Extent



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Figure 22.2 Congeratinga – Anacotilla River estuarine habitats

## Vegetation Communities

### Coastal Slopes and cliffs

Drooping Sheoak (*Allocasuarina verticillata*) low woodland

- Drooping Sheoak (*Allocasuarina verticillata*) low woodland over Coast Daisy-bush (*Olearia axillaris*) +/- Coast Wallowa (*Acacia nematophylla*) +/- Umbrella Bush (*Acacia ligulata*) +/- Sea Box (*Alyxia buxifolia*) +/- Coast Beard-heath (*Leucopogon parviflorus*) +/- Cup Wattle (*Acacia cupularis*) mid shrubs over Sea-berry Saltbush (*Rhagodia candolleana ssp. candolleana*) low shrubs over \*Hare's Tail Grass (*Lagurus ovatus*) + \*Pimpernel (*Lysimachia arvensis*) +/- Coast Bitter-bush (*Adriana quadripartita*) +/- Coast Sword-sedge (*Lepidosperma gladiatum*)
- Drooping Sheoak (*Allocasuarina verticillata*) Low Woodland over Hard Mat-rush (*Lomandra multiflora ssp. dura*) + Scented Mat-rush (*Lomandra effusa*) + Wallaby Grass (*Rytidosperma spp.*) + Spear Grass (*Austrostipa spp.*)

Pink Gum (*Eucalyptus fasciculosa*) Woodland

- Pink Gum (*Eucalyptus fasciculosa*) Woodland over grassy and herbaceous understorey Annual Rock-fern (*Cheilanthes austrotenuifolia*) + Hard Mat-rush (*Lomandra multiflora ssp. dura*)

Pink Gum (*Eucalyptus fasciculosa*) low woodland

- Pink Gum (*Eucalyptus fasciculosa*) low woodland over Golden Wattle (*Acacia pycnantha*) over +/- Twiggy Daisy-bush (*Olearia ramulosa*) +/- Heath Tea-tree (*Leptospermum myrsinoides*) mid shrubs over Cranberry Heath (*Styphelia humifusa*) + \*Large Quaking-grass (*Briza maxima*) +/- Flame Heath (*Stenanthera conostephioides*) low shrubs
- Pink Gum (*Eucalyptus fasciculosa*) low woodland over Golden Wattle (*Acacia pycnantha*) over Kangaroo Thorn (*Acacia paradoxa*) + Twiggy Daisy-bush (*Olearia ramulosa*) +/- Tate's Grass-tree (*Xanthorrhoea semiplana ssp. tateana*) mid shrubs over Broad-leaf Raspwort (*Gonocarpus meizianus*) + Cranberry Heath (*Styphelia humifusa*) +/- Wire Rapier-sedge (*Lepidosperma semiteres*) low forbs

Pink Gum (*Eucalyptus fasciculosa*) + Drooping Sheoak (*Allocasuarina verticillata*) low woodland

- Pink Gum (*Eucalyptus fasciculosa*) + Drooping Sheoak (*Allocasuarina verticillata*) low woodland over Golden Wattle (*Acacia pycnantha*) over Heath Tea-tree (*Leptospermum myrsinoides*) +/- Yacca (*Xanthorrhoea semiplana ssp. semiplana*) mid shrubs over Flame Heath (*Stenanthera conostephioides*) + \*Large Quaking-grass (*Briza maxima*) + Cranberry Heath (*Styphelia humifusa*) low shrubs

Twiggy Daisy-bush (*Olearia ramulosa*) mid open shrubland

- Twiggy Daisy-bush (*Olearia ramulosa*) mid open shrubland over \*Hare's Tail Grass (*Lagurus ovatus*) + Sea-berry Saltbush (*Rhagodia candolleana ssp. candolleana*) + Prickly Ground-berry (*Acrotriche patula*) low shrubs over Variable Groundsel (*Senecio pinnatifolius spp.*) +/- Short-stem Flax-lily (*Dianella brevicaulis*) +/- Thyme Riceflower (*Pimelea serpyllifolia ssp. serpyllifolia*)

Coast Daisy-bush (*Olearia axillaris*) tall open shrubland

- Coast Daisy-bush (*Olearia axillaris*) tall open shrubland over +/- Sea-berry Saltbush (*Rhagodia candolleana ssp. candolleana*) low shrubs over Coastal Climbing Lignum (*Muehlenbeckia gunnii*) + \*Pimpernel (*Lysimachia arvensis*) + \*Hare's Tail Grass (*Lagurus ovatus*) +/- Bower Spinach (*Tetragonia implexicoma*) + Coast Bonefruit (*Threlkeldia diffusa*)

### Coastal dunes (Wirrina and Shelly Beach)

Coast Daisy-bush (*Olearia axillaris*) + Coast Beard-heath (*Leucopogon parviflorus*) Shrubland

- Coast Daisy-bush (*Olearia axillaris*) + Coastal Wattle (*Acacia longifolia ssp. sophorae*) +/- Common Boobialla (*Myoporum insulare*) +/- Coast Beard-heath (*Leucopogon parviflorus*) mid sparse shrubland over Sea-berry Saltbush (*Rhagodia candolleana ssp. candolleana*) +/- \*Annual Veldt Grass (*Ehrharta longiflora*) mid tussock grasses over Thyme Riceflower (*Pimelea serpyllifolia ssp. serpyllifolia*) + Native Pigface (*Carpobrotus rossii*) + Bower Spinach (*Tetragonia implexicoma*)

### Estuaries (Parananacooka River and Congeratinga – Anacotilla River)

- Common Reed (*Phragmites australis*) +/- Narrow-leaf Bulrush (*Typha domingensis*) Sedgeland
- Narrow-leaf Bulrush (*Typha domingensis*) + Sea Rush (*Juncus kraussii*) Sedgeland

## Nearshore habitats

This cell forms part of the Encounter Marine Park. The marine areas of cell F22 are within a Habitat Protection Zone (HPZ-5). The waters around Second Valley have very high species diversity including Leafy Sea Dragons (*Phycodurus eques*). This area has minimal protection from fishing activities.

Bryars (2013) describes this cell as dominated by continuous seagrass meadows with significant areas of continuous low profile reef inshore and bare sand further offshore beyond the depth limit of seagrass growth (Figure 22.3). Smaller amounts of patchy low profile reef and bare sand are also scattered throughout the cell.

Seagrasses in Yankalilla Bay are dominated by *Amphibolis* and *Posidonia* (Murray-Jones et al. 2009, Tanner et al. 2012). A small amount of *P. coriacea* occurs in the sandy bay at Second Valley (Bryars 2013). Subtidal reefs in the Second Valley to Wirrina Cove area are composed of limestone or metamorphic rock with a cover of macroalgae and sessile invertebrates (Turner et al. 2007, DEH 2008, Baker et al. 2008, Collings et al. 2008, Brook and Bryars 2014, Brook et al. 2020, Brock et al. 2023). Artificial reefs occur within the cell in the form of a jetty and break wall at Second Valley, and breakwaters at Wirrina Cove Marina (Bryars 2013). The inshore bare sand is characterised by a low-energy, low tide terrace beach system at Second Valley and by the low-energy, reflective beach systems at Wirrina and the southern end of Yankalilla Bay (Short 2001).

The cell is regionally significant due to its substantial coverage of seagrass and inshore reef system (Bryars 2013).

### Subtidal and intertidal reef

Surveys of the subtidal reef at Second Valley and 'Sunset Cove South' have found a high diversity of fishes, invertebrates and macroalgae (Edgar et al. 2006, Turner et al. 2007, Baker et al. 2008, DEH 2008, Shepherd and Baker 2008, Brook and Bryars 2014, Brook et al. 2020, Brock et al. 2023). The intertidal reef at Second Valley has been surveyed for macroalgae, seagrasses and invertebrates (Benkendorff et al. 2008, Baring et al. 2010), and is characterised by a range of macroalgae (red, green and brown) and numerous (>35) mollusc species (Benkendorff et al. 2008). The cell lies within a region of low macroalgal species diversity; however this is probably partly due to a low level of collection effort (see Baker and Gurgel 2010).



Sea anemones (S Bryars)

The reef ecosystem baseline study (Brook et al., 2020) and current study by Brock et al. (2023) assessing the trends in the condition of rocky reef ecosystems of the greater Adelaide and Fleurieu Peninsula region found that the overall status of rocky reefs was stable or improving, based on several key indicators of condition (e.g. fish and macroinvertebrate species richness, community structure, large fish biomass, macroalgae percentage cover, and reef thermal index). The Central Fleurieu subregion comprises 24 long term monitoring survey reef sites, with four sites found within the cell. These sites include Lasseter's reef, Second Valley, Sunset Cove and Lady Bay. Combined reef surveys in this subregion indicate that macroinvertebrate and fish species richness, large fish biomass and the percentage cover of canopy-forming algae has remained stable or is increasing (Brock et al. 2023). Marine species in the Central Fleurieu subregion include 143 bony fish, 12 sharks and rays, 104 species of marine invertebrate, and 20 species of crustacean (Brock et al. 2023, Edgar and Barrett (2012), Edgar and Stuart-Smith (2014), Edgar et al. (2020)).

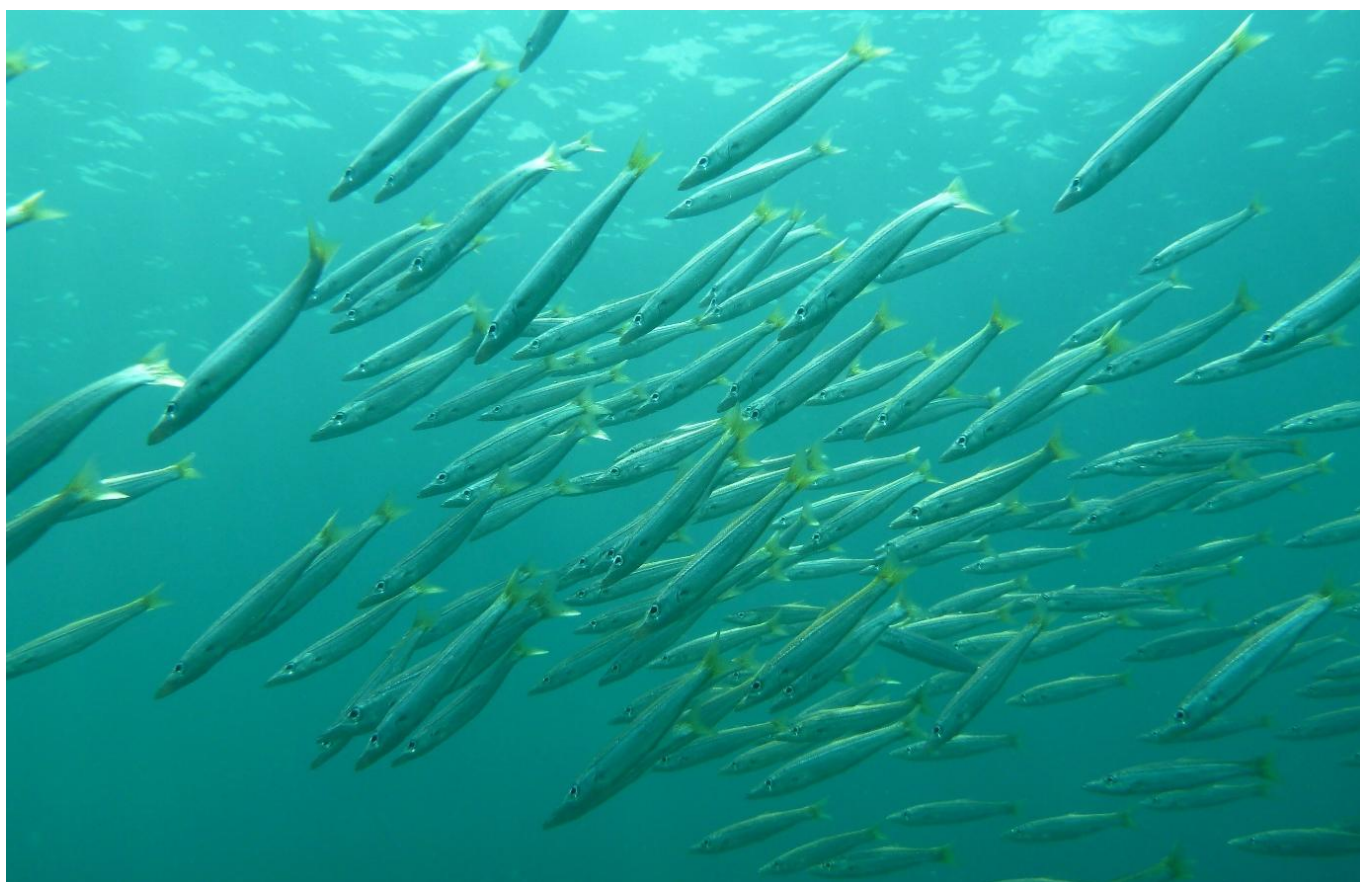
### **Seagrass habitats**

While the seagrass and bare sand/soft bottom habitats are likely to support a range of species (e.g. see Bryars 2003), apart from mapping studies that have characterised the benthos (Shepherd and Sprigg 1976, Tanner 2002, DEH 2008), limited to no habitat condition or biological surveys appear to have been undertaken on these habitats within Cell F22.

### **Species diversity**

Bryars (2003) listed 10 fish and two macroinvertebrate species for the sheltered beach habitat at Second Valley, 12 fish and four macroinvertebrate species for the seagrass habitat between Sellicks Beach and Rapid Head, 14 fish and six macroinvertebrate species for the unvegetated soft bottom habitat between Sellicks Beach and Rapid Head, and 14 fish and six macroinvertebrate species for the reef habitat between Sellicks Beach and Rapid Head.

Surveys for uncommon and cryptic reef fishes have been conducted in the cell (see Baker et al. 2008). The reef adjacent to Second Valley is used as a Reef Health monitoring site (Turner et al. 2007, Collings et al. 2009, Brook and Bryars 2014, Brook et al. 2020, Brock et al. 2023). Previously, Reef Watch community monitoring program undertook subtidal surveys at Second Valley, now surveys are done as Reef Life Surveys. Intertidal reef surveys have also been conducted at Second Valley (e.g. Baring et al. 2010).



*Long-finned Pike (Dinolestes lewini) (S Bryars)*



## Threats

### Whole cell

This cell experiences a range of threats, supporting multiple small townships or settlements with limited capacity and large privately owned land parcels with significant past clearance of vegetation and grazing. Substantial increases in visitation to coastal townships and reserves has been observed over recent years, placing pressure on natural areas and infrastructure. Threats include cliff instability, land ownership, land use, percentage of exotic plants, viewshed and viewscape. Combined these threats place the cell at the higher end of threats impacting conservation values across the region.

This cell faces a high level of threat due to land use and ownership patterns, with extensive private holdings directly abutting the narrow Crown land corridor along the coastal fringe. The threat of land ownership and land use identifies some land parcels as potential threats to coastal areas due to factors like proximity to the coast or vulnerability to hazards. This highlights land parcels for potential intervention, such as zoning changes, restrictions or land purchase, to mitigate risks like erosion, inundation (storm surges, or sea-level rise), or the potential impact of current or future land use on coastal ecosystems, such as development or agriculture.

Public desire to visit more remote areas that have less visitation is pushing capacity of caravan parks and camping activities to coastal carparks and roadside locations. Informal camping is increasing visitation, impacting erosion, increase weed incursions, litter and waste management, illegal firewood and vegetation collection, trampling and degradation of native vegetation, and disturbance to native fauna. There are some impacts including erosion, vegetation trampling and removal and litter from camping and off-road vehicle use from the Hobart Memorial to Lady Bay.



*Second Valley Beach is a popular tourist area for the small pocket beaches, watercraft, snorkelling and diving in the nearshore environment (S Sutherland)*

Grazing of cliff tops and faces increases cliff instability, especially through erosion and gully development, leading to periodic increases in turbidity in the nearshore marine zone. Historic land management practices in coastal catchments has led to hillside erosion scarring, eroded creek banks, raised sediment transport and creek nutrient levels. Significant efforts had been made to exclude stock access to cliff lines and undertake considerable revegetation north of Wirrina to Lady Bay. However, land management practices continue to impact coast and marine catchments south of Wirrina (including stock grazing).



*Erosion of coastal slopes and cliff lines southwest of Wirrina (Coast Protection Board, March 2024)*

The following declared and red alert weeds were found within this cell: Western Coastal Wattle (*Acacia cyclops*), African Boxthorn (*Lycium ferocissimum*), Boneseed (*Chrysanthemoides monilifera* ssp. *monilifera*), Sea Spurge (*Euphorbia paralias*), False Caper (*Euphorbia terracina*), Tufted Honey-flower (*Melianthus comosus*), Olive (*Olea europaea* ssp. *europaea*), Buffel Grass (*Cenchrus ciliaris*), Skeleton Weed (*Chondrilla juncea*), Lavatory Creeper (*Dipogon lignosus*), Salvation Jane (*Echium plantagineum*), Dog Rose (*Rosa canina*), Soursob (*Oxalis pes-caprae*), Perennial Veldt Grass (*Ehrharta calycina*), Chilean Needle Grass (*Nassella neesiana*), Tambookie Grass (*Hyparrhenia hirta*), Cape Weed (*Arctotheca calendula*), Onion Weed (*Asphodelus fistulosus*), Kikuyu (*Cenchrus clandestinus*), Feather-top (*Cenchrus longisetus*), Artichoke Thistle (*Cynara cardunculus* ssp. *flavescens*), Broad-leaf Cotton-bush (*Gomphocarpus cancellatus*), Pincushion (*Sixalix atropurpurea*), Sea Wheat-grass (*Thinopyrum junceiforme*), Horehound (*Marrubium vulgare*), Apple of Sodom (*Solanum linnaeanum*), and Feather-top (*Cenchrus longisetus*).

Declared weed Chilean Needle Grass (*Nassella neesiana*) and Tambookie Grass (*Hyparrhenia hirta*) have been key threats in this cell. While substantial resources have been invested for control, an eradication target remains. Monitoring and control of emergences needs to continue for Buffel Grass (*Cenchrus ciliaris*). Woody weed threats include African Boxthorn (*Lycium ferocissimum*) and Olives (*Olea europaea* ssp. *europaea*).

Residential encroachments at Wirrina are occurring through private path development to the beach, potentially impacting Aboriginal Heritage registered sites, clearing native vegetation, and planting of inappropriate species on coastal reserves. Garden escape weeds are a threat, spreading from Second Valley and Wirrina residences. Succulents and Gazanias (*Gazania linearis*) require ongoing monitoring, control, and community education.



*Wirrina Beach with large amounts of seagrass wrack that protect the dunes from erosion (M Sierp)*

The shacks on foreshore of Shelly Beach south of Little Gorge are unsustainably located. Several experience periods of near inundation and dune erosion right up to the buildings during periods of storm surge and extreme tide events.

Pest animal threats to coastal fauna and flora from rabbits (*Oryctolagus cuniculus*), foxes (*Vulpes vulpes*), and feral cats (*Felis catus*). There is a need to monitor and control Fallow Deer (*Cervus dama*) incursions. Coordinated collaboration between landowners and managers is required to manage pest animals (refer to regional pest management strategies).

On the beach and dunes Sea Wheat-grass (*Thinopyrum junceiforme*) and *Euphorbia* spp (*Euphorbia paralias* and *E. terracina*) are limiting Hooded Plover habitat and require management. Dunes with introduced grasses develop steeper and higher dune heights than those dominated with local native spinifex plants, due to their growth habits. Hooded Plovers need a relatively open beach/foredune area to be able to breed, roost and feed. Dunes with high and densely planted areas are not favourable to hooded plovers and put them at greater risk to predators, such as Silver Gulls, ravens, foxes and other species. The cells' pocket beaches may be suitable breeding habitat for Hooded Plovers but have not been recorded to date. Foxes are an issue at beaches within this cell and have impacted nesting, chick survival and fledging success. Sea level rise, storm surge, dogs off-leash (no dogs beach) are also impacting beach nesting birds in this cell.

Several butterfly and skipper species that have localised populations are limited in capacity for dispersal and/or colonisation of new sites. The lack of suitable habitats, weed invasion and interconnectivity between habitats prohibits movements and therefore creates localised isolation of populations. Several species are now restricted to pockets of isolated habitats, resulting in some being vulnerable to population collapse (Stolarski 2024).

Coastal raptors are recorded to utilise habitats within the cell, including Wedge-tailed Eagles (*Aquila audax audax*) that have established foraging and breeding territories locally. Current and potential future threats include disturbance, recreational and industrial use of drones, windfarms and spread of urban development (Rowe et al 2018).



*Wedge-tailed Eagle (Aquila audax audax) is one of several coastal raptors recorded in the cell (M Stokes)*

Rapid Head (located in F21) a well-known haul out site for Long-nosed Fur Seals and lesser numbers of Australian Sea Lions. These species haul out at this site year-round however greater numbers are observed in winter months (upwards of 100 animals). Regular and persistent visitation by boats and kayakers to this area, results in significant issues with disturbance during summer months. Illegal fishing inside the sanctuary zone is a threat to the resident fish communities. These no-take areas are located at core conservation areas within marine parks, protecting vital feeding, breeding, nursery, and resting areas for marine life.

Marine biosecurity monitoring for known and new incursions occurs within the Wirrina Cove Marina, to monitor population and species movements between mooring locations across metropolitan Adelaide, Kangaroo Island and the Limestone coast.



*European Fan Worm (Sabella spallanzani) is an invasive marine pest established in South Australia, with significant populations found in Wirrina Cove. (K Peters)*

## Estuaries (Parananacooka River and Congeratinga – Anacotilla River)

The slopes and valleys of the lower Congeratinga River (Wirrina) have been heavily grazed, with limited understorey species remaining or isolated in patches where stock have difficulty accessing along the cliff line. Telfer and Milne (2014) describe moderate levels of depositing of sediment, erosion of banks, significant impacts across the riparian zone and changes to the height and location of toe of bank as a result of the rock sea wall constructed for the marina. Streambank surfaces have <50% covered by native vegetation, with weed incursion of African Boxthorn (*Lycium ferocissimum*), Soursob (*Oxalis pes-caprae*) and Dog Rose (*Rosa canina*), as well as areas above and adjoining the estuary with White Arum Lily (*Zantedeschia aethiopica*), Gazania (*Gazania linearis*), Nasturtium (*Tropaeolum majus*), Fennel (*Foeniculum vulgare*), Edible Fig (*Ficus carica*) and Broad-leaf Cotton-bush (*Gomphocarpus cancellatus*) (Telfer and Milne 2014).



*White Arum Lily (Zantedeschia aethiopica) is found within the Congeratinga River watercourse in this cell. A common garden plant that readily establishes and spreads (P Watton)*

The Parananacooka River estuary carries moderate-heavy deposit of gravel, sand or fine sediment due to the dense cover of reeds and erosion due to past clearance on surrounding slopes, leading to bank instability, with many eroded areas and obvious bank sloughing (Telfer and Milne 2014). The substrate is soft shale/sand and rabbit diggings/holes are contributing to erosion on surrounding slopes.

Telfer and Milne (2014) describe the banks as undercut – the northern bank has been modified by construction of the carpark, with concrete footings and other structures, under which the sand has eroded away. Streambank surfaces are 50% covered by native vegetation and disturbance is obvious, with a high cover of weedy grasses and herbs (Telfer and Milne 2014). Human activities have impacted riparian zone to a large extent. Large, mature White Poplar (*Populus alba*) trees dominate upstream of the lower catchment, which sits above the defined estuary boundary. Other weed species present within the estuarine edges and surrounding slopes include White Arum Lily (*Zantedeschia aethiopica*), Kikuyu (*Cenchrus clandestinus*), Sea Spurge (*Euphorbia paralias*), Couch (*Cynodon dactylon* var. *dactylon*), Coastal Galenia (*Aizoon pubescens*) and Soursob (*Oxalis pes-caprae*), although Water Parsnip (*Berula erecta*) occurs throughout (Telfer and Milne 2014).

Revegetation on adjacent banks/slopes has occurred in the past in an attempt to reduce erosion prone areas and increase species diversity within the estuary.

Artificial opening by mechanical opening of the estuary can be undertaken by the Council (associated with an EPA permit) to manage river build-up. There are upstream implications and complexities associated with opening and closure of estuaries, particularly related to permanent water bodies. The opening of the estuary mouth can dramatically affect the functioning of organisms within the estuary and near shore. Changes to mouth opening will impact water quality and fish within the estuary, and the movements of fish between the estuary and the coastal environment.

### **Nearshore Habitats**

Bryars (2013) describes the coastline as sparsely populated with minor (but unquantified) freshwater inputs, including those from Paranacooka River and Congeratinga/Anacotilla Rivers. Stormwater and catchment flows and resultant nutrient and sediment inputs are likely to be minor (Bryars 2013). Nonetheless, Caton et al. (2007) identified that turbidity in the nearshore zone was affected by run-off from coastal cliffs (which are grazed and eroded), and from the Paranacooka and Congeratinga/Anacotilla Rivers (which have eroded banks). The potential impacts of these threats on nearshore habitats have not been investigated.

Risk ratings by Bryars (2013) for identified threats to seagrass and reef ranged from low to moderate, while no measurable threats to sand were identified.

As there is a relatively small area of reef within the cell and all of the continuous reef occurs inshore, where contact with catchment discharges is most likely, it was considered by Bryars (2013) that there would be a moderate consequence from catchment water. Thus, the risk rating for reef was moderate. Seagrass was given a lower risk rating by Bryars (2013), as there is a large area of seagrass within the cell and it mostly occurs further offshore than the reef. Therefore, the consequences and likelihood were both lower than for reef. Further to this, physical disturbance to seagrass adjacent to Wirrina Cove Marina is likely to continue. It was felt that the consequence of this was minor due to the relatively large area of seagrass within the cell, hence Bryars (2013) rated the risk as low.

Examination of aerial photos by Bryars (2013) indicated that an accumulation of sand is occurring on the western breakwater of Wirrina Cove Marina and that this is smothering the inshore seagrass. Build-up of organic material (seagrass and macroalgal wrack) occurs on the eastern side of Wirrina Cove Marina, apparently due to the breakwater structure (Bryars 2013). The potential long-term impacts of this material on the inshore reefs are unknown.

## **Opportunities**

### **Whole cell**

Manage visitor numbers and impacts to ensure coastal areas can support growing demand, while maintaining and improving the quality of experiences without diminishing the values of the cell. Allow vegetation regeneration and reduce erosion impacts by discouraging the use of off-road vehicles on dunes and coastal slopes, which can create unwanted tracks.

Investigate informal camping issues, low-impact walking trails, and further opportunities to reduce impacts on the coastal environment. Education, restrictions and compliance regarding off-road vehicle and informal camping. Work with tourism operators and agencies to support visitor education about coastal values and appropriate behaviors.

Community education opportunities regarding:

- Unique and valuable coastal landscape (for example, wildflowers, birds, and mammals)
- Fragile nature of coastal areas that are sensitive to foot traffic, soil compaction and erosion.
- Coastal gardens and resident/business owner education
- Impacts of shellfish removal and regulations related to harvest of intertidal organisms, and community education and targeted communications regarding Marine Parks and no-fishing in Sanctuary Zones.
- Beach-nesting birds, such as Hooded Plovers and Sooty Oystercatchers (dogs on leash, nesting sites, citizen science projects, managing visitor disturbance)
- Citizen science monitoring to contribute to intertidal reef monitoring, seagrass restoration, dolphin watch, beach pole monitoring, Fleurieu seabird monitoring program and beach-nesting birds.
- Value of place and coastal values, responsible beach use and reducing human impact on coastal habitats.
- There is opportunity for signage renewal across coastal areas to educate the community about coastal conservation, cultural significance and appropriate behaviours across the Fleurieu Peninsula coast.

Weed management is a key priority to help retain the limited biodiversity values within the cell across the parcels of crown lands. Targeted control of declared and red alert weeds is a high priority, as they are actively invading intact native vegetation and displace or choke out native plant species. Ongoing monitoring for, and mapping of, new weed infestations should also be undertaken as part of an ongoing weed control program, which is critical to addressing high priority weeds and maintaining conservation values for the cell.

Garden escape weeds are a threat, spreading from Second Valley and Wirrina residences. A variety of succulent species, as well as *Gazania linearis*, have become key invasive species to coastal reserves in this cell. Education to local residents on the impact of coastal garden weeds that spread to coastal reserves and suitable alternatives is needed.



*Targeted revegetation programs in this cell are actively planting Drooping Sheoak (Allocasuarina verticillata) Woodlands as potential habitat for Glossy Black Cockatoos (Calyptorhynchus lathami) (shown above) (M Stokes)*

Implement appropriate management regimes to restore long term ecological function and biodiversity, including for rare and threatened species that inhabit the ecological communities within the cell. Significant revegetation has taken place across the council reserve areas to improve habitat for the Glossy Black Cockatoo. More recent revegetation has focused on planting Firewise species that are less flammable local native plants whilst improving biodiversity values. There is potential to link restoration sites, such as the 32-hectare Wirrina Coastal Reserve undergoing revegetation, with private land between Wirrina and Lady Bay.

It is also recognised that within the same stretch of coast, strategic actions to improve connection between vegetation blocks would greatly enhance the value of the area. Consider best mechanisms for greater long term conservation status and protection of this area (conservation outcomes and ongoing ability to access current funding and resources) and connectivity with other areas of conservation values.

Support opportunities for revegetation and restoration of coastal slopes and watercourses within and upstream of this cell to reduce sediment loads moving downstream to the estuary and marine habitats. Implement the Second Valley and Randelsea catchment assessment and masterplan (DCY 2017), including WSUD principles to reduce localised impacts to the coastal catchment and nearshore habitats.

Monitor the impacts and effects of total grazing pressure that are causing impacts on native vegetation and revegetation programs, reducing plant diversity and habitat quality for other important and conservation rated

species. Implement measures to reduce grazing pressure and erosion on coastal slopes, creek lines, estuaries and high conservation value pockets of remnant vegetation.

Pest animal threats to coastal fauna and flora from rabbits, foxes, and cats. There is a need to monitor and control Fallow Deer incursions, and coordinated collaboration between landowners and managers is required to manage pest animals (refer to Regional Pest Management Strategies).

Removal, restoration and management of private access paths from beachfront properties and their impacts on coastal reserves at Wirrina. Maintain and expand coastal restoration actions, including revegetation with local native plants and priority weed control. Increase suitable habitat for coastal butterfly populations, including planting of host plants in coastal areas to increase habitat suitability for local introductions.



*The Golden-haired Sedge-skipper (Hesperilla chrysotricha cyclospila) while not currently known in this cell could have suitable habitat and benefit from restoration of host plant Gahnia spp. restoration for reintroduction (M Endacott)*

Golden-haired Sedge-skipper (*Hesperilla chrysotricha cyclospila*) with its current Fleurieu Peninsula extant of four known population sites; Stipiturus CP, Myponga River Gorge private property (PP), and Deep Creek PP is considered as locally vulnerable. Opportunities have been identified by Stolarski (2024) in the following cells; F15, F21, F22, F23 and F24 for the restoration of the species habitats with Saw-sedge (*Gahnia* ssp. including Curled Saw-sedge (*Gahnia ancistrophylla*), Limestone Saw-sedge (*Gahnia deusta*), Thatching Grass (*Gahnia filum*), Red-fruit Saw-sedge (*Gahnia sieberiana*); Cutting Grass (*Gahnia trifida*)) in view of introduction into sites.

This cell is important for coastal raptors and ongoing monitoring, and management is critical to minimise visitor disturbance and to support habitat condition for raptor populations. Investigate opportunities to support and implement the recovery plan for Eastern Osprey (*Pandion haliaetus cristatus*) and White-bellied Sea Eagles (*Haliaeetus leucogaster*) (2022). Monitor, maintain and improve the quality of vegetation for the provision of wildlife habitat for priority species.

Continue to support collaborative efforts to protect and conserve potential Hooded Plover breeding habitats within this cell. Implement actions to support Hooded Plover conservation, including signage for dog-free (Shelly Beach) and dogs on-leash beaches, opportunities for collaboration to manage foxes within the cell. Maintain council beach

controls to support Hooded Plover protection efforts. There are opportunities to support Hooded Plover habitat by replacing introduced Sea Wheat-grass with native Spinifex vegetation associations.



*Hooded Plover (Thinornis cucullatus cucullatus), Australia's most threatened beach nesting bird- feed, roost and breed across Fleurieu and Metropolitan Adelaide beaches (M Stokes)*

As part of the *Coastal Dune and Cliff-top Vegetation Surveys (1995–1997)* (Opperman 1999), long-term monitoring sites were established across South Australia and the Southern Fleurieu region to assess the structure and composition of coastal dune and cliff-top plant communities, and their relationships to regional and environmental factors. Given that nearly 30 years have passed since these surveys were undertaken, there is strong potential for shifts in geographical range and changes in species composition due to the long-term impacts of climate change. The *Survey of Remnant Vegetation of the Southern Fleurieu Peninsula* involved biological surveys conducted between 1987 and 1991 to establish baseline data on remnant vegetation and swamps in the region south of Adelaide, South Australia.

During the development of this plan, and through the assessment of flora and fauna (both native and introduced) species lists available via the Biological Database of South Australia (BDBSA), significant gaps were identified between recorded species and known species distributions within cells. To address these data deficiencies and improve the accuracy of long-term ecological records, both above foundational vegetation survey projects should be repeated and incorporated into an ongoing monitoring program. Fauna assessments across cells to establish population baselines, update existing records and species distribution, particularly of underrepresented groups (reptiles and invertebrates) should be undertaken.

There is opportunity for collaboration between partners, such as National Parks, Marine Parks, Traditional Owners, First Nations, landscape boards, volunteer groups, community and nature-based tourism operators for monitoring of seabirds, coastal raptors, marine mammals and other wildlife.

Support community volunteer and local landowner efforts to undertake priority restoration and conservation work in this cell. Strengthen partnerships with Traditional Owners, First Nations, lessees, adjoining landowners, volunteer organisations, researchers, and the wider community to foster collaboration and long-term management benefits for biodiversity protection and restoration. Continuing to develop and maintain good relationships with privately owned land neighbours.

Collaborate with the SA Climate Ready Coasts program to enhance, resource, and implement coastal management initiatives and accelerate coastal hazard adaptation planning across South Australia. This program supports the development and delivery of Coastal Hazard Adaptation Plans (CHAPs), led by the Local Government Association (LGA) of South Australia in partnership with the SA Coast Protection Board, the Department for Environment and Water, the Adelaide Coastal Councils Network, and the SA Coastal Councils Alliance.

### **Estuaries (Parananacooka River and Congeratinga – Anacotilla River)**

Weed control within the estuary and across grazing pastures, bare coastal slopes on private property and crown lands parcels needs to be maintained to prevent further incursion into limited remnant patches of high conservation value. Upgrades, replacement and installation of appropriate fencing to restrict stock access to cliff lines, watercourses and the estuary is required. Following weed control undertake activities to improve bank stabilisation and revegetation to reduce further erosion and weed cover.

Maintenance of natural conditions in creeks and estuaries depends on integrated catchment management. Land use that minimises the negative impacts to the stream, including limited water extraction, the reestablishment of native vegetation following priority weed control, and exclusion of stock from creek lines, should be encouraged within the cell and throughout the catchment.

Improvement to the estuarine flora and fauna habitats and connectivity with marine environments can be achieved through the development and employment of an Estuary Entrance Management Support System (EEMSS). This would include a framework for decision makers, considering both the ecological and infrastructure/amenity concerns. Improved management of estuaries within the region (and across the state) is required for a more strategic planning and management approach to deliver positive and coordinated outcomes for estuary habitats. Improved monitoring of ecological communities, connectivity with marine systems and water quality conditions within the estuary will allow more effective adaptive management; being aware of conditions and responding as required.

### **Nearshore habitats**

Bryars (2013) recommends biological surveys of the seagrass and sand/soft bottom habitats are required to better understand habitat values and compile meaningful species lists and distributions for the cell.

Assessment at Wirrina Cove Marina is required to confirm the level of disturbance to seagrass from sand smothering (Bryars 2013).

## **Climate change threats to coastal biodiversity (See BMT 2025)**

### **Potential climate change threats to coastal biodiversity**

Cell F22 includes high coastal cliffs and discontinuous boulder pocket beaches, with small creeks incised. Native vegetation occurs within the beach and creek ecosystems. There are intertidal and temperate reef ecosystems supported by dense seagrass.

Biodiversity assets potentially vulnerable to climate change in this cell include:

- Native vegetation
- Coastal dunes
- Intertidal and reef ecosystems
- Coastal cliffs
- Creek and estuary ecosystems

These ecosystems may be particularly vulnerable to the direct impacts of climate change, particularly sea level rise, coastal erosion, increased drought, higher temperatures and more intense storms.

Over time, increasing aridity will slow natural recovery from damage to remnant vegetation. Increasing plant and animal resilience to progressive climate change is important for this area and can be assisted by improving connectivity between remnant vegetation patches. Seasonal run-off in small creeks will be drastically reduced by soil water budget changes. However, unpredictable intense rainstorms will locally cause fast run-off in small catchments. Changes in wave climate, likely to increase the long period swell component, would accentuate high tide changes to backshores in pocket beaches. Given the range of sea level rise projected by the IPCC (2001), many talus slopes at the base of sea cliffs will be trimmed back. Tide and water depth dependent habitats on reefs will be impacted by sea level rise. Some intertidal sloping reefs will accommodate species migration. Flat low tide reef platforms will see species change (Caton et al 2007).

Marine heatwaves place further stress temperate reefs and seagrasses, reducing biodiversity. Higher atmospheric temperatures will lead to increased marine heatwaves, loss of species in the intertidal with longer than experience to grow back due to increased stressors; e.g. loss of sediment. Higher sea surface temperatures increase the potential for algal blooms.

Changes in ocean temperatures, salinity, and acidity (from increased CO<sub>2</sub> levels) can directly affect the health of temperate reefs. Warmer waters and increased acidification may hinder the growth of calcareous organisms, such as marine molluscs and phytoplankton.

## Cell Action Table

Component	Issue	Proposed Action	Priority	Key Players
Whole cell	Threats and opportunities to improve protection of cultural heritage within cell.	Cultural consultation and collaboration to appropriately manage cultural heritage within this area.  Prevent damage, disturbance, or interference to cultural heritage by adhering to the Aboriginal Heritage Act 1988.	High (cons/ threat)	Traditional Owners, First Nations, Council, LHF, Coastal Community groups, Aboriginal Affairs and Reconciliation - Department of Premier and Cabinet
	Increased visitation and recreational pressure on dunes and viewing points due to increased local population and tourist promotion.	Assess increased visitation capacity at known sites, ensure infrastructure is sufficient to meet the demands of increasing visitor numbers. Manage visitor numbers within sustainable limits in ecologically and culturally sensitive and significant areas - consult with Traditional Owners.	High (cons/ threat)	Council, DEW, land managers, Traditional Owners, First Nations
		Investigate opportunities for community education and engagement regarding unique and valuable coastal landscape and fragile nature of coastal areas. Structured cultural education and training for land managers, agency staff and land stewards.	High (Cons/ Soc)	Council, LHF, DEW, NPWSSA, Traditional Owners, First Nations, coastal community groups, Community groups
		Opportunity to work with nature-based tourism operators to increase education and stewardship of local coastal environments. Support opportunities for Traditional Owner-led tourism and cultural education.	Medium (Cons)	Council, land managers, Traditional Owners, First Nations, NPWSSA, coastal community groups
		Development of consistent signage and messaging for coastal values and compliance for conservation areas (public managed lands, coastal reserves) across the Fleurieu Peninsula coast. Co-design signage with Traditional Owners/ knowledge holders.	Medium (Soc/ Cons)	Council, land managers, Traditional Owners, First Nations, NPWSSA, coastal community groups
		Collaborate and manage access with event managers to ensure protection of coastal areas and groups do not impact high conservation value areas, or cultural heritage in consultation with Traditional Owners.	High (threat)	Council, Traditional Owners, First Nations, coastal community groups
		Monitor aquatic activities (boating, paddleboard and jet skis) for increased pressures on local coastal habitats and fauna species interactions.	High (threat)	Council, NPWSSA, DEW and land managers
		Crown land parcel access is limited leading to increase in informal camping.	Monitor crown reserves and undertake compliance where required. Seek resourcing to support implementation.	High (threat)
	Increase public awareness of legal camping areas and responsible use. Support areas set aside for free camping and correct information. Seek resourcing and build partnerships to support implementation.		Medium (threat)	Council, tourism bodies, Crown Lands, DEW
	Weed species threat to significant flora and fauna habitats.	Ongoing control and investment in weed control (particularly WONS and Red Alert Species) to protect and maintain high conservation areas including is difficult to access areas.	High (threat)	Council, land managers, coastal community group, LHF, Traditional Owners, First Nations business/ contractors/ rangers.
		Monitor new and existing incursions of African Boxthorn, olives, Chilean Needle Grass and Coolatai Grass. Control any re-emergence of Buffel grass.	High (threat)	Council, LHF, land owners, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
		Targeted interventions for threatened/rare plant species and communities.	High (cons)	DEW, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
		Monitor changes to dunes through BushRAT or similar monitoring to measure condition assessment and change.	High (cons/ threat)	Council, DEW, LHF, Community Groups.

Component	Issue	Proposed Action	Priority	Key Players
Whole cell	Ongoing weed incursions and weed control.	Target residences with educational materials, with regard to weeds and garden escapes.	High (Soc / Econ)	Coastal community groups, LHF, Council
		Leverage funding opportunities based on previous investment and in-kind contributions from coastal community groups.	High (cons/ threat)	Council, LHF, coastal community groups
	Protection of significant flora and fauna.	Protect existing populations through targeted weed control.	High (Cons/ threat)	Council, land managers, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
		Revegetation programs to improve the conservation prospects of threatened species.	High (cons)	DEW, land managers, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
		Propagate local plants for reintroduction to other sites to maintain genetic diversity and increase source populations.	High (cons)	Council, land managers, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups, local coastal plant nurseries
		Improve knowledge of fauna and flora through increased monitoring, mapping and reporting to better inform conservation management.	High (cons)	DEW, land managers, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
		Continue to support Marine biosecurity monitoring within marinas for ongoing and early detection of potential incursions.	High (threat)	PIRSA, DEW, Green Adelaide, LHF
		Butterfly habitats and host plant protection.	Identify locations of potential butterfly habitats and host plants with the cell.	High (cons)
	Extension of existing habitats and reintroduction of locally extinct butterfly species.		Medium (cons)	Council, DEW, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
	Undertake survey of cell to identify diversity of species within cell and potential habitats for restoration and reintroduction.		Medium (cons)	Council, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups
	Restore riparian corridor, include plantings of Cutting Grass ( <i>Gahnia trifida</i> ) for Golden-haired Sedge-skipper ( <i>Hesperilla chrysotricha cyclospila</i> ).		Medium (cons)	Council, LHF, Traditional Owners, First Nations business/ contractors/ rangers. coastal community groups
	Coordinated approach to monitoring of coastal wildlife.	Collaboration between land manager and stakeholders to support research and citizen science of beach-nesting birds, seabird, coastal raptors, marine mammals and other wildlife.	Medium (cons)	DEW, NPWSSA, Birdlife Aust, LHF, Council, SA Whale Centre, Encounter Whales, ecotourism operators, coastal community groups, Traditional Owners, First Nations business/ contractors/ rangers.

Component	Issue	Proposed Action	Priority	Key Players
Whole cell	Aged baseline data and significant gaps in recorded flora and fauna species across the Southern Fleurieu region.	Repeat and integrate historical vegetation surveys into a long-term monitoring program to update records and address data deficiencies.	Medium (cons/threat)	DEW, LHF, councils, coastal community groups
		Undertake fauna assessments across cells to establish baselines, update records and species distribution, particularly of underrepresented groups (reptiles and invertebrates).	Medium (cons/threat)	DEW, LHF, councils, coastal community groups
		Identify potential funding sources to repeat these long-term flora monitoring sites and fauna assessments.	High (cons/threat)	DEW, LHF, councils.
	Threat to coastal fauna and flora from pest animals (rabbits, foxes and cats).	Coordinated collaboration between landowners and managers is required to manage pest animals. Ensure control methods refer to cultural heritage protocols.	High (threat)	Councils, land owners, LHF, CPB, Traditional Owners, First Nations business/ contractors/ rangers.
		Report sightings of feral animals (deer, fox, rabbit, cat and declared species) through the feral scan pest animal recording and management tool	High (threat)	Land managers, community, coastal community groups
	Increasing grazing pressure from native and introduced species	Coordinate with regional grazing pressure programs (kangaroos, deer and goats) to monitor populations and control as required to protect remnant vegetation and revegetation efforts.	High (threat)	NPWSSA, DEW, PIRSA, LHF, Traditional Owners, First Nations business/ contractors/ rangers
	Stormwater impacts from inland development and catchment changes are likely to impact marine intertidal habitats and may accelerate seabed deepening and coastal erosion.  Turbidity from suspended sediments and nutrients are a significant threat to reef and seagrass habitats.	Monitor and manage stormwater to minimise impacts in the coast and marine environment.  Implement Water Sensitive Urban Design (WSUD).	High (Threat)	Council, LHF, CPB, Water Sensitive SA
		Develop guidelines for projects within Council areas to support improved stormwater management and reduce land-based impacts on coastal and nearshore marine environments.	Medium (cons/threat)	Council, LHF, DEW, Stormwater Management Authority
	Physical changes on the coast and natural assets from sea level rise (such as coastal squeeze on tidal habitats, erosion, vegetation loss, marine turbidity and light reduction)	Development of a council wide Coastal Hazard Adaptation Plan, including key locations, recommendations and priorities for funding.  Support partnerships for ongoing investigation and monitoring in the coastal zone, working with the Coast Protection Board to identify adaptation options for the future.	High (Cons. Threat)	CPB, Council, community, university and research agencies, Climate Ready Coast Program
	Tjilbruke / Tjirbruki cairn (monument) and Dreaming story sites within cell	Significant cultural marker within cell and opportunities to increase community cultural education through reconciliation.	Support Traditional Owner reinstatement of the Tjilbruke/Tjirbruki cairn (cultural marker at Lady Bay) with the established cultural authority.  Support existing Traditional Owner cultural walks and communications to build broader community education.	High (cons/threat)
Support cultural monitoring and communications to protect significant known heritage sites.  Support Traditional Owner aspirations to care for Country and provide cultural education for the dunes and cliff line.			High (cons/threat)	Traditional Owners, First Nations, Council, LHF, coastal community groups, community
Traditional Owner-led cultural mapping to document cultural values of the cliff line, estuary and surrounds.			High (cons/threat)	Traditional Owners, First Nations, Council, LHF, coastal community groups, community

Component	Issue	Proposed Action	Priority	Key Players	
Cliffs	Increased development on the coast within townships and along clifftops.	Review actions to protect cliff lines from development and spread of coastal townships.	Medium (threat)	Council, CPB, DEW	
	Lack of public access to coastal reserves.	Improve signage and upgrade coastal access opportunities where possible. Manage visitor numbers within sustainable limits in ecologically and culturally sensitive and significant areas - consult with Traditional Owners.	Medium (Soc / Econ)	Council, Crown Land, Traditional Owners, First Nations, Tourism SA.	
	Limited vegetation on cliff lines due to grazing.	Investigate opportunities to work with land managers to restrict grazing to coastal cliffs.	High (cons)	DEW, CPB, LHF, Council land owners	
		Protection of existing remnant vegetation and revegetation of local coastal species.	High (Cons)	Council, DEW, land managers, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups	
	The potential for improved connectivity between remnant areas of native vegetation of high conservation value provides the opportunity to sustain the high biodiversity values of this cell.	Develop a strategy to connect land parcels and land management agreements to improve connectivity between remnant vegetation blocks.	High (Cons / threat)	DEW, CPB, LHF, Council, Traditional Owners, First Nations business/ contractors/ rangers, community.	
		Investigate opportunities for formal conservation agreement/protection of high biodiversity conservation areas within cell.	Medium (cons)	Council, CPB, DEW, Traditional Owners, First Nations business/ contractors/ rangers LHF	
		Continue to support land managers to protect remnant vegetation and maintain revegetation and restoration efforts across land parcels within cell.	Medium (cons)	CPB, Council, LHF, Traditional Owners, First Nations business/ contractors/ rangers coastal community Groups	
	Grazing pressure threatens remnant vegetation patches.	Fencing of remnants on private and Crown land.	High (Cons / Threat)	DEW, LHF, land owners	
		Investigate opportunities for formal conservation agreement/protection including landowner Heritage Agreement.	Medium (cons)	CPB, DEW, NPWSSA, LHF, Council, land owners	
	Support and acknowledgement of extensive volunteer and private land owner effort in cell.	Maintain and support volunteer effort across public and private land parcels. Support structured cultural education and training for land managers, agency staff and land stewards.	High (cons/soc)	DEW, CPB, LHF, coastal community groups, Traditional Owners, First Nations business/ contractors/ rangers	
	Potential habitat for coastal raptors (White-bellied Sea Eagle and Eastern Osprey).	Ongoing monitoring and management of high values nesting and foraging areas. Partner with Traditional Owners to understand cultural value and obligations associated with local raptors.	High (cons)	NPWSSA, DEW, Traditional Owners, First Nations	
		Implement the recovery plan for Eastern Osprey and White-bellied Sea Eagles (2022).	High (cons)	DEW, NPWSSA, LHF, Traditional Owners, First Nations business/ contractors/ rangers	
		Investigate opportunities for establishment of nesting towers on private land for additional habitat.	Medium (cons)	DEW, LHF, Land owners	
	Foreshore	Residential encroachment to coastal reserve.	Assessment of boundaries, education and compliance.	High (threat)	Council, Traditional Owners, First Nations business/ contractors/ rangers
			Removal of introduced non-local species and restoration of pathways and erosion with local native coastal species.	High (threat)	Council, LHF, coastal community groups
The shacks on foreshore south of Little Gorge are unsustainably located.		Monitor changes in beach profile	High (threat/ Econ/Soc)	Council, DEW CPB	

Component	Issue	Proposed Action	Priority	Key Players
Foreshore	Impacts on Aboriginal Heritage sites.	Support cultural monitoring and communications to protect significant known heritage sites.	High (Cons / threat)	Traditional Owners, First Nations business/ contractors/ rangers, DEW, CPB, LHF, Council, Aboriginal Affairs and Reconciliation - Department of Premier and Cabinet
Hobart memorial to Lady Bay	Impacts to coastal reserves from informal camping and ORV use.	Compliance of informal camping activities and consider public restriction of vehicles to coast via access roads.	High (threat/cons)	Council
	Impacts on Aboriginal Heritage sites.	Support cultural monitoring and communications to protect significant known heritage sites.	High (Cons / threat)	Traditional Owners, First Nations business/ contractors/ rangers, DEW, CPB, LHF, Council, Aboriginal Affairs and Reconciliation - Department of Premier and Cabinet
Estuaries	Water quality, due to land-based discharges and bank erosion.	Fencing to prevent access and grazing in watercourses and revegetation.	High (Cons / threat)	Council, land owners, LHF.
	Weed incursion within estuary reducing biodiversity values.	Active control of weed populations within estuary areas.	(High (threat)	Land owners, managers Council, LHF, Traditional Owners, First Nations business/ contractors/ rangers
	Bank instability and multiple areas of erosion evident within estuaries.	Undertake restoration activities to improve bank stabilization and revegetation to reduce further erosion and weed cover.	High (cons)	Land owners, Council, LHF, Traditional Owners, First Nations business/ contractors/ rangers coastal community groups
	Limited monitoring data of estuary flow and opening and closing durations exist for these estuaries.	Consider monitoring of estuaries to determine the connectivity and functionality with marine ecosystems.	High (cons/ threat)	CPB, Landscape Boards, DEW
	Estuary entrance blocked with increasing frequency due to low flows.	Develop an Estuary Entrance Management Support System (EEMSS). (1), including a framework for decision makers considering both the ecological and infrastructure/amenity concerns.	High (Cons / Soc / Econ)	Council, DEW, LHF, Traditional Owners, First Nations business/ contractors/ rangers
	Impact of reduced flow and reduced water quality to aquatic biodiversity values.	Review opportunities to measure and increase environmental flow opportunities through Water Allocation Planning (WAP), low flow bypass on farm dams and other local opportunities.	High (Cons / Soc / Econ)	DEW, LHF
Beach-nesting birds	Hooded Plover nests and breeding areas threatened by disturbance by walkers and dogs.	Community monitoring, fences to mark nests. Signage and awareness raising activities to alert dog walkers.	High (Cons / threat)	Council, BirdLife Australia, LHF, Friends of the Hooded Plover, Fleurieu Peninsula volunteers, coastal community groups, Oystercatcher monitoring volunteers, Traditional Owners, First Nations business/ contractors/ rangers.
		Compliance efforts to ensure dogs on lead and dog-free beaches as per council bylaws.	High (threat)	Council
	Predation of birds, nests and chicks on beaches limiting nesting activity and breeding success.	Regional pest control strategies implemented and seasonal protection of breeding sites.	High (threat)	Council, NPWSSA, LHF, BirdLife Australia

Component	Issue	Proposed Action	Priority	Key Players
Beach-nesting birds	Incursion of multiple dune grass weed species is limiting suitable habitat for beach-nesting birds.	Support the staged removal of introduced weedy grasses and restoration of spinifex dunes.	High (threat)	Council, land managers, LHF, Traditional Owners, First Nations business/ contractors/ rangers, coastal community groups, Friends of the Hooded Plover, Fleurieu Peninsula volunteers
		Increase community awareness of habitat needs for beach-nesting bird species	Medium (cons)	Council, land managers, LHF, coastal community groups, Friends of the Hooded Plover, Fleurieu Peninsula volunteers, Traditional Owners, First Nations business/ contractors/ rangers
Nearshore habitats (Reef, Seagrass)	Sediments and nutrients from cliff top erosion and small creeks including the Paranacooka and Congeratinga/ Anacotilla Rivers.	Support initiatives for catchment revegetation and improved land management practices.	Medium (threat)	Council, LHF
		Implement the Second Valley and Randalsea catchment assessment and masterplan (DCY 2017) including WSUD principles to reduce localised impacts to the coastal catchment and nearshore habitats.	High (threat)	Council, LHF
		Monitor catchment and stormwater impact on nearshore habitats and reefs across the cell.	High (Threat)	Council, DEW, EPA, SA Water, Landscape Boards
	Lack of knowledge of seagrass condition and species diversity in cell.	Collaboration between government agencies, researchers, and community to monitor seagrass cover, species diversity, condition and inform active management.	Medium cons/(threat)	DEW, SARDI, EPA, SA Water, LHF, NPWSSA, universities, Council, community
	Lack of knowledge of seagrass condition and species diversity in cell.	Investigate opportunities to support reduction of land based impacts to avoid further loss, promote natural recovery of seagrasses and investigate potential for assisted restoration of seagrass habitats with community	High (cons/threat)	DEW, LHF, SARDI, NPWSSA, Council
Marine biosecurity risk from known and new incursions via boat movement between marinas across the state.	Monitor population and species movements between mooring locations including Worrina.	High (threat)	PIRSA, Landscape Boards, marina operators	
Caring for Sea Country	Culturally significant Sea Country - including caves, hunting grounds, fish traps marine life - are neglected and require Traditional Owner access and self determination to care for Country.	Support Traditional Owner mapping of southern Sea Country.  Support establishment of Traditional Owner-led caring for Sea Country program.  Traditional Owner led restoration of Sea Country and known significant places.	High (cons/threat)	Traditional Owners, First Nations, NPWSSA, DEW, Council, LHF, coastal community groups
Climate (Cliffs)	More intense rainfall events likely to increase soil erosion.	Restoration of native plant species to assist soil stabilisation.	High (Cons/threat)	Land owners, coastal community groups, Council, LHF, Traditional Owners, First Nations business/ contractors/ rangers
	Increased aridity likely to make growing conditions less suitable to native vegetation fragments.	Restoration of native plant species to assist soil stabilisation.	High (Cons/threat)	Land owners, Council, coastal community groups, LHF, Traditional Owners, First Nations business/ contractors/ rangers
Climate (Creek/ Estuary)	More intense rainfall events likely to lead to increased pollutants, nutrients and sediments washed into the estuary especially during first flush from the landward end.	Monitor stormwater quality and estuary/creek condition.	Medium (threat)	Council, DEW, LHF, land owners,
Climate (Creek/ Estuary)	Higher temperatures likely to lead to increased algal blooms with impacts on estuarine fauna.	Monitor stormwater quality and estuary/creek condition.	Medium (threat)	Council, DEW, LHF, land owners
Climate	Increased sea levels and more intense storms and higher winds	Restrict public access to fragile dunes.	Medium (threat)	Council, coastal community groups, LHF

Component	Issue	Proposed Action	Priority	Key Players
(Beach and dunes)	can contribute to more frequent and intense wave action, which accelerates beach and dune erosion.	Implement restoration of native plant species.	Medium (threat)	Council, Coastal community groups, LHF, Traditional Owners, First Nations business/ contractors/ rangers
	Predicted increases in aridity can lead to reduced vegetation cover and increased dune drift and dune mobility.	Monitoring of cross-shore dune, beach and nearshore sand level profiles.	Low (Hazard) Medium (cons/threat)	DEW CPB, Research Institutions, Universities.
		Update DEW Coastal Hazard Mapping spatial layer identifying the change in extent and stability of coastal dunes across South Australia since the previous hazard mapping was undertaken approximately 20 years ago	Medium (hazard) Medium (cons/threat)	DEW, CPB, Research Institutes, Universities
		Beach and dune topographic and photogrammetry drone surveys to provide detailed 2D and 3D digital surface models for monitoring changes to the coastal landforms over time in response to climate change.	Medium (Hazard) Medium (cons/threat)	DEW CPB, Research Institutions, Universities.
		Support cultural monitoring and communications to protect significant known heritage sites	High (threat)	Council, coastal community groups, LHF, Traditional Owners, First Nations business/ contractors/ rangers.
Climate (Macroalgal reefs and seagrasses)	More intense rainfall events likely to lead to increased pollutants, nutrients and suspended sediments washed into coastal waters especially during first flush.	Monitor stormwater quality and creek condition.	Medium (threat)	Council, DEW, LHF, land owners
	Increased storm surge can cause dislodgment of algae and seagrasses.	Monitor stormwater quality and creek condition.	Medium (threat)	Council, DEW, LHF, landowners
	Higher temperatures can lead to increased incidence and persistence of marine heatwaves and increased stress on temperate reefs and seagrasses, reducing biodiversity.	Monitor stormwater quality and creek condition.	Medium (threat)	Council, DEW, LHF, land owners
	Ocean acidification can impact the life history of marine species.	Monitor stormwater quality and creek condition.	Medium (threat)	Council, DEW, LHF, land owners
		Undertake benthic flora mapping to determine areas or opportunities for restoration.	Medium (threat)	DEW, council, LHF, land owners
Climate (whole cell)	Coastal Hazard Adaptation Planning	Investigate future funding opportunities to undertake coastal adaptation plan for DC Yankalilla to improve understanding of coastal risk, to inform coastal hazard adaptation planning and for evidence-based decisions and investments in the coast.	Medium (threat)	Council, CPB, Climate Ready Coasts Program, LGA, SACCA, DEW, consultancies, research institutions

- (1) An Estuary Entrance Management Support System (EEMSS) has been developed by Deakin University and a number of Victorian Catchment Boards. This system takes into account a number of uses (including recreation use), conservation and hydrological factors in assisting with the decision to open or close an entrance (Arundel (2006) also refer to Appendix 15 in Caton et al 2007).

## Relevant management plans

- Catchment assessment and Masterplans -Second Valley and Randalsea (2017) District Council of Yankalilla, prepared by Fyfe Pty Ltd.
- Encounter Marine Park Management Plan (2012, amended 2020). Department for Environment and Water.
- Caton B. Fotheringham D. Lock C. Royal M, Sandercock R. Taylor R. (2007). Southern Fleurieu Coastal Action Plan and Conservation Priority Study. Prepared for Adelaide and Mount Lofty NRM Board, Alexandrina Council, City of Victor Harbor, District Council of Yankalilla, Goolwa to Wellington Local Action Plan and Department for Environment and Heritage.
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- District Council of Yankalilla Community Land Management Plan 2019
- South Australian Recovery Plan for Eastern Osprey and White-bellied Sea Eagle (2022) Department for Environment and Water
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## Cell Biota (Flora and Fauna)

Lists provided are specific to this cell from Biological Database of South Australia (BDBSA), technical updates, review of publications and local input. Conservation ratings (National, State and Sub regional) are included for flora and fauna.

Note: Restricted species as per Department for Environment and Water (DEW) specifications have been omitted from the tables due to the size of cells and requirement for 10km<sup>2</sup> buffering of data. However, records are included in the total species numbers per cell. Please contact DEW directly for restricted data requests.

### FLORA Summary

<b>Vegetation Block Metrics</b>	Wirrina Coastal Reserve (Council) Coastal Reserves (Minister Environment and Conservation and Council)			
<b>Terrestrial Habitat Description/s</b>	See Terrestrial biodiversity vegetation communities in cell description.			
<b># Flora in cell</b>	214			
<b># Native Flora in cell</b>	123			
<b># Introduced Flora in cell</b>	91			
<b># Conservation Rated Flora in cell</b>	3 (0 national, 3 state)			
<b># Threatened Ecological Communities (EPBC Act)</b>	-			
<b>Conservation Rated Flora</b>	<b>Species</b>	<b>Common Name</b>	<b>EPBC Act Status</b>	<b>NPW Status</b>
	<i>Cladium procerum</i>	Leafy Twig-rush		R
	<i>Eucalyptus fasciculosa</i> <sup>^</sup>	Pink Gum		R
	<i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i> <sup>^</sup>	Tate's Grass-tree		R

### All Native Flora in cell

<b>Species</b>	<b>Common Name</b>	<b>EPBC Status</b>	<b>NPW Act Status</b>	<b>Subregional Status*</b>
<i>Acacia cupularis</i>	Cup Wattle			RA
<i>Acacia ligulata</i> <sup>^</sup>	Umbrella Bush			
<i>Acacia longifolia</i> ssp. <i>sophorae</i>	Coastal Wattle			LC
<i>Acacia nematophylla</i> <sup>^</sup>	Coast Wallowa			
<i>Acacia paradoxa</i>	Kangaroo Thorn			LC
<i>Acacia pycnantha</i>	Golden Wattle			LC
<i>Acaena ovina</i>	Downy Sheep's Burr			NT
<i>Acrotriche patula</i>	Prickly Ground-berry			RA
<i>Adriana quadripartita</i> <sup>^</sup>	Coast Bitter-bush			
<i>Allocasuarina verticillata</i>	Drooping Sheoak			LC
<i>Alyxia buxifolia</i> <sup>^</sup>	Sea Box			
<i>Apium annuum</i>	Annual Celery			RA
<i>Aristida behriana</i>	Brush Wire-grass			LC
<i>Arthropodium strictum</i>	Common Vanilla-lily			LC
<i>Asplenium subglandulosum</i>	Blanket Fern			LC
<i>Atriplex cinerea</i>	Coast Saltbush			LC
<i>Atriplex vesicaria</i>	Bladder Saltbush			RA
<i>Austrostipa curticoma</i>	Short-crest Spear-grass			LC
<i>Austrostipa exilis</i>	Heath Spear-grass			NT
<i>Austrostipa flavescens</i>	Coast Spear-grass			LC

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Austrostipa nitida</i>	Balcarra Spear-grass			NT
<i>Austrostipa nodosa</i>	Tall Spear-grass			LC
<i>Austrostipa platychaeta</i>	Flat-awn Spear-grass			RA
<i>Austrostipa puberula</i>	Fine-hairy Spear-grass			RA
<i>Austrostipa scabra</i> ssp. <i>falcata</i>	Slender Spear-grass			LC
<i>Austrostipa</i> spp.^	Spear Grass			
<i>Beyeria lechenaultii</i>	Pale Turpentine Bush			LC
<i>Calandrinia eremaea</i>	Dryland Purslane			NT
<i>Calandrinia volubilis</i>	Twining Purslane			VU
<i>Calystegia sepium</i> ^	Large Bindweed			
<i>Calytrix tetragona</i>	Common Fringe-myrtle			LC
<i>Carex breviculmis</i>	Short-stem Sedge			LC
<i>Carpobrotus rossii</i> ^	Native Pigface			
<i>Centella asiatica</i> ^	Asian Centella			
<i>Cheilanthes austrotenuifolia</i> ^	Annual Rock-fern			
<i>Cladium procerum</i>	Leafy Twig-rush		R	RA
<i>Convolvulus remotus</i>	Grassy Bindweed			LC
<i>Crassula colligata</i> ssp. <i>lamprosperma</i>				LC
<i>Crassula decumbens</i> var. <i>decumbens</i>	Spreading Crassula			LC
<i>Cullen australasicum</i>	Tall Scurf-pea			RA
<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge			
<i>Cyperus vaginatus</i>	Stiff Flat-sedge			LC
<i>Cystophora subfarcinata</i>				
<i>Dianella brevicaulis</i>	Short-stem Flax-lily			LC
<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther Flax-lily			LC
<i>Dichondra repens</i>	Kidney Weed			LC
<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Round-leaf Pigface			LC
<i>Dodonaea viscosa</i> ssp. <i>spatulata</i>	Sticky Hop-bush			LC
<i>Einadia nutans</i> ssp. <i>nutans</i>	Climbing Saltbush			LC
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush			LC
<i>Eucalyptus fasciculosa</i> ^	Pink Gum		R	
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	South Australian Blue Gum			NT
<i>Eutaxia microphylla</i>	Common Eutaxia			LC
<i>Exocarpos aphyllus</i>	Leafless Cherry			VU
<i>Ficinia nodosa</i>	Knobby Club-rush			LC
<i>Glycine rubiginosa</i>	Twining Glycine			NT
<i>Gonocarpus meizianus</i> ^	Broad-leaf Raspwort			
<i>Goodenia amplexans</i>	Clasping Goodenia			NT
<i>Hardenbergia violacea</i>	Native Lilac			NT
<i>Juncus kraussii</i> ^	Sea Rush			
<i>Lachnagrostis billardierei</i> ssp. <i>billardierei</i>	Coast Blown-grass			RA
<i>Leiocarpa supina</i>	Coast Plover-daisy			RA
<i>Lepidosperma gladiatum</i> ^	Coast Sword-sedge			
<i>Lepidosperma semiteres</i> ^	Wire Rapier-sedge			
<i>Leptospermum lanigerum</i>	Silky Tea-tree			RA
<i>Leptospermum myrsinoides</i> ^	Heath Tea-tree			
<i>Leucophyta brownii</i>	Coast Cushion Bush			LC
<i>Leucopogon parviflorus</i>	Coast Beard-heath			LC
<i>Lobelia anceps</i>	Angled Lobelia			LC

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Lomandra densiflora</i>	Soft Tussock Mat-rush			LC
<i>Lomandra effusa</i> <sup>^</sup>	Scented Mat-rush			
<i>Lomandra multiflora</i> ssp. <i>dura</i> <sup>^</sup>	Hard Mat-rush			
<i>Lotus cruentus</i>	Red-flower Lotus			VU
<i>Lycium australe</i>	Australian Boxthorn			EN
<i>Maireana brevifolia</i>	Short-leaf Bluebush			LC
<i>Maireana enchylaenoides</i>	Wingless Fissure-plant			LC
<i>Malva preissiana</i>	Australian Hollyhock			
<i>Muehlenbeckia gunnii</i>	Coastal Climbing Lignum			LC
<i>Myoporum insulare</i>	Common Boobialla			LC
<i>Nicotiana maritima</i>	Coast Tobacco			NT
<i>Nitraria billardierei</i>	Nitre-bush			RA
<i>Olearia axillaris</i>	Coast Daisy-bush			LC
<i>Olearia ramulosa</i>	Twiggy Daisy-bush			LC
<i>Oxalis perennans</i>	Native Sorrel			LC
<i>Oxalis perennans/exilis</i>	Native Oxalis			
<i>Parietaria cardiostegia</i>	Mallee Smooth-nettle			RA
<i>Pauridia glabella</i> var. <i>glabella</i>	Tiny Star			LC
<i>Pelargonium australe</i>	Austral Stork's-bill			NT
<i>Phragmites australis</i> <sup>^</sup>	Common Reed			
<i>Pimelea serpyllifolia</i> ssp. <i>serpyllifolia</i>	Thyme Riceflower			LC
<i>Poa poiformis</i> var. <i>poiformis</i>	Coast Tussock-grass			LC
<i>Pomaderris paniculosa</i> ssp. <i>paniculosa</i>	Mallee Pomaderris			NT
<i>Ptilotus spathulatus</i>	Pussy-tails			NT
<i>Ranunculus amphitrichus</i>	Small River Buttercup			NT
<i>Rhagodia candolleana</i> ssp. <i>candolleana</i>	Sea-berry Saltbush			LC
<i>Rhagodia parabolica</i>	Mealy Saltbush			RA
<i>Roepora confluens</i>	Forked Twinleaf			VU
<i>Rytidosperma caespitosum</i>	Common Wallaby-grass			LC
<i>Rytidosperma erianthum</i>	Hill Wallaby-grass			NT
<i>Rytidosperma pilosum</i>	Velvet Wallaby-grass			NT
<i>Rytidosperma racemosum</i> var. <i>racemosum</i>	Slender Wallaby-grass			LC
<i>Rytidosperma setaceum</i>	Small-flower Wallaby-grass			LC
<i>Rytidosperma</i> spp. <sup>^</sup>	Wallaby Grass			
<i>Sargassum fallax</i>				
<i>Scaevola crassifolia</i>	Cushion Fanflower			RA
<i>Schoenus apogon</i>	Common Bog-rush			LC
<i>Scleranthus pungens</i>	Prickly Knawel			RA
<i>Sclerolaena diacantha</i>	Grey Bindyi			RA
<i>Sclerolaena uniflora</i>	Small-spine Bindyi			RA
<i>Senecio picridioides</i>	Purple-leaf Groundsel			LC
<i>Senecio pinnatifolius</i> spp. <sup>^</sup>	Variable Groundsel			
<i>Setaria constricta</i>	Knotty-butt Paspalidium			NT
<i>Spergularia tasmanica</i>	Coast Sand-spurrey			
<i>Spinifex hirsutus</i>	Rolling Spinifex			
<i>Stenantha conostephioides</i> <sup>^</sup>	Flame Heath			
<i>Styphelia humifusa</i>	Cranberry Heath			LC
<i>Tetragonia implexicoma</i>	Bower Spinach			LC
<i>Threlkeldia diffusa</i>	Coast Bonefruit			NT

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Typha domingensis</i>	Narrow-leaf Bulrush			LC
<i>Vittadinia australasica</i> var. <i>australasica</i>	Sticky New Holland Daisy			NT
<i>Vittadinia gracilis</i>	Woolly New Holland Daisy			LC
<i>Xanthorrhoea semiplana</i> ssp. <i>semiplana</i> ^	Yacca			
<i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i> ^	Tate's Grass-tree		R	

^ denotes records from technical updates, review of publications and local input

\*See Appendices for subregional map

Regional Conservation status, Mount Lofty Ranges IBRA (Interim Biogeographical Regionalisation for Australia) subregion (Gillam & Urban (2014). Regional Species Conservation Assessment Project, Phase 1 Report - Regional Species Status Assessments, Adelaide and Mount Lofty Ranges NRM Region. DEWNR: SA)

RE = Regionally Extinct    CR = Critically Endangered    EN = Endangered  
 VU = Vulnerable    RA = Rare    NT = Near Threatened  
 LC = Least Concern    DD = Data Deficient    NE = Not Evaluated

### All Introduced Flora in cell

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Acacia cyclops</i>	Western Coastal Wattle	IC		
<i>Agrostis gigantea</i>	Red-top Bent			
<i>Aira cupaniana</i>	Small Hair-grass			
<i>Aizoon pubescens</i> *	Coastal Galenia	IC		
<i>Arctotheca calendula</i>	Cape Weed	HP		
<i>Asphodelus fistulosus</i>	Onion Weed	HP		
<i>Atriplex prostrata</i>	Creeping Saltbush			
<i>Avena barbata</i>	Bearded Oat			
<i>Berula erecta</i> *	Water Parsnip			
<i>Brachypodium distachyon</i>	False Brome			
<i>Briza maxima</i>	Large Quaking-grass			
<i>Briza minor</i>	Lesser Quaking-grass			
<i>Bromus diandrus</i>	Great Brome			
<i>Cakile maritima</i> ssp. <i>maritima</i>	Two-horned Sea Rocket			
<i>Carduus tenuiflorus</i>	Slender Thistle			
<i>Carthamus lanatus</i>	Saffron Thistle			
<i>Catapodium rigidum</i>	Rigid Fescue			
<i>Cenchrus ciliaris</i>	Buffel Grass	IC	Yes	
<i>Cenchrus clandestinus</i>	Kikuyu	HP		
<i>Cenchrus longisetus</i>	Feather-top	HP		
<i>Cerastium balearicum</i>	Chickweed			
<i>Cerastium glomeratum</i>	Common Mouse-ear Chickweed			
<i>Chondrilla juncea</i>	Skeleton Weed	HP	Yes	
<i>Chrysanthemoides monilifera</i> ssp. <i>monilifera</i>	Boneseed	IC	Yes	Yes
<i>Cynara cardunculus</i> ssp. <i>flavescens</i>	Artichoke Thistle	IC		
<i>Cynodon dactylon</i> var. <i>dactylon</i> *	Couch			
<i>Dipogon lignosus</i>	Lavatory Creeper	IC	Yes	
<i>Dittrichia graveolens</i>	Stinkweed			
<i>Echium plantagineum</i>	Salvation Jane		Yes	

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Ehrharta calycina</i>	Perennial Veldt Grass	HP		
<i>Ehrharta longiflora</i>	Annual Veldt Grass			
<i>Erodium botrys</i>	Long Heron's-bill			
<i>Erodium cicutarium</i>	Cut-leaf Heron's-bill			
<i>Euphorbia paralias</i>	Sea Spurge	HP		
<i>Euphorbia terracina</i>	False Caper	HP	Yes	
<i>Ficus carica</i>	Edible Fig			
<i>Foeniculum vulgare*</i>	Fennel			
<i>Gazania linearis*</i>	Gazania	IC	Yes	
<i>Geranium molle</i>	Soft Geranium			
<i>Gomphocarpus cancellatus</i>	Broad-leaf Cotton-bush	HP		
<i>Helminthotheca echioides</i>	Ox-tongue			
<i>Hyparrhenia hirta*</i>	Tambookie Grass	IC	Yes	
<i>Hypochoeris radicata</i>	Rough Cat's Ear			
<i>Lagurus ovatus</i>	Hare's Tail Grass			
<i>Linum strictum ssp. strictum</i>	Upright Yellow Flax			
<i>Lolium loliaceum</i>	Stiff Ryegrass			
<i>Lolium perenne</i>	Perennial Ryegrass			
<i>Lolium rigidum</i>	Wimmera Ryegrass			
<i>Lycium ferocissimum</i>	African Boxthorn	IC	Yes	Yes
<i>Lysimachia arvensis</i>	Pimpernel			
<i>Marrubium vulgare</i>	Horehound	IC	Yes	
<i>Medicago polymorpha</i>	Burr-medic			
<i>Medicago praecox</i>	Small-leaf Burr-medic			
<i>Melianthus comosus*</i>	Tufted Honey-flower	IC		
<i>Nassella neesiana*</i>	Chilean Needle Grass		Yes	Yes
<i>Nicotiana glauca</i>	Tree Tobacco			
<i>Olea europaea ssp. europaea</i>	Olive	IC		
<i>Oxalis pes-caprae</i>	Soursob			
<i>Parapholis incurva</i>	Curly Ryegrass			
<i>Pentameris airoides ssp. airoides*</i>	False Hair-grass			
<i>Piptatherum miliaceum</i>	Rice Millet			
<i>Plantago coronopus ssp. coronopus</i>	Bucks-horn Plantain			
<i>Polycarpon tetraphyllum</i>	Four-leaf Allseed			
<i>Polygonum aviculare</i>	Wireweed			
<i>Polypogon monspeliensis</i>	Annual Beard-grass			
<i>Populus alba*</i>	White poplar			
<i>Reichardia tingitana</i>	False Sowthistle			
<i>Rosa canina</i>	Dog Rose	HP	Yes	
<i>Rostraria cristata</i>	Annual Cat's-tail			
<i>Rumex crispus</i>	Curled Dock			
<i>Rumex pulcher ssp. pulcher</i>	Fiddle Dock			
<i>Salvia verbenaca var.</i>	Wild Sage			
<i>Sherardia arvensis</i>	Field Maddar			
<i>Silene nocturna</i>	Mediterranean Catchfly			
<i>Sixalix atropurpurea</i>	Pincushion	IC		
<i>Solanum linnaeanum</i>	Apple Of Sodom	HP	Yes	
<i>Solanum nigrum</i>	Black Nightshade			
<i>Sonchus oleraceus</i>	Common Sow-thistle			
<i>Spergularia rubra</i>	Red Sand-spurrey			

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Thinopyrum junceiforme</i>	Sea Wheat-grass	IC		
<i>Tribulus terrestris</i>	Caltrop		Yes	
<i>Trifolium angustifolium</i>	Narrow-leaf Clover			
<i>Trifolium arvense var. arvense</i>	Hare's-foot Clover			
<i>Trifolium campestre</i>	Hop Clover			
<i>Trifolium dubium</i>	Suckling Clover			
<i>Trifolium scabrum</i>	Rough Clover			
<i>Tropaeolum majus</i>	Nasturtium			
<i>Urospermum picroides</i>	False Hawkbit			
<i>Verbascum thapsus ssp. thapsus*</i>	Great Mullein	HP		
<i>Vulpia myuros f. myuros</i>	Rat's-tail Fescue			
<i>Zantedeschia aethiopica*</i>	White Arum Lily	IC	Yes	

**WONS** = Weeds of National Significance.

**Declared** = Declared under the Landscape South Australia Act 2019. Pest plants that are a significant threat to agriculture, the natural environment and public health and safety are called declared plants. Land owners have a legal responsibility to manage these plants.

**Red Alert** = Weed Threat Level of four or greater out of nine. Plants in this category are either designated as requiring immediate control (IC – 6-9) or as a high priority for control (HP – 4-5). See Department for Environment and Water (2024)

**Reference** – Department for Environment and Water (2024). Threatening Processes - Environmental and Priority Weed Species. Southern Fleurieu Coastal Action Plan Review 2024. Prepared by SA Herbarium

## FAUNA Summary

# Fauna in cell	68
# Native Fauna in cell	57
# Introduced Fauna in cell	11
# Conservation Rated Fauna in cell	11 (4 national, 10 state)

Conservation Rated Fauna				
Species	Common Name	Class	EPBC Act Status	NPW Act Status
<i>Actitis hypoleucos</i>	Common Sandpiper	AVES		R
<i>Falco peregrinus macropus</i> <sup>^</sup>	Peregrine Falcon	AVES		R
<i>Haematopus fuliginosus fuliginosus</i> <sup>^</sup>	Sooty Oystercatcher	AVES		R
<i>Haematopus longirostris</i> <sup>^</sup>	Pied Oystercatcher	AVES		R
<i>Haliaeetus leucogaster</i> <sup>^</sup>	White-bellied Sea Eagle	AVES		E
<i>Pandion haliaetus cristatus</i>	Eastern Osprey	AVES		E
<i>Platycercus elegans</i>	Crimson Rosella	AVES	ssp	
<i>Thinornis cucullatus cucullatus</i>	Hooded Plover	AVES	VU	V
<i>Zanda funerea whiteae</i> <sup>^</sup>	Yellow-tailed Black Cockatoo	AVES		V
<i>Pteropus poliocephalus</i> <sup>^</sup>	Grey-headed Flying-fox	MAM	VU	R
<i>Tachyglossus aculeatus</i> <sup>^</sup>	Short-beaked Echidna	MAM	ssp	ssp

## All Native Fauna in cell

Species Name	Common Name	Class	EPBC Act Status	NPW Act Status	Subregional Status
<i>Galaxias maculatus</i>	Common Galaxias	ACT			VU
<i>Pseudaphritis urvillii</i>	Congolli	ACT			EN
<i>Crinia signifera</i>	Common Froglet	AMP			NT
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog	AMP			NT
<i>Acrocephalus australis australis</i>	Australian Reed Warbler	AVES			LC
<i>Actitis hypoleucos</i>	Common Sandpiper	AVES		R	RA
<i>Aquila audax audax</i>	Wedge-tailed Eagle	AVES			RA
<i>Cacatua sanguinea gymnopsis</i>	Little Corella	AVES			LC
<i>Chroicocephalus novaehollandiae novaehollandiae</i>	Silver Gull	AVES			LC
<i>Corvus mellori</i>	Little Raven	AVES			LC
<i>Egretta novaehollandiae</i>	White-faced Heron	AVES			LC
<i>Eolophus roseicapilla</i>	Galah	AVES			LC
<i>Eudyptula minor novaehollandiae</i>	Little Penguin	AVES			
<i>Falco cenchroides cenchroides</i>	Nankeen Kestrel	AVES			LC
<i>Falco peregrinus macropus</i> <sup>^</sup>	Peregrine Falcon	AVES		R	RA
<i>Gavicalis virescens</i>	Singing Honeyeater	AVES			LC
<i>Grallina cyanoleuca cyanoleuca</i>	Magpielark	AVES			LC
<i>Gymnorhina tibicen</i>	Australian Magpie	AVES			LC
<i>Haematopus fuliginosus fuliginosus</i> <sup>^</sup>	Sooty Oystercatcher	AVES		R	VU
<i>Haematopus longirostris</i> <sup>^</sup>	Pied Oystercatcher	AVES		R	VU
<i>Haliaeetus leucogaster</i> <sup>^</sup>	White-bellied Sea Eagle	AVES		E	EN
<i>Hirundo neoxena neoxena</i>	Welcome Swallow	AVES			LC
<i>Hydroprogne caspia</i>	Caspian Tern	AVES			LC
<i>Larus pacificus georgii</i> <sup>^</sup>	Pacific Gull	AVES			LC
<i>Microcarbo melanoleucos melanoleucos</i>	Little Pied Cormorant	AVES			LC
<i>Ocyphaps lophotes lophotes</i>	Crested Pigeon	AVES			LC
<i>Pandion haliaetus cristatus</i>	Eastern Osprey	AVES		E	

Species Name	Common Name	Class	EPBC Act Status	NPW Act Status	Subregional Status
<i>Petrochelidon nigricans</i>	Tree Martin	AVES			LC
<i>Phalacrocorax carbo</i>	Great Cormorant	AVES			LC
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	AVES			LC
<i>Phalacrocorax varius hypoleucos</i>	Australian Pied Cormorant	AVES			LC
<i>Phylidonyris novaehollandiae novaehollandiae</i>	New Holland Honeyeater (mainland SA)	AVES			
<i>Platycercus elegans</i>	Crimson Rosella	AVES	ssp		LC
<i>Poodytes gramineus goulburni</i>	Little Grassbird	AVES			LC
<i>Rhipidura leucophrys leucophrys</i>	Willie Wagtail	AVES			LC
<i>Thalasseus bergii cristatus</i>	Greater Crested Tern	AVES			LC
<i>Thinornis cucullatus cucullatus</i>	Hooded Plover	AVES	VU	V	EN
<i>Zanda funerea whiteae</i> <sup>^</sup>	Yellow-tailed Black Cockatoo	AVES		V	RA
<i>Danaus petilia</i> <sup>^</sup>	Lesser Wanderer	INV			
<i>Danaus plexippus plexippus</i> <sup>^</sup>	Monarch	INV			
<i>Delias aganippe</i> <sup>^</sup>	Wood White	INV			
<i>Heteronympha merope merope</i> <sup>^</sup>	Common Brown	INV			
<i>Junonia villida calybe</i> <sup>^</sup>	Meadow Argus	INV			
<i>Lampides boeticus</i> <sup>^</sup>	Long-tailed Pea-blue	INV			
<i>Nacaduba biocellata biocellata</i> <sup>^</sup>	Two-spotted Line-blue	INV			
<i>Ocybadistes walkeri hypochlora</i> <sup>^</sup>	Southern Grass-dart	INV			
<i>Pieris rapae rapae</i> <sup>^</sup>	Cabbage White	INV			
<i>Taractrocera papyria papyria</i> <sup>^</sup>	White-banded Grass-dart	INV			
<i>Theclinesstes miskini miskini</i> <sup>^</sup>	Wattle Blue	INV			
<i>Theclinesstes serpentatus serpentatus</i> <sup>^</sup>	Salt-bush Blue	INV			
<i>Vanessa itea</i> <sup>^</sup>	Australian Admiral	INV			
<i>Vanessa kershawi</i> <sup>^</sup>	Australian Painted Lady	INV			
<i>Zizina otis labradus</i> <sup>^</sup>	Common Grass-blue	INV			
<i>Macropus fuliginosus</i> <sup>^</sup>	Western Grey Kangaroo	MAM			LC
<i>Pseudocheirus peregrinus</i> <sup>^</sup>	Common Ringtail Possum	MAM			
<i>Pteropus poliocephalus</i> <sup>^</sup>	Grey-headed Flying-fox	MAM	VU	R	
<i>Tachyglossus aculeatus</i> <sup>^</sup>	Short-beaked Echidna	MAM	ssp	ssp	

**Class:** ACT = Actinopteri, AMP = Amphibia, AVES = Aves, INV = Invertebrates, MAM = Mammalia, REP= Reptilia

## All Introduced Fauna in cell

Species	Common Name
<i>Sturnus vulgaris vulgaris</i> <sup>^</sup>	Common Starling
<i>Felis catus</i> <sup>^</sup>	Domestic Cat (Feral Cat)
<i>Alauda arvensis arvensis</i>	Eurasian Skylark
<i>Carduelis carduelis britannica</i>	European Goldfinch
<i>Cervus dama</i> <sup>^</sup>	Fallow Deer
<i>Columba livia</i>	Feral Pigeon
<i>Vulpes vulpes</i> <sup>^</sup>	Fox (Red Fox)
<i>Mus musculus</i> <sup>^</sup>	House Mouse
<i>Passer domesticus domesticus</i>	House Sparrow
<i>Oryctolagus cuniculus</i> <sup>^</sup>	Rabbit (European Rabbit)
<i>Spilopelia chinensis</i>	Spotted Dove



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