

# Southern Fleurieu Coastal Action Plan

## Knights Beach and

## Boomer Beach (Kandjeinuwald)

### Cell F9

#### Overview

High residential and urban development dominate the majority of the area of this cell. Limited remnant and native coastal flora pockets remain in the coastal dunes, with a high abundance and diversity of coastal weeds. The western end of the cell has higher conservation values (rare flora species), reducing to the east as weed incursion increases. The railway corridor sits

upon the top of the primary dune, forming a linear disconnection of habitats. Beach and rocky shores provide beach nesting and foraging birds, including Hooded Plovers (*Thinornis cucullatus cucullatus*) and Sooty (*Haematopus fuliginosus fuliginosus*) and Pied Oystercatchers (*Haematopus longirostris*) critical habitats.



## Cell detail

This cell extends from Knights Beach headland approximately 1.5km to the eastern boundary of Watson's Gap (Urrumbirra Creek estuary), Hayborough. This cell is in the Alexandrina Council local government area.

## Tenure, Land Use and Values

Residential area covers the coastal plain and the majority area of this cell. Crown Land Railway reserve and narrow steep dune corridor. Coastal reserve (managed by Council) and private ownership. The SteamRanger railway corridor occupies a linear area of the northern boundary of the coastal dune and is Crown Land (Minister Environment and Conservation). Since 2012, the waters surrounding this cell are within the boundaries of the Encounter Marine Park.

Native title has been determined for Ngarrindjeri people over land and sea Country within this cell under the *Native Title Act 1993 (Cth)*.

Recreational beach with swimming and recreational surfing, fishing and walking. Dune has a significant buffer function for railway and other developments. The beaches are important habitat and fishing areas for species such as Western Australian Salmon (*Arripis truttaceus*) and Yelloweye Mullet (*Aldrichetta forsteri*) (Bryars 2013).

Several coastal community groups working on the coastal slopes of Knights and Boomer Beach and Watson's Gap have undertaken a range of conservation and restoration activities across this cell, including extensive weed control and revegetation, significantly increasing habitats and species diversity values. Friends of the Hooded Plover Fleurieu Peninsula (supported by BirdLife Australia) and Team Oystercatcher volunteers (SA Shorebird Foundation) monitor and raise awareness of beach nesting and shorebird species within the cell.

## Landforms

Boomer Beach begins at Knights Beach headland, where dumping waves break at a low terrace reflecting beach. Low foredunes have in part been driven up a 10m bluff at the rear of the beach. Medium energy sand beach; narrow dune driven up low bluff. Coastal plain of outwash materials and aeolianite (Caton et al 2007).



*Boomer and Knights Beach (Coast Protection Board, March 2024)*

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

This cell holds high cultural value and significance for the Ramindjeri people of the Ngarrindjeri Nation. It forms part of their Dreaming stories and contains numerous stories, places, and artefacts of cultural importance. Ramindjeri cultural heritage is present throughout the entire cell, everywhere you tread. The Ramindjeri lived, hunted, played, swam, and danced here. Those working within and restoring these areas may encounter artefacts or evidence of cultural significance to the Ramindjeri people and the broader Ngarrindjeri Nation. These areas must be known, recognised, respected, and protected.

Creeks, wetlands, estuaries, dunes, cliff lines, islands and coastal areas are important gathering places that support a variety of habitats and food sources essential for sustaining and protecting Nga:tji. Nga:tji are the personal totems of the Ngarrindjeri people. They embody deep cultural values, symbolising kinship, spiritual protection, and an embedded responsibility to care for the land, waters, and ecosystems they inhabit.

This cell contains a range of culturally significant landscape features, including important sites, traditional camping grounds and midden deposits throughout the sand dunes.

This cell is also a particularly important site in the Ngurunderi Creation and Dreaming story, which tells of the Ngarrindjeri people's creation of the land and waters, including the River Murray and its mouth, Kandukang (west) and Tapalwora (east). This ancestral narrative extends westward along the southern coast of the Fleurieu Peninsula, encompassing the rugged shoreline, estuaries, and coastal landscapes all the way to Cape Jervis (Parrewar-angk). These areas hold deep cultural and spiritual significance for the Ramindjeri people, with Dreaming tracks, songlines, and important sites embedded throughout the region.

The coastline with its cliffs, beaches, and native vegetation reflects Ngurunderi's journey as he shaped the land, rested at key locations, and followed the tracks of his wives. Cape Jervis (Parrewar-angk) marks an important point in this story, serving as both a physical and spiritual place in the landscape. It connects the mainland to Kangaroo Island (Ngurungau), continuing the cultural narrative of creation, movement, and connection to Country.

Within this cell, a Dreaming story recounts Ngurunderi's journey. After seeing the campfire of his wives, he followed their tracks across the landscape. He paused to rest atop a high hill, where he saw his wives walking across the sand hills along the beach at Pultang (Victor Harbor). The Hindmarsh River Estuary is also associated with several significant Dreaming and Creation stories, including those of Lime, Kondili, and Latang.

*Please respect that cultural concepts and content included in this plan are the Aboriginal Cultural and Intellectual property (ACIP) of the Ramindjeri people of the Ngarrindjeri Nation (provided by Cedric Varcoe, Ramindjeri Cultural Leader living on Country) (cells 1-20). They may not be used or adapted by any other parties without consent.*

## Terrestrial biodiversity

### Whole cell

Coastal foredunes and dune slopes show conservation values with a good diversity of vegetation associations, including those rare (<20) in SA associations including threatened plant species and associations found only in Southern Fleurieu. The coastal plain has limited to low conservation value, as it is largely cleared of remnant vegetation and heavily developed. The beach supports threatened bird habitat, and species richness across the cell for flora and fauna species is relatively high (Caton et al 2007).

The narrow strip of coastal dunes in this cell supports isolated patches of remnant vegetation, but is dominated by introduced weed species, particularly Coast Tea-tree (*Gaudium laevigatum*), Gazania (*Gazania spp.*) and European Olives (*Olea europaea*), as well as a number of garden escape species. Substantial community volunteer effort has been undertaken from the western end of this cell, and more recently below the Boomer Beach carpark dunes. Hence, there is a gradient of weeds, many which dominate but also stabilise the dunes from west to east. The western end of this cell adjoins with the Urrumbirra Creek estuary (Watson's Gap) and is an important buffer for weed spread and conservation of a number of rated flora species.

Species of conservation significance within this cell include Ridged Noon-flower (*Sarcozona bicarinata*), Cup Wattle (*Acacia cupularis*), Salt Angianthus (*Angianthus preissianus*), Australian Hound's-tongue (*Cynoglossum australe*), Muntries (*Kunzea pomifera*), Coast Blown-grass (*Lachnagrostis billardierei ssp. billardierei*), Coast Plover-daisy (*Leiocarpa supina*), Coast Logania (*Logania crassifolia*), Spoon-leaf Logania (*Logania minor*), Coast Bush-everlasting (*Ozothamnus turbinatus*), Coast Picris (*Picris angustifolia ssp. angustifolia*), Cushion Fanflower (*Scaevola crassifolia*) and Silky Wilsonia (*Wilsonia humilis*).



Coastal Dunes at the western end of the cell have good species diversity and comparatively fewer weed species (C Jackson)

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 (*Taractrocer a 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 (*Theclines thes miskini miskini*), Salt-bush Blue (*Theclines thes 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.

This section of beach supports long established breeding territory for nationally vulnerable Hooded Plovers (*Thinornis cucullatus cucullatus*) adjacent to the Urrumbirra Creek estuary (western end of cell). Intertidal rocky reef platforms that are regularly exposed at low tide are important feeding habitat for Goolwa Cockles/Pipis and other marine invertebrates (beach worms) for the state rare Sooty (*Haematopus fuliginosus fuliginosus*) and Pied (*Haematopus longirostris*) Oystercatchers. Seagrass wrack (also known as Beach cast wrack) found regularly on these 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 or the Encounter Bay area.

Additional conservation rated fauna records for this cell include Australasian Darter (*Anhinga novaehollandiae novaehollandiae*), Kelp Gull (*Larus dominicanus dominicanus*) and Crimson Rosella (*Platyercus elegans*).

Local dune systems provide refuge and likely valued habitat for a range of seabird species, including the White-bellied Sea-Eagle (*Haliaeetus leucogaster*), Eastern Osprey (*Pandion haliaetus cristatus*), Little Black Cormorant (*Phalacrocorax sulcirostris*), Black-faced Cormorant (*Phalacrocorax fuscescens*), Pacific Gull (*Larus pacificus georgii*), Silver Gull (*Chroicocephalus novaehollandiae*) and Kelp Gull (*Larus dominicanus dominicanus*). Irregular sightings of a range of pelagic birds are also reported in this and adjacent cells, including albatrosses, petrels, shearwaters and gannets, as well as marine mammals (Subantarctic Fur Seals) (Shaughnessy et al., 2014).



Sooty Oystercatchers feeding at exposed intertidal platform at Knights Beach. (K Bartley)

## Vegetation Communities

### Coastal Dune

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*)

### Cliff line to Dunes (Knights Beach to Bennett Road)

Coast Daisy-bush (*Olearia axillaris*) +/- Common Boobialla (*Myoporum insulare*) +/- Coast Beard-heath (*Leucopogon parviflorus*) +/- \*Marram Grass (*Ammophila arenaria*) +/- Beach Spinifex (*Spinifex sericeus*) +/- Coast Sword-sedge (*Lepidosperma gladiatum*)

### Bennett to Handby Street Dunes

\* Coast Tea-tree (*Gaudium laevigatum*) +/- Sea-berry Saltbush (*Rhagodia candolleana* ssp. *candolleana*) +/- \*Gazania (*Gazania linearis*) +/- Coast Sword-sedge (*Lepidosperma gladiatum*)

### Handby Street to western cell boundary

Coastal Wattle (*Acacia longifolia* var. *sophorae*) +/- Coast Daisy-bush (*Olearia axillaris*) +/- Coast Beard-heath (*Leucopogon parviflorus*) +/- \*Gazania (*Gazania linearis*) +/- Thyme Riceflower (*Pimelea serpyllifolia* ssp. *serpyllifolia*) +/- Coast Sword-sedge (*Lepidosperma gladiatum*) +/- Cushion Fanflower (*Scaevola crassifolia*) +/- Sea-berry Saltbush (*Rhagodia candolleana* ssp. *candolleana*) +/- \*Olive (*Olea europaea*) +/- Coast Cushion Bush (*Leucophyta brownii*) +/- Knobby Club-rush (*Ficinia nodosa*) +/- \* Marram Grass (*Ammophila arenaria*)

## Nearshore Habitats

This cell forms part of the Encounter Marine Park. Part of the marine areas of cell F9 are within a Habitat Protection Zone (HPZ-7) and part are within a Sanctuary Zone (SZ-6) and these make up part of the nursery grounds for the endangered Southern Right Whale and is part of the designated *Encounter Bay Whale Nursery Protection Area* from the Murray Mouth to The Bluff Victor Harbor.

Bryars (2013) describes the cell as is dominated by patchy low profile reef from midshore to offshore, with some continuous low profile reef inshore, some medium patchy seagrass inshore, and some bare sand inshore (including Knights and Boomer Beaches) and midshore (Fig 9.1).

The seagrass present in this cell has not been characterised to date. Subtidal reefs in the Encounter Bay region are typically composed of granite or limestone with a cover of macroalgae and sessile invertebrates (e.g. Turner et al. 2007, DEH 2008, Baker et al. 2009, Brook and Bryars 2014, Brook et al. 2020, Brock et al. 2023). The inshore bare sand is characterised by a reflective to low tide terrace beach system that includes Boomer Beach and Watson's Gap (Short 2001).

Urrumbirra Creek at Watson's Gap is a recognised estuary (DEH 2007).

The cell is regionally significant due to the reef and beach (bare sand) habitats.

Surveys of subtidal reefs in nearby cells have found a high diversity of fishes, invertebrates and macroalgae (e.g., Haig et al. 2006, Turner et al. 2007, DEH 2008, Brook and Bryars 2014, Brook et al. 2020, Brock et al. 2023). The cell lies inside the Encounter Bay region, which is a known 'hot-spot' for macroalgal species diversity (see Baker and Gurgel 2010).



*Diversity of algal species, brown and green algae (Caulerpa brownii) (D Easton)*

Bryars (2003) listed seven fish and two macroinvertebrate fisheries taxa for the surf beach habitat between Dump Beach and Knights Beach, 13 fish and two macroinvertebrate fisheries taxa for the unvegetated soft bottom habitat between King Head and Middleton Point, and 16 fish and seven macroinvertebrate fisheries taxa for the reef habitat between King Head and Middleton Point.

Reef Life Surveys and other benthic subtidal reef data in the current cell (F9), and adjacent cells (F7-F12,) collated as the "Encounter" reefs subregion within the trend report (Brock et al. 2023), indicate stable or increasing fish and invertebrate species diversity, and macro-algal canopy cover. The collective list of marine species in the Encounter subregion include 52 bony fish, three shark and ray, 41 species of marine invertebrate, and seven species of crustacean (Brock et al. 2023).

The SA Coast Protection Board's Beach Profile Survey Program initiative, undertaken by Coast Unit, DEW, was first established in 1977 along the Fleurieu Peninsula to monitor and evaluate changes in dune, beach and nearshore seabed levels, with a network of over 600 profiles maintained across the state. Profiles are usually established perpendicular to the shoreline and may extend 1 to 10 km offshore. Erosion hotspots are monitored annually to identify risks to natural assets and infrastructure. Profiles are also used to monitor a range of coastal ecosystems and landforms including saltmarsh and mangroves, seagrass, sand dunes and cliff profiles and provide a rare, long-term dataset which informs evidence-based decision making and coastal adaptation planning. The program utilises a range of terrestrial and hydrographic survey techniques involving high precision GPS equipment and at some locations, topographic and photogrammetry drone survey is undertaken, which uses overlapping photos to create 2D and 3D digital surface model to map detailed changes to the coastal landforms over time.

There are no beach profile surveys within the cell, however there is a baseline bathymetry taken along the profile 615015, the one seagrass profile undertaken in the cell. This bathymetric profile was established in 2014 as part of a collaborative study in partnership with SARDI Aquatic Sciences and the former AMLR NRM Board (Tanner et al 2014). This is an important baseline data set from which to monitor future condition of seagrass conditions as well as changes in seabed bathymetry in response to changes in seagrass cover with historical links between seagrass loss and seabed erosion and deepening off other urban areas. This survey was undertaken on the basis that Encounter Bay is home to some of the most extensive areas of seagrass in the region with the potential to be heavily impacted by settlements with growing urban populations.

# Nearshore Habitats: Cell F9

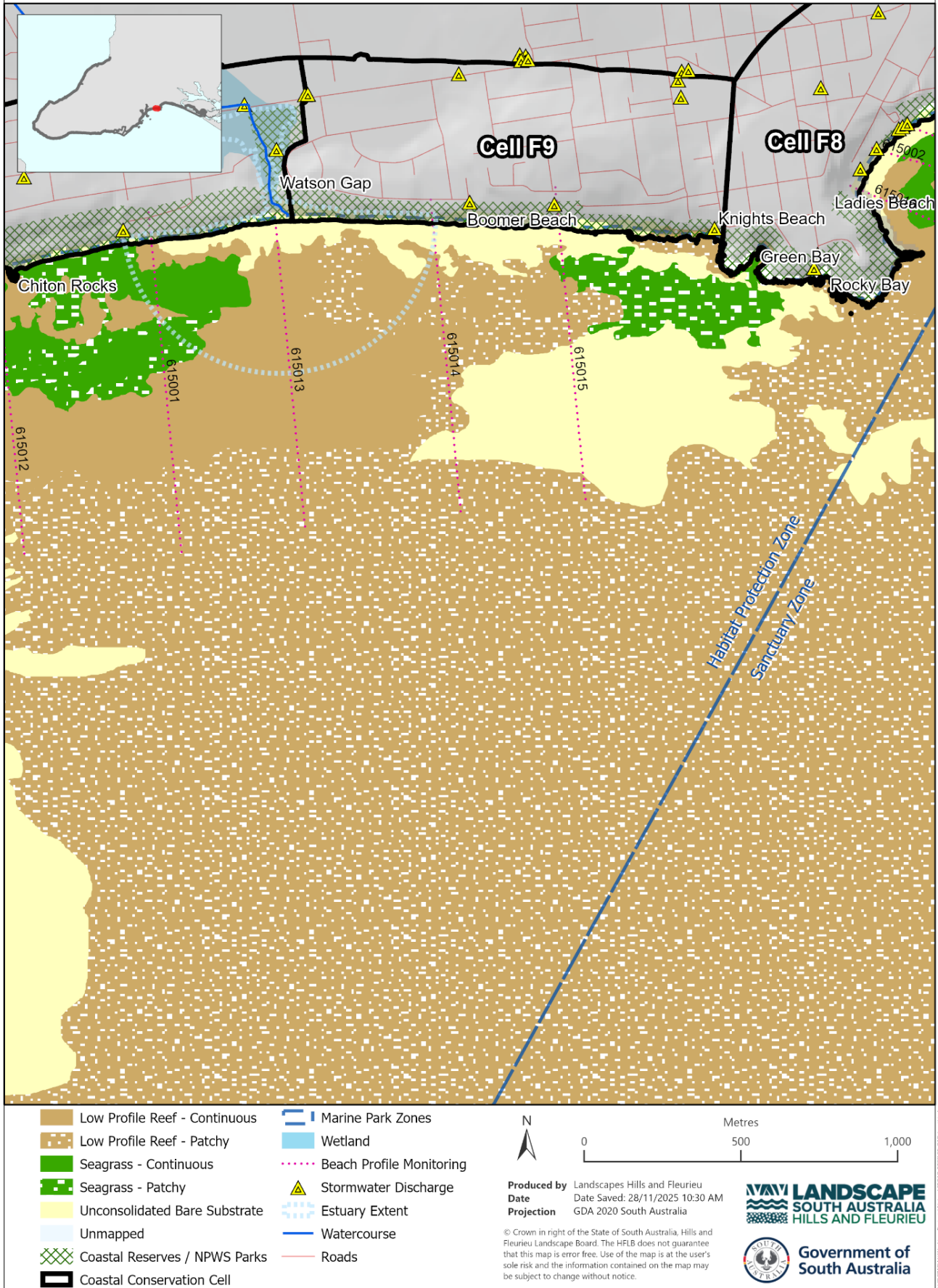


Figure 9.1. Nearshore habitats of Cell F9

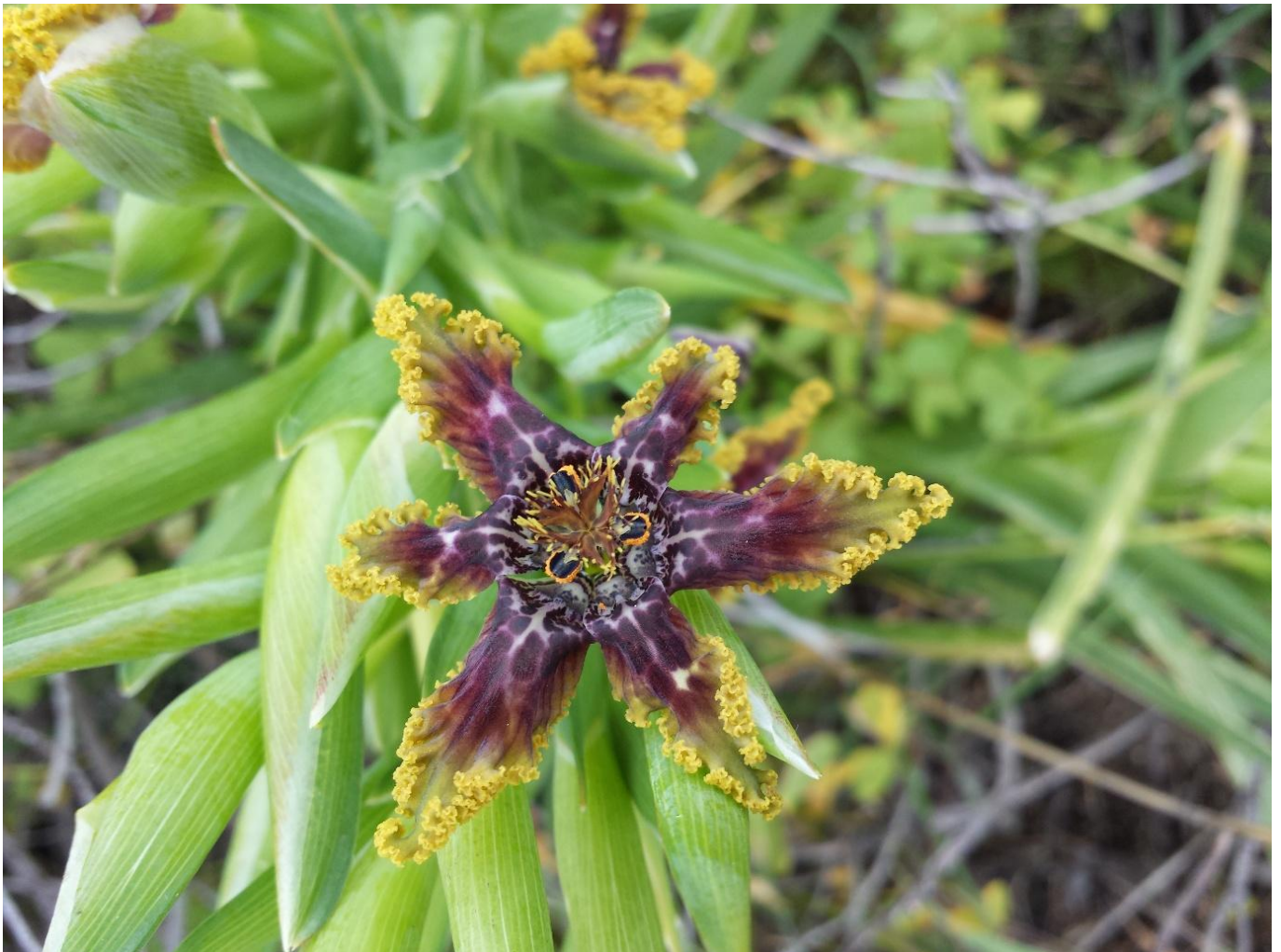
## Threats

### Whole cell

Increased visitation and recreational use due to increased local population, tourist promotion and the popularity of whale watching are placing increased pressure on the dunes. Development pressures are high in this cell and include dumping of spoil and increased stormwater discharges into coastal environments. Ageing fencing throughout dunes, including the railway corridor, and access infrastructure is contributing to informal access to dunes and associated erosion issues.

Large areas of this cell are privately owned and characterised by high-intensity development and zoning. 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.

Large areas dominated by stands of introduced coastal weeds and garden escapes threaten and have reduced biodiversity values within the cell. Dune stability in many areas is compromised, or where good vegetation cover exists, it is often dominated by weed species creating challenges for removal without further destabilising dunes or risking further erosion.



*Black Flag (Ferraria crispa subsp. crispa) is present across many coastal areas from Hayborough to Middleton and is a priority for control. Likely to have spread from coastal residential gardens. (R Lewis)*

The following declared and red alert weeds were found within this cell: Bridal Creeper (*Asparagus asparagoides*), Gazania (*Gazania linearis*), Western Coastal Wattle (*Acacia cyclops*), African Boxthorn (*Lycium ferocissimum*), Boneseed (*Chrysanthemoides monilifera ssp. monilifera*), Dolichos pea (*Dipogon lignosus*), Coast Tea-tree (*Gaudium laevigatum*), Lincoln Weed (*Diplotaxis tenuifolia*), Lavatory Creeper (*Dipogon lignosus*), Salvation Jane (*Echium plantagineum*), African Love-grass (*Eragrostis curvula*), Cut-leaf Mignonette (*Reseda lutea*), Golden Wreath Wattle

(*Acacia saligna*), Sea Spurge (*Euphorbia paralias*), False Caper (*Euphorbia terracina*), Olives (*Olea europaea* ssp., *europaea*), White Arctotis (*Arctotis stoechadifolia*), Marguerite daisy (*Argyranthemum frutescens* ssp.), Hottentot Fig (*Carpobrotus edulis*), New Zealand Mirror-bush (*Coprosma repens*), Century Plant (*Agave americana*), Coastal Galenia (*Aizoon pubescens*), Marram Grass (*Ammophila arenaria*), Tenerife Daisy (*Argyranthemum frutescens* ssp. *foeniculaceum*), Kikuyu (*Cenchrus clandestinus*), Pampas Grass (*Cortaderia selloana*), Trailing African Daisy (*Dimorphotheca fruticosa*), Cape Marigold (*Dimorphotheca pluvialis*), Rodondo Creeper (*Drosanthemum candens*), Sea-lavender (*Limonium companyonis*), Tree Mallow (*Malva arborea*), Common Iceplant (*Mesembryanthemum crystallinum*), Cape Ivy (*Senecio angulatus*), Pincushion (*Sixalix atropurpurea*), Buffalo Grass (*Stenotaphrum secundatum*), Black Flag (*Ferraria crispa* subsp. *crispa*) and Aleppo Pine (*Pinus halepensis*).



Large sections of the dune face in this cell have established woody weeds including Western Coastal Wattle (*Acacia cyclops*) and Coast Tea-tree (*Gaudium laevigatum*) that are assisting to stabilise the dune but outcompeting local native species and limiting species diversity (R Lewis)

Garden prunings, soil and lawn clippings containing seed banks of weed species from adjacent properties are placed on the low bluff and within the dunes. The existence of many weeds within nearby gardens means they are readily spread by people and birds. Taylor (2000) describes the large stands of woody weeds, including the weedy Coast Tea-tree (*Gaudium laevigatum*) as stabilising the dunes, as well as proliferating and displacing native species. This species is considered invasive, displacing smaller native dune species due to excessive vigour. It also reduces the integrity of the habitat of our native dunal fauna. Despite control efforts adjacent to the rail line, this and other weed species still persist across the larger corridor and require management.

Telfer and Milne (2019) identify a lack of cover and diversity of native plant species as issues for the foredune and coastal slopes within this cell (adjacent to Watson's Gap), with dominant weeds including Gazania (*Gazania linearis*), Coast Tea-tree (*Gaudium laevigatum*), Western Coastal Wattle (*Acacia cyclops*), Tree Houseleek (*Aeonium* sp.), Marram Grass (*Ammophila arenaria*), Hottentot Fig (*Carpobrotus edulis*), False Caper (*Euphorbia terracina*), Skeleton Weed (*Chondrilla juncea*) and Golden Wreath Wattle (*Acacia saligna*). Local volunteers and weed control contractors have undertaken substantial works of these species in recent years, but ongoing threat of reintroduction from surrounding population remains.

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. Urbanisation of coastal areas reduces the efficiency of species movements that could otherwise occur. Several species are now restricted to pockets of isolated habitats, resulting in some being vulnerable to population collapse (Stolarski 2024).

Potential pest animal threats to coastal fauna and flora from rabbits (*Oryctolagus cuniculus*), foxes (*Vulpes vulpes*), and cats (*Felis catus*). Coordinated collaboration between landowners and managers is required to manage pest animals (refer to regional pest management strategies).

A sighting of the declared pest Common Myna (*Acridotheres tristis*) in Encounter Bay (on the coastal slopes adjacent to cell F12) was reported in 2024, and this is the only known location of the bird in South Australia. This aggressive invasive species, also known as the Indian Myna, is established throughout eastern Australia and poses a threat by evicting native birds from their nests, destroying eggs, and killing chicks. They also damage crops and orchards and are a nuisance for residents. A pest alert remains in place for any sightings to be reported via MynaScan to aid eradication efforts.

Sea Wheat-grass (*Thinopyrum junceiforme*) is well established in the Knights beach to Watson's Gap foredunes and has altered dune geomorphology, creating a wall of taller dunes, which impacts beach-nesting bird and potential Hooded Plover habitat. 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. Foxes, sea level rise, storm surge, dogs off-leash, and vehicle patrols on beaches are also impacting beach-nesting birds in this cell.

Bryars (2013) describes the coastline is densely populated (Port Elliot settlement) and has intermittent (but unquantified) freshwater inputs from Urrumbirra Creek at Watson's Gap (which is adjacent to the cell) and stormwater drains. Discharge volumes from Watson's Gap are increasing due to increasing runoff from residential developments further inland, despite the development of wetlands to capture stormwater.

Outflow from stormwater outlets is eroding sand and lowering the beach profile levels, risking further erosion to the dune face. There are multiple outlets along this cell (Fig 9.1), with multiple areas affected, in addition to the dune erosion below Boomer Beach carpark and Handby Street dunes. Efforts to prevent further erosion or dune blowout through installation of sand drift fencing has had low to moderate success, with additional restoration efforts needed to stabilise the foredune areas.

Outflow from the River Murray has also been significant in recent times (and during flooding events), with associated turbid waters extending westward from the Murray Mouth across Encounter Bay to The Bluff and possibly further. The impacts of these episodic flows on nearshore habitats are unknown.

Bryars (2013) described a significant amount of this reef (especially the continuous reef) occurring in the inshore area, where direct contact with catchment/stormwater flows is possible, and while the inshore reefs within the cell would experience strong wave energy, and thus are likely subjected to naturally high levels of turbidity and sedimentation, the types of sediments derived from catchment water and stormwater would likely be different to those in the beach system. Further, Bryars (2013) notes a relatively small amount of seagrass occurring within the cell and because all of the seagrass is inshore, where direct contact with catchment/stormwater flows is possible, there is potential for moderate consequences on seagrass habitat.

## 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. Investigate improved infrastructure and fencing to ensure for environmentally and culturally sensitive path formalisation and low-impact walking trails, and further opportunities to reduce impacts on the coastal environment. Education, restrictions and compliance regarding off-leash dogs. Work with First Nation communities, tourism operators and agencies to support visitor education about coastal ecological and cultural values and appropriate behaviors.

Community education opportunities regarding:

- Migratory and residential shorebirds and sea birds (dogs on leads, nesting sites, citizen science projects, managing visitor disturbance) and interpretive signage at high use areas.
- Fragile nature of coastal areas that are sensitive to foot traffic, soil compaction and erosion.
- Education and targeted communications regarding marine parks, nearshore habitats.
- Increased cultural awareness training and knowledge of culturally appropriate processes to respect known cultural heritage sites for land managers and coastal community groups
- Citizen science monitoring to contribute to intertidal reef monitoring, seagrass restoration, dolphin watch, beach pole monitoring, Fleurieu seabird monitoring program and beach nesting birds.
- Coastal gardens and resident/business owner education
- Value of place and coastal values, responsible beach use and reducing human impact on dunes.
- There is opportunity for signage renewal across coastal areas to educate the community about coastal conservation, cultural significance and appropriate behaviours.

Opportunity to work with nature-based tourism (commercial and recreational) operators and community volunteers to increase education and stewardship of local coastal environments and protection of species.

Continue to support volunteer effort and control of weed species, working from remnant patches and high conservation rated flora populations. Restoration activities should be encouraged to increase dune cover and minimise erosion, including re-planting local coastal species, as available in Taylor (2000). Targeted interventions for threatened/rare plant species and communities should be implemented to support existing populations as part of an integrated weed control and coastal shrubland revegetation approach.



*SteamRanger Heritage Railway line and corridor sit atop of the coastal dunes throughout this cell (G Scheer)*

Opportunity for SteamRanger to develop an Environmental Management Plan to address weed control and pest animals support train site lines, manage erosion, and support community education along the railway corridor.

Continue to support collaborative efforts to protect and conserve Hooded Plover breeding habitats within this cell. Implement actions to support Hooded Plover conservation, including exclusions, temporary fencing and signage, and education for dog owners.



*Hooded Plovers (Thinornis cucullatus cucullatus) regularly nest on this beach adjacent to Urrumbirra Creek estuary (M Stokes)*

Maintain and expand coastal restoration actions, including revegetation with local native plants and priority weed control. Increase suitable habitat for coastal butterfly populations through planting of host plants (including *Oxalis perennans* and *Poa spp.*) to increase habitat suitability for local introductions from neighbouring cells.

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 and White-bellied Sea-Eagles (2022). Monitor, maintain and improve the quality of vegetation for the provision of wildlife habitat for priority species.

As part of the *Coastal Dune and Clifftop 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 clifftop 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 are opportunities for collaboration between partners, such as National Parks, Marine Parks, First Nations, landscape boards, volunteer groups, community and nature-based tourism operators for monitoring of sea birds, coastal raptors, marine mammals and other wildlife.

Supporting community volunteer, First Nations and land manager efforts to undertake priority restoration and conservation work in this cell. Strengthening partnerships with adjoining landowners, volunteer organisations,

researchers, and the wider community to foster collaboration and long-term management benefits for biodiversity protection and restoration.

Improvement of stormwater management to prevent beach erosion and threat of dune erosion, and potential blowout forming up the face of the dune that would threaten the rail line above. Identification of the potential impacts of threat on nearshore habitats with increasing catchment development. Continue to undertake restoration through fencing and planting areas of high erosion and sand movement. Support initiatives to collect and reuse stormwater (e.g. Alexandrina Council's Stormwater Detention and Retention Standards). Undertake development of stormwater management plan for Port Elliot and surrounding coastal areas.

Stormwater monitoring within the Urrumbirra Creek catchment and areas adjacent to Watson's Gap should be undertaken to better inform the threat analysis from land-based impacts. Biological surveys of the seagrass and bare sand habitats are recommended by Bryars (2013) to better understand habitat values and compile meaningful species lists for the cell.

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.

## Climate change threats to coastal biodiversity (see BMT 2025)

### Potential climate change threats to coastal biodiversity

Cell F9 includes dunes and beach. The dunes support native vegetation of importance for flora and fauna, the beach is an important foraging area for birds and the intertidal areas support infauna on which birds feed.

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

- Coastal dunes and vegetation
- Coastal cliffs
- Native vegetation
- Beach nesting birds
- Beach ecosystem

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, as described above.

Over time, increasing aridity will slow natural recovery from damage to dune vegetation. Rising sea levels will see increased storm damage to foredunes; Bruun Rule calculations of beach recession could be compromised by active littoral drift values here. However, recession of the order 5–15m over 50 years could be likely, given current IPCC sea level forecasts (Caton et al 2007).

For this section of coastal dunes, Western et al (2019) undertook two evaluation methods to provide the basis for an estimate of shoreline recession. Sea-flood and routine high tide modelling also indicate increased impact on dunes. Erosion assessment is made difficult by the presence of a reef at -5m. Estimates of shoreline recession range between 18m and 23m by 2100. Estimate of shoreline recession by 2050 range between 5m and 7m.

The trainline from Goolwa to Victor Harbor emerges towards the coast in this cell and is located at the top of the escarpment, effectively dissecting the dune. As this is a fixed line, it will not be possible for the dune to translate landwards and, therefore, the slope of the dune must increase. This slope will become increasingly unstable, and successive collapses will tend to make the escarpment increasingly vertical, and increasingly more unstable (Western et al., 2019).

Knights beach (eastern end of cell) modelling by Western et al (2019) shows that the backshore would be more significantly impacted by 2100 by storm events but appears less significant with routine tidal action (note: modelling was conducted on current sand levels (2019), and unable to establish the likely sand environment in 2100. The modelling demonstrates that the impact would be higher on the eastern side of the bay (Western et al., 2019).

Changes in wave climate, which increased the long period swell component, would increase the likelihood of foredune damage, as well as changing mean littoral drift speeds and possibly direction. For beaches such as this, where refraction of long period swell will be important, change in wave climate will greatly increase unpredictability in beach response (Caton et al., 2007).

## 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)	NAC, Council, LHF, Coastal Community groups, Aboriginal Affairs and Reconciliation - Department of Premier and Cabinet
	Increased permanent population, visitation and recreational pressure on dunes and viewing points due to increased local population and tourist promotion (Whale watching).	Assess increased visitation capacity at known sites, repair or upgrade fencing to restrict unauthorised access and review car parking capacity. Manage visitor impacts within sustainable limits in ecologically and culturally sensitive and significant areas - consult with First Nations groups.	High (cons/ threat)	Council, NAC, land managers
		Investigate opportunities for community education and engagement regarding unique and valuable coastal landscape and fragile nature of coastal areas. Dedicated cultural education and training for land managers, agency staff and land stewards	High (Cons/ Soc)	Council, LHF, NPWSSA, NAC, coastal community groups, Community groups
		Opportunity to work with nature-based tourism operators to enhance education and stewardship of local coastal environments, including opportunities to partner with First Nations groups who hold cultural obligations and authority to Sea Country	Medium (Cons)	Tourism operators, land managers, NAC, 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 First Nations/ knowledge holders.	Medium (Soc/ Cons)	Council, land managers, NAC, NPWSSA, coastal community groups
		Collaborate and manage access with beach-based users and businesses (e.g. SLSC, Surfing SA, surf/paddle boarders, swim/surf schools), to ensure protection of coastal areas and groups do not impact conservation and cultural value areas and species.	Medium (threat)	Council, DEW, land managers, NAC, coastal community groups, beach users and businesses
		Monitor, educate, and advocate to ensure that recreational activities (e.g., boating, paddleboarding, jet-skiing) do not increase interactions with marine wildlife or place additional pressure on coastal species and habitats.	High (threat)	DEW, NPWSSA and land managers
		Events on beaches and coastal habitats must not impact on natural values, especially listed threatened species and communities, in the area or vicinity of events. Event organisers should be informed, where appropriate via permits, on their obligations to not inflict environmental harm and to undertake actions in accordance with relevant legislation and by-laws.	Medium (threat)	Council, DEW, NPWSSA, BirdLife Australia, event managers
		Increased weed distribution and threat from dumped garden waste and spoil (soil disturbance) from development.	Monitor local reserves and vulnerable areas for dumped debris (weeds and soil) and remove to reduce weed distribution and threat.	High (threat)
	Ongoing weed incursions and weed control.	Target residences with educational materials, with regard to weeds particularly garden escapes.	High (Soc / Econ)	Council, coastal community groups, LHF, NPWSSA
		Target large stands and encroachments of succulents on public lands that encourage residents to plant similar species that spread into coastal reserves reducing biodiversity values.	High (threat)	Council, coastal community groups

Component	Issue	Proposed Action	Priority	Key Players
Whole cell	Ongoing weed incursions and weed control.	Review, control and monitoring of garden escape weeds from local residences on public lands and intentional plantings and encroachments within the dunes and reserves.	High (threat)	Council, coastal community groups
		Monitor changes to dunes through BushRAT or similar monitoring to measure condition assessment and change.	High (cons/ threat)	Council, LHF, Community Groups.
	Ageing infrastructure (including fencing) contributing to Increased erosion and weed spread on informal and unauthorised tracks.	Review existing and unauthorised tracks throughout cell. Consolidate and manage through fencing, strategic plantings and monitoring.	Medium (threat)	Council, NAC business/ contractors/rangers
		Improvement of signage at path entrances and by railway reserve. Strategic use of sand drift fencing.	High (threat)	SteamRanger, Crown Lands
	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.	High (threat)	Councils, land owners, NAC business/ contractors/rangers, LHF
		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
	Protection of significant flora (particularly coastal heath plant communities on clifftops) and fauna.	Protect existing populations through targeted weed control and restoration of habitats with local coastal species.	High (Cons/ threat)	Council, NPWSSA, land managers, NAC business/ contractors/rangers, LHF, coastal community groups,
		Propagate local plants for reintroduction to other sites to maintain genetic diversity and increase source populations.	High (cons)	Council, NPWSSA, land managers, LHF, NAC business/ contractors/rangers, coastal community groups, Local coastal plant nurseries
		Targeted interventions for threatened/ rare plant species and communities.	High (cons)	DEW, NPWSSA, LHF, Council, coastal community groups
		Explore opportunities for greater local awareness of conservation value of area.	Medium (cons)	Council, NPWSSA, LHF, coastal community groups
		Update of resources to guide coastal community group restoration activities. See Coastal Community handbook (Taylor 2000).	Medium (cons)	Council, NPWSSA, LHF, coastal community groups
		Implementation of management plan by Taylor (2000) and Watson's Gap Biodiversity Action Plan (Telfer and Milne 2019).	High (Soc / Econ)	Council, LHF, NAC business/ contractors/rangers, coastal community groups
		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, NAC business/ contractors/rangers, coastal community groups
	Valuable habitat for coastal raptors (White-bellied Sea-Eagle and Eastern Osprey).	Ongoing monitoring and management of high values nesting and foraging areas.	High (cons)	NPWSSA, DEW, LHF, NAC business/ contractors/rangers, Council
		Implement the recovery plan for Eastern Osprey and White-bellied Sea Eagles (2022).	High (cons)	DEW, NPWSSA, LHF
	Coordinated approach to monitoring of coastal wildlife.	Collaboration between land manager and stakeholders to support research and citizen science of beach-nesting birds, seabirds, coastal raptors, marine mammals and other wildlife.	Medium (cons)	DEW, NPWSSA, NAC business/ contractors/rangers, Birdlife Australia, LHF, Council, SA Whale Centre, Encounter Bay Southern Right whale study group, Ecotourism operators
	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

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.	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.
	Stormwater impacts from inland development 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.	Consider locations within existing open space to install/retrofit sedimentation or detention areas increasing water quality and improve biodiversity values.	High (Cons/threat)	Council, LHF
		Undertake development of stormwater management plan for Port Elliot including coastal areas.	High (Cons/threat)	Council, LHF, Stormwater Management Authority
		Support initiatives to collect and reuse stormwater (e.g. Alexandrina Council's Stormwater Detention and Retention Standards)	Medium (cons)	Council, LHF
		Monitor and manage stormwater to minimise impacts in the coast and marine environment.  Improvements in the stormwater system to reduce gross pollutants and erosive impact of stormwater discharge into the dunes.  Implement Water Sensitive Urban Design (WSUD).	High (Threat)	Council, LHF, DEW, EPA, CPB, Water Sensitive SA
	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)	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, DEW, EPA, CPB, LHF
		Implementation of the Coastal 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 Coasts Program
	Multiple community groups and volunteers across coastal areas.	Acknowledge significant value, contribution and knowledge of coastal community groups. Facilitate opportunities for increased coordination and sharing of skills and information between community groups and volunteers to support landscape scale approach to coastal conservation and management.	High (cons)	Council, land managers, LHF, NAC, coastal community groups
	SteamRanger rail corridor	Weed control within the rail corridor does not align with priority weed control and restoration activities in surrounding dunes and reserves.	Steam Ranger to develop an Environmental Management Plan referencing regional weed and restoration priorities and other local environmental plans.	High (cons/threat)
Restore areas of targeted weed control with local native coastal plants to increase biodiversity and reduce erosion.			High (cons)	SteamRanger, NAC business/contractors/rangers, coastal community groups
Safety for pedestrians crossing rail corridor via unauthorised and informal access paths.		Assessment of unauthorised and informal access paths and support for sight line safety within rail corridor.	High (threat)	SteamRanger
		Closing of identified pathways through revegetation with local coastal species or temporary fencing.	Medium (cons/threat)	SteamRanger, NAC business/contractors/rangers, coastal community groups

Component	Issue	Proposed Action	Priority	Key Players
Beach and dunes	The narrow beach and foredune is subject to frequent change, with community concern over potential erosional loss of dunes and blowouts.	Establish a land based beach profile along the already established seagrass profile to provide information on how the dune and beach responds to seasonal changes, storm surge events, and in response to climate change including more frequent and intense storm surge events and changes in wave climate and sea level rise.	Medium (Soc / Econ) Medium (threat)	Community, CPB DEW, Council
		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)/cons/ threat	DEW, CPB, Research Institutes, Universities
		Revegetation focus for foredune, blowouts, erosion from unauthorised access and following weed removal.	High (cons/ threat)	Council, coastal community groups, NAC business/ contractors/rangers, SteamRanger
	Ongoing weed control and restoration and revegetation with local coastal native species.	Undertake targeted control of weed species, eradicate red alert weeds (Western Coastal Wattle, African Boxthorn, Coastal Tea-tree, Gazania).	High (cons/ threat)	Council, NAC business/ contractors/rangers, coastal community group
	Damage and de-stabilisation by foot traffic.	Improvement of signage at path entrances and by railway reserve. Strategic use of sand drift fencing.	High (Threat/ Soc / Econ)	Council, NAC business/ contractors/rangers, and coastal community group
	Stormwater causing localised erosional damage, conduit for weeds and sediments	Erosion control at outlets. Review of stormwater catchments, to slow peak runoff.	Medium (threat)	Council
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 and horse riders.	High (Cons / threat)	Council, BirdLife Australia, LHF, NAC business/ contractors/rangers, Friends of the Hooded Plover, Fleurieu Peninsula volunteers, coastal community groups, Oystercatcher monitoring volunteers
	Limited community knowledge of local conservation values and threats.	Provide education opportunities to raise awareness and protection of beach-nesting birds, such as Hooded Plovers and Sooty Oystercatchers (dogs on leads, nesting sites, citizen science projects, managing visitor and vehicle patrol disturbance).	High (cons)	Council, BirdLife Australia, LHF, NAC business/ contractors/rangers, Friends of the Hooded Plover, Fleurieu Peninsula volunteers, coastal community groups, Oystercatcher monitoring volunteers
	Protection of natural assets of high conservation values.	Support the introduction and implementation of Council by-laws related to dogs on lead in estuaries and high value areas.	High (threat)	Council, land owners, community, coastal community groups
	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, NAC 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.	High (threat/ cons)	Council, land managers, LHF, coastal community groups, Friends of the Hooded Plover, Fleurieu Peninsula volunteers
Nearshore habitats (reef, seagrass)	Reduce sediments and nutrients moving down the catchment via Urumbirra Creek at Watson's Gap.	Support initiatives to collect and reuse stormwater (e.g. Alexandrina Council's Stormwater Detention and Retention Standards).	High (cons/ threat)	Council, LHF

Component	Issue	Proposed Action	Priority	Key Players
Nearshore habitats (reef, seagrass)	Lack of knowledge of seagrass condition and species diversity in Encounter Bay.	Collaboration between government agencies, researchers, and community to monitor seagrass cover, species diversity, condition and inform active management.	Medium (cons)	DEW, SARDI, EPA, SA Water, LHF, NPWSSA, universities, Council, community
		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 (threat)	DEW, LHF, SARDI, NPWSSA, Council
Climate (cliffs and rocky headlands)	More intense rainfall events likely to increase soil erosion.	Restoration of native plant species to assist soil stabilisation.	High (Cons/threat)	Council, NAC business/ contractors/rangers, coastal community groups, LHF
	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)	Council, NAC business/ contractors/rangers, coastal community groups, LHF
	Increased sea levels contribute to more frequent and intense wave action, which accelerates cliff erosion.	Restoration of native plant species to assist soil stabilisation.	Medium (threat)	Council, NAC business/ contractors/rangers, coastal community groups, LHF
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 condition.	Medium (threat)	DEW, EPA, LHF, coastal community groups
	Higher temperatures likely to lead to increased algal blooms with impacts on estuarine fauna.	Monitor stormwater quality and estuary condition.	Medium (threat)	DEW, EPA, LHF
Climate (beach and dunes)	Increased sea levels and more intense storms and higher winds can contribute to more frequent and intense wave action, which accelerates beach and dune erosion.  Predicted increases in aridity can lead to reduced vegetation cover and increased dune drift and dune mobility.	Restrict public access to fragile dunes and implement restoration of native plant species.	Medium (threat)	Council, coastal community groups, LHF
		Implement restoration of native plant species.	Medium (threat)	Council, NAC business/ contractors/rangers, coastal community groups, LHF
		Monitoring of cross-shore dune, beach and nearshore sand level profiles.	Low (Hazard) Medium (cons/threat)	DEW CPB, Research Institutions, Universities.
		Support cultural monitoring and communications to protect significant known heritage sites	High (threat)	NAC, First nations business/ contractors/ rangers, Council, DEW, LHF, coastal community groups
		Beach and dune topographic and photogrammetry drone surveys to provide detailed 2D and 3D digital surface models to monitor changes to the coastal landforms over time in response to climate change including more frequent and intense storm surge events and changes in wave climate and sea level rise.	Low (Hazard) Medium (cons/threat)	DEW CPB, Research Institutions, Universities.
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.	Medium (threat)	EPA, DEW, LHF
	Increased storm surge can cause dislodgment of algae and seagrasses.	Monitor stormwater quality.	Medium (threat)	EPA, DEW, LHF
	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.	Medium (threat)	EPA, DEW, LHF
	Ocean acidification can impact the life history of marine species.	Undertake benthic flora mapping to determine areas or opportunities for restoration.	High (cons)	DEW, Landscape Boards

## Relevant management plans

- Watsons Gap Biodiversity Action Plan (2019). Prepared by T&M ecologists (Telfer, S. and Milne, T.) for Natural Resources Adelaide and Mount Lofty Ranges.
- A handbook for revegetation and weed control in the Southern Fleurieu Dunes (2000). Prepared by Ron Taylor for South Coast Dune Care,
- Alexandrina Council Environmental Action Plan 2030. (2023), Alexandrina Council.
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- Victor Harbor Urban Stormwater Management Plan (2024) prepared by Southfront for the City of Victor Harbor
- Landscapes Hills and Fleurieu (2024) Hills and Fleurieu Regional Pest Plant and Animal Strategy 2024 - 2029.
- 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>	Coastal reserve (Council)			
<b>Terrestrial Habitat Description/s</b>	See Terrestrial biodiversity vegetation communities in cell description.			
<b># Flora in cell</b>	196			
<b># Native Flora in cell</b>	95			
<b># Introduced Flora in cell</b>	101			
<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>Sarcozona bicarinata</i>	Ridged Noon-flower		V

### 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 longifolia ssp. sophorae</i>	Coastal Wattle			LC
<i>Acaena echinata</i>	Sheep's Burr			LC
<i>Actites megalocarpus</i>	Coast Sow-thistle			NT
<i>Adriana quadripartita</i>	Coast Bitter-bush			NT
<i>Angianthus preissianus</i>	Salt Angianthus			RA
<i>Apium prostratum var. filiforme</i>	Native Celery			LC
<i>Arthropodium strictum</i>	Common Vanilla-lily			LC
<i>Atriplex cinerea</i>	Coast Saltbush			LC
<i>Atriplex paludosa ssp. cordata</i>	Marsh Saltbush			LC
<i>Austrostipa flavescens</i>	Coast Spear-grass			LC
<i>Austrostipa scabra ssp. falcata</i>	Slender Spear-grass			LC
<i>Bursaria spinosa ssp. spinosa</i>	Sweet Bursaria			LC
<i>Caesia calliantha</i>	Blue Grass-lily			LC
<i>Calandrinia eremaea</i>	Dryland Purslane			NT
<i>Carpobrotus rossii</i>	Native Pigface			
<i>Centrolepis polygyna</i>	Wiry Centrolepis			NT
<i>Cheilanthes austrotenuifolia</i>	Annual Rock-fern			LC
<i>Clematis microphylla</i>	Old Man's Beard			
<i>Convolvulus remotus</i>	Grassy Bindweed			LC
<i>Correa reflexa var. reflexa</i>	Common Correa			
<i>Crassula closiana</i>	Stalked Crassula			LC

<b>Species</b>	<b>Common Name</b>	<b>EPBC Status</b>	<b>NPW Act Status</b>	<b>Subregional Status*</b>
<i>Crassula colligata</i> ssp. <i>lamprosperma</i>				LC
<i>Crassula colorata</i> var. <i>acuminata</i>	Dense Crassula			LC
<i>Cynoglossum australe</i>	Australian Hound's-tongue			RA
<i>Dampiera dysantha</i>	Shrubby Dampiera			LC
<i>Daucus glochidiatus</i>	Native Carrot			LC
<i>Dianella brevicaulis</i>	Short-stem Flax-lily			LC
<i>Dichondra repens</i>	Kidney Weed			LC
<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Round-leaf Pigface			LC
<i>Drosera whittakeri</i>	Scented Sundew			LC
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush			LC
<i>Enneapogon nigricans</i>	Black-head Grass			LC
<i>Ficinia nodosa</i>	Knobby Club-rush			LC
<i>Frankenia pauciflora</i> var. <i>gunnii</i>	Southern Sea-heath			
<i>Gahnia lanigera</i>	Black Grass Saw-sedge			LC
<i>Geranium potentilloides</i> var. <i>potentilloides</i>	Downy Geranium			LC
<i>Glycine rubiginosa</i>	Twining Glycine			NT
<i>Goodenia varia</i>	Sticky Goodenia			NT
<i>Helichrysum leucopsideum</i>	Satin Everlasting			LC
<i>Kennedia prostrata</i>	Scarlet Runner			LC
<i>Kunzea pomifera</i>	Muntries			RA
<i>Lachnagrostis billardierei</i> ssp. <i>billardierei</i>	Coast Blown-grass			RA
<i>Leiocarpa supina</i>	Coast Plover-daisy			RA
<i>Lepidosperma carphoides</i>	Black Rapier-sedge			LC
<i>Lepidosperma congestum</i>	Clustered Sword-sedge			NT
<i>Lepidosperma gladiatum</i>	Coast Sword-sedge			NT
<i>Lepidosperma viscidum</i>	Sticky Sword-sedge			LC
<i>Leptorhynchus squamatus</i> ssp. <i>squamatus</i>	Scaly Buttons			LC
<i>Leucophyta brownii</i>	Coast Cushion Bush			LC
<i>Leucopogon parviflorus</i>	Coast Beard-heath			LC
<i>Logania crassifolia</i>	Coast Logania			RA
<i>Logania minor</i>	Spoon-leaf Logania			EN
<i>Lomandra densiflora</i>	Soft Tussock Mat-rush			LC
<i>Lomandra effusa</i>	Scented Mat-rush			LC
<i>Lomandra micrantha</i> ssp.	Small-flower Mat-rush			
<i>Lomandra micrantha</i> ssp. <i>micrantha</i>	Small-flower Mat-rush			LC
<i>Lomandra sororia</i>	Sword Mat-rush			NT
<i>Lythrum hyssopifolia</i>	Lesser Loosestrife			LC
<i>Machaerina juncea</i>	Bare Twig-rush			LC
<i>Muehlenbeckia gunnii</i>	Coastal Climbing Lignum			LC
<i>Myoporum insulare</i>	Common Boobialla			LC
<i>Olearia axillaris</i>	Coast Daisy-bush			LC
<i>Oxalis perennans</i>	Native Sorrel			LC
<i>Ozothamnus turbinatus</i>	Coast Bush-everlasting			EN
<i>Paraserianthes lophantha</i>	Cape Leeuwin Wattle			
<i>Pelargonium australe</i>	Austral Stork's-bill			NT
<i>Picris angustifolia</i> ssp. <i>angustifolia</i>	Coast Picris			RA
<i>Pimelea glauca</i>	Smooth Riceflower			LC
<i>Pimelea serpyllifolia</i> ssp. <i>serpyllifolia</i>	Thyme Riceflower			LC

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Plantago hispida</i>	Hairy Plantain			NT
<i>Poa poiformis</i> var. <i>poiformis</i>	Coast Tussock-grass			LC
<i>Ptilotus spathulatus</i>	Pussy-tails			NT
<i>Pultenaea canaliculata</i>	Soft Bush-pea			
<i>Pultenaea tenuifolia</i>	Narrow-leaf Bush-pea			NT
<i>Rhagodia candolleana</i> ssp. <i>candolleana</i>	Sea-berry Saltbush			LC
<i>Rytidosperma caespitosum</i>	Common Wallaby-grass			LC
<i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i>	Beaded Samphire			NT
<i>Samolus repens</i>	Creeping Brookweed			NT
<i>Sarcozona bicarinata</i>	Ridged Noon-flower		V	
<i>Scaevola albida</i>	Pale Fanflower			LC
<i>Scaevola crassifolia</i>	Cushion Fanflower			RA
<i>Senecio odoratus</i>	Scented Groundsel			
<i>Senecio pinnatifolius</i> group	Variable Groundsel			
<i>Spinifex sericeus</i> <sup>^</sup>	Beach Spinifex			
<i>Sporobolus virginicus</i>	Salt Couch			LC
<i>Styphelia humifusa</i>	Cranberry Heath			LC
<i>Suaeda australis</i>	Austral Seablite			NT
<i>Tetragonia implexicoma</i>	Bower Spinach			LC
<i>Threlkeldia diffusa</i>	Coast Bonefruit			NT
<i>Vittadinia australasica</i> var. <i>australasica</i>	Sticky New Holland Daisy			NT
<i>Wilsonia humilis</i>	Silky Wilsonia			VU
<i>Wurmbea dioica</i> ssp. <i>brevifolia</i>	Early Nancy			NT

<sup>^</sup> 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>Acacia iteaphylla</i>	Flinders Ranges Wattle	HP		
<i>Acacia saligna</i>	Golden Wreath Wattle	HP		
<i>Aeonium arboreum</i>	Tree Aeonium			
<i>Aeonium haworthii</i>				
<i>Aeonium</i> spp.*	Tree Houseleek			
<i>Agave americana</i>	Century Plant	HP		
<i>Aizoon pubescens</i>	Coastal Galenia	IC		
<i>Amaranthus viridis</i>	Green Amaranth			
<i>Ammophila arenaria</i>	Marram Grass	HP		

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Arctotis stoechadifolia</i>	White Arctotis	IC		
<i>Argyranthemum frutescens</i> ssp.	Marguerite Daisy			
<i>Argyranthemum frutescens</i> ssp. foeniculaceum	Teneriffe Daisy	HP		
<i>Argyranthemum frutescens</i> ssp. frutescens*	Marguerite Daisy	HP		
<i>Asparagus asparagoides</i> f. asparagoides	Bridal Creeper (form)	IC	Yes	Yes
<i>Atriplex prostrata</i>	Creeping Saltbush			
<i>Avena barbata</i>	Bearded Oat			
<i>Brachypodium distachyon</i>	False Brome			
<i>Brassica tournefortii</i>	Wild Turnip			
<i>Briza maxima</i>	Large Quaking-grass			
<i>Briza minor</i>	Lesser Quaking-grass			
<i>Bromus catharticus</i>	Prairie Grass			
<i>Bromus diandrus</i>	Great Brome			
<i>Bupleurum semicompositum</i>	Hare's Ear			
<i>Cakile maritima</i> ssp. maritima	Two-horned Sea Rocket			
<i>Carpobrotus edulis</i> ssp. edulis	Hottentot Fig	HP		
<i>Cenchrus clandestinus</i>	Kikuyu	HP		
<i>Chenopodium album</i>	Fat Hen			
<i>Chondrilla juncea</i> *	Skeleton Weed	HP	Yes	
<i>Chrysanthemoides monilifera</i> ssp. monilifera	Boneseed	IC	Yes	Yes
<i>Coprosma repens</i>	New Zealand Mirror-bush	IC	Yes	
<i>Cortaderia selloana</i> *	Pampas Grass			
<i>Cotyledon orbiculata</i> var.	Cotyledon			
<i>Cynodon dactylon</i> var. dactylon	Couch			
<i>Dimorphotheca fruticosa</i>	Trailing African Daisy	HP		
<i>Dimorphotheca pluvialis</i>	Cape Marigold	HP		
<i>Diplotaxis muralis</i>	Wall Rocket			
<i>Diplotaxis tenuifolia</i>	Lincoln Weed		Yes	
<i>Dipogon lignosus</i>	Lavatory Creeper	IC	Yes	
<i>Drosanthemum candens</i>	Rodondo Creeper	IC		
<i>Echium plantagineum</i>	Salvation Jane		Yes	
<i>Ehrharta longiflora</i>	Annual Veldt Grass			
<i>Eragrostis curvula</i>	African Love-grass	IC	Yes	
<i>Eragrostis minor</i>	Small Stink-grass			
<i>Euphorbia paralias</i>	Sea Spurge	HP		
<i>Euphorbia terracina</i>	False Caper	HP	Yes	
<i>Ferraria crispa</i> ssp. crispa*	Black Flag	IC		
<i>Gaudium laevigatum</i>	Coast Tea-tree		Yes	
<i>Gazania linearis</i>	Gazania	IC	Yes	
<i>Gazania</i> spp.*	Gazania		Yes	
<i>Helminthotheca echioides</i>	Ox-tongue			
<i>Hordeum leporinum</i>	Wall Barley-grass			
<i>Hornungia procumbens</i>	Oval Purse			
<i>Hypochaeris glabra</i>	Smooth Cat's Ear			
<i>Hypochaeris radicata</i>	Rough Cat's Ear			

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Kickxia elatine ssp. crinita</i>	Twining Toadflax			
<i>Lactuca serriola f.</i>	Prickly Lettuce			
<i>Lagurus ovatus</i>	Hare's Tail Grass			
<i>Leonotis leonurus</i>				
<i>Limonium companyonis</i>	Sea-lavender	IC		
<i>Lobularia maritima</i>	Sweet Alyssum			
<i>Lycium ferocissimum</i>	African Boxthorn	IC	Yes	Yes
<i>Lysimachia arvensis</i>	Pimpernel			
<i>Malva arborea</i>	Tree Mallow	HP		
<i>Matthiola incana</i>	Common Stock			
<i>Medicago polymorpha</i>	Burr-medic			
<i>Medicago truncatula</i>	Barrel Medic			
<i>Mesembryanthemum crystallinum</i>	Common Iceplant	HP		
<i>Narcissus tazetta</i>	Polyanthus Narcissus			
<i>Nicotiana glauca</i>	Tree Tobacco			
<i>Oenothera stricta ssp. stricta</i>	Common Evening Primrose			
<i>Olea europaea ssp. europaea</i>	Olive	IC		
<i>Onopordum acaulon</i>	Horse Thistle			
<i>Parapholis incurva</i>	Curly Ryegrass			
<i>Paspalum dilatatum</i>	Paspalum			
<i>Paspalum vaginatum</i>	Salt-water Couch			
<i>Pinus halepensis</i>	Aleppo Pine	IC	Yes	
<i>Plantago coronopus ssp. commutata</i>	Bucks-horn Plantain			
<i>Plantago coronopus ssp. coronopus</i>	Bucks-horn Plantain			
<i>Plantago lanceolata var. lanceolata</i>	Ribwort			
<i>Poa bulbosa</i>	Bulbous Meadow-grass			
<i>Polygonum aviculare</i>	Wireweed			
<i>Reichardia tingitana</i>	False Sowthistle			
<i>Reseda lutea</i>	Cut-leaf Mignonette		Yes	
<i>Rosmarinus officinalis</i>	Rosemary			
<i>Rumex crispus</i>	Curled Dock			
<i>Sabulina mediterranea</i>	Slender Sandwort			
<i>Salvia verbenaca var.</i>	Wild Sage			
<i>Senecio angulatus</i>	Cape Ivy	IC		
<i>Setaria italica</i>	Fox-tail Millet			
<i>Silene tridentata</i>	Spanish Catchfly			
<i>Sisymbrium orientale</i>	Indian Hedge Mustard			
<i>Sixalix atropurpurea</i>	Pincushion	IC		
<i>Sonchus oleraceus</i>	Common Sow-thistle			
<i>Sorghum bicolor</i>	Grain Sorghum			
<i>Stenotaphrum secundatum</i>	Buffalo Grass	HP		
<i>Thinopyrum junceiforme*</i>	Sea Wheat-grass	IC		
<i>Trifolium campestre</i>	Hop Clover			
<i>Trifolium scabrum</i>	Rough Clover			
<i>Vulpia fasciculata</i>	Sand Fescue			
<i>Vulpia myuros f. myuros</i>	Rat's-tail Fescue			

**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 categorised 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	101
# Native Fauna in cell	87
# Introduced Fauna in cell	14
# Conservation Rated Fauna in cell	12* (4 national, 11 state)

Conservation Rated Fauna				
Species	Common Name	Class	EPBC Act Status	NPW Act Status
<i>Anhinga novaehollandiae novaehollandiae</i>	Australasian Darter	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>Larus dominicanus dominicanus</i>	Kelp Gull	AVES		R
<i>Melithreptus gularis gularis</i> <sup>^</sup>	Black-chinned Honeyeater	AVES		V
<i>Pandion haliaetus cristatus</i> <sup>^</sup>	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>	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>Crinia signifera</i>	Common Froglet	AMP			LC
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog	AMP			LC
<i>Rawlinsonia ewingi</i> (NC) <sup>^</sup>	Brown Tree Frog	AMP			
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	AVES			NT
<i>Acrocephalus australis australis</i>	Australian Reed Warbler	AVES			LC
<i>Anas superciliosa</i>	Pacific Black Duck	AVES			RA
<i>Anas superciliosa x platyrhynchos</i>	Pacific Black Duck x Mallard hybrid	AVES			
<i>Anhinga novaehollandiae novaehollandiae</i>	Australasian Darter	AVES		R	
<i>Anthochaera carunculata</i>	Red Wattlebird	AVES			LC
<i>Anthochaera chrysoptera chrysoptera</i>	Little Wattlebird (mainland SA)	AVES			
<i>Apus pacificus pacificus</i>	Pacific Swift	AVES			RA
<i>Ardea alba modesta</i>	Great Egret	AVES			VU
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	AVES			LC
<i>Cacatua sanguinea gymnopsis</i>	Little Corella	AVES			LC
<i>Chalcites basalis</i>	Horsfield's Bronze Cuckoo	AVES			NT
<i>Chenonetta jubata</i>	Maned Duck	AVES			LC
<i>Chlidonias hybrida javanicus</i>	Whiskered Tern	AVES			VU
<i>Chroicocephalus novaehollandiae novaehollandiae</i>	Silver Gull	AVES			LC
<i>Corvus mellori</i>	Little Raven	AVES			LC
<i>Dacelo novaeguineae novaeguineae</i>	Laughing Kookaburra	AVES			
<i>Egretta novaehollandiae</i>	White-faced Heron	AVES			LC
<i>Elanus axillaris</i>	Black-shouldered Kite	AVES			LC
<i>Elsayornis melanops</i>	Black-fronted Dotterel	AVES			RA
<i>Eolophus roseicapilla</i>	Galah	AVES			LC

Species Name	Common Name	Class	EPBC Act Status	NPW Act Status	Subregional Status
<i>Falco cenchroides cenchroides</i>	Nankeen Kestrel	AVES			LC
<i>Falco longipennis murchisonianus</i>	Australian Hobby	AVES			LC
<i>Fulica atra australis</i>	Eurasian Coot	AVES			LC
<i>Gallinula tenebrosa tenebrosa</i>	Dusky Moorhen	AVES			LC
<i>Gallirallus philippensis mellori</i>	Buff-banded Rail	AVES			RA
<i>Gavialis virescens</i>	Singing Honeyeater	AVES			LC
<i>Glossopsitta concinna</i>	Musk Lorikeet	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	EN
<i>Haematopus longirostris</i> <sup>^</sup>	Pied Oystercatcher	AVES		R	
<i>Haliaeetus leucogaster</i> <sup>^</sup>	White-bellied Sea Eagle	AVES		E	EN
<i>Hirundo neoxena neoxena</i>	Welcome Swallow	AVES			LC
<i>Larus dominicanus dominicanus</i>	Kelp Gull	AVES		R	
<i>Larus pacificus georgii</i> <sup>^</sup>	Pacific Gull	AVES			VU
<i>Melithreptus gularis gularis</i> <sup>^</sup>	Black-chinned Honeyeater	AVES		V	
<i>Melithreptus lunatus</i>	White-naped Honeyeater	AVES			RA
<i>Microcarbo melanoleucos melanoleucos</i>	Little Pied Cormorant	AVES			LC
<i>Milvus migrans affinis</i>	Black Kite	AVES			RA
<i>Nycticorax caledonicus australasiae</i>	Nankeen Night Heron	AVES			VU
<i>Ocyphaps lophotes lophotes</i>	Crested Pigeon	AVES			LC
<i>Pandion haliaetus cristatus</i> <sup>^</sup>	Eastern Osprey	AVES		E	RA
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet	AVES			NT
<i>Pelecanus conspicillatus</i>	Australian Pelican	AVES			RA
<i>Phalacrocorax carbo</i>	Great Cormorant	AVES			RA
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant	AVES			RA
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	AVES			LC
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	AVES			LC
<i>Platalea flavipes</i>	Yellow-billed Spoonbill	AVES			VU
<i>Platalea regia</i>	Royal Spoonbill	AVES			VU
<i>Platycercus elegans</i>	Crimson Rosella	AVES	ssp		LC
<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe	AVES			NT
<i>Poodytes gramineus goulburni</i>	Little Grassbird	AVES			LC
<i>Porphyrio melanotus melanotus</i>	Australasian Swamphen	AVES			NT
<i>Psephotus haematonotus</i>	Red-rumped Parrot	AVES			NT
<i>Ptilotula ornata</i>	Yellow-plumed Honeyeater	AVES			RA
<i>Ptilotula penicillata</i>	White-plumed Honeyeater	AVES			LC
<i>Rhipidura leucophrys leucophrys</i>	Willie Wagtail	AVES			NT
<i>Stiltia isabella</i>	Australian Pratincole	AVES			RA
<i>Tachybaptus novaehollandiae novaehollandiae</i>	Australasian Grebe	AVES			LC
<i>Thinornis cucullatus cucullatus</i>	Hooded Plover	AVES	VU	V	EN
<i>Threskiornis molucca molucca</i>	Australian White Ibis	AVES			LC
<i>Threskiornis spinicollis</i>	Straw-necked Ibis	AVES			NT
<i>Tribonyx ventralis</i>	Black-tailed Nativehen	AVES			LC
<i>Trichoglossus moluccanus moluccanus</i>	Rainbow Lorikeet	AVES			LC
<i>Vanellus miles</i>	Masked Lapwing	AVES			LC
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo	AVES		V	VU
<i>Danaus petilia</i> <sup>^</sup>	Lesser Wanderer	INV			
<i>Danaus plexippus plexippus</i> <sup>^</sup>	Monarch	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			

Species Name	Common Name	Class	EPBC Act Status	NPW Act Status	Subregional Status
<i>Pieris rapae rapae</i> <sup>^</sup>	Cabbage White	INV			
<i>Taractrocerca 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>Pseudocheirus peregrinus</i> <sup>^</sup>	Common Ringtail Possum	MAM			RA
<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	NT

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

### All Introduced Fauna in cell

Species	Common Name
<i>Anas platyrhynchos platyrhynchos</i>	Mallard
<i>Canis lupus familiaris</i>	Feral Dog
<i>Carduelis carduelis britannica</i>	European Goldfinch
<i>Chloris chloris</i>	European (Common) Greenfinch
<i>Columba livia</i>	Feral Pigeon
<i>Passer domesticus domesticus</i>	House Sparrow
<i>Spilopelia chinensis</i>	Spotted Dove
<i>Sturnus vulgaris vulgaris</i>	Common Starling
<i>Turdus merula merula</i>	Common Blackbird
<i>Vulpes vulpes</i>	Fox (Red Fox)
<i>Felis catus</i> <sup>^</sup>	Domestic Cat (Feral Cat)
<i>Mus musculus</i> <sup>^</sup>	House Mouse
<i>Oryctolagus cuniculus</i> <sup>^</sup>	Rabbit (European Rabbit)
<i>Acridotheres tristis</i> <sup>^</sup>	Common Myna



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