

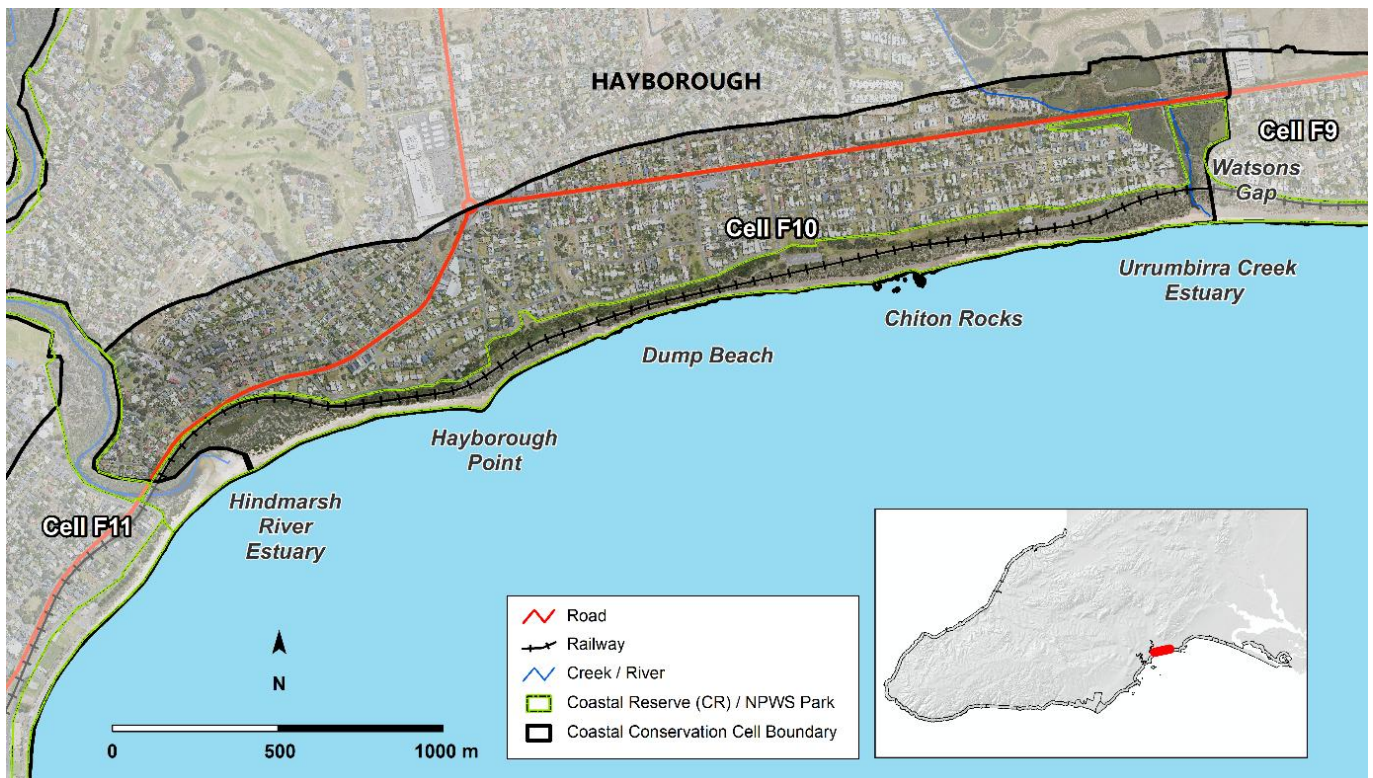
Watson's Gap to the Hindmarsh River (Kaindjeini)

Cell F10

Overview

A highly developed cell supporting a narrow coastal dune with pockets of remnant native vegetation. High biodiversity values are present at either end of the cell, at the Watson's Gap and Hindmarsh River estuary coastal lagoon, both with subtropical and temperate saltmarsh, *Environment Protection and Biodiversity Conservation (EPBC) Act* threatened ecological community vegetation associations present. Weed incursion from neighbouring gardens and established

weeds within the dune have been progressively targeted by land managers and coastal community groups, with further restoration and revegetation activities needed to increase biodiversity values across the cell and address erosion and visitor/population impacts. Stormwater management impacts from development, and pest animal management are key threats to this cell.



Cell Detail

This cell extends from Watson's Gap at Hayborough, including the Urrumbirra Creek estuary, approximately 3km to the eastern side of the estuary entrance of Hindmarsh River and includes the coastal lagoon. It is within the Alexandrina Council and City of Victor Harbor local government areas, with the council boundary approximately 100m west of Investigator (First Avenue) carpark.

Tenure, Land Use and Values

The coastal plain is almost entirely residential development. The coastal reserve, including small reserves above the bluff, the bluff and the dunes are under the care and control of Council. 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, narrow dune buffer zone, tourist rail line through the dune. Recreational activities include walking, swimming, surfing and fishing. Dune has a significant buffer function for railway and other developments. Several walking trails traverse sections of the cell, allowing access through the estuary systems from adjoining residential areas, while beach access is available from multiple formal and informal access points.

The offshore reefs are important habitat and recreational fishing areas for southern rock lobster and various fish species. The beach is an important habitat and fishing area for species such as Western Australian Salmon (*Arripis truttaceus*), Mulloway (*Argyrosomus japonicus*), School Whiting (*Sillago bassensis*) and Yelloweye Mullet (*Aldrichetta forsteri*) (Bryars 2013).

Several coastal community groups are working along the coastal dunes, Hindmarsh Estuary and Watson's Gap, and 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.



*Hayborough Point, East of the Hindmarsh Estuary: beach, dune, low bluff and suburban coastal plain
(Coast Protection Board, March 2024)*

Landforms

From Watson's Gap, where an intermittently closed small creek reaches the beach, to the Hindmarsh River, wave energy steadily decreases, from medium high to medium low. Rocky reefs are common, prominent at the reef-controlled foreland Hayborough Point (photograph above) and emerging as rocks on the beach at Chiton Rocks. The medium to coarse sand beach is often steep and is characterised by many small rips. Dunes, 50 to 200m wide and a talus slope front of a 20m bluff, terminating a sloping coastal plain (Caton et al 2007).

A geological monument, Victor Harbor Anadara Shell Beds (reference 1233), exists at the rear of the dunes extending east from the Hindmarsh River estuary. At this site Pleistocene Anadara shells in lagoonal sediments six metres above present sea-level; are up to about 150,000 years Before Present in age and provide evidence of a warmer climate (Caton et al., 2007).

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 Dreaming sites, other important places, traditional camping grounds, and midden deposits found throughout the wetlands and sand dunes. Trade paths used by Clan groups extended north from Urrumbirra Creek and Harborough Point, illustrating enduring relationships between neighbouring Clans and the exchange of locally sourced materials such as stone tools, food, and other cultural items.

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 (Ngurungai), 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 Latung.

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

Conservation values for this cell are present for vegetation communities, particularly at Watson's Gap, the dunes and the reserve on the east side of the lower Hindmarsh River. Several flora and fauna species of threatened status or rarity of the community in South Australia persist in these habitats, along with good species richness, bird habitat, reptile habitat and butterfly larvae habitat.

Medium to high coastal shrubland dominates the dunes in this cell, which vary substantially in width and height across its length, with steep bluff areas grading to wider less steep dunes towards the Hindmarsh River estuary. Small isolated pockets of remnant vegetation exist across the dune areas, including Common Boobialla (*Myoporum insulare*), Coast Daisy-bush (*Olearia axillaris*), Coast Wattle (*Acacia longifolia* var. *sophorae*), Coast Sword-sedge (*Lepidosperma gladiatum*), Sea-berry Saltbush (*Rhagodia candolleana* ssp. *candolleana*), Thyme Rice-flower (*Pimelea serpyllifolia* ssp. *serpyllifolia*) and Cushion Fanflower (*Scaevola crassifolia*).

The state vulnerable Hooded Plover (*Thinornis cucullatus cucullatus*); the state rare Cape Barren Goose (*Cereopsis novaehollandiae novaehollandiae*), Australasian Shoveller (*Spatula rhynchotis*), Little Egret (*Egretta garzetta nigripes*), Common Sandpiper (*Actitis hypoleucos*) and Glossy Ibis (*Plegadis falcinellus*), have been recorded in this cell.

The Hooded Plover (*Thinornis cucullatus cucullatus*), vulnerable in South Australia, has established breeding territories on the upper beach and front of the foredunes, particularly at Watson's Gap, Olivers Reef and the Hindmarsh River estuary. Exposed rocky shores at various points along this cell 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 occasionally Pied 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.

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.

Watson's Gap (Urrumbirra Creek) & Hindmarsh River Estuary

Watson's Gap is located at the end of the Urrumbirra Creek, supporting a predominantly freshwater estuarine system and coastal dunes. The area is primarily remnant vegetation, as well as areas of revegetation, possessing significant populations of native flora species with high conservation and recreation values. According to Telfer and Milne (2019), the freshwater estuarine system and adjacent floodplain is characterised by an abundance of sedges, reeds and shrubs, which provides important foraging, shelter and habitat for bird, reptile and frog species.



*Urrumbirra Creek estuary lined with Swamp Paper-bark (*Melaleuca halmaturorum*) and Common Reed (*Phragmites australis*)
(A Fyfe)*



Urrumbirra Creek estuary (A Fyfe)

Urrumbirra Creek (at Watson's Gap) and Hindmarsh River are recognised estuaries (DEH 2007).

Of note in the cell are two areas (Watson's Gap and Hindmarsh River estuary coastal lagoon) where vegetation communities exist that satisfy criteria to be considered part of the nationally Vulnerable *subtropical and temperate coastal saltmarsh* threatened ecological community, as listed in the EPBC Act 1999.



Urrumbirra Creek estuary and Watson's Gap and Beyond wetlands (Coast Protection Board, March 2024)

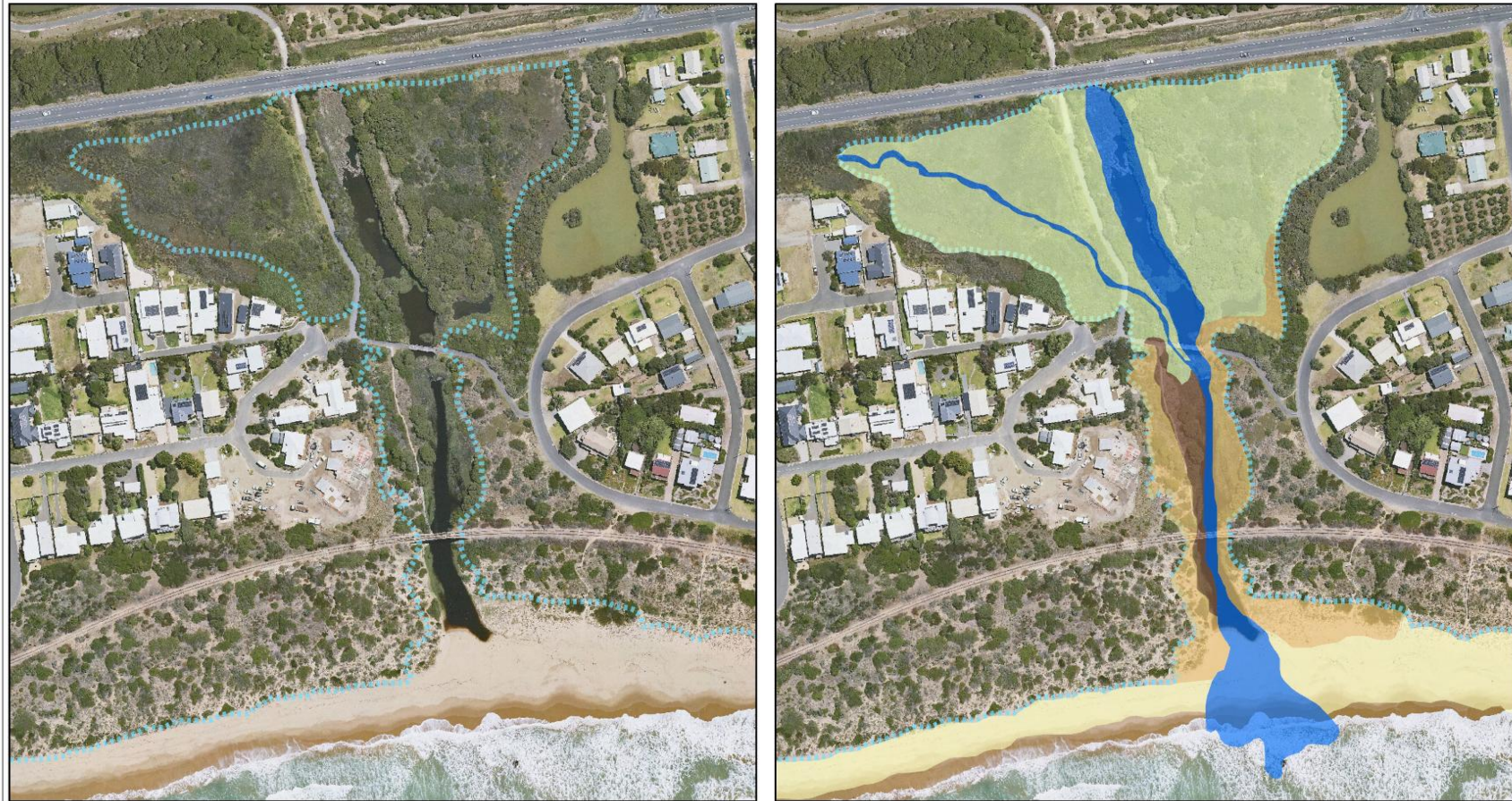
At Watson's Gap the low-lying Thatching Grass (*Gahnia filum*) and Sea Rush (*Juncus kraussii*) habitats with fringing areas of Creeping Brookweed (*Samolus repens*), Beaded Samphire (*Salicornia quinqueflora* ssp. *quinqueflora*) and Austral Seablite (*Suaeda australis*) become dominant. At Hindmarsh River estuary coastal lagoon, Swamp Paperbark (*Melaleuca halmaturorum*) low closed forest over Sea Rush (*Juncus kraussii*) (mixed) tall sedges and Beaded Samphire (*Salicornia quinqueflora* ssp. *quinqueflora*) and Creeping Brookweed (*Samolus repens*) (mixed) low forbs. These habitats or ecological communities represent the assemblage of plants, animals and micro-organisms associated with saltmarsh in coastal regions of sub-tropical and temperate Australia (DCCEEW 2013).

Suitable host plant habitats for the conservation rated species, Yellowish Sedge-skipper (*Hesperilla flavescens*), exist within Watson's Gap, suggesting it as potential site for reintroduction of the species. Multiple common butterfly and skipper species that are observed across the Fleurieu Peninsula are also recorded in this cell (Stolarski 2024). Conservation efforts for increasing habitats through plantings of Thatching Grass (*Gahnia filum*) for the Yellowish Sedge Skipper (*Hesperilla flavescens*) have been undertaken at Tokuremoar Reserve, Hindmarsh Island and Goolwa township (Stolarski 2024).



Thatching Grass (Gahnia filum) sedgeland at the rear of Watson's Gap is preferred habitat and host plant for Yellowish Sedge-skipper (Hesperilla flavescens) (C Jackson)

Estuarine Habitats: Urrumbirra Creek



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0 50 100 200 Metres

- Estuary Extent
- Beach
- Intertidal Flat
- Channel
- Floodplain
- Dune

Fig 10.1 Urrumbirra Creek estuarine habitats

The Hindmarsh River Estuary area is a useful island-refuge and corridor for birds. The estuary, with its associated estuarine vegetation, is uncommon in SA. The strip of near natural vegetation in a built-up area is significant, including valuable Swamp Paper-bark woodland and Temperate Coastal Saltmarsh lagoon (City of Victor Harbor 2023). This area supports a healthy population of native Swamp Rats (*Rattus lutreolus*), which undertake a range of ecosystem services and are considered common along the Hindmarsh River (SKM 2010). Their burrows can undermine the riverbanks, or where native vegetation or dense grass remains. However, by turning over soils, they are promoting seed germination and consuming weed bulbs of many species, preventing germination and spread.



Hindmarsh River estuary and coastal lagoon (Coast Protection Board, March 2024)

Estuarine Habitats: Hindmarsh River

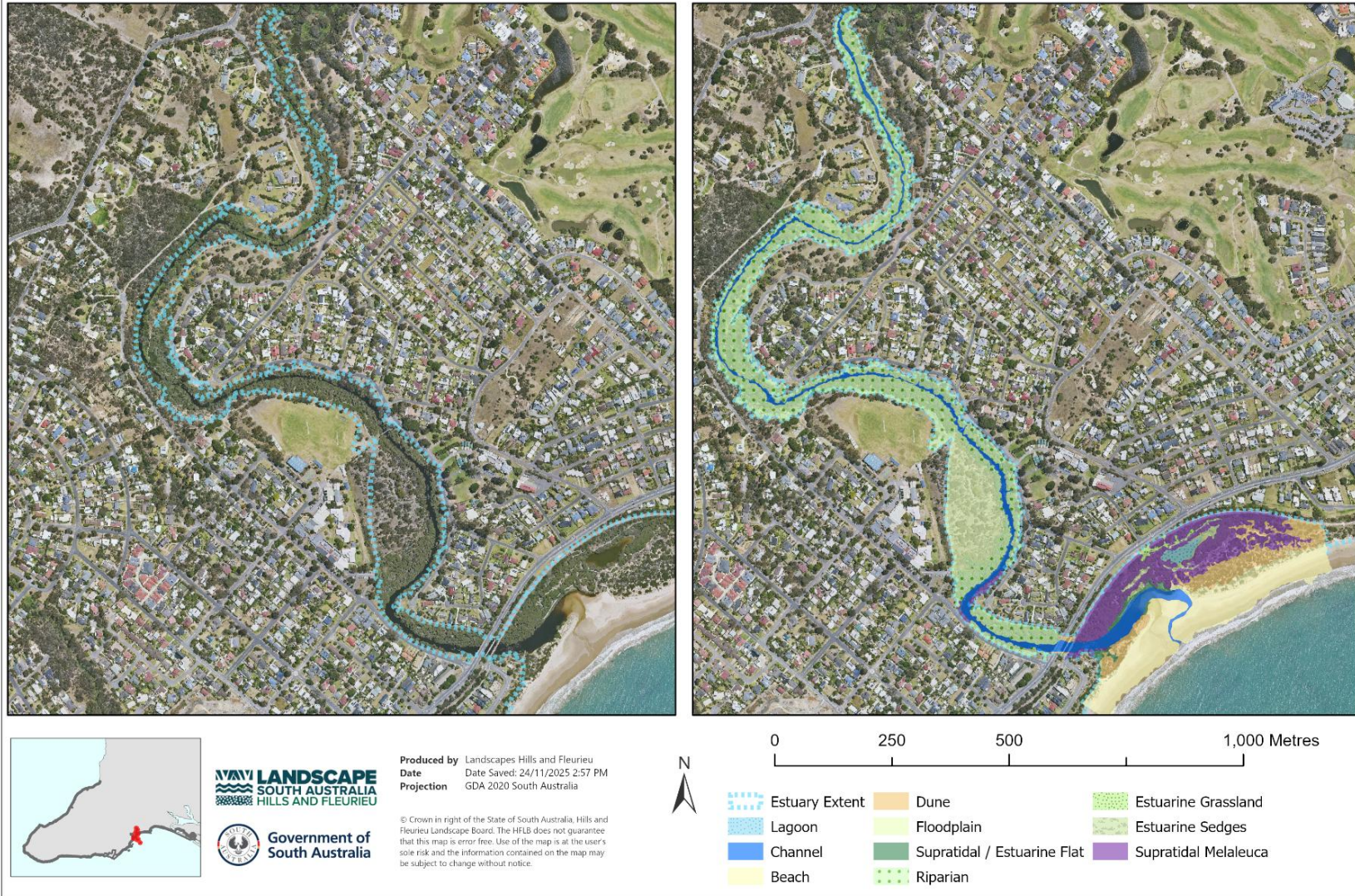


Fig 10.2 Hindmarsh River estuarine habitats.

The two estuary sites represent a corridor between coastal-dependent and freshwater-dependent ecosystems, and support a variety of species of conservation significance, including Common Sandpiper (*Actitis hypoleucos*), Musk Duck (*Biziura lobata menziesi*), Eurasian Coot (*Fulica atra australis*), Crimson Rosella (*Platycercus elegans*), Hooded Plover (*Thinornis cucullatus cucullatus*), Common Greenshank (*Tringa nebularia*), Coast Spear-grass (*Austrostipa stipoides*), Thatching Grass (*Gahnia filum*), Coast Bush-everlasting (*Ozothamnus turbinatus*), Rigid Speedwell (*Veronica hillebrandii*) and Round-leaf Wilsonia (*Wilsonia rotundifolia*).

Hindmarsh and Inman Rivers support one of the most stable populations of Black-chinned Honeyeaters (*Melithreptus gularis gularis*) in the Mount Lofty Ranges, a bird species that is experiencing considerable declines elsewhere in the region (City of Victor Harbor 2023).



Common Sandpiper (Actitis hypoleucos) (D Westmoreland)

Vegetation Communities

Coastal dunes and Shrublands

Coastal Shrublands & Tall Shrublands

- 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*)
- Rolling Spinifex (*Spinifex hirsutus*), *Marram Grass (*Ammophila arenaria*) tussock grassland with emergent Coast Daisy-bush (*Olearia axillaris*) + Coast Cushion Bush (*Leucophyta brownii*) + Coastal Wattle (*Acacia longifolia ssp. sophorae*)
- Coastal Wattle (*Acacia longifolia ssp. sophorae*) + Coast Daisy-bush (*Olearia axillaris*) shrubland / open shrubland
- Coast Saltbush (*Atriplex cinerea*) + Common Boobialla (*Myoporum insulare*) + Coastal Wattle (*Acacia longifolia ssp. sophorae*) open shrubland

Urrumbirra Creek and estuary (Watson's Gap)

- Cutting Grass (*Gahnia trifida*) + Thatching Grass (*Gahnia filum*) + Sea Rush (*Juncus kraussii*) + *Salicocornia* sp. low open sedgeland
- Swamp Paper-bark (*Melaleuca halmaturorum*) + Common Boobialla (*Myoporum insulare*) low woodland to low open woodland

- Narrow-leaf Bulrush (*Typha domingensis*) + Common Reed (*Phragmites australis*) +/- *Aster-weed (*Symphyotrichum subulatum*), +/- Lignum (*Dumaflorulenta*) +/- Austral Seablite (*Suaeda australis*) tall sedgeland over *Water Couch (*Paspalum distichum*) + Pale Knotweed (*Persicaria lapathifolia*)

Hindmarsh River estuary (east) and Coastal lagoon

Coastal Swamp Paper-bark Low Open Forests & Tall Shrublands of Saline Swamps

- Swamp Paper-bark (*Melaleuca halmaturorum*) low closed forest over Sea Rush (*Juncus kraussii*) +/- Austral Seablite (*Suaeda australis*) tall sedges over Beaded Samphire (*Salicornia quinqueflora* ssp. *quinqueflora*) +/- Creeping Brookweed (*Samolus repens*) +/- Southern Sea-heath (*Frankenia pauciflora* var. *gunnii*)

Nearshore Habitats

This cell forms part of the Encounter Marine Park. Most of the marine areas of cell F10 are within a Habitat Protection Zone (HPZ-7), part of the cell F10 are within a Sanctuary Zone (SZ-6). These areas include 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.

From Bryars (2013) cell F10 is described as dominated by patchy low profile reef midshore to offshore, but also has substantial amounts of continuous low profile reef inshore (including Chiton Rocks and Olivers Reef (off Hayborough Point)), a mixture of seagrass types inshore, as well as bare sand inshore (including Dump Beach) and midshore (Fig 10.2).

The cell is regionally significant due to the reef, seagrass and beach (bare sand) habitats (Bryars 2013). Inshore seagrass is rare between Cape Jervis and Lacedpede Bay, making Encounter Bay seagrasses regionally significant as habitat (Caton et al 2007).



Encrusting invertebrate community of reef habitats (S Bryars)

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/ soft bottom is characterised by a low tide terrace beach system that includes Watson's Gap and Chiton Rocks (Short 2001).

Surveys of subtidal reefs in nearby cells, and at Olivers Reef within this cell, have found a high diversity of fishes, invertebrates and macroalgae (e.g., Haig et al. 2006, Turner et al. 2007, DEH 2008, Baker et al. 2009). The cell lies inside the Encounter Bay region, which is a known 'hot-spot' for macroalgal species diversity (see Baker and Gurgel 2010). Hacking (2007) reported three macrofaunal species from an intertidal beach survey at Chiton Rocks. Bryars (2003) listed seven fish and two macroinvertebrate fisheries taxa for the surf beach habitat between the 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.



Long-snout Boarfish (Pentaceropsis recurvirostris) (K Peters)

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 Encounter subregion (cells F7-F12) indicate that macroinvertebrate and fish species richness, large fish biomass and the percentage cover of canopy-forming algae has remained stable or is increasing at these sites (Brock et al. 2023). 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). Olivers Reef is one of eight sites used in the previous reef baseline study (Brook et al 2020), but limited data and repeat sampling at the site is required to be included in any future trend analysis.

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.

There is one historical beach profile monitoring site within this cell (profile 615001 at Chiton Rocks SLSC established in 1977) to monitor beach-dune and nearshore dynamics over time. 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.

In addition, four seagrass profiles within this cell (615012 and 615013 and 620017 and 620018) established by Coast DEW in 2011 in partnership with the South Australian Research and Development Institute (SARDI) Aquatic Sciences and the AMLR NRM Board (now Green Adelaide) as part of a study to monitor seagrass condition where baseline bathymetric data was collected in 2011. 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 populations (Tanner et al, 2012). 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. Seagrass profile 620017 has been put on the annual beach profile monitored program since 2024 due to renewed period of erosion in recent years.

The Coast Protection Board, in partnership with City of Victor Harbor and Victor Harbor Coastcare group have installed beach pole monitoring sites in 2002 at a number of sites along the Victor Harbor Council coastline (details within F11), where VHCC collect regular readings of the beach poles to provide a more detailed record of how beach levels respond to seasonal changes and storm events and development along the coast. Beach profile monitoring beach poles are a citizen science component of the City of Victor Harbor's Coastal Monitoring Program to inform coastal adaptation planning. An additional beach pole monitoring site was also added to beach profile 620017 in 2025 funded by the Coast Protection Board to capture changes to beach levels near the Hayward Court stormwater outlet pipe and renewed erosion in response to changes in wave climate.

In addition, the CPB, in partnership with Alexandrina Council and the South Coast Dunecare Group installed a beach pole monitoring site on profile 615001 in 2002 and like Victor Harbor Coast Care have committed to undertaking detailed measurements to show how the beach levels adjust to seasonal weather patterns, storm events and development along the coast and supplement the annual CPB monitoring program.

Nearshore Habitats: Cell F10

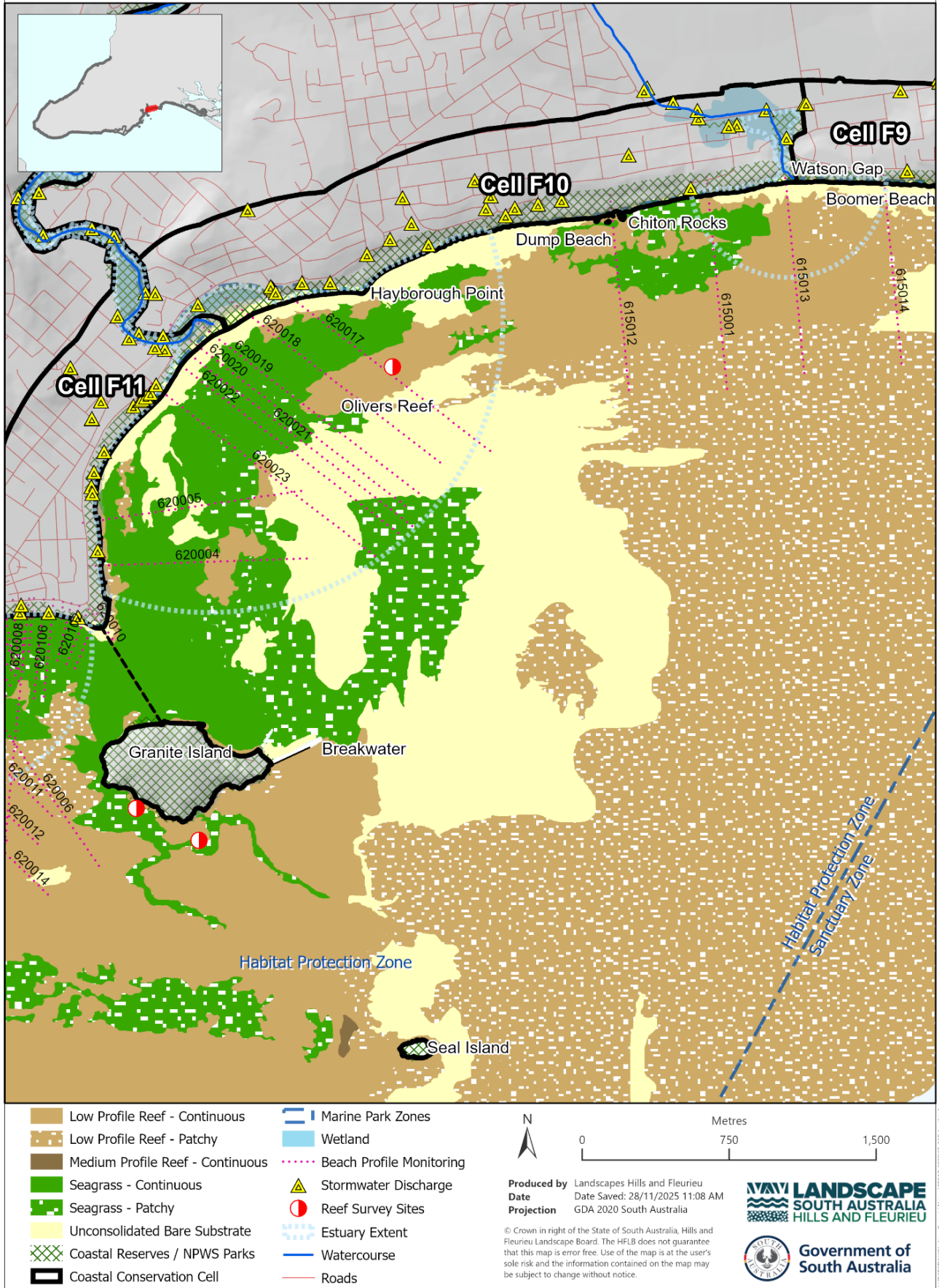


Figure 10.2. Nearshore habitats of Cell F10.

Threats

Whole Cell

Increased visitation and recreational use due to rising local populations, tourist promotion and the popularity of whale watching are placing increased pressure on the dunes. Encounter Bikeway will be further developed in the future and will travel parallel to the coastal railway line, subject to planning details. There will be increased access and recreation associated with built infrastructure and tourism, which may present threats for coastal biodiversity and visitor management.

High levels of coastal development, particularly adjoining dune environments and extending inland, are placing a range of pressures and encroachments on the coastal environment, increasing visitation, stormwater discharges, trampling of vegetation, litter and disturbance of wildlife. Ageing infrastructure, particularly fencing, is contributing to informal access and associated erosion issues. Coastal reserves in this cell, however, are not as reduced in width as in many parts of the urban areas of the south coast of the Fleurieu Peninsula.

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.

A large proportion of exotic plant species and high weed distribution and abundance in this cell combine to give it a high weed threat. Large areas dominated by stands of introduced coastal weeds and garden escapes also threaten and reduce 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.

The following declared or red alert weeds were found within this cell: Bridal Creeper (*Asparagus asparagoides*), Pyp Grass (*Ehrharta villosa*), Gazania (*Gazania linearis*), Western Coastal Wattle (*Acacia cyclops*), African Boxthorn (*Lycium ferocissimum*), Boneseed (*Chrysanthemoides monilifera* ssp. *monilifera*), Coast Tea-tree (*Gaudium laevigatum*), Madeira Vine (*Anredera cordifolia*), Skeleton Weed (*Chondrilla juncea*), Lincoln Weed (*Diplotaxis tenuifolia*), Lavatory Creeper (*Dipogon lignosus*), Salvation Jane (*Echium plantagineum*), Blowfly Bush (*Rhamnus alaternus*), White Arum Lily (*Zantedeschia aethiopica*), Myrtle-leaf Milkwort (*Polygala myrtifolia*), Golden Wreath Wattle (*Acacia saligna*), Sea Spurge (*Euphorbia paralias*), False Caper (*Euphorbia terracina*), Olive (*Olea europaea* ssp. *europaea*), Soursob (*Oxalis pes-caprae*), Marguerite Daisy (*Argyranthemum frutescens* ssp.), New Zealand Mirror-bush (*Coprosma repens*), Golden Wreath Wattle (*Acacia saligna*), Century Plant (*Agave americana*), Foxtail Agave (*Agave attenuata*), Coastal Galenia (*Aizoon pubescens*), Marram Grass (*Ammophila arenaria*), Cape Weed (*Arctotheca calendula*), Onion Weed (*Asphodelus fistulosus*), Kikuyu (*Cenchrus clandestinus*), African Corn-flag (*Chasmanthe floribunda*), Pampas Grass (*Cortaderia selloana*), Cape Marigold (*Dimorphotheca pluvialis*), Broad-leaf Cotton-bush (*Gomphocarpus cancellatus*), Narrow-leaf Cotton-bush (*Gomphocarpus fruticosus*), Pyramid Tree (*Lagunaria patersonii*), Tree Mallow (*Malva arborea*), Pincushion (*Sixalix atropurpurea*), Rat-tail Grass (*Sporobolus africanus*), Buffalo Grass (*Stenotaphrum secundatum*), Aster-weed (*Symphyotrichum subulatum*), Twiggy Mullein (*Verbascum virgatum*), Perennial Veldt Grass (*Ehrharta calycina*), Horehound (*Marrubium vulgare*) and Aleppo Pine (*Pinus halepensis*).

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 that are readily spread by people and birds, as evident by large areas of garden escapes, particularly Cape Ivy (*Delairea odorata*), Blowfly Bush (*Rhamnus alaternus*) and Coast Tea-tree (*Gaudium laevigatum*). Taylor (2000) describes the large stands of woody weeds, which are a considerable problem throughout the dunes, from Hindmarsh River to Knight Beach (cell F9). Despite control efforts adjacent to the rail line, this and other weed species still persist across the larger corridor and require management. Shared land use management issues exist within this cell and pose conflicting priorities, of conservation outcomes versus fire hazard reduction, including clearance and spraying of vegetation within the railway corridor as part of ongoing track maintenance.



SteamRanger railway corridor, Watson's Gap (C Taylor)

This cell also has a large area of the exotic Pyp Grass (*Ehrharta villosa*) proliferating in the areas behind the dunes between Watson's gap and the Chiton Surf Life Saving Club. This is the same grass that has become abundant in pockets of Newland Head Conservation Park and along Sir Richard Peninsula. It is stoloniferous and can set canes as close as 1cm apart, stifling native species and almost eliminating natural regeneration (Taylor 2000). Control of this species has been achieved with targeted spray efforts in high value areas, but it requires a dedicated and ongoing control effort to prevent spread and achieve eradication.

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.



Watson's Gap Sea Wheat-grass (Thinopyrum junceiforme) control site to improve breeding habitat for Hooded Plovers and beach nesting birds. Rolling Spinifex (Spinifex hirsutus) vegetative runners are actively spreading across the surface of the sand and putting down roots to stabilise the dune (C Taylor)

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.

Long term bioregional monitoring (Fleurieu Peninsula, Yorke Peninsula, Gulf St Vincent, Kangaroo Island) of beach litter has been conducted at Victor Harbor East beach since 2010 by the previous AMLRNRM Board, and currently by Green Adelaide's marine debris program. Victor Harbor East is one of four locations designated for biennial litter assessments on the south coast of the Fleurieu Peninsula. Litter items recovered from the site and subregion comprise plastic fragments, plastic packaging (food wrappers and bags), bottle lids and caps, cigarette butts, plastic bags, foam packaged products (e.g. cups) and fishing rope and rope pieces (Peters and Flaherty, 2013).

Encounter Bay faces growing threats from coastal erosion and seagrass loss, potentially driven by urban expansion and environmental change. Historical and recent monitoring reveal renewed erosion at key sites and highlight the vulnerability of extensive seagrass beds to degradation, which can lead to seabed deepening and further coastal instability. These changes underscore the importance of ongoing high-resolution surveys to track and manage impacts over time.

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.

Watson's Gap and Hindmarsh River Estuary

Connectivity of estuary areas to both coast and marine waters through water flow is critical to maintain the health of the estuary. Typically, this connectedness is achieved through adequate freshwater inflows and tidal surges from the marine environment. Changes in either of these can dramatically influence local conditions for flora and fauna. According to SKM (2010) 'the Hindmarsh lagoon wetland has historically had good connectedness with the estuary proper (remnant mouth opening), however it has since silted up, and been cleared to maintain a degree of connectedness'.

Stormwater and Catchment flow

Development pressures include increased stormwater discharges into coastal environments. Stormwater erosion is a key issue in this cell, changing beach profiles due to discharge from stormwater drains, with erosion points at a number of locations.

Other key stormwater related issues for this cell are clearly defined in the Victor Harbor Stormwater Management Plan (City of Victor Harbor 2024) as follows:

- A range of drainage system performance deficiencies, including trapped ponding, underground network surcharge and property inundation;
- Limited available public open space with which to facilitate catchment-scale detention, water quality and stormwater harvesting and reuse initiatives;
- A need for additional water quality treatment measures throughout the study area, with many catchments draining to the rivers and coast untreated;
- Future development, largely consisting of greenfield development, will exacerbate flood risk and decrease the quality of water leaving the study area; and
- The potential for climate change, in the form of higher intensity rainfall and sea level rise, to increase flood risk.

Bryars (2013) describes the coastline is densely populated (Victor Harbor settlement) and has intermittent (but unquantified) freshwater inputs from the Hindmarsh River, Watson's Gap (Urrumbirra Creek), and stormwater drains. It appears that the discharge from Watson's Gap may be increasing due to increasing run-off from residential developments further inland, despite the development of wetlands to capture stormwater. SKM (2010) identified that intermittent discharges from the Hindmarsh River could potentially be a threat to nearshore habitats.

Bryars (2013) describes a significant amount of reef habitats in this cell occur in the inshore area (including Olivers Reef), where direct contact with catchment and 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, direct contact with catchment/stormwater flows is more likely to have an impact.

Extensive low lying area at Watson's Gap is potentially subject to storm surge or catchment based flooding; this is outside the coastal zone (currently zoned Neighbourhood) and that zone's hazard provisions on the Planning and Design Code.

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. Detailed local analysis of weed control and re-planting strategy is described in Taylor (2000), with significant weed control efforts being undertaken by the coastal community groups and contractors. Ongoing incursion from surrounding private properties and untreated areas continues to threaten the linear dunes, as well as woody weeds within the railway corridor. Further coordinated weed control across land managers and community groups with follow up revegetation is required. 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.

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



SteamRanger Heritage Railway corridor that sits atop of the dunes from Victor Harbor to Port Elliot (Graham Scheer)

Increase suitable habitat for coastal butterfly populations through planting of host plants into revegetation wherever appropriate, (including Thatching Grass (*Gahnia filum*), Coast bitterbush (*Adriana quadripartita*) and Tussock grass (*Poa spp.*)) to increase habitat suitability for local introductions (Stolarski 2024, City of Victor Harbor 2023).

Yellowish Sedge Skipper (*Hesperilla flavescens*) has been subject to trial conservation efforts through translocation introductions into Encounter Lutheran College (ELC) grounds, which is approximately 1km inland of the cell boundary adjacent to Waterport Road. This site supports large stands of Thatching Grass (*Gahnia filum*) and has had recent Yellowish Sedge Skipper pupae released at this site from the existing Hindmarsh Island wild population, without successful establishment of the species on site. Further habitat enhancements at ELC grounds were recommended and, once completed, further attempts for translocations can be undertaken. Within cell F10, which encompasses Watson's Gap wetland and further inland through the adjacent Chiton Wetlands at Hayborough through to ELC grounds, provides an extensive habitat restoration and enhancement opportunity for *H. flavescens*. Additional habitat enhancement works are recommended by Stolarski (2024) for Watson's Gap (Cell F10) and adjacent Chiton wetlands at Hayborough.



Yellowish Sedge Skipper (Hesperilla flavescens) on Thatching Grass (Gahnia filum) (M Endacott)

There is potential for Yellowish Sedge Skipper reintroduction at Hindmarsh River Estuary due to remnant *Gahnia filum* habitat. However, there is a need for ongoing management of *Gahnia* due to ageing plant population. In this area and Watson's Gap, there are also several rare plant species, such as Silky Wilsonia (*Wilsonia humilis*), which need to be conserved and actively managed.

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. Support the introduction and implementation of Council by-laws to protect biodiversity and natural assets, such as dogs on lead in estuaries and high value conservation areas. There are opportunities to support Hooded Plover habitat by replacing introduced Sea Wheat-grass with native Spinifex vegetation associations.



Hooded Plovers (Thinornis cucullatus cucullatus) forage and breed on the south coast beaches of the Fleurieu Peninsula (M Stokes)

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 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 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.

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.

Urrumbirra Creek and Hindmarsh River Estuary

Implement the Watson's Gap Biodiversity Action Plan (2019) and the Hindmarsh River Estuary Action Plan (2010). Continue to leverage previous investment in weed control to address priority weed species through a collaborative approach between land managers and support for coastal community groups.

Strengthen connectivity between coastal ecosystems and nature corridors (Hindmarsh and Inman rivers and inland from Watson's gap towards Waterport Road), increasing flora and fauna resilience to progressive climate change.

Wetlands at Watson's Gap (and in the Beyond housing development directly upstream) represent improvement in water quality delivered to the coast. Increasing development pressure on surrounding areas is likely to increase stormwater flow into these catchment areas. There is opportunity to develop guidelines for projects within Council areas to support improved stormwater management and reduce land-based impacts on coastal and nearshore marine environments 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.

Implementation of the City of Victor Harbor's Stormwater Management Plan (City of Victor Harbor 2024) also provides opportunity for managing stormwater, including considerations for marine environments.

Future coastal and marine investigations should consider the City of Victor Harbor Urban Stormwater Management Plan (2024) and ensure the monitoring of marine ecosystem markers (refer to plan) to determine nearshore and marine impacts directly or indirectly related to stormwater management. Opportunities for forward planning with climate change to identify high priority conservation areas and management options, such as planned retreat, soft or hard infrastructure options.

SKM (2010) recommends improving connectedness between Hindmarsh River estuary lagoon and Estuary to increase water quality and ecological function for birds and fish, whilst ensuring that any channel expansion is done in a manner that mitigates future erosion. Monitor lagoon water quality and assess the impact of lagoon water on estuarine water quality.



Beaded Samphire (Salicornia quinqueflora ssp. quinqueflora) is one of the dominant species in saltmarsh habitats withstanding periods of dry and inundation from tides (R Lewis)

Protection from weed incursion, development, disturbance, increased restoration and community awareness of local value of vegetation communities related to the EPBC Act Threatened ecological community, *subtropical and temperate coastal saltmarsh*, at Watson's Gap and Hindmarsh River estuary coastal lagoon. Further assessment of these areas through formal classification and listing on the national register of Matters of National Environmental Significance (MNES) needs to be undertaken.

Climate change threats to coastal biodiversity (see BMT 2025)

Potential climate change threats to coastal biodiversity

Cell F10 includes an estuary, dunes, and beach. The dunes support native vegetation of importance for flora and fauna. The beach is an important foraging area for birds and intertidal areas support infauna on which birds feed.

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

- Coastal dunes and vegetation
- Native vegetation
- Beach nesting birds
- Beach and intertidal reef ecosystem
- Estuary 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.

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. Rising sea levels threaten tidal inundation of low-lying land at Watson's Gap (Caton et al 2007).

Western et al. (2021) identifies threats for this cell including coastal areas, which are habitats for shore nesting birds, are likely to be disturbed by retreating shorelines. The impact is likely to be the greatest in locations where shorelines are unable to retreat naturally due to human intervention. In this cell, the trainline will prevent a natural recession of the coastline and rising sea levels are likely to impact bird habitats so that they are disturbed or lost. Additional risks relate to the location of storm water outlets, which is already interacting with actions of the sea. Lower sand levels here will also increase potential for actions of the sea to erode the embankment behind.

Increased runoff, particularly after heavy rains, can lead to erosion of beaches, rocky shores and reefs. Excessive sedimentation can also reduce biodiversity and disrupt the biodiversity of local ecosystems.

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).

Changes in ocean temperatures, salinity, and acidity (from increased CO₂ 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.	High (cons/ threat)	NAC, Council, LHF, Coastal Community groups, Aboriginal Affairs and Reconciliation - Department of Premier and Cabinet
		Prevent damage, disturbance, or interference to cultural heritage by adhering to the Aboriginal Heritage Act 1988.		
	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 numbers 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
		Ongoing weed incursions and weed control.	Target residences with educational materials, with regard to weeds particularly garden escapes.	High (threat/ Soc / Econ)
	Target large stands and encroachments of succulents on public land that encourage residents to plant similar species that spread into coastal reserves reducing biodiversity values.		High (threat)	Council, coastal community groups
	Monitor for new weed incursions, record incursions via public database (e.g. BDBSA) and control new incursions as a priority.		High (Cons/ threat)	Council, land managers, 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.

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 land and intentional plantings and encroachments within the dunes and reserves.	High (threat)	Council, coastal 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.	Medium (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 and fauna.	Protect existing populations through targeted weed control and restoration of habitats with local coastal species.	High (Cons/ threat)	Council, 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)	Council, DEW, LHF, coastal community groups
		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
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	

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.	Identify potential funding sources to repeat these long-term flora monitoring sites and fauna assessments.	High (cons/ threat)	DEW, LHF, councils.
	Impacts of marine debris on coastal habitats and species	Continue long term bioregional monitoring of marine debris at priority sites.	High (threat)	Landscape Boards, Coastal Community groups, Council
	Stormwater impacts from inland development are likely to impact marine intertidal habitats and may accelerate seabed deepening and coastal erosion.	Consider locations within existing open space to install/retrofit sedimentation or detention areas increasing water quality and improve biodiversity values.	High (Cons/ threat)	Councils, LHF
	Turbidity from suspended sediments and nutrients are a significant threat to reef and seagrass habitats.	Undertake development of stormwater management plan for Port Elliot and Hayborough catchments including coastal areas.	High (threat)	Councils, LHF, Stormwater Management Authority
		Monitor and manage stormwater to minimise impacts in the coast and marine environment as per the City of Victor Harbor Stormwater Management Plan (2024).	High (Threat)	Council, LHF, CPB, Water Sensitive SA
		Improvements in the stormwater system to reduce gross pollutants and erosive impact of stormwater discharge into the dunes and estuaries.		
	Implement Water Sensitive Urban Design (WSUD).			
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, CPB		
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)	Continue monitoring and implementation of Coastal Adaptation Study and Plan recommendations, including key locations 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, Councils, 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	
Beach and Dunes	Ongoing weed control and restoration and revegetation with local coastal native species.	Leverage funding opportunities based on previous investment and in-kind contributions from coastal community groups. Undertake targeted control of weed species, eradicate red alert weeds.	High (Soc / Econ)	coastal community groups, NAC business/ contractors/rangers, Council
	Damage, de-stabilisation and erosion by foot traffic through informal access and ageing infrastructure (fencing).	Improvement of signage at path entrances and by railway reserve. Strategic use of sand drift fencing.	High (Soc / Econ)	Council SteamRanger and coastal community groups
	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
	Likely beach and dune recession consequent on climate change effects.	Continuation of monitoring at CPB profile. Encourage and support community to monitor beach poles located on the CPB long term profile monitoring lines for more frequent data on how the beach responds to seasonal changes, storm surge events, development and in response to climate change.	Medium (threat)	CPB, Council, Coastal community groups

Component	Issue	Proposed Action	Priority	Key Players
Beach and Dunes	Likely beach and dune recession consequent on climate change effects.	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.
		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
Watson's Gap	Limited protection and awareness of EPBC listed Threatened ecological community, <i>subtropical and temperate coastal saltmarsh</i> , at Watson's Gap.	Increased protection from weed incursion, development and disturbance through site restoration and increased community awareness.	High (threat)	Council, coastal community groups, LHF
		Formal assessment of vegetation communities to be listed on the national register of protected sites as per recommendation in Telfer and Milne 2019.	High (cons)	Council, LHF, DEW, coastal community groups,
	These tide dependent habitats are threatened by climate change induced accelerated sea level rise.	Update DEW Coastal Saltmarsh/Mangrove Habitat spatial mapping to capture changes in the extent and different habitat types of saltmarsh ecosystems in South Australia since the original mapping was undertaken over 20 years ago. Advances in technology and more recently available information (i.e. LiDAR, imagery including multispectral, vegetation profile surveys will improve and update the information available for undertaking nature based coastal hazard assessments and ecological assessments. Data layer to be made publicly available on NatureMaps	High (Cons/threat)	DEW, CPB, universities and research institutions
	Opportunity to reintroduce locally extinct butterfly species.	Yellowish Sedge Skipper reintroduction in remnant <i>Gahnia filum</i> habitat following restoration of older host plants.	High (cons)	Council, LHF, NAC business/contractors/rangers, coastal community groups
	Planning for tidal saltmarsh ecosystem adaptation with sea level rise.	With future Planning and Design Code Amendments and review of Urban Growth Strategy – review to provide a buffer to allow for the transition of ecosystems, i.e. tidal saltmarsh ecosystems, with sea level rise due to climate change.	Medium (threat)	DIT, Council, LHF, DEW, Community
	Potential flooding hazard due to sea level rise.	Revise zoning provisions to reflect appropriate hazard standards.	Low (Hazard)	Council, CPB, Department for Housing and Urban Development (DHUD)
SteamRanger rail corridor	Weed control within the rail corridor does not align with priority weed control and restoration activities in surrounding dunes and reserves.	SteamRanger to develop an Environmental Management Plan referencing regional weed and restoration priorities and other local environmental plans.	High (cons/ threat)	SteamRanger, LHF, NAC business/contractors/rangers,
		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. Closing of identified pathways through revegetation with local coastal species or temporary fencing.	High (threat)	SteamRanger, LHF
Hindmarsh River Estuary & coastal lagoon	Population of native swamp rat (<i>Rattus lutreolus</i>) at Estuary of Hindmarsh River regularly sighted by community and confused with introduced rat species with unwarranted calls for removal.	Increased community awareness of local native swamp rat population and benefits for local environments.	Medium (cons)	Council, coastal community groups, LHF

Component	Issue	Proposed Action	Priority	Key Players
Hindmarsh River Estuary & coastal lagoon	Potential flooding hazard due to sea level rise.	Review zoning provisions to reflect appropriate hazard standards.	Low (Hazard)	Council, Plan SA, DEW, CPB, DHUD
	Opportunity to reintroduce locally extinct butterfly species.	Yellowish Sedge Skipper reintroduction in remnant <i>Gahnia filum</i> habitat following restoration of older host plants.	Medium (cons)	Council, LHF, NAC business/contractors/rangers, coastal community groups
	Water quality and ecological function between estuary and coastal lagoon is limited by sedimentation and lack of flow.	Improve connectedness between lagoon and Estuary to increase water quality and ecological function for birds and fish, whilst mitigating future erosion.	Medium (cons)	Council, coastal community groups
		Monitor lagoon water quality and assess the impact of lagoon water on estuarine water quality.	Medium (cons/ threat)	DEW, EPA, Landscape Boards, Council
	Sedimentation, nitrification and degradation of riverbank environment.	Determine current water quality, nutrient and flow from historical baseline information (2016 onwards) to assess condition improvement. Conduct Rapid Appraisal Riparian Condition (RARC) or similar for vegetation communities to compare current to historical condition.	High (threat)	Council, Landscape Boards, EPA
	Limited protection and awareness of EPBC listed Threatened ecological community, <i>subtropical and temperate coastal saltmarsh</i> , at Hindmarsh River estuary coastal lagoon.	Increased protection from weed incursion, development and disturbance through site restoration and increased community awareness.	High (cons)	Council, coastal community groups
		Formal assessment of vegetation communities to be listed on the national register of protected sites.	High (cons)	Council, LHF, DEW, coastal community groups,
	Estuary entrance currently opened / closed by Council largely for recreational/amenity reasons.	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)	Councils, DEW, LHF, EPA, NAC business/contractors/rangers,
		Review opportunities to increase environmental flow through Water Allocation Planning (WAP), WWTP, low flow bypass on farm dams and other local opportunities to improve connectivity with marine environments.	Medium (cons)	DEW, LHF, 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)
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 , NAC business/contractors/rangers, LHF, 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
		Opportunity to extend dogs on-leash areas, including Estuary areas, and allowing for buffer zones and family-friendly areas.	High (threat)	Council
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/ cons)	Council, Land managers, LHF, NAC business/contractors/rangers, coastal community groups, Friends of the Hooded Plover, Fleurieu Peninsula volunteers

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.	Increase community awareness of habitat needs for beach-nesting birds species.	High (cons)	Council, Land managers, LHF, coastal community groups, Friends of the Hooded Plover, Fleurieu Peninsula volunteers
Nearshore marine habitats (Reef, Seagrass)	Reduce sediments and nutrients moving down the catchment via Urrumbirra 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)	Alexandrina Council / LHF
	Sediments and nutrients via Hindmarsh River.	Support initiatives to collect and reuse stormwater (e.g. see City of Victor Harbor Stormwater Management Plan (2024).	High (cons/ threat)	City of Victor Harbor / LHF
		Support initiatives for catchment revegetation and improved land management practices.	High (cons/ threat)	City of Victor Harbor, coastal community groups, LHF
	Impacts of stormwater from land-based sources on nearshore and marine environments.	Future coastal and marine investigations should consider the City of Victor Harbor Stormwater Management Plan (2024) and ensure the monitoring of marine ecosystem markers (refer to plan) to determine nearshore and marine impacts directly or indirectly related to stormwater management.	Medium (threat)	City of Victor Harbor/ Alexandrina Council
	Limited monitoring of nearshore and reef habitats.	Continue research and works identifying gaps for further data and knowledge sharing.	High (cons/ threat)	Council, DEW, universities, research agencies, LHF
		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, EPA, NPWSSA, Council
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, coastal community groups, land owners, LHF
	Higher temperatures likely to lead to increased algal blooms with impacts on estuarine fauna.	Monitor stormwater quality and estuary condition.	Medium (threat)	DEW, EPA, land owners, LHF
Climate (Seasonal freshwater soaks to rear of dunes)	There is evidence of freshwater soaks to the rear of some sections of the sand dunes ie presence of other freshwater sedge species.	Prior to any major land division of the lower lying lands /seasonal floodplains behind the dunes, a study, including piezometer testing to ascertain combine risk from rising saline ground water due to sea level rise and seasonal and high rainfall events. This research should be part of stormwater management planning for infill development in these lower lying areas.	Medium (threat)	DEW, CPB, Plan SA, Council, Crown lands, LHF, Department for Housing and Urban Development (DHUD)
	There is also freshwater pooling of these lower lying areas following high rainfall events and ongoing issues with managing stormwater from incremental land divisions. With more intense rainfall events, the combined interaction of seasonal flooding and interactions with rising saline ground water from sea level rise is increasingly uncertain.	Prior to any major land division of the lower lying lands /seasonal floodplains behind the dunes, a study, including piezometer testing to ascertain combine risk from rising saline ground water due to sea level rise and seasonal and high rainfall events. This research should be part of stormwater management planning for infill development in these lower lying areas.	Medium (threat)	DEW, CPB, Plan SA, Council, Crown lands, LHF, Department for Housing and Urban Development (DHUD)
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.	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, coastal community groups, NAC business/ contractors/rangers, LHF
	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.
		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

Component	Issue	Proposed Action	Priority	Key Players
Climate (Beach and dunes)	Storm water is scouring the beach, reducing sand levels around outlets, and in some locations preventing the dune from establishing.	Conduct a feasibility study and cost estimates to reduce the flow of storm water to the beach from two outlets adjacent Hayward Court.	Medium (threat)	Council
		Upgrade storm water outlet at Yandra Terrace with design able to be adjusted for cycles of erosion / accretion.	High (threat)	Council
	Likely beach and dune recession consequent on climate change effects.	Continuation of monitoring at CPB profile. Encourage community to reestablish monitoring of existing Beach pole located on the CPB profile line for more frequent data on how the beach responds to seasonal changes and storm surge events.	Medium (threat)	CPB, Council, VH Coast Care, South Coast Dunecare
Climate (Macroalgal reefs)	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)	DEW, EPA, land owners, LHF
	Increased storm surge can cause dislodgment of algae and seagrasses.	Monitor stormwater quality.	Medium (threat)	DEW, EPA, land owners, 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)	DEW, EPA, land owners, 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

- (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

- Watson's 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.
- Biodiversity and Natural Assets Management Plan: 2023 to 2028 (2023) City of Victor Harbor
- Environmental Management Plan: 2025 – 2030 (2025) City of Victor Harbor
- 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.
- Hindmarsh River Estuary Action Plan (2010) Prepared by SKM for Adelaide and Mount Lofty Ranges NRM Board
- 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
- Ngarrindjeri Nation (2007) Ngarrindjeri Nation Yarlular-Ruwe Plan. Caring for Ngarrindjeri Sea Country and Culture. (Ngarrindjeri Tendi, Ngarrindjeri Heritage Committee and Ngarrindjeri Native Title Management Committee, Ngarrindjeri Land and Progress Association, Meningie).
- Ngarrindjeri and Others Native Title Claim (Part A) settlement Indigenous Land Use Agreement (ILUA) (2017) Government of SA Attorney General's Department

- Kungun Ngarrindjeri Yunnan Agreement (2009) between South Australian Government and the Ngarrindjeri Regional Authority (NRA).
- Wavelength (2022) Coastal Adaptation Plan prepared for Alexandrina Council.
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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 10km² buffering of data. However, records are included in the total species numbers per cell. Please contact DEW directly for restricted data requests.

FLORA Summary

Vegetation Block Metrics	Watson's Gap/ Urrimbirra Creek estuary (Coastal Reserve) Hindmarsh River estuary (Coastal Reserve) Coastal Reserves (Dunes) – (managed by Council)			
Terrestrial Habitat Description/s	See Terrestrial biodiversity vegetation communities in cell description.			
# Flora in cell	190			
# Native Flora in cell	78			
# Introduced Flora in cell	112			
# Conservation Rated Flora in cell	1* (0 national, 1 state)			
# Threatened Ecological Communities (EPBC Act)	1 (Subtropical and Temperate Saltmarsh) (Pending assessment- to be confirmed by survey)			
Conservation Rated Flora	Species	Common Name	EPBC Act Status	NPW Status

All Native Flora in cell

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Acacia cupularis</i>	Cup Wattle			RA
<i>Acacia longifolia ssp. sophorae</i>	Coastal Wattle			LC
<i>Acacia pycnantha</i>	Golden Wattle			LC
<i>Adenanthos macropodianus</i>	Kangaroo Island Gland-flower			
<i>Adriana quadripartita</i>	Coast Bitter-bush			NT
<i>Apium prostratum var. prostratum</i>	Native Celery			LC
<i>Atriplex cinerea</i> [^]	Coast Saltbush			LC
<i>Austrostipa eremophila</i>	Rusty Spear-grass			LC
<i>Austrostipa flavescens</i>	Coast Spear-grass			LC
<i>Austrostipa stipoides</i>	Coast Spear-grass			VU
<i>Banksia marginata</i>	Silver Banksia			LC
<i>Carpobrotus rossii</i>	Native Pigface			
<i>Centrolepis polygyna</i>	Wiry Centrolepis			NT
<i>Clematis microphylla</i>	Old Man's Beard			
<i>Crassula colligata ssp. lamprosperma</i>				LC
<i>Crassula colorata var.</i>	Dense Crassula			
<i>Crassula colorata var. acuminata</i>	Dense Crassula			LC
<i>Daucus glochidiatus</i>	Native Carrot			LC
<i>Dianella brevicaulis</i>	Short-stem Flax-lily			LC
<i>Dianella revoluta var. revoluta</i>	Black-anther Flax-lily			LC

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Distichlis distichophylla</i>	Emu-grass			LC
<i>Duma florulenta</i> [^]	Lignum			VU
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush			LC
<i>Epilobium billardierianum</i> ssp. <i>billardierianum</i>	Robust Willow-herb			LC
<i>Ficinia nodosa</i>	Knobby Club-rush			LC
<i>Frankenia pauciflora</i> var.	Southern Sea-heath			
<i>Gahnia filum</i>	Thatching Grass			VU
<i>Gahnia trifida</i> [^]	Cutting Grass			RA
<i>Geranium retrorsum</i>	Grassland Geranium			LC
<i>Gonocarpus elatus</i>	Hill Raspwort			LC
<i>Haloragis acutangula</i> f. <i>tetraptera</i>	Smooth Raspwort			
<i>Haloragis aspera</i>	Rough Raspwort			RA
<i>Helichrysum leucopsideum</i>	Satin Everlasting			LC
<i>Juncus kraussii</i>	Sea Rush			LC
<i>Kunzea pomifera</i>	Muntries			RA
<i>Lepidosperma gladiatum</i>	Coast Sword-sedge			NT
<i>Leucophyta brownii</i>	Coast Cushion Bush			LC
<i>Leucopogon parviflorus</i>	Coast Beard-heath			LC
<i>Lotus australis</i>	Austral Trefoil			NT
<i>Machaerina juncea</i>	Bare Twig-rush			LC
<i>Melaleuca halmaturorum</i>	Swamp Paper-bark			VU
<i>Muehlenbeckia adpressa</i>	Climbing Lignum			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>Pelargonium australe</i>	Austral Stork's-bill			NT
<i>Pelargonium littorale</i>	Native Pelargonium			LC
<i>Persicaria lapathifolia</i> [^]	Pale Knotweed			
<i>Phragmites australis</i> [^]	Common Reed			LC
<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
<i>Poa poiformis</i> var. <i>poiformis</i>	Coast Tussock-grass			LC
<i>Puccinellia perlaxa</i>				
<i>Puccinellia stricta</i>	Australian Saltmarsh-grass			NT
<i>Rhagodia candolleana</i> ssp.	Sea-berry Saltbush			
<i>Rhagodia candolleana</i> ssp. <i>candolleana</i>	Sea-berry Saltbush			LC
<i>Ruppia megacarpa</i>	Widgeon Grass			RA
<i>Salicornia quinqueflora</i> ssp. <i>quinqueflora</i>	Beaded Samphire			NT
<i>Samolus repens</i>	Creeping Brookweed			NT
<i>Scaevola crassifolia</i>	Cushion Fanflower			RA
<i>Schoenoplectus pungens</i>	Spiky Club-rush			RA
<i>Senecio pinnatifolius</i> group	Variable Groundsel			
<i>Senecio pinnatifolius</i> var. <i>maritimus</i>	Coast Groundsel			RA
<i>Spinifex hirsutus</i>	Rolling Spinifex			
<i>Sporobolus virginicus</i>	Salt Couch			LC

Species	Common Name	EPBC Status	NPW Act Status	Subregional Status*
<i>Suaeda australis</i>	Austral Seablite			NT
<i>Tetragonia implexicoma</i>	Bower Spinach			LC
<i>Themeda triandra</i>	Kangaroo Grass			LC
<i>Threlkeldia diffusa</i>	Coast Bonefruit			NT
<i>Triglochin striata</i>	Streaked Arrowgrass			LC
<i>Typha domingensis</i>	Narrow-leaf Bulrush			LC
<i>Veronica hillebrandii</i>	Rigid Speedwell			VU
<i>Wilsonia humilis</i> [^]	Silky Wilsonia			VU
<i>Wilsonia rotundifolia</i>	Round-leaf Wilsonia			VU

[^] 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 saligna</i>	Golden Wreath Wattle	HP		
<i>Agave americana</i>	Century Plant	HP		
<i>Agave attenuata</i>	Foxtail Agave	HP		
<i>Agonis flexuosa</i> var. <i>flexuosa</i>	Willow Myrtle			
<i>Aizoon pubescens</i>	Coastal Galenia	IC		
<i>Aloe arborescens</i>	Tree Aloe			
<i>Ammophila arenaria</i>	Marram Grass	HP		
<i>Anredera cordifolia</i>	Madeira Vine	IC	Yes	Yes
<i>Arctotheca calendula</i>	Cape Weed	HP		
<i>Argyranthemum frutescens</i> ssp.	Marguerite Daisy			
<i>Argyranthemum frutescens</i> ssp. <i>frutescens</i> *	Marguerite Daisy	HP		
<i>Asparagus asparagoides</i> *	Bridal creeper		Yes	Yes
<i>Asparagus asparagoides</i> f. <i>asparagoides</i>	Bridal Creeper (form)	IC	Yes	Yes
<i>Asphodelus fistulosus</i>	Onion Weed	HP		
<i>Atriplex prostrata</i>	Creeping Saltbush			
<i>Avena barbata</i>	Bearded Oat			
<i>Beta vulgaris</i> ssp. <i>maritima</i>	Sea Beet			
<i>Brassica fruticulosa</i>	Twiggy Turnip			
<i>Brassica tournefortii</i>	Wild Turnip			
<i>Briza maxima</i>	Large Quaking-grass			
<i>Bromus catharticus</i>	Prairie 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>Catapodium rigidum</i>	Rigid Fescue			

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Cenchrus clandestinus</i>	Kikuyu	HP		
<i>Centranthus ruber ssp. ruber</i>	Red Valerian			
<i>Cerastium glomeratum</i>	Common Mouse-ear Chickweed			
<i>Chasmanthe floribunda</i>	African Corn-flag	HP		
<i>Chondrilla juncea</i>	Skeleton Weed	HP	Yes	
<i>Chrysanthemoides monilifera ssp. monilifera</i>	Boneseed	IC	Yes	Yes
<i>Coprosma repens</i>	New Zealand Mirror-bush	IC	Yes	
<i>Cortaderia selloana</i>	Pampas Grass			
<i>Cotyledon orbiculata var. orbiculata</i>	Pig's Ear			
<i>Cynodon dactylon var. dactylon</i>	Couch			
<i>Delairea odorata*</i>	Cape Ivy	IC		
<i>Digitaria ciliaris</i>	Summer Grass			
<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>Dittrichia graveolens</i>	Stinkweed			
<i>Echium plantagineum</i>	Salvation Jane		Yes	
<i>Ehrharta calycina</i>	Perennial Veldt Grass	HP		
<i>Ehrharta longiflora</i>	Annual Veldt Grass			
<i>Ehrharta villosa</i>	Pyp Grass	IC		
<i>Eragrostis barrelieri</i>	Pitted Love-grass			
<i>Eragrostis cilianensis</i>	Stink Grass			
<i>Erigeron sumatrensis</i>	Tall Fleabane			
<i>Euphorbia paralias</i>	Sea Spurge	HP		
<i>Euphorbia terracina</i>	False Caper	HP	Yes	
<i>Fumaria muralis ssp. muralis</i>	Wall Fumitory			
<i>Gaudium laevigatum</i>	Coast Tea-tree		Yes	
<i>Gazania linearis</i>	Gazania	IC	Yes	
<i>Gomphocarpus cancellatus</i>	Broad-leaf Cotton-bush	HP		
<i>Gomphocarpus fruticosus</i>	Narrow-leaf Cotton-bush	HP		
<i>Helminthotheca echioides</i>	Ox-tongue			
<i>Holcus lanatus</i>	Yorkshire Fog			
<i>Hordeum marinum</i>	Sea Barley-grass			
<i>Hypochaeris radicata</i>	Rough Cat's Ear			
<i>Kickxia elatine ssp. crinita</i>	Twining Toadflax			
<i>Lactuca serriola f.</i>	Prickly Lettuce			
<i>Lagunaria patersonii</i>	Pyramid Tree	HP		
<i>Lagurus ovatus</i>	Hare's Tail Grass			
<i>Lolium rigidum</i>	Wimmera Ryegrass			
<i>Lycium ferocissimum</i>	African Boxthorn	IC	Yes	Yes
<i>Lysimachia arvensis</i>	Pimpernel			
<i>Malva arborea</i>	Tree Mallow	HP		
<i>Malva parviflora</i>	Small-flower Marshmallow			
<i>Marrubium vulgare*</i>	Horehound	IC	Yes	
<i>Medicago polymorpha</i>	Burr-medic			
<i>Melaleuca nesophila</i>	Showy Honey Myrtle			
<i>Melilotus indicus</i>	King Island Melilot			
<i>Moraea setifolia</i>	Thread Iris			

Species	Common Name	Red Alert Weeds	Declared Weeds	WONS
<i>Olea europaea ssp.</i>	Olive			
<i>Olea europaea ssp. europaea</i>	Olive	IC		
<i>Oxalis pes-caprae</i>	Soursob			
<i>Panicum capillare var. brevifolium*</i>	Witch-grass			
<i>Parapholis incurva</i>	Curly Ryegrass			
<i>Paspalum dilatatum</i>	Paspalum			
<i>Paspalum distichum*</i>	Water Couch			
<i>Paspalum vaginatum</i>	Salt-water Couch			
<i>Phalaris aquatica</i>	Phalaris			
<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. dubia</i>	Ribwort			
<i>Plantago lanceolata var. lanceolata</i>	Ribwort			
<i>Plantago major</i>	Greater Plantain			
<i>Polygala myrtifolia*</i>	Myrtle-leaf Milkwort	IC	Yes	
<i>Polygonum aviculare</i>	Wireweed			
<i>Reichardia tingitana</i>	False Sowthistle			
<i>Rhamnus alaternus</i>	Blowfly Bush	IC	Yes	
<i>Romulea rosea var. australis</i>	Common Onion-grass			
<i>Rostraria cristata</i>	Annual Cat's-tail			
<i>Rumex crispus</i>	Curled Dock			
<i>Salvia verbenaca var.</i>	Wild Sage			
<i>Setaria verticillata</i>	Whorled Pigeon-grass			
<i>Sixalix atropurpurea</i>	Pincushion	IC		
<i>Sonchus oleraceus</i>	Common Sow-thistle			
<i>Spergularia media</i>	Coast Sand-spurrey			
<i>Sporobolus africanus</i>	Rat-tail Grass	HP		
<i>Stenotaphrum secundatum</i>	Buffalo Grass	HP		
<i>Symphytotrichum subulatum</i>	Aster-weed	HP		
<i>Thinopyrum junceiforme*</i>	Sea Wheat-grass	IC		
<i>Trifolium arvense var. arvense</i>	Hare's-foot Clover			
<i>Tropaeolum majus</i>	Nasturtium			
<i>Verbascum virgatum</i>	Twiggy Mullein	HP		
<i>Vicia monantha*</i>	Spurred Vetch			
<i>Vicia sativa ssp. sativa</i>	Common Vetch			
<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 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	125
# Native Fauna in cell	112
# Introduced Fauna in cell	13
# Conservation Rated Fauna in cell	20 (5 national, 18 state)

Conservation Rated Fauna				
Species	Common Name	Class	EPBC Act Status	NPW Act Status
<i>Actitis hypoleucos</i>	Common Sandpiper	AVES		R
<i>Biziura lobata menziesi</i>	Musk Duck	AVES		R
<i>Cereopsis novaehollandiae novaehollandiae</i> [^]	Cape Barren Goose	AVES		R
<i>Egretta garzetta nigripes</i> [^]	Little Egret	AVES		R
<i>Haematopus fuliginosus fuliginosus</i> [^]	Sooty Oystercatcher	AVES		R
<i>Haematopus longirostris</i> [^]	Pied Oystercatcher	AVES		R
<i>Haliaeetus leucogaster</i> [^]	White-bellied Sea Eagle	AVES		E
<i>Larus dominicanus dominicanus</i> [^]	Kelp Gull	AVES		R
<i>Lewinia pectoralis pectoralis</i> [^]	Lewin's Rail	AVES		V
<i>Melithreptus gularis gularis</i> [^]	Black-chinned Honeyeater	AVES		V
<i>Pandion haliaetus cristatus</i> [^]	Eastern Osprey	AVES		E
<i>Platycercus elegans</i>	Crimson Rosella	AVES	ssp	
<i>Plegadis falcinellus</i> [^]	Glossy Ibis	AVES		R
<i>Spatula rhynchotis</i> [^]	Australasian Shoveler	AVES		R
<i>Thinornis cucullatus cucullatus</i>	Hooded Plover	AVES	VU	V
<i>Tringa nebularia</i>	Common Greenshank	AVES	EN	
<i>Zanda funerea whiteae</i> [^]	Yellow-tailed Black Cockatoo	AVES		V
<i>Pteropus poliocephalus</i> [^]	Grey-headed Flying-fox	MAM	VU	R
<i>Rattus lutreolus</i> [^]	Swamp Rat	MAM		R
<i>Tachyglossus aculeatus</i> [^]	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			NT
<i>Limnodynastes dumerilii</i>	Banjo Frog	AMP			NT
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog	AMP			NT
<i>Rawlinsonia calliscelis</i>	South Australian Tree Frog (MLR MN)	AMP			NT
<i>Acanthiza lineata clelandi</i>	Striated Thornbill (MLR, SE)	AVES			
<i>Acanthorhynchus tenuirostris halmaturinus</i>	Eastern Spinebill (KI, MLR, southern FR)	AVES			
<i>Accipiter fasciatus fasciatus</i>	Brown Goshawk	AVES			LC
<i>Acrocephalus australis australis</i>	Australian Reed Warbler	AVES			LC
<i>Actitis hypoleucos</i>	Common Sandpiper	AVES		R	RA
<i>Anas castanea</i>	Chestnut Teal	AVES			LC
<i>Anas gracilis gracilis</i>	Grey Teal	AVES			
<i>Anas superciliosa</i>	Pacific Black Duck	AVES			LC
<i>Anthochaera carunculata</i>	Red Wattlebird	AVES			LC
<i>Anthochaera carunculata woodwardi</i>	Red Wattlebird (MLR, AP, YP, EP, far west, Yellabinna)	AVES			

<i>Anthochaera chrysoptera chrysoptera</i>	Little Wattlebird (mainland SA)	AVES			
<i>Ardea alba modesta</i>	Great Egret	AVES			RA
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow (eastern SA)	AVES			
<i>Biziura lobata menziesi</i>	Musk Duck	AVES		R	
<i>Cacatua sanguinea gymnopis</i>	Little Corella	AVES			LC
<i>Cereopsis novaehollandiae novaehollandiae</i> [^]	Cape Barren Goose	AVES		R	
<i>Chalcites basalis</i>	Horsfield's Bronze Cuckoo	AVES			NT
<i>Chenonetta jubata</i>	Maned Duck	AVES			LC
<i>Chroicocephalus novaehollandiae novaehollandiae</i>	Silver Gull	AVES			LC
<i>Colluricincla harmonica</i>	Grey Shrikethrush	AVES			LC
<i>Colluricincla harmonica harmonica</i>	Grey Shrikethrush (eastern SA)	AVES			
<i>Corvus mellori</i>	Little Raven	AVES			LC
<i>Dacelo novaeguineae novaeguineae</i>	Laughing Kookaburra	AVES			
<i>Egretta garzetta nigripes</i> [^]	Little Egret	AVES		R	RA
<i>Egretta novaehollandiae</i>	White-faced Heron	AVES			LC
<i>Elanus axillaris</i>	Black-shouldered Kite	AVES			LC
<i>Eolophus roseicapilla</i>	Galah	AVES			LC
<i>Eolophus roseicapilla albiceps</i>	Galah (most of SA)	AVES			
<i>Erythrogonyx cinctus</i>	Red-kneed Dotterel	AVES			RA
<i>Falco longipennis murchisonianus</i>	Australian Hobby	AVES			NT
<i>Fulica atra australis</i>	Eurasian Coot	AVES			NT
<i>Gallinula tenebrosa tenebrosa</i>	Dusky Moorhen	AVES			RA
<i>Gavialis virescens</i>	Singing Honeyeater	AVES			LC
<i>Gavialis virescens sonorus</i>	Singing Honeyeater (EP, YP, FR, MN, AP, MM, coastal SE)	AVES			
<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> [^]	Sooty Oystercatcher	AVES		R	VU
<i>Haematopus longirostris</i> [^]	Pied Oystercatcher	AVES		R	VU
<i>Haliaeetus leucogaster</i> [^]	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 dominicanus dominicanus</i> [^]	Kelp Gull	AVES		R	RA
<i>Larus pacificus georgii</i>	Pacific Gull	AVES			LC
<i>Lewinia pectoralis pectoralis</i> [^]	Lewin's Rail	AVES		V	EN
<i>Malurus cyaneus</i>	Superb Fairywren	AVES			LC
<i>Malurus cyaneus leggei</i>	Superb Fairywren (Mainland SA)	AVES			
<i>Melithreptus gularis gularis</i> [^]	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>Neochmia temporalis temporalis</i>	Red-browed Finch	AVES			NT
<i>Ocyphaps lophotes lophotes</i>	Crested Pigeon	AVES			LC
<i>Pachycephala fuliginosa fuliginosa</i>	Western Whistler	AVES			
<i>Pandion haliaetus cristatus</i> [^]	Eastern Osprey	AVES		E	
<i>Pardalotus punctatus</i>	Spotted Pardalote	AVES			NT
<i>Pardalotus striatus substriatus</i>	Striated Pardalote	AVES			NT
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet	AVES			LC
<i>Pelecanus conspicillatus</i>	Australian Pelican	AVES			LC
<i>Petrochelidon ariel</i>	Fairy Martin	AVES			RA
<i>Petrochelidon nigricans</i>	Tree Martin	AVES			LC
<i>Phalacrocorax fuscescens</i> [^]	Black-faced Cormorant	AVES			NT
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	AVES			LC
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	AVES			LC
<i>Phylidonyris novaehollandiae novaehollandiae</i>	New Holland Honeyeater (mainland SA)	AVES			
<i>Platalea flavipes</i>	Yellow-billed Spoonbill	AVES			RA
<i>Platalea regia</i>	Royal Spoonbill	AVES			RA

<i>Platycercus elegans</i>	Crimson Rosella	AVES	ssp		LC
<i>Platycercus elegans fleurieuensis & elegans subadelaidae</i>	Adelaide Rosella (MN, AP, MLR)	AVES			
<i>Plegadis falcinellus</i> [^]	Glossy Ibis	AVES		R	VU
<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe	AVES			RA
<i>Poodytes gramineus goulburni</i>	Little Grassbird	AVES			LC
<i>Porphyrio melanotus melanotus</i>	Australasian Swamphen	AVES			NT
<i>Porzana fluminea</i>	Australian Crake (Australian Spotted Crake)	AVES			RA
<i>Psephotus haematonotus</i>	Red-rumped Parrot	AVES			LC
<i>Ptilotula penicillata</i>	White-plumed Honeyeater	AVES			LC
<i>Ptilotula penicillata penicillata</i>	White-plumed Honeyeater (northern YP, MN, AP, MLR, LNE, MM, SE)	AVES			
<i>Rhipidura albiscapa</i>	Grey Fantail	AVES			LC
<i>Rhipidura albiscapa alisteri</i>	Grey Fantail (southern SA)	AVES			
<i>Rhipidura leucophrys leucophrys</i>	Willie Wagtail	AVES			LC
<i>Sericornis frontalis</i>	White-browed Scrubwren	AVES			
<i>Sericornis frontalis rosinae</i>	White-browed Scrubwren (MLR)	AVES			
<i>Smicrornis brevirostris occidentalis</i>	Weebill (Yellabinna, Gawler Ranges, EP, YP, southern FR, MN, MLR, MM)	AVES			
<i>Spatula rhynchotis</i> [^]	Australasian Shoveler	AVES		R	NT
<i>Thalasseus bergii cristatus</i>	Greater Crested Tern	AVES			LC
<i>Thinornis cucullatus cucullatus</i>	Hooded Plover	AVES	VU	V	EN
<i>Trichoglossus moluccanus moluccanus</i>	Rainbow Lorikeet	AVES			LC
<i>Tringa nebularia</i>	Common Greenshank	AVES	EN		NT
<i>Vanellus miles</i>	Masked Lapwing	AVES			LC
<i>Zanda funerea whiteae</i> [^]	Yellow-tailed Black Cockatoo	AVES		V	RA
<i>Zosterops lateralis</i>	Silvereye	AVES			LC
<i>Zosterops lateralis pinarochrous</i>	Silvereye (EP, YP, FR, MLR, MM, SE)	AVES			
<i>Danaus petilia</i> [^]	Lesser Wanderer	INV			
<i>Danaus plexippus plexippus</i> [^]	Monarch	INV			
<i>Junonia villida calybe</i> [^]	Meadow Argus	INV			
<i>Lampides boeticus</i> [^]	Long-tailed Pea-blue	INV			
<i>Nacaduba biocellata biocellata</i> [^]	Two-spotted Line-blue	INV			
<i>Ocybadistes walkeri hypochlora</i> [^]	Southern Grass-dart	INV			
<i>Pieris rapae rapae</i> [^]	Cabbage White	INV			
<i>Taractrocera papyria papyria</i> [^]	White-banded Grass-dart	INV			
<i>Theclinesthes miskini miskini</i> [^]	Wattle Blue	INV			
<i>Theclinesthes serpentatus serpentatus</i> [^]	Salt-bush Blue	INV			
<i>Vanessa itea</i> [^]	Australian Admiral	INV			
<i>Vanessa kershawi</i> [^]	Australian Painted Lady	INV			
<i>Zizina otis labradus</i> [^]	Common Grass-blue	INV			
<i>Pseudocheirus peregrinus</i> [^]	Common Ringtail Possum	MAM			
<i>Pteropus poliocephalus</i> [^]	Grey-headed Flying-fox	MAM	VU	R	
<i>Rattus lutreolus</i> [^]	Swamp Rat	MAM		R	RA
<i>Tachyglossus aculeatus</i> [^]	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>Acridotheres tristis</i> [^]	Common Myna
<i>Anas platyrhynchos platyrhynchos</i>	Mallard
<i>Carduelis carduelis britannica</i>	European Goldfinch
<i>Chloris chloris</i>	European (Common) Greenfinch
<i>Columba livia</i> [^]	Feral Pigeon
<i>Felis catus</i> [^]	Domestic Cat (Feral Cat)
<i>Mus musculus</i> [^]	House Mouse
<i>Oryctolagus cuniculus</i> [^]	Rabbit (European Rabbit)
<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)



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