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Population status of little penguins (*Eudyptula minor*) on Kangaroo Island in 2025

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The Kangaroo Island Landscape Board acknowledges and respects the traditional custodians of the Kangaroo Island region, and we also pay our respects to their Elders past, present and emerging. We acknowledge and respect the deep spiritual attachment and the relationship that Aboriginal and Torres Strait Islander people have to Country.

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The 2025 survey was conducted by KILB Biodiversity Unit staff, including Alexandra Comino, Kym Lashmar, Karleah Berris, Hannah Byrne-Willey, Sandra Leigh and Torran Welz, with help from Renee and Adrian Daniell from the Penneshaw Penguin Centre.

SUMMARY

- The Kangaroo Island Landscape Board Biodiversity Unit (KILB) completed a little penguin (*Eudyptula minor*) census of eight key colonies on Kangaroo Island in October 2025. Outcomes of the surveys in 2025 were compared to the population assessments calculated from the recent 2023 and 2024 surveys, and those from 2011, 2012 and 2013.

- Active burrows were counted at each colony when little penguins were in the process of rearing their second seasonal clutch of chicks.

- A total of 352 active burrows were identified across the eight colonies in 2025. Based on the assumption of two breeding adult penguins per active burrow, the conservative population estimate for these eight Kangaroo Island colonies is 704 breeding adult little penguins. This estimate is higher than recent spring counts in 2023 (558) and 2024 (530), but lower than historic results.

- In 2025, Kangaroo Island's two largest colonies have continued to increase in activity with the highest population estimates on record for Emu Bay (332) and highest since 2012 for Penneshaw (206). All other active colonies surveyed have generally declined across surveyed sites since 2011-2013, and stabilised since 2023 (all <50 active burrows).

- Key concerns affecting Kangaroo Island's little penguin population include the imminent risk of high pathogenicity avian influenza, the ongoing harmful algal bloom in South Australia, weeds encroaching on breeding habitat, climate change impacts such as sea level rise, and pressures on food stocks.

- Priority conservation on-ground actions for little penguins on Kangaroo Island identified in 2024 that have been actioned during 2025 included:

  - The 2025 Kangaroo Island little penguin census across eight active colonies.

  - Weed control and revegetation of mixed native coastal habitat within and adjacent to Kangaroo island's largest little penguin colonies.

  - Feral cat control in the island's eastern colonies, Penneshaw and Cape Willoughby and Antechamber Bay, as part of the ongoing eradication program.

INTRODUCTION

Background

The little penguin *(Eudyptula minor*) occurs throughout the coastal regions of southern Australia, from Western Australia to New South Wales, and around Tasmania and New Zealand (Marchant & Higgins, 1990). Population trajectories across this range are variable, with many data deficient colonies (DEWNR, 2016; Birdlife International, 2020), some colonies experiencing recent increases (e.g., Sutherland & Dann, 2014), while others have experienced significant declines (Norman et al., 1992; Stevenson & Woehler, 2007; Vardeh, 2016; Cannell et al., 2012, 2023; Colombelli-Négrel, 2015a, 2016, 2017; Costello & Colombelli-Négrel, 2023; Comino et al., 2024; Department of Climate Change, Energy, the Environment and Water, 2024).

In South Australia, little penguin colonies have been documented at approximately 100 sites, predominantly as small populations (<100 nests) on nearshore islands (Goldsworthy & Page, 2010; Wiebkin, 2011) with moderate genetic connectivity (Colombelli-Négrel et al., 2020).

The little penguin population on Kangaroo Island is mostly concentrated along the northern coastline, (Kinloch & Brock, 2007). Key colonies were monitored between 2006 and 2014 by Kangaroo Island Landscape (formally NRM) Board staff (KILB), other researchers, students and volunteers and showed a gradual decline island-wide (Kinloch & Brock, 2007; Wiebkin, 2011; Colombelli-Négrel & Kleindorfer, 2014; Colombelli-Négrel 2015a, 2015b, 2016, 2017; C. Gibbons, unpubl. data). During 2011, 2012 and 2013, the island-wide census conducted by the KILB was expanded from Kingscote to include eight additional colonies located around Kangaroo Island (Fig. 1). There are small groups of active little penguin burrows along much of the rocky coastline of Kangaroo Island. These sites are often difficult to access and would require significant resourcing to include this small portion of the population. Therefore, only the largest colonies and historically surveyed sites are included in ongoing censuses to calculate a conservative minimum population estimate.

Surveys of colonies during the breeding season, where active burrows are counted within colonies, is an effective means of deriving an estimate of breeding pairs within colonies with minimal disturbance to individuals and allows for comparison to previous surveys between 2006 and 2013. On Kangaroo Island, little penguins have access to both natural burrows, but also various designs of artificial burrows with construction materials including rock piles, timber, hard plastic, cement pipes, fibreglass and ceramic (Comino et al., 2024). Artificial penguin burrows have been installed at the Kingscote, Emu Bay and Penneshaw colonies over recent decades by community groups, tourism operators, and researchers.

Annual surveys are conducted in spring to coincide with peaks in breeding activity and use the counts of active burrows to estimate numbers of little penguins, with the key assumption being that each active burrow supports a pair of breeding adults. The 2023 and 2024 island-wide censuses identified declines in population size at all resurveyed sites, with the exception of Emu Bay which increased by 36% compared with the 2011-2013 average (Comino et al., 2025).

South Australia's coastal habitats and nearshore waters are increasingly subject to disturbance from a range of human and environmental pressures. Expanding coastal development, recreational use, pollution, invasive species, and the impacts of climate change are altering habitat structure, water quality, and ecological processes, leading to a reduction in coastal resilience (Environmental Protection Board, 2023). In 2025, South Australia's inshore waters have been affected by a marine heat wave and extensive harmful algal bloom (HAB), active in Kangaroo Island's inshore waters since March 2025 (SARDI, 2025; Murray et al., 2025). The full impact of the HAB on coastal breeding seabirds such as little penguins remains uncertain; however, widespread fish kills may have resulted in localised reductions in prey availability, and prey species susceptible to algal biotoxins, including brevetoxins, generated during HAB events may facilitate trophic transfer of these toxins to seabirds through the food web (Fauquier et al., 2013; Vaughan-Higgins et al., 2024). Little penguin surveys on Kangaroo Island provide an opportunity to track the response of this species and it's breeding activity to impacts in the natural environment such as the HAB.

Australia remains the only continent free of high pathogenic avian influenza H5N1 clade 2.3.3.4b (HPAI), a highly contagious virus that has had global impacts on hundreds of bird and mammal species (Sacristán et al., 2024). Several penguin species have been confirmed with infections on the African, South American and Antarctic continents (Muñoz et al., 2024; Clessin et al., 2025; Kuiken et al., 2025). Seabirds are among the most vulnerable wildlife groups due to many species breeding in high-density colonies, and exhibiting migratory and gregarious behaviour, which can facilitate rapid transmission of pathogens. Data collected through the Kangaroo Island little penguin census provides a baseline dataset to aid in assessment of the future potential impacts of HPAI on the little penguin population.

Objectives

The objectives of this report were:

1. To report on the 2025 little penguin breeding population census at active sites surveyed on Kangaroo Island and compare the findings with historical data.

2. To report on threat management and habitat restoration activities in little penguin colonies that were completed by the KILB in 2025.

METHODS

Survey location

Eight little penguin colonies were surveyed between 13 and 23 October 2025 to assess the status of the population on Kangaroo Island. Colonies included those surveyed since 2011, at Antechamber Bay, Penneshaw, Kingscote, Emu Bay, Stokes Bay and Vivonne Bay, as well as Seal Bay and Cape Willoughby added to the census in 2023 (Fig. 1).

As Cape Cassini, Western River Cove and Snellings Beach colonies had no activity in 2023 and/or 2024, they were excluded from the 2025 surveys. These colonies with no or very low activity will be revisited every five years to assess recolonisation. Brown Beach was also added to the survey in 2023, but with no sign of activity, this site was excluded in 2024 and 2025.

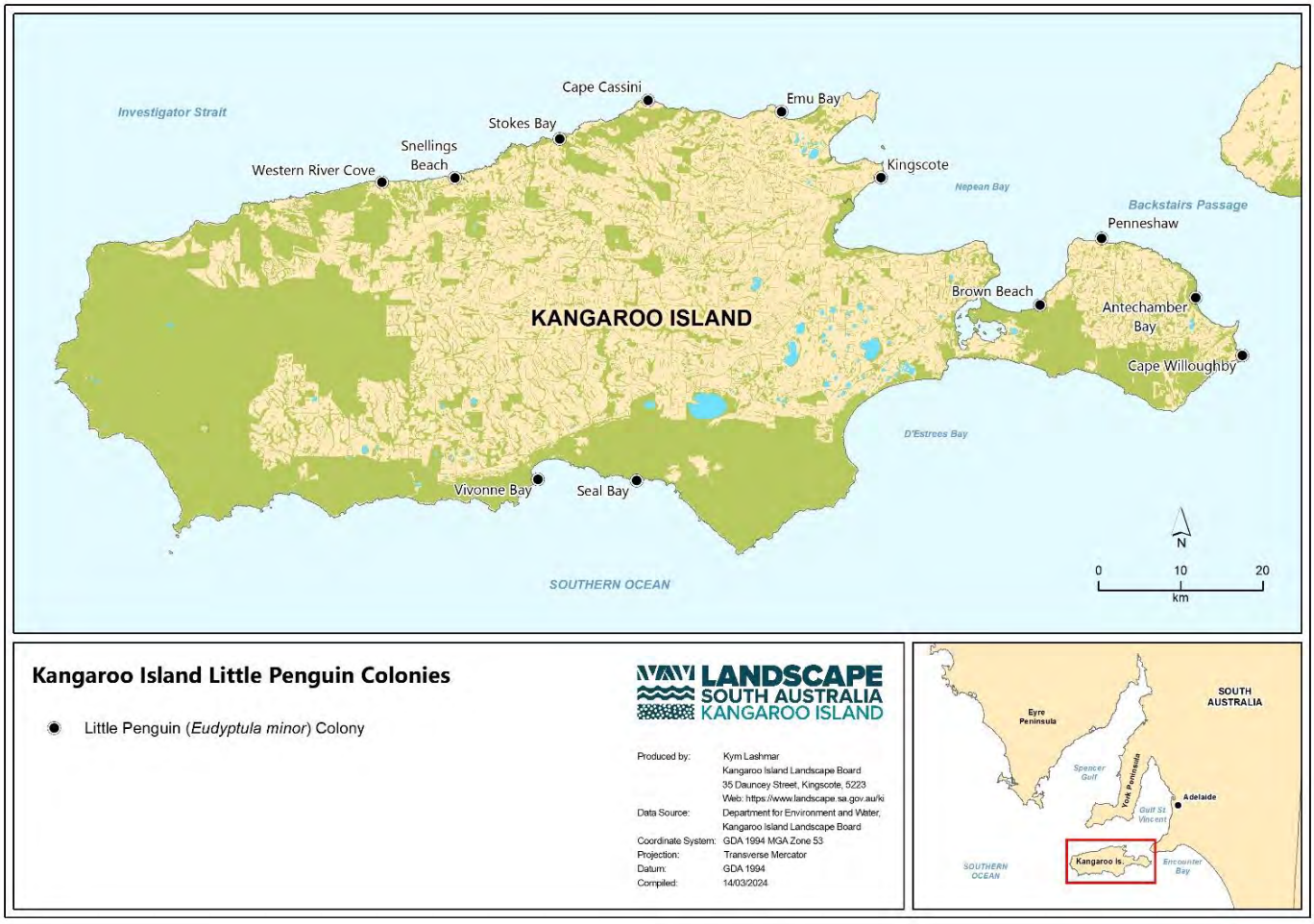

Figure 1: Map of little penguin colonies on Kangaroo Island surveyed between 2023 and 2025.

Burrow counts

Burrows were counted at each colony during a period of high breeding activity when little penguins were in the process of rearing their second seasonal clutch of chicks. Surveys were undertaken during daylight hours, with the lower ends of the tides favoured to allow ease of access and facilitate little penguin tracks to be recognised in sandy supratidal areas. Burrow status was recorded as either active or inactive. Burrows were considered active if birds were present, or if there was evidence of recent or current occupation, including presence of eggs or egg fragments, fresh feathers, tracks, calls or the sound of movement in burrows, nesting material, fresh guano, or a strong smell. Signs used to classify inactive borrows included collapsed entrances, spider webs covering entrances or old guano. The spatial locations of all burrows were recorded using a hand-held GPS with an accuracy of ±3 metres. These methods were consistent with previous surveys carried out on the island, so that data could be compared between years.

Burrow construction

Burrows were classified as either natural or artificial architecture.

Spatial patterns of active burrows

Active habitat area for each colony was calculated using GPS point data. Total active habitat area for each site was calculated using ArcGIS Pro software (Version 3.4.5) by generating a polygon buffer of 10 metres around the centroid of each active burrow. Where individual burrows were closely clustered, the buffers were dissolved together into a single feature to remove any overlap. The total active habitat area was then summed by colony in square metres (m^2).

Spatial patterns of active burrows were interpolated using ArcGIS Pro and the Kernel Density tool to generate a raster layer of active burrow density. MEAN spatial distributions of active burrow density for 2011 to 2013 and 2023 to 2025 were calculated for each colony using the ArcGIS Pro Cell Statistics tool. The results of these two analyses were used to produce maps displaying distribution and density of active little penguin burrows at each colony (Appendix B).

RESULTS

Total active burrow count

A total of 352 active burrows were identified across eight colonies surveyed on Kangaroo Island in 2025. This represents an increase since the previous counts of 278 during spring 2023 (26%) and 265 in spring 2024 (33%). Based on the assumption of two breeding adults per active burrow, the breeding population estimate for little penguins in the Kangaroo Island region in 2025 was 704 (*c.f.* 556 in spring 2023 and 530 in spring 2024; Table 1).

Table 1: Population estimates for adult little penguins at nine colonies on Kangaroo Island between 2023 and 2025.

Colony	Spring 2023	Autumn 2024	Spring 2024	Spring 2025
Antechamber Bay	26	22	30	30
Cape Willoughby	12	18	12	6
Emu Bay	222	278	244	332
Kingscote	74	34	38	64
Penneshaw	148	112	150	206
Seal Bay	12	14	8	10
Snellings Beach	2		0	
Stokes Bay	8	6	8	6
Vivonne Bay	54	36	40	50
KI Region combined	*558*	*520*	*530*	704

The mean estimated population between for 2023, 2024 and 2025 spring censuses (597) was 38% lower than the mean for 2011, 2012 and 2013 spring censuses (960). See Appendix A for historic little penguin population census survey data collected by the KILB.

Colony-specific trends in burrow counts

Kingscote had an estimate of 64 adult little penguins in 2025. This was up from the 2024 counts of 34 (autumn) and 38 (spring) and similar to the 74 estimated in 2023. The results from these recent surveys are well below the historical peak of 868 estimated adults in 2007 for this colony (see Appendix A).

Emu Bay increased to a record high of 332 estimated adult little penguins in 2025, accounting for 47% of the surveyed population. This was an increase on the previous highest population estimates in 2024 of 278 (autumn) and 244 (spring), and 222 in 2023.

Penneshaw's population rose to 206 in 2025, up from 112 (autumn) and 150 (spring) little penguins in 2024 and 148 in 2023. This colony's activity has been variable but consistent since 2012 after the peak of 304 little penguins in 2011 (see Appendix A).

The smaller colonies (<50 active burrows) included in the island-wide census in 2025 have stabilised around the depleted activity levels identified in 2023.

Burrow construction

Burrow construction was recorded for 100% of identified burrows in 2025. Burrows identified included natural and artificial structures amongst rocky shorelines and under coastal vegetation. Natural construction made up 72% of active burrows, with 28% of active burrows occupying artificial structures.

Artificial burrows were present at only the three largest colonies; Kingscote, Penneshaw and Emu Bay. At these locations, natural burrows made up 67% of active burrows. Inactive natural and artificial burrows were present at each of the three sites.

Spatial patterns of active burrows

The total active habitat area averaged across the 2023 to 2025 surveys shows a decline for four of the five largest colonies, with the exception being Emu Bay, and across the whole region combined compared with the active habitat area from the 2011-2013 surveys (Table 2).

Table 2: Active habitat area used by little penguins across Kangaroo Island's largest colonies between 2011 and 2025, with mean area calculated for spring counts in 2011-2013 and 2023-2025.

Year	**Habitat area (m^2)**					
	All Colonies	**Antechamber Bay**	**Emu Bay**	**Kingscote**	**Penneshaw**	**Vivonne Bay**
2011	100,414	8,448	20,234	36,422	24,616	10,695
2012	88,808	9,398	19,261	32,186	15,535	12,867
2013	60,239	8,080	13,040	18,546	12,804	7,768
2011-13 S MEAN	**83,153**	**8,642**	**17,511**	**29,051**	**17,651**	**10,297**
2023	51,930	2,991	21,722	8,671	12,908	5,638
2024-A	46,344	3,041	23,928	4,468	10,516	4,390
2024-S	49,297	3,416	24,050	5,661	11,384	4,786
2025	61,469	3,935	28,565	8,036	15,769	5,165
2023-2025 S MEAN	**54,232**	**3,447**	**24,779**	**7,456**	**13,354**	**5,196**

Comparison of active burrow density between 2011-2013 and 2023-2025 shows changes in distribution for each of the five largest colonies (see Appendix B). As identified in the 2023 and 2024 surveys, activity has increased in most of the Emu Bay colony and spread southward towards the main beach and high traffic areas. Activity and density in Kingscote and Vivonne Bay have generally shifted away from areas with high disturbance. Colony activity at Penneshaw has mostly clustered into two areas to the west of the ferry terminal. Hog Bay beach had no activity, while density at the North Shore section, where the Penneshaw Penguin Centre currently run evening tours, has increased.

Colony management activities

Target coastal weeds including African boxthorn (*Lycium ferocissimum*), kikuyu grass (*Cenchrus clandestinus*) and invasive succulents, particularly in the *Aloe* genus, were controlled over 30 hectares throughout Emu Bay's colony (Figure 2). Where active burrows exist under some of these weeds, individual plants were sprayed and left in place to minimise disturbance.

Figure 2: Map showing coastal weed control area across Emu Bay little penguin colony in 2025.

A mix of 21 native coastal shrub, grass and groundcover species were planted across 1 hectare on coastal crown land in Penneshaw and Emu Bay (see Appendix C for species list). 800 seedlings were planted and guarded in both open areas of non-native grasses and infilled in areas of sparse vegetation or previous revegetation to increase plant density, predominantly in the outer margins of the little penguin colonies (Figure 3).

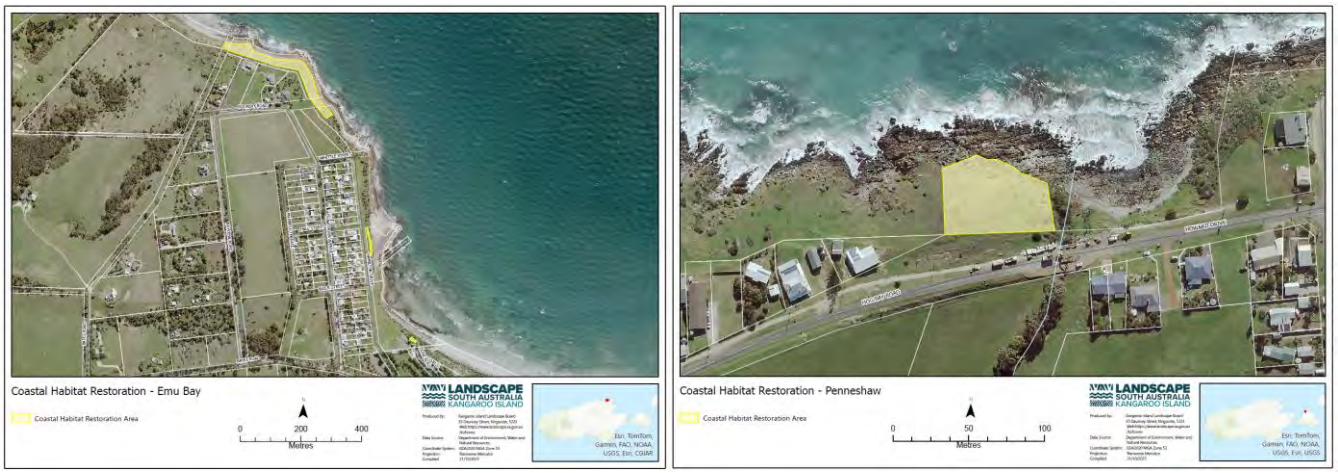

Figure 3: Coastal habitat restoration area at Emu Bay (left) and Penneshaw (right).

DISCUSSION

Census results

The population estimate from the 2025 Kangaroo Island little penguin census was 704 breeding adults. This estimate is higher than recent spring counts in 2023 (558) and 2024 (530), but lower than the historic baseline mean of 960 little penguins from census surveys between 2011 and 2013. Survey results for individual colonies in 2025 show that Kangaroo Island's largest colonies (Emu Bay and Penneshaw) have increased in activity density since the annual census was resumed by the KILB in 2023, while smaller colonies have stabilised at lower than historical levels.

The presence of an active HAB and associated biotoxins detected in northern Kangaroo Island waters during 2025 (Murray et al., 2025) creates uncertainty regarding population-level impacts on little penguins, particularly in relation to prey availability and foraging range. Despite this, 2025 survey results for individual colonies and colonies combined were consistent with or exceeded, expected ranges. Confidence in the 2025 result is high as a calibrated survey team of staff have undertaken the census since 2023, rather than variously trained staff and volunteers used in previous years (Comino et al., 2024).

Survey observations indicated a high presence of natural predators, particularly goannas, concurrent with relatively high numbers of both chicks and adults occupying burrows compared with previous spring surveys. High burrow occupancy at this time of year may reflect a delayed breeding season, potentially associated with the significant HAB impacts during autumn and early winter 2025. Prolonged drought conditions over the preceding two summers may also have influenced little penguin breeding phenology with reduced river outflows potentially affecting prey availability in combination with higher-than-average temperatures experienced both at sea and on land (Kowalczyk et al., 2015; Colombelli-Négrel et al., 2022;

Morais et al., 2026; Bureau of Meteorology, 2026). Sea surface temperature variability has been associated with little penguin breeding timing and success and survival, with studies across Australia finding both positive and negative relationships reported with increased temperatures (Wooller et al., 1991; Cullen et al., 2009; Sidhu et al., 2012; Cannell et al., 2012, 2023; Johnson & Colombelli-Négrel, 2021; Colombelli-Négrel et al., 2022). The influence of climatic variables on little penguin breeding outcomes is complex, and the causal pathways underlying observed relationships remain poorly understood. It is recommended that monitoring of the population across Kangaroo Island continue through annual censuses to document long-term change and potential impacts of the HAB and HPAI. Data will continue to be used to guide management of Kangaroo Island's population and compare to state and national trends.

Figure 4: A Rosenberg's goanna (*Varanus rosenbergi*) taking a little penguin chick from a rock burrow at Stokes Bay during the 2025 census.

The spatial distribution of active little penguin burrows in 2025 remains consistent with recent censuses, with activity density across the largest colonies on Kangaroo Island moving both towards (Emu Bay and Penneshaw) and away from (Kingscote and Penneshaw) areas of higher anthropogenic disturbance since 2013 (Appendix B). Elsewhere in Australia, several colonies have experienced severe declines linked to human disturbance and other threats, including those at Granite Island and Phillip Island; with the Phillip Island population recovering substantially following the implementation of targeted management

measures (Wiebkin, 2011; Phillip Island Nature Parks, n.d.). In contrast, the apparent increase in activity at some Kangaroo Island colonies located closer to areas of higher human use remains unexplained and may indicate that disturbance levels at these sites remain below a threshold at which negative population impacts occur. The absence of fox predation, a key driver of population declines in other populations, also reduces cumulative pressures on Kangaroo Island populations (Wiebkin, 2011; Kirkwood et al., 2014).

Colony Management Activities

Native revegetation and control of kikuyu grass (*Cenchrus clandestinus*), African boxthorn (*Lycium ferocissimum*) and other coastal weeds was undertaken in 2025 at Emu Bay and Penneshaw, to improve little penguin breeding habitat. As in 2023 (Comino et al., 2024), inactive natural and artificial burrows were available for little penguins to use across the surveyed colonies during the 2025 census. This indicates that an adequate capacity for colony expansion currently exists, and additional artificial burrows are generally unnecessary. Emu Bay continues to be an exception, as the expanding colony could benefit from supplementary nest boxes at the north-western end, especially while newly planted revegetation establishes (Comino et al., 2024).

Figure 5: Revegetation planting at outer margins of Emu Bay (left) and Penneshaw (right) little penguin colonies in 2025.

NEXT STEPS AND FUTURE DIRECTIONS

- Continuation of census surveys to monitor the long-term fluctuations in Kangaroo Island's little penguin population is particularly important in the coming years given the potential impacts of the ongoing HAB and HPAI, evidence of declines in little penguin populations in Gulf St Vincent, and the many data deficient island colonies in South Australia.
- Community education around the impacts of dog and cat attacks to continue.

- Relocation and minor repairs to damaged artificial burrows from Kingscote to the Emu Bay colony.
- The feral cat eradication program on the Dudley Peninsula is in the final stages and continues to benefit eastern colonies.
- Continue to collaborate and share management, census and threat information with local stakeholders who interact with, or work near Kangaroo Island's colonies, including KI Council, state government agencies, tourism organisations and members of the public.

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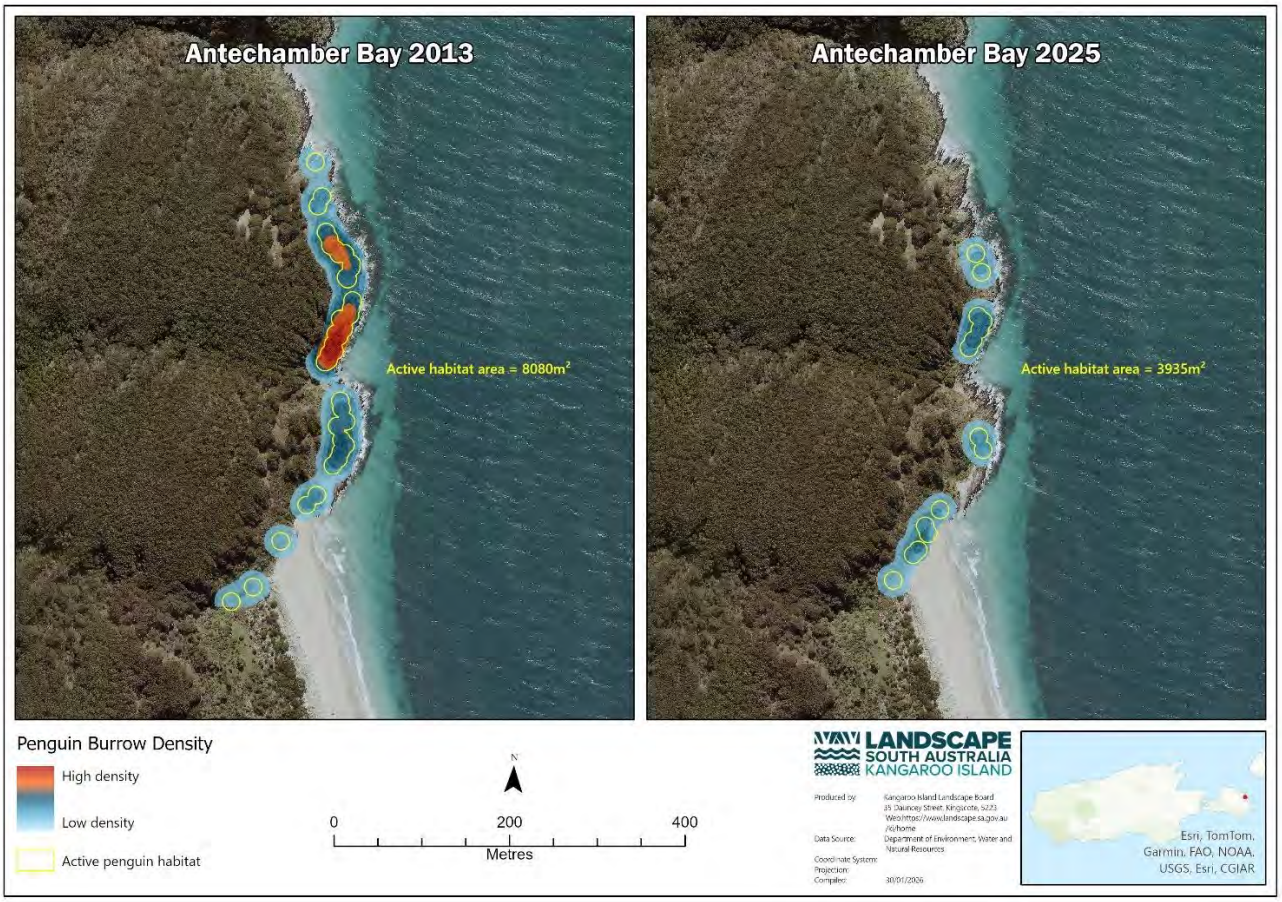
APPENDIX A

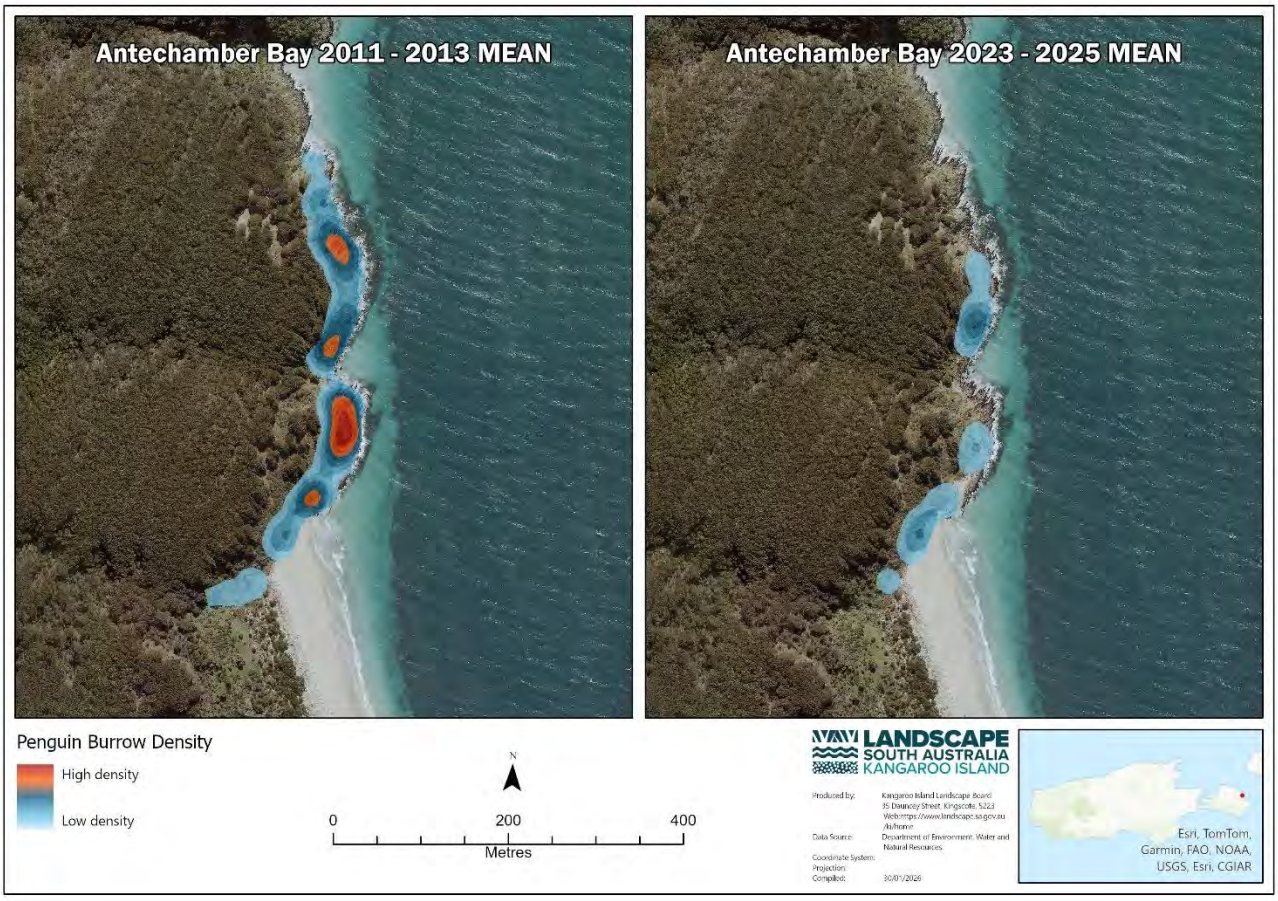
Population estimates for little penguin at twelve colonies surveyed by the KI Landscape Board between 2006 and 2025

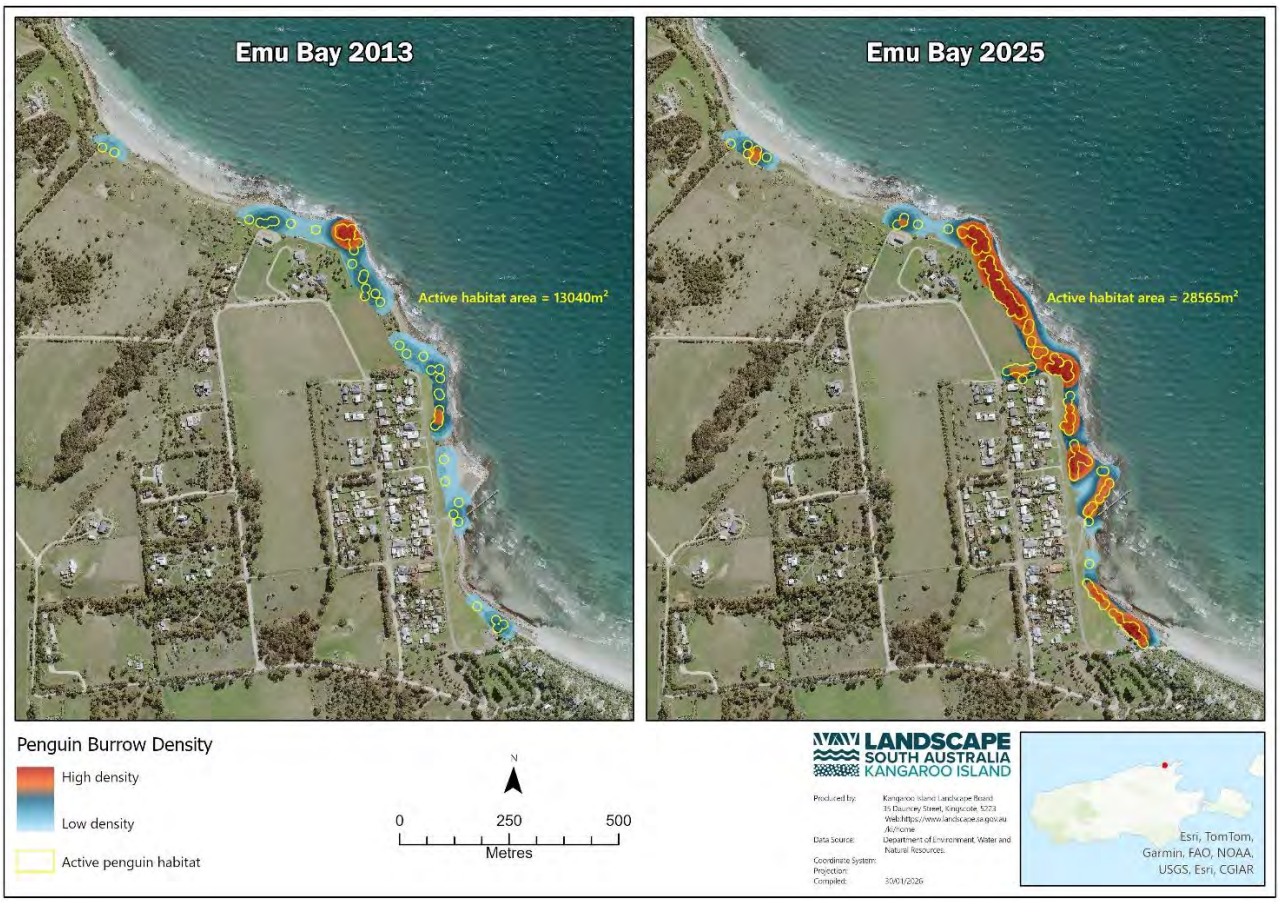
***Brown Beach, Cape Willoughby and Seal Bay were first surveyed by the KI Landscape Board in 2023.**

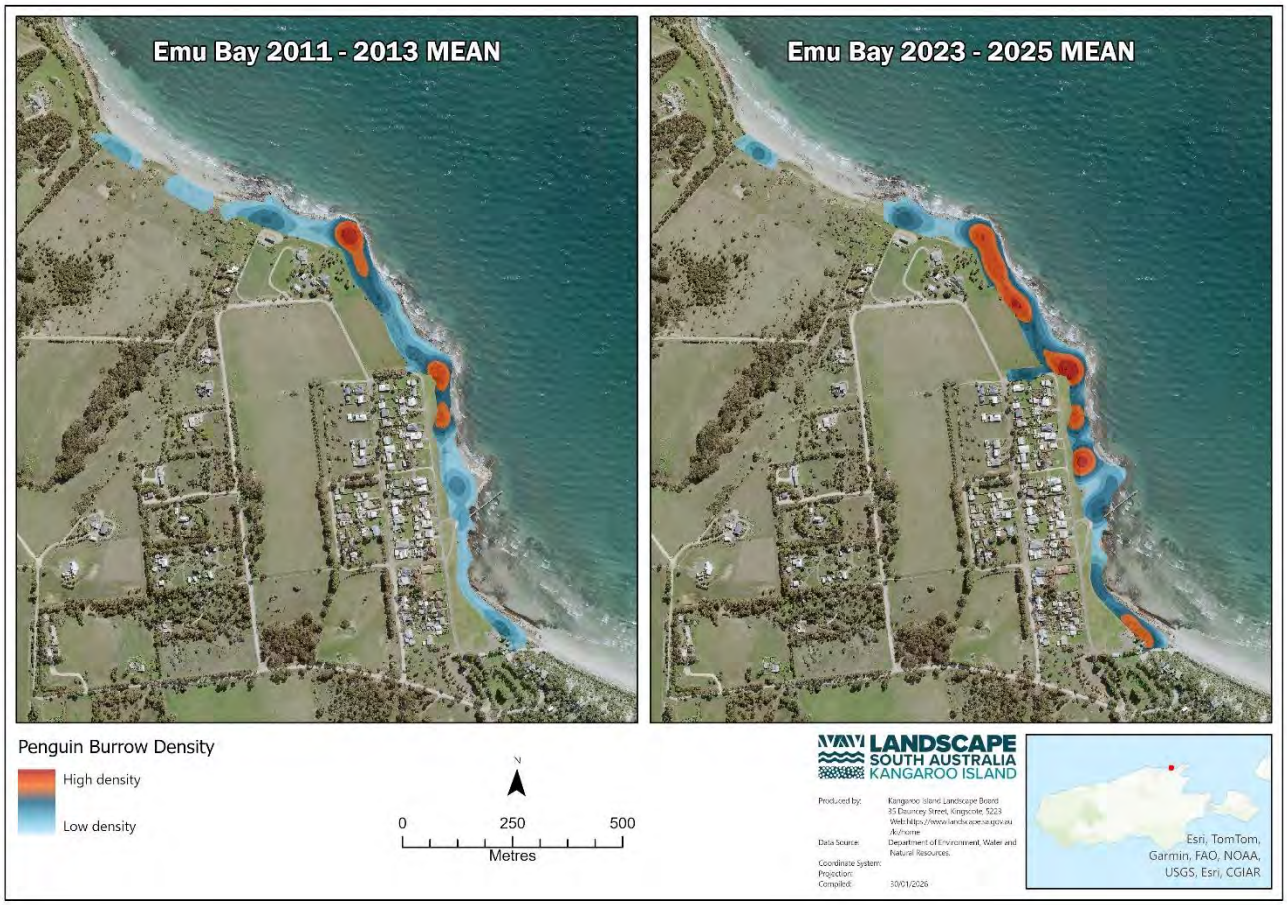
Colony	2006	2007	2008	2009	2010	2011	2012	2013	2023	Autumn 2024	Spring 2024	2025
Antechamber Bay						190	152	106	26	22	30	30
Brown Beach									0*			
Cape Cassini						52	46	12	0			
Cape Willoughby									12*	18	12	6
Emu Bay						228	160	102	222	278	244	332
Kingscote	410	868	748	654	706	380	300	154	74	34	38	64
Penneshaw						304	148	112	148	112	150	206
Seal Bay									12*	14	8	10
Snellings Beach						18	4	4	2		0	
Stokes Bay						38	26	8	8	6	8	6
Vivonne Bay						126	130	68	54	36	40	50
Western River Cove						12	0	0	0			
KI Region combined						*1,348*	*966*	*566*	*558*	*520*	*530*	*704*

APPENDIX B
Little penguin activity density at Kangaroo Island's largest colonies






Emu Bay 2013
Active habitat area = 13040m²
Emu Bay 2025
Active habitat area = 28565m²
Penguin Burrow Density
High density
Low density
Active penguin habitat
N
0
250
500
Metres
LANDSCAPE SOUTH AUSTRALIA KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote 5223
Web:https://www.landscape.sa.gov.au/ki/home
Data Source:
Department of Environment, Water and Natural Resources
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom, Garmin, FAO, NOAA, USGS, Esri, CGIAR


Emu Bay 2011 - 2013 MEAN
Emu Bay 2023 - 2025 MEAN
Penguin Burrow Density
High density
Low density
N
0
250
500
Metres
LANDSCAPE SOUTH AUSTRALIA KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote 5223
Web:https://www.landscape.sa.gov.au/ki/home
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Compiled:
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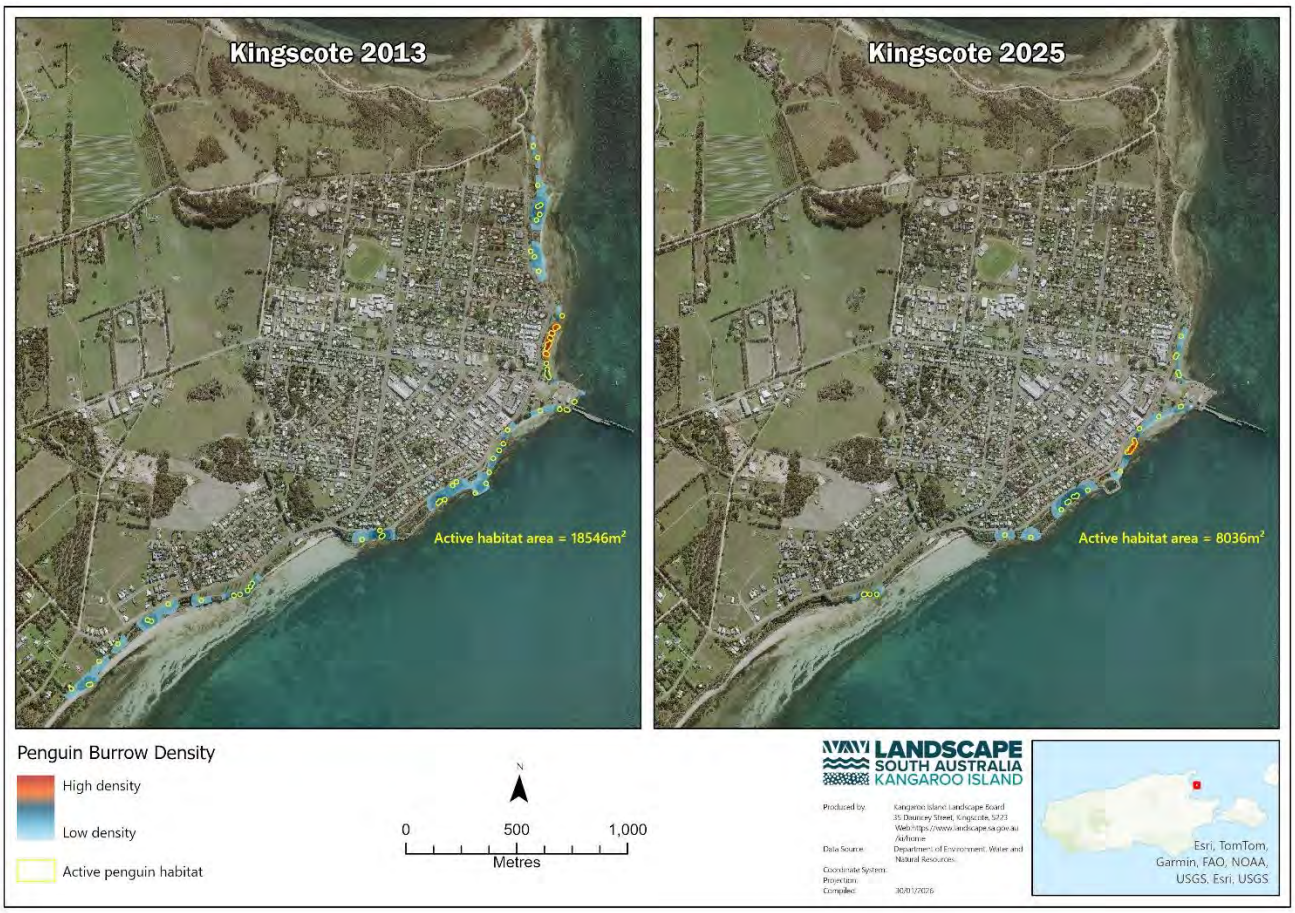
Esri, TomTom, Garmin, FAO, NOAA, USGS, Esri, CGIAR


Kingscote 2013
Active habitat area = 18546m²
Kingscote 2025
Active habitat area = 8036m²
Penguin Burrow Density
High density
Low density
Active penguin habitat
N
0
500
1,000
Metres
LANDSCAPE
SOUTH AUSTRALIA
KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote, 5223
Web:https://www.landscape.sa.gov.au
/kihome
Data Source:
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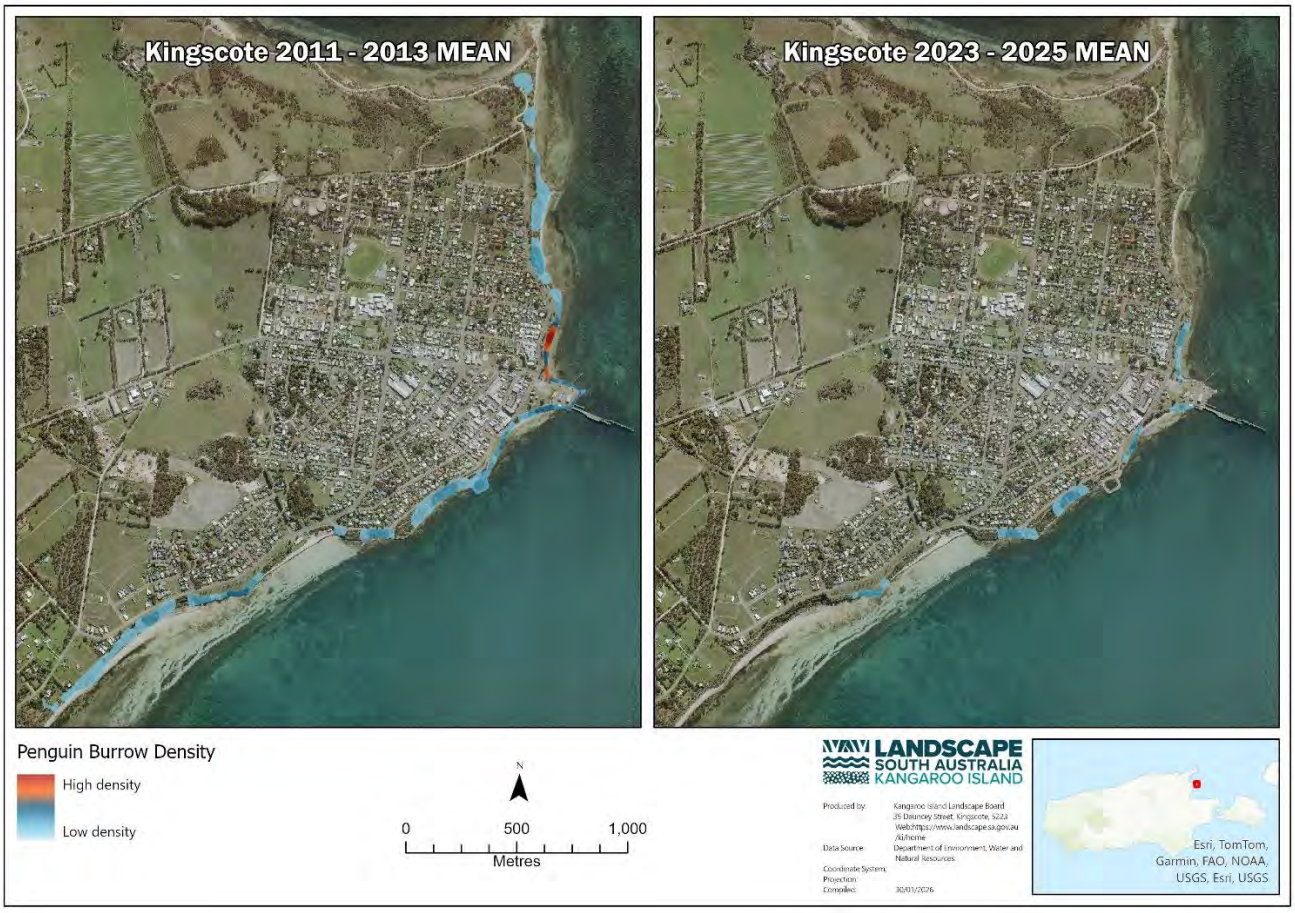
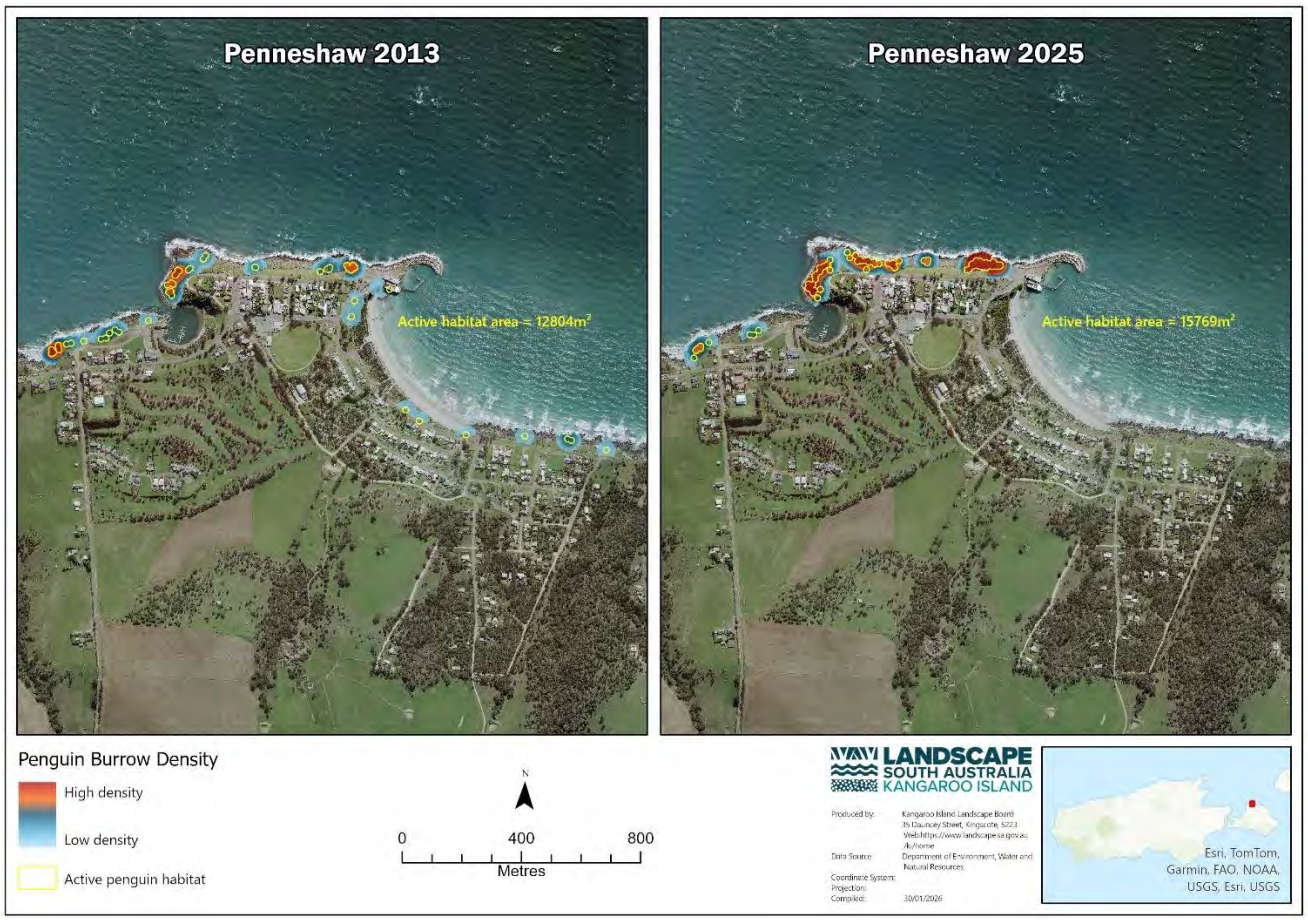
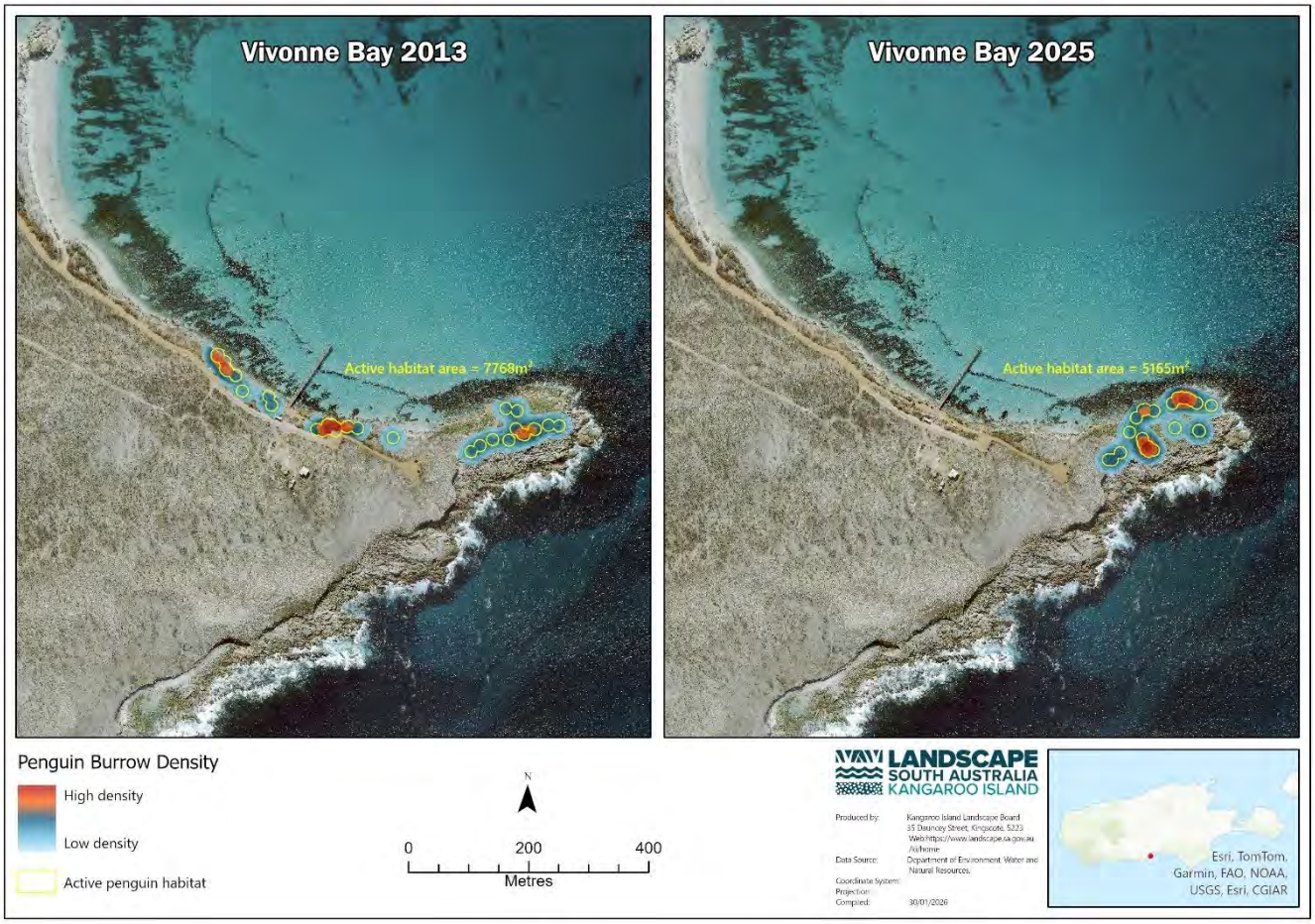
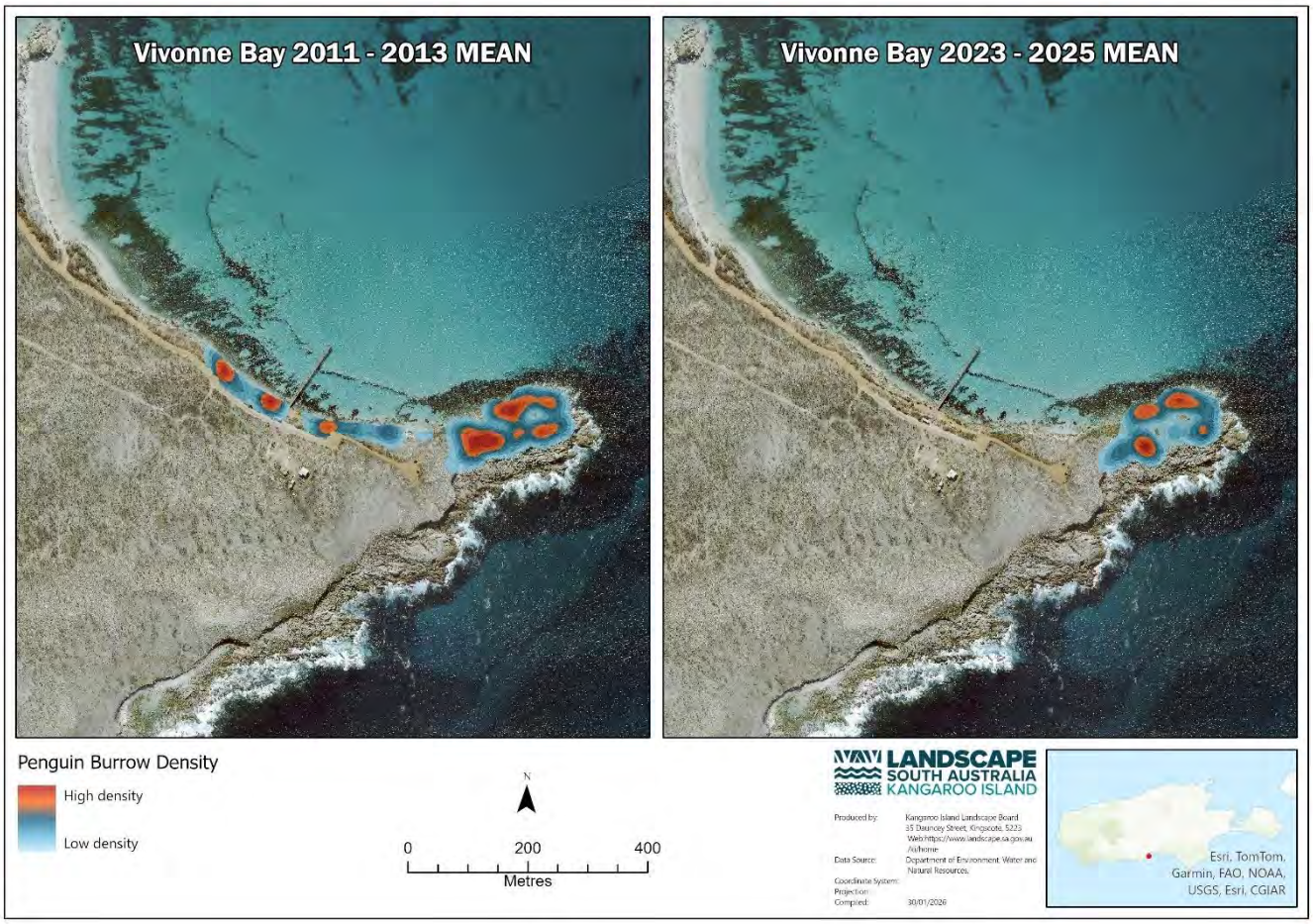
Natural Resources
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom,
Garmin, FAO, NOAA,
USGS, Esri, USGS


Kingscote 2011 - 2013 MEAN
Kingscote 2023 - 2025 MEAN
Penguin Burrow Density
High density
Low density
N
0
500
1,000
Metres
LANDSCAPE
SOUTH AUSTRALIA
KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote, 5223
Web:https://www.landscape.sa.gov.au
/kihome
Data Source:
Department of Environment, Water and
Natural Resources
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom,
Garmin, FAO, NOAA,
USGS, Esri, USGS


Penneshaw 2013
Active habitat area = 12804m²
Penneshaw 2025
Active habitat area = 15769m²
Penguin Burrow Density
High density
Low density
Active penguin habitat
N
0
400
800
Metres
LANDSCAPE SOUTH AUSTRALIA KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote, 5223
Web:https://www.landscape.sa.gov.au/ki/home
Data Source:
Department of Environment, Water and Natural Resources
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom, Garmin, FAO, NOAA, USGS, Esri, USGS


Penneshaw 2011 - 2013 MEAN
Penneshaw 2023 - 2025 MEAN
Penguin Burrow Density
High density
Low density
N
0
400
800
Metres
LANDSCAPE SOUTH AUSTRALIA KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote, 5223
Web:https://www.landscape.sa.gov.au/ki/home
Data Source:
Department of Environment, Water and Natural Resources
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom, Garmin, FAO, NOAA, USGS, Esri, CGIAR


Vivonne Bay 2013
Active habitat area = 7768m²
Vivonne Bay 2025
Active habitat area = 5165m²
Penguin Burrow Density
High density
Low density
Active penguin habitat
N
0
200
400
Metres
LANDSCAPE
SOUTH AUSTRALIA
KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote, 5223
Web:https://www.landscape.sa.gov.au
/kidhome
Data Source:
Department of Environment, Water and
Natural Resources.
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom,
Garmin, FAO, NOAA,
USGS, Esri, CGIAR


Vivonne Bay 2011 - 2013 MEAN
Vivonne Bay 2023 - 2025 MEAN
Penguin Burrow Density
High density
Low density
N
0
200
400
Metres
LANDSCAPE
SOUTH AUSTRALIA
KANGAROO ISLAND
Produced by:
Kangaroo Island Landscape Board
35 Dauncey Street, Kingscote, 5223
Web:https://www.landscape.sa.gov.au
/kidhome
Data Source:
Department of Environment, Water and
Natural Resources.
Coordinate System:
Projection:
Compiled:
30/01/2026
Esri, TomTom,
Garmin, FAO, NOAA,
USGS, Esri, CGIAR

APPENDIX C
Species list for seedlings planted in Emu Bay and Penneshaw in 2025

Emu Bay	**Penneshaw**
Alyxia buxifolia	*Atriplex cinerea*
Atriplex cinerea	*Austrostipa stipoides*
Austrostipa stipoides	*Correa backhouseana var. orbicularis*
Carpobrotus rossii	*Disphyma crassifolium*
Correa backhouseana var. orbicularis	*Dianella brevicaulis*
Dianella brevicaulis	*Ixodia achilloides ssp achilloides*
Dispyhma crassifolium	*Leucophyta brownii*
Ficinia nodosa	*Myoporum insulare*
Goodenia varia	*Olearia axillaris*
Kunzea pomifera	*Rhagodia candolleana*
Lasiopetalum discolor	*Tetragonia implexicoma*
Leucophyta brownii	*Threlkeldia diffusa*
Logania crassifolia	
Myoporum insulare	
Olearia axillaris	
Pomaderris panicluosa ssp paralia	
Scaevola crassifolia	
Tetragonia implexicoma	
Threlkeldia diffusa	