

An underwater photograph of two Australian sea lions swimming in clear turquoise water. The sea lions are seen from a side profile, moving towards the left. Their bodies are a mix of brown and grey, and their large, dark flippers are visible. The water is bright and clear, with some bubbles and light reflections on the surface.

# Sea lions of the south coast

by Richard Campbell and  
Jonathan Pridham

In almost inaccessible island locations, fiercely guarded by protective females, Australian sea lions are being closely monitored and the commercial fishing industry is responding to ensure populations can recover from the extensive fur and oil hunting of previous centuries.



**T**he Australian sea lion (*Neophoca cinerea*) is the only pinniped species endemic to Australia.

The word pinniped means fin or flipper-footed and refers to the marine mammals that have front and rear flippers such as true seals, fur seals and sea lions.

Australian sea lions live in small breeding colonies on offshore islands dotted around the coast between the Houtman Abrolhos Islands off Western Australia and The Pages Islands in South Australia. Their range in Western Australia overlaps considerably with the long-nosed fur seal (*Arctocephalus forsteri* also known as the New Zealand fur seal).

Island populations in Western Australia include Investigator, Red, and West islands and Haul Off Rock near Albany and a number of islands within the Recherché Archipelago near Esperance including Little Island and Cooper Island.

While Australian sea lions breed in colonies in both South and Western Australia, they have an unusual breeding cycle of 17-18 months, as opposed to the usual 12-month cycle of all other pinnipeds. Not only do they breed at a slower rate, but individual colonies breed at different times across their distribution. This is the only pinniped species in the world that displays this unusual behaviour.

## FACING THREATS

Today, they face pressures of fishing and aquaculture, deliberate killing, habitat degradation, pollution, disease and changes in prey distribution. There is also the emerging issue of climate change and the warming of oceanic waters impacting on the ecosystem that supports these top-order predators.



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**Main** Australian sea lions at Jurien Bay.

*Photo – Matt Kleczkowski*

**Above** Australian sea lions at Abrolhos Islands.

*Photo – David Bettini*

**Right** Sea lions have remarkable restorative abilities to heal from wounds.

*Photo – Jon Pridham/DBCA*



And like all other species of seals and sea lions, they were hunted extensively for their skins and oil throughout the 18th and 19th centuries, but have recovered over the following hundred years or so (see 'A Tale of Two Seals', *LANDSCOPE*, Summer 1999–2000).

It is thought that some Western Australian sea lion colonies may be decreasing, and while the species is currently listed as a nationally threatened species (Vulnerable category), it may soon be uplisted to Endangered because of similar concerns held for the mainstay of the sea lion population in South Australia.

## WHAT'S BEING DONE

DBCA staff and other researchers are monitoring populations primarily through pup counts although other methods are being trialled including the use of remote cameras and drones to minimise the need to land on the island colonies. The south coast islands are often problematic to access from a boat; large swells and winds

and sparse beaches make it difficult to land and visits often require researchers to swim ashore. Other research has focused on foraging behaviour by using satellite tags attached to the animals, identification of individuals by facial whisker spot patterns and genetic studies. For these projects, animals must be captured and temporarily restrained or closely approached, which leads to another suite of challenges.

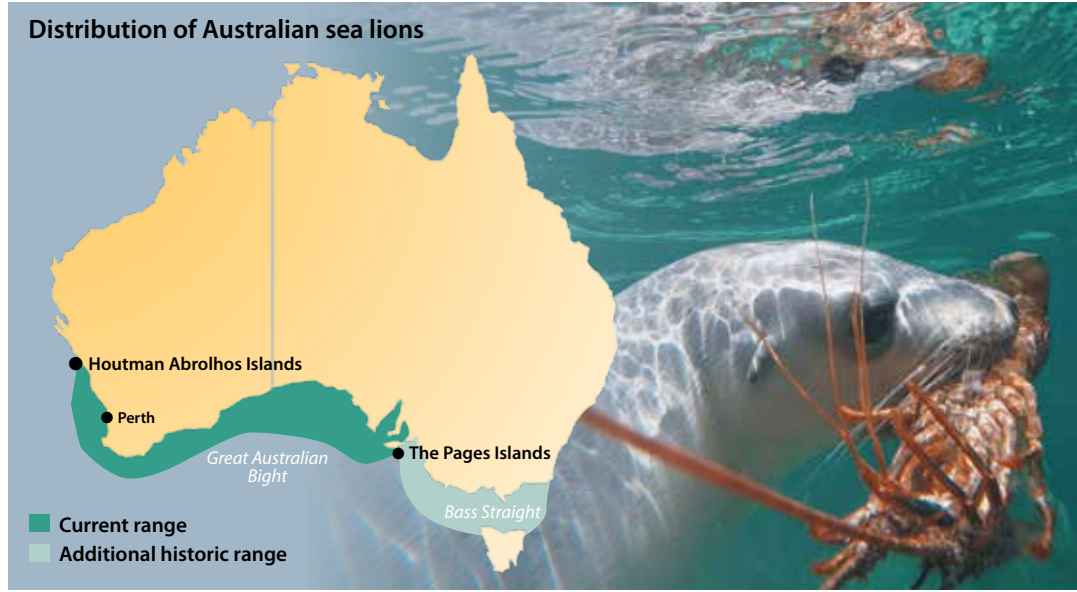
Sea lions hunt for food across a wide area of the continental shelf, diving repeatedly to the sea floor, to depths of more than 100 metres, looking for a range of prey including octopus, cuttlefish, crustaceans, skates and rays. This activity sometimes brings them into contact with commercial fishing operations.

Significant long-term conservation management measures continue to be implemented to mitigate some of the threatening processes in WA. In 2005, the Western Rock Lobster Fishery (WRLF) was the first to address concerns over reports of the incidental capture of small

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sea lion pups in the pots of the fishery. The resulting mandatory changes to fishing gear have mitigated this concern and the conservation measures were extended from the WRLF into the South Australian rock lobster fishery.

More recent conservation measures have been implemented throughout the commercial demersal gillnet fisheries in both South and Western Australia due to concerns over the incidental drowning of sea lions in the bottom set nets.

A number of breeding colonies and some foraging areas are also protected within the bounds of State and Commonwealth marine parks. Whilst these measures are undoubtedly playing a part in mitigating some of the causes of incidental mortality and giving the sea lion a chance of recovery, it is important that the response of these breeding colonies

continues to be monitored to assess the conservation outcomes of these measures.

A range of programs have attempted to monitor sea lion population abundance and trends in abundance over time, however the sheer number of individual colonies (28 in WA and 48 in SA) make it difficult to monitor them all. In addition, the different timing in breeding seasons, remoteness and accessibility as well as the concerns of repeated disturbance of breeding colonies by researchers has presented challenges in this regard over the years and has limited consistent monitoring effort at many colonies.

### DON'T MESS WITH THE LADIES

At certain times of the year, especially when pupping, the females become quite protective of their turf and will 'chase' researchers as perceived threats. Because

they are usually all related, this protective behaviour can also involve 'sisters' and 'aunts' joining in the pursuits, so it is not unusual to have two or three females doggedly following the researchers sometimes for quite a long distance.

A recent program run by the Fisheries Division of the Department of Primary Industries and Regional Development (DPIRD), funded through the Fisheries Research Development Corporation (FRDC), and working closely with the Department of Biodiversity, Conservation and Attractions, has looked at using remote HD cameras to monitor the breeding performance of a number of colonies to look for a solution to this issue.

The program has uncovered some interesting behaviours and confirmed aspects of breeding season timing but has

**Above** A pup on Red Island died after becoming tangled in a fishing net.  
*Photo – Jon Pridham/DBCA*

**Above right** Australian sea lions eat a range of prey including lobsters.  
*Photo – Marc Russo*

**Right** Researchers at Investigator Island placing satellite tracking recorders on anaesthetised Australian sea lion cow.  
*Photo – Jon Pridham/DBCA*



## Have you seen a seal you think needs help?

1. Do not approach the animal, it will cause stress and could become aggressive
2. Take a photograph of the animal and surroundings
3. Do not try and feed the animal
4. Call the Wildcare Helpline on (08) 9474 9055 or nearest Parks and Wildlife Service office



### Advise staff of the following:

- location (as specific as possible including any unique identifiers)
- species (or description if not known)
- age (pup, juvenile or adult)
- size
- condition (poor or healthy)
- injuries or entanglements
- stationary or moving



“We are also looking at using drone technology to fly surveys over breeding islands... reduce risks in accessing the islands, and visitation pressures to both sea lions and researchers...”

also discovered that there are limits to the performance of remote camera systems in the harsh environments of the south coast of WA.

“We are also looking at using drone technology to fly surveys over breeding islands and so reduce risks in accessing the islands, and visitation pressures to both sea lions and researchers on the islands,” said DBCA’s Parks and Wildlife Service regional wildlife officer Jonathan Pridham.

“Relatively low pup counts at some colonies over the past five years has raised some concerns for individual colonies (i.e. Red Islet and Haul Off Rock on the south coast of WA), while others in the Jurien Bay Marine Park seem to sustain pup numbers if not showing some signs of recovery.”

### STILL A LOT TO LEARN

A number of studies using satellite tagging technology over the past decade have highlighted the extensive foraging

range of the sea lion, and contributed to the design of some of the commonwealth marine parks across the south-west of WA and in South Australian waters.

“However, we are still unable to understand exactly why the limited population recovery of sea lions differs so much to the recent exponential rise in fur seal numbers over the past 20-30 years,” said Jonathan.

“It is interesting to note that the recovery of fur seal populations here in Australia and overseas did not occur immediately after the ending of commercial hunting but after a considerable lag period of more than 70 years.

“The concern is that the recovery trajectory for the Australian sea lion is being impacted by the myriad of different biological and environmental factors as well as some of the human pressures, which in combination are precluding the species from making a recovery to their previous abundance.”



Top Bull and cow on Haul Off Rock.

Above Fauna conservation officer Tim Button operating a drone to monitor sea lions on Haul Off Rock.

Photos – Jon Pridham/DBCA

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