SEAGRASS SURF AND SEA LIONS

Within 10 nautical miles of the shore between Dongara and Lancelin lie some 36 small islands that teem with wildlife. From the beautiful lagoon and limestone formations on the west side of South Green Islet to the shell-strewn beaches and colourful reefs of the Fisherman Islands, these islands are a visual feast.

by
Carolyn Thomson
and Greg Pobar

The islands, which vary in size from a few square metres to about 25 hectares, are located off the west coast of Western Australia in a narrow chain between 120 and 360 kilometres north of Perth.

Like most of Western Australia's islands, these are important refuges for plants and animals - sea lions and other mammals, birds and reptiles. All of them are nature reserves managed by the Department of Conservation and Land Management (CALM).

For many years, the ocean surrounding the islands has supported a thriving rock-lobster industry with fishers based at the many small coastal settlements that dot this part of the coastline. Even with modern navigational equipment, the reefs that wind through the islands still present dangers to fishers and the increasing number of boating enthusiasts and holiday makers. But for early navigators this was an extremely hazardous part of the coastline.

SHIPWRECKS

The islands were first recorded by early Dutch navigators. The *Gilt Dragon*, a Dutch vessel, was wrecked on a reef off Ledge Point, just south of Lancelin, in 1656. A small boat, sent to search for the treasure and remaining survivors, was also lost in a storm. The 13 sailors on the rescue vessel managed to survive the hostile WA coast, sheltering on Lancelin Island for a brief period, and four of them eventually sailed to Batavia. The American whaling barque the *Cervantes* (1844), an Italian-owned barque *Europa* (1897), a passenger steamer *Lubra* (1898) and Australian steamer the *Cambawarra* (1914) were also wrecked along this coast.

More recently, in July 1991, environmental disaster was narrowly averted when the Greek oil tanker *Kirki* began to break up in heavy weather some 20 nautical miles from Cervantes. The vessel spilt up to 10 000 tonnes of oil. As the Greek crew were winched off the boat by helicopter in appalling conditions, CALM officers prepared to find out whether local wildlife had been affected and mount a rescue operation if necessary. Fortunately, the islands' marine environments and the dependent industries were spared. Ideal weather conditions broke up the oil before it could cause problems, and salvage vessels towed the crippled ship northward to calmer waters, where the remaining oil was removed from the vessel.

Every 18 months, Australian sea lion bulls leave the islands off Perth and swim to the Lancelin-Dongara breeding islands to mate.
Photo - Carolyn Thomson

Previous page
Main: Australian sea lions at Fisherman Islands.

Inset: Whittell Island
Photos - Carolyn Thomson

Inset: Ribbon weed, one of the species of seagrass.
Photo - Clay Bryce/Lochman Transparencies

Today, the names of the reefs - Death Valley, the Boomers, Big Break, Big Wave and Coffins Reef - are indicative of the respect with which they are viewed by locals. They should ensure boaters take a cautious and alert approach to the island chain.

THORNS AND DAISIES

The islands are normally clothed in low heath dominated by coast daisy (*Olearia axillaris*) and thick-leaved fan-flower (*Scaevola crassifolia*) on sandy areas. Herbfields and grasslands grow on very shallow soils over limestone, and soda bush (*Nitraria billardieri*) shrublands are found on the slopes or plateaus of the islands.

The soda bush shrublands, such as those on the Beagle Islands, are prone to invasion by boxthorn (*Lycium ferocissimum*), a South African species believed to have been spread by seabirds. Soda bush plants are relatively open underneath and tend to grow in shallow guano-rich soils (the product of nesting seabirds or resting seals). The birds that spread boxthorn use soda bush for resting or nesting. These are seagulls and rock parrots, both of whom eat the succulent fruits of the boxthorn and soda bush.

CALM officers who visit the islands every few months or so to monitor the wildlife are steadily eradicating the boxthorn. This involves attacking the thorny weeds with a chainsaw, removing and burning the cuttings and, finally, painting the stumps with a herbicide to guard against regeneration. The eradication is being done gradually, to avoid leaving large areas denuded of vegetation. Ironically, the Australian sea lions found on the Beagles don't distinguish between the introduced and native vegetation, and commonly slumber beneath the boxthorn thickets.

SEALS AND SEA LIONS

The Australian sea lion - the rarest sea lion in the world - breeds on a number of the islands. As well as the Beagles they also breed on North Fisherman and Buller Islands, and are found on many

other islands in this system. Research on the animal's breeding habits by marine biologist Dr Nick Gales has shown that it is the only sea lion in the world with an 18-month breeding cycle. Further monitoring by CALM's Greg Pobar has shown that every 18 months the bulls leave the islands off Perth and swim north to these islands to mate. When mating is over they return to the Perth area, presumably to take the feeding pressure off the females and their young pups.

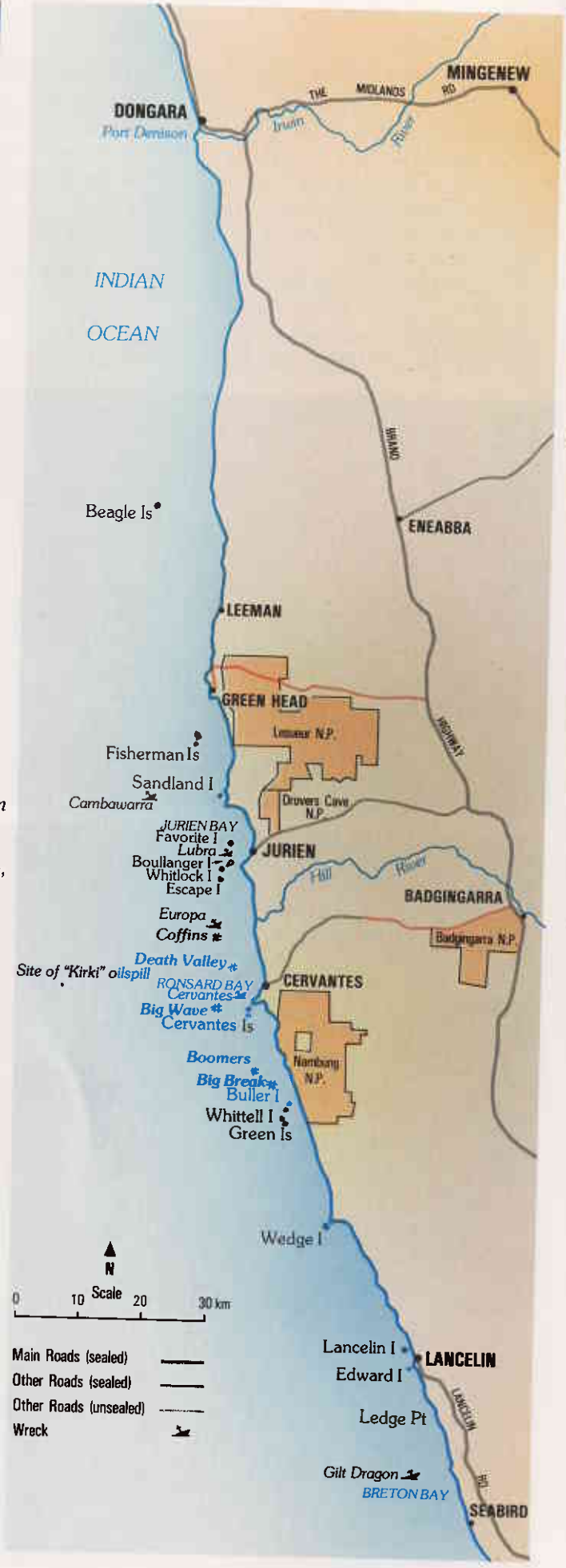
Remarkably, throughout the sea lion's range, breeding and mating on different islands takes place at different times of the year. This is even evident within the relatively small area spanned by the Lancelin-Dongara Islands. The population on Buller Island breeds a few months later than the Fisherman and Beagle Islands populations.

The sea lion population along the State's west coast is probably genetically distinct to Australian sea lion populations elsewhere, including the populations on the south coast of Western Australia. Nick Gales believes there is virtually no genetic exchange between each population. Since the total west coast sea lion population may number only 1 000, the protection and management of these animals is even more vital.

As the islands become more popular, conflict with people will be inevitable.

Top: Buller Island is a popular resting spot for sea lions.
Photo - Greg Keighery

Above: Iceplant (*Mesembryanthemum chrystallinum*), an introduced weed, has leaves covered by large, glistening hairs.
Photo - Greg Keighery



Sea lions can deliver a savage bite and it is dangerous to approach them, particularly during the breeding season, when the females will do anything to protect their pups. For this reason, the public is encouraged to leave the animals in peace and refrain from visiting the sea lion breeding islands.

Like the Australian sea lion, the New Zealand fur-seal suffered a massive decline from over-hunting last century and now seems to be recovering. As a result, New Zealand fur-seals are occasionally seen on the islands. Sub-Antarctic fur-seals sometimes stray to these waters. However, they arrive in an emaciated and weak condition, after their long swim from sub-Antarctic waters and usually die.

DIBBLERS AND DUNNARTS

The rare dibbler, once thought to be extinct, is found on Boullanger and Whitlock Islands. This small carnivorous marsupial was discovered on Boullanger Island when CALM researcher Phil Fuller spotted some unusual tracks in the sand during a research trip in 1985. Dibblers have long, tapering hairy tails and white rings around their eyes. They are nocturnal. Breeding occurs once a year in March. Copulation takes eight to ten hours and the breeding season lasts between ten days and two weeks. One male dibbler on Boullanger was recorded mating with six females in four days. All the male dibblers on Boullanger Island die within one week of the mating season - of stress.

A small dunnart occurs on Boullanger Island. It is closely related to the grey-bellied dunnart (*Sminthopsis griseoventer*); however, research by zoologists Tony Lynam and Dr Chris Dickman has shown that it may be a new species or subspecies.

SKINKS AND SEABIRDS

Many kinds of geckoes and skinks are found on several of the islands. Attractively patterned kings skinks are often seen on Boullanger, Whitlock, Escape and Favorite Islands. They are thought to form a distinct subspecies. The Lancelin Island skink is even more special. It is found on the 7.6 hectare Lancelin Island and no other place.

A large variety of seabirds use the islands and surrounding waters for

Dibblers (*Parantechinus apicalis*) are found on Boullanger and Whitlock Islands.
Photo - Jiri Lochman

Kings skinks are often seen on Boullanger, Whitlock, Escape and Favorite Islands.
Photo - Jiri Lochman

feeding and breeding. Terns, cormorants, gulls, oystercatchers, shearwaters, sea eagles and ospreys breed there. More than eleven bird species breed on Sandland Island alone, an area of only 1.5 hectares.

It is common to see crested terns crashing into the water to catch small fish, or green moray eels left squirming in the nests of the pied cormorants while they fish for more. The large pacific gull (*Larus pacificus*) snatches the large turban shell (*Turbo torquatus*) from the reef top at low tides and flies over a favoured island outcrop, continuously dropping the shell until it breaks open. The meaty animal is then swallowed whole. It seems that every island has its own 'bombing' site - evident by the piles of broken shells high up on the limestone faces.

UNDERWATER PARADISE

Few have explored the island chain below the water. The rich seagrass beds and shallow lagoons favoured by the sea lions are surrounded by limestone reef platforms and are the source of a thriving rock lobster fishery. But there are even more subtle and fascinating plants and animals to experience. In many of the protected lagoons, tropical, sub-tropical and temperate fish and marine life swim together. These lagoons snare larvae of marine plants and animals, which are driven south from the tropics by the warm Leeuwin Current.

Infestations of *Drupella* have recently been discovered on the reefs south of Fisherman Islands. This small knobbly marine snail strips the living veneer of

The ground on many of the islands is honeycombed with burrows made by wedge-tailed shearwaters.
Photo - Jiri Lochman

Below right: The coral-eating snail *Drupella* was recently discovered on reefs off Fisherman Islands.
Photo - Greg Pobar

Below: Regurgitated eel on a pied cormorant's nest on one of the Beagle Islands.
Photo - Carolyn Thomson

coral from the reef. At Ningaloo Marine Park, off Exmouth, hundreds of millions of the snails have eaten parts of this spectacular reef, leaving large areas of dead coral covered in a green-brown carpet of algae. A recent CALM wildlife monitoring visit to Fisherman Islands confirmed that the snail was still found there and had appeared to spread. Large areas of dead branching coral (*Acropora*) had been eaten out by the snail. Samples of the voracious snail were collected and taken back to *Drupella* researchers in Perth. CALM will continue to monitor the *Drupella* infestation and would like to hear from any divers who have seen the snail along this part of the coast.

Only 30 miles offshore, the continental shelf drops to depths of 1 000 metres, where there are upwellings of cold sub-Antarctic water. The effect of the cold water is reflected in the marine communities. Small lagoons of tropical corals, parrotfish and trochus shells are often surrounded by seagrass beds supporting marine life more common further south, while larger deep ocean predators and schooling fish swim the back reefs. The marine life is so diverse that you could easily become confused and wonder whether you are snorkelling the bays of Cape Leeuwin, Rottnest or the Abrolhos.

Above: Australian sea lions are the rarest sea lions in the world and the State's west coast population is thought to be genetically distinct.
Photo - Jiri Lochman

The Green Islets are a haven for many species of seabird.
Photo - Carolyn Thomson

CONCLUSION

The dangerous reefs and unpredictable weather along this wild part of the coast have served the islands and their wildlife well by protecting them from over-use. However, it is inevitable that they will be increasingly disturbed by curious people and emergencies such as the *Kirki* oil spill. Already the rediscovery of these islands is providing researchers and managers with many interesting and challenging projects. The reward will be to continue to learn about and manage these islands and reefs so that all uses can be adequately accommodated while safeguarding the seascapes and wildlife.

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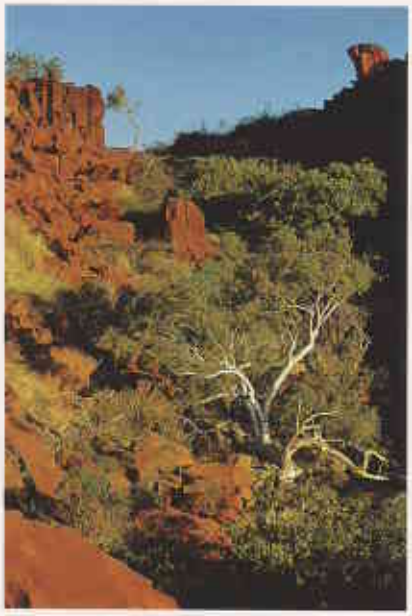

LANDSCOPE

VOLUME EIGHT NO. 4 WINTER ISSUE 1993

Nature-based tourism is a rapidly-growing industry and WA is poised to take a slice of that growth. See 'Our Natural Advantage' on page 10.

'Seagrass, Surf and Sea Lions' (page 21) are just some of the features of a string of islands that dot the WA coastline north of Lancelin.

Forrestdale Lake is an 'Outer City Sanctuary' for thousands of visiting and resident waterbirds. See page 35.

Frogs can be an interesting addition to any suburban native garden. Grant Wardell-Johnson describes how to attract them to your garden on page 16.

When is a flower not a flower? Neville Marchant, from CALM's WA Herbarium unravels the intricacies of the State's many 'False Flowers' on page 39.

FEATURES

REGULARS

COVER

*The bull frog (*Litoria moorei*) is very large and has a voracious appetite. It is a frequent visitor to gardens and may be found particularly in greenhouses, ferneries and wet areas such as streams and ponds.*

The illustration is by Philippa Nikulinsky, inspired by a Peter Marsack photograph, courtesy of Lochman Transparencies.

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