



ISLANDS

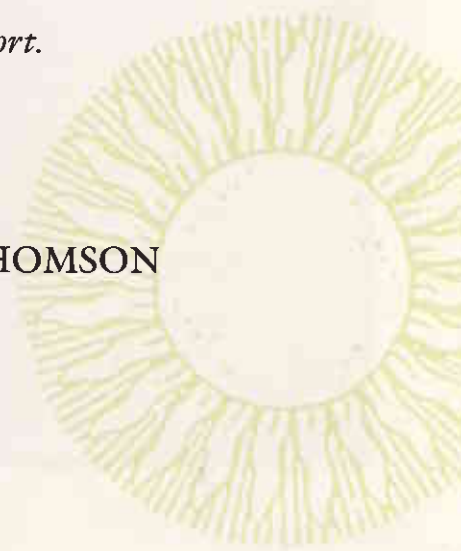


IN THE SUN



The Pilbara landscape has been sculpted by harsh climatic extremes to form a distinctive landscape of tumbled boulders and spinifex. The Dampier Archipelago, which shares this rugged beauty, attracts human visitors and is home to a diverse wildlife, including many rare animals. The area is also a vast open-air art gallery of Aboriginal rock art and one of the richest prehistoric art sites in the world. The challenge is to preserve this unique area, which is right next to a busy industrial port.

BY CAROLYN THOMSON



The Dampier Archipelago is made up of 42 islands, islets and rocks. It was formed 6 000 to 8 000 years ago when rising sea-levels flooded coastal valleys, leaving hills and ridges exposed as islands. Twenty-five of the islands are nature reserves managed by the Department of Conservation and Land Management (CALM). A management plan for the area, released in August last year, has recommended that the islands should form the basis of a Dampier Archipelago National Park.

The geology of most of these islands is similar to that of the mainland, but quite different from most other islands in the Pilbara. Over millions of years the granitic landscape has been eroded and the soil stripped, leaving behind piles of weathered boulders. The rock is blue-grey; but as the minerals weather, it first turns buff-brown, then deep, rich brown.

The largest of the islands, Dampier Island, is now known as the Burrup Peninsula. It was separated from the mainland by tidal mudflats until a causeway was built in the 1960s to cater for the developing iron ore industry. The Peninsula's high rocky hills are aptly reflected by its Aboriginal name, *murujuga*, which means 'hip bone sticking out'.

British explorer William Dampier visited the islands in 1699. He landed on an island which he named Rosemary Island because of the presence of a native plant (*Olearia axillaris*), which reminded him of the English herb, rosemary. He also collected examples of the Sturt's desert pea.

At the time of Dampier's visit, about 100 to 120 Aboriginal people of the Yapurrara language group occupied the



Burrup Peninsula and Dampier Archipelago. Some of the more western islands were also visited by the Martuyhinira people. Early observers of the Yapurrara were impressed with their physique: many of the men were two metres tall with horizontally scarified chests.

Previous page: Burrup Peninsula
Photo - Carolyn Thomson

Whalers Bay on Malus Island; Tunney's rats; and an Aboriginal hide on Rosemary Island.
Photos - Keith Morris

This page: In the late 1800s, Dampier Archipelago supported a major pearling industry.
Photo - Jiri Lochman ▼

The Karratha area has a geology similar to that of the Dampier Archipelago.
Photo - Alan Padgett ◀▼

The Burrup Peninsula is one of the most prolific sites for prehistoric rock art in the world. ▶▼
Photo - Tony Start



The Aboriginal people moved about the islands collecting food and raw materials and camping near seasonal and permanent water sources. They made fish and turtle spears of hardened wood sharpened to a point. Hunting and fighting spears consisted of stone flakes set in spinifex resin. They paddled to the outer islands on buoyant logs joined together, using their expert knowledge of tidal currents to assist them.

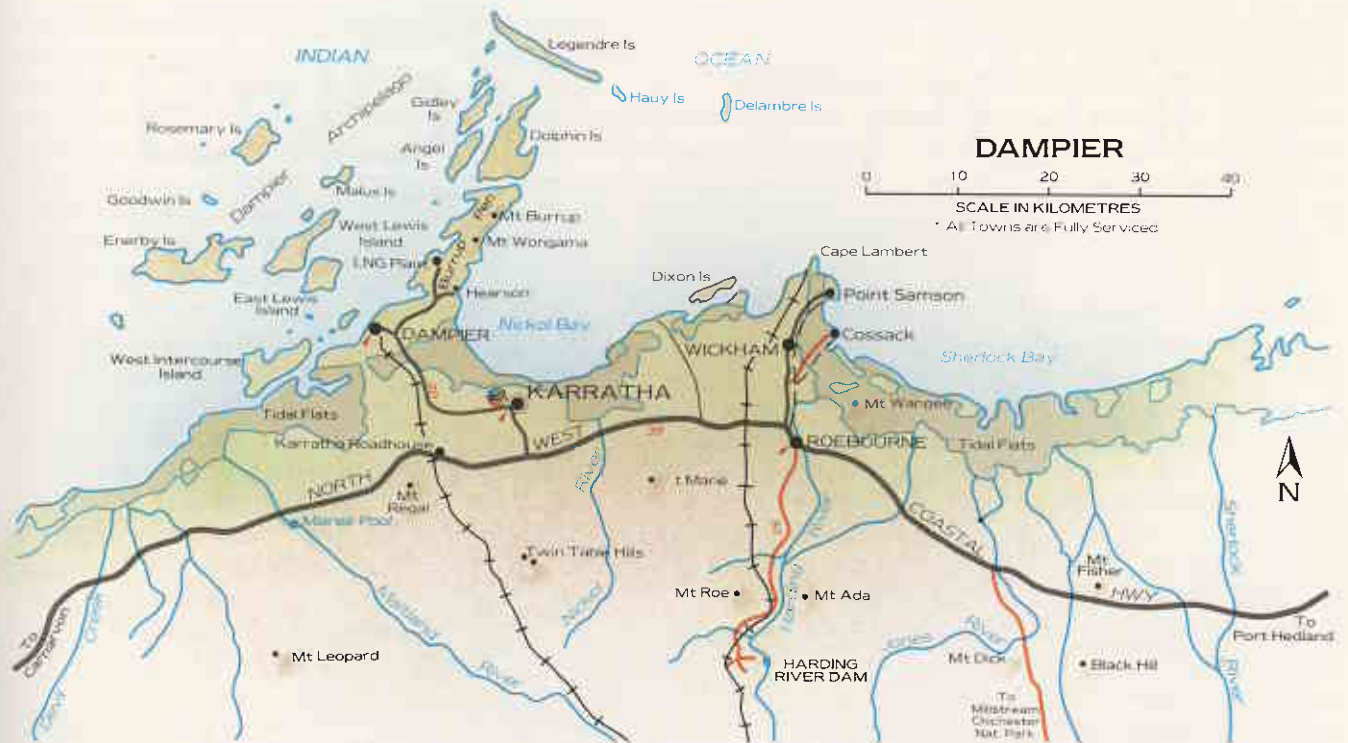
The Yapurrara have left a rich cultural heritage. The Burrup Peninsula contains one of the most prolific sites for prehistoric rock art in the world - there are more than 10 000 Aboriginal engravings in over 1 000 recorded sites. These engravings show turtles, fish, euros and wallabies, human figures and enigmatic bird-like figures. Some of the engravings even record the coming of Europeans.

As well as the engravings, there are occupation sites with shell debris and stone artifacts, stone features such as standing stones, walls and pits, and patches of rock abraded from seed-grinding.

PEARLS AND PASTORALISM

After journeying by ship from Fremantle and landing in Nickol Bay in 1861, Francis Thomas Gregory made an overland survey of the area. He spent five months exploring much of the Pilbara and gave glowing reports of the region's pastoral potential. The Pilbara was gradually opened for pastoral development from 1863. Karratha Station, which takes its name from an Aboriginal word meaning 'good country', was settled in 1866. An attempt was even made to run sheep on West Lewis Island, and the stone ruins of a pastoral settlement can still be seen there today.





Gregory also noted that pearl shell was abundant in the waters of the Dampier Archipelago, and found several valuable pearls. A pearling fleet soon became established at Cossack, and Flying Foam Passage became the major pearling area of the North West between 1870 and 1900. The remains of a pearling camp can be seen in Black Hawke Bay on Gidley Island.

Whalers also operated around the Dampier Archipelago from longboats. From 1870 to 1872, a whaling station on Malus Island processed humpback whales to extract oil. Ovens and try pots (for melting fat) can still be seen there.

However, European settlement was to have a devastating effect on the Aboriginal population. They were kidnapped to work as pearlers and decimated by diseases such as smallpox. In what came to be known as the Flying Foam massacre, at least 30 to 40 Aborigines - men, women and children - are believed to have been killed by a party avenging the spearing of four Europeans. No members of the Yapurarra group are now believed to remain, and neighbouring Aboriginal groups have assumed responsibility for the group's traditional lands.

The first phase of industrial development began in the 1960s, when the port of Dampier was established as an export outlet for iron ore mined in the

Hamersley Range. A solar salt project also commenced. With space at a premium around Dampier, the town of Karratha was established 17 km to the south-east to accommodate an expanding population and the need for a regional centre.

The huge Woodside natural gas project, recently established on the Burrup Peninsula, has seen Dampier become one of the busiest ports in the State. The subsequent population increase has resulted in greater pressure on the nearby islands and their natural values.

ISLAND ESCAPE

The islands' relative isolation from the mainland and their diversity of habitat has made them a haven for native plants and animals. Mammals such as the Rothschild's rock wallaby, northern quoll and water rat flourish on some of the islands. A variety of plants - at least 288 species representing one third of the total flora of the Pilbara - grow on the islands, providing valuable examples of largely undisturbed and weed-free plant communities. The soft spinifex (*Triodia pungens*) that grows extensively on the sandplains is especially important: it forms the staple diet of the rock wallaby population.

Green, loggerhead, flatback and hawksbill turtles nest on the beaches. Some of these animals are part of a tagging program which will provide

information on the movements of turtles, within and outside Australia, and on their reproductive biology. Seagrasses and algae form beds which provide nursery grounds for commercial and recreational fish stocks as well as food for dugong and green turtles, while the mangrove-lined creeks on some islands are important feeding and refuge areas for young turtles.

Migratory waders use the beaches and mudflats of the mangroves to feed and rest during their long flight from northern Asia, while 16 species of seabird and ten shorebird species nest on the islands. They include the Australian pelican, wedge-tailed shearwater, the bridled, fairy and Caspian terns and pied and sooty oystercatchers.

The waters surrounding the islands have high conservation value. Luxuriant fringing and barrier coral reefs, swept by clear water, can be found on the outer rim of the archipelago. In the sheltered internal waters, corals adapted for life in a more turbid environment form patch reefs. The overall range of habitats results in an extremely rich coral fauna of at least 216 species.

Many marine creatures are associated with the coral reefs. Most notable are the beautiful tropical reef fish and the brilliantly coloured painted crayfish, eagerly sought by divers. Plankton growing in the open water zone form the basis of food chains supporting thousands



of sea birds, marine animals like the giant and graceful manta ray, and fast, predatory fish like sharks, mackerel, tuna and trevally. Humpback whales, which migrate along the WA coast, can be seen at certain times of the year, and dolphins are always common.

People are also attracted to the archipelago. Divers explore coral reefs, while other visitors swim or relax on numerous beaches. The islands have been zoned to provide a balance between conservation and recreation. Some areas are set aside for day trips and camping, while others, such as sensitive seabird and turtle-nesting areas, are closed to the public.

Pressures on the marine environment have increased dramatically in the last 25 years. The development of commercial and recreational fishing, salt production, aquaculture, tourism and shore-based industries, together with shipping movements and channel dredging, all

need to be balanced with the need for a healthy and productive natural environment.

A working group of marine scientists is currently considering proposals for marine reserves off the Pilbara coast. As a result, the Dampier Archipelago may become a marine park.

THE BURRUP

The Burrup Peninsula, being such a large land mass, has a wide range of habitats and hence a diverse flora and fauna. Mammals include the northern quoll, Rothschild's rock wallaby, echidna, euro, water rat, common rock rat and delicate mouse, and birds such as the jabiru. At least 23 plant species found here have a restricted distribution or are poorly known. Plants, such as the native fig, that are more typical of the wetter Kimberley region grow in humid, moist and fire-free pockets and creek beds. In all, the Burrup supports 40 per cent of all

plants and animals found in the Pilbara.

The question of who is to manage the Burrup Peninsula has not yet been resolved. The major task on the Burrup Peninsula is to balance future industrial expansion against conservation of the area's outstanding Aboriginal heritage, its plants and animals and fine recreational beaches. Involvement of Aboriginal people in the management of their heritage is especially important, along with wider community involvement in planning issues of the conservation estate.

There can be no doubt that the Burrup Peninsula has regional, national and international significance. The islands, the Burrup Peninsula and the marine environment of the Dampier Archipelago together make a valuable asset to the people of Western Australia. ▣



The Lewis Islands form a backdrop to Woodside's natural gas project.

Photo - Keith Morris ◀◀

The echidna, one of Australia's most widespread mammals, occurs on the Burrup Peninsula.

Photo - Keith Morris ◀

Granite boulders flow into the sea in several places in the Archipelago.

Photo - Craig Albery ◀▼

Coolibahs on the Burrup, their white-barked trunks stark against the skyline.

Photo - Alan Padgett ▼



Carolyn Thomson is a Communications Officer at CALM's Public Affairs Branch. CALM's Pilbara Regional Manager Hugh Chevis, Pilbara Reserves Officer Greg Oliver and Senior Research Scientist Keith Morris provided valuable advice and information that enabled the article to be written.





Visitors from around Australia are discovering what those who live nearby already know - D'Entrecasteaux...C'est Magnifique. Turn to page 10.



Seabirds nest on Pelsaert Island in the Houtman Abrolhos by the million. See page 17.

LANDSCOPE

VOLUME SIX NO. 3 - AUTUMN EDITION 1991



There's more to invertebrates than slugs, maggots and spiders. Turn to page 28 to find out just why invertebrates are so important.



What has happened to Fitzgerald River National Park since the 1989 wildfire? See page 34.



Explore the Dampier Archipelago, a group of rocky islands with a violent past and a wealth of wildlife. Turn to page 48.

F E A T U R E S

D'ENTRECASTEAUX - C'EST MAGNIFIQUE! CLIFF WINFIELD	10
A MILLION SEABIRDS ANDREW BURBIDGE AND PHIL FULLER	17
ABROLHOS - DIVER DOWN JIM STODDART	24
SPINELESS WONDERS JOHN BLYTH AND IAN ABBOTT	28
FITZGERALD REBORN STEVE HOPPER	34
WANJARRI IAN KEALLEY	39
LANDSCAPING FOR WILDLIFE ROBERT POWELL	43
ISLANDS IN THE SUN CAROLYN THOMSON	48
R E G U L A R S	
IN PERSPECTIVE	4
BUSH TELEGRAPH	5
ENDANGERED THE GOULDIAN FINCH	53
URBAN ANTICS	54

C O V E R

Invertebrates play an important role in the ecosystem of WA's jarrah forest. Earthworms, termites and ants fragment leaf litter and mix organic matter. Some soil and litter invertebrates stimulate plant growth. Soil insects such as larval beetles feed on roots, stimulating the plants' growth rate. Our cover illustration is Philippa Nikulinsky's impression of this process at work in the jarrah forest.



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