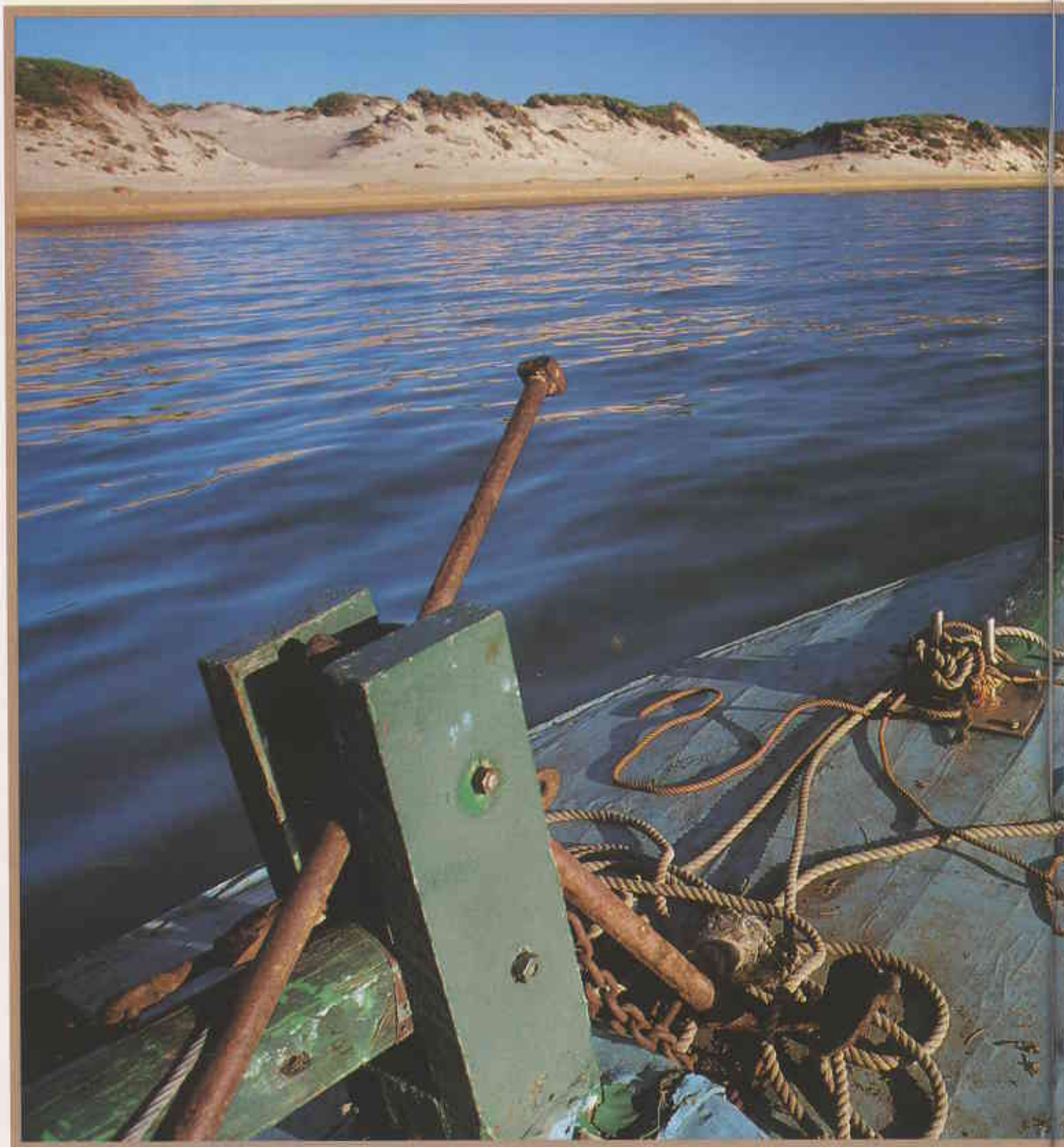
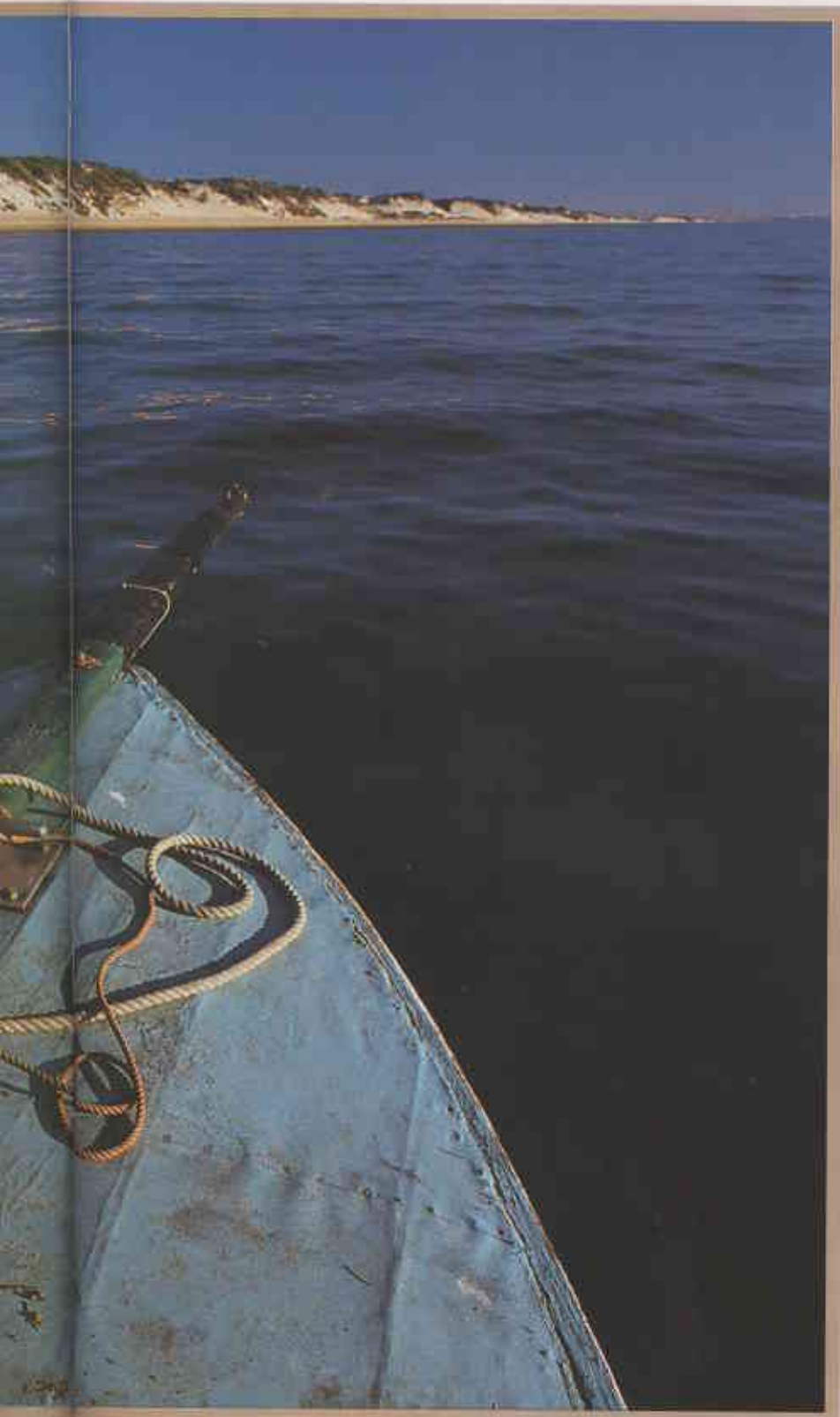


T H E G R E E N



LANDSCAPE



In 1869 escaping Irish convict John Boyle O'Reilly probably looked back at the receding white sand dunes of the Leschenault Peninsula with mixed feelings.

He must have been thankful for the sanctuary of the dense groves of peppermint trees in the swales between the dunes, where he had been hiding for two weeks. And anxious, lest the sight of a sail on Koombana Bay signalled police pursuit. However, the authorities did not notice the American whaler spirit him to freedom

by Bob Chandler

TODAY, timber boats have given way to aluminium hulls and outboard motors, as recreational fishers ply the same waters. But, 120 years after O'Reilly's escape, the Peninsula looks much the same from the ocean; an apparently undeveloped coastline of tall sand dunes truncated in winter as the beach is ripped away by storms, then rebuilt by summer's gentle breezes and placid seas.

The eastern side of the Peninsula is familiar to motorists from Perth passing through Australind, or crabbers using the Estuary. Sedge-lined shores flanked by groves of tuart can be seen across the shallow waters of Leschenault Estuary.



Only a sharp or knowing eye can pick out the lone power pole on the otherwise natural 12 km long silhouette of the Peninsula; and few visitors know the purpose of the two and a half kilometre pipeline which crosses the Estuary.

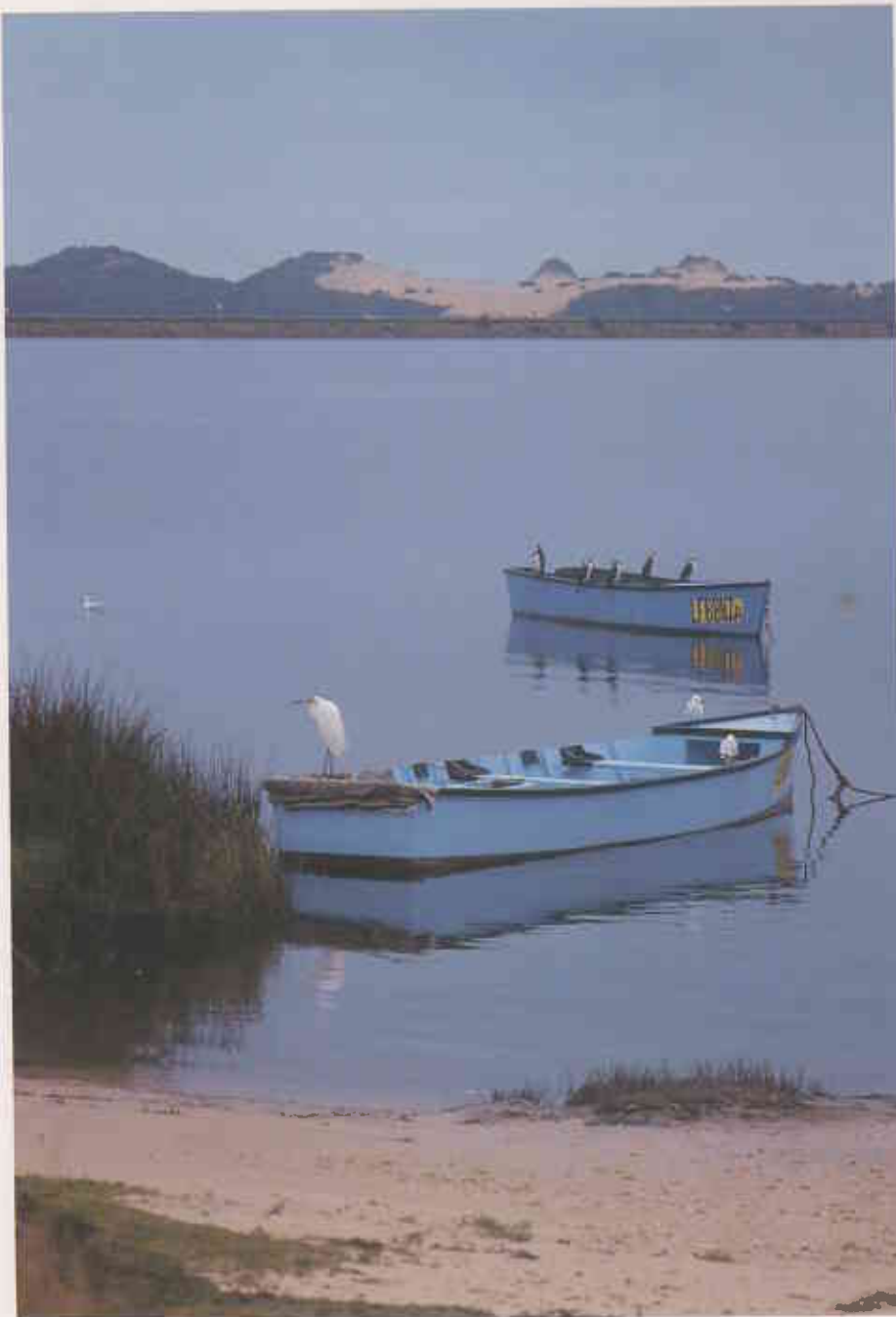
Since 1964, it has been used to pump acid effluent from the mineral sands processing plant at Australind. The pipeline is the only external hint of the

Peninsula's use. About 18 effluent ponds, in hollows between sand dunes, hold acidic iron sulphate waste from the plant. The waste percolates into the calcareous sands under the ponds, neutralising the acid and precipitating the iron.

Today, this may seem a grossly inappropriate use for a unique strip of coastal land. But in the heady years of the 1960's mineral boom, a new mining industry was favoured by the Government. The Laporte Industrial Factory Agreement Act (1961) established the industry, with the Government responsible for waste disposal until 2011.

Initially, wastes were disposed directly into the sea. But in 1967 the red iron staining of ocean beaches became unacceptable and disposal into the sea was replaced by a lagoon system. The ponds progressively moved north along the Peninsula as the neutralising capacity of old ponds became exhausted.

In 1983 the Environmental Protection Authority, in its benchmark "Red Book" Recommendations for Conservation Reserves, proposed that waste disposal cease as soon as possible and not proceed any further north into the fully vegetated zone.



The Leschenault Estuary is a popular recreational crabbing spot. Part of the Estuary is also an important nursery area for fish, crabs and birds.

Photo-Robert Garvey ▲

Photo Previous page-Robert Garvey

Professional fishing in the Estuary is declining. Although there are five licences only two commercial fishermen are still active and no more licences will be issued. However, these dinghies moored near the Australind foreshore are a familiar sight to people who travel through the area.

Photo-John Green ◀



The SCM Chemicals plant at Australind. The largest breeding colony of Great Egrets in the South-West is located on land that was once part of the company's estate. Photo-Robert Garvey ▲

The old effluent pipeline will be dismantled in about 18 months. A jetty will be erected in its place, allowing boat access for people who wish to use the area for activities such as picnicking. Photo-John Green ◀

Great Egrets often wade around the shallow waters of the Inlet, searching for food in the mud. Photo-Robert Garvey ▼

At the other end of the pipeline, as suburbia gradually encroached on the factory, residents began to complain about atmospheric emissions from the plant.

Ironically, the factory's nearest neighbours, the South-West's largest nesting colony of Great Egrets, seem oblivious to the factory and the company ceded the part of its estate containing the colony to the Government for a nature reserve.

Meanwhile, a long series of technical studies funded by the Government and the company explored ways of disposing of the effluent. Extended offshore pipelines, deepwell injection, inland neutralization and alternative processing technology were evaluated.

In 1988, with the encouragement of the Government, the company's new owners, SCM Chemicals, decided to change the old sulphate process to chloride

technology. The soluble chloride salt waste products are similar to seawater brine and can be safely discharged into the ocean.

To avoid past problems, the SCM plant will be located at Kemerton, a well buffered estate north of Australind purchased by Government to accommodate future industry. The plant will discharge chloride waste water through an underground pipe to the ocean at the



northern end of the Peninsula. The old pipeline across the Estuary will be removed in 1991.

The Department of Resources Development, the Water Authority and the Leschenault Inlet Management Authority have spent several years planning the Peninsula's "great escape" from waste disposal.

The ponds will be removed by draining and burying the residual sludge under at least half a metre of sand. The site will then be contoured to natural profiles and replanted with native vegetation.

However, ponds in naturally eroding areas not protected by well vegetated foredunes need more attention. New foredunes will be created by bulldozers and stabilised by fast growing plants like marram grass and spinifex. Fences will be built at the front of the foredune to

trap sand and sustain the tough plants.

In the lee of the foredunes fences and bark mulch protect a mix of primary and secondary colonisers. They include grasses and ground covers like spinifex, *Tetragonia*, *Lepidosperma* and cakile, shrubs such as *Templetonia* and *Olearia* and a range of coastal acacias and peppermint and tuart trees that grow in similar locations on the Peninsula.

This work should be completed a year or so after waste disposal ceases, leaving the way clear for the Department of Conservation and Land Management to develop a public conservation park. However, rehabilitated areas will need to be protected and maintained for at least 10 years. Like many coastal areas of the South-West, the Peninsula has a natural cycle of erosion and subsequent restabilisation by a remarkably adapted

vegetation complex.

Management of the Peninsula will ultimately strike a balance between natural erosion and the desire to completely revegetate the area for conservation and recreation.

Leschenault Peninsula Park will aim to preserve the existing sense of isolation and retreat, despite its proximity to Bunbury, W.A.'s largest regional centre.

The main recreational focus at historic Belvedere on Waterloo Head will be accessible by car; but a complete discovery of the Peninsula will require exploration by boat, bicycle and on foot. The excellent fishing beach will stay open to four wheel drive vehicles until intensity of use demands rezoning.

Many waterbirds reside along the fringes of the Estuary, from pairs of black swans to long distance tourists such as



Discharge by lagoons:

Three of the effluent ponds on the Leschenault Peninsula. The sequence shows a recent pond (top left) full of effluent, a smaller, older pond (middle) and one of the earliest lagoons (right); iron waste has been precipitated from the effluent and is caked on the sand. This sludge will be buried in sand during rehabilitation work planned for the Peninsula.

Dunes will be recontoured, stabilised and revegetated (left).

Photos-John Green

Red-necked Stints from Siberia. Bushwalkers can enjoy fragrant groves of peppermint and stately stands of tuarts, home of abundant kangaroos.

The historically minded will sense the timeless occupancy of the Noongar people, and envisage the arrival in March 1803 of Post Captain Nicolas Thomas Baudin, which foreshadowed their decline. Picnickers may spare a thought for the struggles of pioneer settler Thomas Little (Belvedere 1838) as they stroll across the site of his homestead, and wonder at the contrast with the latter day "hippy" colony that recently occupied the same area.

And perhaps some will make the connection with John Boyle O'Reilly; the Leschenault Peninsula is indeed a place for a great escape. ☒

█ The unspoilt peppermint groves on the Peninsula once sheltered an escaping convict waiting to rendezvous with an American whaler.

Photo-John Green ▶

█ A combination of grasslands pasture and samphire grows on this farmland just north of the Peninsula. Australian Shell ducks and Great Egrets often use the area.

Photo-John Green ▼



LANDSCOPE

VOLUME 4 NO 4 WINTER EDITION 1989



Effluent disposal ponds from industry disfigure an idyllic strip of coastal land. But restoration work and a new conservation park are planned for the Leschenault Peninsula, near Bunbury. Turn to p.8.



Wood that was once only suitable for firewood can now be used to make high grade furniture. Find out how on p.24.



With spring approaching, the bush beckons...but without proper planning your walk could turn to disaster. See p.40.



A spectacular landscape, with an astounding array of plants and animals lies inland from Jurien Bay. Read about the Mt Lesueur area on p.28.



A population explosion of coral-eating snails threatens the unique reefs of Ningaloo Marine Park. How does CALM plan to counter their attack? See p.14.

COVER



In W.A.'s far north, Aboriginal rangers with ties to land now in national parks draw on the traditional wisdom of their people for use in Park management. Photo-Robert Garvey

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