

Report by J.A.K. Lane  
Cadet Research Officer, Department of Fisheries and Fauna  
Subject: Wildlife Survey of Leschenault Inlet.

The birdlife of Leschenault Inlet, while not plentiful, is of moderate diversity. Although flocks of 500 swans and 30 - 50 pelicans occur frequently, other species are represented by small groups or scattered individuals.

Species recorded on the inlet during two 4-day surveys in December, 1970 were:-

Pelican (Pelecanus conspicillatus)  
Black Swan (Cygnus atratus)  
Mountain Duck (Tadorna tadornoides)  
Little Pied Cormorant. (Phalacrocorax melanoleucos)  
Pied Cormorant (P. varius)  
Little Black Cormorant (P. sulcirostris)  
Black Cormorant (P. carbo)  
Australian Darter (Anhinga rufa)  
White-faced Heron (Ardea novae-hollandiae)  
White Egret (Egretta alba)  
Caspian Tern (Hydroprogne caspia)  
Crested Tern (Sterna bergii)  
Bar-tailed Godwit (Limosa lapponica)  
Greenshank (Tringa nebularia)  
Silver Gull (Larus novae-hollandiae)  
Grey Plover (Pluvialis squatarola)  
Red-necked Avocet (Recurvirostra novae-hollandiae)  
Common Sandpiper (Tringa hypoleucos)  
Little Stint (Erolia ruficollis)  
White-headed Stilt (Himantopus himantopus)  
Grey Teal (Anas gibberifrons)  
Black Duck (Anas superciliosa)  
Musk Duck (Biziura lobata)  
Hardhead (Aythya australis)  
Coot (Fulica atra)

Of these 25 species, only the first 15 were seen regularly.

AREAS OF SURVEY:

The new harbour development has already resulted in drastic alterations to the water and foreshores of the southernmost portion of the inlet. For this reason, the wildlife survey does not include those waters south of the Collie River and the Cut.

The remainder of Leschenault Inlet comprises four distinct waterbird habitats.

(1) East Shore.

Sub-littoral sand flats extend along the east shore of Leschenault Inlet. These flats are sparsely covered by seaweed (predominantly Ruppia and Chaetomorpha, also Spirogyra), a major food source of the Black Swan. Flocks of 200 - 500 swans feed regularly in this area. White Egrets and Pelicans also feed along the outer edge of the flats.

The shoreline adjacent to the flats is fringed by sedge (Juncus maritimus) and is backed by paperbarks (Melaleuca sp.) and peppermints (Agonis flexuosa). Surprisingly, there are very few wading birds in this area of the inlet, only 3 species being recorded during the period of study (Greenshank, Grey Plover and Bar-tailed Godwit). No more than a dozen Greenshank were seen along this 4 ½ mile stretch at any one time. The other species occurred even less frequently.

Scattered groups of 10 - 20 Mountain Ducks feed and rest on the shallow areas of the flats.

Why the swans favour the east side of the estuary more than the west is not apparent. It appears most likely that the swans prefer the firm sand of the east shore flats to the boggy flats of the west shore.

The sand flats are also used in the summer by people fishing for crabs.

This area of the inlet appears to be the most important feeding and resting ground of the Black Swan, and, as such would be adversely affected by dredging or reclamation. Dredging would not only reduce the area or the inlet suitable for crabbing, it would create a dangerous hazard to crabbers wading in the shallows at night.

#### (2) Head of the Inlet.

Unlike the sand flats or the east shore, the flats at the head of the estuary consist of thick black mud, much of which is permanently exposed. Sedge and samphire are steadily encroaching on the mud flats.

Since public access is difficult and unpleasant, these flats and the surrounding shoreline form a suitable summer refuge for ducks and swans. Hundreds of Mountain Duck, Black Duck, Grey Teal and Wood Duck gather there at this time of the year. It has been reported that these species breed in this area each winter.

Although the northern end of the estuary is open to shooting during the Duck Season, the boggy nature of the shore's edge and the persistence of resident mosquitoes, discourage most shooters and limits the activities of the remainder.

The mud flats are also favoured as a feeding area for White-headed stilt, White Egret and White-faced Heron.

#### (3) West Shore

The western shoreline borders sub-littoral mud flats which have a very thick covering of rooted weed (\_\_\_\_\_) overlain by Chaetomorpha which in turn is often covered by \_\_\_\_\_. The Chaetomorpha supports enormous numbers of Gammarid Amphipods (predominantly Corophium sp.), which in turn support an abundance of estuarine fish (\_\_\_\_\_). The shallow waters are therefore important feeding grounds of Crested and Caspian Terns, White-faced Heron, White Egret, Pelicans and Swans, although none of these birds occurs in large numbers.

Very few wading birds are found along the shore's edge since suitable feeding grounds are not available.

It was interesting to discover that, as well as the grove opposite Bunbury town, to which Dr. Morrissy referred (Sept. 1970), there is also a narrow fringe of Mangrove (Avicennia marina) 3/4 mile north of Waterloo Head. The mangrove is being overrun by an advancing sand dune.

The coastal dunes which form the western boundary of Leschenault Inlet are covered mostly by Tuarts (Eucalyptus gomphocephala) on the eastern slopes. Freshwater seeps out from interdune depressions in which peppermints and sedges grow. Marsupial runways through the sedge are common in these depressions. The one marsupial which was sighted was most likely a quokka, although identification was far from positive.

I believe that the vegetation associations of this area would be of great interest to botanists, geographers and biologists generally. A detailed study of this area would be most rewarding. Because of this, and its natural beauty, positive steps should be taken to ensure its preservation.

Further use of interdune depressions for the disposal of effluent by Laporte Titanium should be discouraged and some alternative means of effluent disposal should be sought. As pointed out by Dr. Morrissy's report, the present method of effluent disposal is inefficient and is causing considerable damage to nearby vegetation, and pollution of the inlet and ocean shorelines.

#### (4) Collie River Delta.

The delta at the mouth of the Collie River is a natural one, formed by the deposition of sand and silt carried by the river. The sandflats so formed are undisturbed resting grounds for Cormorants, Pelicans and Swans, and feeding grounds for the Wading birds - Bar-tailed Godwit, Greenshank, Grey Plover, Red-necked Avocet, Little Stint and White-headed Stilt. White Egret and White-faced Heron feed along the sedge-fringed shoreline. It appears that delta flats are the most important wading-bird feeding areas of Leschenault Inlet, although these birds do not gather here in large numbers (rarely more than a dozen of each species).

Swans, Pelicans, Cormorants and Terns feed in the adjacent, deeper waters of the inlet; Pelicans, Cormorants, Terns, Egrets, Herons and Darters feed in, and along the edges of, the Collie River and its distributaries.

The Collie delta is one of the only three which exist in the southern half of Western Australia. Because of this, its natural beauty, and its importance to wildlife, it and its associated sand flats should be protected from any future real estate, or industrial, development.

CONCLUSIONS:

Although Leschenault Inlet supports more Swans and Pelicans than does the Swan River, it carries smaller numbers of all other species of waterbirds. The best wading-bird habitat of the inlet (Collie delta) is poor when compared with the sandflats of Pelican Point, Kwinana Freeway or Point Waylen.

The inlet compares even less favourably with Peel Inlet and Harvey Estuary, which together carry thousands of swans, ducks and wading birds during the summer months. The species diversity of Leschenault Inlet is also substantially less than that of the Swan River, Peel Inlet and Harvey Estuary.

To ensure the continued residence of the 25 species of waterbird listed in this report, representative areas of each of the four waterbird habitats of Leschenault Inlet will need to be retained in their natural, undisturbed state.

Because of the aesthetic appeal, and scientific importance of the coastal dunes and associated vegetation which form the western boundary of the inlet, steps should be taken to set aside a portion as a reserve for the conservation of flora and fauna.

I believe that the greatest attribute of Leschenault Inlet is not its wildlife, but its natural beauty. For this reason, much of the land surrounding the inlet should be retained in its natural state. To allow any further real estate or industrial development on the west shore, or on the east shore north of Australind, would be an inexcusable mistake.

Although it does not appear likely that Leschenault Inlet, Swan River, Peel Inlet and Harvey Estuary alter in their relative importance to wildlife during the other months of the year, it must be kept in mind that the surveys of these areas have only covered short periods during the summer months.

January, 1971.