

SWAN RIVER FAUNA SURVEY

INTRODUCTION.

1.0 Tidal Sand Flats

1.1 Pt Waylen and Alfred Cove

1.11 Pt Waylen - Introduction

1.12 Sandy Area

1. Horizontal Sand Flats

2. Near - shore Area

3. Natural Sand Bar

4. Man-made Sand Bars

5. Reed Island and Surrounding Flats

6. Drains

1.13 Weed - covered Area

1.14 Alfred Cove

1.15 Future Development

1. Pt Waylen

2. Alfred Cove

1.16 Recommended Action

1.2 Kwinana Freeway

1.21 Introduction

1.22 Recommended Action

1.3 Pelican Pt

1.31 Introduction

1.32 Recommended Action

2.0 Mud Flats and Reed Backing

2.01 Introduction

2.02 Recommended Action

J.A.K. LANE

Cadet Research Officer

Feb. 1970

SWAN RIVER SURVEY.

INTRODUCTION.

The water bird habitats of the Swan River may be loosely divided into two major categories, tidal sand flats; and mud flats and their reed backing.

1.0 Tidal Sand Flats.

The three major tidal sand flat areas of the Swan River are the Pt Waylen flats, the Freeway flats, and the Pelican Pt flats. These flats and the adjoining shoreline are the feeding and roosting grounds of migratory and resident wading birds. ^{the feeding} Species of waders ^{from the Pt Waylen, Freeway and Pelican Pt areas} seen on these flats during the period of this survey (December 1969, January and February, 1970) included Red-necked Avocet, White-headed Stilt, Banded Stilt, Bar-tailed Godwit, Black-tailed Godwit, Green-shank, Curlew, Grey Plover, Sharp-tailed Sandpiper, Curlew Sandpiper, Common Sandpiper, Little Stint and Red-capped Dotterel, of which only the Avocet, Stilts and Red-capped Dotterel are resident, the others migrating to the Northern Hemisphere each year.

These birds feed on ^{the worms} the Polychaetes, Oligochaetes, Molluscs, Crustacea, insects and insect larvae which the tidal flats harbour, and also on the insects which the adjacent bush (if present) provides.

During the 4-5 months which the migratory species spend on our shores they build up large energy reserves (in the form of fat tissue) which are expended on the return flight to the Northern Hemisphere. The gonads presumably are also built up to a reproductive condition. It is therefore important that during this period there should be a large amount of food available and that there should be little disturbance of their normal feeding activities.

A high level of disturbance results in a high level of energy expenditure by the birds concerned. This interferes with fat production and gonad development and thus reduces the likelihood of a successful migratory flight to the summer breeding grounds. Even over a short period of time this is likely to have a deleterious effect upon bird numbers. For this reason action is necessary to reduce the level of disturbance to the waders.

The survey has shown a serious level of disturbance (in the form of pedestrians, vehicles, motorbikes and dogs) to exist at Pelican Pt. and to a lesser extent at the Freeway. In its unaltered form the Metropolitan Regional Planning Authority's plan for the future development of the shoreline around Pt. Waylen will introduce a disastrously high level of disturbance to this area also.

The recommendations which follow the reports on each of the above three areas are intended as a solution to this problem.

1.1 Pt Waylen & Alfred Cove.

1.11 Pt Waylen.

INTRODUCTION.

The tidal flats extending from Pt Waylen two-thirds of the way to Pt Walter are the most extensive tidal sand flats of the Swan River.

Because of their size, variety of formations and of food supply, they support many species of water-birds.

The flats may be divided into two major areas, one of which is sandy with little or no weed covering. The other area has a thick covering of sea weed which contains vast numbers of crustacea.

The two areas are discernable on the aerial photographs, the lighter area being sand, the darker being weed. The approximate boundaries are marked on the corresponding map.

1.12 Sandy Area.

1. Horizontal Sand Flats.

The greater part of the sandy area is a horizontal sand flat which is exposed only at unusually low tides. Because of its horizontal nature this area is exposed or flooded by very minor fluctuations in river level. At most times it is covered by water to a depth of about one foot. Thus the fauna it contains is inaccessible to the short-beaked waders (Grey Plover; Sharp-tailed, Curlew and Common Sandpiper; Little Stint and Red-capped Dotterel.) Optimum conditions for feeding are damp sand and 0-1 inches of water and these are provided by unusually low tides. At such times flocks of over 3,000 waders may be seen feeding on the flats.

At normal low tide this area is covered by almost 5 inches of water and is then a vast feeding ground for the long-beaked waders (Avocet, Stilts, Bar and Black-tailed Godwits and Green-shanks) which normally feed in 1-6 inches of water.

2. Near - shore Area.

The gentle sloping nature of the shore-most 20-25 yards of sand flats provides the conditions necessary for feeding by both the Long and Short-beaked waders.

Although this area is only a small percentage of the total sand flat area it is sufficiently extensive to provide ample food for the large numbers of long-beaked waders which may be seen feeding along it at all times. The Short-beaked waders feed mainly in other areas (see (5)), however small groups may always be seen along the water's edge.

3. Natural Sand Bar.

The south-eastern border of the Pt Waylen sand flats is a raised sand bar, 90% of which is usually covered by not more than 6 inches of water and so forms an extension of the "Near-shore Area".

A small portion of the bar (20 yds x 3 yds) is covered by only the highest tides, thus forming a semi-permanent island. This island and Pelican Pt. are the two most important roosting areas in the Swan River.

Large numbers of Swans, Crested and Caspian Terns and Comorants also congregate on this island.

To the south-east the bank shelves into the deeper waters of Alfred Cove, and it is here that these birds catch much of their food.

Further to the north-east the bank rises again to form a long narrow island on which the aforementioned species also congregate.

4. Man-made Sand Bars.

The two sand bars along the northern border of the flats which have been erected by the dumping of sand dredged from nearby, are exposed only at low tides. They are nevertheless important roosting areas since although Pelicans will roost only on completely exposed areas, Swans will roost in leg - depth water.

Roosting on these bars is of twofold advantage. Firstly, it separates the Swans from the public by 250 yds of water, and secondly, these bars delimit the northern end of the weed-covered flats on which they feed almost exclusively.

5. Reed Island & Surrounding Flats.

The area of tidal flats surrounding the reed island (see map) and extending from it to the shore is one of the most important features of the tidal flats of the Swan River. Of the flats at Pelican Pt., the Freeway and Pt. Waylen, this area is the last to be flooded by a high tide, due to its greater elevation. It is therefore the last area of sand flat which is available to the short-beaked waders for feeding purposes, (apart from the less favourable shore margins). Consequently, flocks of over 3,000 waders which had gathered from all over the river may occasionally be seen feeding in this limited area.

6. Drains.

At two points along the shoreline stormwater drains empty into the river, discharging fresh water, plant and insect life, and sand. The sand deposited at the end of the drains has formed small deltas (each with a radius of twelve yards) on which many Swans and ducks (Grey Teal and Mountain Duck) congregate. The Swans and ducks

drink the fresh water discharged by the drains and the waders eat the insect life which it carries. These are the only places on the Swan River where Swans may be regularly seen on the shore.

1.13 Weed-covered Area.

This area has a similar topography to that of the adjacent sand flats; the greater part being horizontal sand flat, with the shore-most 20-30 yds gently sloping upwards to high water mark. The whole area is thickly covered by seaweed which (with the crustacea it contains) provides a large food mass upon which ducks and Swans feed. Average numbers seen through the period of survey were 600 Grey Teal, 30 Swans and 10 Mountain Duck.

This is the only area on the river where Swans and Mountain Ducks may regularly be seen feeding and preening on the shore's edge.

1.14 Alfred Cove.

INTRODUCTION:

Alfred Cove is a shallow backwater area, bordered by samphire flats, the Pt Waylen sand flats, and a narrow strip of reeds (predominantly Scirpus sp.). Its bottom is of thick mud which is overgrown by seaweed.

Under normal tidal conditions only a narrow (0-5 inches) strip of mud around the edge of the cove is exposed. Where this is backed by samphire, small groups of waders may occasionally be seen feeding.

Since this area is usually covered by 1-6 inches of water, it is a favoured feeding area of the long-beaked waders. Short-beaked waders also feed along its edge.

The reedy area and the grass behind it provide abundant insect life for the short-beaked waders (stomach samples of these birds from Peel Inlet show insects to be their major food.)

Large numbers of Grey Teal also feed over these flats, its attractiveness to ducks being enhanced by its backing of reeds.

That the cove harbours a large fish population is indicated by the regularity with which river mullet may be seen flipping out of the water in the shallows of this area.

It is without doubt an important feeding area for the fish-feeding birds (Pelicans, cormorants, and Crested and Caspian Terns) which roost on the sand bar which forms the south-east border of the Pt. Waylen tidal flats.

Species observed feeding in Alfred Cove include Grey Teal;

Wood Duck; Crested and Caspian Terns; Pelicans; Swans; Red-necked Avocet; White-headed Stilt; Bar-tailed Godwit; Curlew; Greenshank; Grey Plover; Sharp-tailed, Curlew and Common Sandpiper; White-faced Heron; Cormorants; and Little Stint.

1.15 Future Development.

1. Pt Waylen

Apart from the occasional person walking along the shore's edge and the small number of people who walk out onto the flats when they are completely exposed, there is little disturbance of the birds which roost and feed in the area. However, steps need to be taken to ensure that the situation does not worsen in the future.

Before 1963 marshes formed the entire shoreline between Pt. Waylen and Pt. Walter. In 1963 resumption of these marshes began. Rubbish and soil was dumped on them and levelled off at approximately 6 feet over high water mark. White beach sand was then bulldozed over the rubbish tip and down to the shoreline.

The area west of Roberts Rd. was then grassed and access roads were built to the shore.

Each weekend many people visit the area to walk along the shore and for passive recreation.

The Metropolitan Regional Planning Authority in its "Plan for the Swan and Canning Rivers" shows that the remaining section of reserve A 24063 is intended for "improvement" (the development of beach foreshores, landscaping, footways, access roads and parking areas.) "Clubs associated with river use" are also planned on the shore's edge, opening onto the tidal flats.

There is no doubt that the development of the shoreline in this manner will disturb the birdlife of the Pt. Waylen tidal flats to such an extent that the continued use of this area as a roosting and feeding ground for wading birds, ducks, swans, and Pelicans, etc, will be impossible.

2. Alfred Cove

Past proposals for the development of Alfred Cove have been designed to improve the suitability for the area for swimming and boating.

The development of the cove in this manner would be to the detriment of the wildlife which it and the adjacent sand flats support, for two major reasons.

Firstly, dredging of the cove and its mud flats would destroy important feeding grounds of Pelicans, Swans, ducks, cormorants, and of resident and migratory waders since the suitability of these areas for feeding is dependent not only on the food content but also upon its accessibility.

Secondly, the disturbance of the Pt Waylen sand areas (see section 1.12) which would be associated with any increase in boating activity, would be of a serious nature and completely uncontrollable.

1.16 Recommended Action

With the proposals of the M.R.P.A. and the importance of the Pt. Waylen tidal flats and of Alfred Cove as bird habitats in mind, it is recommended that,

1. An "A" class reserve be made to include,
 - A. all that land between high-water mark and low-water mark, from opposite Page st, Attadale, around to Cunningham st, Applecross.
 - B. All that land within A24063 and the Melville Beach Road Reserve one chain above high-water mark from opposite Haig Rd, Attadale, to Cunningham St, Applecross.
 - C. All land below low-water mark within Alfred Cove. This reserve should be for the purpose of "Conservation of Fauna" under the joint control of the S.R.C.B., and the W.A.W.L.A.
2. A four-foot cyclone mesh fence be erected on the boundary of the above reserve from high-water mark opposite Haig Rd, Attadale, to high-water mark opposite Hurst st, Alfred Cove. Notices be erected at either end and at intervals along the fence informing the public that the area is a fauna reserve and that entry is prohibited to all that part east of Haig Road.
3. Prawning be prohibited within the area of the reserve east of Haig Rd. but be allowed west of Haig Rd.
4. An observed mound similar to the one at Pelican Pt. be constructed on Pt. Waylen (Approximate position on map) together with an access road from Burke Drive and a parking area.

This observation mound will be much closer to the birds than the Pelican Pt. one and a high-power telescope should be unnecessary.
5. The existing bank which was formed by reclamation should not be pushed any further onto the sand flats. Preferably the steep edge should be levelled by pushing back or removal. Part of the bank which is removed could be used to build the abovementioned observation mound.
6. No further dredging of any area of the fauna reserve should be permitted.
7. The refuse which has fallen from the rubbish dump has made the shoreline at Pt. Waylen an unsightly mess and should be removed.

1.2 KWINNANA FREEWAY.

1.21 Introduction .

The tidal sand flats extending along the edge of the Kwinana Freeway from South Terrace to Lyall Street, are important feeding grounds for resident and migratory wading birds.

The flats extend 200 to 300 yards out from the shoreline and are approximately one mile in length. They are horizontal and consequently very minor fluctuations in water level result in rapid exposure or flooding.

They are only exposed by exceptionally low tides and thus contain enormous food reserves for the short-beaked waders which obtain their food from the damp exposed sand and shallow (0-1 inches) water. When the flats are exposed large flocks of these birds (2,000 or more) may be seen feeding over them.

Normal tidal conditions cover the flats with an average of one foot of water. With the water at this depth, food resources are available only to the long-beaked waders and to ducks (mainly Grey Teal) and Pelicans.

Public access to the Freeway flats is limited to the fore-shore via the footbridges at Comer and Judd Streets.

Nevertheless, during weekends and school holidays, people frequently wander along the shore's edge; and at a low tide, across the tidal flats.

Serious disturbance occurs only when the flats are covered by water and an afternoon sea breeze is blowing. Under these conditions large flocks of Little Stint, Curlew and Sharp-tailed Sandpiper, ducks, Red-necked Avocet and Bar-tailed Godwits, roost on the sand above high-water mark and are continually disturbed by members of the public walking along the shoreline.

1.22 Recommended Action

It is recommended that,

1. An "A" Class Reserve be made to include all that land between low-water mark and the cyclone mesh fence (which runs along the west side of the Kwinana Freeway and parallel to it) from opposite Lyall st. to a point 10 chains north of South Terrace.

The reserve should be for the purpose of "Conservation of Fauna" and under the joint control of the S.R.C.B. and the W.A.W.L.A.

2. Four-foot high cyclone mesh fences be erected extending from the existing fence, along the northern and southern boundaries of the reserves to high-water mark.
3. Notices be erected at either ends of the fence informing the public that the area is a fauna reserve and that entry is prohibited.

1.3 PELICAN POINT

1.31 Introduction.

The importance of Pelican Pt. as a bird sanctuary has been well recognised in the past. As a result an observation mound was built for public use and a fence was erected presumably to deter the public from walking onto the point. This fence has been a dismal failure.

Each weekend scores of people visit the point. A few look from the observation mound, but the majority walk along the shore edges and out onto the point itself.

The birds on the point fly off when approached. A few species, such as the Red-necked Avocet, White-headed Stilt and Red-capped Dotterel, settle somewhere else on the point, but the migratory waders leave the point altogether and seek relatively undisturbed locations such as the Freeway and Pt. Waylen sand flats.

Dogs also run across the flats, chasing the birds, and then move into the samphire, digging holes in the sand hills.

The number of Red-capped Dotterels resident at Pelican Pt. this year was six, a pitiful number compared with the scores which were resident there five years ago. This decrease in numbers is almost certainly due to destruction of nests by dogs digging in the sand.

At dawn and dusk, large flocks of waders feed at Pelican Pt. During the day however, they fly to less disturbed areas.

1.32 Recommended Action

It is recommended that,

1. An "A" Class Reserve be made to include

- A. All that land between low-water mark and high-water mark from the limestone jetty to the western end of the existing fence.
- B. All that land within A 17375 which is enclosed by the fence. This reserve should be for the purpose of "Conservation of Flora & Fauna" and under the joint control of the S.R.C.B. and the W.A.W.L.A.

The existing reserve is for the purpose of "Recreation" and under the control of the National Parks Board. The change in purpose is recommended so that the area becomes a Fauna Sanctuary within the meaning of the F.C.A. Public access can then be restricted by the W.A.W.L.A.

2. A four-foot high cyclone mesh fence be erected extending from the limestone jetty around the edge of the samphire and rushes, and then along the existing fence line to high-water mark (see map).

Alternatively most of the existing 3' fence could be utilized if cyclone mesh were added. A fence of this height is, however, very easy to climb over.

3. Notices be erected at either end and at intervals along the fence informing the public that the area is a fauna reserve and that entry is prohibited.
4. A fixed, high-power telescope be erected on the observation mound.

2.0 MUD FLATS AND REED BACKING.

2.01 Introduction.

Between Heirisson Island and Ivy St. Redcliff, there are five areas of mud flats (shown on map), parts of which are exposed at low tide.

Because of this, they support a larger number and greater variety of waterbirds than does the rest of this stretch of the Swan River.

Each of these tidal mud flats slopes gently from the shore into deeper water, thus providing suitable feeding conditions for many waterbird species.

Short-beaked waders feed in the damp exposed mud and along the water's edge.

The long-beaked waders feed in the shallow water. Pelicans, coots and ducks (Grey Teal and Black Duck) feed in the deeper areas of the flats. Heron, Ibis and Egret feed along the shore's edge and in the shallows.

Species seen feeding on the tidal flats include Red-capped Dotterel, Little Stint, Curlew sandpiper, White-headed Stilt, White-faced Heron, Red-necked Avocet, White Egret, Straw-necked Ibis, White necked Heron, Greenshank, Caspian Tern, Coot, Grey Teal, Black Duck, Wood Duck, and Pelican.

Because all five areas have a similar topography, they support the same species of birds. Relative importance therefore depends upon relative size. Areas, 2,3, and 5 are therefore of greater importance, 4 being the least important.

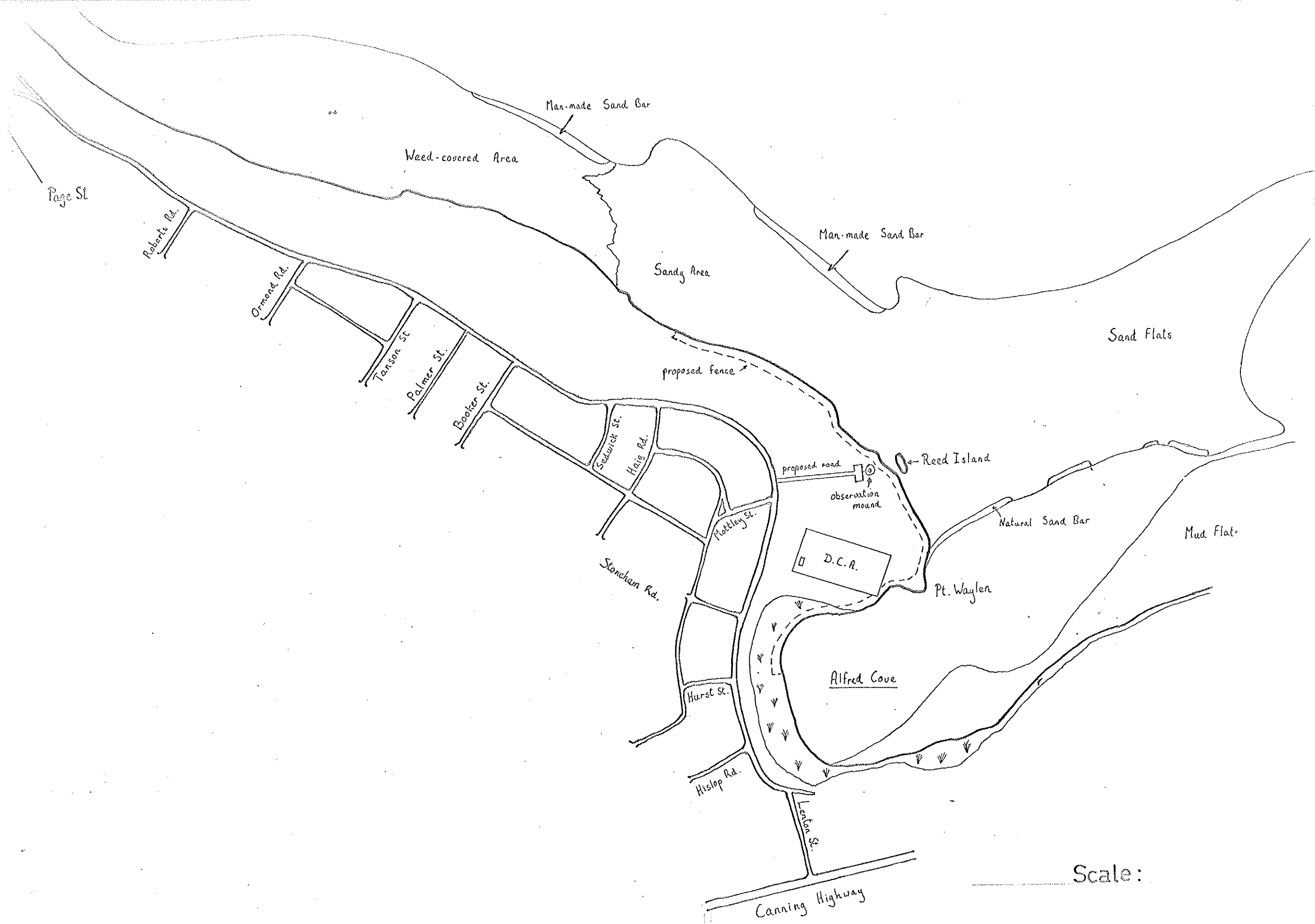
All these areas are however, less important than the Pt. Waylen, Pelican Pt. and Kwinana Freeway tidal flats.

In the M.R.P.A. proposal "A Plan for the Swan and Canning Rivers", all five areas are proposed for dredging. This would completely destroy them as feeding and roosting grounds for the abovementioned species of waterbirds.

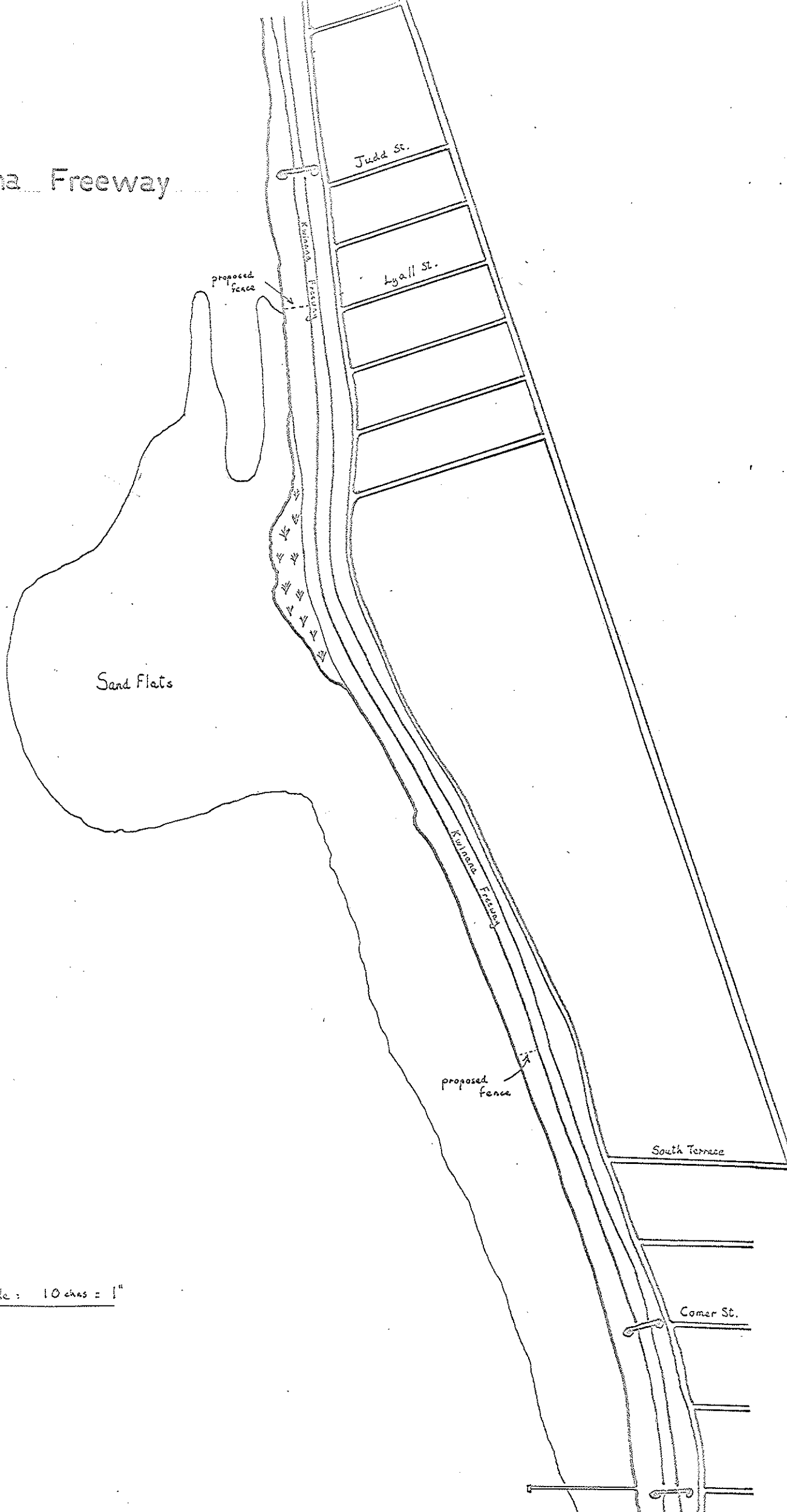
2.02 Recommended Action

If these birds are to continue using this stretch of the river, the majority of mudflats must be left in their natural conditions.

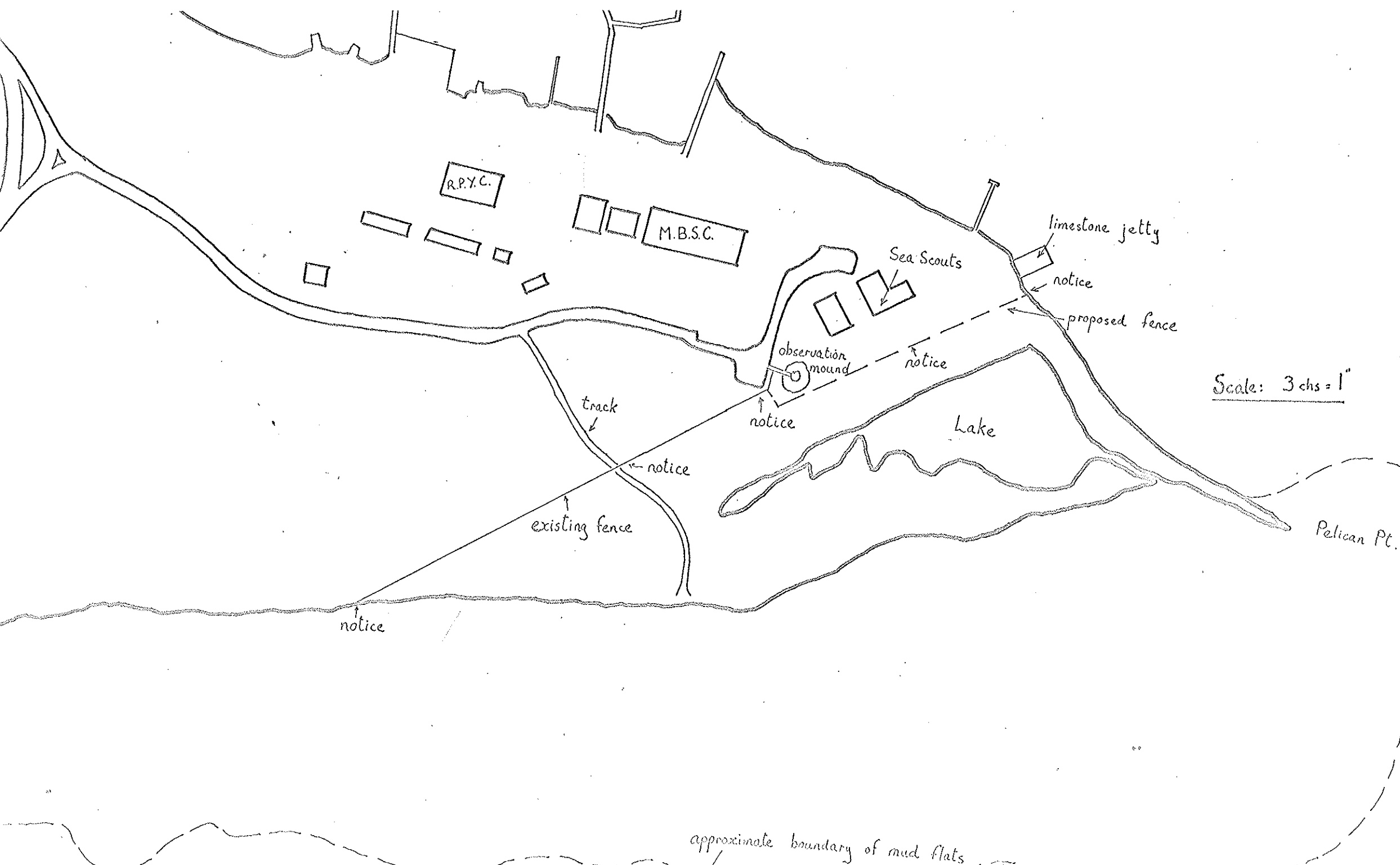
Some provisions should also be made to control development on the banks of the river immediately adjacent to the mudflats so the disturbance is kept to a minimum.



Kwinana Freeway



Scale : 10 chas = 1"



Scale: 3 cms = 1"

