

## What are marine reserves?

Marine reserves are areas of sea and foreshore where all marine life is totally protected. They are the national parks of the marine world and fishing, shellfish gathering and any other disturbance of marine life is strictly prohibited.

Marine species and habitats are left to grow naturally and degraded areas are allowed to recover. This makes them ideal places to study marine ecosystems, and for comparisons with other unprotected marine areas.

Motu Manawa Marine Reserve protects some 500 hectares of the inner reaches of Auckland's Waitemata Harbour and includes intertidal mudflats, tidal channels, mangrove swamp, saltmarsh and shellbanks. The reserve is bounded to the south by the industrial suburb of Rosebank Peninsula and to the east by residential Waterview.

## History

The Waitemata Harbour's sheltered and bountiful waters attracted early Maori settlement. The head of the Whau inlet was a main canoe portage joining the Waitemata and Manukau harbours.

Pollen Island was named after Dr Daniel Pollen who bought it in 1855 together with some land at the tip of the Whau Peninsula. There he set up Pollen Brickworks, the first in the region, and built his homestead nearby. Pollen had been a doctor on Kawau Island during its mining period and was Premier of New Zealand for a few months in 1875/76.



Photo: Vanessa Tanner

The rectangular concrete structure visible at the northwestern end of Pollen Island (see photo above), is thought to have been associated with shell extraction and processing for the production of lime. The structure is believed to be the remains of a tidal sea water pool for washing shell that was then transported to the mainland.

The remains of a tramway used for transporting shell, which connected the old cart road running to the end of the Rosebank Peninsula and the outer shell bank of Pollen Island, can be seen as a faint line running across the centre of the cover photo. The tramway was built up across the mudflats using a two inch layer of tea tree topped by a three inch layer of shell. Wooden box culverts were constructed across several small tidal channels.

## Mud, mangroves & wading birds

The intertidal flats to the west of Pollen Island (see over for *shore profile*) are probably the best example of mangrove and saltmarsh habitat in the Waitemata Harbour and are rich feeding grounds for white faced herons, pukeko, spotless crane and the endangered banded rail. These wetlands are equally important for several non-waders, including kingfisher and fernbird.

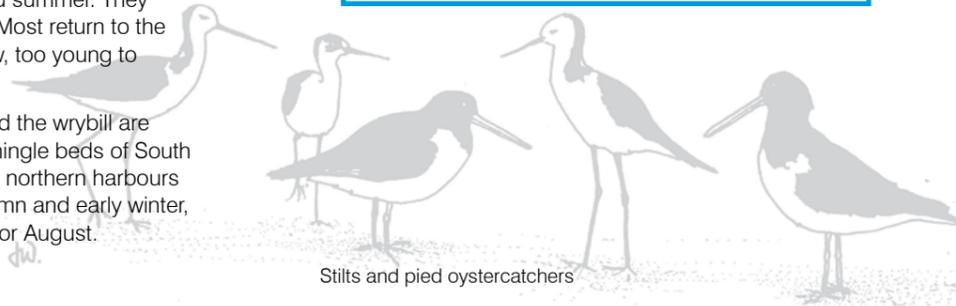
### Fernbird or matata (*Bowdleria punctata*)

This shy bird is found in the marine reserve area. It is a weak flier and the few surviving populations in the Auckland area are confined to isolated scrubby salt marshes because the continuous fringe of shoreline scrub and coastal forest no longer exists. The bird, eggs and young are vulnerable to predation by rats, cats and dogs as they nest close to the ground.

The outer flats are regularly visited by red billed gulls, black backed gulls and their mottled brown juveniles, and by two terns. The smaller white fronted tern is usually in small flocks and has a black beak and cap separated by a narrow white forehead band. The larger caspian tern is less common. It has a full black cap and a large bright red bill and is usually only seen in pairs.

Some birds, such as godwits, knots and sandpipers, are international migrants that breed in the north Asian wetlands during the northern spring and summer. They avoid the frozen winter by flying south. Most return to the northern hemisphere in March but a few, too young to breed, remain here over winter.

The South Island pied oystercatcher and the wrybill are national migrants. They breed on the shingle beds of South Island braided rivers in spring and fly to northern harbours and estuaries for the late summer, autumn and early winter, making the return journey south in July or August.



Stilts and pied oystercatchers

## How to get there

There is access to the inner parts of the reserve around Traherne Island on the southern side of the motorway. This area can be explored at mid-high tide or from a few shoreline points (arrowed on the map) where side roads from Great North Road lead to esplanade reserves, with dinghy access at Walker Rd. There are good views from the Northwestern Motorway (Te Atatu exit).

Stopping on the motorway is not permitted.



Please open the brochure for more detailed information on the biology of the reserve

## Help take care of this reserve

Motu Manawa (Pollen Island) Marine Reserve is managed by the Department of Conservation Auckland Area Office. Its rangers watch over the area and enforce the "no take" restrictions.

All marine life within the marine reserve is protected from disturbance or harm, including all plants and animals. No fishing or collecting marine life is allowed or unnecessary disturbance. The seabed, foreshore and all natural material such as sand, rocks and shells are also protected.

In the interests of visitor safety there is a 5 knot restriction on all vessels within 200 metres of a divers flag or the shoreline, or 30 metres from a person in the water or another vessel.

The success of a marine reserve depends on a caring community that supports conserving the reserve in its natural state for all to enjoy. Please report any breaches of these rules to the Department of Conservation on the 24 hour

DOC HOTline 0800 362 468.

DOC Auckland Area Office  
North Head Historic Reserve  
Takarunga Rd, Devonport.  
Ph 09-445 9142 (office hours)

DOC Visitor Centre  
Ground Floor Old Ferry Building  
99 Quay St, Downtown  
Ph 09-379 6476, fax 09-379 3609  
Email: aucklandvc@doc.govt.nz  
Website: [www.doc.govt.nz](http://www.doc.govt.nz)

**DOC HOTline**  
**0800 362 468**

Report any safety hazards or conservation emergencies  
For fire and search and rescue call 111



- Protect birds, fish mammals and plants
- Keep the marine environment intact
- Keep the seas clean
- Remove rubbish
- Dispose of toilet wastes properly
- Consider others
- Cruise slowly
- Respect our cultural heritage
- Enjoy your visit
- Toitū te moana (leave the sea undisturbed)

## Dogs

Dogs are not allowed in the marine reserve area because they disturb native birds such as the New Zealand dotterel, banded rail, and fernbird.



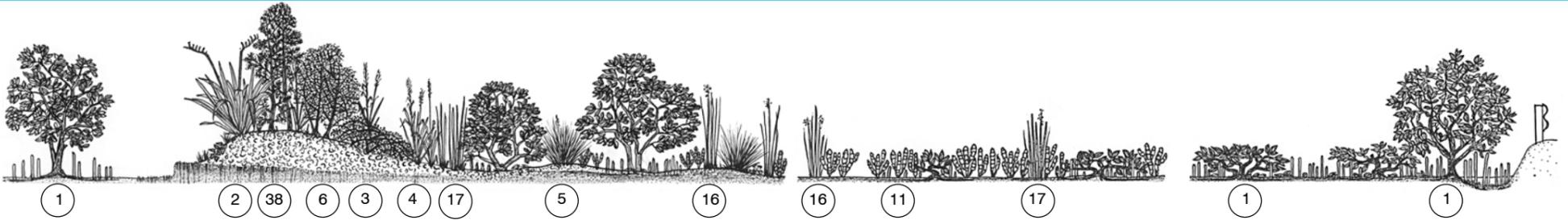
## Motu Manawa (Pollen Island) Marine Reserve

Hauraki Gulf Marine Park

Waitemata harbour, AUCKLAND



## Pollen Island shore profile

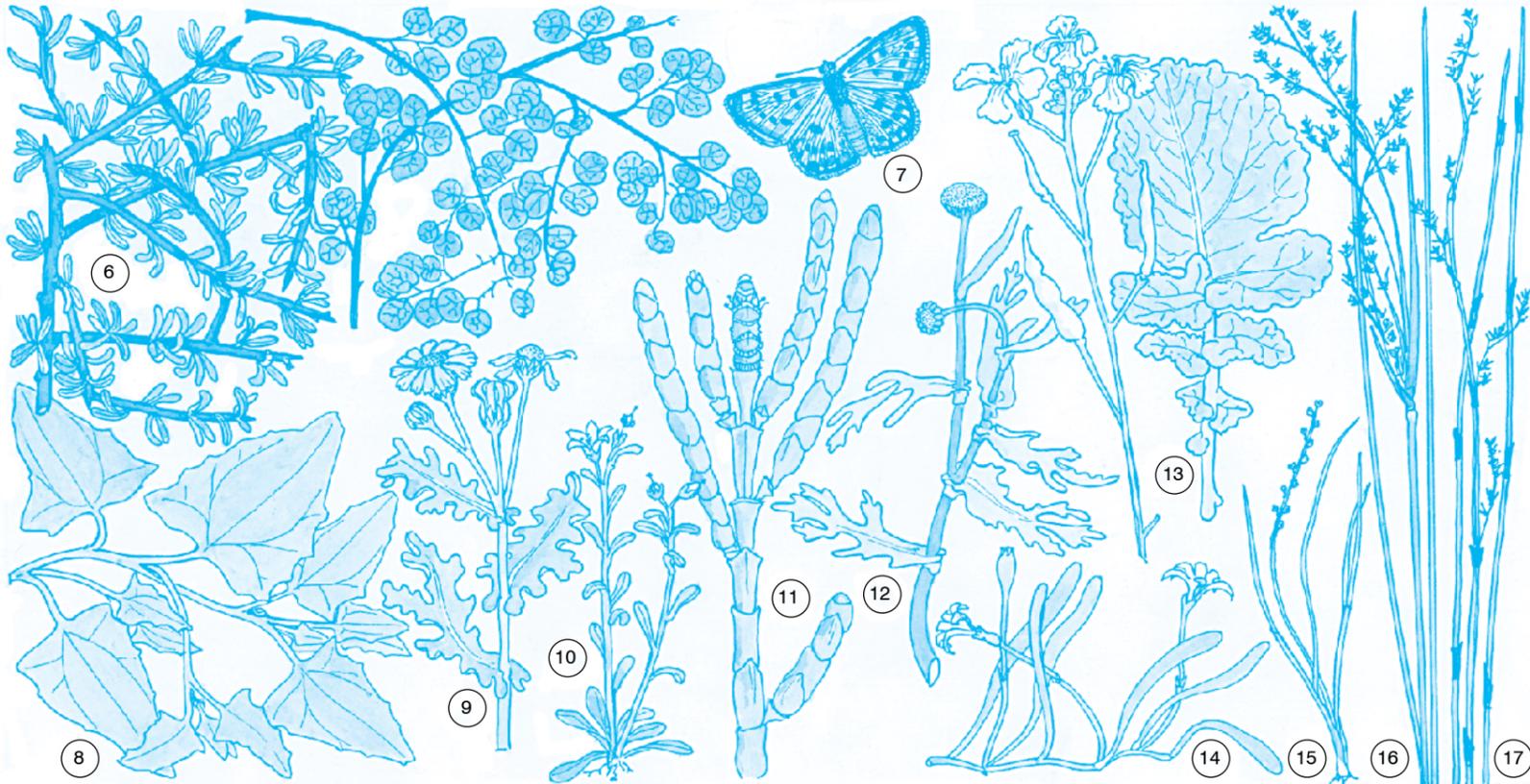


A fringe of mature mangrove trees gives wave protection to Pollen Island's outer shore, which is being alternately eroded or built up by washed up sand and shells. Further out, cockles are the dominant shellfish of the extensive mudflats, which are patrolled by wading birds. At high tide the flats are the feeding ground of flounder and grey mullet.

The peaty remnants of an ancient rush marsh, thought to be over 170,000 years old, are exposed at the front of Pollen Island and help resist erosion. On top of this bank, drifts of shells, mostly cockles, have steadily built up and though some mounds are unstable and mobile, most older parts are now stabilised by a maritime scrub, home to rare fernbirds.

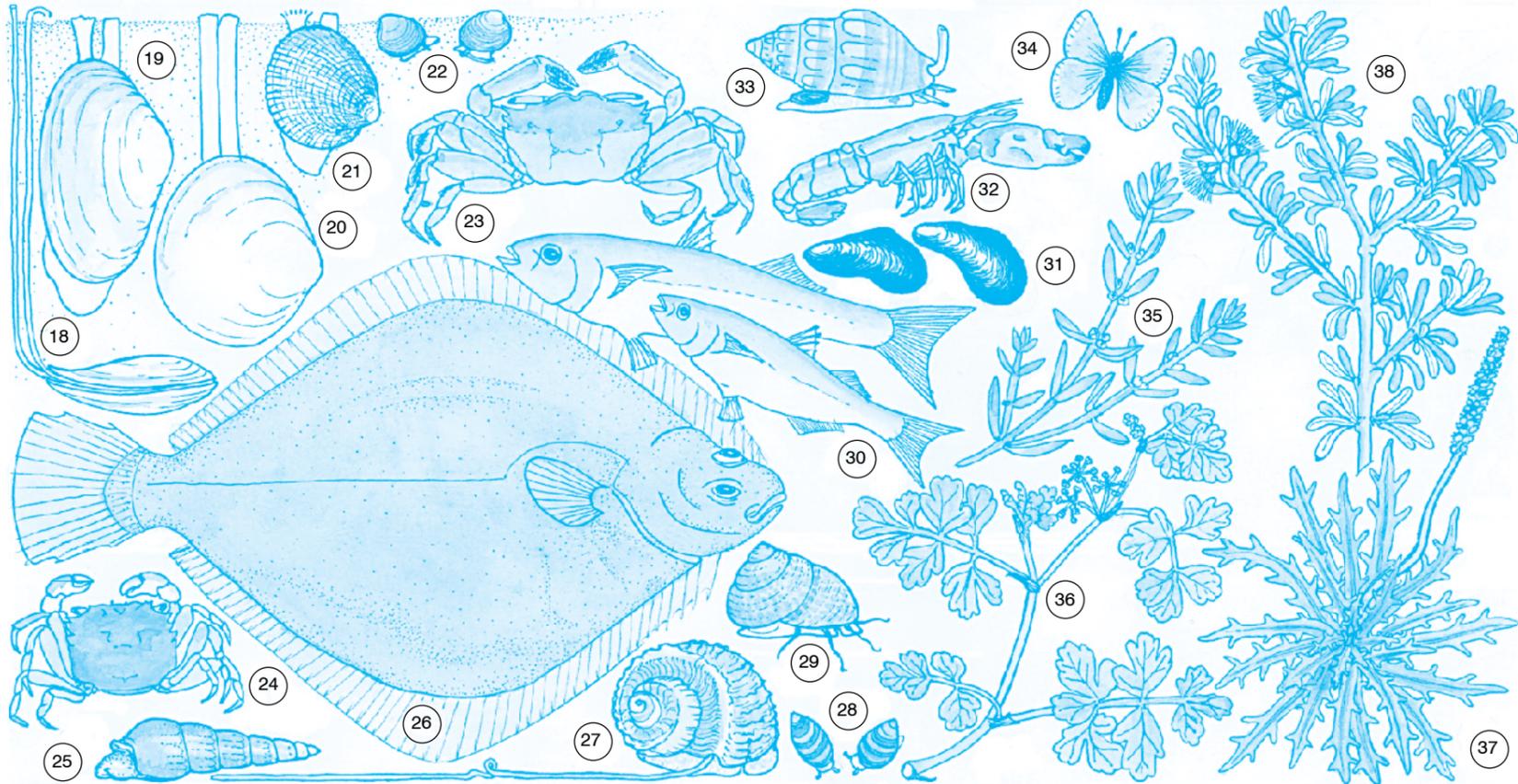
At the back of the island, mature upright mangroves are girdled by clumps of shore needle grass and joined and maritime rush, bordered by salt tolerant flowering herbs like shore primrose which stabilise the sandy soil. Gradually, this vegetation gives way to a salt marsh dominated by glasswort and pockmarked with the burrows of thousands of mud crabs.

Near the motorway is a fringe of large, mature mangroves and beyond, a broad expanse of old stunted mangrove trees growing with a prostrate form in the saturated muddy ground. The sloppy surface is criss-crossed by trails of thousands of amphibious mud snails. The area is home to snapping shrimps and mud crabs, and a feeding ground for white faced herons.



- 1 Mangrove, Manawa, *Avicennia marina*
- 2 N.Z. flax, Harakeke, *Phormium tenax*
- 3 Wire vine, Pohuehue, *Muehlenbeckia complexa*
- 4 Tall fescue, *Festuca arundinacea*
- 5 Needle tussock, *Stipa stipoides*
- 6 Salt marsh ribbonwood, *Plagianthus divaricatus*
- 7 Common copper butterfly, *Lycaena salustius*
- 8 Goosefoot, shore orache, *Atriplex prostrata*
- 9 Shore groundsel, *Senecio lautus*
- 10 Sea primrose, *Samolus repens*
- 11 Glasswort, *Sarcocornia quinqueflora*
- 12 Bachelor's button, *Cotula coronopifolia*
- 13 Sea radish, *Raphanus raphanistrum*
- 14 Remuremu, *Selliera radicans*
- 15 Drooping shore sedge, *Isolepis cernua*
- 16 Sea rush, *Juncus maritimus*
- 17 Oioi, *Leptocarpus similis*

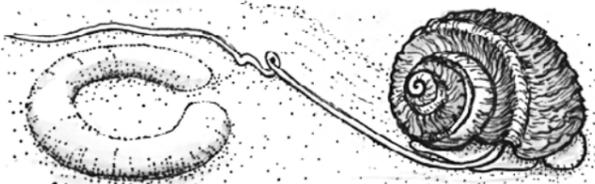
- 18 Wedge shell, *Macomona liliانا*
- 19 Pipi, *Paphies australis*
- 20 Harbour trough shell, *Maetra ovata*
- 21 Cockle, *Chione stutchburyi*
- 22 Nut shell, *Nucula hartvigiana*
- 23 Stalk eyed mudcrab, *Macrophthalmus hirtipes*
- 24 Mudcrab, *Helice crassa*
- 25 Mudflat hornshell, *Zeacumantus lutulentus*
- 26 Sand flounder, Dab, *Rhombosolea plebeia*
- 27 Mudsnail, *Amphibola crenata*
- 28 Harbour earshell, *Ophicardelus costellaris*
- 29 Mudflat topshell, *Diloma subrostrata*
- 30 Yellow eyed mullet, *Aldrichetta fosteri*
- 31 Estuary flea mussel, *Xenostrobus securis*
- 32 Snapping shrimp, *Alpheus richardsoni*
- 33 Mud whelk, *Cominella glandiformis*
- 34 Common blue butterfly, *Zizina otis labradus*
- 35 Sea blight, *Suaeda novae-zelandiae*
- 36 N.Z. celery, *Apium prostratum*
- 37 Shore (buckshorn) plantain, *Plantago coronopus*
- 38 Coastal tree daisy, *Olearia solandri*



### Mud snail

#### *Amphibola crenata*

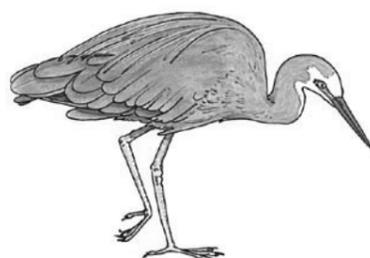
The air breathing mud snail is only active when the tide is out and rests partly buried when submerged. It eats surface sediments non-stop to digest the micro-organisms that flourish in them, and usually leaves behind a continuous faecal trail. After mating, the hermaphrodite adults mould crescent-shaped spawn masses on the surface, each containing over 5000 eggs. Most juveniles spend their first year among the salt marsh rushes, before migrating to open mud flats.



### White faced Heron

#### *Ardea novaehollandiae*

This sedate wader is a predator of small fish, worms and crustaceans like crabs and shrimps. It frequently stands motionless waiting for camouflaged and hidden creatures to move, or it may use one foot to disturb prey in submerged soft mud. In shallow water it walks into the current so that sediments disturbed by its steps do not cloud its view. This heron nests in tall trees around the harbour.



All drawings by John Walsby  
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### Yellow eyed mullet

#### *Aldrichetta fosteri*

This small schooling fish, often caught from wharves as sprats or bait fish, is fairly abundant in most harbours. It is blue-green above and silvery-white below, with bright yellow eyes. It grazes fine seaweeds from hard surfaces and snaps up small swimming animals, but feeds mainly by straining the suspended particles that cloud quiet harbour waters. These strainings are rich in plankton and micro-organisms stirred up from the bottom.

