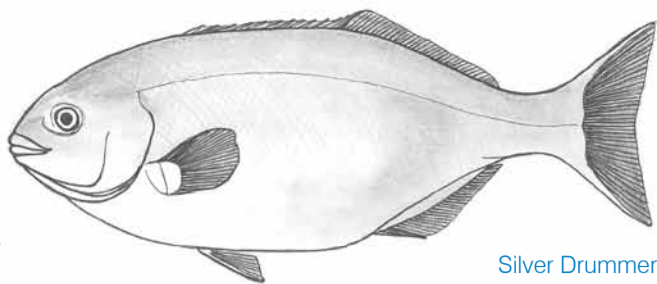


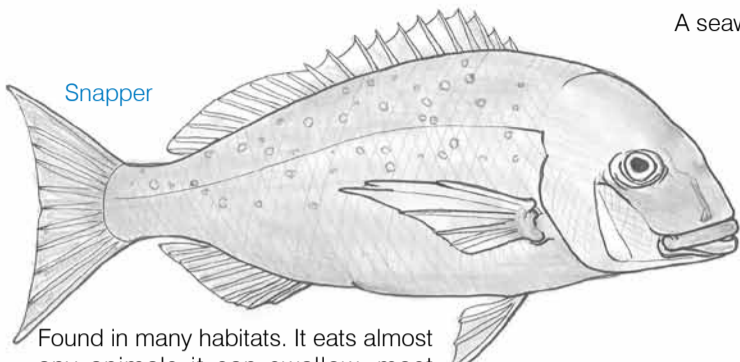
**Butterfly Perch**

Often found in small mid-water groups pecking waterfleas and zooplankton from passing currents.



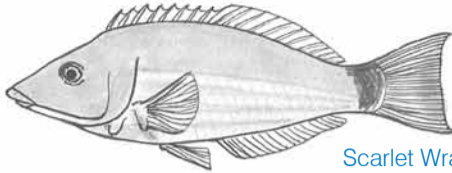
**Silver Drummer**

A seaweed eater that favours small brown and red algae.



**Snapper**

Found in many habitats. It eats almost any animals it can swallow, most commonly snails, mussels, small fish, crabs and small sea eggs.



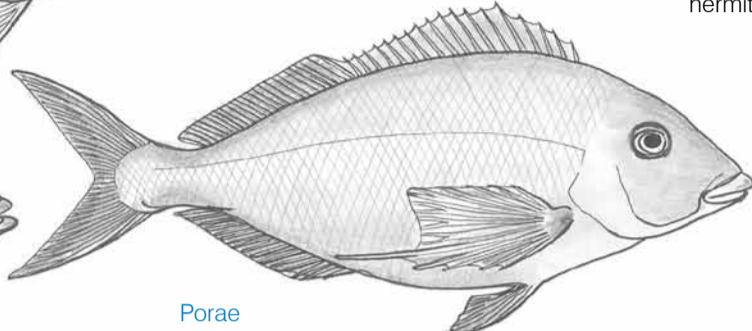
**Scarlet Wrasse**

Fossicks in crevices and kelp holdfasts for small hidden brittlestars, crabs, barnacles and hermits.



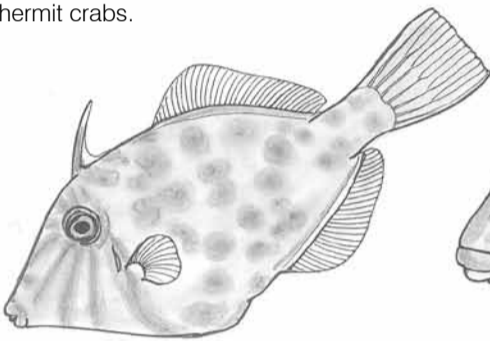
**Red Banded Perch**

A daytime bottom feeder that catches small fish, crabs and hermit crabs.



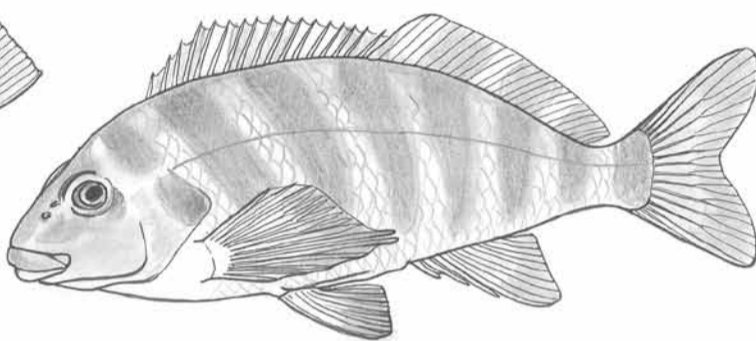
**Parae**

A roving predator that wrenches off any mobile bottom living animals with its powerful fleshy lips.



**Leather Jacket**

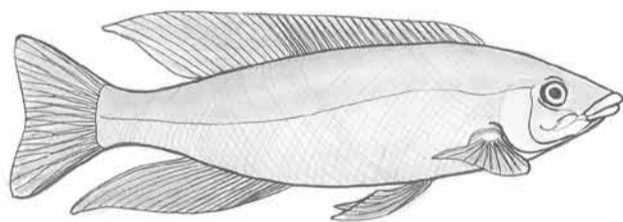
A daytime feeder that nibbles away at any encrusting animals on exposed surfaces.



**Red Moki**

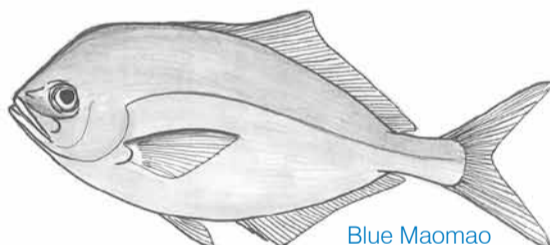
Strongly defends its home territory. Feeds on snails, brittle stars, crabs and other small crustacea.

Further reading: companion DOC brochure "The Intertidal World" Drawings & Text: John Walsby. Copyright.



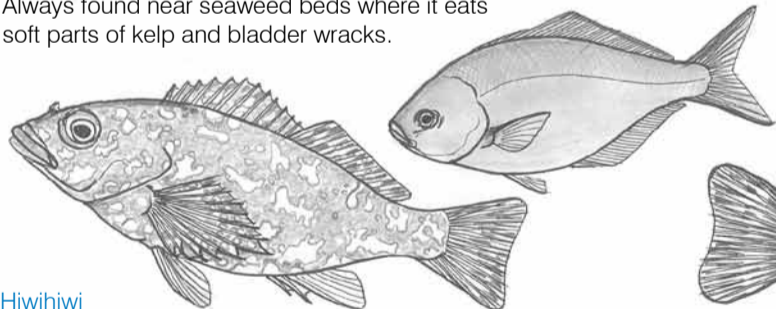
**Butterfish**

Always found near seaweed beds where it eats soft parts of kelp and bladder wracks.



**Blue Maomao**

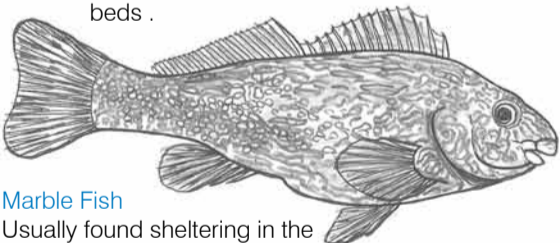
Common in large schools near seaweed shelter, eating zooplankton, fish eggs and seaweed scraps.



**Hiwihiwi**

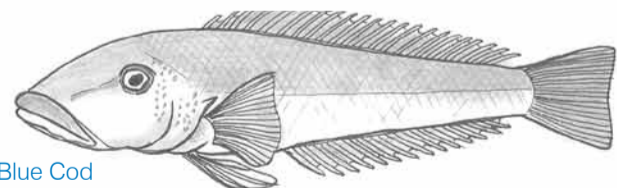
Commonly seen in small groups feeding at dawn and dusk on snails, chitons, worms and crabs.

**Sweep** Often found in groups feeding on crustacean larvae in mid-water above seaweed beds.



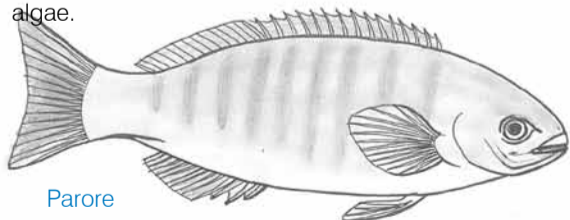
**Marble Fish**

Usually found sheltering in the seaweed gardens, it feeds mainly on red turfing algae.



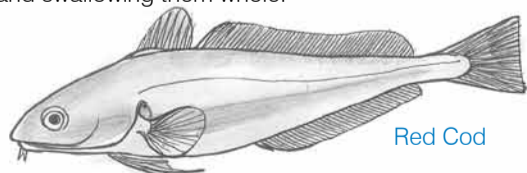
**Blue Cod**

Stalks its prey of small fish, crabs and hermit crabs, crushing and swallowing them whole.



**Parore**

Most active at dawn and dusk. Parore normally swim in groups, feeding mainly on seaweeds but also some invertebrates.



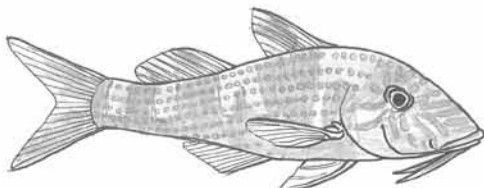
**Red Cod**

A night-time feeder of small fish, crabs, worms and other inhabitants of muddy and sandy bottoms.



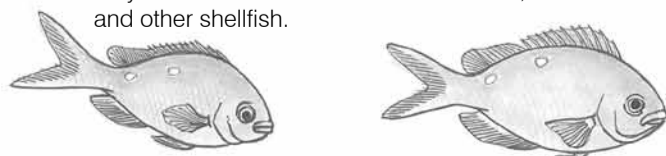
**Paketi / Spotty**

Very common reef fish that feed on crabs, small mussels and other shellfish.



**Goat Fish**

Using its sensitive barbels, this bottom forager seeks out small crabs, hoppers and worms.



**Demoiselles**

During daytime schools feed in mid-water on larvae and small swimming crustaceans.

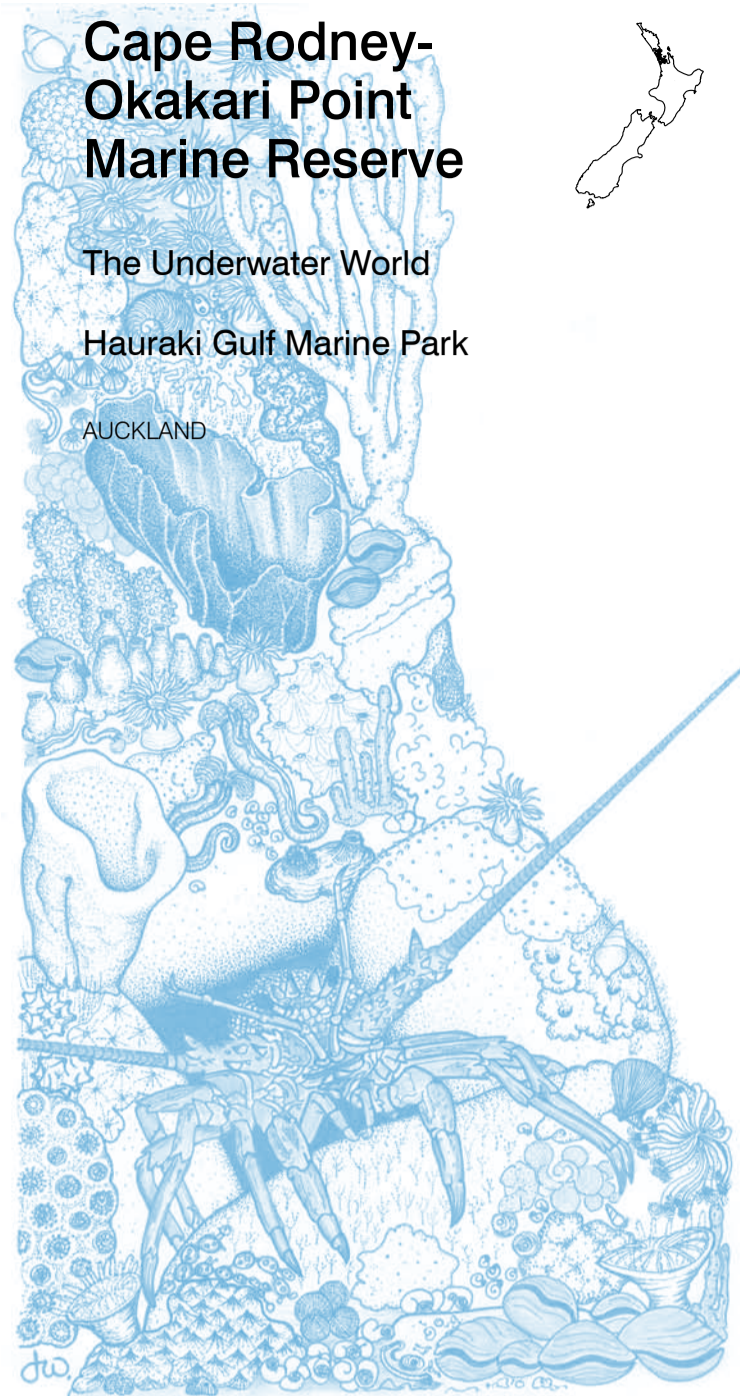
# Cape Rodney-Okakari Point Marine Reserve



The Underwater World

Hauraki Gulf Marine Park

AUCKLAND



Department of Conservation  
Te Papa Atawhai

## Help take care of this reserve

The Cape Rodney-Okakari Point Marine Reserve protects 547 hectares of shore and sea on the northeastern coast near Leigh, about one and a half hours drive north of Auckland. It is managed by the Department of Conservation Warkworth 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.

For more information or to report any offences contact:

DOC Warkworth Area Office  
28 Baxter St, Warkworth.  
Ph 09-425 7812 (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







### Seaweed gardens

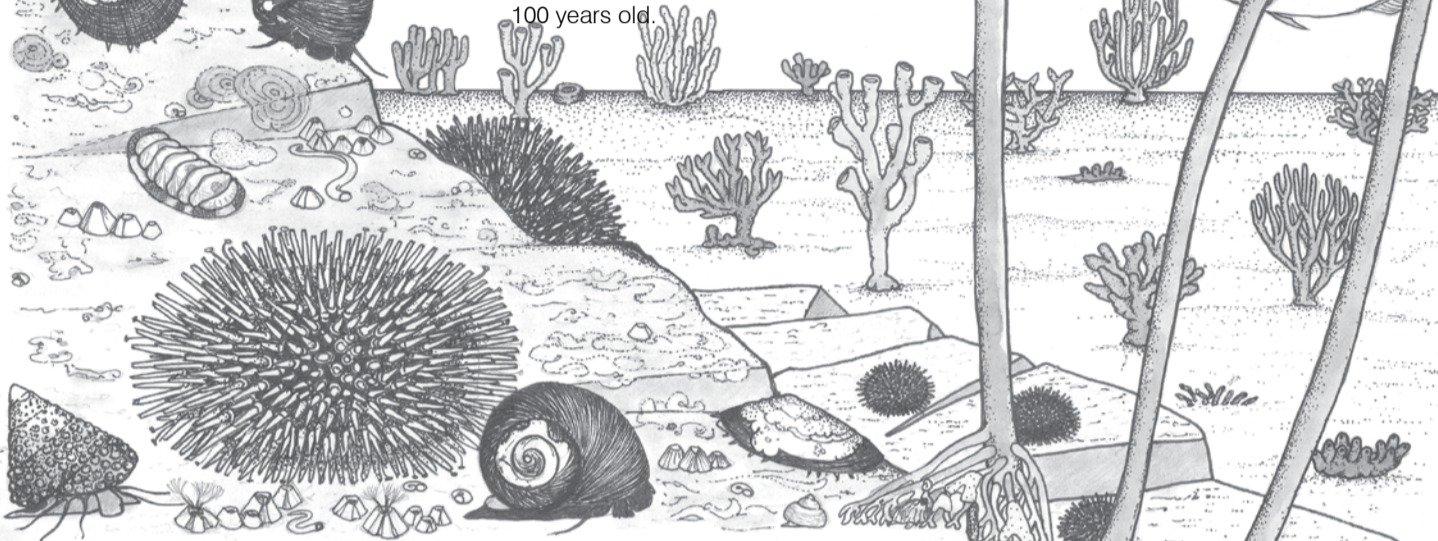
Right along rocky shores, the shallows just below low tide mark are draped with curtains of large brown seaweeds. They have strong flexible stems and are firmly attached by their spreading holdfast pads to resist the strains of breaking waves and surging currents. The largest are buoyant bladder wracks.

Small red and green seaweeds grow beneath the bladder wracks and the rock below is covered by a thin, pink, chalky crust of coralline algae. Large and small snails and a few sea eggs graze the surface and many small fish take cover or hunt for food among these lush seaweed gardens.



### Sponge gardens

In deep water outside the kelp forest are extensive rock flats with shallow coverings of clean sand. Poking up through the sand but attached to the rock, are sponges of many shapes and colours. These slow-growing creatures feed by filtering dead plankton that falls from above. The sponge gardens change little from year to year because they are too deep to be disturbed by waves and are seldom attacked by fish or other predators. Some large sponges are probably over 100 years old.



### Coralline turf/bare rock

Between seaweed gardens above and kelp forest below, rocky areas used to be cleared of large seaweeds by sea eggs leaving just a crust of pink coralline algae. These browsers are now less common and

bare patches are now mostly carpeted with coralline turf, although seasonal flushes of fast growing softer seaweeds often appear. The bare areas are grazing pastures for sea eggs and snails such as cats eye, Cook's turban, paua, topshells and limpets.



### Kelp forest

Just offshore, stands of tall kelp plants cling to the rocks below with multi-fingered holdfasts. Their large ribboned fronds reach up to the light on long rubbery stalks.

Where the kelp is dense, the canopy shades the rock below. During daylight this dark retreat provides a safe haven for a variety of small fish that feed in the water outside the forest.

Kelp holdfasts provide sheltered living spaces for many small mobile creatures such as crabs, brittlestars, worms and snails, and for various encrusting animals that feed by filtering plankton.

## Understanding the Marine Reserve

Knowing how the underwater world is divided into distinct biological habitats can make swimming and diving much more rewarding. This pamphlet shows the five main habitats and the fish most commonly encountered in the marine reserve.

Local physical conditions, especially light and wave action, regulate where particular seaweeds and encrusting animals are able to live on subtidal rocks. It is easy to identify distinct habitat zones such as the seaweed gardens, coralline turf / bare rock flats, kelp forest, sponge gardens and deep reefs.

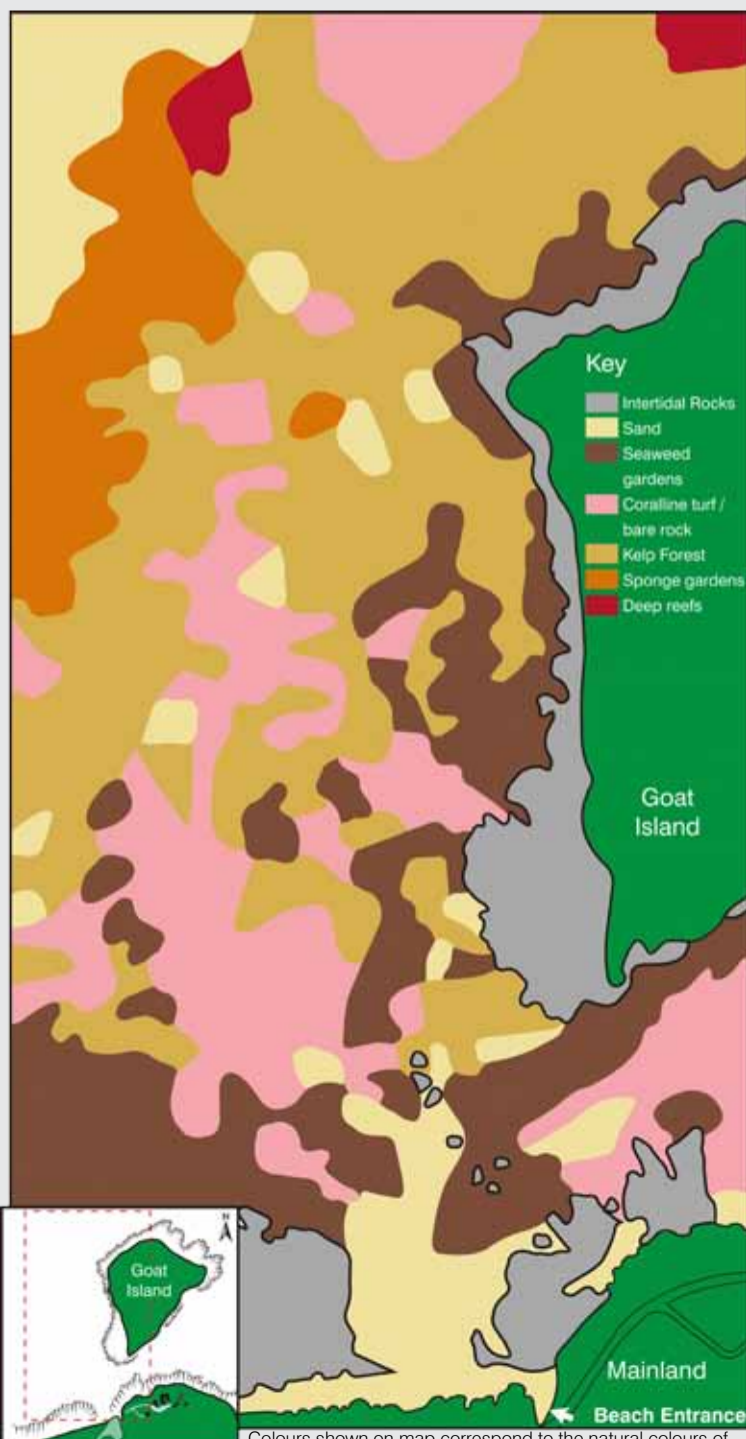
Wave action is most severe in the shallows where seaweeds must be firmly anchored, slippery smooth and tough but flexible, to resist the wrenching forces of waves. Delicate algae survive better in deeper water but are restricted to depths to which enough light for plant growth can penetrate.

Some wave lengths of light penetrate further than others so green algae are found only in the shallows and towards the lower limits of plant growth only red algae are found. Large brown seaweeds either float (bladder wracks) or reach up on long stipes (kelp) towards the surface where the light is stronger.

Zone boundaries are often sharp and have been mapped throughout the reserve but they change due to natural variations of the animal and plant communities. Some variations may be related to climate change and others to the increase in numbers of crayfish and many fin fish since fishing and gathering in the reserve has been prohibited.

The habitat zonation map shown here covers just a small part of the marine reserve directly in front of the beach and along the western side of Goat Island. It shows a typical sequence of subtidal habitats from the shallows into deep water.

**Safety Note:** As the boundaries of underwater habitats frequently change, this map cannot be relied on for accurate underwater navigation by divers.



Colours shown on map correspond to the natural colours of the dominant organisms in each habitat zone.

### Deep reefs

Rocky slopes down below the kelp forest are too dark for seaweeds to grow. The rock surfaces are covered with a patchwork of brightly coloured encrusting animal life. Most feed by filtering dead plankton that sinks from the sea's upper sunlit layers. These filter feeders are mainly sponges but there are also sea squirts, red lampshells, tube worms, cup corals and many pin-head sized moss animals (bryozoa).

Beneath overhangs, small fish shelter from large predators like snapper and kingfish. Larger crevices are often occupied by watchful crayfish or moray eels.

