MILFORD DISCOVERY CENTRE INFORMATION SHEET

English

Welcome to Fiordland's first underwater observatory. This information sheet will help you identify some of the marine life you will see below the surface of the water. Further information is available in the interpretation centre at reception.

SNAKE STAR

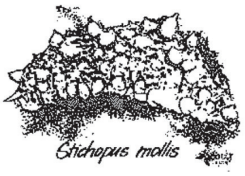
You are most likely to see the long, slim arms of these animals tightly coiled around a branch of black coral. In return for shelter and protection, the snake star cleans algae and other debris from the coral's branches.

BLACK CORAL

Although it looks like a plant, black coral is a living colony of tiny, white anemone-like animals which cover a tough black skeleton beneath. It is extremely rare to find black coral growing in such shallow water.

SEA CUCUMBER

It is hard to imagine that these soft, lumpy creatures are related to starfish and sea urchins. Sea cucumbers collect food on the sticky tips of tentacles which they clean in their mouths like a child licking its fingers.



RED CORAL

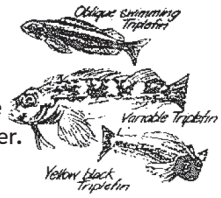
Like black coral, this is normally found at much greater depths outside Fiordland. But unlike black coral, it has a brittle skeleton made of calcium which is easily damaged.

LAMP SHELL (Brachiopod)

Brachiopods were abundant in prehistoric oceans, at the dawn of life some 600 million years ago. Today, Fiordland is one of the few places in the world where these living fossils remain common in such shallow water.

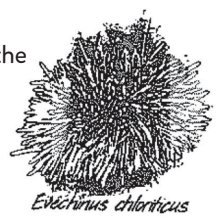
TRIPLEFIN

There are several kinds of triplefin (sometimes also called blennies) in Milford Sound. They are territorial fish which rarely stray into open water. Most are seen in ones and twos, the oblique triplefin is the only one to swim in schools.



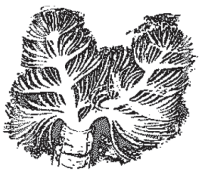
SEA URCHIN OR KINA

Sea urchins graze on algae and are limited to the first few metres of the fiord's rock wall where there is sufficient light for seaweed to grow. Despite their protective spiny case, young urchins are eaten by reef fish and crayfish.



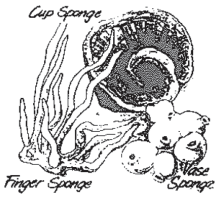
TUBEWORM

This worm builds a tube both for its protection and as an anchor. Feathery arms fan the water, collecting and moving food particles towards its mouth. At the slightest disturbance, the worm's arms disappear into the tube.



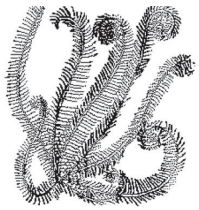
SPONGE

The fiord is home to sponges of many shapes, sizes and colours. Each sponge works like a giant sieve, passing water through its porous cells and filtering out particles of food.



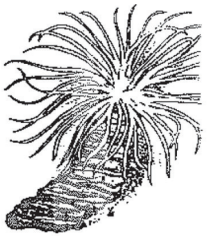
FEATHER STAR

These 'upside-down' starfish are among the last representatives of ancient creatures that were abundant 300 million years ago. Feathered arms which uncurl like fern fronds are used both to move and to trap food particles.



TUBE ANEMONE

A large anemone whose body is concealed in a parchment-like pipe. It extends long tentacles to fish for food, using stinging cells like tiny harpoons. Like the tubeworm, anemones withdraw their tentacles if they are disturbed.



STARFISH (Sea Star)

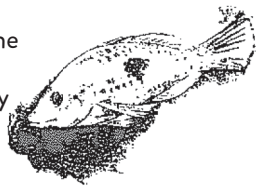
The starfish you see clamped onto the rock surface may be feeding on a mussel. First it pulls the shell apart, then releases its own stomach into the shell, dissolving the animal with digestive juices. After the meal, the starfish swallows its stomach again.

HORSE MUSSEL

Some of the biggest horse mussels in New Zealand are found partly buried in sand and mud on the ledges and bottom of Harrison Cove. Their large shells often provide an attachment for other plants and animals.

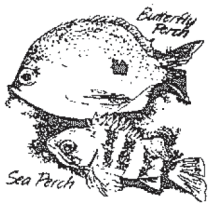
SPOTTY OR PAKETI

Spotties belong to the wrasse family and are one of New Zealand's most commonly seen coastal fish. All spotties start life as females; when they grow more than 20 centimetres they turn into males and lose their distinctive spot.



PERCH

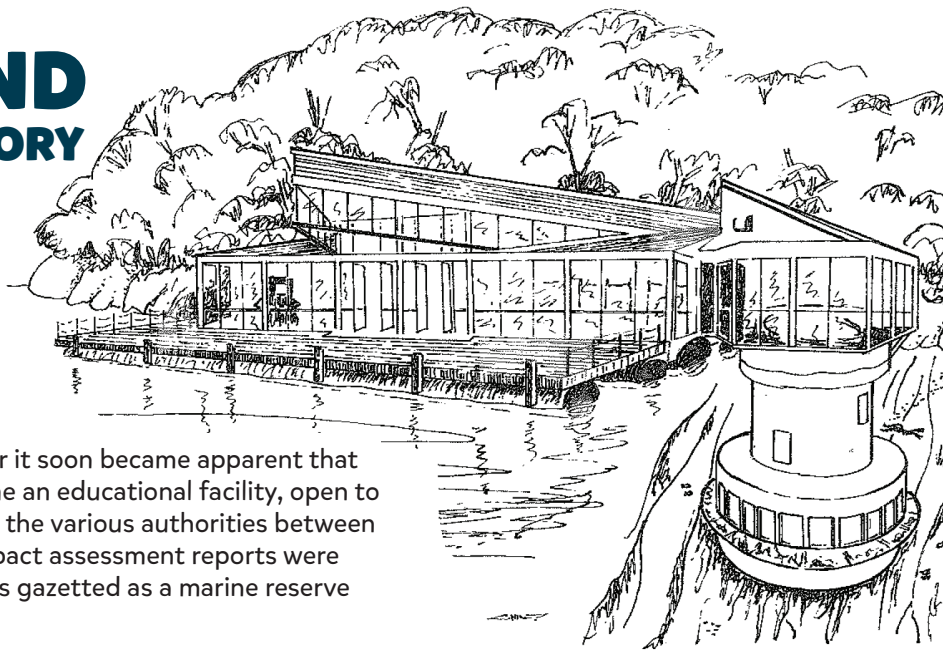
Butterfly perch and sea perch are both commonly seen from the observatory. Butterfly perch are particularly noticeable, while sea perch are well camouflaged on the silty bottom. Both feed on shrimps and small crustaceans.



ZOANTHID

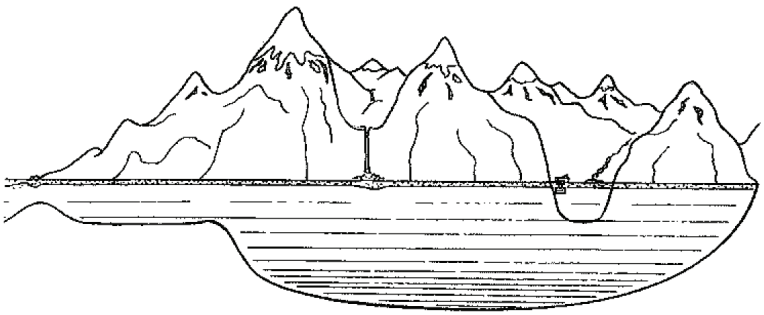
These close relatives of sea anemonies could be mistaken for bright yellow daisies with their petal-like tentacles. Zoanthids cannot support themselves but grow like a crust over their substrate.

MILFORD SOUND
UNDERWATER OBSERVATORY



HISTORY
The idea of placing an underwater observatory in Milford Sound was first conceived in 1985 by Alistair Child, Dr Joyce Richardson and Arthur Tyndall. Little did they realise that it would take another ten years to reach fruition, opening in December 1995.

Initially the concept was purely scientific, however it soon became apparent that for the project to proceed it would have to become an educational facility, open to the public. Permission to proceed was granted by the various authorities between 1987 and 1995 after favourable environmental impact assessment reports were completed. In 1993, the north side of the fiord was gazetted as a marine reserve with World Heritage Park status.



HARRISON COVE
The observatory is located at Williamson Point, Harrison Cove. The cove is a flooded hanging valley which opens into the main fiord. Depth beneath the observatory drops away to 100 metres. Harrison Cove is the shallowest area in the fiord and the only natural anchorage.

CONSTRUCTION
Building started in January 1995 with the pouring of three concrete bollards on the rock face in Harrison Cove. The viewing chamber was fabricated in Invercargill by E Type Engineering Ltd and the main reception area was constructed in Deep Water Basin, Milford Sound.

The two major components were then towed to their present site, the most difficult being the 450 tonne viewing chamber which was towed from Bluff to Milford Sound around the Fiordland coast, a journey that took 80 hours.

The facility is comprised of four separate floating pontoons. These interlinked units are attached to the rockface by a link arm system which allows the observatory to rise and fall with the tide.

PHYSICS OF A FIORD
Milford Sound is a true fiord created by glacial action. After the last Ice Age, the glaciers receded and the fiord was flooded by sea water. The fiord is extremely deep (300 metres) and is protected from ocean swells by a narrow entrance and shallow sill of terminal glacial moraine left behind by the retreating glacier.

Because of the area's high rainfall (seven to nine metres per year), the fiord has a layer of freshwater floating on top of the saltwater, varying in depth. This tannin-stained layer creates a light filtering effect for organisms. This unique environment inside the fiord allows the special communities of deep sea animals to thrive just a few metres below the surface.

southern discoveries

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