

Fiordland Marine (Te Moana o Atawhenua) Reserves

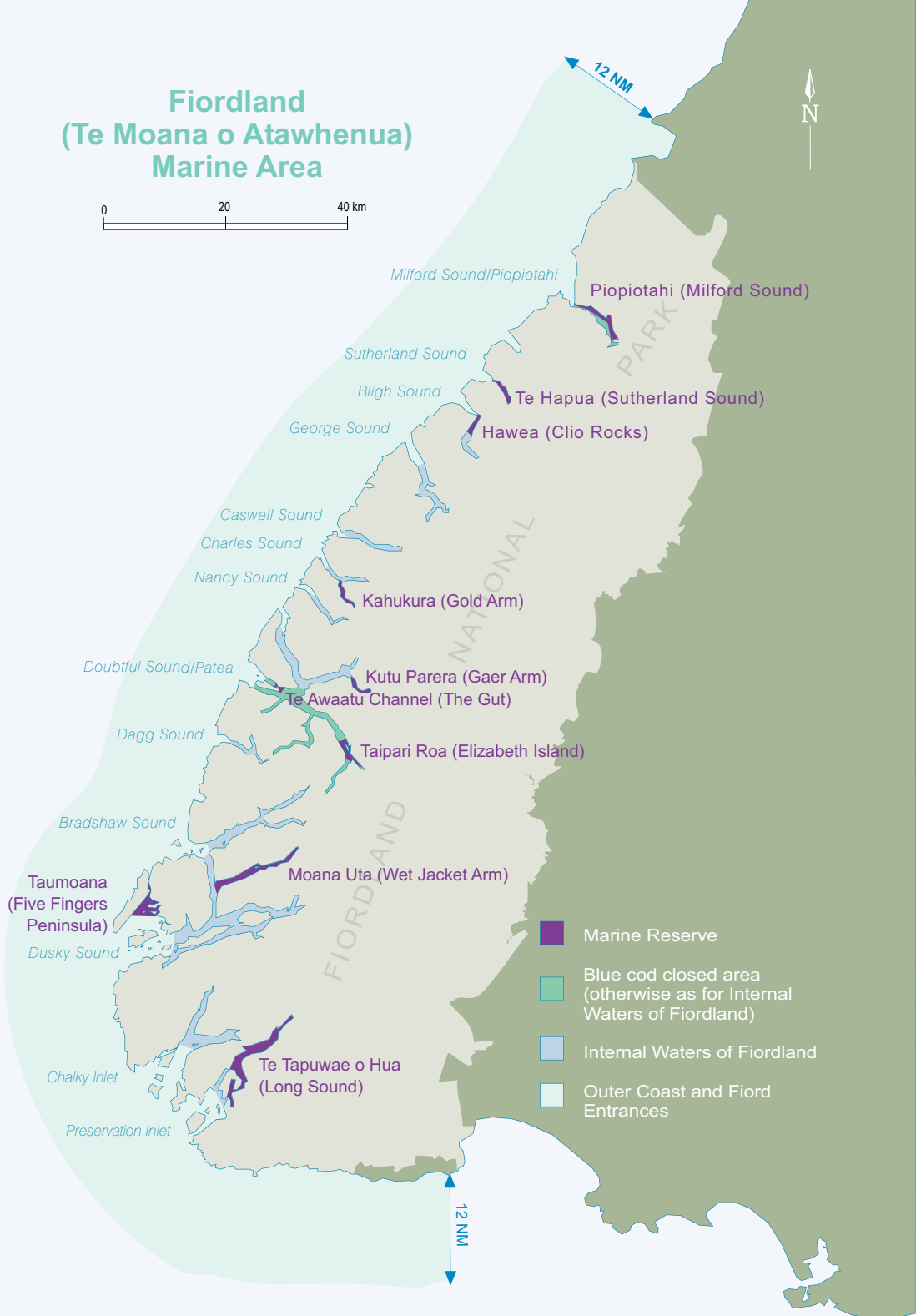
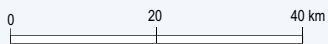






SOUTHLAND 2010: EDITION 3



Department of Conservation
Te Papa Atawhai

Fiordland (Te Moana o Atawhenua) Marine Area



-  Marine Reserve
-  Blue cod closed area (otherwise as for Internal Waters of Fiordland)
-  Internal Waters of Fiordland
-  Outer Coast and Fiord Entrances

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Spectacular Marine Environment

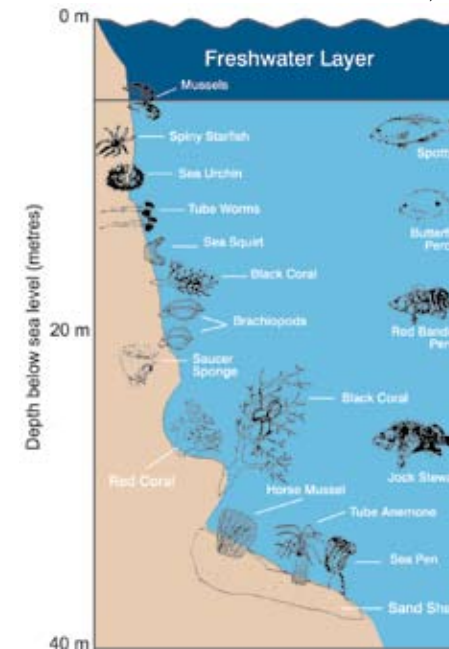
The environment below the water in Fiordland is as unique as its acclaimed landscape above. Its uniqueness comes from the combination of steep mountains, heavy rainfall and surrounding rainforest. Rain washes through the leaf litter on the forest floors and into the fiords, staining the surface waters a dark tea colour. The

stained freshwater floats on top of the heavier seawater and creates a layer about three metres deep across much of the fiords.

The environmental conditions caused by this layer restricts the majority of the marine life to the top 40 metres (known as the 40 metre band), and creates a special environment where species like red and black corals and sea pens can live at much shallower depths than normal. Recent studies have shown that there is also a lot of life deeper than 40 metres, stretching down below 200 metres.

Towards the fiord entrances, wave-action mixes the fresh and salt water, creating different and productive marine communities.

As well as the noteworthy invertebrates, seaweeds and fishes, Fiordland also provides habitat for bottlenose dolphins, New Zealand fur seals, Fiordland crested penguins, little blue penguins and a variety of visiting whales.



An Enduring Relationship

Te Moana o Atawhenua has always held spiritual significance and been a rich hunting ground for Tāngata Whenua. The ancestors of Ngāi Tahu Whānui came to gather pounamu, mahinga kai and other taonga, following tikanga (customs handed on from one generation to the next) for their sustainable collection and use. These resources and values remain important to Ngāi Tahu Whānui today, especially the people of the Oraka-Aparima Rūnaka who continue in their age-old role as tangata kaitiaki (caretakers) of Te Moana o Atawhenua.



Kina (DOC)

The Fiordland Marine Guardians

Increased human access has had implications for the special values of Fiordland, the sustainability of fish populations, and potential

invasion by marine pests. Current marine management in Fiordland stems from a package proposed by the Fiordland Marine Guardians, who came together in response to the changes they saw occurring in the fiords. The measures are a result of a “gifts and gains” negotiation process led by the Guardians who consulted with the wide range of people who were interested in or used Fiordland. The Fiordland Marine Guardians now work with agencies to provide continued advice on the management of the Fiordland (Te Moana o Atawhenua) Marine Area.



Entrance to Preservation Inlet (Erin Green)

Just for Fiordland

The community-initiated marine management measures in place since 2005 were designed just for Fiordland and include eight additional marine reserves, changes to commercial and recreational fisheries regulations outside the reserves, and temporary blue cod closures in Milford and Doubtful Sounds. There are also seven small no-anchoring areas and plans to reduce risks to the environment, such as the introduction of marine pests. These areas can be found on the maps of each marine reserve later in the booklet.



Splendid perch (W. Fareilly)

This Booklet

This booklet gives you information on what you can and can't do in marine reserves, shows maps of Fiordland's marine reserves and provides you with some information on what the reserves contain and other information that may be useful when you're in the Fiordland Marine Area.

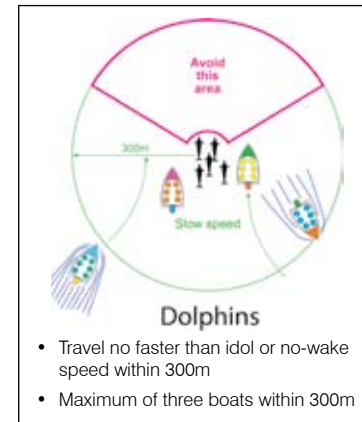
Please contact the Department of Conservation for more information about marine reserves or the Ministry of Fisheries for the commercial and recreational fishing regulations that apply outside the reserves (contact details on back page).



Snakestar on black coral. (Richard Kinsey)

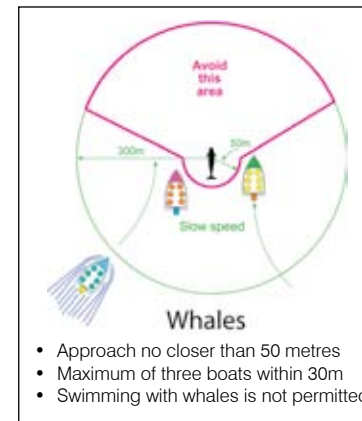
Fiordland's Special Marine Mammals

While cruising around the fiords you may occasionally encounter some of Fiordland's charismatic marine mammals. It can be a real privilege to see such amazing creatures and often dolphins enjoy interacting with boats, however such interactions can have negative effects if they do not get enough time to themselves to rest, feed and breed. Marine mammals can also be harmed if boats are operated in a careless or aggressive manner when in close proximity and there are animals that bare the scars of past encounters. To make sure that you do not disrupt any marine mammals you encounter, please follow the guidelines shown here.



Marine Mammal Sightings

Fiordland is an internationally important area for many different species of marine mammal and at certain times of the year is host to a number of rare and endangered visitors. The most notable visitor to the Fiordland Marine Area is the southern right whale/tohorā, which migrates through Fiordland. These huge creatures were once hunted almost to extinction and only now are starting to increase in numbers, but very little is known about the population(s) around New Zealand. There are a number of other types of whales that have been seen throughout the Fiordland coast including: humpback/paieka, sperm/parāoa, minke and rarer species like southern bottlenose and Arnoux's beaked whales. If you see any species of whale (especially southern right whales), or any other uncommon marine mammal, please note down as many details as you can, including the location, and contact DOC as soon as possible. By doing this you are helping to increase the worldwide knowledge of



Southern right whale (D Goodhue)



these creatures.

These mammals are also very sensitive to disturbance and so if you observe people acting carelessly or disruptively around any marine mammals, please also contact DOC (contact details on back page).

Fiordland's Bottlenose Dolphins

The bottlenose dolphins found in Fiordland's Doubtful/Patea, Bradshaw and Thompson Sounds form a small resident population living at one of the southernmost locations in the world for this species. There is little evidence of interaction between this group and the other populations found in Dusky Sound and the northern fiords of Fiordland.

Research has shown that this population has decreased by at least a third since 1994, with the latest estimate in 2009 at fifty two dolphins. This decline may be linked to lower calf survival in recent years. The causes behind the population decline are not well understood but may include human-related effects such as vessel activity and habitat modification. This rate of decline is not sustainable for such a small population.

What's Being Done?

As an extra level of protection to the Marine Mammal Protection Regulations (1992), the Department of Conservation, the Doubtful Sound tourism operators and other stakeholders are working together to implement additional protection measures for these dolphins. These measures are aimed at reducing the potential impacts of boats on the dolphins. They include Dolphin Protection Zones and recommend dolphin encounters being left to chance. An increase in public awareness, education, monitoring and research will complement these measures and hopefully help stop the decline of dolphins of the Doubtful Sound/ Patea region.

When visiting the Doubtful Sound/ Patea region, please be aware of the new protection measures and follow the guidelines below.



Bottlenose dolphins.
Photo: Lou Hunt

Dolphin Protection Zones

Parts of the fiords now have zones 200 metres out from the shore that have restricted access to vessels (see map). If dolphins are not present you can enter these zones to access fishing and diving spots, anchorages and shore features, using the most direct route in and out. Do not enter the Dolphin Protection Zones if dolphins are present.

If dolphins approach whilst you are in the Dolphin Protection Zones and you are stationary, please let them pass before moving off. If you are already moving, stay on the same heading where safe to do so.

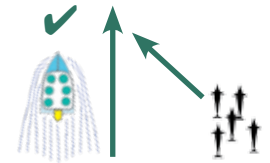
Speed in the Dolphin Protection Zones must be five knots or idle, as required under Maritime Safety Bylaws (2003).

Leave Dolphin Encounters to Chance

- Vessels should not seek out or initiate encounters with dolphins.
- Don't use the radio to tell others where dolphins are located.
- Give them time on their own and make sure that encounters are left to chance. The diagrams below help to explain a chance encounter.

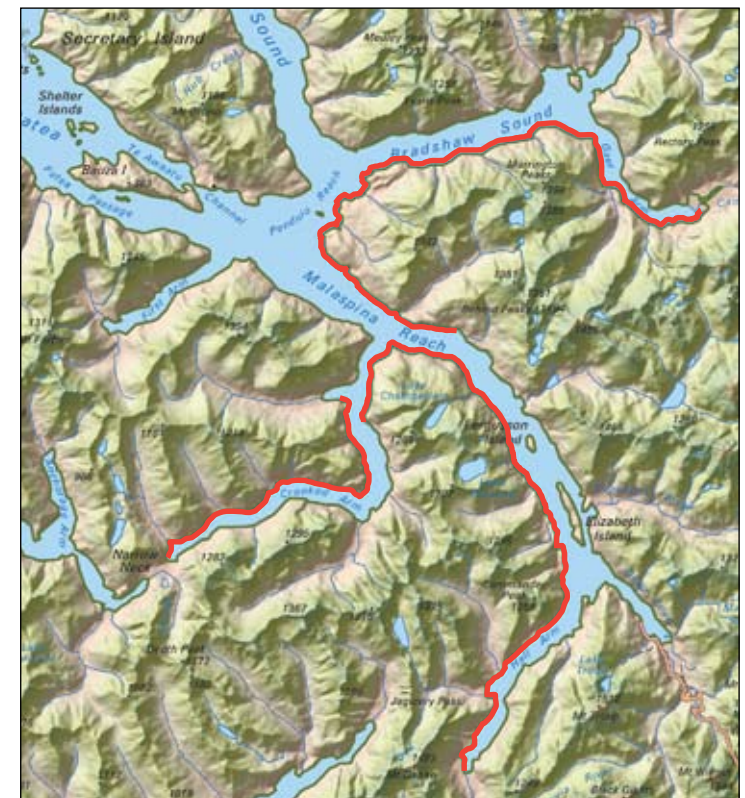
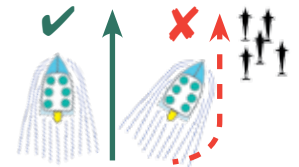
Chance Encounter

This vessel has continued on its intended route straight ahead. However, the dolphins have approached the vessel. This type of encounter is permitted.



Initiated Encounter

This vessel's intended route is straight ahead. A deviation towards the dolphins would not be considered a 'chance encounter'.



Map shows 200 metre Dolphin Protection Zone (in red) in Doubtful/ Patea Sound and Bradshaw Sound

Protecting Fiordland from Marine Pests

Fiordland's unique marine plants and animals face a constant danger from the invasion of pest species. To help ensure that no marine pests are brought into this special environment, please:

- Make sure your boat's hull is clean and free of fouling before entering the Fiordland Marine Area
- Dispose of any debris removed from your boat or trailer on land (not into the sea)
- If you have a moored vessel, ensure your antifouling paint is in good condition
- Check, clean and dry any mooring lines and buoys, fishing or dive gear, kayaks and any other equipment before using it in Fiordland waters.

If you are visiting the area, particularly for diving, you can also help by reporting anything unusual you might see in Fiordland's waters. In particular, please:

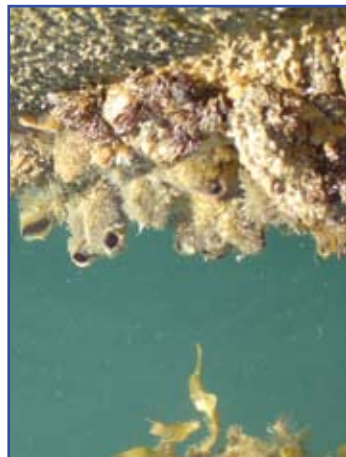
- Carefully note its exact location and description
- Immediately phone MAF Biosecurity New Zealand's free phone: **0800 80 99 66**

Particular pests to look out for are *Undaria pinnatifida* (asian seaweed), *Styela clava* (sea squirt) and *Sabella spallanzanii* (Mediterranean fanworm). These introduced pests are already present in New Zealand waters.

For information about identifying and dealing with marine pests and boat cleaning, please visit: www.biosecurity.govt.nz and click on the Popular Link – Marine Biosecurity Programme.



Undaria pinnatifida



Styela clava

Photos – Biosecurity NZ

Anchoring and Pollution

There are seven small areas in Fiordland where anchoring is prohibited (some of these are shown on the maps of the marine reserves). These were established to protect fragile species that grow slowly and are long lived. Discharges, pollution and rubbish, even in small amounts, are also detrimental to Fiordland's marine environment.

If you would like further information about anchoring, or if you see a source of pollution in Fiordland waters, please contact Environment Southland (contact details on back page).

Looking After the Dive Spots You Treasure

Fiordland is considered to be one of New Zealand's diving hotspots and can be a very rewarding place to dive. It is possible to see a number of 'deep water' species (such as sea pens and red coral) at diveable depths and the ancient bivalve look-alike, the brachiopod, a species known in the fossil records for over 600 million years!

However, Fiordland is isolated from medical facilities and its unique marine environment creates special diving conditions such as low light, a cold freshwater layer and strong tidal currents. These



Diver with black coral (Steve Wing)


factors mean that it is particularly important that divers are appropriately trained and plan carefully when diving in the fiords.

To make sure you look after yourself and the unique marine environment in the fiords, please take particular care and follow the Dive Care Code.

Fishing Regulations for the Fiordland (Te Moana o Atawhenua) Marine Area

The Fiordland (Te Moana o Atawhenua) Marine Area is divided into specific fisheries management areas; Marine Reserves, Internal Waters of Fiordland, Blue Cod Closed Areas and Fiord Entrances and Outer Coast (see map on page 4).

Special fishing restrictions and conditions apply to each area. **It is your responsibility to ensure you have the most up-to-date rules.** Please contact the Ministry of Fisheries for a copy of the relevant regulations for the Fiordland (Te Moana o Atawhenua) Marine Area.



- Dive from a drifting boat, or use a mooring if one is available; avoid anchoring.
- Be careful with your fins and be aware of their wake.
- Don't let your gear dangle.
- Be neutrally buoyant; avoid contact with marine life on the sheer rock walls and sea floor.
- Take out your rubbish.
- Enjoy yourself but look after the spectacular marine species found in the fiords.

The Marine Reserves

Protecting Marine Life with Reserves



Fiordland's ten marine reserves are found from Milford Sound/Piopiotahi in the north, to Preservation Inlet in the south. They range in size from 93 to 3,672 hectares, and in total include over 10,000 hectares of fiord marine habitat.

The marine reserves include an impressive variety of habitats, from sheer rock wall to sandy/muddy bottom, and are home to species like sponges, lampshells (brachiopods) and a wide range of fish. They also contain some of the world's biggest populations of black coral trees that can be over 300 years old and are home to brittlestars that live entwined in their branches.

Above – Blue cod (Steve Wing).

Right – Gorgonian (Richard Kinsey)

Marine Reserve Maps and Coordinates

The following pages include maps and information on each of Fiordland's ten marine reserves. The maps show the boundary coordinates of each reserve. **These coordinates are latitudes and longitudes in degrees, minutes and decimals of minutes, or DD° MM.mmmm' format.** Feedback to DOC has indicated this is the format most people prefer.

If you would like the coordinates in a different form, please contact DOC or use your GPS or navigation system Users' Manual to specify the format of the coordinate system you want to use.

If you have any queries about Fiordland's marines reserve boundaries, please contact DOC (contact details on back page).



DIVING



SWIMMING



KAYAKING



JET BOATING

Rules for Marine Reserves

Similar sorts of rules apply in marine reserves as in national parks on land. Some activities are restricted or prohibited to protect the marine life in the area.

Enjoy your visit to the marine reserve, but please note:

- All marine life is totally protected.
- No fishing, netting, taking, or killing of marine life.
- No polluting, disturbance or damage.
- No removal of any natural thing from the marine reserve.

Because of limited suitable space for storing rock lobster pots in Fiordland, five areas within four marine reserves are designated for commercial rock lobster fishers to store live lobster caught outside the reserve in holding pots and to store inoperable rock lobster pots (with doors open). These five areas are marked on maps on the following pages and are not open for use by recreational fishers.

Please note that right of passage through any marine reserve is not affected by the reserve status of the area.

The Department of Conservation (DOC) is responsible for managing marine reserves. Recreational, educational and scientific activities are encouraged as long as they do not disturb or endanger the plant and animal life or natural features. A permit is required from DOC for any scientific research within the reserve. For more information on the reserves and their boundaries, or to report any offences, please contact the DOC Visitor Centre, Lakefront Drive Te Anau, Ph (03) 249 7921 or call the 24 hour hotline on 0800 DOCHOT (0800 362 468) www.doc.govt.nz



NO BOAT FISHING



NO SHORE FISHING



NO SHELLFISH GATHERING



NO FOSSICKING



Piopiotahi (Milford Sound) Marine Reserve

Piopiotahi (Milford Sound) Marine Reserve was proposed by the New Zealand Federation of Commercial Fishermen and established in 1993. Along with the Te Awaatu Channel (The Gut) Marine Reserve in Doubtful Sound/Patea it became the first marine reserve in Fiordland.

The reserve's name, Piopiotahi, means "one native thrush". The Piopio (now thought to be extinct) was a ground-feeding bird that declined rapidly after the introduction of mammalian predators such as stoats and rats.

Piopiotahi Marine Reserve covers an area of 690 hectares along the northern



Above – Milford Sound/Piopiotahi (Stewart Genery)

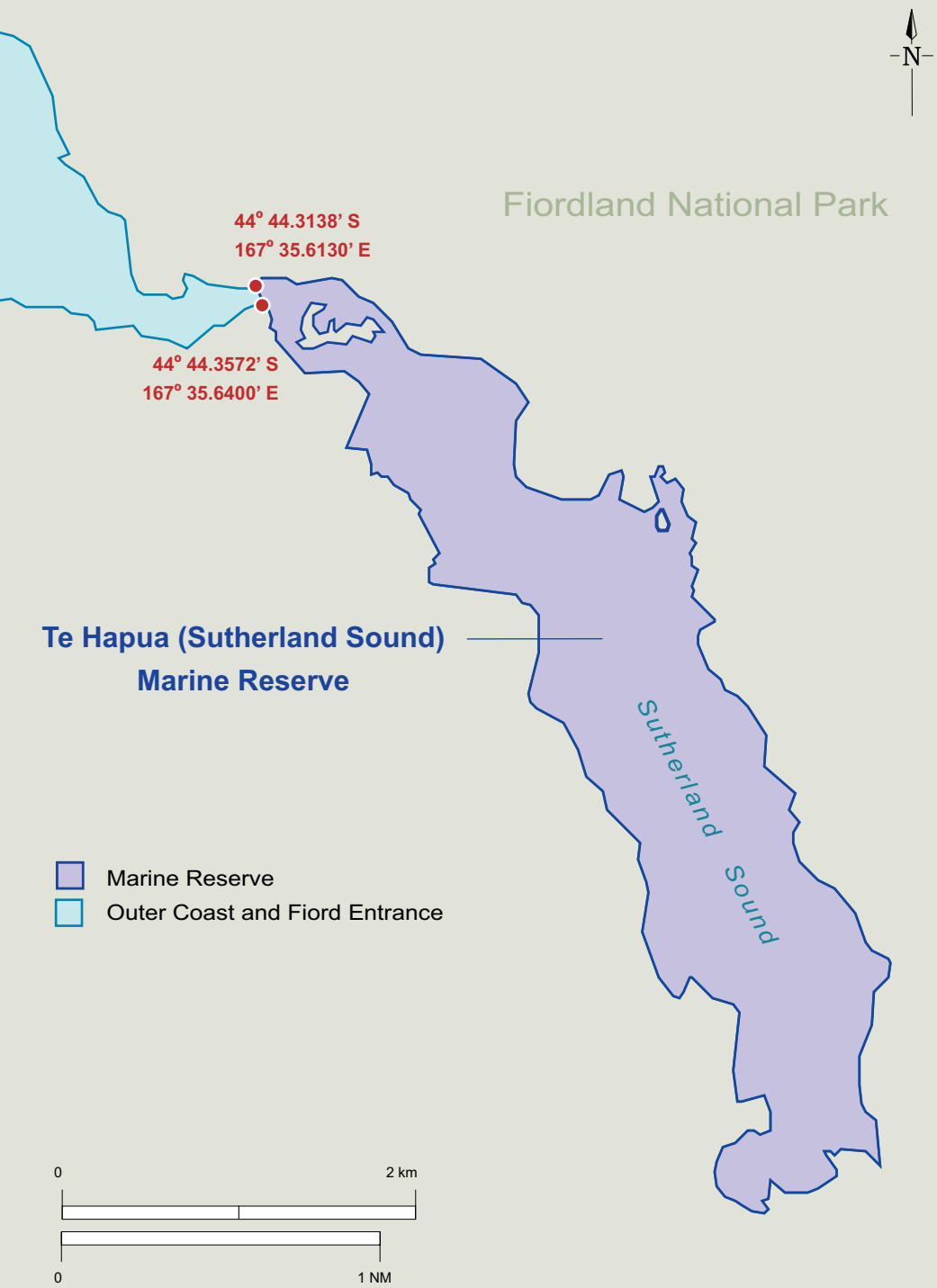
Above right – White zoanthids (Steve Wing)

Right – Blue cod (Steve Wing)



side of Milford Sound/Piopiotahi, from the head of the Sound to Dale Point. The underwater habitats it covers are mostly deep muddy fiord basin, with a large section of deep reef and a small section of shallow rock wall along the shore. There is very steep rock-wall on the inner northern side of Milford Sound/Piopiotahi which is dominated by delicate deep water sessile invertebrates. These are animals that are fixed to the rock wall, including, encrusting tubeworms, sponges, soft corals, colonial sea squirts, black coral and anemones. This area of Milford Sound/Piopiotahi only rarely receives direct sunlight.

Piopiotahi Marine Reserve is one of the most popular places in Fiordland to dive and see the black corals for which the fiords are famous. Easy access has meant that some species, such as, blue cod, have been overfished, but research shows that the commonly fished rock lobster populations may be recovering in the reserve, with more and bigger rock lobster found in the reserve than outside it.



Te Hapua (Sutherland Sound) Marine Reserve

Te Hapua Marine Reserve covers 449 hectares of marine habitat and is one of eight marine reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

Te Hapua Marine Reserve is the least studied reserve in Fiordland and probably one of the least visited. This is largely due to the shallow sill at the entrance to the fiord which makes accessing the reserve by boat dangerous as ocean waves often break across the shallow entrance.

During one of very



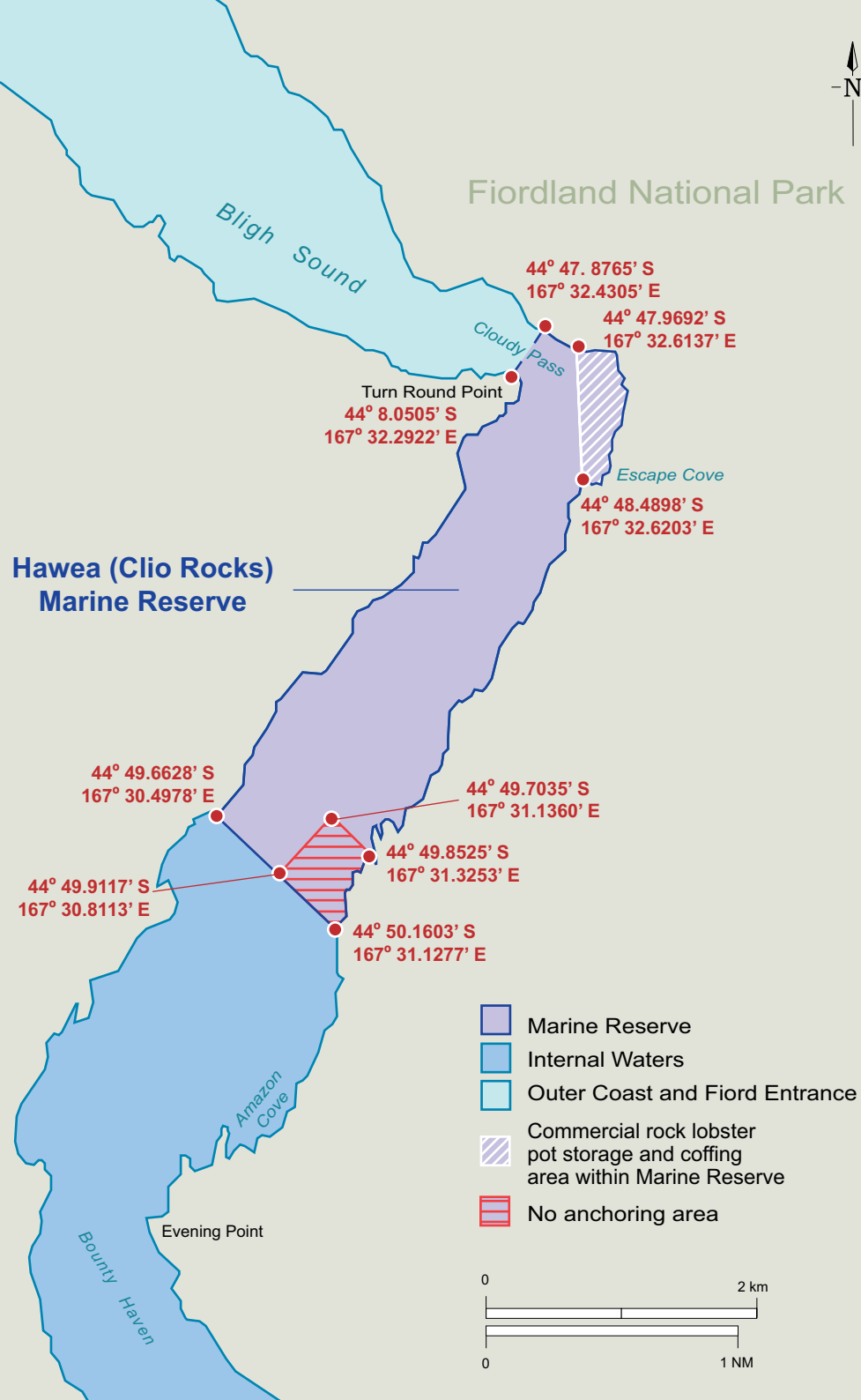
Above – Sutherland Sound (DOC)

Above right – Starfish (DOC)

Middle – Black flounder (W. Farely)

Right – Dogfish (Dave Abbott)

few research trips to the reserve, a unique environment was observed within the very isolated basin, which is connected to the sea by a narrow channel. Marine animals seen while diving included flounder, dogfish, and high numbers of rock crabs and juvenile starfish. Future monitoring will provide a better understanding of the marine life in this area.



Hawea (Clio Rocks) Marine Reserve

Hawea Marine Reserve covers 411 hectares of marine habitat and is one of eight marine reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

Most of the reserve is deep basin habitat, but there are also large areas of sheltered shallow rock wall habitat and deep reef or rock wall habitat. Underwater mapping of the reserve shows mostly steep rock walls on the shaded western side of the



Above – Bligh Sound (Richard Kinsey)

Above right – New Zealand fur seals (DOC)

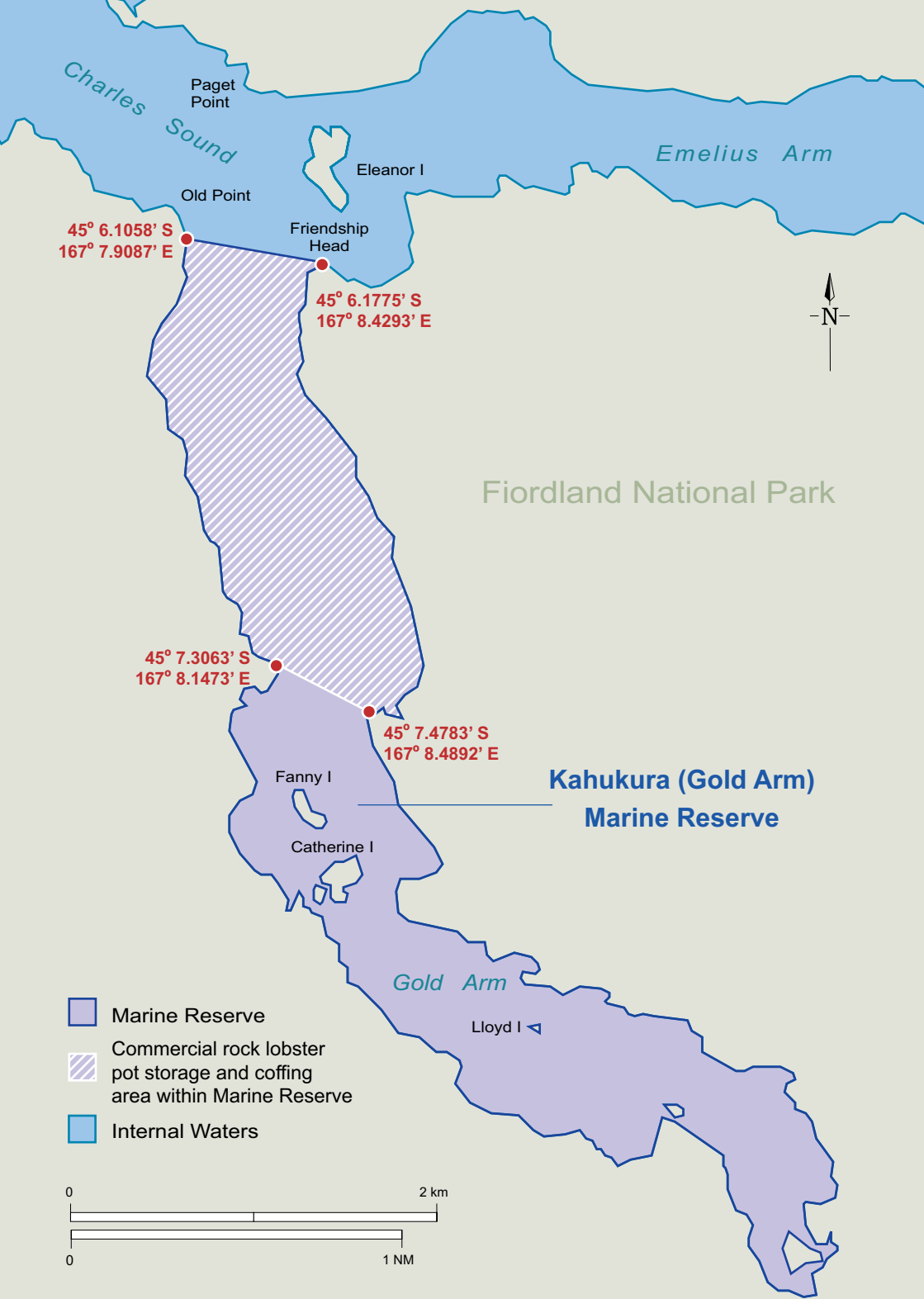
Middle – Butterfly perch (Steve Wing)

Right – Tube worms (DOC)



reserve, compared with more broken rocky reefs on the more sun-lit eastern side of the reserve. The near-vertical rock walls of 'Turn Round Point' are a special feature of the reserve, with abundant reef fishes and invertebrates feeding on plankton swept past in the high tidal flow. Black corals and red corals are relatively abundant along the rock walls in this area.





Kahukura (Gold Arm) Marine Reserve

The Kahukura Marine Reserve in Charles Sound covers an area of about 464 hectares and is one of eight reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

The reserve provides a very sheltered habitat away from the influence of ocean swells. It encompasses the inner fiord reaches of Gold Arm, including estuarine habitat associated with the Windward River outflow and broken rocky reef habitat,



Above – Charles Sound (DOC)

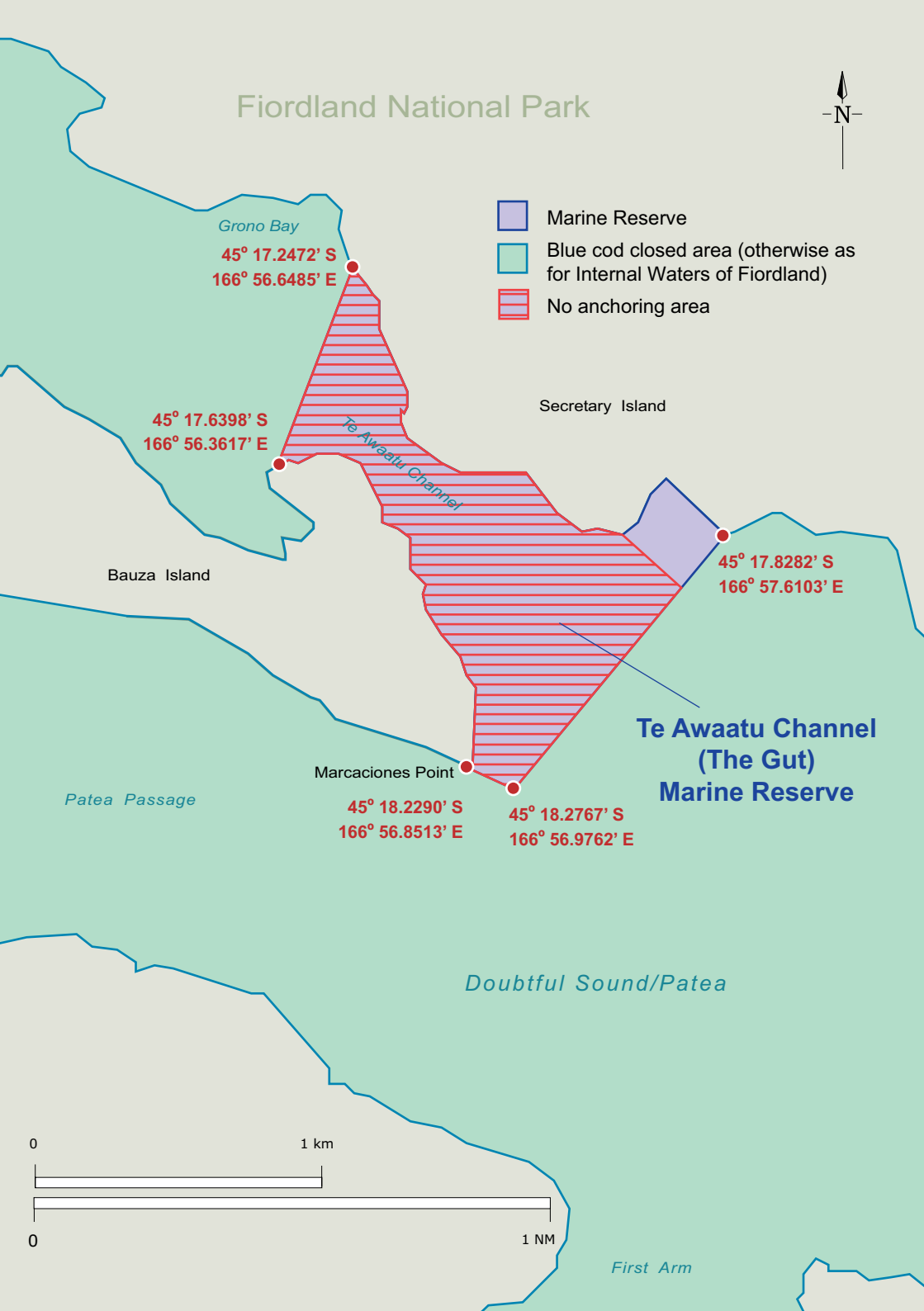
Above right – Jock Stewart/sea perch (Steve Wing)

Middle – Copper and blue moki (DOC)

Right – Rock lobster (Steve Wing)

with large submerged boulders around Fanny and Catherine Islands. It includes rock wall and terraced rock wall habitat at Old Point, providing a sheltered habitat for a diverse community life. Spectacular red and black corals are abundant, and on bright days with clear water these can even be viewed from a boat.





Te Awaatu Channel (The Gut) Marine Reserve

Te Awaatu Channel (The Gut) Marine Reserve was proposed by the New Zealand Federation of Commercial Fishermen. It was established in 1993 and, along with the Piopiotahi (Milford Sound) Marine Reserve, became the first marine reserve in Fiordland.

Te Awaatu or Te Awa-O-Tu translates as 'the channel of Tu'. In Maori legend the mythical ancestor Tu-Te-Raki-whanoa carved out the fiords and lakes with his giant digging stick or ko, with one foot on Secretary Island (Ka-Tu-Waewae-O-Tu) at the entrance to Doubtful Sound/Patea and the other foot on Resolution Island (Mauikatau) at the entrance to Dusky Sound.

At 93 hectares, this is the smallest marine reserve in Fiordland. It is sandwiched between



Above – Doubtful Sound/Patea with Bauza Island in the centre. (DOC)

Above right – Diver (Erin Green, DOC)

Right – Red coral (DOC)



Bauza and Secretary Islands and has a high tidal flow. The reserve is much shallower than the surrounding deep-water basin habitats, which are the deepest in Fiordland, reaching depths of about 420 metres. There are significant rock wall and deep reef habitats, and the reserve is known for its sea pens and other suspension feeders, including the red and black corals, zoanths and lampshells. Monitoring has shown more and larger rock lobsters exist in the reserve than outside it.

A five year study into the effects of divers on red coral in the marine reserve found no major short-term changes to the coral populations there. Continued good diver practice and care will ensure that this does not change in the future.



Kutu Parera (Gaer Arm) Marine Reserve

Kutu Parera Marine Reserve at Gaer Arm in Bradshaw Sound contains around 433 hectares of marine habitat and is one of eight marine reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

The reserve includes large areas of estuarine habitat at the entrance of the Camelot River. It has a relatively shallow basin which extends from the sediment fan at Camelot and reaches depths of over 100 metres at the entrance to Gaer Arm. The eastern side of the reserve contains extensive rock wall habitats with some vertical drops to 50-60 metres. These are home to many anemones and other colourful sessile suspension feeders. Most of the eastern side of the reserve faces south and is shaded from direct



Above – Bradshaw Sound (Dave Rundgren)
 Above right – Jason's nudibranch (Steve Wing)
 Right – Yellow zoanthids (DOC)



sunlight. The western side of Gaer Arm has more broken rocky reef habitat, with underwater boulders and one large river outflow.

Cockle and pipi beds in the estuarine habitat of the Camelot River are amongst the largest populations of these species found in Doubtful Sound/Patea. The sediment fans have significant beds of these bivalves which can be a common source of food for fish such as groper and tarakihi. There are also areas of sea grass flats littered with forest debris carried by the river.



Taipari Roa (Elizabeth Island) Marine Reserve

The marine reserve at inner Doubtful Sound/Patea, Taipari Roa, covers an area of about 613 hectares and is one of eight marine reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

The reserve contains extensive rock wall habitat on the western side of Elizabeth Island and deep kelp beds on the southern end of the island. In the channel between Elizabeth Island and the eastern side of the fiord there is a relatively shallow channel which experiences high water flow and is home to a range of suspension feeders including black and red coral and zoanths. While the south-eastern wall of the reserve is heavily shaded, many



Above – Elizabeth Island in Doubtful Sound/Patea (DOC)

Above right – Fiordland crested penguins (P Thomson)

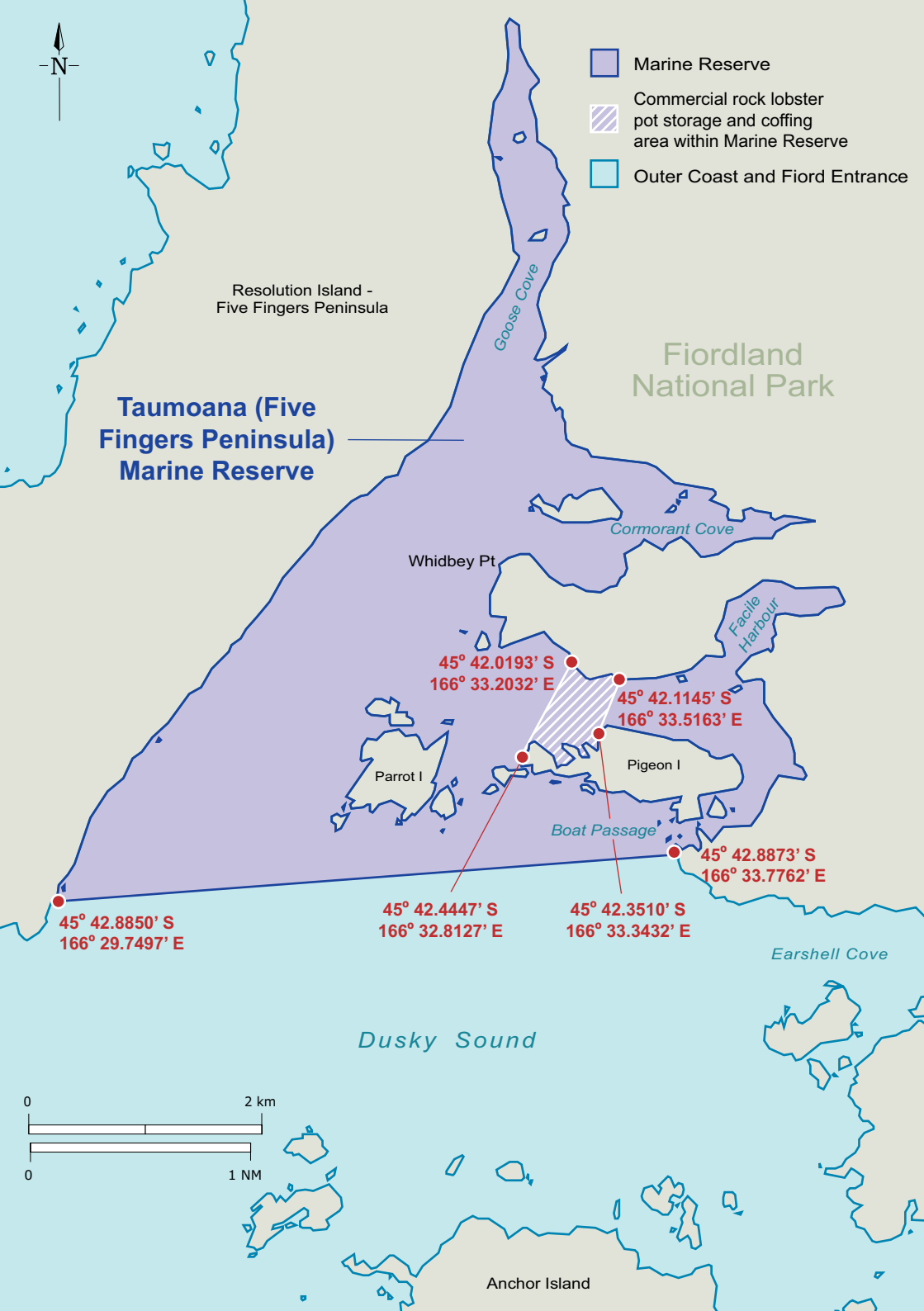
Right – Hostel kids in Deep Cove (John Carter, DOC)



of the other coastlines receive moderate amounts of direct sunlight in the summer months.

The construction of the Manapouri Hydroelectric power scheme in 1969 caused major modifications to the hydrographic environment in Doubtful Sound/Patea. This scheme involved the construction of a tailrace tunnel from Lake Manapouri to Deep Cove and resulted in more than three times more freshwater than previously coming into Doubtful/Thompson Sound. Monitoring of the area suggests that there have been some major changes in marine communities in Doubtful Sound/Patea as a result, including effects on black corals around Elizabeth Island.

The reserve is often visited by a well-studied population of bottlenose dolphins and Rolla Island is known as a site for Fiordland crested penguins. The reserve is also home to a unique assemblage of bright yellow glass sponges that have only ever been seen elsewhere in caves in Jamaica.



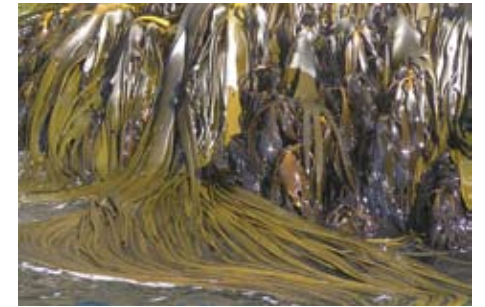
Taumoana (Five Fingers Peninsula) Marine Reserve

Taumoana Marine Reserve, along side Five Fingers Peninsula at the entrance of Dusky Sound, contains some of the only wave-exposed rocky reef habitat that is protected in the Fiordland marine reserve network. The reserve contains about 1,466 hectares of marine habitat and is one of eight reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

The reserve includes Pigeon Island which, late in the 19th century, was home to one of New Zealand's earliest conservationists, Richard Henry. This pioneer recognised that the numbers of



Above – Five Fingers Peninsula and Dusky Inlet (Andris Apse)
 Above right – Bull kelp (Helen Kettles, DOC)
 Right – Paua (Wendy Norden)



flightless native birds were decreasing after the introduction of predators to New Zealand and spent 15 years alone living on the island, transporting kakapo and kiwi around Fiordland to pest-free areas.

Exposure to the southwest means that ocean swells come into Dusky Inlet hitting the southern sides of Parrot and Pigeon Islands, and the eastern side of Five Fingers Peninsula. The reserve contains shallow habitats and large stretches of estuarine habitat around Five Fingers Peninsula, Cormorant Cove and Facile Harbour. Due to the low lying hillsides around the reserve the whole region is exposed to direct sunlight.

Of all the habitats included in the Fiordland marine reserve network, this is the only one that potentially holds significant populations of paua and is more representative of habitats and species found in the outer fiords and coast.



Moana Uta (Wet Jacket Arm) Marine Reserve

The 2,007 hectare Moana Uta (Wet Jacket Arm) Marine Reserve encompasses the entire arm and is one of eight reserves established in 2005 as part of the management measures proposed by the Fiordland Marine Guardians.

The reserve includes significant expanses of rock wall, broken rocky reef, deep basin and estuarine habitat. Subtidal rocky reefs in some areas have dense beds of kelp and very low kina populations. Rock walls near Oke Island receive a significant amount of tidal flow and have correspondingly high densities of lampshells (brachiopods) and



Above – Wet Jacket Arm (Andris Apse)

Above right – Diver and octopus (DOC)

Above middle – Starfish (Steve Wing)

Right – Hagfish (DOC)

other suspension feeders.

The basin is characterised by steep rock wall habitats and a deep basin with no exposure to the open ocean swell, a moderate to thin freshwater layer and a large amount of shading from the mountains above, particularly near the head of the fiord. These factors combine to produce the highest known density of black coral at any site in the fiords.





Te Tapuwae o Hua (Long Sound) Marine Reserve

The Long Sound Marine Reserve, Te Tapuwae o Hua, is the largest reserve in Fiordland at 3,672 hectares. This reserve is one of eight established in 2005, as part of the management measures proposed by the Fiordland Marine Guardians. It includes the main Long Sound basin, 'The Narrows', and Revolver and Useless Bays.

Long Sound is the most physically isolated basin in the Fiordland system, with a very narrow entrance and shallow sill at 'the Narrows' inhibiting the exchange of deep water from the open coast. This physical structure means that all of the areas within the reserve are sheltered from oceanic swells and contain a constant and thick freshwater layer. Research has shown that the rock wall habitats in Long Sound contain



Above – Long Sound (Andris Apse)

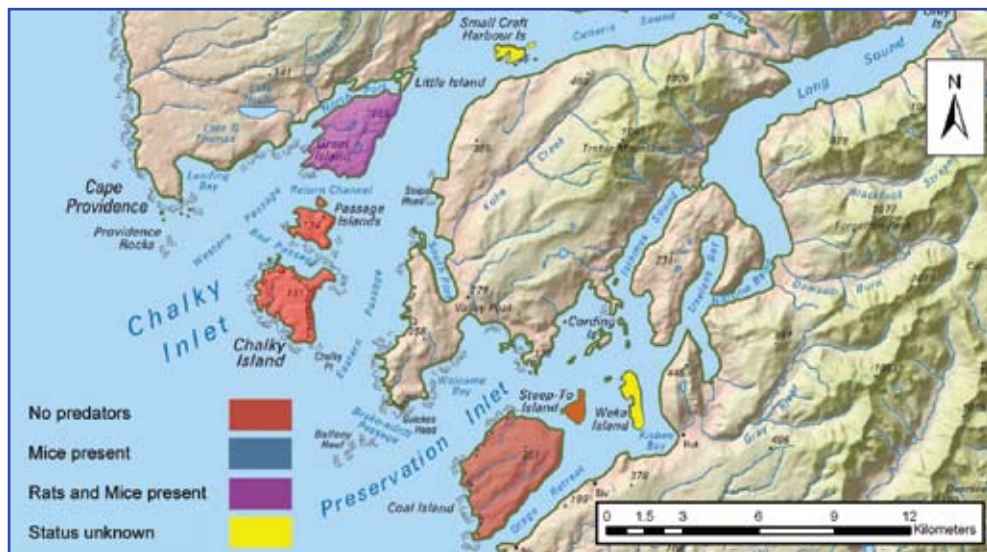
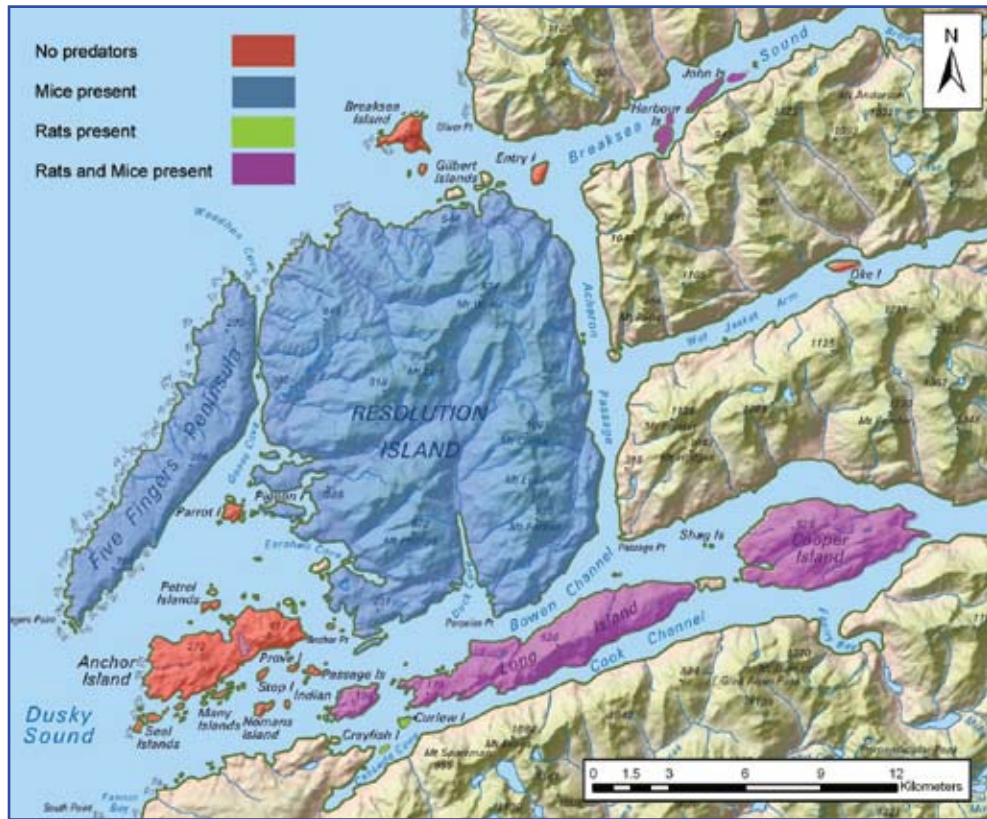
Above right – Strawberry holothurian/sea cucumber (Steve Wing)

Right – White lampshells (Steve Wing)



unique suspension feeder communities and species like the eleven armed starfish whose genes are different to elsewhere in the fiords.

The Narrows contains the very delicate and internationally revered 'strawberry fields'. This is an area with large congregations of the strawberry holothurian (sea cucumber), along with high densities of stony corals, including red coral. The inner regions of Long Sound are home to high densities of lampshells, tube worms and rock crab.

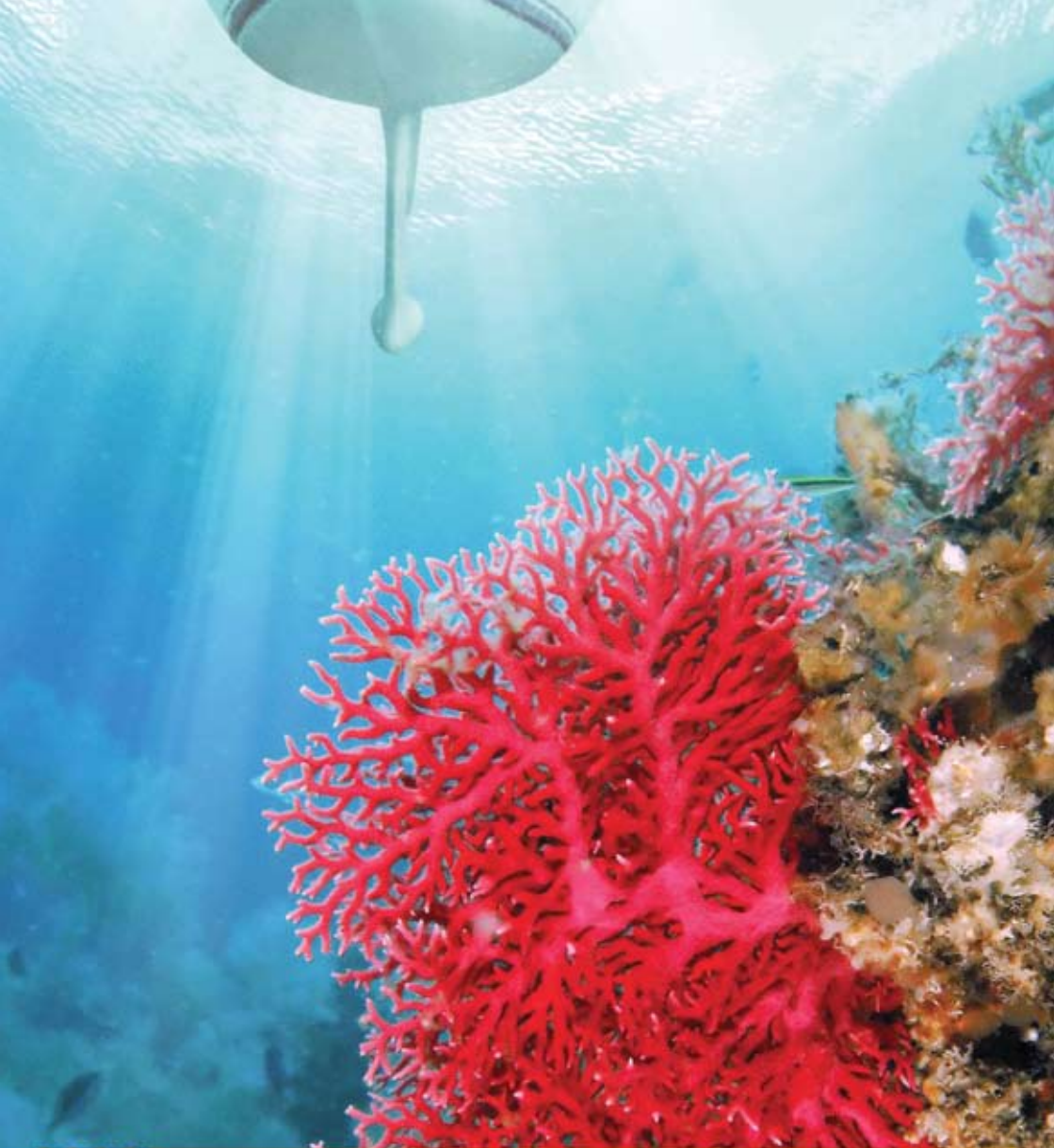


Fiordland's Pest-free Islands

Fiordland has a number of pest-free islands that are of international significance. Some of these islands have never had rats or mice present and have therefore never suffered from the devastating impacts that rodents cause. Ensuring these islands remain pest free through good quarantine management is everyone's responsibility. Breaksea and Hawea Islands were among the first in the world to have rats eradicated. Secretary Island is currently the largest inshore island in New Zealand that is free from rodents and possums. Some of these islands are now home to rare species such as kākāpō, South Island saddleback (tīeke), South Island robin (kakarua), yellowhead (mohua) and little spotted kiwi (kiwi pukupuku). Breaksea Island is entry by permit only; however, there are numerous other islands where landings are permitted. Please ensure these islands remain pest free by not taking any plants and animals ashore when you land.

- If possible always have rodent baits or traps laid on your boat.
- Check all obvious hideaways (like dinghies, kayak hatches, coils of rope) for any unwanted stowaways before you set off.
- When your vessel is moored on the mainland, keep doors and hatches closed and screens over vents.





KEEP FIORDLAND AS BEAUTIFUL BELOW WATER AS IT IS ABOVE

If you're boating, fishing or diving in Fiordland, please protect its unique environment from marine pests by:

- Regularly cleaning and anti-fouling your vessel's hull.
- Checking, cleaning and drying any marine equipment such as mooring lines, buoys, fishing and diving gear and kayaks before visiting.



NEW ZEALAND. IT'S OUR PLACE TO PROTECT.

For further information visit:
www.biosecurity.govt.nz



- Rodents can use mooring lines to board and leave vessels. On multi-day trips, use lines either adjacent to the mainland or to rodent free islands, but not both.
- Seal all containers with tape and tie bags tightly to prevent any unwanted pests sneaking in.
- When loading and unloading, check packages and packs for signs of rodents (like droppings or gnaw marks), insects, or plant material (such as seeds).
- Remember you too can be a carrier – empty your pockets and clean your shoes to get rid of stray seeds before you arrive on any islands.
- Do not discard anything on or near islands (such as rubbish, used goods, plant material).
- Don't bring your pets with you – leave them at home to be looked after.
- Report any sightings of unwanted animal or plant pests on these islands to the Department of Conservation (see 'contact information' at the back of this guide).

The message is simple – we need everyone's help to keep rats and mice from getting established.

BOAT OWNERS

- Have a really good clean-out of your boat after it has been stored over the winter months.
- Use rodent poison baits or traps on the boat.
- Check all obvious hiding spots for stowaways before leaving shore.
- Keep doors and hatches closed when the boat is moored.

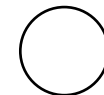
INDIVIDUALS

- Check your personal gear before boarding a vessel and prior to going ashore.
- Plan your trips ashore so as to visit pest-free islands before going to the mainland.

Rats can squeeze through a 12mm gap and mice through a 7mm gap!



7 mm



12 mm



Department of
Conservation
Te Papa Atawhai

Further Information

For further information about Fiordland's marine reserves, marine mammals and island quarantine please contact:

Department of Conservation
Fiordland National Park Visitor Centre
Lakefront Drive, Te Anau.
Ph (03) 249 7924 or call the 24 hour hotline, 0800 DOCHOT (0800 362 468)
www.doc.govt.nz



Other Contacts

Environment Southland
Corner of North Road and Price St
Waikiwi, Invercargill.
Ph (03) 211 5115, or phone the Southland area 24 hour pollution
hotline on 0800 SOUTHLAND (0800 76 88 45)
www.es.govt.nz



MAF Biosecurity New Zealand
Pastoral House, 25 The Terrace
Wellington
Ph 0800 80 99 66
www.biosecurity.govt.nz



MINISTRY OF FISHERIES
Te Tautiaki i nga hini o Tangaroa

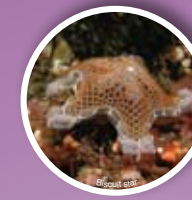
Ministry of Fisheries
137 Spey Street
Invercargill
Ph (03) 211 0060, or phone 0800 4 RULES (0800 478 537) or 0800 4
POACHER (0800 476 224)
www.fish.govt.nz



Fiordland Marine Guardians
Private Bag 90116
Invercargill
Ph (03) 211 5115
www.fmg.orgnz

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may be subject to change.

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Beneath the Reflections

A User's Guide to the Fiordland (Te Moana o Atawhenua) Marine Area



This 'one-stop shop' water-proof guide will help you get the most out of
your visit to Fiordland

The guide contains:

- Practical information on visiting the area
- Maps and anchoring charts
- Relevant Fiordland marine regulations
- Details about how the Fiordland Marine Area was established
- The history of the physical and biological environment of the Fiordland area

AVAILABLE FROM:

Fiordland National Park Visitor Centre
Lakefront Drive, Te Anau.
Phone: 03 249 7924
email: fiordlandvc@doc.govt.nz

Department of Conservation
Level 7, 33 Don, Invercargill.
Phone 03 211 2400
email: invercargill@doc.govt.nz

An order form for the guide is also available on the Fiordland Marine Guardian's website – www.fmg.orgnz

