



Beneath the Reflections

A user's guide to the Fiordland (Te Moana o Atawhenua) Marine Area



Fiordland
Marine Guardians
Beneath the Reflections

Acknowledgements

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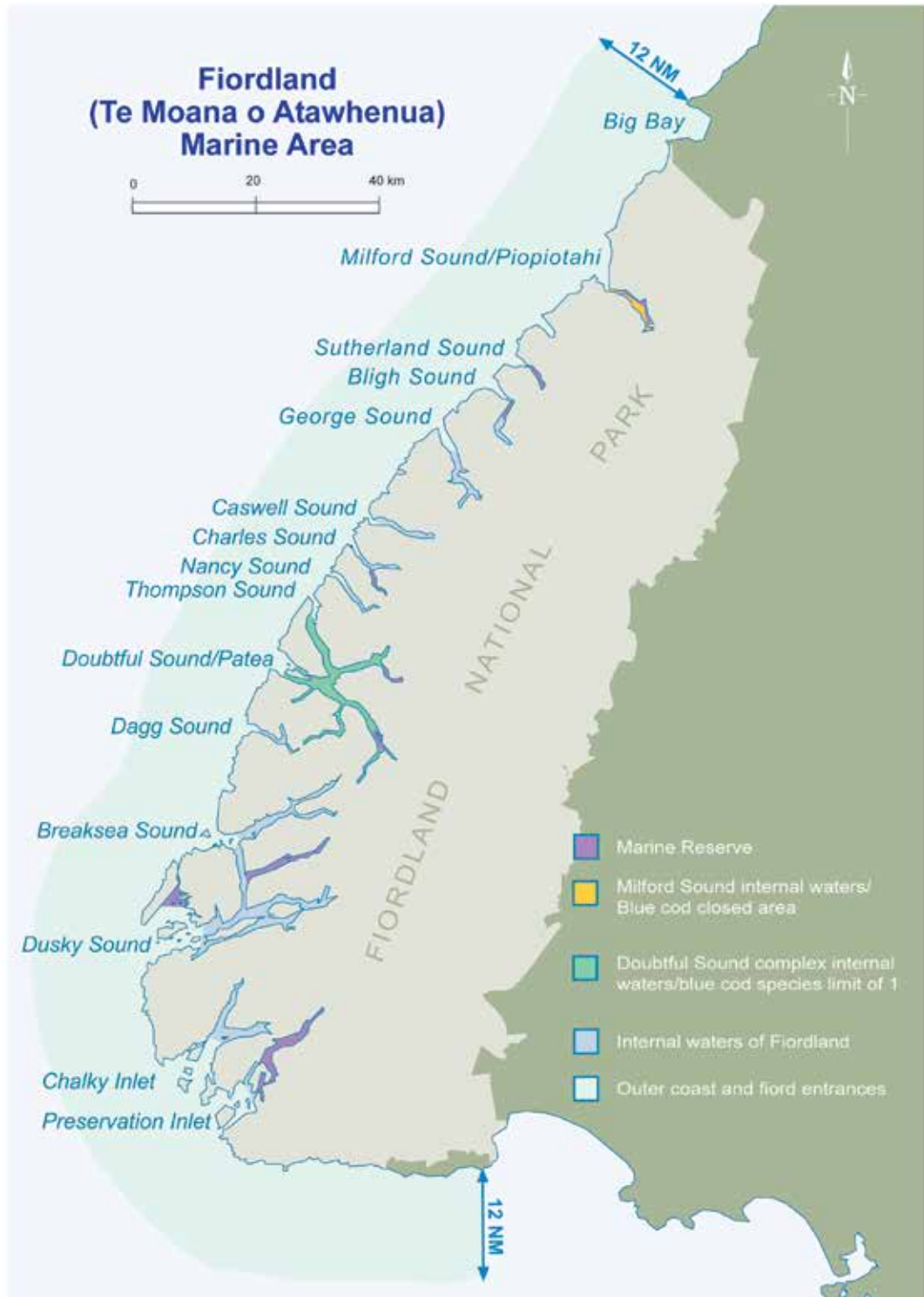
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About this guide

Beneath the Reflections is the go-to guide for visitors to the Fiordland (Te Moana o Atawhenua) Marine Area. An interesting and informative read, it will help you to get the most from your visit to Fiordland.

The guide provides:

- an introduction to the Fiordland marine environment and fisheries including:
 - the Fiordland (Te Moana o Atawhenua) Marine Area and how it is managed
 - the history of Fiordland and its physical and biological character
- practical information about the activities permitted while travelling through the fiords including important information to ensure you don't transport pests into the area
- information on recreational fishing rules and commercial fishing regulations for the area
- a fiord-by-fiord guide to help you understand the Fiordland (Te Moana o Atawhenua) Marine Area, including maps and recommended anchorage sites
- a list of charts and books about Fiordland.



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INTRODUCING FIORDLAND



Kākāpō chicks Te Here and Tuterangi. JO CARPENTER, DOC

Fiordland, a place of wonder

Those privileged enough to spend time in Fiordland find a place beyond superlatives – the landscape is simply stunning. From dramatic peaks, sheer rock faces drop into steep forested slopes whose cloak descends right to the water's edge.

Carved out by glaciers approximately 20,000 years ago, the U-shaped fiords are characterised by near-vertical rock walls, which plunge several hundred metres below the water's surface to the mud silt floor below.

With rainfall exceeding seven metres a year in places, thundering waterfalls and cascades appear at every turn. This is a place of many moods – wind can whip the sea's surface into a froth of funnels and swirls, but when the day is calm, mirrored reflections are nothing short of magic.

And the magic does not stop at the water's surface. Beneath the reflections of the fiords, something unusual is happening. Fresh water soaking down through the carpeted forest floor absorbs tannins from decaying leaf matter, which stain it the colour of tea. On reaching the salt water, the less-dense fresh water floats on the surface forming a tea-stained layer that reduces the amount of light reaching the sea water below. Kelps, normally the basis of marine communities, do not grow well in the light-poor conditions, and are replaced by animals which normally inhabit greater, darker depths.

Near the fiord entrances, the underwater sill (made up of glacial moraine debris) forms an effective barrier restricting sea water circulation into the fiords. Beneath the top 3 metres of the freshwater layer and restricted light, the steep-walled inner fiord habitat is colonised by spectacular sea life, such as red and black corals and fragile sea pens, and other species of rare biodiversity that elsewhere would normally inhabit greater depths.

At the fiord entrances and along the outer coast, conditions are very different, and much more dynamic. The fiord sill entrances are comparatively shallow, and the wave action there mixes the fresh and salt water. In the greater light, algal phytoplankton and stands of red and brown seaweed flourish, while on the exposed outer coast dense forests of bull kelp, *Durvillaea*, proliferate, fostering productive marine communities where rock lobster (kōura) teem and pāua graze the rocks. Such profound differences between the inner fiord environment and the entrances and open coast have fundamental implications for the fish communities.



Fiordland crested penguin (tawaki). BARRY HARCOURT

Alongside Fiordland's fish communities live some of its special inhabitants – bottlenose dolphins, New Zealand fur seals (kekeno), Fiordland crested penguins (tawaki), and blue penguins (kororā). On a lucky day, you may even see whales, which swim by where the continental shelf comes close to the coast.

The push for protection

Harvesting fish has been one of the main activities in Fiordland ever since humans began to visit. It was always assumed that Fiordland's isolation and harsh weather conditions would help keep its fish stocks at healthy levels. But in the late 1980s declines in blue cod (rāwaru) and rock lobster numbers within the more easily accessible Milford/Piopiotahi and Doubtful/Patea Sounds began to cause concern.

As vessels became larger and more powerful, and the use of floatplanes and helicopters became more common, access improved markedly to all the fiords. Fears grew that the depletion of popular fish stocks that had already occurred in the two most accessible fiords was now spreading to other parts of Fiordland.



Blue cod (rāwaru). RICHARD KINSEY, DOC

Fiordland's commercial fishers were at the forefront of the first marine protection initiatives in the 1980s and 1990s. Their extended periods of time on the water had developed a deep and personal appreciation of the fiords, and they were keen to see two very special areas protected.

As a result, the Fiordland Fishermen's Association, through its parent body the New Zealand Federation of Commercial Fishermen, applied for marine reserve status and in 1993 two reserves were established – Piopiotahi (Milford Sound) Marine Reserve and Te Awaatu Channel (The Gut) Marine Reserve. This marked the beginning of a challenging and productive journey.

How the Fiordland Marine Area was established

The Guardians of Fiordland's Fisheries

In 1995, when a suggestion was made that all fishing interests might get together and work on ways of looking after the fish stocks and fisheries of Fiordland, the response was overwhelmingly positive.

The Guardians of Fiordland's Fisheries was formed, and looked to the Ministry of Fisheries for advice and facilitation. Members included representatives from the Ōraka Aparima Rūnaka Inc of Ngāi Tahu iwi, commercial fishers, recreational fishers, and charter boat operators.

At the first meeting, the Guardians adopted the vision:

That the quality of Fiordland's marine environment and fisheries, including the wider fishery experience, be maintained or improved for future generations to use and enjoy.

For the next five years, members of the group shared their knowledge and collected information about all aspects of Fiordland's fisheries. This was documented in the 1999 report *Beneath the Reflections – A Characterisation of Fiordland's Fisheries*. The Guardians appreciated that local knowledge was invaluable for identifying issues and developing solutions, and that in such a challenging and isolated environment, solutions needed to be both feasible and practical.

An integrated approach to the Fiordland marine environment

During this period it became clear that the focus on fisheries needed to be expanded to a more holistic approach, covering every aspect of the marine environment. For instance, the invasion of marine pests has serious implications for fisheries and for all other parts of what is a

complex ecological unit. To reflect this broader focus, the Guardians became known as the Guardians of Fiordland's Fisheries and Marine Environment.

To allow the whole Fiordland marine environment to be considered, and for a unified approach to succeed, all the agencies responsible for the various components of the environment in the area needed to be involved. The Guardians canvassed those agencies for support and, in 2000, the group received a grant from the Ministry for the Environment to develop an integrated strategy for Fiordland's fisheries and marine environment. This resulted in representatives from marine science and environmental interests joining the Guardians, and the Department of Conservation, Environment Southland, and the Ministry for the Environment joining the agency advisory and support group.

Developing the Fiordland Marine Conservation Strategy

To begin, the Guardians brainstormed the issues that could impact on the health of fisheries and the marine environment. These were grouped into fisheries issues, values of special significance, and risks to the marine environment. The group also considered how kaitiakitanga (stewardship) could be appropriately expressed in Fiordland.

Developing the draft conservation strategy in only two years required a very significant commitment. For a number of issues such as risks to the marine environment, the group agreed about what was needed. The Guardians also agreed that when one interest or sector benefited at the cost of another, the advantaged party should give something in return. The aim was to ensure that the greater good of Fiordland took precedence over competing interests. For instance, when the commercial fishers volunteered to withdraw from fishing the inner fiords, recreational fishers volunteered to set stringent fishing rules for these more fragile inner areas. This became known as the 'gifts and gains' philosophy, which underpinned more difficult negotiations.

Representative areas that were biologically diverse were identified as deserving particular care. Other more discrete and fragile areas were identified as having special qualities and became known as 'china shops'. Some of these areas were deemed to be vulnerable to anchoring damage and were therefore designated no-anchoring areas. (See 'Protected areas' section, page 42, and the 'Fiord-by-fiord' section, page 84, for more information on areas where fishing and anchoring is restricted).

For the strategy to succeed in an isolated area such as Fiordland, it was imperative that all stakeholders supported both the process and the philosophy that underpinned it.

From strategy to reality

The draft conservation strategy was launched for consultation in 2002. In 2003, the final Fiordland Marine Conservation Strategy was presented to the Minister for the Environment, the Hon Marian Hobbs, and the Minister of Fisheries, the Hon Pete Hodgson. They made a commitment that the strategy would be implemented in its entirety within two years, an extremely short timeframe.

Some measures could be implemented by voluntary agreements and some by existing legislative measures, while others required new legislation. For instance, marine invasion measures came in as a package handled by MAF Biosecurity New Zealand (now the Ministry for Primary Industries); fisheries measures came into effect under the Fisheries Act 1996; and eight new marine reserves were introduced with the passing of the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005. 'Te Moana o Atawhenua' refers to the shadows of the land reflecting onto the waters of the fiords.



Breaksea Island, Breaksea Sound/Te Puaitaha.
GRAHAM DAINY

Managing the Fiordland (Te Moana o Atawhenua) Marine Area

The Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 recognises the local, national and international importance of the Fiordland (Te Moana o Atawhenua) Marine Area. The area extends from Awarua Point on the West Coast to Sandhill Point, Te Waewae Bay, and to 12 nautical miles off the Fiordland coast.

A major feature of the Act is the formal recognition of the Fiordland Marine Guardians (the Guardians) who are appointed by the Minister for the Environment. The Act also identifies the Ministry for the Environment, Department of Conservation, Ministry for Primary Industries (formerly MAF Biosecurity New Zealand and the Ministry of Fisheries), and Environment Southland as the management agencies.

It was clear that successfully implementing such a varied package would involve the management agencies and the Guardians working closely together. To ensure this, the Guardians have been given the critical role of facilitating and promoting integrated management. Other tasks include:

- providing advice and making recommendations on the effectiveness of management measures
- assessing impacts of activities near the area and any likely threats to the area
- obtaining and sharing information
- helping monitor the state of the marine environment and biological diversity.

For a community, this level of input to managing a precious resource reflects the advantage of a ‘bottom-up’ approach, where those on the ground are able to make a very significant contribution. Real progress has been made towards realising the original Guardians of Fiordland’s Fisheries’ vision, which is as relevant today as it was when adopted in 1995.

Kaitiakitanga

Kaitiakitanga is an important part of the management of the Fiordland (Te Moana o Atawhenua) Marine Area. Ōraka-Aparima Rūnaka Inc is the mandated iwi kaitiaki for the

Fiordland area, as set out in the first schedule of Te Rūnanga o Ngāi Tahu Act 1996.

The ethic of kaitiakitanga refers to the decision-making authority over a particular resource or resources within the rohe (tribal area) of an iwi (tribe) or hapū (subtribe). People are designated by iwi/hapū to look after specific resources, a responsibility mandated by the tāngata whenua (local people) who have mana whenua (territorial rights) over the area. These people are known as kaitiaki, and are considered the custodians of the resources and regulators on behalf of the whānau (family), hapū and iwi.

Kaitiaki uses a system of rules or prohibitions which are based on the spiritual concepts of tapu and rāhui. Tapu implies a prohibition or restriction in which no person is exempt. Any transgression is to bring about the wrath of the gods. Rāhui is seen as a temporary restriction and a conservation measure to protect a resource or resources.

With European settlement came the alienation of Māori, resulting in iwi and hapū having diminished authority over many of the resources for which they were once responsible as tāngata whenua and kaitiaki. Despite this situation, the traditional sense of duty and responsibility that Māori have toward their natural resources is still retained.

Iwi/hapū have never lost this sense of duty and responsibility in kaitiakitanga, or their resolve that their mana whenua and rangatiratanga (self-determination), despite the alienation of their lands. It is this resolve, and sense of duty and responsibility, that have led them to seek to establish working partnerships with the Crown and Crown agencies, non-governmental organisations, and other users, to assist with the custodianship of natural resources.

These partnerships mean that all of those persons who have taken on management responsibilities in any form or manner can be seen to be working within the concepts of kaitiakitanga/stewardship/custodianship.

Welcome aboard.

Fiordland's physical and biological features

Straddled on the Alpine Fault, where the Pacific and Indo-Australian crustal plates meet, Fiordland is one of New Zealand's more seismically active areas.

Its rocks and landforms are distinctive, the result of a long and varied geological history that features extensive erosion by glaciers over the past two million years. Glaciers flowed to the sea, excavating characteristic 'U-shaped' troughs to well below sea level. When the ice melted, the sea flooded in to fill the fiords and created the landscapes we see today.

Since the days of the huge glaciers, a more subtle form of erosion has taken place – caused by the weather. Storms can hit Fiordland throughout the year and often with little warning, making its weather complex and unpredictable. With more than 200 rain days a year, and upwards of seven metres of annual rainfall, the sheer volume of water has created streams, rivers and a multitude of waterfalls that still scour Fiordland's steep walls and carve out new paths.

While the southwest coast of New Zealand is buffeted year-round by the Pacific Ocean's swells, inside the fiords the waters are generally calmer, with the steep walls and islands providing shelter from all but the wind. This can funnel through the gaps and rise to a great intensity, depending on direction.



Hall Arm, Doubtful Sound/Patea. STEPHEN LOGIE, MPI



Stirling Falls, Milford Sound/Piopiotahi. DOC

Most of the drowned glacial valleys ultimately become shallower toward their head, and culminate in estuaries at the mouths of extensive river systems.

Fiordland's marine environment

Beneath the salty waters of the inner fiords lies a very special world, created by an intriguing combination of environmental factors. And it all begins with huge amounts of rain.

Deluged by New Zealand's highest annual rainfall, numerous rivers and streams pour a layer of tannin-stained brown fresh water into the fiords. Less dense than sea water, this fresh influx lies on the surface, its thickness varying from five centimetres to more than 10 metres deep. Because it is stained the colour of tea, the freshwater layer greatly reduces the amount of light able to penetrate into the depths. Kelps, normally the basis of marine communities, do not grow well in the light-poor low wave energy conditions. Instead, deeper water species, which normally inhabit the dark depths, are able to colonise much shallower habitats. This event is known as 'deep water emergence'.

Conditions are quite different in the outer third of the fiords, at their entrances and along the outer coast, and are best described as dynamic. Here there is wave energy in abundance, and less influence of fresh water.

The profound difference between the inner fiords and the entrances and open coast has a big impact on the number of species and the abundance of fish found in each habitat. The remarkable, but less productive, inner fiords present considerable constraints for marine plants and creatures. In contrast, the outer fiords surge with the energy of waves and the continental shelf is very narrow in this region. Kelps flourish in the turbulent water here, fostering productive marine communities. The fiord entrances and exposed outer coast contain marine biodiversity typical of southern New Zealand.

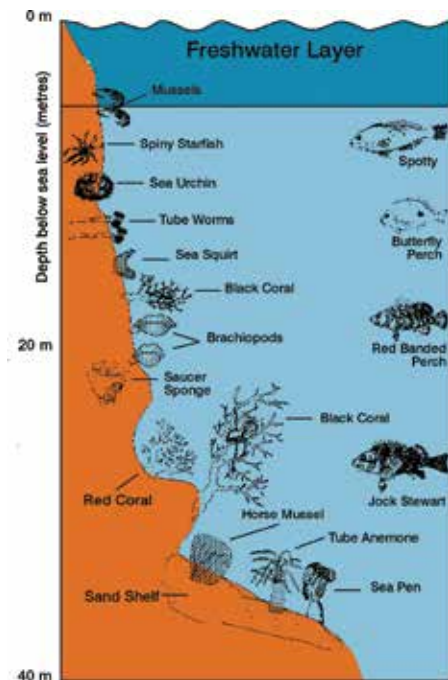
While fiord habitats change between inner and outer reaches, they also change from north to south. Fifteen main fiords lie along the 200 kilometres between Milford Sound/Piopirotahi and Preservation Inlet. Those in the north tend to be narrow and steep sided, supporting mostly inner fiord habitats. Further south, catchments tend to be lower and more open with more outer fiord and open coast habitats. This supports a greater diversity and abundance of marine algae (seaweeds).

Fish and invertebrates

Although, in places, the fiords are deeper than 400 metres, the reduced light restricts most life to a narrow band around the rock walls, down to about 40 metres. However, diverse habitats and communities do occur greater than 40 metres in many places where currents are high and sedimentation low, such as the fiord sills.

On the muddy fiord bottom, heart urchins and tube worms predominate to water depths of 200 metres. Below this, bivalves, tusk shells, and crabs live in an environment similar to that found at more than 1,000 metres in the open ocean.

Harvestable fish species, including rock lobster, blue cod, and tarakihi live in the inshore areas along the entire coast. In the exposed entrances to the fiords where kelp and other seaweeds



Typical fiord water column profile. doc

flourish, good stocks of pāua, butterfish (greenbone), moki, and trumpeter are found, particularly in the south. Tuna, barracouta, kahawai, and mackerel are found seasonally in mid-water, while bluenose, groper (hāpuku), and sharks inhabit deeper waters.

Marine mammals

Fiordland boasts a rich and varied range of marine mammals. The Fiordland coastline and inner fiords provide important habitat for a number of species – resident populations of bottlenose dolphins and New Zealand fur seals (kekeno) are common, while dusky and common dolphins, southern right whales (tohorā), and humpback whales (paieka) are regular visitors.



Bottlenose dolphins. CHLOE CORNE, DOC

Te Wāhipounamu – South West New Zealand World Heritage Area



Mistake Creek looking toward Pyramid Peak. JO CARPENTER, DOC

South West New Zealand is one of the great wilderness areas of the Southern Hemisphere. Recognition of the outstanding natural values of this area was granted by UNESCO in December 1990, with the formation of the South West New Zealand World Heritage Area. World Heritage is a global concept that identifies natural and cultural sites of world significance, places so special that protecting them is of concern for all people.

Known as Te Wāhipounamu (the place of greenstone), the South West New Zealand World Heritage Area incorporates Aoraki (Mt Cook), Westland (Tai Poutini), Fiordland and Mount Aspiring National Parks, covering 2.6 million hectares.

The large range of native plants, most of which are unique to New Zealand, represent the close links between the World Heritage Area of today and Gondwanaland of 100 million years ago. Foremost among the links with Gondwanaland are the forests of southern beech, rimu, and kahikatea, as well as birds like the flightless kiwi.

The majestic mountainous backdrop to the fiords' marine environment is Fiordland National Park, New Zealand's largest national park and one of the largest in the world.

Fiordland's terrestrial environment

Plants

The Fiordland National Park's ridges and valleys support a rich diversity of plant life – from alpine herb fields on snow-capped peaks, to New Zealand's largest remaining expanse of indigenous beech-podocarp forest. Fiordland's native vascular plants number about 700 species, and botanical surprises are still being discovered. Many of these species are found nowhere else in the world, including species of speargrass, buttercups, tree daisies, and herbs.

Land mammals

Like most of New Zealand, Fiordland is home to a host of introduced land mammals, such as stoats, possums, rats, and mice. However, New Zealand's only two native land mammals are also found here – two species of bat (pekapeka). The curious long-tailed and short-tailed bats are tiny, weighing less than 15 grams, and use echo-location to catch insects. A third species of bat was last seen in 1967 but is now thought to be extinct.

Birds

Fiordland's varied terrain also supports a wide range of birds, some of them critically endangered. The takahē, a large flightless ground-living bird related to the more populous pūkeko, is of ancient lineage and poorly adapted to cope with introduced predators. The species was thought to be extinct until rediscovered in 1948. Fiordland was also the final wild refuge of the world's only flightless parrot, the nocturnal kākāpō, which are now managed on predator-free islands including Anchor Island/Pukenui in Dusky Sound/Tamatea.

Near the sea, there is a good chance of seeing Fiordland crested penguin (tawaki) and blue penguin (kororā) in the water; black-backed gulls (karoro), red-billed gulls, and white-fronted terns overhead; and ducks, kingfishers (kōtare), and white-faced herons at river mouths.

Common bush birds are likely to be encountered almost anywhere in the forests; most noticeable are the grey warbler (riroriro) and bellbird (korimako). Some of New Zealand's threatened species, including yellowhead (mohua) and saddleback (tieke), can also be found on islands where predators have been removed.

To help ensure these islands remain predator free, be aware of your quarantine procedures – do not take any plants and animals ashore when you land (see also 'Island biosecurity in Fiordland' section, page 41).



South Island robin (kakarua). BARRY HARCOURT

Insects

Fiordland has an extraordinary variety of insects, and 300 of the estimated 3,000 species are unique to Fiordland National Park. Of note are the large alpine weevils, giant land snails, weta, and many species of native butterflies and wasps. Probably the most notorious insect in Fiordland is the sandfly (namu), which breeds in the many streams and inhabits every nook and cranny of the fiords.

History of Fiordland

Settlement and cultural history

Māori tradition



The fiords at the southern end of the Alps were hacked out of the raised side of the wrecked waka by Tū Te Rakiwhānoa, using his magical adze, in an effort to make the land habitable for humans. doc

The understandings and stories about the Fiordland coastal marine area vary among whānau and hapū, and particular stretches of the coastline have their own traditions.

One interpretation of the traditions is that the fiords represent the raised sides of Te Waka o Aoraki (the canoe of Aoraki). The waka (canoe) foundered on a submerged reef and its occupants – Aoraki and his brothers, Raraki, Rakiroa and others – were turned to stone. They stand now as the highest peaks of Kā Tiritirio te Moana (the Southern Alps). The fiords at the southern end of the Alps were hacked from the side of the wrecked waka by Tū Te Rakiwhānoa, using his magical adze. The fiords' deep gouges and long waterways were intended to provide safe havens on the rugged coastline, while their fish, forest and birds sustained travellers.

Tamatea was an important explorer who named numerous landmarks in Fiordland. After voyaging down the South Island's east coast, Tamatea's waka, *Tākitimu*, capsized in Te Waewae Bay and was wrecked at the mouth of the Waiau River. Spending time ashore, Tamatea explored much of the Murihiku region, including Fiordland. Tamatea (Dusky Sound) is named after him, as are several locations in Chalky Inlet. Place names along the Fiordland coast record southern Māori history and point to the landscape features that were significant to these early seafaring arrivals.

Māori occupation

Early Polynesian Māori arrived in the South Island/Te Wai Pōnamu and explored much of Fiordland between AD 1300 and AD 1500. Waitaha appear to have arrived first and are said to have discovered the lakes known as Wakatipu, Te Anau and Manapouri, before following the Waiau River south to Te Waewae Bay. Later expeditions explored the Fiordland coast and its mountainous hinterland to reconnoitre and harvest mahinga kai (food) and to extract the prized pounamu for toki (stone adze) manufacture.

About the 16th century, Ngāti Mamoe iwi from the North Island arrived and settled in the south, succeeding the Waitaha. In turn, Ngāti Mamoe were followed and joined a century later by Ngāi Tahu, who were to become the dominant South Island iwi. Through conflict and intertribal marriage alliances, the three southern iwi eventually merged to become the wider Ngāi Tahu Whānui of the present day.



Isthmus Sound, Preservation Inlet. ANDRIS APSE

A major kaika (settlement) was reported at Martins Bay before 1800. Traditional accounts suggest that Martins Bay was an important settlement in accessing the area's valuable pounamu resources, as it provided easy access by sea to Milford Sound/Piopiota to the south, and to Awarua to the north. This naturally led to canoe building, an industry for which this settlement was well known.

Battle sites, urupā (burial grounds), tauranga waka (canoe landings), nohoanga (campsites), and landscape features bearing the names of tūpuna (ancestors), attest to and record this extensive Māori history (Waitangi Tribunal, 1991).

Māori use of natural resources

For the most part, human occupation of Fiordland was seasonal, with southern Māori venturing around the coast during late summer and autumn on sealing, birding and fishing expeditions. New Zealand fur seal (kekeno) was an important protein source, especially when the moa became extinct. Kekenos were harvested in summer, with the meat preserved in airtight poha titi (kelp containers) for consumption over winter, while the pelts were used for sealskin capes and other garments.



Matauirā/Spit Island, Preservation Inlet, a former pā site and shore-whalers' lookout. FROM THE FILM ATA WHENUA

Along with seal meat, a wide range of seafood was harvested, including blue cod (rāwaru), groper (hāpuku), and eels (tuna) from the inland lakes, rivers and streams. Analysis of midden remains from a cave shelter in Dusky Sound provided evidence of pipi, scallop, mussel (kuku), pāua, and limpet shellfish consumption, together with bones of weka, kiwi, kākā, kākāpō, penguin (tawaki), duck (tētē), Pacific rat (kiore), dog (kurī), and fur seal (kekeno) (Peat, 2007).

Historical and current records show little open sea fishing in Fiordland, as conditions would have been too rough and unpredictable for the waka used by Māori at the time. Double-hulled canoes lashed together were observed by William Wales (an astronomer aboard Cook's *Endeavour*) in 1773 in Dusky Sound. These craft could not be regarded as seaworthy in any conditions other than light winds and slight seas (Anderson, 1986).

Captain Cook's sojourn in Fiordland

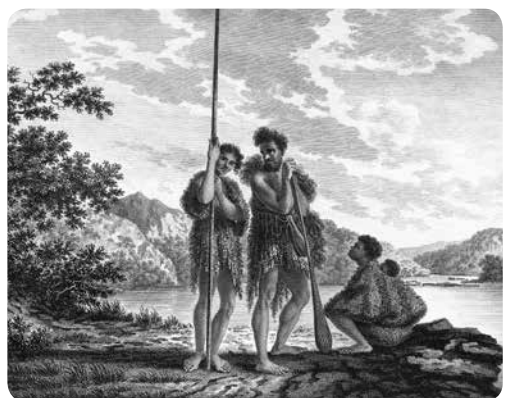
On Captain Cook's first circumnavigation and exploration of New Zealand in 1770, he sailed the *Endeavour* up the Fiordland coast. Abandoning his first attempt to enter an expansive fiord in the failing light of day's end, he named it 'Dusky Bay'. Sailing north, he cautiously avoided entering Doubtful Sound/Patea, being 'doubtful' there would be enough wind to sail back out of the steep-walled fiord.

On his second expedition in 1773, Cook described wooded hills rising directly from the sea, backed by rugged mountains of barren rock, and prodigious height, "covered in large patches of snow which perhaps have lain there since the creation".

The explorer provides the first European impressions of Fiordland's fishing, recording in his journal:

What Dusky Bay most abounds with is fish; a boat with six or eight men, with hooks and lines, caught daily sufficient to serve the whole ship's company... the variety is almost equal to the plenty... some are superior and in particular the coal fish (blue cod), as we called it, which is larger and finer flavoured than any I have seen before, and was in the opinion of most on board, the highest luxury the sea afforded us (McNab, 1909).

Cook had several interactions with three or four small Māori families during his exploration of Dusky Sound, all of which were friendly.



Family in Dusky Bay, New Zealand. ENGRAVED BY LERPERNIÈRE FROM A DRAWING BY WILLIAM HODGES, COOK'S ARTIST, 1773. ALEXANDER TURNBULL LIBRARY. C-051-031

With his astronomer, William Wales, Cook visited two whare rau (round hut) dwellings, as well as a cave shelter at Cascade Cove. They found:

... a canoe hauled upon the shore near two small mean huts where there were several fire places, some fishing nets, a few fish lying on the beach and some in the canoe (Beaglehole, 1961).

Wales described the huts as four or five feet high, round and vaulted, constructed of flax and bark and built strategically near the sea. Wales also described the fishing tackle used by Māori in Dusky Sound:

They had a variety of fish hooks in their canoes. Some made all of wood, others all of bone (whale and human) and others again, part wood and part bone, joined by tying them together. Their lines are made from hemp (flax) plant, some twisted as our cordage is with two, three or four strands or twists, and others platted like the lash of a whip (Begg & Begg, 1966).

Cook's glowing accounts of 'teeming fish and numerous seals' in the fiord undoubtedly encouraged the first sealers aboard the *Britannia* to visit in 1792. The following year a Spanish expedition, led by Italian Alessandro Malaspina, tentatively explored the entrance of Doubtful Sound/Patea, after Cook's reports of the region and its resources.

Harvesting and fishing history

Sealing

The next wave of visitors drawn to the remote southwest coast and Stewart Island/Rakiura were European sealing gangs.

In 1803, following the collapse of the Bass Strait seal fishery, Australian sealers turned to southern New Zealand and the sub-Antarctic islands for fresh stocks to exploit, initially supplying the lucrative Chinese market, and also America and Europe.

The New Zealand fur seal (kekeno) was the main species hunted, along with the less valuable New Zealand sea lion (whakahao), also known as Hooker's sea lion or the hair seal. The industry reached a frenzied peak in 1809/10, quickly decimating stocks. In 1809, the *Governor Bligh* returned twice to Sydney with 10,000 Fiordland



New Zealand fur seal (kekeno). CHLOE CORNE, DOC

skins on each occasion. The following year it returned from Doubtful Sound/Patea with a further 10,000 skins.

Most shore-based sealing gangs relied on small wooden whaleboats to access remote seal colonies along the outer coast, and for fishing. Their ability to find food made the difference between success and failure. Sealers subsisted on fish, shellfish and seal meat, as well as birds' eggs, sea birds, and woodhens (weka) to augment their dry stores and salted pork and beef rations.

In the 10 years following the first boom and bust bonanza, Fiordland's fur seal numbers slowly rebuilt to allow a short-lived sealing revival in the early 1820s, before collapsing again. In little more than 30 years, this industry had all but exterminated the fur seal, killing more than one million animals for their valuable skins.

Despite diminished fur seal numbers and falling demand and returns, some isolated sealing persisted. The Seal Fisheries Act 1873 and regulations set an annual four-month open killing season until 1894, when the Government finally gave the fur seal full protection. Even so, occasional limited open seasons were declared, with the last in 1946. That year, the Bluff-based *MV Kekenno* (captained by Harry Roderique) brought back 4,000 skins from southwest Fiordland and Solander Island. In one 15-day expedition during June and July, 1,181 seals were killed while the *Kekenno* was based in Luncheon Cove, Dusky Sound/Tamatea.

Whaling

Before the widespread availability of electricity, whale oil was used in many consumables and industries. Some typical uses included candles, soap and heating, lighting the street lamps of Europe and America, and lubricating the factory wheels of 19th century industry. In the days before plastic and spring-steel, the baleen mouth plates of the southern right whale (tohorā) were put to many uses, from furniture and umbrella ribs, to women's corsets.



Sperm whale (parāoa). KIM WESTERSKOV

The first commercial whaling in New Zealand waters began in the 1790s, with visits from American and British pelagic whaling vessels in pursuit of the sperm whale (parāoa), the largest of the toothed whales. In the first half of the 19th century, these whales were hunted to near extinction in the Pacific Ocean.

In New Zealand, closer to shore, slower-moving southern right whales (tohorā) were targeted when they used inshore bays and southern fiords to mate and calve while on their annual winter migration north from sub-Antarctic waters.

At first, 'bay whaling' was conducted mainly by American, British, French and Australian colonial vessels, which anchored in the fiords and coastal bays and harbours while whaleboat crews were sent to intercept the migrating whales and newborn calves.



Whale boats and southern right whale (tohorā).

ALEXANDER TURNBULL LIBRARY. PUBL-0065-379

Growing export demand led to less-costly shore-whaling stations being set up around the southern New Zealand coast. The first, in 1829, was the remote Port Bunn/Rakituma shore-whaling station in Cuttle Cove, Preservation Inlet. The land was purchased from Te Whakataupuka, the Southern Murihiku paramount chief, for 60 muskets, a cannon and 1,000 pounds each of gunpowder and musket balls. Six houses were built for a staff of 60 men (including Māori boat crews), and sheds for up to 16 whale boats. The station prospered until whale stocks became depleted, and was abandoned in 1838 for a more accessible site at Jacob's River (Aparima/Riverton) in Foveaux Strait.

By the early 1840s the decline in southern right whale numbers visiting Foveaux Strait necessitated the use of larger vessels and extended trips to the western fiords by whalers living at Jacob's River and Bluff. During winter it was not uncommon for these vessels to spend up to three months hunting bay whales off the sounds on the west-side.

During the summer off-season whalers returned to the fiords on sealing expeditions. On one such cruise in 1842, the schooner *Amazon* put into Bligh Sound one night and dropped anchor. To the crew's surprise, fires were seen ashore. Early next morning a Māori cave dwelling was found, and in it some flax mats, a whalebone patu parāoa (club), and other articles including fish hooks. The occupants of the 'Cave of the Hāwea' had fled into the bush, leaving only footprints behind them (Roberts, 1913). They were thought to be Ngāti Mamoe fugitives who, some 60 years earlier, had escaped Ngāi Tahu (Hall-Jones, 2002).

By the mid-1850s the two 'robber industries' of whaling and sealing were in decline, and the leading whalers began to diversify into shipping and pastoral run holding in the grab for land. The world's reliance on whale oil eventually ended when technology was developed in 1859 to extract underground mineral oil deposits, and refine this to the range of petroleum products familiar today.

Finally in 1936 the southern right whale, threatened with near extinction, received formal protection under an international convention.



Breaching southern right whale (tohorā). doc

Early accounts of fishing

Following the decline of the whaling and sealing industries in the mid-1850s, local vessels from Bluff and Riverton/Aparima continued to make visits to the Fiordland coast.

At Preservation Inlet in July 1863, geologist James Hector recounts being joined in a seal boat from Riverton/Aparima by a party of Aparima Māori sealers who caught groper (hāpuku). Steep-to Island, he was told, was the usual Māori camping place with several fine caves affording comfortable shelter (Anderson, 1998). Hector described the rock lobsters, which lay in thousands on the sandy bar between Steep-to and Coal Islands. With six strong Māori oarsmen, Hector explored Long Sound in their seal boat. On their return to the entrance, the Māori crew caught 11 large groper, each weighing about 14 kilograms (30 pounds) to replenish the expedition's food supply (Begg & Begg, 1966).

Commercial finfish harvesting

Before 1900, commercial fishing on the Fiordland coast was limited. The fishing that did exist was centred on hand-lining for blue cod and groper. Blue cod was more marketable than groper and smaller, which meant more could be carried on board the small fishing craft prevalent at the time. By 1893, Bluff fish merchants were shipping large quantities of locally caught fish, including blue cod, to Melbourne for the Australian fish markets. In 1896, a fish freezer was established in Fisherman Bay, North Port, Chalky Inlet, to store fish landed by a fleet of small vessels from Riverton/Aparima. It is still possible to see the concrete wharf piles (Hall-Jones, 2002).

After the turn of the 20th century, fishing in Fiordland gradually increased with more boats venturing around to the western coast. Blue cod was regularly exported from Bluff for sale on the Melbourne fish market.

As more markets for fish opened, fishermen began making longer journeys to the West Coast grounds, remaining away from their homes for many days on end (MacIntosh, 1980). Trips became longer as advancements in technology increased safety. Despite the development of internal combustion engines, most craft continued to carry sails to ensure their return to port. Fiordland was, and still is, a dangerous and rugged coast where vessel reliability is of paramount importance.

Blue cod remained the main fishery until the end of the 1940s, with fish caught on hand lines from tender dories. The catch rate was determined by how fast the lines could be hauled and returned. Other limiting factors were freezer size and fuel supplies. To overcome the obstacle of freezing facilities (not all boats had freezers until after the 1940s), a second fishing station was established in Dusky Sound.

The rusting metal hull of the clipper steamer *SS Stella* still lies on its side at the northern end of North Port, Chalky Inlet. In 1926, at 50 years of age, the vessel once used to service lighthouses, deliver mail, and as passenger transport was dismantled and its hull used as a freezer base. She was first situated in Luncheon Cove, Dusky Sound, and then found a final resting place in North Port.



The rusting hull of the *SS Stella* and concrete cod freezer relic in North Port, Chalky Inlet. STEVE BUTLER

Other fisheries at the time were lining for groper and occasional set-netting for moki and butterfish (greenbone), although this was restricted almost entirely to two-to-three months of the year. As with the blue cod fishery, freezer space was limited and only the larger fish were taken to ensure a profitable operation.

During World War II, the blue cod fishery waned as fishers entered military service. The slide continued even when hostilities ended as commercial oyster dredging in Foveaux Strait rapidly expanded and markets were found for trawl fish species, such as rig and elephant fish. These fish could be caught close to port and yielded greater profits than blue cod.

Since the 1980s, fishing for offshore species such as shark, groper, tuna and bluenose has grown. Some exploratory fishing for kina (sea urchin), sea cucumber (beche de mer), and scallops has been undertaken. Apart from kina, these have not developed into commercial fisheries in Fiordland.

Today, Fiordland's blue cod fishery is seeing resurgence. The commercial BCO5 fish stock management area lies between Awarua Point in the north and Slope Point in the south. On a season-by-season basis, a few boats from Bluff and Riverton/Aparima fish the southern fiords from Dusky south, to spread out the fishing effort and avoid competition on fishing grounds in Foveaux Strait and around Stewart Island/Rakiura, while those residing in Milford Sound/Popopiotahi fish the northern coast.

Rock lobster fishery

The opening of the American export market for frozen rock lobster (crayfish) tails during the late 1940s fuelled the rapid development of this fishery. Before this, only a limited European market existed.

Only the rock lobster tails were taken because they took up less room and could be frozen to maintain their quality during several weeks at sea.

Commercial fishers began with hoop/ring pots, moving to wooden pots and later steel pots. Synthetic ropes and plastic buoys replaced natural fibre ropes as the new technologies came on stream. Better able to withstand the exposed waters and punishing conditions, these developments allowed fishing efforts to improve and by 1948 the bonanza was beginning.

This was a virgin fishery and although the techniques for harvesting fish had not yet been perfected, catches were initially very large. Between July and February, the coastal stretch from Puysegur Point to Milford Sound/Piopirotahi came alive with small fishing boats. A system was developed where smaller boats would feed their catches into a mothership with large freezers. The peak came in 1956 when Fiordland landings totalled more than 4,000 tonnes.



Rock lobster (kōura). MALCOLM FRANCIS, NIWA

The ability to land bulk catches of lobsters and get them to market was boosted by the 1953 opening of the Homer Tunnel (allowing road access to Milford Sound/Piopirotahi), the completion of the Wilmot Pass road into Deep Cove in 1965, and the arrival of amphibious aircraft. Freighting tails directly from Fiordland also allowed fishers to conserve fuel and stay away from their home port for longer.

Until 1963, a restricted licensing system had limited the number of rock lobster boats in Fiordland to 105. When this restriction was lifted vessel numbers increased substantially totalling 233 by 1969.

As time went on, matching the early catches required increased effort. With the advance of new technology, increasing numbers of boats entered the fishery until a moratorium on new entrants was introduced in 1978 due to national fishery sustainability concerns.

By far the biggest changes and innovations in industry practice was brought about in 1988 when a new live export market opened in Asia, quickly resulting in live rock lobster exports superseding 'tailing at sea' to supply frozen tails. Fishermen could now obtain value from landing the whole fish to maximise their catches but careful handling was required, including the reintroduction and extensive use of 'coff' holding pots to store catches on the fishing grounds. Helicopters and floatplanes meant live lobsters could be at the pack-house within minutes of leaving the boat.

In 1990, rock lobster was introduced into the Quota Management System allowing fishers and processors to buy, lease and sell quota, while the Southern fishery became known as the CRA8 (quota) management area. As a consequence of introducing rock lobster to the Quota Management System many small operators were forced out of the industry while some older retiree age fishers also sold up and left. Boat numbers within the wider southern area dropped by 75 per cent, to around 70 vessels in 2008.

In 1997, following industry concern over declining catches, the industry supported the introduction of a new management strategy. As a result, in 1999 the total allowable commercial catch was cut by 20 per cent, to 711 tonnes. Two years later it was again cut by 20 per cent, to 568 tonnes, to allow rock lobster stocks to rebuild. The quota cuts forced major industry restructuring, with many smaller quota holders and lease only fishers quitting the industry. This caused the number of CRA8 fishing vessels to drop dramatically once more to around 67.

While the fishery was allowed to rebuild, over the intervening years the CRA8 Management Committee Inc. (now called the CRA8 Rock Lobster Industry Association Inc.) has been proactive in researching handling, transporting, holding and processing techniques, and the sustainability of rock lobster stocks.

The fishery has since recovered at a higher rate than expected and allowable commercial catches have increased to catch levels equalling those of the 1970s – more than 960 tonnes.

The recovery means that the southern CRA8 rock lobster fishery now produces 35 per cent of New Zealand's rock lobster exports, with the majority being taken from the Fiordland coast. The total allowable commercial catch has increased from 567 tonnes in 2002 to 962 tonnes in 2013 up to present (2017), which is annually caught by around 70 vessels spread throughout the wider CRA8 fishery on behalf of 110 quota share owners. This makes Fiordland the most valuable rock lobster area in New Zealand. Export earnings from CRA8 are approximately \$100 million dollars annually, with much of this staying within the Southland business community.



FV Exporta lifting cray pots outside Thompson Sound.
STEPHEN LOGIE, MPI

Pāua fishery

The Fiordland commercial pāua fishery is based on harvesting the blackfoot pāua, the largest of three abalone species endemic to New Zealand. While pāua is highly valued by Māori as a traditional food source, and is important for recreational divers, it was first exploited commercially in the late 1960s for its opalescent shell, which was used in polished pāua jewellery and souvenirs.



Pāua. CLARE MURPHY

The opening of new markets for canned, bleached pāua meat exports in the early 1970s brought a rapid expansion of commercial harvesting of Southland's inshore pāua. Predictably, the most accessible pāua beds near Foveaux Strait and Stewart Island/Rakiura were the first to be heavily fished.

A four month closed season was introduced, along with a monthly harvest limit and a ban on underwater breathing apparatus, including scuba gear. Up until the issue of individual quota in 1985, fishers were restricted to landing a maximum of one tonne of greenweight pāua per vessel per week. This was easily circumvented, however, by fishers registering multiple vessels, including dinghies, inflatable craft, kayaks, and in one case, it was rumoured, a wooden pond board (a plank used to partition areas of a boat's deck).

Apart from fishing regulations, the biggest restriction on Fiordland's pāua fishery was the requirement that any pāua for export had to be landed alive in the shell at the pack-house. The distance from port and the cost of floatplanes and helicopters discouraged large-scale diving – until the introduction of quota and higher export returns.

In 1995, concern about diminishing pāua stocks at Stewart Island/Rakiura sparked legislation which aimed to divert divers with larger vessels to work the more distant Fiordland coast (Elvy et al, 1997). Their efforts in this remote environment were helped by innovations such as holding pots and vessel wet wells, which keep pāua alive until landing.

Fiordland's exposed coast and isolation means only the most experienced and best equipped fishers can access the area; normally fewer than 20 fishing vessel operators catch the bulk of the harvest.

Despite the constraints, by 2006 concerns were being raised over stock assessment findings and commercial harvest levels within the Fiordland pāua fishery. The then Minister of Fisheries agreed to a suite of measures proposed by the PauaMac5 Management Committee, including quota owners voluntarily agreeing to shelve their annual catch entitlement by 30 per cent for three years, and increasing the minimum size allowed to be taken commercially. The Committee has also been working to improve catch effort information collected about the Fiordland pāua fishery, to provide a more accurate view of what is happening.

The total allowable commercial catch for the PAU5A Fiordland area has remained at 148,983 kilograms (148.983 tonne), with the voluntary shelving reducing the allowable catch to 104,290 kilograms (104.290 tonnes) for the 2016/17 season. PauaMac5 members have also implemented increased minimum harvest size measures in six zones to facilitate biomass rebuild by allowing adult pāua greater opportunity to spawn before harvesting as follows:

- 132 mm minimum harvest size applies across the South Coast, Chalky, Dusky and middle fiord zones
- 128 mm minimum harvest size applies from George to Milford Sound/Piopiotahi; while 125 mm minimum harvest size applies from Milford Sound/Piopiotahi north to Awarua Point.

In addition, the committee has agreed catch limits in certain zones and are utilising data loggers on individual divers as well as catch boat loggers to record catch accurately. They also have a system of post-harvest shell measuring to monitor the harvest size and this is now in place across the whole fishery.

Because of these measures the pāua fishery is showing positive signs of improvement, with stocks in the South Coast and Chalky area recovering well, but further management effort is required in the Northern zones (Dusky to Milford) where there has been evidence of decline since 1997.

Recreational fisheries



Donald Sutherland and visitors fishing from an open boat in Milford Sound/Piopiotahi c.1880. BURTON BROTHERS

From the first European settlers in Fiordland, up to the early 1950s, subsistence fishing was a characteristic of Fiordland, servicing the needs of the few tourists, hunters and mariners who ventured into this isolated corner of New Zealand.

That began to change in 1953 when the Homer Tunnel opened for road traffic. Although boats were not allowed to be towed through the tunnel until it was widened in 1983, the easier access brought more tourists, many in search of a fishing experience.

One of the first to capitalise was the Lyvia Lodge in Doubtful Sound/Patea, built in 1954 to replace the Deep Cove hut built in 1900. It became a destination for walkers on the Doubtful Sound track, and fishing was popular from the outset. The lodge menu relied on locally caught fish and venison, as food supplies were brought in only twice a year (Hutchins, 1998).



The Lyvia Lodge on the banks of the Lyvia River, Deep Cove, 1955. ALEXANDER TURNBULL LIBRARY. F-30660-1/2

However, it was the new Wilmot Pass road, built as part of the construction of the Manapouri power scheme, which first opened the door for recreational fishers to bring their own boats to Fiordland. With the ban on towing boats through the Homer Tunnel still in place, determined fishers petitioned authorities and in 1965 the Wilmot Pass road was opened to the public. It made Deep Cove in Doubtful Sound/Patea the only practical entry point for trailer boats into Fiordland, their skippers attracted by ready catches of finfish and rock lobster, and a growing awareness of big game bluefin tuna, albacore, and sharks.

For 20 years from the early 1970s, the Fiordland Big Game Fishing Club offered annual expeditions into Doubtful Sound/Patea and, once the Homer Tunnel ban had been lifted, Milford Sound/Piopiotahi became their focus. The club has since wound up.

Up to the mid-1980s, safety constraints on small boats restricted most recreational fishing to the Doubtful/Thompson/Bradshaw Sound complex. Some fishing was done from tourist boats in Milford Sound/Piopiotahi and, on an opportunistic basis, from commercial fishing boats elsewhere in Fiordland.

A few brave souls travelled outside the fiords in search of southern bluefin tuna, using fast boats and picking breaks in the weather. Even so, two-thirds of their time was spent inside the fiord fishing for groper, rock lobster, and blue cod. Between them, daily catches of up to eight bluefin tuna (each weighing 29–50 kilograms), 12 to 14 groper, and half a bag of rock lobster tails were not unusual.



Groper fishing near Supper Cove, Dusky Sound/ Tamatea. MPI

While Milford Sound/Piopiotahi is today the major focus for recreational fishing, the access, infrastructure and services available at Deep Cove mean Doubtful Sound/Patea continues to be popular. Privately-owned trailer boats can be towed across the Wilmot Pass road by obtaining a permit from the Department of Conservation or using an operator with a concession to tow boats over the pass.



A recreational vessel being towed over the Wilmot Pass.
ALAN KEY



Milford Sound/Piopiotahi. JON CLOW

A growing trend is for syndicates to buy cheap, ex-commercial boats and convert them for recreational use. Several large syndicate vessels are based in Deep Cove, affording their owners and associated friends regular year round access to recreational hunting, fishing and diving. Most are equipped with pot haulers, freezers and multiple bunk berths, with fishing mainly conducted in conjunction with deer hunting inside the inner fiord arms and upper fiord heads.

Developments in technology are changing the nature of recreational fishing in the fiords. Today's easily transported fibreglass and aluminium hull trailer boats are safer and, with increasing numbers of people and fishing pressure on the inner fiords, recreational fishers and charter operators are ranging further afield. The outer fiord and the open coast are by far the preferred fishing sites, although the weather still has the last word.

Scuba diving has become increasingly popular in the fiords. Once limited, mainly due to a lack of compressed air supplies, diving has increased since the late 1970s, prompted by the growth in dive charter activity. Divers mainly target rock lobster.



Young fisherman. JERRY EXCELL



Visitors to Doubtful Sound/Patea with charter vessel *Southern Secret*. FIORDLAND CRUISES

Charter fishing

Charter fishing had its informal beginnings in the early 1960s when some commercial fishers began to take friends and acquaintances away to enjoy the hunting and fishing opportunities of wild and remote Fiordland. At first, most trips were combined with normal commercial fishing operations, but they soon developed into informal charter arrangements.

Since then, the commercial charter vessel industry has steadily increased, spreading fishing pressure into the less accessible areas of Fiordland, especially Dusky Sound and the two southern-most fiords. Clients are a mix of divers, fishers and deer hunters. Divers target rock lobsters, along with scallops in season, while blue cod and groper are the top targets for line fishers.



Fisherman's Wharf, Deepwater Basin. JON CLOW

Operators now routinely helicopter clients in from Te Anau and Clifden to remote places such as Breaksea and Dusky Sounds, and the upper reaches of Preservation Inlet. Trip options range from part-day and overnight sight-seeing cruises to seven-day excursions.

Many first-time fishers and divers in Fiordland gain their first recreational experiences aboard commercial charter fishing vessels, making these operators important advocates for the Fiordland (Te Moana o Atawhenua) Marine Area. Most skippers promote sustainable fishing by setting realistic expectations for fishing catches and advocating compliance with the various rules, which is beneficial to the both fisheries and their business in the longer term by encouraging responsible behaviour.

Fiordland's charter fleet is a mix of local and seasonal vessels. Charter operations traditionally start in October and build up towards Christmas. Activity increases in late summer and peaks during the autumn deer hunting 'roar', before dropping off in May. Deep Cove has a fleet of locally-based charter vessels, while charter boats from Bluff and Riverton/Aparima are seasonally based in the lower fiords.

More recently, vessels have come south from Marlborough for autumn and winter, due to declining fishing opportunities in the Marlborough Sounds, particularly for blue cod. Charter vessels from other regions are also frequent visitors, often as part of a circumnavigation of the South Island.

Commercial charter operators in Fiordland require a coastal permit resource consent issued by Environment Southland.

Since 2010, all amateur-fishing charter vessel operators must be registered and are required to record their catch and effort daily. Monthly returns are made to Fishserve Innovations New Zealand (<http://www.finnz.com/>). The valuable return data is collated and used to assist recreational fisheries stock assessment and management decisions.



Charter vessel *Takapu* in Chalky Inlet. MPI

Cruise ship visits

The first passenger cruise vessel to visit Fiordland was probably the Union Steam Ship Company's *Wanaka*, in 1877. The company ran popular tourist excursions from Dunedin to the western fiords until 1910, when their steamer *Waikare* struck an uncharted rock in Dusky Sound. Having safely abandoned ship, the 226 passengers and crew turned to line fishing off the rocks while they calmly awaited rescue the following day. This mishap effectively brought cruising in the remote southern fiords to a standstill for more than 70 years.



Passengers from the *Waikare* fishing off Stop Island, Dusky Sound/Tamatea as their vessel slowly sinks. 1910. JOHN HALL-JONES

After terrorists seized the Italian liner *Achille Lauro* during a 1985 cruise in the Mediterranean, American and European customers fled in droves. In the search for a safer cruising area, many companies turned to the South Pacific, and Fiordland.

The number of visits by cruise ships into Fiordland continues to increase, from 34 cruise ship visits in the 2006/07 season to around 80 cruise ship visits in the 2016/17 season. The *Ovation of the Seas* is the largest cruise ship visiting Fiordland, at 167,800 gross tonnes.

To ensure environmental standards are maintained, Environment Southland has agreed conditions with individual cruise ship operators and restricted cruise ship operations to:

- Milford Sound/Piopiotaahi
- Poison Bay
- Thompson Sound
- the outer part of Doubtful Sound/Patea
- Breaksea Sound west of the Acheron Passage
- the Acheron Passage
- Dusky Sound/Tamatea west of Cooper Island.

PRACTICAL USER INFORMATION



Overview

This chapter provides visitors with practical information about the unique environment of the Fiordland (Te Moana o Atawhenua) Marine Area.

It covers:

- what you can expect when **travelling through Fiordland** and how to minimise your risks in this isolated area
- the pests that threaten this area, and what you can do to maintain **biosecurity** in Fiordland's waters and its precious pest-free islands
- **protected areas** and the rules that govern them: marine reserves and Fiordland's special 'china shops'
- care required around **marine mammals**, including the extra caution needed around the vulnerable bottlenose dolphin population resident in Doubtful Sound/Patea
- what you need to know to **dive safely** in this fragile, and at times challenging, marine environment
- information about **jet skiing** and **water-skiing**
- how you can **avoid polluting** the marine area
- the relatively limited **radio communications** around Fiordland, and the channels and radio operators working throughout the region.



Early morning paddle in Camelot Cove, Gaer Arm, Bradshaw Sound. REBECCA MCLEOD

Travelling in the fiords

Travelling in Fiordland is one of the most spectacular trips you can undertake, either as an individual boatie or as part of an organised trip. However, the weather can be unforgiving and the isolation makes even the most minor of incidents potentially serious.

It doesn't take long for storms to hit the coast and when they do, the weather can change dramatically in a matter of minutes, exacerbated by the mountains. It is important to be aware of this, especially when you are out on the exposed open coast.

During the summer months, in the area from Dagg Sound to north of Big Bay, south-west 'day breezes' can be a common occurrence. These winds can regularly be between 25–30 knots and can reach up to 35 knots at times.

During these periods, vessels travelling south should make their passage during early daylight hours (before 10.30 am). From 11.00 am onwards the 'day breeze' will have taken effect and the sea conditions from that time will worsen. This wind will generally not abate until after sunset.

With these weather conditions in mind, it is important to check there is a good weather window to get to your chosen destination. Be prepared to sit out bad weather and be mindful to select the appropriate anchorage for the conditions.

Moorings and anchorages in Fiordland

Sheltered areas throughout Fiordland are important for providing safe anchorage for travelling vessels. They range from small sheltered bays to fully enclosed coves that are usable in any weather.

An **anchorage** is an area of the coastal marine area that has been set aside or is used for the temporary securing of a ship using its anchor.

Moorings are defined as any weight, post or other structure placed in, or on, the bed of the coastal marine area for the prime purpose of securing a ship, raft, aircraft or floating structure, and do not include ships' anchors. Anchoring in Fiordland often involves breastlines from the bow and stern lines to the shore.

General guidelines on anchorages

Anchoring in Fiordland is quite different to many other areas of New Zealand. Some tips for anchoring in Fiordland are:

- visiting vessels should carry anchoring gear that is suitable for Fiordland. It should have sufficient chain and rope or wire of at least 70 metres, with a quality anchor of high holding capacity
- use all stern lines provided; however, a general check of the condition of these lines is advised, especially in little-used anchorages, as chafing will occur as the lines age
- anchoring should always be done before dark so stern lines and mooring lines can be seen, especially as these may be encrusted with mussels and partially sunken
- most anchorages in the northern fiords (north of Doubtful Sound/Patea) require a stern line
- when using stern lines in bad weather, keep as close to the shore as safety allows to shelter from sea conditions
- the anchorages described in the 'Fiord-by-fiord' chapter (page 84) are the main anchorages for use when shelter is required. During light winds, however, the heads of all fiords are suitable for anchoring. A note of caution: all heads of fiords can quickly change from around 30 metres, to 1 to 2 metres in depth, mainly with mud banks, so caution should be taken while approaching to anchor
- most anchorages and stern lines are maintained by commercial fishermen. Very high frequency (VHF) radio contact should be made with these local operators if they are in the area so anchorages do not become overcrowded during peak times (see 'Radio communications' section, page 54)

- in the northern fiords where you are using stern lines, be warned that the sandflies will be extremely annoying throughout the warmer parts of the year in light-wind conditions. Where possible, during light winds, anchor out in the middle at the head of the fiords to keep away from the sandflies. Alternatively, before coming to the area it would be worthwhile spending time adding protection such as fine mesh screens to the main entranceway to the vessel and to hatch openings. A good supply of insect repellent will also help reduce the irritation of sandflies.

Some points on moorings



Vessels moored at Deep Cove. MPI

Anyone who puts in a mooring does not have exclusive rights of use of a specific area, but they do have proprietary rights over the mooring block or chain.

Avoid using someone else's mooring if possible, although owners generally do allow such use, provided the mooring is suitable for the size of the vessel and is not required by its owner at that time.

Within existing mooring areas, largely informal arrangements have worked in the past with few apparent problems. Even so, owners of mooring facilities need to recognise they have responsibilities to ensure their use of the mooring does not result in damage to other vessels. The safety of mooring blocks, chains and lines is the owner's responsibility. Environment Southland must be satisfied the mooring is sufficient for the vessel and types of sea and weather conditions that could reasonably be expected in the area.

No-anchoring areas

Anchoring is prohibited in several areas in Fiordland. Discrete no-anchoring areas are located in Bligh Sound, Precipice Cove (Bradshaw Sound), Te Awaatu Channel and Pendulo Reach (Doubtful Sound/Patea), Wet Jacket Arm, Nine Fathom Passage (Dusky Sound), Awash Rock, and The Narrows (Long Sound) in Preservation Inlet. These areas are home to particularly fragile species that could be damaged by an anchor or its swinging chain. You can find more information on each individual no-anchoring area in the 'Fiord-by-fiord' chapter (page 84).

For further information on anchorages and moorings in Fiordland, contact Environment Southland (see 'Contact information' chapter, page 146).

Huts

There are eight huts throughout coastal Fiordland, from Big Bay in the north to Preservation Inlet in the south. They are maintained by the Department of Conservation in Te Anau and provide welcome relief for travellers with smaller vessels.

For more information about each hut please visit the Department of Conservation's website (www.doc.govt.nz). Each hut has a charge associated with it, ranging from \$5–\$10 per person per night. To purchase hut tickets, contact the Department of Conservation before your trip.



Deas Cove Hut, Thompson Sound. PANIA DALLEY, DOC

Biosecurity in Fiordland

This section outlines the biosecurity issues in Fiordland. It explains what people using the marine environment can do to keep pests out of these special waters and off the pest-free islands within the area.

Marine biosecurity – what’s the problem?

The unique marine environment in Fiordland is vulnerable to the introduction and establishment of harmful marine pests and diseases.

Each year hundreds of vessels enter the fiords for recreation or commercial purposes. These come from other regions of New Zealand and around the world. Each and every one of these vessels has the potential to bring in and deposit unwanted hitchhiking pests.



Undaria pinnatifida biofouling on vessel hull. MPI

Biofouling – where pests attach themselves to vessel hulls, niche areas (such as sea chests), and on marine equipment – is one of the most significant ways pest species spread from location to location. It would take just a few specimens of an exotic organism to be hidden in the fouling on a vessel and to fall off within the Fiordland (Te Moana o Atawhenua) Marine Area, for a whole new population to establish. Marine pests can also travel to new destinations in bilge and ballast water.

Once established, marine pests can quickly spread in new locations, and can have serious effects on marine habitats, food chains, fish stocks, recreational activities, and commercial fishing activities.

Marine pests of concern already found in New Zealand

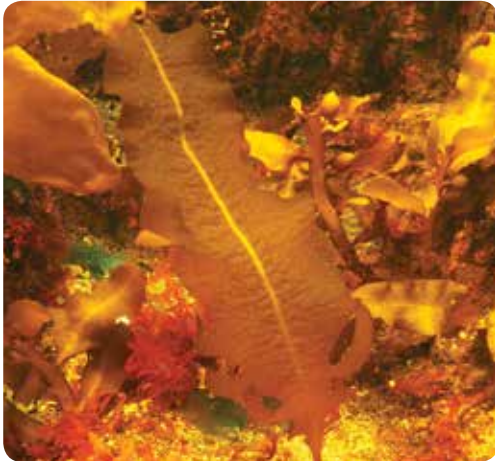
Below are some particular marine pests that are already established in New Zealand, and which the Ministry for Primary Industries wants kept out of Fiordland.

Styela clava, an ascidian, or sea squirt, was detected in Auckland and Lyttelton in 2005. It is known to be present in many New Zealand harbours. This organism can potentially compete with native fauna, particularly molluscs, for food. It appears in colonies as a leathery-skinned, tubular organism that can grow up to 16 cm long. It is easily transferred to new locations amongst biofouling on vessel hulls.



Styela clava. NORTHLAND REGIONAL COUNCIL

The Asian seaweed *Undaria pinnatifida* is now widespread around New Zealand harbours and coastlines, including Southland waters where it dominates some reef communities. A small population was found in Sunday Cove, Breaksea Sound in 2010 and is currently under management, with the aim of full eradication from Fiordland. It can form dense forests on reefs, and grows on any hard surface including rocks, ropes, wharf piles, and vessel hulls.



Undaria pinnatifida. JEN BRUNTON, MPI

A different sea squirt, *Didemnum vexillum*, is present in the Bay of Plenty and in Marlborough and Nelson waters. It forms large colonies of yellowish, melted-wax-like mats that can drop from marine structures. Its appearance would be unsightly in a high-value ecological and tourism area such as Fiordland.



Didemnum vexillum. A COUTTS

Sabella spallanzanii (Mediterranean fanworm) is abundant in Auckland's Waitemata Harbour, Whangarei Harbour, and in Lyttelton Port and has been found in other areas in small numbers. It can form dense groups that could affect native species by competing for food and space. Recent studies have indicated some impact on the establishment of new generations of some species, and on nutrient flow. The presence of dense mats of this species could also have an impact on the aesthetics of an area like Fiordland for diving, potentially impacting on dive tourism activities.

The Mediterranean fanworm consists of a tube that is always anchored to a hard surface, topped with a single spiral fan. They can grow up to 40 cm tall. The fans are white, banded with brown and orange, and the central stem is orange.



Sabella spallanzanii – Mediterranean fanworm.
G READ, NIWA

Marine pests of concern unwanted in New Zealand

The Ministry for Primary Industries maintains high border standards to prevent pests and diseases from entering the country. In 2014, a Craft Risk Management Standard was signed-off and comes into effect in May 2018. Until then, the Ministry of Primary Industries is encouraging voluntary compliance and working with vessel operators to help them comply.

There are five unwanted marine pests that are not known to be established in New Zealand. These particular pests have been registered as 'unwanted', and all sightings must be reported to the Ministry for Primary Industries under the Biosecurity Act 1993.

These five pests are:



Chinese mitten crab – *Eriocheir sinensis*. MPI



Asian clam – *Potamocorbula amurensis*. MPI



Northern Pacific seastar – *Asterias amurensis*. MPI



A marine aquarium weed – *Caulerpa taxifolia*. MPI



European shore crab – *Carcinus maenas*. MPI

There are many diseases of shellfish, fish, and other marine species that we are fortunate not to have in New Zealand. For example, the disease *abalone viral ganglioneuritis* is a virus present in Australia that could seriously affect pāua populations here if it was introduced. If you know anyone arriving from overseas to visit Fiordland, remind them that border standards, such as requiring wetsuits and dive gear to be dry, and a prohibition on importing raw abalone meat, are important to prevent this disease spreading.

If you are visiting Fiordland, particularly to dive, please watch for anything unusual in the water. If you spot any of these known pests, or something else you consider unusual, please carefully note its location, and phone the Ministry for Primary Industries' free phone 0800 80 99 66 as soon as possible.

Programme to eliminate a marine pest from Fiordland

In April 2010, a single mature *Undaria pinnatifida* (*Undaria*) kelp specimen was found in Sunday Cove, Breaksea Sound. Since then, Environment Southland, the Department of Conservation, Ministry for Primary Industries, and the Fiordland Marine Guardians have worked collaboratively in an effort to eliminate *Undaria* from this site.

A range of approaches have been used to help eliminate *Undaria* from Sunday Cove. Since the initial find in 2010, dive teams have visited the area on a monthly basis to conduct underwater surveys and remove the kelp by hand. From time to time specific 'hotspot' areas have been treated with chlorine, contained under tarpaulins to kill any *Undaria* spores.

Small *Undaria* plants can be difficult to spot amongst the native seaweed, so kina have been 'employed' to help the effort. Over 30,000 kina (*Evechinus chloroticus*) were relocated to the area where they 'mowed' the reef habitat, allowing young *Undaria* to be spotted before they reached maturity. By early 2016, 1906 *Undaria* individuals had been removed from Sunday Cove, with only a few found in the 2015-16 period.

The Fiordland Marine Guardians and agencies urge boaties to continue to play their part in ensuring no more *Undaria*, or any other marine pests, are transferred into Fiordland.

What you can do to help:

- Please do not remove seafood from the Sunday Cove area. Shellfish may have been infected with *Undaria* spores and removing them may spread *Undaria* to other areas.
- Please do not remove kina from Sunday Cove as they play a key part in the *Undaria* elimination programme.
- Please do not move lobster pots out of the Sunday Cove area, as they may be infected with *Undaria* spores.

- Ensure any marine equipment, especially dive and fishing gear, is clean and dry, or treated before using it in Fiordland's waters.
- Ensure your vessel's hull and niche areas are clean and well antifouled before visiting Fiordland.



Kina (*Evechinus chloroticus*) being deployed in Sunday Cove for the *Undaria* programme. DEREK RICHARDS, ENVIRONMENT SOUTHLAND



Undaria pinnatifida on mooring line. KATH BLAKEMORE

Fiordland Marine Pathway Management Plan: keeping marine pests out of Fiordland

The Guardians and management agencies now understand the challenge and cost of eliminating a marine pest from Fiordland. The presence of marine pests in most ports around New Zealand means pests are only one boat ride away from this valuable marine area. To minimise the risk of vessels transporting pests into Fiordland, the Guardians, together with Environment Southland, the Ministry for Primary Industries, and the Department of Conservation have developed the Fiordland Marine Pathway Management Plan.

The Pathway Management Plan approach is a new, proactive way to deal with the issue of marine pests. This approach is facilitated by an amendment to the Biosecurity Act 1993 made in 2013.

Rather than responding after a marine pest has been introduced, the Pathway Plan focuses on stopping pests from being transported into the area. It introduces requirements for keeping hulls and gear clean of pests in all of their life stages, to reduce the chance of pests being transported into the fiords.

If you intend to visit Fiordland, regardless of the size of your vessel, you need to comply with the clean hull, clean gear, and residual seawater standards. You will be required to hold a Fiordland Clean Vessel Pass and be aware of the risks and the ways you can minimise these.

The Guardians have consulted widely on the contents of the Pathway Plan to develop requirements that are effective and practical to those who operate vessels in the area.

For the most up-to-date information about the Fiordland Marine Pathway Management Plan and how it affects you, search for “Fiordland Marine Pathway Plan” on Environment Southland’s website (www.es.govt.nz).

How Fiordland users can help with marine biosecurity

The Ministry for Primary Industries, the Fiordland Marine Guardians, and other government agencies are working to keep Fiordland free from marine pests. To do this, all visitors to the area need to help by following some simple biosecurity precautions.

What can vessel operators do?

If you own or operate a vessel and are about to visit the fiords, or are about to relocate marine equipment such as buoys or ropes, please:

- **check** your vessel’s hull and niche areas before entering Fiordland and if it is fouled, clean it (see below)
- **dispose** of any debris removed from the hull on land (ie, prevent it getting into the water)
- **check, clean** and thoroughly **dry** any mooring lines and buoys, kayaks and any other marine equipment before using them in Fiordland waters. If lines or buoys cannot be dried, disinfect them before coming into Fiordland waters from areas known to be affected with marine pests (such as Bluff and Stewart Island/Rakiura).

As well as helping to keep the fiords free of pests, regular cleaning of your vessel’s hull will enable your vessel to obtain maximum speed and reduce running costs.

How do I clean my vessel's hull?

If self-cleaning, once your vessel is out of the water, dislodge all plants and animals and dispose of debris in a bin that will go to a land-based rubbish dump. It is really important this debris does not go back into the water. Pay particular attention to:

- the earth plates, transducers, keels and stabilisers
- intakes and outlets
- propellers and shafts
- rudders, rudder recesses, rudder shafts and casings
- anchors, anchor chains and anchor wells.

Note: The Southland Coastal Plan prohibits the cleaning of vessel hulls within the Fiordland (Te Moana o Atawhenua) Marine Area.

Antifouling preparations

Using an antifouling paint correctly will stop fouling building up on your vessel's hull. Use a preparation that is suitable for the type of vessel and its use. Factors to consider are the:

- usual speed of travel
- amount of time your boat is kept at a mooring or berth
- material composition of your hull.

Follow the advice of the manufacturer and the supplying retailer.

Where can I clean my vessel's hull before visiting Fiordland?

There are haul-out facilities and slipways at most of New Zealand's marinas and at many harbours and ports. Marina operators will be able to advise you about cleaning facilities available in their region.

For a full list of marinas visit www.nzmarinas.com.

How can I make sure my gear is clean?

When taking marine gear and equipment (eg, fishing, diving gear, nets, pots, ropes, anchors) and non-moored craft (eg, kayaks) and other equipment into Fiordland, remember to follow these simple steps:

Check – check for and remove any living or dead marine growth from equipment before arriving.

Clean – clean canoes/kayaks, snorkelling/dive gear, and fishing/boat equipment before arriving in Fiordland (see table on page 38 for guidance on treatment methods).

When cleaning equipment we recommend you:

- remove any visible marine organisms and dispose of them appropriately on land
- remember to also clean equipment that has no visible marine organisms present – microscopic life stages of organisms can be on equipment, in sea water trapped inside kayaks, boats, or within ropes or nets and dive equipment
- follow correct handling precautions when diluting cleaning chemicals from concentrated solutions, and ensure there is adequate ventilation; where possible, use protective gloves and appropriate eye wear

- use hot water (more than 40°C) where possible to make up a treatment solution, as this dramatically increases its effectiveness (a good rule of thumb is to use water that is hot enough to submerge your hand in without significant discomfort)
- dispose of cleaning solutions well above the high tide mark and away from streams and rivers
- completely dry equipment following cleaning wherever possible, as some marine organisms can survive days exposed to air, so the longer equipment is dried the more effective any cleaning measures will be.

Do not relocate live organisms between locations – while you may feel this is replenishing an area, you may accidentally be spreading pests or diseases that could have negative impacts on the new location.

Cleaning guidance

The table on the following page lists a range of cleaning options to minimise the risk of transferring marine pests associated with canoes/kayaks, snorkelling/diving gear, and fishing/boat equipment (eg, nets, pots, anchors, ropes). Choose the best treatment option for your gear, taking into consideration:

- time available (eg, air exposure can take up to a month)
- access to treatment chemicals
- size of item(s), and the practicality of using the treatment methods on them (eg, a kayak may be too big to soak so spraying or air exposure is likely to be a better approach)
- sensitivity of equipment.



Biofouling on vessel propeller. MPI

SOAK	SPRAY/WASH	DRY
<p>Soak item(s) using one of these methods:</p> <ul style="list-style-type: none"> • Freshwater soak – for at least 72 hours. If soaking ropes, fresh water should be replaced after 12 hours. • Hot water soak – soak using water more than 40°C for 20 minutes. Temperatures exceeding 48°C should not be used on dive equipment as certain temperature-sensitive gear may be damaged. • Dishwashing detergent soak – use a 5 per cent Palmolive dishwashing detergent and freshwater solution, and soak for 60 minutes. (5 per cent solution = 500 mls of detergent into 10 litres of fresh water.) • Antiseptic soak – use a 1 per cent Dettol antiseptic and freshwater solution, and soak for 60 minutes. (1 per cent solution = 100 mls of Dettol into 10 litres of fresh water.) • Bleach soak – use a 2 per cent bleach and fresh water solution, and soak for 30 minutes.* (2 per cent solution = 200 mls of bleach into 10 litres of fresh water.) • Decon 90TM soak – use a 2 per cent Decon 90TM and freshwater solution for 30 minutes. • Acetic acid soak – use a 5 per cent acetic acid and freshwater solution OR undiluted household vinegar, and soak for 10 minutes.* (5 per cent solution = 500 mls of acetic acid into 10 litres of fresh water.) <p>* Not recommended for dive gear as it may compromise the integrity of some plastics.</p>	<p>For items too large or difficult to soak, spray following one of the methods below:</p> <ul style="list-style-type: none"> • 1 per cent Dettol antiseptic and freshwater solution, then leave for 60 minutes. • 5 per cent acetic acid and freshwater solution OR undiluted household vinegar, then leave for 10 minutes. <p>When spraying an item, ensure you generously cover all surfaces.</p> <p>Hand held sprayers can be purchased at a hardware store, garden centre, or in the gardening department of supermarkets.</p>	<p>For an item where chemical/ freshwater treatment is not feasible, remove from water and thoroughly air dry for one month.</p> <p>Care is needed to make sure the item is laid out in a way that ensures all surfaces are completely dried.</p> <p>Prolonged air exposure is also an ideal complementary treatment for all items following soaking or spraying.</p>

Source: Adapted from <http://www.biosecurity.govt.nz/files/pests/surv-mgmt/protect-fiordland-marine-biodiversity.pdf>.

Further information

Further information on vessel- and gear-cleaning methods and Fiordland marine biosecurity is on the Ministry for Primary Industries website at www.biosecurity.govt.nz/fiordland.

For further information on marine pests contact your local regional council, or visit the Ministry for Primary Industries' website at www.mpi.govt.nz.

Report anything unusual to 0800 80 99 66.

Ministry for Primary Industries
Manatū Ahu Matua



KEEP FIORDLAND AS BEAUTIFUL BELOW WATER AS IT IS ABOVE

Help keep marine
pests out of Fiordland

Growing and Protecting New Zealand

Island biosecurity in Fiordland

Help protect our Fiordland islands. Our islands provide sanctuaries for native plants and animals.

Fiordland has a number of pest-free islands of international significance. Some have never had rats or mice present and so have never suffered from the devastating impacts of rodents. Ensuring these islands remain pest free by checking your boat and equipment is everyone's responsibility.

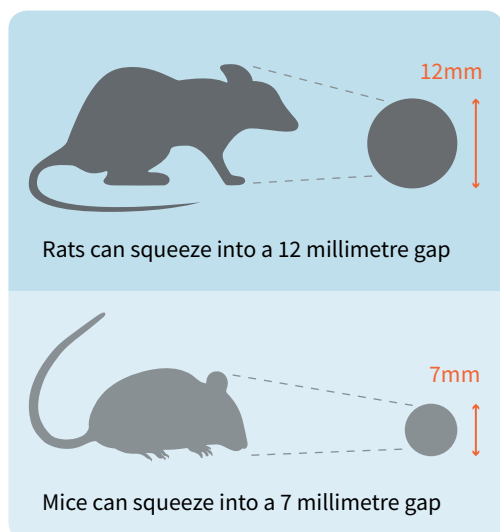
Breaksea and Hawea Islands were among the first in the world to have rats eradicated. Secretary Island is currently the largest inshore island in New Zealand to be free from rodents and possums. Some of these islands are now home to rare species such as kākāpō, South Island saddleback (tīeke), yellowhead (mohua), and little spotted 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.

Pests can easily destroy our wildlife

It's easy to pick up a pest:

- rats can squeeze into a 12 millimetre gap
- mice can squeeze into a 7 millimetre gap
- insects and mice could stowaway in your bags
- weeds, seeds and soil cling to clothing and shoes.



To protect our treasured islands

Before you leave the mainland, and before you come close to any pest-free islands, please:

- check your clothes and footwear for stray seeds/pests, empty your pockets, and clean your shoes (including the soles)
- check your bags and other equipment, using sealable containers where possible (or seal with tape) or tie bags tightly to prevent any unwanted pests sneaking in
- ensure food is in sealed containers
- check your boat or kayak, including all obvious hideaways (like dinghies, kayak hatches, coils of rope), for unwanted stowaways – every time.

Other things you can do to help:

- always have rodent baits or traps laid on your boat
- when your vessel is moored on the mainland, keep doors and hatches closed, and place screens over vents
- rodents can use mooring lines to board and leave vessels, so on multi-day trips use lines either adjacent to the mainland or to rodent-free islands, but not both
- leave your pets at home.

If you find a pest

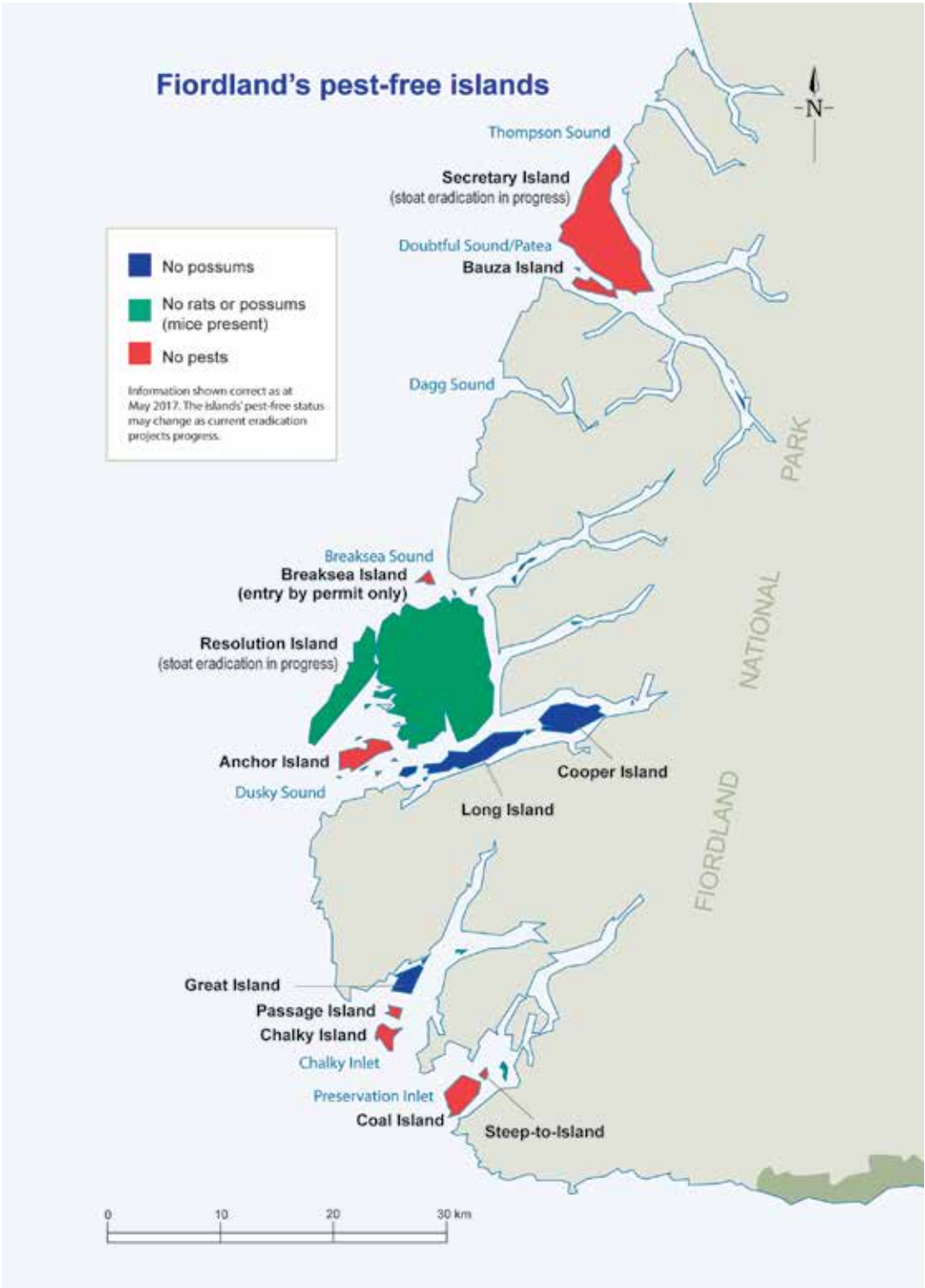
On the mainland, before leaving, humanely remove the pest and clean your gear again.

On your own boat or in your kayak:

- make sure the pest has been euthanised before you land
- don't throw rats or mice overboard as they can swim
- return to the mainland to euthanise the pest if you need to.

On a commercial boat, tell the crew what you have found and where it is.

Report any sightings of unwanted animal or plant pests on the islands to the Department of Conservation (see 'Contact information' chapter, page 146).



Protected areas

There are two kinds of protected areas within the Fiordland (Te Moana o Atawhenua) Marine Area: marine reserves and 'china shops'.

Marine reserves

Marine reserves are New Zealand's most comprehensive tool in marine biodiversity protection. They may be established in areas that contain underwater scenery, natural features, or marine life of such distinctive quality, or that are so typical, beautiful or unique, that their continued preservation is in the national interest. Marine reserves are managed by the Department of Conservation.



Diversity beneath the reflections. JONATHAN DAVIES

The first two marine reserves established in Fiordland were proposed by the Fiordland Fishermen's Association, through its parent body the New Zealand Federation of Commercial Fishermen, and were formally established in 1993. They are the Piopiotahi (Milford Sound) Marine Reserve and Te Awaatu Channel (The Gut) Marine Reserve in Doubtful Sound/Patea.

In 2005, with the passing of the Fiordland (Te Moana o Atawhenua) Marine Management Act, eight new marine reserves were gazetted. Fiordland now contains 10 marine reserves, 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.

Similar sorts of rules apply in marine reserves as to 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 note:

- all marine life is completely protected
- no fishing, netting, taking or killing of marine life is allowed
- no polluting, disturbance or damage is allowed
- no dredging, dumping or discharging any matter is allowed
- no building of structures is allowed
- no removal of any natural thing from the marine reserve is allowed.

Recreational, educational and scientific activities are permitted and encouraged as long as they do not disturb or endanger the plant and animal life or natural features. In all marine reserves you may:

- kayak, dive, snorkel, swim and investigate in rock pools
- take photos, picnic on the beach, and build sand castles
- anchor (with care, and only where allowed), and navigate through.



Black coral. VINCENT ZINTZEN

Rock lobster holding and pot storage areas

As there is limited space and suitable depth for storing rock lobster pots inside some fiords, four marine reserves have areas designated for commercial rock lobster fishers to store (in holding pots) live lobsters caught outside the reserve, and for the storage of rock lobster pots not in use at the time. All rock lobster catching pots and holding pots not in use and situated in these areas must have the doors open.

These storage areas are not available for use by recreational fishers.

You can find more information on each individual marine reserve in the 'Fiord-by-fiord' chapter (page 84).

'China shops'

In addition to establishing marine reserves, the Fiordland Act gave recognition to other high value areas throughout Fiordland. These areas are designated 'china shops'. China shops are discrete areas noted for their abundance and/or diversity of animal communities, plant communities, a mixture of both, or areas containing key individual species.



Red coral. MALCOLM FRANCIS, NIWA

Due to the nature of the fiords, the china shops are often located where the current is strong, where fiords change direction sharply, or in the narrow channels around islands. Five of these china shop areas have been designated as no-anchoring zones in an effort to protect their special and fragile habitats. In others, restrictions on potting occur, as pots can damage sensitive species such as corals and sea pens.

You can find more information on the specific locations of china shops in the 'Fiord-by-fiord' chapter (page 84).

Te Poupou o Rua o Te Moko – marine reserve markers

Fiordland's marine reserves are marked by distinctive carved wooden or stainless steel poupou – Te Poupou o Rua o Te Moko. Each poupou stands as kaitiaki of the marine reserve and is symbolic of Māori ancestral connections to the area. The wooden poupou are individually named after deities, explorers, whānau and whānui who left their mark on the area previously, and commemorate their stories, ensuring they are shared with generations of visitors to the area.

The two original marine reserves in Fiordland – Piopiotahi Marine Reserve and Te Awaatu Channel Marine Reserve – had marine reserve markers, depicted by white triangles. The Fiordland Marine Guardians felt that each of the 10 marine reserves should be marked and celebrated, and they also wanted to acknowledge the cultural significance of tāngata whenua in the area.

After several years of collaborative concept planning and effort by the Fiordland Marine Guardians, the Department of Conservation, and local iwi from the Te Rūnanga o Ōraka Aparima (the mandated iwi kaitiaki) on behalf of the wider Te Rūnanga o Ngāi Tahu, the poupou were welcomed to the area. To achieve this aspiration the Guardians commissioned Southland carver Bubba Thompson (Te Rūnanga o Awarua) to design and carve the first wooden poupou which were unveiled in a special ceremony at the Kahukura (Gold Arm) Marine Reserve in Charles Sound in 2014.

In March 2017, the wooden poupou at Hawea (Bligh Sound), Kahukura, Moana Uta (Wet Jacket Arm), Taumoana (Five Fingers Peninsula), and Te Tapuwae o Hua (Long Sound) marine reserves were replaced with custom made stainless steel poupou as a more durable alternative to withstand the harsh conditions.

The wooden poupou carved by Bubba are to be placed in the Piopiotahi/Milford Sound Marine Reserve and all of the marine reserves



Fiordland wooden and stainless steel poupou installations. Southland carver, Bubba Thompson, acknowledges master carver Cliff Whiting, whose influence and style has been incorporated into the poupou. doc

in Doubtful Sound/Patea, where it is hoped they will stand as kaitiaki for many years to come. The Guardians hope you enjoy their presence whilst you travel through the fiords.

The production and installation of the poupou was jointly funded by Te Rūnanga o Ngāi Tahu, The Department of Conservation and Meridian Energy.



Wooden poupou.doc

Marine mammals

This section describes some of the common marine mammals that can be seen in Fiordland. It sets out guidelines for boating near marine mammals, to help protect them from harm you may cause unintentionally.

The growing public interest in marine mammals and the expansion of sea-based tourism present new threats to these mammals. These threats include boat strike, noise pollution, harassment, displacement, and separation of mothers and their young.

Fiordland's waters are home to, or are visited by, a diverse range of marine mammals. Over one third of all marine mammal families have been recorded in Fiordland, making it a 'hotspot' for a range of species.

The Department of Conservation is always interested to hear about any marine mammal sightings you may have – please contact them with any information from your visit to the fiords.

THE MOST COMMON MARINE MAMMALS YOU ARE LIKELY TO SEE ARE:



DON GOODHUE

Sperm whale (parāoa) (*Physeter macrocephalus*) – large whale with very large blunt head, humped ridge along back and wrinkly skin. Blowhole points forwards.



DON GOODHUE

Southern right whale (tohorā) (*Eubalaena australis*) – large black whale distinguished by arched mouth line, white markings on the head, and the lack of a dorsal fin. Sighting information of these whales is vitally important to a national study of the species as they recolonise mainland New Zealand. Please contact the Department of Conservation as soon as possible if you see one, with as many details as possible.



CHLOE CORNE, DOC

Humpback whale (paieka) (*Megaptera novaeangliae*) – large whale with very long narrow flippers and a series of round protrusions on the head and lower jaw, making them easily recognisable at close range. As with southern right whales, these whales are becoming much more common around Fiordland in spring and early summer, as their numbers rebound from whaling days.



FIORDLAND ECO HOLIDAYS

Beaked whales – this group of marine mammals are very secretive and little is known about many of them. Some beaked whale species have never been seen alive. Their most distinctive feature is an obvious ‘beak’, and they may also have many scars along the body or obvious teeth that stick out of the mouth. Fiordland has a number of beaked whale species that are seen from time to time, and any information is vital in getting to know them better.



KIM WESTERSKOV

Dusky dolphin (*Lagenorhynchus obscurus*) – smaller dolphin up to 2 metres long, with a black back and black and grey dorsal fin. The throat and belly are white and there are two obvious patches of grey on the flanks. Found mainly on the outer coast but occasionally found in the fiords.



Bottlenose dolphin (left) and common dolphin (right). CHLOE CORNE, DOC

Common dolphin (*Delphinus delphis*) – similar in size and colouration to the dusky dolphin. The most noticeable difference is they have a longer more slender beak and lack the obvious stripes on their flank. As with dusky dolphins, they are found mainly on the outer coast although one common dolphin lives with the resident pod of bottlenose dolphins in Dusky Sound.

Bottlenose dolphin (*Tursiops truncatus*) – archetypal dolphin, up to 4 metres long with a grey body. Found in many of the fiords, especially Doubtful Sound and Dusky Sound.



RICHARD KINSEY, DOC

New Zealand fur seal (kekeno) (*Arctocephalus forsteri*) – dark grey/brown, pointy nose, long whiskers, males larger than females, growing up to 180 kilograms. Found throughout the Fiordland coast.

Boating around marine mammals

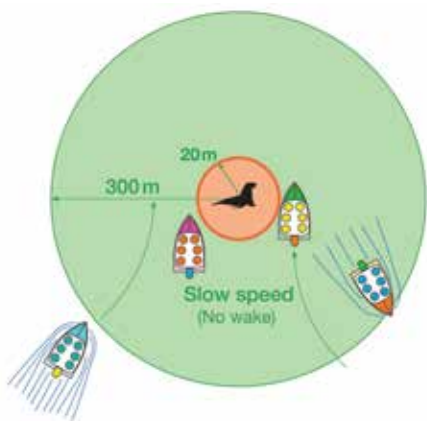
All marine mammals are protected by law under the Marine Mammals Protection Act 1978 and the Marine Mammals Protection Regulations 1992. These regulations aim to minimise the threats to marine mammals by setting out the appropriate behaviour for all people when boating around them.

Please be aware of your responsibilities if you happen to come across marine mammals in the fiords. Some general guidelines are provided but it is up to you to behave in a manner that doesn't disturb or harass them.

Be especially mindful of groups of marine mammals with young calves as they can be especially vulnerable.

When on land:

- stay higher up on the shore from resting seals, to ensure their escape route is not blocked
- move in a group or single file, at no faster than walking pace, when within 50 metres of seals and do not approach closer than 10 metres
- keep well away from seal colonies during the mating season, as the bulls can be very aggressive.



Boating around seals (kekeno). doc

Simple rules for boaties when interacting with whales and dolphins

Don't travel faster than idle or 'no wake' speed within 300 metres

No more than 3 vessels within 300 metres

Do not obstruct their path. Approach from a parallel/ slightly rear direction

Do not swim with dolphin pods containing juveniles

Stay 50 metres away from any whale or orca

Stay 200 metres away from any baleen/sperm whale with a calf

Do not swim with whales or orca

www.doc.govt.nz

Department of Conservation
Te Papa Ataturangi

Simple rules for boaties when interacting with whales and dolphins.doc

Doubtful Sound bottlenose dolphin population

Doubtful Sound/Patea is home to a resident population of bottlenose dolphins. It is one of the southernmost resident populations of this species in the world, and it is morphologically (ie, in form), socially, and ecologically different from other groups of bottlenose dolphins. They are much bigger than other bottlenose dolphins reaching up to 4 metres long and have smaller fins, presumably to conserve body heat in a colder environment.

Research has been carried out on this pod since the early 1990s, and population estimates during 2006–10 showed a decline in numbers of at least a third had occurred since 1994. The main reason for the decline was high calf mortality in their first three years of life. In recent years the population has grown to a more healthy number, but they are still a small population and constantly under threat. The cause of the earlier decline is not fully known, but may include human-related factors such as vessel activity and habitat modification.

Management measures were introduced in 2008 to increase the protection for the Doubtful Sound bottlenose dolphins. These include:

- guidelines for how vessels operate in Doubtful Sound/Patea
- education and public awareness
- a research and monitoring programme to gain more information on the cause of the decline.

The management measures for Doubtful Sound/Patea are outlined below. The measures aim to minimise the potential impacts of vessels on the dolphins by reducing the number and duration of interactions between them and boats. These measures are in addition to the Marine Mammal Protection Regulations 1992, and have been adopted by all of the resident commercial users. Recreational boaties are also encouraged to adopt them.

Dolphin protection zones have been put in place in some parts of the Doubtful Sound complex. These consist of 200-metre-wide strips along the fiord edge (see map) that have restricted access for vessels. These areas have been identified as high use areas for the dolphins and so limiting boat time in them gives the pod an area free of disturbance.

Guidelines for use of the dolphin protection zones are:

- do not enter the dolphin protection zones if dolphins are present
- 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. If dolphins approach while you are in a dolphin protection zone and you are stationary, please let them pass before moving off. If you are already moving, stay on the same heading, where it is safe to do so
- speed in the dolphin protection zones must be 5 knots or idle (as required by Navigation Safety Bylaws 2003).

In the rest of the Doubtful Sound complex, dolphin encounters must be left to chance or be initiated by dolphins; that is, vessels should not seek out the dolphins. Please do not use your radio to tell others where the dolphins are located. Extra caution should be taken between December and March, when there are very young calves in the group, as these individuals are the most susceptible to disturbance.

For further information about the rules and regulations around marine mammals, or the new protection measures for Doubtful Sound/Patea, visit www.doc.govt.nz or contact the Department of Conservation (see 'Contact information' chapter, page 146).



Diving in the fiords

The variety of diving and the abundance of marine life help make Fiordland one of the world's premier places to dive. Many of Fiordland's marine habitats are fragile and delicate and contain long-lived, slow-growing organisms. When diving in the fiords, please look after the environment you are in.

Fiordland is distant from medical facilities. Its distinctive marine environment creates unique diving conditions, with low light,

a cold freshwater layer, steep walls, and strong tidal currents in some places. It is particularly important that divers are appropriately trained and plan their dives carefully, including accounting for any travel to altitude following diving (such as movements back through the Homer Tunnel or over the Wilmot Pass).

It is recommended that boats carry medical oxygen for diving emergencies.



Diving in the fiords. VINCENT ZINTZEN

General diving guidelines

Some general guidelines for diving in Fiordland are:

- Dive carefully and respect all underwater life. Find out about the species you are looking at and respect them in their home.
- Dive from a drifting boat, or use a mooring if one is available; avoid anchoring.
- Look, but do not touch. Handling will often create unnecessary stress to organisms.
- Avoid contact with marine life on the sheer rock walls and sea floor.
- Resist the urge to collect souvenirs or trophies.
- It is illegal to take or harm protected species. Red and black coral are classed as protected.
- Be aware of, and adhere to, fish and shellfish limits. Remember that the limits in Fiordland are different inside and outside the fiords, and are different from elsewhere in New Zealand. (See 'Fisheries information and guidelines' chapter, page 58).
- When collecting shellfish, be mindful of the way you take them off the rock; they are easily damaged.
- Measure shellfish before coming up from your dive/snorkel, leaving undersized shellfish where you found them. Throwing shellfish overboard from a vessel invariably leads to them lying upturned on the sea floor, reducing their chances of survival.
- Control your buoyancy, and be aware of yourself and your equipment, especially your fins. Try to keep your fins from dragging on bottom-dwelling animals and plants.
- Snorkelling and diving equipment from outside of Fiordland could be infected with unwanted marine pests. When coming to the area disinfect your gear or make sure it is bone dry, to minimise the spread of pest plants or animals (see table on page 38 for a guide to cleaning your gear).
- Make the most of activities that have no impact, such as observation and photography.

Jet skiing and water-skiing

Jet skiing and water-skiing are prohibited, under rule 16.3.1 of the Regional Coastal Plan for Southland. The rule specifically prohibits water-skiing, parasailing or the use of personal water craft (jet skis) in the internal waters of Fiordland. These activities are regarded as inappropriate in an area where peace and quiet is a significant value.

The Regional Coastal Plan is administered by Environment Southland, the regional council covering this area.

Pollution

Discharges of contaminants into the sea can have a range of effects, even when in small amounts. Similarly, throwing things over the side can cause ongoing damage. It is vital that you manage discharges and other waste from your vessel, to avoid polluting the fragile Fiordland marine environment.

Discharging sewage

If you have a holding tank fitted, use land-based, pump-out facilities for sewage, where provided. If you don't have a holding tank, or have to empty your holding tank at sea to discharge sewage, the Resource Management (Marine Pollution) Regulations 1998 stipulate that you must be:

- more than 500 metres from shore and in water over 5 metres deep
- more than 200 metres from a marine reserve
- not near other boats, swimmers or other people using the water.

However, it is better practice to discharge sewage outside the fiords.

General waste management

Some useful tips:

- be responsible when handling hydrocarbons (including petrol, diesel and heavier fuel oils)
- take out with you what you take in
- retain all non-biodegradable rubbish on board and bring this out with you when your trip in Fiordland has finished
- cans are a good alternative to bottles as they can be crushed afterwards
- be mindful of discarding vegetable matter, fish frames, and food scraps in enclosed shallow anchorages where tidal flushing is minimal.

Oil spills

All ships should prevent spills, but in the case of any minor hydrocarbon spill, ships should have their own plan to clean up using absorbent pads.

Maritime New Zealand and Environment Southland have a comprehensive oil spill contingency plan for dealing with this threat in Fiordland.

If a spill occurs and the clean up is beyond the capability of the ship, contact Maritime New Zealand through the Rescue Coordination Centre on the 24-hour emergency number, 0508 472 269 (note that Environment Southland will respond in the first instance).

If at sea, call the Maritime Operations Centre on VHF Channel 16, and they will pass the information on to the Rescue Coordination Centre and to Environment Southland. If Channel 16 is not accessible, call one of the radio operators listed in the 'Radio communications' section (page 54).

In the case of larger spills, the response may be escalated, and Environment Southland or Maritime New Zealand will manage the response.

If you see a source of pollution in Fiordland waters, including any oil spill, contact Environment Southland on the Southland area 24-hour pollution hotline, **0800 SOUTHLAND (0800 76 88 45)**.

The Great Fiordland Coastal Cleanup

In 2003, the Great Fiordland Coastal Cleanup began. This ambitious project was the brainchild of local helicopter pilot Wayne Pratt and fisherman Peter Young (an original Guardian). The first clean up took 5 years to complete. Groups of volunteers scoured Fiordland's 450 km of coastline from Big Bay in the north to Tewaewae Bay in the south over a series of week-long trips.

The estimated haul of rubbish collected in the first complete clean up was between 500-600 cubic metres and was mainly lost fishing gear, pelagic rubbish and a large number of plastic bottles as well as the occasional television, wheelie bin and even a motorbike!

Since the first survey in 2003, the Cleanup has revisited well-known collection points throughout Fiordland and has been driven by the original passionate people along with others like Southland tourism operator Joyce Kolk. The southern part of the coast from Dusky Sound to Preservation Inlet has now been revisited three times.

The surveys would not have been possible without the amazing support of the volunteers, the financial contribution from helicopter companies, the fishing industry, government agencies, and a huge number of local businesses. In 2017, the Southern Coastal Charitable Trust was established to manage and coordinate these clean-up efforts with the area expanded to include the west coast of Rakiura/Stewart Island.



The Great Fiordland Coastal Cleanup, Crombie Beach.doc

Radio communications



Radio repeater on Mt Irene. doc

Radio communication in Fiordland was once somewhat haphazard but has recently improved. In the 1970s, the Fiordland Big Game Fishing Club saw it as essential for their small boats to travel in convoy and use citizen band (CB) radios to keep in contact. Boats without CB sets were paired with boats that did carry them.

Recent improvements in very high frequency (VHF) radio facilities have brought radio communication into Fiordland and, compared with early years, assistance is closer at hand in the event of an emergency. There are still times during bad weather, however, where helicopters are unable to get in to the fiords because of strong winds or low cloud cover. Due to the geographical nature of Fiordland, VHF reception can also be fickle in many areas.

It is therefore recommended that VHF radios be fitted with a good quality aerial. Doing so will allow users to transmit from many anchorages via repeaters throughout Fiordland.

Vessels with poor aerials will be unable to 'trigger' many of these repeaters, limiting their communications, so it is recommended you have either a single side band (SSB) radio or a satellite phone in addition to a VHF radio.

Note there is no cell phone coverage in any part of coastal Fiordland.

General ship-to-ship communication in Fiordland

Commercial vessels (and small aircraft) in the southern Fiordland–Foveaux Strait–Stewart Island/Rakiura area generally monitor VHF Channel 10, which is used as a working channel for ship-to-ship communications. These channels are only monitored by other vessels in range and are not monitored by any land-based stations.

The Fiordland coastline can be divided into three distinct regions for the purposes of VHF 'ship-to-ship' working frequencies.

The most commonly used working channels for the Fiordland area are:

- Channel 67 Big Bay to Bligh Sound
- Channel 74 Bligh Sound to Nancy Sound
- Channel 10 Nancy Sound to Bluff.

Fiordland VHF radio repeaters

Channel 66 – This high altitude repeater is located at 1,855 metres, on Mt Irene at the head of Charles Sound. The repeater is the most widely used in Fiordland and has the best inner fiord coverage from Doubtful Sound/Patea to Bligh Sound. Coastal coverage is available off shore from West Cape to off-shore Big Bay; however, the best coverage is from Doubtful Sound/Patea to Poison Bay.

Channel 01 – A repeater has been installed at Wednesday Peak to improve the coverage in the Puysegur area. This provides good coverage throughout Chalky and Preservation Inlets. Coverage can also be obtained at the outer reaches of Breaksea Sound, the Acheron Passage and parts of Dusky Sound.

Channel 61 – Located on Bluff Hill. Coastal coverage extends from Bluff to Puysegur Point. Within the outer reaches of Chalky and Preservation Inlets coverage is patchy.

Channel 65 – Located on Stewart Island/Rakiura. Coastal coverage extends around the south coast from about 3 nautical miles north of Cape Providence to 3 nautical miles north of the Nuggets, and is patchy in Chalky and Preservation Inlets.

Channels 61 or 65 may be used for calling in the Foveaux Strait area.

Maritime New Zealand

VHF coastal coverage is provided by Maritime Radio from stations at Wednesday Peak in Preservation Inlet (Puysegur Maritime) and Mount Elder in George Sound (Fiordland Maritime), and is operated remotely from Lower Hutt. Maritime Radio routinely broadcasts the current maritime weather forecasts. Bluff Maritime Radio also provides coverage in the Foveaux Strait area.

All calls should be made on Channel 16 (monitored), moving to a specified working channel as instructed by the operator.

Fiordland Maritime Radio

Channels 16 + 71 (Mount Elder, George Sound)

Channel 71 – Coverage is good in the coastal area between Big Bay and Caswell Sound; however, south of Caswell Sound to Dagg Sound vessels will need to be more than 1 nautical mile off shore to obtain coverage. Inner fiord coverage is restricted to Bligh and George Sound, although patchy coverage can be received in areas from Doubtful Sound/Patea north. There are weather broadcasts on this channel at 01:33, 05:33, 07:33, 10:33, 13:33, 17:33 and 21:33.

Puysegur Maritime Radio

Channels 16 + 67 (Wednesday Peak, Preservation)

Channel 67 – Coverage off shore is good. Coverage extends over most of Preservation Inlet and a lot of Chalky Inlet, but becomes patchy in the upper reaches. Coverage is patchy in Breaksea and Dusky Sounds, but can be found mainly in north–south trending waterways where side valleys extend in the direction of Puysegur radio station. There are weather broadcasts on this channel at 01:33, 05:33, 07:33, 10:33, 13:33, 17:33 and 21:33.

Bluff Maritime Radio

Channels 16 + 68 (Foveaux Strait)

Channel 68 – Coverage is for the Foveaux Strait area and does not include parts of Fiordland.



Breaksea Sound/Te Puaitaha. RICHARD KINSEY, DOC

Radio operators in the Fiordland area

Fiordland Fishermen’s Radio and Bluff Fishermen’s Radio provide SSB and VHF coverage throughout Fiordland. Fiordland Lobster Company is a contact point for berthage in Deepwater Basin, Milford Sound/ Piopiotahi, while Stewart Island Fisherman’s Radio provides coverage throughout Foveaux Strait (as well as Stewart Island/Rakiura).

Milford Sound/Piopiotahi: Fiordland Lobster Company

Based in Deepwater Basin.
Phone: (03) 249 8093
Operator: Wayne Webb
Visitor berths and diesel fuel available.

VHF CHANNEL/SSB KHZ	MONITORED HOURS NZ LOCAL TIME	WEATHER BROADCASTS
67	Open during working hours	

Fiordland Fishermen’s Radio

Based in Te Anau.
Phone: (03) 249 7402
Repeater: Mt Irene Channel 66
Operator: Carol Brown

VHF CHANNEL/SSB KHZ	MONITORED HOURS NZ LOCAL TIME	WEATHER BROADCASTS
66 Mt Irene	Open 24 hours. Skeds at 08:00–08:30 + 19:00–19:30	08:00 + 19:00 (local weather)
2444 vessel receives	Open 24 hours. Skeds at 08:00–08:30 + 19:00–19:30	08:00 + 19:00 (local weather)
2480 vessel transmits	Open 24 hours. Skeds at 08:00–08:30 + 19:00–19:30	08:00 + 19:00 (local weather)
4417	19:30 Listens	

Bluff Fishermen’s Radio

Based in Bluff.
Phone/Fax: (03) 212 7281/(03) 212 7369
Repeaters: Bluff Hill Channel 61 and Mt Prospect Channel 63 (linked), Wednesday Peak Channel 01, Mt Rakeahua Channel 65
Operator: Meri Leask, “Good as Gold”

VHF CHANNEL/SSB KHZ	MONITORED HOURS NZ LOCAL TIME	WEATHER BROADCASTS
16	Open 24 hours	
61 Bluff (linked to 63 Mt Prospect)	Open 24 hours	07:05 + 17:30 (and on request)
65 Mt Rakeahua	Open 24 hours	07:10 (and on request)
66 Mt Irene	Open 24 hours	
01 Wednesday Peak	Open 24 hours	07:30 + 17:35 (and on request)
4417	Opens at 07:15	07:15 + 20:30 (and on request)

Stewart Island Fishermen’s Radio

Based in Halfmoon Bay.
Phone: (03) 219 1242
Repeaters: Mt Rakeahua Channel 65, Bluff Hill Channel 61 and Mt Prospect 63 (linked) Call: ZLRZ Halfmoon Bay Operator: Maureen Jones

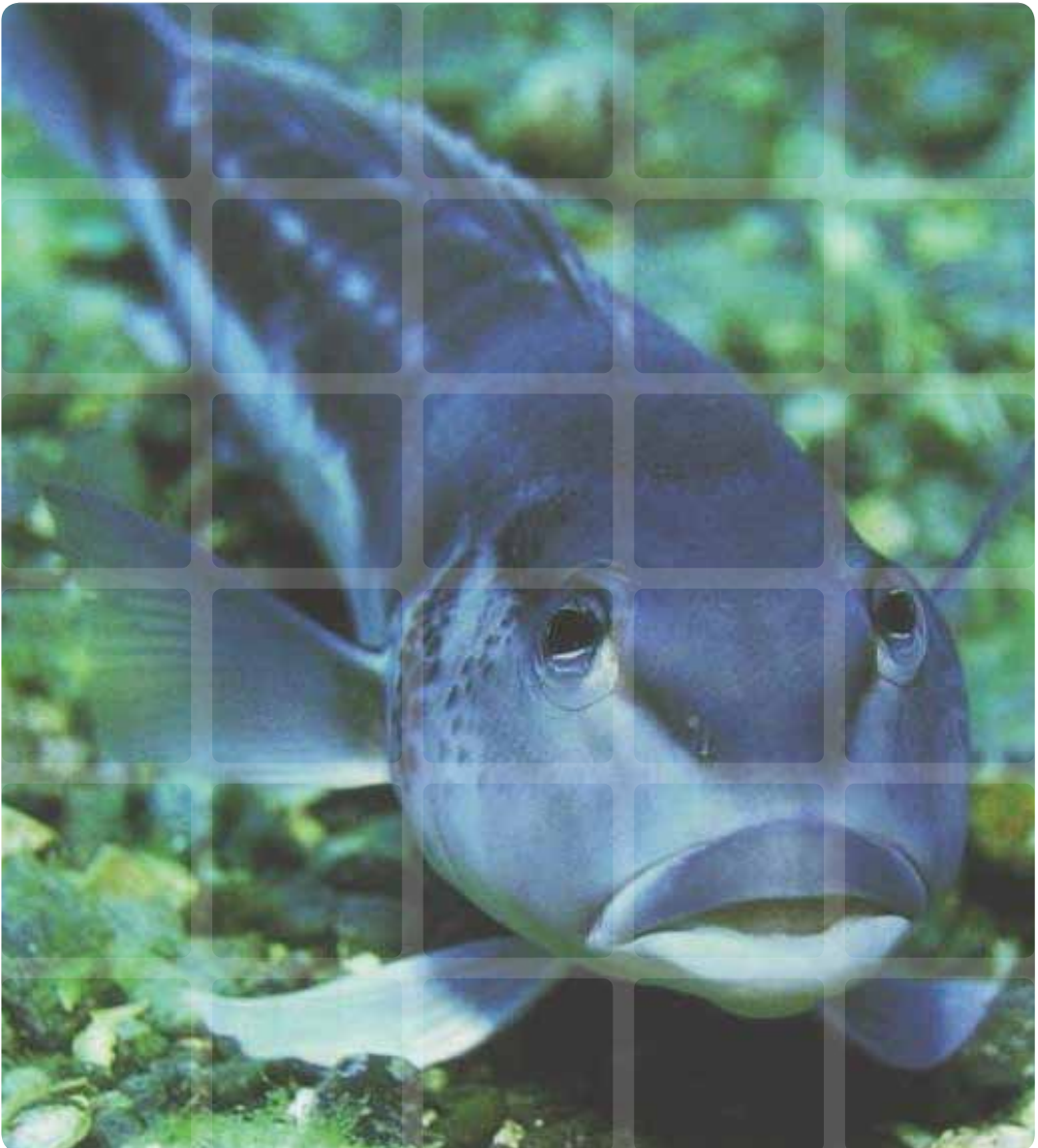
VHF CHANNEL/SSB KHZ	MONITORED HOURS NZ LOCAL TIME	WEATHER BROADCASTS
16	Open 24 hours	
65 Mt Rakeahua	Open 24 hours	09:25 + 17:25
61 Bluff (linked to 63 Mt Prospect)	Open 24 hours	09:28
4417	Open 24 hours	09:31 + 17:28
10	Listens	

Much of the above information has been taken from the New Zealand Marine Radio Handbook by John Allen (Allen, 2009). For further details on radio communications, please refer to this book.



Rock lobster boat *Spindrift* at the entrance of Nancy Sound/Hine Nui. FROM THE FILM ATA WHENUA

FISHERIES INFORMATION AND GUIDELINES



Blue cod (rāwaru). MPI

Overview

Every year growing numbers of visitors come to Fiordland to fish or dive. It's important the environment and fisheries are maintained or improved for future generations to use and enjoy. This chapter provides information on recreational fishing rules that all fishers need to know and understand and information on commercial fishing regulations for the area.

Fiordland's fisheries need your help

Fishing is one of New Zealand's most popular recreational activities. Every year growing numbers of fishers visit Fiordland to experience and enjoy the unique fishing and diving opportunities available.

Improved access for boat fishers has led to increased harvest pressure on popular finfish, rock lobster and shellfish species. If left unchecked, fishing pressure within the most accessible fiords can cause localised depletion. This is largely because, despite the relatively large marine area of Fiordland, the most productive places within the inner fiord environment are confined to a narrow top 40 metre depth band around the sheer rock wall perimeter of each fiord.

Because the tannin-stained freshwater layer causes low light levels that prevent photosynthesis, seaweed is absent, reducing nutrient levels, and as a result fish life is far less abundant. Fiords with pronounced surface fresh water can also inhibit larval survival of some saltwater fish species, resulting in poor recruitment and low fish abundance. Because of these factors, fishing harvest must be carefully managed.

In the dynamic and nutrient-rich fiord entrance and outer coast environment, both the diversity and abundance of inshore fish species increases, offering better fishing opportunities than the less productive inner fiords. As a result, when conditions allow, the outer coastal area is where recreational fishers should endeavour to target and spread their fishing effort.

The present Fiordland (Te Moana o Atawhenua) Marine Area management regime is designed to ensure sustainable use of finite fisheries resources, recognising the special nature of the fiords. It encourages all users, including recreational fishers, to take greater responsibility to help conserve the area's valuable fisheries and to look after the unique marine environment.

If commercial fishers are operating in the area, ask them for advice about the best area to fish. These people have good local knowledge – many of them have spent over 30 years in the area. Commercial fishers in this area are generally receptive, friendly, and an invaluable source of information.



A blue cod (rāwaru) caught off the Fiordland coast. MPI

‘Fish for a feed’

The Guardians promote the ‘fish for a feed; not for the freezer’ philosophy of recreational fishing. Some tips for following this in the Fiordland Marine Area are:

- ‘fish for a feed’ – take only what you need for a fresh meal for yourself and your family
- fish in the outer fiords and outside waters whenever you can, as they are more productive
- avoid anchoring when fishing, and spread your fishing effort inside the fiords
- do not set gear that you can’t retrieve due to either great depth or adverse conditions
- use the right method to catch the right fish species
- use size 6/0 Kahle¹ wide gap or larger size circle fish hooks with no offset when fishing for blue cod
- immediately and carefully return any undersized, unlawful or unwanted fish back into the sea where it was caught
- take no more baitfish than you will use, and make sure they are of legal size
- treat what you catch humanely
- always grasp a rock lobster by its body, not by its legs or feelers
- leave any egg-carrying and soft-shell rock lobster alone when diving, and immediately return them to the sea when lobster-potting
- leave undersized pāua alone; they can bleed to death if their foot is cut and damaged.

See also ‘Guidelines for handling fish’ (page 66), ‘Blue cod (rāwaru)’ (page 67), ‘Pāua’ (page 73), and ‘Rock lobster (crayfish)’ (page 74).

Recreational fishing rules

It is critical that all fishers know, understand and obey the fishing rules that apply in the Fiordland (Te Moana o Atawhenua) Marine Area. By taking responsibility for your actions and complying with the law you can help conserve our valuable fisheries for future generations to use and enjoy.

The following notes are provided as a summary guide of applicable law, which is subject to change. Relevant legislation includes the Fisheries Act 1996, Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, and the Fisheries (Amateur Fishing) Regulations 2013.



A happy recreational fisher with a good-sized Fiordland groper (hāpuku). SAM MOSSMAN

The information contained in this guide is correct at the time of printing and is subject to change without notice. **It is your responsibility to make sure you have the most up-to-date rules during your time in Fiordland.**

¹ Kahle is a type of wide-gap hook. 6/0 refers to the size.

Please be aware, the information provided here includes information specific to the Fiordland (Te Moana o Atawhenua) Marine Area. If you are fishing in any other part of New Zealand, please contact your nearest Ministry for Primary Industries office or visit www.mpi.govt.nz to check the rules that apply. Download the free “New Zealand fishing rules” smartphone app by texting the word ‘app’ to 9889.

Know and observe the limits

The restrictions on recreational fishers are relatively simple. The main points to remember are:

- do not take more than the daily limit entitlement*
- all fish taken and consumed during any trip must be counted within the daily limit entitlement*
- do not take undersized or unlawful state fish
- ensure all baitfish are of legal size
- unlawful catch in excess of daily limit, or undersized or illegal state must be immediately returned to the water, dead or alive
- spread your fishing effort to avoid localised depletion
- it is illegal to sell or trade your amateur fish catch
- breaking the fishing rules can result in hefty infringements, court fines, and property forfeiture.

***Note:** Only people physically taking finfish, rock lobster, or shellfish are entitled to claim a catch within the daily limit.

Fishers should also be aware of the closed seasons, closed areas, and fishing gear and method prohibitions that apply within the Fiordland (Te Moana o Atawhenua) Marine Area and the wider Southland Fishery Management Area.

Defining the area

The Fiordland (Te Moana o Atawhenua) Marine Area (the Fiordland Marine Area) lies inside the wider Southland Fishery Management Area. It encompasses the Fiordland coastal marine area waters, beginning at Awarua Point on the West Coast of the South Island and extending 12 nautical miles seaward from the mean high-water springs mark, along the Fiordland coast to its south-eastern boundary point at Sandhill Point, excluding the coastal marine area around the Solander Islands.

The internal waters of Fiordland are defined inner fiord waters demarcated by specific habitat boundary lines. These are described in the Fisheries (Amateur Fishing) Regulations 2013 schedule 18, and are shown on the maps in the ‘Fiord-by-fiord’ chapter of this guide (page 84), which gives boundary coordinates for each fiord. All commercial fishing is prohibited in the internal waters of Fiordland, creating a 46,000 hectare non-commercial fishing area.

Special restrictions apply to the internal waters, where the inner fiord habitat has steep rock walls dominated by marine animals (such as corals and sponges) rather than seaweeds, and where fish numbers and distribution are lower. Fish life is more abundant in the seaweed-dominated outer fiord and nutrient-rich coastal area, thus allowing higher species limits to reflect this increased abundance.

It is important to note that the ‘internal waters of Fiordland’ boundary lines are not marked with physical markers. To avoid any accidental fishing breaches inside these inner fiord areas, fishers and vessel skippers are encouraged to familiarise themselves with the boundary coordinates and topography features provided in maps located in the ‘Fiord-by-fiord’ chapter (page 84) and to ensure they remain spatially aware at all times.



The next generation of fishers. JON CLOW

Special marine areas

Some areas within the Fiordland Marine Area have special restrictions that vary from total protection prohibiting all fishing, to areas where there are species prohibitions, reduced limits, and fishing method restrictions. These areas are discussed below.

Marine reserves

There are 10 marine reserves in the Fiordland (Te Moana o Atawhenua) Marine Area, which are administered by the Department of Conservation.

All fish and marine life in the marine reserves is completely protected with all fishing, both non-commercial and commercial, totally prohibited.

See 'Protected areas' section (page 42) for more information on marine reserves in the Fiordland (Te Moana o Atawhenua) Marine Area.

Details of each marine reserve including maps are provided in the 'Fiord-by-fiord' chapter (page 84).

Milford Sound/Piopirotahi – blue cod closed area (see map on page 4)

It is prohibited to take or possess blue cod from the internal waters of Milford Sound/Piopirotahi, due to natural low blue cod abundance, and poor recruitment caused by low habitat productivity in the inner fiord.

Blue cod limit for Doubtful Sound/Patea, Thompson and Bradshaw Sounds internal waters (see map on page 110)

Within the internal waters of Doubtful Sound/Patea, Thompson Sound, and Bradshaw Sound the maximum daily take and possession limit is one blue cod per person, with no accumulation.

Pendolo Reach – Rock lobster pot prohibited area

The use or setting of any rock lobster pot, or rock lobster holding pot, in the Pendolo Reach internal waters of Doubtful Sound has been prohibited since October 2013.

This exclusion followed the discovery of an underwater bottom sill habitat containing rare and fragile seabed species of high biodiversity value using a camera and remote operated vehicle. The area is adjacent to Seymour Island. The Guardians quickly identified the anchoring of large cruise ships, and seafloor damage from heavy fishing gear, as potential risks, and acted to mitigate these risks.

More information about this china shop can be found on page 116.

Finfish bag and size limits

In the Fiordland area there is a combined daily bag limit of 30 finfish, consisting of any combination of the species listed in the following table. Individual species limits must not be exceeded.

Accumulation of finfish beyond the daily limit is prohibited. Possession of fish above the species limit or combined maximum daily bag limit is unlawful.

There is no limit on finfish species not listed in the following table.

FINFISH SPECIES	MINIMUM FISH LENGTH (CM)	MAXIMUM DAILY LIMIT PER FISHER
Barracouta	–	30
Blue cod – internal waters (excluding Doubtful, Thompson and Bradshaw Sounds)	33	3
Blue cod – Doubtful, Thompson, Bradshaw Sounds internal waters	33	1
Blue cod – outside internal waters of Fiordland	33	20
Blue moki	40	15
Bluenose	–	5
Blue shark	–	1
Bronze shark	–	1
Butterfish (Greenbone)	35	15
Eels	–	6
Elephant fish	–	5
Flatfish	25 (except sand flounder which is 23)	30
Grey mullet	–	30
Groper (hāpuku)/bass – internal waters sub limit	–	3
Groper (hāpuku)/bass – other areas (includes the limit of 3 from internal waters)	–	5
Hammerhead shark	–	1
Kahawai	–	15
Kingfish	75	3
Lamprey	–	30
Ling	–	30
Mako shark	–	1
Marblefish	–	30
Marlin	–	1

FINFISH SPECIES	MINIMUM FISH LENGTH (CM)	MAXIMUM DAILY LIMIT PER FISHER
Porbeagle shark	–	1
Quinnat salmon	–	2
Red cod	25	10
Red gurnard	25	30
Red moki	40	15
Rig	–	5
School shark	–	5
Sea perch (Jock Stewart)	–	10
Seven gilled shark	–	1
Skate ray	–	5
Snapper	25	30
Spiny dogfish	–	15
Stargazer	–	30
Tarakihi	25	15
Thresher shark	–	1
Trevally	25	30
Trumpeter	35	15
Warehou	–	15
Wrasse	–	30



Butterfish (Greenbone). MALCOLM FRANCIS, NIWA

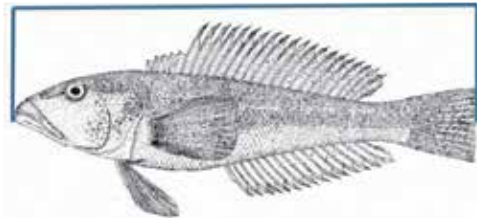
Accumulation

‘Accumulation’ refers to aggregating and possessing daily fish catch in excess of more than one day’s legal entitlement, which is unlawful for finfish, pāua and scallops. For rock lobster, there is a three-day accumulation limit of 15 rock lobsters, with special provisions applying (see ‘Rock lobster (crayfish)’ section, page 74).

White pointer shark prohibition

It is unlawful to take or possess any white pointer shark, which is a fully protected species.

Measuring finfish



Measure finfish length from the tip of the nose to the rear end of the middle ray or ‘V’ of the tail fin, as shown.

Method and gear restrictions

Set-line restrictions

Within the Fiordland (Te Moana o Atawhenua) Marine Area, including the internal waters, the following set-line fishing restrictions apply to all static line fishing gear, including any long-line, drop or dahn line, but do not apply to any rod and reel or hand line:

- all surface floats attached to any set-line must be legibly and permanently marked with the fisher’s surname and initials; the boat name is also useful
- a maximum of one set-line per person (other than rod and reel lines or hand lines) is allowed
- where more than one person is using a set-line from a vessel (other than rod and reel line or hand line), no more than two lines may be used or set from, or possessed, on board that vessel
- a maximum of five hooks per set-line is allowed.



Tarakihi. STEVE WING

Set nets prohibited

It is prohibited to recreationally use, set or possess any set net in the Fiordland (Te Moana o Atawhenua) Marine Area.

Blue cod hook size

When fishing for blue cod, the Guardians recommend the use of size 6/0 or larger, wide gap or circle fish hooks with no offset, to avoid damaging undersized blue cod and to improve juvenile fish survival. The advantage of using circle hooks is that fish are hooked in the front of the mouth, which are easier to unhook and avoids deep hook injuries from hooking the throat and gut.

Only use one hook per rod or hand line, as the use of multi-hook rigs will lead to fish being poorly handled, reducing the chance of undersized fish surviving when released.

Blue cod pots

It is prohibited to use or set any blue cod pot in the internal waters of Fiordland. They can, however, be used outside the fiord internal waters in accordance with the following pot limit rules:

- All pots, and surface buoys or floats attached to the pot and float line, must be legibly and permanently marked with the person's initials and surname. This includes possession on any vessel.
- Pot limits apply to all catching pots including both blue cod pots and rock lobster pots with pot possession and use restricted to:
 - a maximum of three pots for one person, or
 - if two or more persons are on a vessel, the maximum vessel pot limit is six pots, being any lawful combination of species specific catching pots and including up to two rock lobster holding pots.

Possessing prohibited fishing gear and any fish

It is illegal to possess any fish together with any net, trap or line that is not permitted to be set or used, whether or not the fishing gear is being used in fishing.

Unlawfully taken fish (dead and alive)

Unlawfully taken fish (such as fish taken in excess of daily limit, undersized, unlawful state, or fish taken with prohibited gear or method) must be returned to the water immediately, taking all care to ensure the fish is unharmed and returned to the same location from where it was taken. You must also return dead fish that are unlawful to the water.

Guidelines for handling fish

Remember to:

- remove fish from the water only if you have to
- wear cotton or rubber gloves, or at least wet your hands
- lie fish on a soft wet surface if you need to handle them out of water
- change to a larger hook size if you are catching a lot of small undersized fish
- minimise the time fish are out of the water
- remove the hook carefully from a lip-hooked fish
- cut the line for a gut-hooked fish
- return undersize fish gently to the sea.

Do not:

- hold fish by inserting your fingers inside the gill covers
- poke or touch the eyes, and never hold fish by the eye sockets
- use a 'gob' stick² on fish you will release
- squeeze hard on the gill covers or gut area
- lift fish by the tail, as this can dislocate the spine
- drop or place fish on a hot, dry deck or on to rocks.

2 A 'gob' stick is a device for removing a fish hook from inside the gullet of a fish.

Blue cod (rāwaru)

The blue cod *Parapercis colias* or rāwaru has assumed iconic status due to its relative ease of capture and it is prized for the cooking and eating qualities of its white fillets. Blue cod is one of the most sought-after and valued recreational fish species in the Fiordland (Te Moana o Atawhenua) Marine Area.

In Southland, male blue cod can take 7-9 years to reach the minimum legal size length of 33 cm. They can live for up to 20 years, at which point they may be up to 60 cm in length and weigh up to 4 kg.

Fiord habitat and blue cod abundance

The unique fiord environment makes blue cod vulnerable to local depletion if fishing is unchecked. Fishery habitats in the steep-walled, animal-dominated inner fiords are relatively small and less productive, compared with the seaweed-rich outer coast.

Blue cod are most commonly found near reefs of foul (rocky) ground to a depth of 150 metres. Adult blue cod usually avoid kelp forests and large rock platforms, preferring to live near seaweed on open ground at the reef edge.

Blue cod are opportunistic carnivores, voracious feeders, and have an inquisitive nature. Their main prey includes crustaceans, small fish (including juvenile cod), shellfish, worms and small octopus. While they may aggregate when feeding they do not school, ranging mainly over open water at reef edges. Adult fish are territorial and rarely move long distances, but may have overlapping home ranges. The territory of a dominant male includes three to five females, with the size of the territory appearing to increase as the size of the fish increases.³

In Milford/Piopirotahi and Doubtful/Patea Sounds, the two most accessible fiords, local depletion was considered a major sustainability issue in the mid-1990s, causing some fishers and charter operators to shift harvest pressure to other fiords. In some northern fiords, which have narrow entrances and steep deep walls, blue cod are relatively scarce and fishing is naturally poor.

Not surprisingly, fish (including blue cod) are more plentiful in the wide-mouthed southern fiords of Dusky Sound, and Chalky and Preservation Inlets, due to the more productive habitat, while outside these fiord entrances there is good blue cod fishing.

A key concern of the Guardians by the late 1990s was the increasing recreational catch levels by larger groups of fishers on charter boats and large private syndicate recreational vessels, who often preferred fishing inside the sheltered fiords well away from the ocean swells.

Blue cod stock levels were a key consideration in developing the Guardians' marine conservation strategy. Scientific research commissioned by the Guardians has found that fish numbers are high in the outer coast and shallow entrance areas but not so high in the middle, inner reaches and at the head of the fiord.

Blue cod inside the fiords are slower growing and less abundant than those found at the entrance to the fiords. It also appears that blue cod from the inner fiords may be genetically distinct from blue cod living outside, with little or no mixing or inter-breeding between fiords.

In the inner fiord habitat, blue cod are naturally scarce, and unlikely to sustain high levels of fishing pressure. The reduced daily limit with no accumulation in this area allows fishers to catch a fresh feed of fish, while encouraging fishers to spread fishing effort towards the entrance and outer coast.

Doubtful Sound/Patea (which was closed to blue cod fishing from 2005 to 2015), now has a one-blue-cod-per-person daily limit with no accumulation. This applies across the combined internal waters of Doubtful/Patea, Thompson and Bradshaw Sounds. This conservative daily limit is in line with the Guardian's wish to spread harvest effort across the three-fiord complex, while allowing fishers access to provide fresh fish to eat within sustainable limits.

³ Carbines, 2009.

Fishing for blue cod

Blue cod are bottom-dwelling with a depth range varying from shallow to depths of 150 metres. A common misconception is that blue cod are caught on top of submerged rocks and bottom foul. Although this is possible, they are more likely found inhabiting open sand bottom, feeding around reef edges of the rocks foul and kelp forests.



Line-caught blue cod (rāwaru). STEVE WING

Lines

- Use only enough line to reach the bottom – this keeps tension on the line so you'll know when you've caught a fish.
- Use only one hook per line when rod and hand lining.
- Once you've 'hooked' a fish, check and retrieve the line immediately.

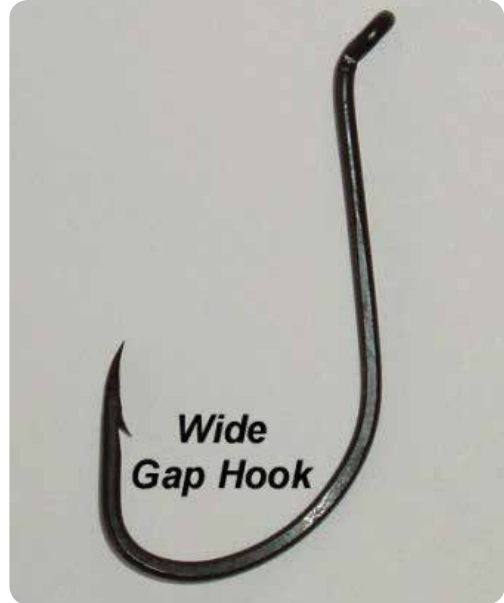
Hooks

Hook type is important. Blue cod 'bite' the hook when taking the bait and then 'twist'. If hooks are swallowed, they are likely to damage the throat or gills, which almost certainly results in death.

To improve survival of undersized fish, blue cod should be hooked around the lips. To do this, use large hooks (size 6 and larger). This is most important as large hooks catch fewer undersized fish, are not easily swallowed, and still catch the same number of legal-size blue cod. To further reduce hook damage to undersized fish, use barbless hooks.

Recommended hooks are:

- wide gap hooks or circle hooks, for example, Kahle hooks
- flasher rigs or jigs (one hook only).



Line outline of a wide gap hook

Why we need specific blue cod guidelines

Blue cod is one of the most sought-after and valued recreational fish species in the Fiordland (Te Moana o Atawhenua) Marine Area. Despite good fishing on the outside coast, blue cod is naturally scarce in many of the narrow deep northern fiords, due to habitat and limited food supply.

Because of its widespread popularity as an eating fish, in the more accessible and frequented fiords, finite blue cod stocks are under more harvest stress. The problem is made worse because many of the undersized fish caught while trying to catch 'the big one' are likely to die, even when they are returned to the water.

Returning undersized blue cod

When returning undersized blue cod, handling time should be kept to a minimum, as they cannot survive more than a couple of minutes out of the water. Fishers should also try to help undersized blue cod when releasing them to avoid predators such as the inquisitive mollymawks (Buller's albatrosses) or voracious barracouta. PVC downpipe escape tubes for the fish to slide down into the water can be a useful method, but it is important to avoid serial returns of small fish that encourage the build-up of predators both above and below the surface. If you find yourself returning lots of undersized fish in one spot, move on to somewhere else.⁴

We all need to protect the small fish because they are the future breeding stock. If we reduce the number of breeding fish, there will be fewer fish to replace those that are caught, and this would mean a decline in the stocks of blue cod.



Blue cod (rāwaru). STEVE WING

Blue cod area closures and monitoring

In 2005, both Milford/Piopirotahi and Doubtful/Patea Sounds were closed to all amateur fishing to assess blue cod stocks, and to allow and measure recovery of the population without fishing pressure.

Researchers contracted by the Ministry of Fisheries, and subsequently the Ministry for Primary Industries, have been surveying and monitoring blue cod stocks in both Milford/Piopirotahi and Doubtful/Patea Sounds since the summer of 2005/06. Work includes monitoring blue cod population levels, distribution and movement, growth, and size composition, to assess any recovery.

The research uses experimental fishing to record blue cod catch and fishing efforts during the closure period, and to tag blue cod caught to study movement from the outer reaches to the inner reaches of a fiord. The researchers also monitor blue cod stocks in the marine reserves, to examine the effect that a marine reserve closure has on blue cod stocks in comparison with areas that are open to fishing. This ongoing work is part of the scientific marine monitoring programme for the area.

The main findings and conclusions drawn from the research carried out to date into both closed fiord areas are:

- blue cod numbers in both inner fiords has remained low, regardless of the closures or protection of adjacent marine reserves
- while the size of individuals in the inner fiords has increased, fish reproduction and recruitment of juveniles into the population (survival of larvae through to young fish) and movement of fish into the area is low
- adult fish are highly territorial, rarely moving any considerable distance within the fiord
- there is little sign of migration from the outer fiords or coast into the inner fiords
- fish numbers on the outer coast remain much higher than the inner fiords
- some steep-walled fiord habitats with narrow entrances have low food availability, which naturally inhibits blue cod numbers.

The monitoring project considered that it is unlikely that fish stocks in Milford Sound/Piopirotahi will ever be able to sustain moderate recreational fishing pressure over the long term.

4 Carbines, 2009.

As a result of the various survey and research findings, the Fiordland Marine Guardians recommended to the Ministry for Primary Industries that the Doubtful Sound internal waters be reopened to blue cod fishing, with a daily limit of one blue cod per person; and that this limit would also apply to the adjoining fiords of Thompson and Doubtful Sounds.

Anecdotal information indicated that fishing displaced from Doubtful Sound during its closure concentrated in the adjoining Thompson and Bradshaw Sounds. Over time this has increased harvest pressure on blue cod stocks in these fiords. Both Thompson and Bradshaw Sounds are internally connected to Doubtful Sound and so more accessible than other fiords. This suggests the collective blue cod population within the three-fiord complex must be carefully managed together.

In regards to Milford Sound, despite the 10-year blue cod fishery closure and roughly half of the fiord's internal waters being protected by a marine reserve, the survey results showed a general lack of blue cod across the fiord. Opening the fiord area outside the marine reserve to blue cod fishing was thought unwise, due to the ease of small boat access and the likelihood that fishing would concentrate in a relatively small area. Consequently the Guardians recommended that Milford Sound's internal waters remain closed to blue cod fishing.

The Guardians are now interested in monitoring recreational catch levels and changes in fishing behaviour within the Doubtful/Patea, Thompson, Bradshaw Sounds fiord complex. To help with this, recreational fishers are asked to record their blue cod catches from the three-fiord complex in a fishing diary, and to report this data back to the Guardians. Fishing diaries can be downloaded from www.fmg.org.nz.

Key points

Make sure you know the fisheries regulations. Maximum daily limits for recreational blue cod fishing are outlined in the 'Finfish bag and size limits' section (page 62).

The other main fisheries rules are:

- the blue cod minimum legal length is 33 cm
- blue cod fishing is prohibited in the internal waters of Milford Sound/Piopirotahi, which is closed to blue cod fishing because of scarcity and to promote sustainability
- all fishing or taking of fish is strictly prohibited in any of the marine reserves (see 'Protected areas' section, page 42)
- using and retaining undersized blue cod (less than 33 cm in length) for bait is illegal – they must be immediately returned to the water, alive or dead
- do not high-grade and discard previously caught dead fish of legal size back into the sea if bigger fish are caught.

Coral

It is prohibited to take or possess any black coral or red coral.



Black coral. VINCENT ZINTZEN

Shellfish bag and size limits

Shellfish are legally considered to be taken when they cannot freely return to the water. This includes when placed into a catch bag or stored in a holding pot. At no time while gathering shellfish may fishers be in possession of more than the legal daily limit.



Scallop (kuakua). MPI

SHELLFISH SPECIES	MAXIMUM DAILY LIMIT PER PERSON FISHING	MINIMUM SIZE	NOTES
Cockle	150	None	
Kina (sea egg)	50	None	
Mussel	25	None	
Oysters – dredge	50	58 mm	A diver or divers on a vessel may gather an additional bag limit of oysters or scallops for up to two people acting in a dive safety capacity on the vessel. Note: This only applies to taking oysters and scallops.
Pāua			
– Ordinary blackfoot	10	125 mm	Only those physically taking pāua are entitled to claim a catch within the daily limit.
– Yellowfoot	10	80 mm	No accumulation
Pipi	150	None	
Scallop	10	100 mm	A diver or divers on a vessel may gather an additional bag limit of oysters or scallops for up to two people acting in a dive safety capacity on the vessel. Note: This only applies to taking oysters and scallops. No accumulation
Tuatua	150	None	
All others (combined)	50	None	This is a combined mixed-species bag limit applying to all shellfish species not specifically named above and includes all crabs, cat’s eye, cook’s turban, limpets, periwinkles, starfish and freshwater crayfish (kōura).

Shellfish to be landed in a measurable state

All shellfish to which a minimum size restriction applies (including pāua, scallops and dredge oysters):

- must be landed in the shell
- cannot be shucked or shelled seaward of the mean high-water mark (this includes while being transported on the water).

Dredge oysters and scallops may be opened for immediate consumption on board the vessel (within prescribed limits of 50 dredge oysters and 10 scallops). Any scallops and dredge oysters not eaten must be landed in the shell.

How to measure shellfish



Pāua – measure the greatest length of the shell in a straight line, parallel to the underside pāua foot (ventral surface). Do not measure over the curve of the shell.



Scallops – measure the greatest diameter of the shell.

Dredge oysters – must not pass through a rigid circular metal ring with an inside diameter of 58 mm.

Shellfish restrictions

Underwater breathing apparatus

It is unlawful to:

- take any pāua using underwater breathing apparatus. This does not include snorkels
- be in possession of pāua while in possession of underwater breathing apparatus. This includes possession, in, or on, any vessel, vehicle, aircraft or other conveyance.

Dredges prohibited

It is unlawful to use or possess any dredge in the Fiordland (Te Moana o Atawhenua) Marine Area.

Open seasons

Dredge oysters – Open season is 1 March to 31 August inclusive in the Southland Fishery Management Area, which includes the Fiordland (Te Moana o Atawhenua) Marine Area.

Note: No rock or Pacific oysters are known to exist in the Southland Fishery Management Area including the Fiordland (Te Moana o Atawhenua) Marine Area. All oysters taken in the Southland Fishery Management Area are subject to season, daily limit, and size restrictions.

Scallops – Open season is 1 October to 15 March inclusive in the Southland Fishery Management Area, which includes the Fiordland (Te Moana o Atawhenua) Marine Area.

Pāua



Pāua. STEVE WING

Fiord habitat and pāua abundance

The endemic abalone species blackfoot pāua *Haliotis iris* is most abundant in exposed localities on the outer Fiordland coast and near the fiord entrances. Pāua is absent from the inner fiords, likely due to low wave energy, low salinity, and low seaweed and kelp growth (upon which pāua feed).

Pāua begin to reproduce from age 3-5 years, which in southern waters equates to around 85-90 mm in length. Juvenile pāua tend to live inside the fiord entrances and are thought to migrate to the exposed outer coast when mature. Fiordland has had an important commercial fishery for blackfoot pāua for many years.

The smaller yellowfoot pāua *Haliotis australis* species also inhabits the Fiordland coast but is considerably less abundant. Yellowfoot pāua have a similar life history to blackfoot pāua, and also have an algae-based diet. Individuals rarely exceed 110 mm in length.

Gathering pāua

It is important to recognise that pāua less than the minimum legal size are next year's harvest and contribute to the population by reproducing. Often these pāua are removed and damaged by recreational pāua collectors, only to be returned to the sea to die. Despite their ability to thrive on high energy coastline, pāua are extremely vulnerable to damage that can occur during harvest. They are haemophiliacs, having no blood clotting mechanism. Damage caused to the muscular foot often leads to death.

There are a number of ways to ensure that undersized pāua are not removed from reef surfaces, and ways to care for the young pāua if they are inadvertently removed.

- Use a flat-bladed tool or dive knife to remove pāua, avoiding sharp-blade and tipped instruments including screwdrivers. Ideally, use a purpose-made plastic pāua knife that incorporates a flat blade. If unsuccessful in removing a pāua on the first attempt, leave it, because if it has clamped onto a rock it is extremely unlikely it will be prised loose without suffering damage.
- It is best practise to measure pāua underwater using a tool that incorporates a 125 mm mark. This will decrease the chance of taking and damaging undersized pāua. The Ministry for Primary Industries (MPI) distributes purpose made plastic pāua knives with a measuring slot.
- If you have taken pāua out of the water to measure, do so immediately at the water's edge whilst keeping pāua damp and in the shade and return any undersized pāua to the water immediately. Heat-damaged pāua returned to the reef will be in a weakened state and are susceptible to predation.
- Ensure any returned pāua are placed right way up in suitable habitat (boulders or rock) to give them the best chance of avoiding predators. Do not throw them over the side of your boat.
- Be aware in the fiords of the freshwater layer when returning pāua as they will not survive in fresh water.
- Spread your fishing effort so as not to clear whole areas of legal-sized pāua as this will prevent local recruitment of juveniles.
- Underwater breathing apparatus is prohibited when collecting or in possession of pāua.
- Consider the future pāua harvest of yourselves and others by taking only what you need (within the confines of the daily bag limit).

And finally, remember that pāua must be lawfully landed in a measurable state, to allow MPI fishery officers to measure your catch.

Rock lobster (crayfish)



Spiny rock lobster (kōura). CLAIRE MURPHY

While New Zealand has four species of marine crayfish, or more correctly 'rock lobsters', only the red or spiny rock lobster *Jasus edwardsii* is common throughout the fiords and outer coast. In fact the cool waters surrounding the South Island southern coast and Fiordland are home to the largest abundance of spiny rock lobsters in New Zealand. Far less common, the green or packhorse rock lobster *Sagmariasus verreauxi* (until recently known as *Jasus verreauxi*) can occasionally appear as far south as Foveaux Strait, but are more widespread in the North Island as far north as the Kermadec Islands.

Female rock lobster can carry more than half a million eggs under their tail for up to 6 months before they hatch into larvae. These larvae can spend close to a year drifting the ocean currents as plankton, before settling onto reefs and growing up.

To grow, rock lobsters need to moult their shell and grow a new larger one. Initially, the new shell is soft, which makes the individual vulnerable to predators. However, after a few days the shell hardens and over time it thickens and strengthens. Rock lobsters tend to reach legal size after 5-10 years and can live for more than 30 years.

Rock lobsters tend to take shelter in crevices and caves by day and search for food at night. They have a wide ranging diet including shellfish, crabs, sea urchins, seaweeds, and small fish.

Rock lobster daily bag limit

A maximum daily bag limit of six rock lobster (both spiny and packhorse rock lobster species combined) applies in the Fiordland (Te Moana o Atawhenua) Marine Area and all fiord internal waters, excluding Milford Sound.

A conservative maximum daily limit of three rock lobster (both spiny and packhorse rock lobster species combined) applies in the internal waters of Milford Sound, with no accumulation.

Limits on accumulation

Within the Fiordland (Te Moana o Atawhenua) Marine Area a special regulation defence provision allows fishers to possess and accumulate rock lobsters taken over three or more days in excess of the daily possession limit if:

- not more than 15 rock lobsters are possessed
- the daily take limit of six rock lobsters was not exceeded on any day
- not more than three rock lobsters were taken from the Milford Sound internal waters of Fiordland.

In the case of rock lobster held temporarily in a holding pot at sea, the fisher must maintain and be able to immediately produce upon the request of a fishery officer, a **legible written record** containing the following information:

1. the individual fisher's full name
2. the date on which the fisher took the rock lobster
3. the number of rock lobster held in each rock lobster holding pot, including the number of rock lobster taken from within the Milford Sound internal waters of Fiordland
4. the global positioning system (GPS) coordinates or physical location of each holding pot
5. the date on which the fisher removed rock lobster from each holding pot
6. the number of rock lobster removed from each holding pot.

In the case of rock lobster held on board or landed from a vessel, including rock lobster removed from any holding pot, the rock lobster are held in labelled containers or bags that:

- contain only rock lobsters taken on a single day
- are clearly labelled to record the:
 - individual fisher’s full name
 - date on which the rock lobster was taken by the fisher
 - number of rock lobsters held in the container or bag
 - number of rock lobsters (if any) taken from the Milford Sound internal waters of Fiordland.

Possession

Rock lobsters may not be possessed seaward of the mean high water mark in a state that cannot be measured.

Minimum sizes

It is unlawful for any person to take or possess any:

- male spiny rock lobster with a tail width less than 54 mm
- female spiny rock lobster with a tail width less than 60 mm
- packhorse rock lobster (either sex) with a tail length shorter than 216 mm.

Measuring spiny rock lobsters

The Amateur Fishing Regulations require that, if there is any legal dispute, a spiny rock lobster must be measured with an official MPI-certified stainless steel tail width measuring device in accordance with the regulations.



Measuring a female spiny rock lobster (kōura) tail width using a Ministry for Primary Industries gauge. MPI

There are plastic rock lobster measuring gauges in circulation that were produced by the former Ministry of Fisheries. The plastic gauge has two measuring slots (54 mm and 60 mm) that must be properly applied for measuring males and females respectively. If you are unsure on how to do this, please contact an MPI fishery officer. The plastic gauges are uncertified and therefore should be relied upon as a guide only.

MPI-certified measuring gauges are used by fishery officers in the field and can be purchased from Ministry for Primary Industries offices. You may measure with an uncertified gauge or a ruler, but these can serve only as a guide.

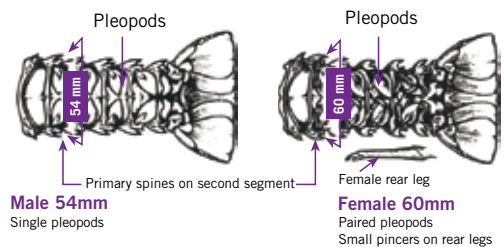
Measuring spiny rock lobster

Measure the tail width in a straight line between the tips of the two large (primary) spines on the second segment of the tail (as shown in the diagram).

The sex is easily determined:

- females have small pincers on the rear pair of legs
- pleopods are in paired form on each side of the under surface of female tails, and are in single form in male tails.

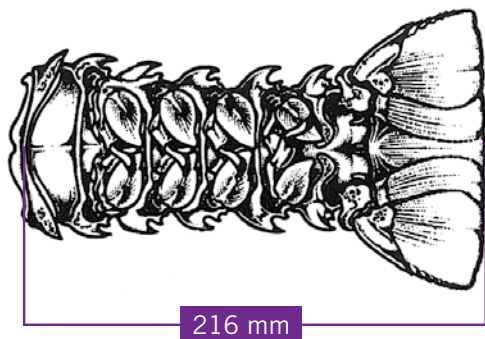
If you are unsure of the sex of a spiny rock lobster, use the 60 mm measurement.



Male and female spiny rock lobster (kōura) highlighting 54 mm and 60 mm tail width. MPI

Measuring packhorse rock lobster

To determine the minimum 216 mm tail length for packhorse rock lobster, which applies to either sex, the tail length is measured along the underside, in a straight line from the rear of the calcified bar on the first segment to the tip of the middle fan of the tail.



Packhorse rock lobster tail. MPI

Protected rock lobster

The following types of rock lobster must be immediately returned to the water:

- undersized rock lobster
- female rock lobster carrying external eggs (these are carried between the pleopods on the underside of the tail)
- any rock lobster in the soft-shell stage (following moulting where the exoskeleton has not reached full hardness)
- rock lobster that cannot be measured (eg, because of damage to the tail exoskeleton, including calcified bar and the second abdominal segment primary pleural spine tips preventing accurate measurement).

Method restrictions

When catching rock lobster it is unlawful to:

- remove external eggs or the egg-bearing appendages from any female rock lobster or to possess any rock lobster that have had external eggs removed by artificial means
- use a spear or device that could puncture the exoskeleton (body shell)
- possess any rock lobster that has been speared or punctured

- use a spring-loaded or trigger-mechanism loop or lasso device that is likely to puncture, penetrate, cut or otherwise damage the rock lobster body or tail. These devices are prohibited
- use or set a baited net for taking rock lobsters, or possess any rock lobster with a baited net.

However, it is lawful to use:

- hand-operated loops or lassoes
- a hand-pulled bob or ring pot.

Rock lobster catching and holding pot restrictions

Rock lobster holding pots and rock lobster (catching) pots can be used in the Fiordland (Te Moana o Atawhenua) Marine Area. This is one of the few places in New Zealand where holding pots are lawfully provided for and regularly used by recreational fishers. Due to the area's remoteness and access constraints, holding pots are a practical solution to the absence of freezer storage.

Rock lobster pot means any pot, baited or not, that is capable of catching or holding rock lobster. It includes any other device capable of catching, holding, or storing rock lobster except a loop, bob or ring pot.

Rock lobster pot limits

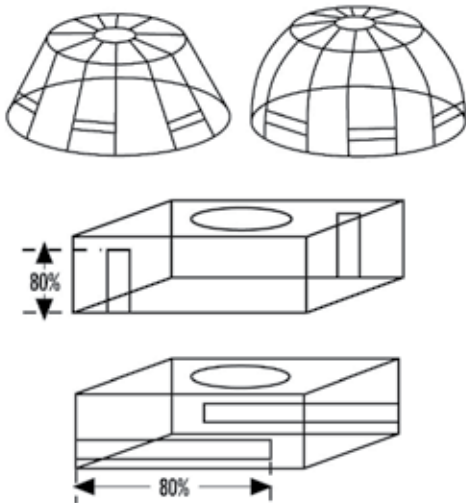
Within the Fiordland Marine Area the following pot limits apply:

- All pots, and surface buoys or floats attached to the pot and float line, must be legibly and permanently marked with the person's initials and surname. This includes possession on any vessel.
- An individual may use, set or possess up to three rock lobster (catching) pots in any one day.
- If two or more persons are on the vessel, the maximum vessel pot limit is six pots; being any lawful combination of species specific (rock lobster or cod) pots, including up to two rock lobster holding pots.

Escape gaps

Rock lobster pot escape gaps or apertures are designed to allow undersized rock lobsters to escape from the pot. Escape gaps or apertures must not be in the top or bottom of a pot.

- **Round or beehive pots** must have at least three escape gaps or apertures (other than the mouth). Each aperture must have an inside dimension no smaller than **54 mm x 200 mm**.
- **Square or rectangular pots** must have at least two escape gaps or apertures (other than the mouth) in opposite faces of the pot. Each aperture shall not be less than 80 per cent of the height or length of the face of the pot in which the apertures are contained. Each aperture must have an inside dimension no smaller than **54 mm x 200 mm**.
- **Mesh pots** constructed entirely of unaltered spot-welded mesh with inside dimensions of 54 mm x 140 mm do not have to have escape gaps or apertures. Mesh pots may be used with covers or liners, provided they leave at least 80 per cent of the surface area of each of two opposite sides unencumbered.



Rock lobster pots. MPI

Guidelines for handling rock lobster

Always handle rock lobster with care. Particular points to remember are:

- avoid grasping rock lobsters by their legs or the antennae. Legs and feelers are easily detached and injured lobsters seldom survive
- from mid-May through to the end of October female rock lobsters carry eggs – take care when handling lobsters during this time
- seasonal moulting (where they shed their outer shell) generally occurs for males from August to November and for females from February to July. During moulting, divers and fishers must avoid taking any soft-shell-stage rock lobsters where the new exoskeleton (shell) has not reached full hardness
- pots should not be left baited and unattended for more than 24 hours. Octopus can enter pots and will kill any rock lobsters that cannot escape
- special care should be taken to immediately return to the water all rock lobsters that are undersize or in an unlawful state. It is important to return rock lobster in close vicinity to suitable habitat to reduce the vulnerability to predation as they swim to shelter.

What can you do to look after the rock lobster fishery?

The sustainable management of our rock lobster fisheries is supported by an extensive scientific research programme, active stewardship by the local CRA8 industry, and enforcement by MPI fishery officers (see 'Rock lobster tagging' section, page 78).

It is important for all fishers to follow the regulations and use proper catching and handling practices to ensure there will be plenty of rock lobsters for future generations.

Rock lobsters that must be returned to the sea by law should be put back immediately and carefully to maximise their chances of survival. Place them in an appropriate area, for example, on to foul ground such as a reef, and not on to the exposed bottom in the middle of the fiord.

Rock lobster tagging

The New Zealand Rock Lobster Industry Council provides research services to the Ministry for Primary Industries and has an extensive rock lobster stock monitoring and research project, which includes a lobster-tagging programme.

The tagging programme is designed to find out more about the growth, distribution and seasonal patterns in abundance and size of rock lobsters, and lobster movement inside management areas.

Rock lobsters increase in size each time they moult (shed their shell and grow a new one). Smaller rock lobsters can moult several times in one season, while older and larger lobsters moult less frequently. Mature female lobsters also grow more slowly than male lobsters because they use a lot of energy bearing eggs.



A tagged spiny rock lobster (kōura). MALCOLM LAWSON

Tagging

When a lobster is tagged, the sex, maturity, body length, tail width, and number of injuries (such as missing legs) are recorded. Five per cent are double-tagged to get an idea of possible tag loss.

Tags are inserted into the tissue between the body and tail. This means the tag will stay in place, even when the lobster moults, and also enables the tag to be clearly visible.

Lobsters are released after tagging, and the location and water depth are recorded. Every attempt is made to release the lobster as close as possible to where it was caught. Global positioning systems are used to record positions.

Recapture

Recapture of tagged lobsters can give us information on growth and movement. Because the researchers will not normally be present when recaptures occur, they appreciate all lobster fishers providing assistance in returning information to them on Amateur Tag Recapture cards.

These cards are available from the New Zealand Rock Lobster Industry Council (phone (04) 385 4005) or from any Ministry for Primary Industries office (see 'Contact information' chapter, page 146). When tagged lobsters (both legal and illegal) are caught, the researchers would like you to record the following details:

- sex
- tail width
- number of injuries (the number of missing legs and antennae, or severe damage such as horns missing or holes in the body)
- tag number(s) and prefix (the prefix is important as there are a number of tagging programmes around the country and a tag number can be duplicated)
- depth
- position
- whether you retain or release the lobster.



Spiny rock lobster (kōura). KEN GRANGE

While many tagged lobsters are reported by fishers, some tags escape detection and are only noticed when the catch is cooked and served as a meal. The prefix in these cases identifies the source of the tag. It is also important to record both tag numbers if there are two tags.

You can also report tagged rock lobsters on the tag-tracker website: <http://tagtracker.trophia.co.nz/>.

On that website you will also find more detailed information on the rock lobster tagging programme, and a summary of recapture results from around the New Zealand coastline.

If the lobster is under minimum legal size or carrying eggs it must be returned to the water. You may choose to re-release a legal lobster, and the additional information when it is caught again will be very useful. When a tagged lobster is re-released, please record the position and depth. If you use the tag-tracker website to report your recaptures, please make sure that you complete the report accurately.

It is important when completing forms that the information is accurate. Please try to enter all required data. If you are not sure, leave the box blank and write a note on the form regarding the details. It is easier for someone to check with you later, than it is to fix 'wrong' data. Send tag data to:

New Zealand Rock Lobster Industry Council
Private Bag 24-901, Wellington 6142
Email: lobster@seafood.co.nz

Reporting suspicious or illegal fishing activity

Observe, record and report

If you see people taking more than their daily limit, or taking undersized fish, or if you are suspicious about the fishing activity of a person or a group of people, please report what you have seen to the Ministry for Primary Industries as soon as you can. If possible, record or memorise the following information:

- exact location, time and date
- vessel name and numbers, and a description of vessel type, colour and length
- vehicle registration and a description of the make, model and colour
- number and description of people involved (and names and addresses if known)
- the details of what you observed, heard about, or found.



MPI compliance officers conducting a routine inspection. JIM FLACK, MPI

Any information provided in confidence to the Ministry for Primary Industries will remain confidential.

Do not confront a suspected offender – only a fishery officer or a police officer have the lawful powers to stop, inspect and seize fish and property as evidence for fisheries offences.

Instead, if you can, discreetly take a photograph, note down key information and report the matter by calling the **0800 4 POACHER (0800 476 224)** call-free number, or notify the nearest office of the Ministry for Primary Industries as soon as possible.

Penalties

The Ministry for Primary Industries does its best to make sure that everyone who fishes knows the rules and sticks to them.

The law allows MPI to issue an infringement notice or to initiate prosecution of people who put themselves first and New Zealand fish stocks second.

There are graduated infringement notice penalties of \$250 and \$500 for breaches that are deemed less serious, and a maximum court fine of \$10,000.

For serious non-commercial offences, such as exceeding maximum species limits by more than three times the limit, there are maximum Court fines of \$20,000 and \$250,000 along with automatic forfeiture of any fish, gear and property (including vessels and vehicles) used in the commission of the offence.

To avoid a fisheries infringement or fine:

- know and observe fish species daily bag and minimum size limits
- be sure you know how to correctly measure your catch
- only use lawful fishing gear
- observe any species closed seasons and area restrictions.

Check the rules before going fishing

As amateur fishing regulations are subject to change without notice, it is important for recreational fishers intending to visit Fiordland to keep up-to-date by checking the current fishing rules before leaving home. Here are some simple ways that you can do this.

Download the Ministry for Primary Industries' free *New Zealand fishing rules* smartphone app by texting the word 'app' to 9889. It is important to do this before you leave home when you have cellular phone coverage, as there is no cell coverage beyond Te Anau or Manapouri. The downloaded app will then work even when you don't have coverage.

Visit www.mpi.govt.nz/travel-and-recreation/fishing/fishing-rules to read, print or order a copy of the *Fiordland Marine Area recreational fishing rules* brochure.

Further information

For more information on fishing rules contact your nearest Ministry for Primary Industries office to request a *Fiordland Marine Area recreational fishing rules* brochure and/or speak to a fishery officer (see 'Contact information' chapter, page 146).



Blue moki. STEVE WING



Leatherjacket (kokiri). STEVE WING

Commercial fishing regulations

In April 2005, the Fiordland Marine Area was established with the enactment of the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005. The Act was the culmination of eight years collaborative work by the Guardians of Fiordland Fisheries and Marine Environment Inc. in developing a comprehensive Marine Conservation Strategy.

Throughout the original Guardian's journey from 1995 several commercial fisher representatives, (in particular CRA8) were at the forefront of the conservation strategy development in close collaboration with the other stakeholder representatives.

As a result of collective agreement following careful deliberations of the various fisheries issues and best management options, new fisheries regulations were enacted in June 2005. This involved amendments to both the commercial and amateur fishing regulations.

The following is a summary of several relevant commercial fishing regulations that are contained in the Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Regulations 1986.

Internal waters of Fiordland – commercial fishing prohibition

All commercial fishing is totally prohibited within the defined internal waters of Fiordland, which applies to 15 named fiords. Please consult the 'Fiord-by-fiord' section (page 84) for the series of fiord maps, which illustrate the respective fiord internal waters and boundary line coordinates.

A full description of the 'internal waters' is provided in Schedule 1 of the regulations (which can be found on the Fiordland Marine Guardians website www.fmg.org.nz).

Commercial fishers retain the full right of navigation passage, transit, shelter and anchorage throughout Fiordland's internal waters. In addition, certain activities are permitted in relation to:

- holding live rock lobster in holding pots (cages)
- storing empty holding pots and empty rock lobster pots.

This does not include any pot that is capable of catching rock lobster with the pot doors shut and baited up.

Milford Sound entrance waters – commercial fishing prohibition

In Milford Sound waters seaward of Dale Point and the internal waters of the fiord, all commercial fishing is further prohibited between St Anne Point and Stripe Point, under regulation 3 of the Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Regulations 1986.

This is a long-standing regulation dating back to the early years of the Fiordland rock lobster fishery.

1. *No commercial fisher shall take any fish from, or have in possession any fish taken from the following waters:*
 - (a) *the waters of Milford Sound and all those waters in the vicinity of Milford Sound lying inside a straight line drawn from St Anne Point (at 44°34.30'S and 167°46.98'E) to Stripe Point (at 44°33.06'S and 167°49.32'E):*
 - (b) *the internal waters of Fiordland.*
2. *Despite subclauses (1)(a) and (c), a commercial fisher may in the internal waters of Fiordland –*
 - hold live rock lobster, taken from outside the internal waters of Fiordland, in cages for up to 2 months; and*
 - store –*
 - cages, with all doors open; and*
 - rock lobster pots, with all doors open.*

3. *Subclause (2) is subject to all prohibitions, restrictions, and conditions applying to any marine reserve established in the Fiordland (Te Moana o Atawhenua) Marine Area –*
 - (a) *by section 7(1) of the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005; or*
 - (b) *under section 4(1) of the Marine Reserves Act 1971.*
4. *Nothing in subclause (2) permits –*
 - (a) *the taking of rock lobster in the internal waters of Fiordland*
 - (b) *the storage of baited rock lobster pots in the internal waters of Fiordland.*

The Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 provides for **five rock lobster pot storage areas** in the following four marine reserves:

- Hawea (Clio Rocks) Marine Reserve
- Kahukura (Gold Arm) Marine Reserve
- Taumoana (Five Finger Peninsula) Marine Reserve
- Te Tapuwae o Hua (Long Sound) Marine Reserve (x 2).

For further details, including coordinates for the five pot storage areas, see the relevant fiord map illustrations in the 'Fiord-by-fiord' section (page 84).

Section 111 General and Particular Approvals

Any commercial fisher who is contemplating taking any recreational fish catch using a registered commercial vessel must hold a valid section 111 General Approval, or a Particular Approval issued under section 111 of the Fisheries Act 1996.

These approvals can be obtained by applying to the fisher's nearest Ministry for Primary Industries' district compliance office, and must always be obtained in advance of the trip. A copy of the issued approval must be carried on board for inspection by a fishery officer.

For further explanation, contact the Ministry for Primary Industries to speak to a fishery officer.

Amateur-fishing charter vessel operator registration and reporting

Since November 2010, any charter boat operator conducting recreational fishing as part of their commercial charter venture must be registered as an amateur-fishing charter vessel operator.

The Fisheries (Amateur Fishing) Regulations 2013 defines an amateur-fishing charter vessel operator as any person who receives payment or benefit to provide a vessel and a fishing guide (service) to take (non-commercial) fishers on fishing trips.

The same regulations contain mandatory operator annual registration, vessel listing and set out activity catch reporting requirements.

The annual registration and returns reporting is administered by FINNZ, a subsidiary of FishServe, Wellington. To contact FINNZ freephone 0800 4 ACV HELP (0800 422 843), or email charteroperator@FINNZ.com.

The main purpose of the national amateur-fishing charter vessel operator registration and reporting regime is to regulate and compel charter vessel operators to provide MPI with reliable recreational fishing data to quantify and enable assessment of recreational fish catch and activity. The catch data provided is vitally important. It allows MPI inshore fisheries management analysts and the Fiordland Marine Guardians to monitor and gauge harvest levels to help them make decisions about the appropriateness of sustainability measures regulations.

As part of the registration process, a vessel listing notification will be issued for each listed charter vessel to retain on board, along with an activity catch return book. The amateur-fishing charter vessel operator designated skipper is required to complete a fresh return reporting the fishing activity and fish catch details on a daily basis. The returns, including nil returns, are then submitted on a monthly basis to FINNZ for form receipt and data entry.

Similar to commercial fishers, who are liable to receive infringement notices for submitting late returns or failing to furnish monthly return breaches, there are infringement breaches for failing to comply with amateur-fishing charter vessel operator reporting obligations, along with a maximum Court fine of \$10,000 for operating as an amateur-fishing charter vessel operator when not registered.

These consents are issued by the Southland Regional Council (Environment Southland) to regulate commercial surface water activities pursuant to the Coastal Plan and the Resource Management Act 1991. Please contact Environment Southland on freephone 0800 76 88 45 to find out more about coastal permit consent and condition requirements.

Coastal permit consent

It is important to note that commercial charter vessel operators must also hold a coastal permit consent to operate in the Fiordland Coastal Marine Area adjacent to the Fiordland National Park from Yates Point to Puysegur Point.



Fishing vessel *Te Wai CRA8* underway off Bligh Sound. STEPHEN LOGIE, MPI

FIORD-BY-FIORD GUIDE



Overview

This chapter will help visitors understand the Fiordland (Te Moana o Atawhenua) Marine Area and to be better equipped to enjoy it.

It provides basic information on different aspects of each fiord throughout the Fiordland region including:

- key historical and landscape features
- marine reserves
- the best areas for anchoring
- obtaining fuel and water
- hut accommodation
- navigation recommendations, including hazard warnings.

More detailed information on history, biology, and geography, is available from a range of more comprehensive publications, as Fiordland is packed with interesting places. See the 'Suggested further reading' section (page 143).

Maps and navigation information

Note that these maps, and the navigation and anchoring recommendations, are only provided as a general guide. The most up-to-date charts need to be referred to when navigating through Fiordland waters. Fiordland is an extremely challenging maritime environment because of its terrain, its isolation and the variability of sea and weather conditions.

More information about navigation can be found in the 'Travelling in the fiords' section (page 30). The 'Charts and books' chapter recommends navigational charts (page 144).

Essential checklist

Biosecurity

- Bring 'a clean bottom' – a clean vessel hull is essential to make sure you aren't spreading any marine pests into the pristine waters of the fiords.
- Disinfect all dive gear (for *abalone viral ganglioneuritis* virus and other pests) before entering Fiordland waters.

Safety

- Always carry up-to-date maritime charts.
- Fit a good very high frequency (VHF) aerial for improved radio communications.
- Carry an emergency position indicating radio beacon (EPIRB). It is mandatory for commercial ships to carry a registered 406 MHz EPIRB. In a remote location like Fiordland it is customary for recreational vessels to also carry one, it's foolish not to.
- Bring in plenty of fuel. Availability is very limited – you can only get fuel in Milford Sound/Piopiotahi and Doubtful Sound/Patea.

Equipment

- Carry good quality anchoring gear – high-holding anchor and enough rope/chain (at least 70 metres).
- Carry a spare length (about 15 metres) of garden hose for attaching to the water hoses that you will encounter throughout Fiordland.
- Thoroughly check permanent stern lines and moorings before you use them throughout Fiordland.

Weather

- Know the weather forecast; be aware that it can change very quickly in Fiordland.
- Know the right radio channel to receive weather forecasts for the area you are in.

General

- Prepare for sandflies – they can make your trip very unpleasant. Carry repellent and screens to cover entrance ways.
- Carry sufficient stores for your trip through Fiordland; note that you have to take your rubbish out (crushed cans will take up less space than bottles in your rubbish bag).
- Know where you can fish and how much you can take from an area. Fish for a feed, not for the freezer.

Big Bay area

The area around Big Bay, and particularly Martins Bay, was an important settlement site for Māori between 1650 and 1800. It gave easy access to food resources in the nearby lakes, sea and forests, as well as sought-after pounamu (nephrite, 'New Zealand jade' or greenstone). It was home to both Māori and European settlers. There are areas of Martins Bay around the short-lived Jamestown settlement that still have roses and sycamore trees – reminders of the pioneer farming settlement's failure due to its extreme isolation (the last people left in the 1920s).



Big Bay.doc

Huts

There are two Department of Conservation huts in the Big Bay area: Big Bay hut sleeps nine people and Martins Bay hut sleeps 24 people.

Anchorage

There are two anchorages in Big Bay.

- The first anchorage is to the north side of Big Bay, just east of Crayfish Rock and is to be used in northerly conditions.
- The second anchorage is on the south side towards the head of the southern end of the bay, which is used as a stern line to hold the vessel towards a south-westerly swell (**Note:** This mooring is owned by a commercial fisherman, Jon ('Boof') Hansen, so please contact him on VHF Channel 67 before using).



Big Bay anchorages

When using either anchorage, be aware of changes of wind through the night, as fast-moving fronts can quickly and dramatically change conditions in these exposed anchorages.

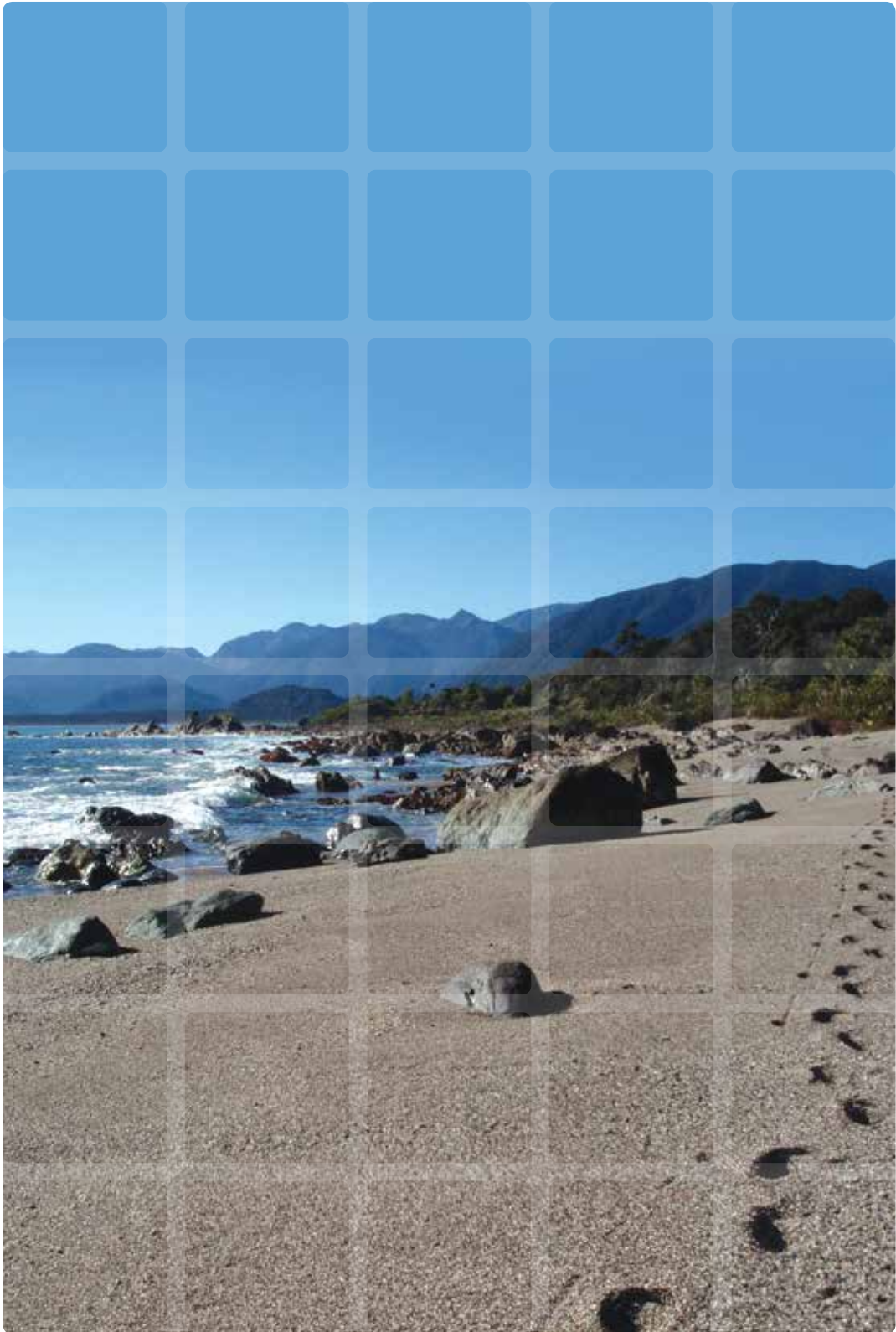
Navigation

Heading north from Big Bay it is advisable to stay one nautical mile offshore, to avoid a rock that extends three-quarters of a nautical mile offshore on North Reef.

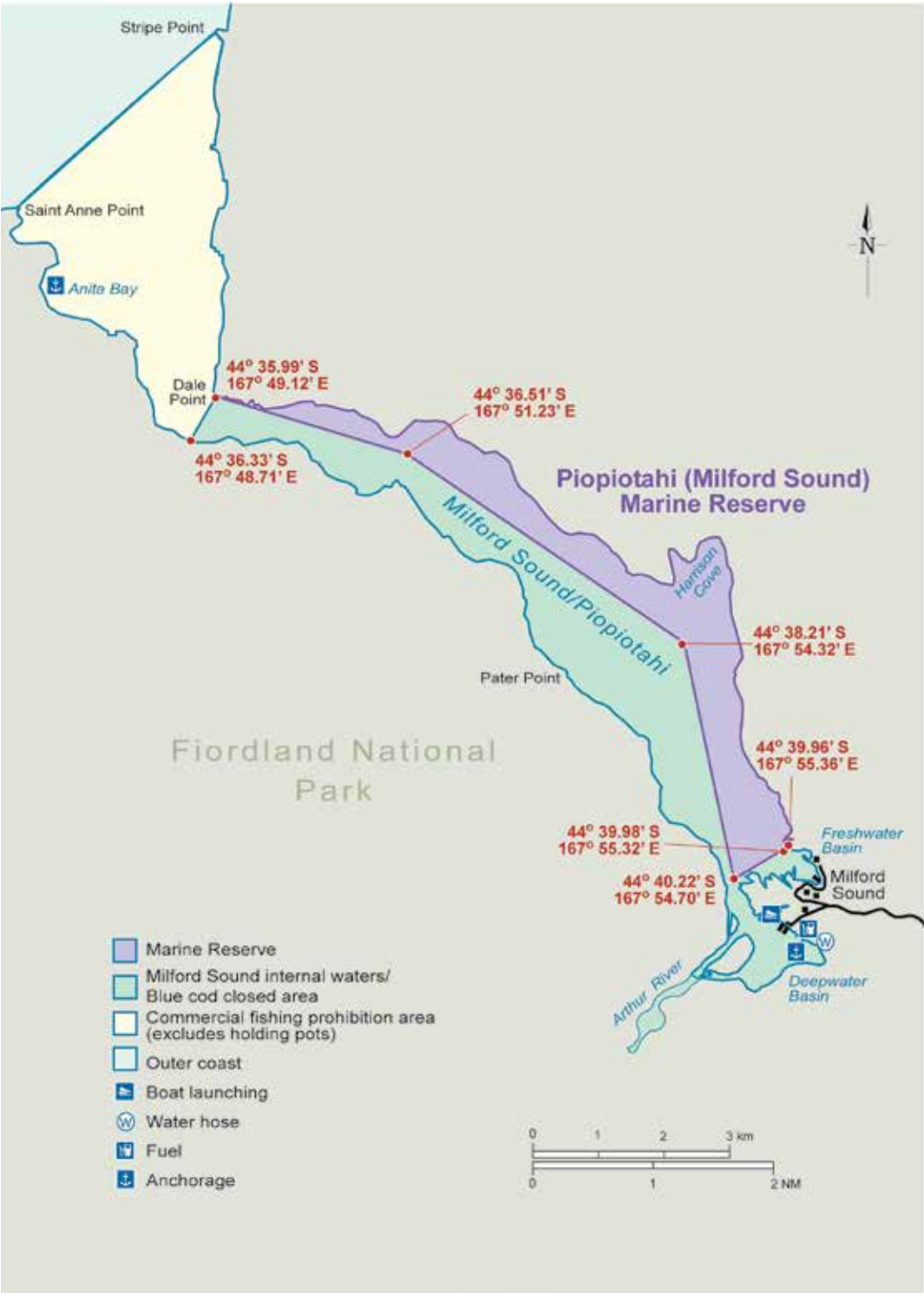
Heading south from Big Bay it is advisable to be three-quarters of a nautical mile offshore to avoid South Reef.

When travelling from Big Bay to Milford, keep in water deeper than 45 metres.

When heading into Milford Sound/Piopiota from the north, be aware of the three submerged rocks that lie around the Brig Rock and Yates Point area. During daylight hours it is safe to travel between Brig Rock and Yates Point; however, at night it is advisable to give Brig Rock a wide berth. Refer to LINZ Chart 7622.



Big Bay. SARAH THORNE



Piopiotahi (Milford Sound) Marine Reserve

Milford Sound/Piopiotahi



Milford Sound/Piopiotahi. RICHARD KINSEY, DOC

Milford Sound/Piopiotahi is the northernmost and best known of all the fiords. It was initially missed by Captain Cook when he was heading north. The first European to find and name it, in the 1820s, was sealing vessel captain John Grono, who was born near Milford Haven in Wales (Hall-Jones, 1979). The Māori name Piopiotahi means 'one piopio bird'. The piopio (now extinct) was a ground-feeding native thrush that declined rapidly after the introduction of mammalian predators.

The sheer steep-sided walls of Milford Sound/Piopiotahi rise up 1,683 metres at Mitre Peak and contain spectacular waterfalls. The distance from the head of the fiord to the open sea is about 16 kilometres.

Milford Sound/Piopiotahi is the only fiord that can be reached directly by vehicle and because of that it receives up to 500,000 visitors a year. It is the main access point for tourist activities in the Fiordland (Te Moana o Atawhenua) Marine Area. There are boat launching facilities at Deep Water Basin. The sheer numbers of people visiting Milford Sound/Piopiotahi means there are great pressures put on its marine environment.

Anchorage

Freshwater Basin

The wharves here are operated by the Milford Development Authority and are for the sole use of commercial tourist boats operating from Milford Sound/Piopiotahi.

Deepwater Basin

It is possible to obtain fuel and water here, and there are also toilets and showers. When approaching the channel to Deepwater Basin, stay halfway between the port-hand markers and the western side of the channel. As a note of caution, care should be taken after heavy rains where the Arthur River joins the channel, as strong eddies (whirlpools) can be experienced here. There are two port and two starboard markers at this point going through to Deepwater Basin.

Keep to the middle of the channel through the markers, and do not turn to port to approach the berths until you are at least 100 metres past the last port-hand marker. Contact Fiordland Lobster Company on VHF Channel 67 to arrange a berth while in port. Real Journeys Ltd owns two permanent moorings in Deepwater Basin. Availability and use can be arranged as described in the 'Harrison Cove' section below.

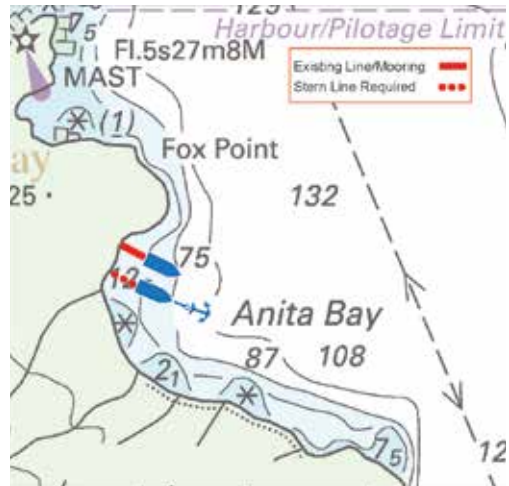
Deepwater Basin contains a public boat ramp/launching area adjacent to the main wharf. The boat ramp is available for the public to launch boats; however, at times can be a very busy launching site, due to tourism activities.

There is provision for daily parking; however, no long-term parking is permitted in the Deepwater Basin vicinity. Long-term boat storage (being deemed longer than 24 hours) may be arranged, dependent on availability, by contacting the Department of Conservation on (03) 249 0200.

Harrison Cove

Anchoring at Harrison Cove is only permitted at depths greater than 60 metres, and is generally not practical. There are a number of commercial moorings in Harrison Cove as part of commercial operations. Real Journeys Ltd has two permanent moorings that are suitable for vessels up to approximately 700 gross tonnes and can be contacted to check availability of these moorings for private use. This is done by contacting the Duty Manager on VHF Channel 8 within Milford Sound or by calling (03) 249 8090. The company's vessels use the moorings every night during September–May. You must complete a Real Journeys Mooring Code of Practice document to use the moorings. Not suitable in strong northerly or westerly winds.

Anita Bay



Anita Bay

This is a fair-weather anchorage only. There is a mooring and stern line on the western side of the bay, close to Post Office Rock (named after the rum barrel that historically acted as a post box for the settlement of Milford). It is essential if you are anchoring to use a stern line. Not suitable for any easterly wind, or strong northerly or westerly winds.

Navigation

The commercial tourism operators travel in a clockwise direction around the fiord. They head out along the southern wall and return back in against the northern wall.

Heading south from Milford Sound/Piopirotahi there is an area south/south-west of St Anne Point (shallow area highlighted on LINZ Chart 7622) that can break a long way offshore in a heavy south-west and westerly swell greater than 5 metres.

When travelling from Milford Sound/Piopirotahi to Poison Bay, keep in water deeper than 45 metres.

**Piopiotahi (Milford Sound)
Marine Reserve**

Piopiotahi Marine Reserve is situated along the northern side of Milford Sound/Piopiotahi, from the head of the fiord 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. 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.



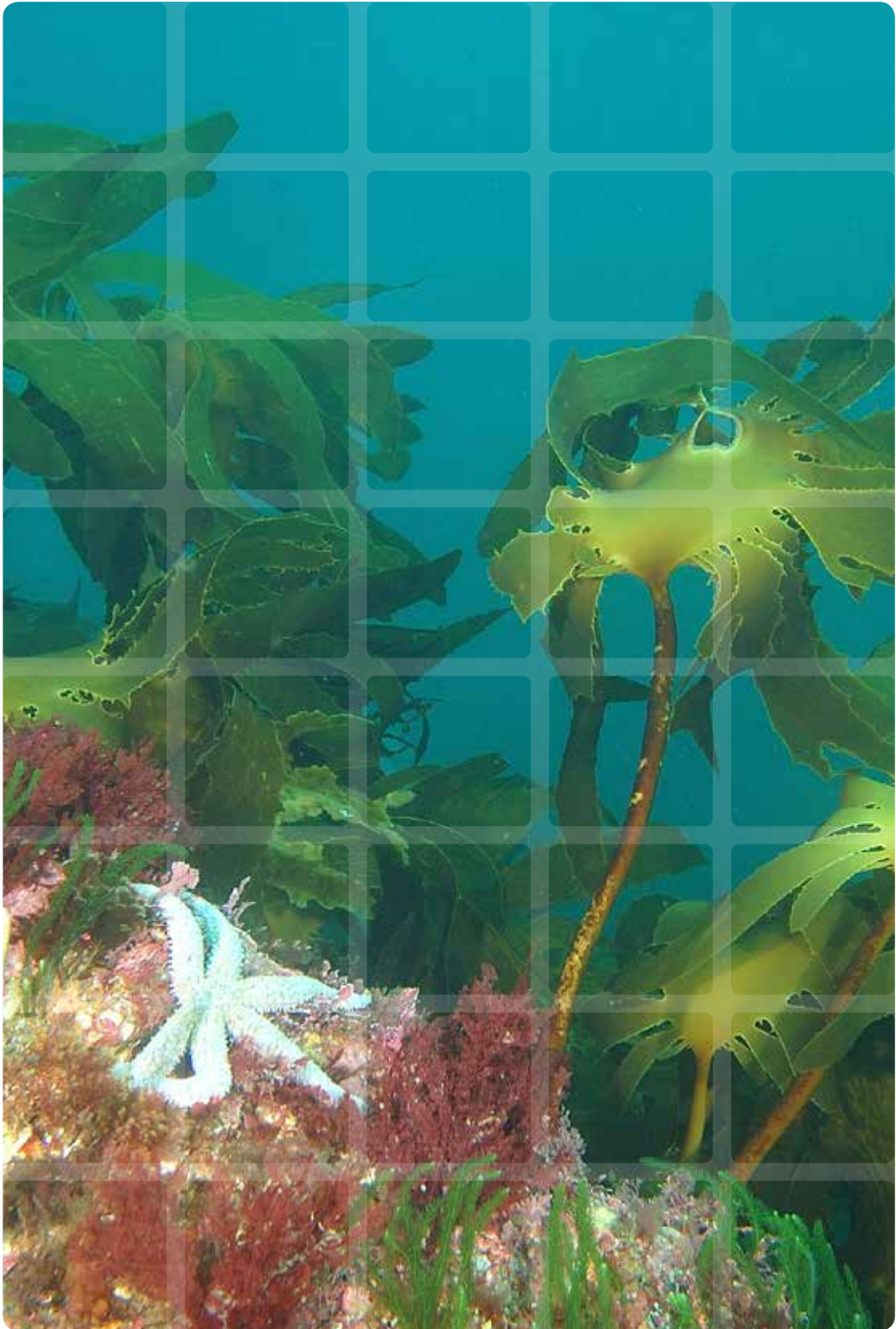
Butterfly perch and black coral. STEVE WING



Fiordland crested penguins (tawaki) are found along the Fiordland coastline. RICHARD KINSEY, DOC



Jason nudibranch. JONATHAN DAVIES



Ecklonia. STEVE WING

Poison Bay/Papa Pounamu

See map page 94.

There are two theories on the naming of Poison Bay; either that one of the early sealers was struck by food poisoning at the bay, or secondly that it was named as Poisson (fish) Bay by a French mariner. However, no record of a French vessel was ever made in that area (Hall-Jones, 1979). The Māori name, Papa Pounamu, means 'greenstone flat'.

Poison Bay is a popular destination for day boats fishing from Milford Sound/Piopiotahi.

Anchorage

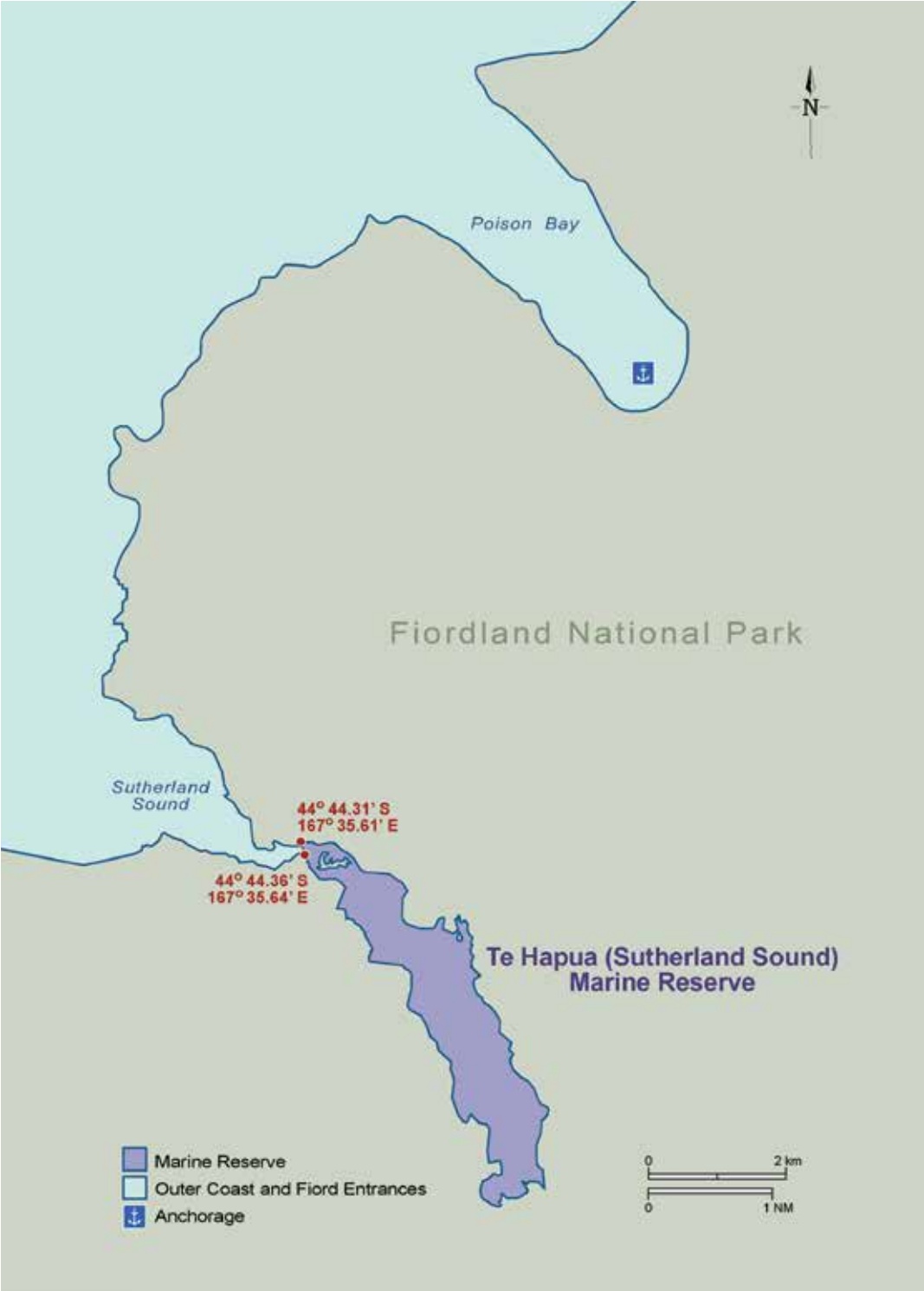
This bay is a fair-weather anchorage in east to south-east and lighter south-west conditions. Due to the exposed nature of the bay be mindful of weather changes during the night, especially a change to north-west conditions.

Navigation

When travelling from Poison Bay to Sutherland Sound, keep in water deeper than 45 metres.



Scorpion fish. STEVE WING



Te Hāpua (Sutherland Sound) Marine Reserve

Sutherland Sound/Te Hāpua



Sutherland Sound/Te Hāpua.doc

Sutherland Sound is the fiord immediately south of Milford Sound/Piopirotahi. It was thought by the *Acheron* survey to be a small bay, until Donald Sutherland sailed into it in 1883 to explore and chart its full extent (Hall-Jones, 1979).

Sutherland observed:

"The lake abounds with fish and following them is no scarcity of sharks, which infest the tidal river and lake wherever fish are found." (Hall-Jones, 2002)

Māori know this fiord as Te Hāpua – the lagoon. Sutherland Sound is unique because of its estuarine nature and the whole fiord is a marine reserve. At low tide, a series of channels cross the extensive mud and sand flats. The shallow outer 4 kilometres of the fiord is constricted by forested flats and a sand spit at the entrance to the sea. This is the least modified and visited of all the fiords.

The fiord has resident stocks of flatfish, spiky dogfish and stargazer. There are no rock lobsters or pāua, however, due to periodic low salinity. Sutherland Sound has never been commercially fished.

Anchorage

Sutherland Sound should not be entered without local knowledge, due to the shallow nature of the estuary and bar.

Navigation

When travelling from Sutherland Sound to Bligh Sound, keep in water deeper than 40 metres.

Te Hāpua (Sutherland Sound) Marine Reserve

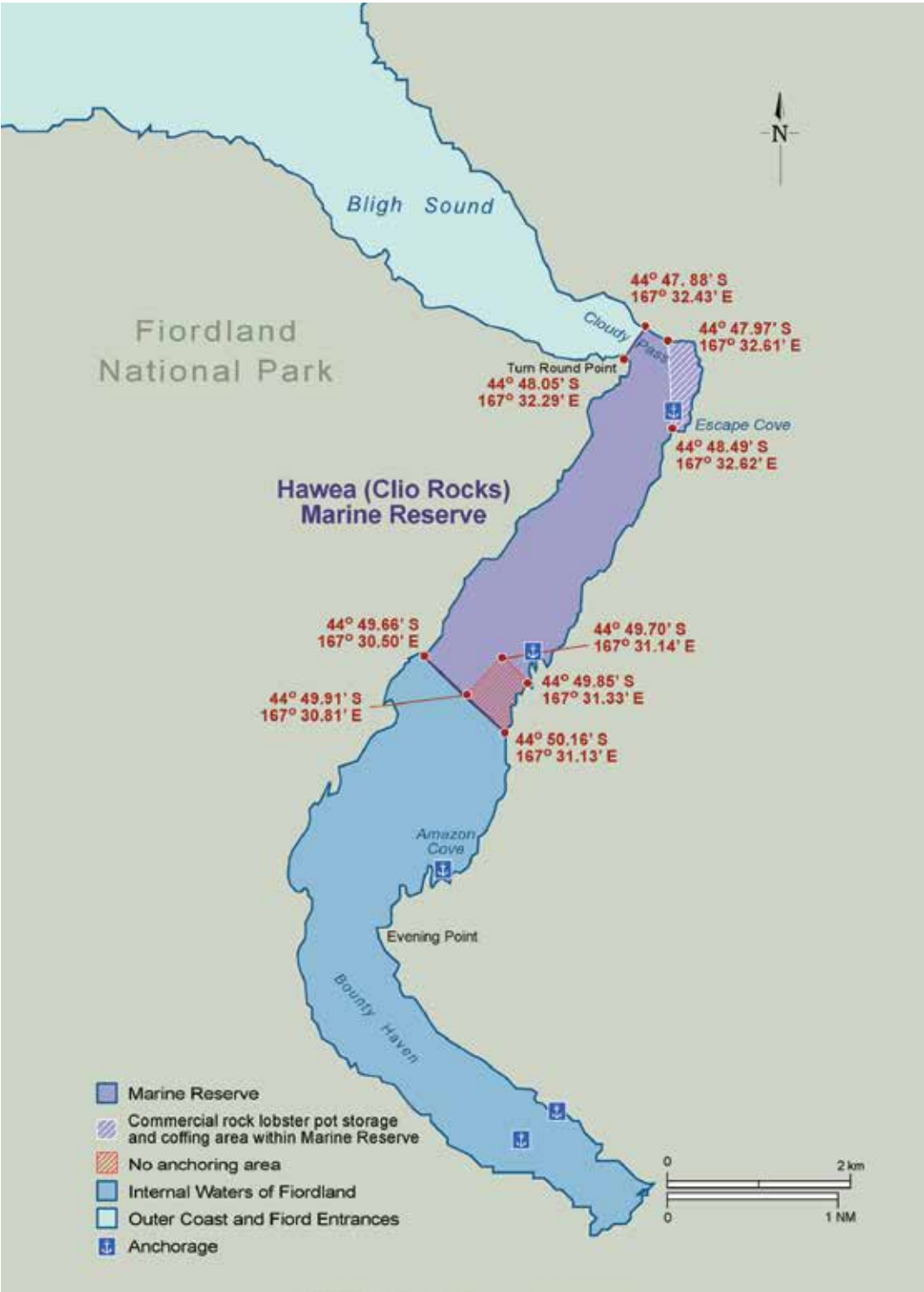
Te Hāpua Marine Reserve is the least studied reserve in Fiordland but probably the most pristine. The shallow sill at the mouth of the fiord makes accessing the reserve very dangerous by boat. Ocean waves break across the shallow entrance in all but the very calmest of conditions. There have been very few research trips to the reserve, but they have observed a unique environment in the isolated basin, which is connected to the sea by a narrow channel.

Marine animals seen while diving include flounder, dogfish and high numbers of rock crabs and juvenile starfish.

Future monitoring will provide us with a better understanding of the marine life in this area.



Flounder (patiki). RICHARD KINSEY, DOC



Hawea (Clio Rocks) Marine Reserve

Bligh Sound/Hawea



Turn Round Point, Bligh Sound/Hawea. doc

Bligh Sound/Hawea was named by John Grono, the early sealer and frequent name-giver, after Governor Bligh of New South Wales, Australia. Grono's first command when he first visited Fiordland in 1809 was called the *Governor Bligh* (Hall-Jones, 1979).

Bligh Sound has a wide entrance for a northern fiord and is relatively shallow (about 90 metres),

until Turn Round Point where it suddenly deepens to over 180 metres. The fiord zigzags approximately 18 kilometres inland to the head at Wild Natives River.

The fiord has a rich early Māori history, with evidence of historical campsites and many associated place names.

Hawea (Clio Rocks) Marine Reserve

Most of the reserve is made up of deep-basin habitat, but there are also large areas of sheltered shallow rock-wall habitats and deep-reef or rock-wall habitats. Underwater mapping of the reserve shows mostly steep rock walls on the shaded western side of the reserve, compared with more broken rocky reefs on the reserve's more sunlit eastern side.

The near-vertical rock walls of Turn Round Point are a special feature of the reserve, with abundant reef fish and invertebrates feeding on plankton swept past in the high tidal flow.

Red and black coral trees are relatively abundant along the rock walls in this area. The north-eastern corner of the marine reserve is a designated area for commercial rock lobster holding and pot storage.

Clio Rocks China Shop – no-anchoring area

This china shop is a unique and fragile habitat, with the Clio Rocks rising from 220 metres at the middle of the fiord to just 2 metres from the surface on the eastern side of the fiord. An abundant community of delicate red and black corals is found here, which is why anchoring is not permitted.



Miraculous nudibranch. STEVE WING

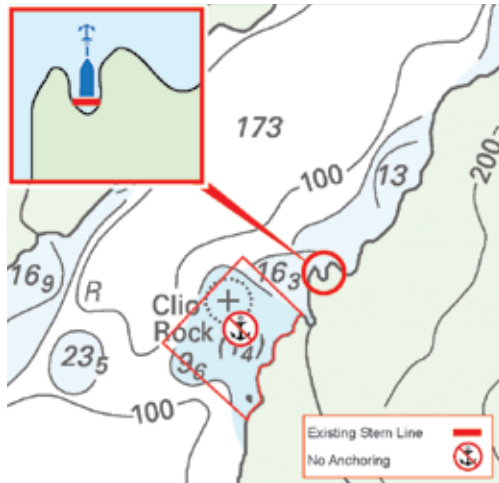
Anchorage

Radio communication is available on Channel 66 for all the anchorages below.

Escape Cove (Hawea (Clio Rocks) Marine Reserve)

This is a fair-weather anchorage only and a stern line must be used.

Kelly's (Hawea (Clio Rocks) Marine Reserve)



Kelly's

This is a good fair-weather anchorage, suitable for all winds in moderate conditions. Use of a stern line is essential.

Amazon Cove

A good fair-weather anchorage, but be aware there is very little room for manoeuvrability. A stern line is essential for this anchorage.

Bounty Haven



Bounty Haven

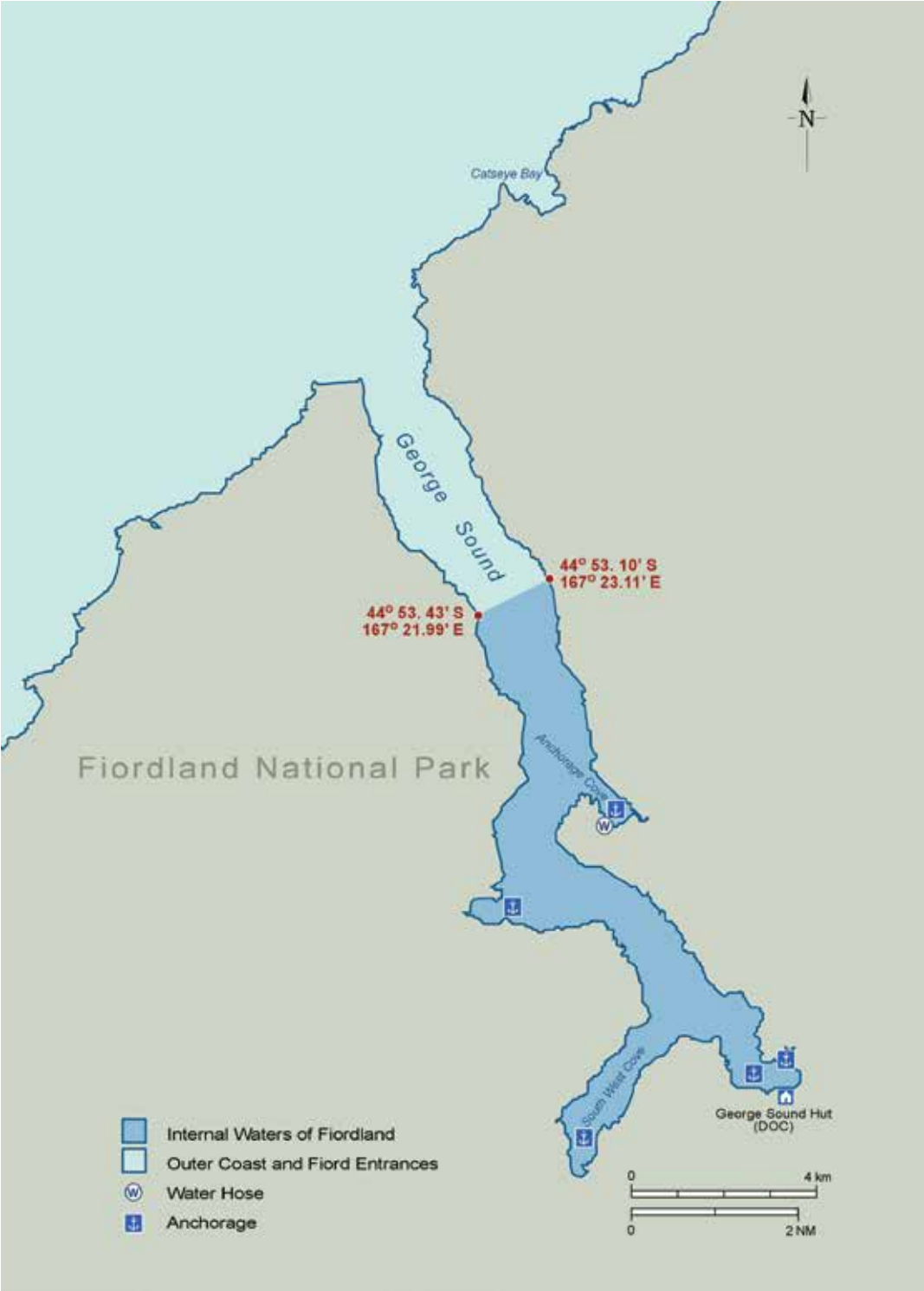
This is the best anchorage in Bligh Sound in strong conditions and heavy winds. However, be warned that in very rough conditions even this anchorage is not fully sheltered.

Navigation

The Clio Rocks are a navigational hazard. They lie between Turn Round Point and Evening Point on the southern side of Kelly's anchorage (see LINZ Chart 7623). When travelling from Bligh Sound to George Sound, keep in water deeper than 40 metres.



Jellyfish. STEVE WING



George Sound/Te Hou Hou

George Sound/Te Hou Hou



George Sound/Te Hou Hou.doc

George Sound was thought to have been named after mariner George Stevens from Riverton/ Aparima, who piloted the *Acheron* during its survey in 1857. It is possible it was named by John Grono after one of his New South Wales neighbours, George Hall (Hall-Jones, 1979).

The fiord’s Māori name is Te Hou Hou, meaning five finger tree.

This is one of the longer fiords, at 21.2 kilometres, and has two short arms at its head. The south-eastern arm has access to the George Sound track, which winds through to the north-west arm of the middle fiord of Lake Te Anau. George Sound is often the first stop after steaming south from Milford Sound/Piopiotahi, missing out Bligh Sound, as it has better anchorages and for many is a more interesting fiord.

Hut

The George Sound hut is situated at the head of the fiord. This Department of Conservation hut sleeps eight people.

Anchorages

Radio communication is available on Channel 66 for all the anchorages below.

Anchorage Cove



Anchorage Cove

This anchorage is suitable for moderate weather conditions. Caution should be used with heavy swells from a westerly and northerly direction, as large surges will be experienced in this anchorage.

There is a stern line from the eastern shore joined to another line coming from the island. Anchoring is not necessary. A water hose is attached to the stern line. The head of the bay is very shallow, so caution should be used when approaching the stern line. The stern line is not suitable for vessels of drafts more than 2 metres.

There is a general anchoring area in the middle of the bay for use in light winds.

Alice Falls



Alice Falls

This is an all-weather anchorage, and the best anchorage in George Sound in strong winds.

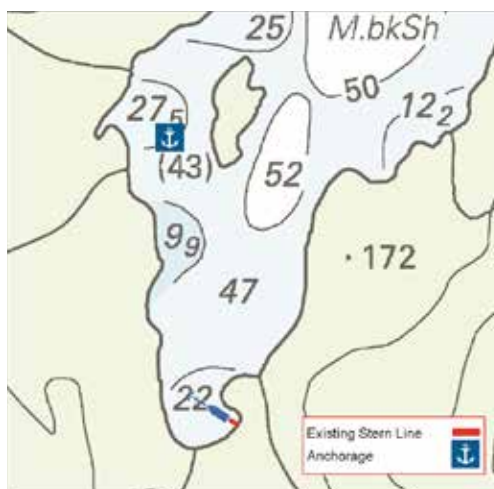
Caution should be used when anchoring here, especially during high rainfall, as the waterfall will push the vessel sideways while setting the anchor and retrieving the stern line. Be careful not to go too far back into the stern line as it shallows very rapidly.

While strong to violent winds can be experienced in this anchorage, as long as the anchor is of good quality and well set you will not be blown out.

Be aware of a rock at the head of the fiord that is marked on LINZ Chart 7623.

There is another anchorage that is suitable for light winds in the middle of the bay.

Southwest Arm



Southwest Arm

This is considered an all-weather anchorage; however, sea conditions will make this anchorage uncomfortable during high tide and strong winds. This is due to the loss of protection from the outlying breakwater (on the north-western tip of the anchorage), which is covered during high tide. Use of a stern line is essential.

Navigation

When travelling from George Sound to Caswell Sound, keep in water deeper than 40 metres to Looking Glass Bay. Keep in water deeper than 50 metres from Looking Glass Bay to Caswell Sound.



Tube worm. JONATHAN DAVIES



Caswell/Tai Te Timu and Charles/Taiporoporo Sounds

Caswell Sound/Tai Te Timu



Biscuit Star. STEVE WING

Caswell Sound is probably named after Lieutenant William Caswell. Caswell was another neighbour of John Grono from the Tanilba station in New South Wales (Hall-Jones, 1979). The Māori name for Caswell Sound is Tai Te Timu, which means the ebb tide.

There is evidence on the southern side of the fiord of an old marble works (Caswell Sound Marble Works) that ran between 1882 and 1887 (Department of Lands and Survey, 1986).

The fiord is 15.7 kilometres long and has high, steep sides reaching up to some spectacular peaks. The Shirley Falls drops 365 metres from Lake Shirley on the fiord's southern side.

Styles Island, at the entrance to the fiord, has an important breeding colony of Fiordland crested penguin (tawaki).

Hut

Caswell Sound hut is a two-bunk hut, and is located at the head of the fiord where the Stillwater River enters the fiord. From the hut there is a scenic track along the Stillwater River that leads up to Lake Marchant.

Anchorage

Radio communication is available on Channel 66 for all the anchorages below.

Head of fiord

This is a fair-weather anchorage. Be aware of the mud banks in the south-east corner, as they are not good for holding anchor.

Green Point



Greenpoint

This is the best anchorage in strong winds in Caswell Sound. Some sea may be experienced coming into the anchorage in strong winds. Use of a stern line is essential.

Navigation

There is a rock at the entrance to Caswell Sound on the northern side (see LINZ Chart 7623). In heavy weather (south-west roll), the swell can break off the fiord wall and back out seawards from the rock.

When travelling from Caswell Sound to Charles Sound, keep in water deeper than 45 metres.

A number of rocks are present in Juno Bay (shown on LINZ Chart 7624), at the entrance to Charles Sound from the north. These rocks can be just under the water and very hard to see at high water in calm weather. Do not attempt a passage from the north-west side of the bay to the open coast because of unmarked rocks.

Charles Sound/Taiporoporo



Splendid perch. STEVE WING

See map page 104.

Charles Sound was known to early sealers as Charley's, and is thought to be named after Charles McLaren who captained the sealing vessel *Sydney Cove* in 1810 (Hall-Jones, 1979). The Māori name for Charles Sound is Taiporoporo, which means 'sea plant'.

The fiord is 13.9 kilometres long and divides into two arms of equal length. Emelius Arm is fed by the Irene River and Gold Arm by the Windward River. When the tide is high it is possible to take a dinghy approximately 2–3 kilometres up the Irene River from its mouth. There are a number of small well-forested islands around the southern arm of the fiord.

Charles Sound is often the next stopping point from George Sound, as it has much better anchorages than those in Caswell Sound.

Kahukura (Charles Sound) Marine Reserve

This 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, broken rocky reef habitat, rock-wall and terraced rock-wall habitat.

Spectacular red and black corals are abundant, and on bright days with clear water, these can even be viewed from a boat.

The northern half of the marine reserve is a designated area for commercial rock lobster holding and temporary pot storage.



Red coral. KEN GRANGE

Anchorage

Radio communication is available on Channel 66 for all the anchorages below.

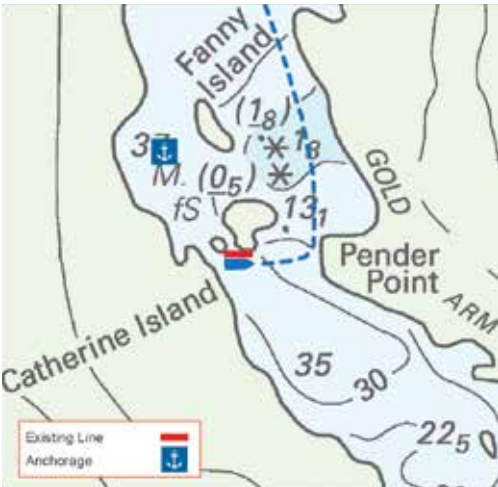
Eleanor Island



Eleanor Island

Not suitable in strong north-to-west conditions; tie alongside the rope going from the northern to the southern end of the cove.

Catherine Island, Gold Arm



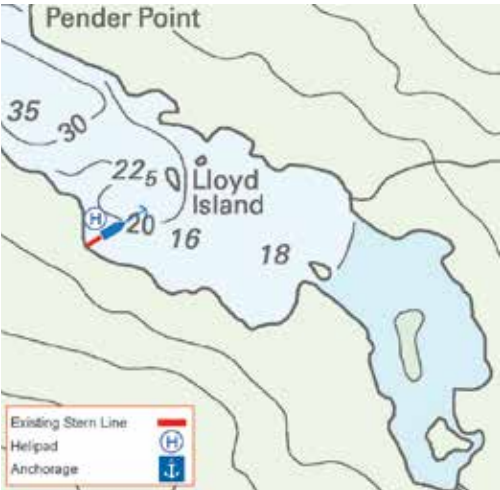
Catherine Island, Gold Arm

This is not suitable in strong easterly conditions; however, it is very good in strong westerly and northerly conditions. Tie alongside rope going from point to point, as shown on map.

Emelius Arm

For use in south-westerly and south-easterly conditions. Not suitable in northerly and westerly conditions.

Helipad Anchorage



Helipad Anchorage

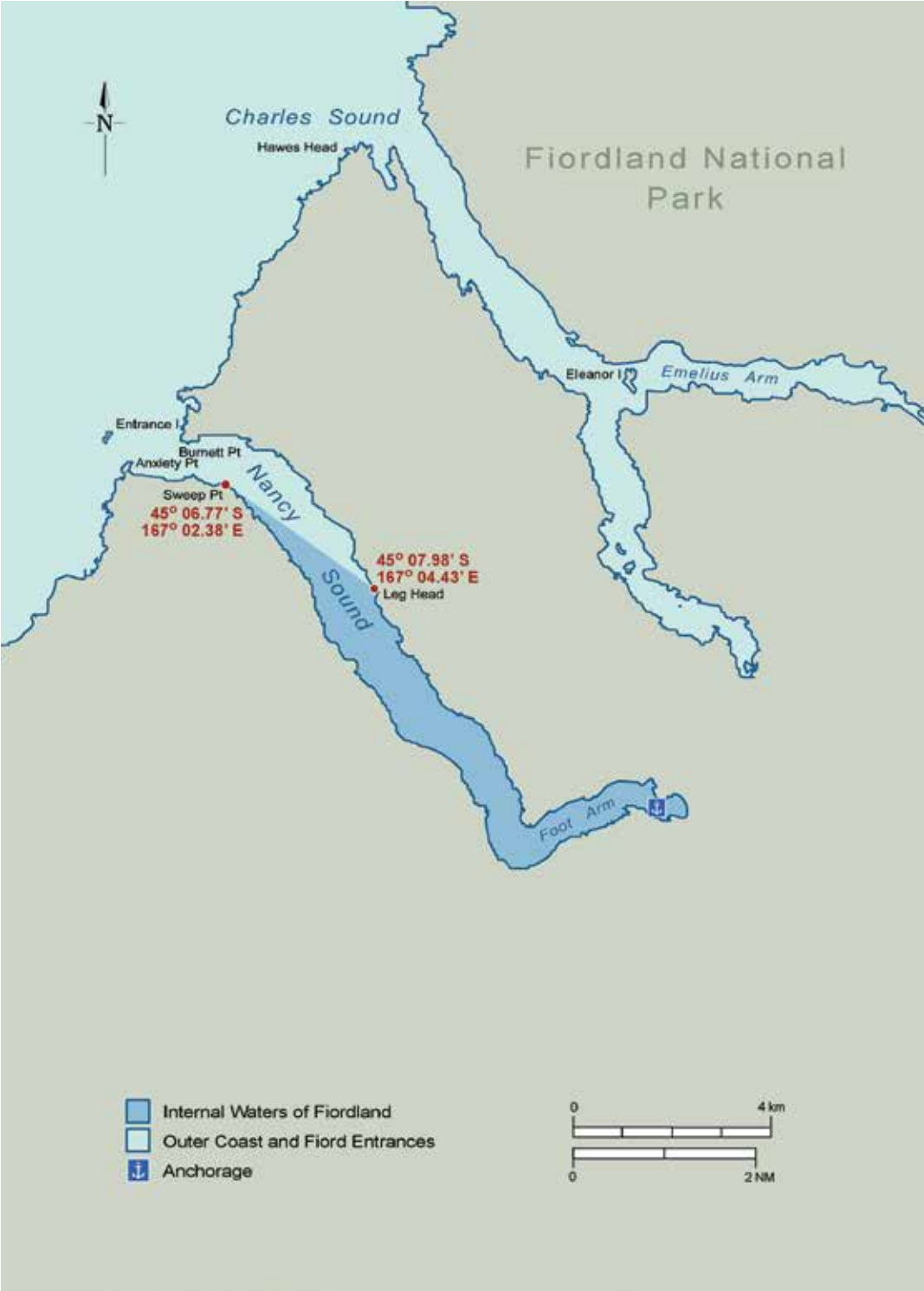
This is an all-weather anchorage. Tie to the stern lines provided and as long as the anchor is well set, this will provide shelter even in bad conditions.

The helipad must not be used as a mooring under any conditions.

Navigation

On approaching the Gold Arm anchorages, be aware of the sunken rocks on the starboard side when entering the channel beside Fanny and Catherine Islands (see Catherine Island anchorage map).

When travelling from Charles Sound to Nancy Sound, keep in water deeper than 45 metres.



Nancy Sound/Hine Nui

Nancy Sound/Hine Nui

This is another fiord named by the sealer John Grono, this time after one of his vessels, *The Nancy* (Hall-Jones, 1979). It is known to Māori as Hine Nui.

The fiord is 15.4 kilometres long and probably the next steepest fiord after Milford Sound/Piopiotahi. The fiord is shaped very much like a leg, hence the names of many of the places (Foot Arm, Toe Cove, and Heel Cove).

The mouth of this fiord is perched on the edge of the continental shelf; as a result, there is only a small sand sill.

The entrance to the fiord is narrow because of the nugget-like rocks across the entrance.

Anxiety Island and Entrance Island at the entrance to the fiord have colonies of New Zealand fur seal (kekeno) and are also home to the Fiordland skink.



Fiordland skink. boc

Anchorage

Toe Cove



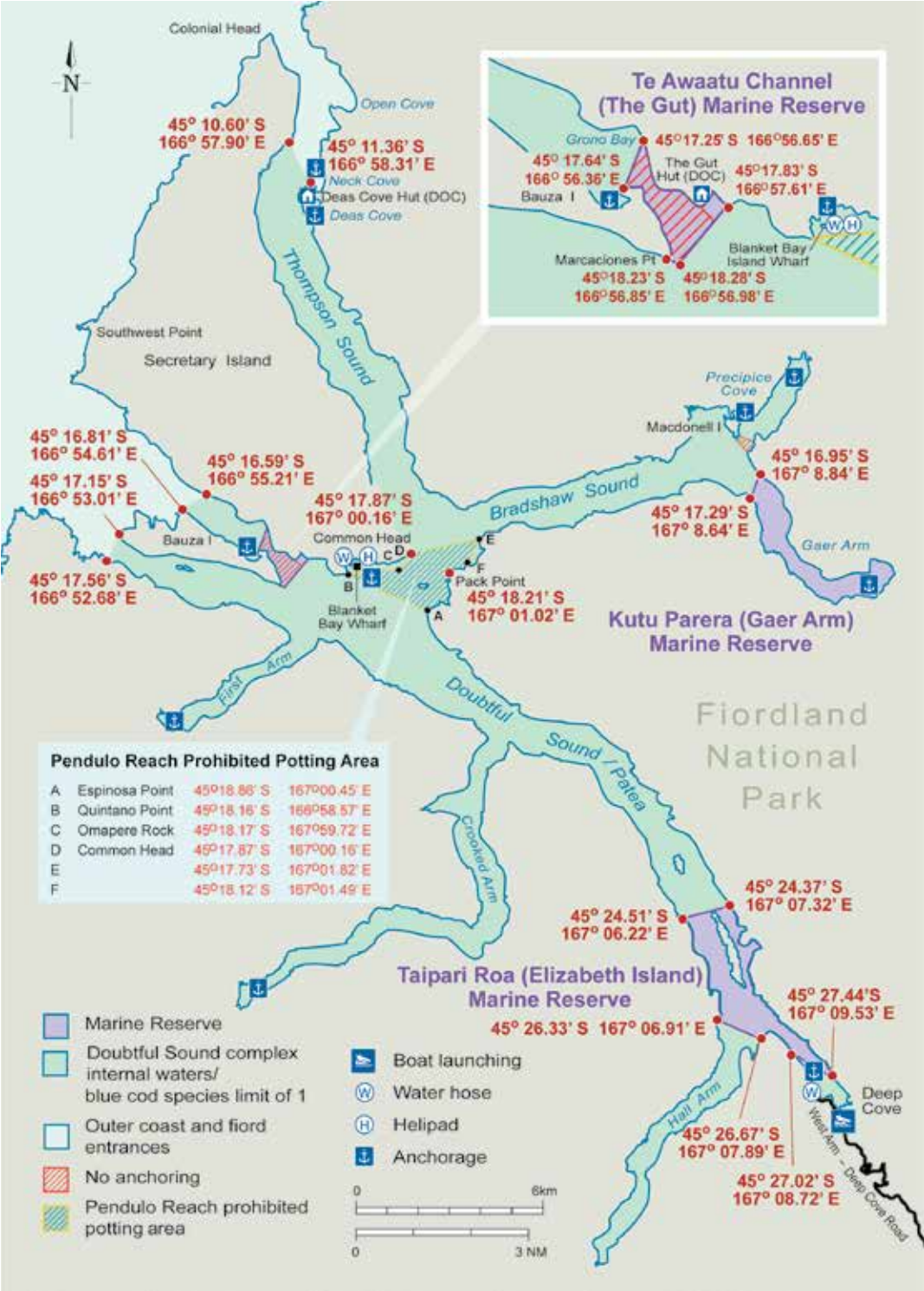
Toe Cove

This is an all-weather anchorage. However, during strong winds sea conditions may become uncomfortable and it is recommended that Charles Sound or Thompson Sound anchorages should be used.

Radio communication is available on Channel 66.

Navigation

When entering Nancy Sound from the northern side, give the sunken rocks shown on LINZ Chart 7624 a wide berth, especially in heavy sea conditions. When travelling from Nancy Sound to Thompson Sound, keep in water deeper than 40 metres.



Doubtful Sound/Patea

Doubtful Sound/Patea fiord complex

The Doubtful Sound fiord complex is made up of Thompson Sound/Te Moeanu, Bradshaw Sound/Kai Kiekie and the main reach of Doubtful Sound/Patea, which has three distinct arms – First Arm, Crooked Arm, and Hall Arm.

Captain Cook named this fiord Doubtful Harbour on his first voyage to Fiordland in 1770, because of the difficulty for ships to sail out of the fiord without an easterly wind (Hall-Jones, 1979). The Māori name for this fiord is Patea, the sound of silence.

The first groups of hardy trampers began traversing the 18 kilometre walking track over the Wilmot Pass from West Arm to Deep Cove in 1891. The opening of the Wilmot Pass road in 1965 (as part of the Manapouri tailrace hydro scheme) further increased tourism visitor numbers. Doubtful Sound/Patea is now the second most visited fiord in Fiordland.



A tourist party explores Doubtful Sound/Patea aboard the launch *Constance*. BIGWOOD, 1955. ARCHIVES NEW ZEALAND/TE RUA MAHARA O TE KAWANATANGA. F-30660–1/2: (AAQT 6401, A39828)

Sealer John Grono is responsible for naming Thompson Sound – after Andrew Thompson, the owner of Grono's vessel the *Governor Bligh* (Hall-Jones, 1979). The Māori name for this fiord is Te Moeanu.

Bradshaw Sound was named by Captain Stokes after R Bradshaw, who was the mate on the *Acheron* (Hall-Jones, 1979). The fiord is called Kai Kiekie by Māori, which translates to 'eat kiekie', a native climbing plant.

Doubtful Sound/Patea, at 40.4 kilometres, is the second longest fiord after Dusky Sound, and at 434 metres it is the deepest of all the fiords. A number of arms split off the main reach of the fiord creating a complex system that is fed by some large rivers. Like the Irene River in Charles Sound, the Camelot River in Bradshaw Sound can be negotiated by dinghy. It is possible to navigate about 4 kilometres up at high water.

Secretary Island is the large 8,100 hectare island at the seaward end of Doubtful Sound (splitting Doubtful and Thompson Sounds). Since 2005 the Department of Conservation has had an ambitious project to remove stoats and deer from the island, to restore it to its pre-European days. At the time of publication there are only a handful of stoats left and the deer have been removed. This island is unique in that it has never had rodents or possums on it and so it is very important you are aware of your biosecurity responsibilities when travelling near Secretary Island, especially if you go ashore to the Gut hut, for example (see the 'Biosecurity in Fiordland' section for more information, page 32).

Access to Doubtful Sound/Patea other than by boat is via Lake Manapouri and over the Wilmot Pass. Vehicles travelling across the Wilmot Pass are required to obtain a permit from the Department of Conservation in advance, or there are concession operators who can tow boats across the pass. A commercial bus service operates on this route between the West Arm of Lake Manapouri and Deep Cove in Doubtful Sound/Patea. Several commercial passenger boats operate out of Deep Cove, and there is also a boat launching ramp. The Deep Cove Hostel Trust runs an education programme catering for more than 1,000 school children each year, and also offers accommodation.

There is a resident pod of bottlenose dolphins in the fiord complex. Research on the population has found it to be very sensitive to disturbance and specific protection measures have been put in place. (See 'Boating around marine mammals' section, page 48, and Doubtful Sound bottlenose dolphin population, page 49).

Huts

There are two Department of Conservation huts in the Doubtful/Thompson Sound complex:

- the Deas Cove hut, which sleeps 10 people
- the Gut hut, which sleeps six people.

Anchorage

Neck Cove, Thompson Sound

This is a good anchorage for south-easterly winds. Keep to the north-eastern side when entering the cove to avoid the rocks on the south-western side of the bay, which are covered at high tide (see Deas Cove anchorage map).

Radio communication is available on Channel 66 with a good aerial.

Deas Cove, Thompson Sound



Deas Cove, Thompson Sound

In strong northerly and westerly conditions, gusts of wind will come from the western shore. This is not a suitable anchorage in south-easterly conditions (refer to Neck Cove). There is a line coming from the shore, which is attached to a mooring in the water on the eastern side. Tie to the attached floating line.

Radio communication is available on Channel 66 with a good aerial.

Head of Precipice Cove

This is an all-weather anchorage. Real Journeys has a mooring at the head of the cove that is used for overnight cruises.

Radio communication is available on Channel 66.

Macdonnell Island, Precipice Cove



Macdonnell Island, Precipice Cove

This is an all-weather anchorage. Tie alongside the line provided. However, with more than two vessels, use the line as a stern line, as shown on the map.

Radio communication is available on Channel 66 with a good aerial.

Gaer Arm

This is a good moderate-weather anchorage, and is probably one of the most scenic anchorages in all of the fiords. It is situated next to Camelot River and has fantastic views.

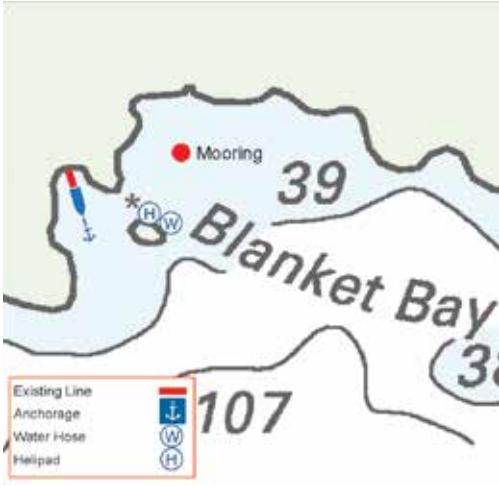
Radio communication is available on Channel 66.

Deep Cove

Contact the Deep Cove Hostel before berthing, to find out the best place to anchor/moor. Petrol, diesel and water are available here from the hostel manager.

When heading into Deep Cove, VHF Channel 10 should be used. Usually it is only possible to get radio communications with the Deep Cove Hostel (Channel 10) east of Elizabeth Island. There are no repeater communications in Deep Cove.

Blanket Bay, Secretary Island



Blanket Bay, Secretary Island

This is a good anchorage in westerly conditions, but is not suitable for strong north-easterly and south-easterly conditions. Note that there is a sunken rock, as shown on the map. Use the stern line or the mooring as shown on the map. There is a water hose available at the wharf on Blanket Bay Island, off Secretary Island. Leave ropes and the water hose as you found them. The wharf should not be used for berthing.

Radio communication is available on Channel 66.

Please note that Secretary Island is a predator-free island and has never had rodents present (see 'Island biosecurity in Fiordland' section, page 40). Please take care when travelling on and around this island and be aware of what you are taking ashore.

Haulashore Cove, Crooked Arm

This is a reasonable fair-weather anchorage. From the head of the arm a track leads to Dagg Sound (50-minute walk).

Note that there are no radio repeater communications.

Snug Cove, First Arm

This is a good fair-weather anchorage at the head of the arm. It is not suitable in fresh to strong northerly conditions. Keep to the middle of the fiord to avoid the shallow areas on either side of the anchorage.

Radio communication is available on Channel 66.

The Gut



The Gut

This is only suitable in easterly and light south-westerly conditions.

Navigation

Particular care is needed, especially by small craft, near the outlet for the Manapouri Power Scheme freshwater discharge. In this area around Deep Cove, the current may vary at any time.

Thompson Sound to Doubtful Sound/Patea – when steaming (moving) on the outer coast there is an area of shallow water between South West Point and Rocky Point off the coast of Secretary Island. In rough weather it is advisable to stay two nautical miles offshore, as many areas will break a long way from the coast.

When travelling from Doubtful Sound/Patea to Dagg Sound, keep in water deeper than 40 metres.



Looking north along the outer coast from Secretary Island. GRANT HARPER



The cruise ship *Sapphire Princess* in Thompson Sound/Te Moeanu. CHRIS BIRMINGHAM

Te Awaatu Channel (The Gut) Marine Reserve

Te Awaatu or Te Awa-O-Tū is 'the channel of Tū'. The Māori ancestor Tū Te Rakiwhānoa carved out the fiords with his magical adze Te Hamo.

The reserve is much shallower than the surrounding deep-water basin habitats, which are the deepest in Fiordland, reaching depths of about 434 metres. There are significant rock-wall and deep-reef habitats, and the reserve is known for sea pens and other suspension feeders, including red and black corals, zooanthids, and brachiopods (lampshells).



Sea pens. KEN GRANGE

The unique nature of the ecosystem at The Gut, combined with the marine reserve protection that has been in place since 1993, means that rock lobsters are found here in greater numbers and sizes than in other areas of the Doubtful complex.

Te Awaatu Channel (The Gut) – no-anchoring area

This no-anchoring area encompasses most of the Te Awaatu Channel Marine Reserve; however, outside The Gut hut there is an area for anchoring small boats when using this facility. Please be aware of your biosecurity responsibilities when mooring here or using the hut on Secretary Island.

Please note that this is not a good anchorage for larger vessels and should be avoided by these vessels.

Pendulo Reach benthic habitat protection

Since 2013, amateur fishing regulations have prohibited the use of rock lobster pots and holding pots within the internal waters area of Pendulo Reach (the passage and waters around Seymour Island), to protect this sensitive and fragile biodiversity-rich area. There is also a clause in the Deed of Agreement for Cruise Ships (with Environment Southland) that prohibits anchoring in the area.

If you are visiting Doubtful Sound/Patea, please make sure that you familiarise yourself with this area and rules to help protect this china shop.



Pendulo Reach (Doubtful Sound/Patea) pot prohibition area (red). MPI

It wasn't until 2011 that the special characteristics of this area were realised. A project funded by Environment Southland using NIWA side-scan sonar and a remote-operated vehicle to map and video the fiord floor made a spectacular discovery in the area surrounding Seymour Island, Doubtful Sound/Patea.

Underwater video footage revealed the old glacier sill that links Secretary Island to the mainland (in some places less than 50 metres deep) contained many sensitive, rare and

fragile species. These include large areas of coral fans, rare and protected red corals, sponges and delicate sea pens. Black coral colonies over two metres tall provide shelter to rock lobsters, and attract dense schools of butterfly perch.

The Guardians and the agencies considered the most likely threats before advocating for protection measures to mitigate any bottom damage. The greatest threats identified were cruise ship anchors and heavy anchor chains being dragged across the bottom, and the adverse impact of heavy rock lobster pots and holding pots.

Kutu Parera (Gaer Arm) Marine Reserve

This reserve includes a large estuary at the entrance of the Camelot River. The eastern side of the reserve contains extensive rock-wall habitats, with some vertical drops of 60 metres. These rock walls are home to many anemones and other colourful sessile suspension feeders.



Anemone. KEN GRANGE

The western side of Gaer Arm has more broken rocky-reef habitats, with underwater boulders and one large river outflow. Cockle and pipi beds in the estuarine habitats 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 are a common source of food for fish such as proper and tarakihi.

Tapari Roa (Elizabeth Island) Marine Reserve

This reserve contains extensive rock-wall habitats 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 that experiences high water flow and contains a range of suspension feeders including black and red coral and zooanthids. The reserve is home to a unique assemblage of bright yellow glass sponges that are only known to occur in one other place worldwide, in caves in Jamaica.



Yellow zooanthid. STEVE WING

Monitoring of the area since the construction of the Manapouri hydroelectric power scheme suggests there have been some major changes in marine communities in Doubtful Sound/Patea as a result, including effects on black corals around Elizabeth Island.

Precipice Cove China Shop – no-anchoring area

This china shop area is associated with the sill at the entrance to Precipice Cove in Bradshaw Sound, which creates a fiord within a fiord. The diverse wall community associated with the sill is of special significance.



Wandering anemone. STEVE WING



Dagg Sound/Te Ra

Dagg Sound/Te Ra



Dagg Sound/Te Ra.doc

Dagg Sound is named after Captain William Dagg of the *Scorpion*, who collected over 4,500 seal skins from the area in 1804 (Hall-Jones, 1979). Its Māori name, Te Ra, means ‘the sun’.

Dagg Sound is a narrow, long (13.3 kilometres) fiord. The head of the fiord ends only one kilometre across land from the head of Crooked Arm in Doubtful Sound/Patea (there is a 50-minute track walk between the two arms). Dagg Sound has one prominent arm to the north called Anchorage Arm.

Wonderful underwater scenery and marine growth make for good diving in Dagg Sound. The outside of the fiord entrance is also known for the presence of whales, which are regularly seen off the northern entrance to the fiord. This is due to the close proximity of the continental shelf where water drops away to thousands of metres deep.

Anchorage

Anchorage Cove

This is a reasonable moderate-weather anchorage at the head of the cove, which is not suitable in strong southerly conditions.

No repeater communications are available.

Head of Dagg Sound

There is a good all-weather anchorage at the head of the fiord. Drop anchor in 10 to 15 metres.

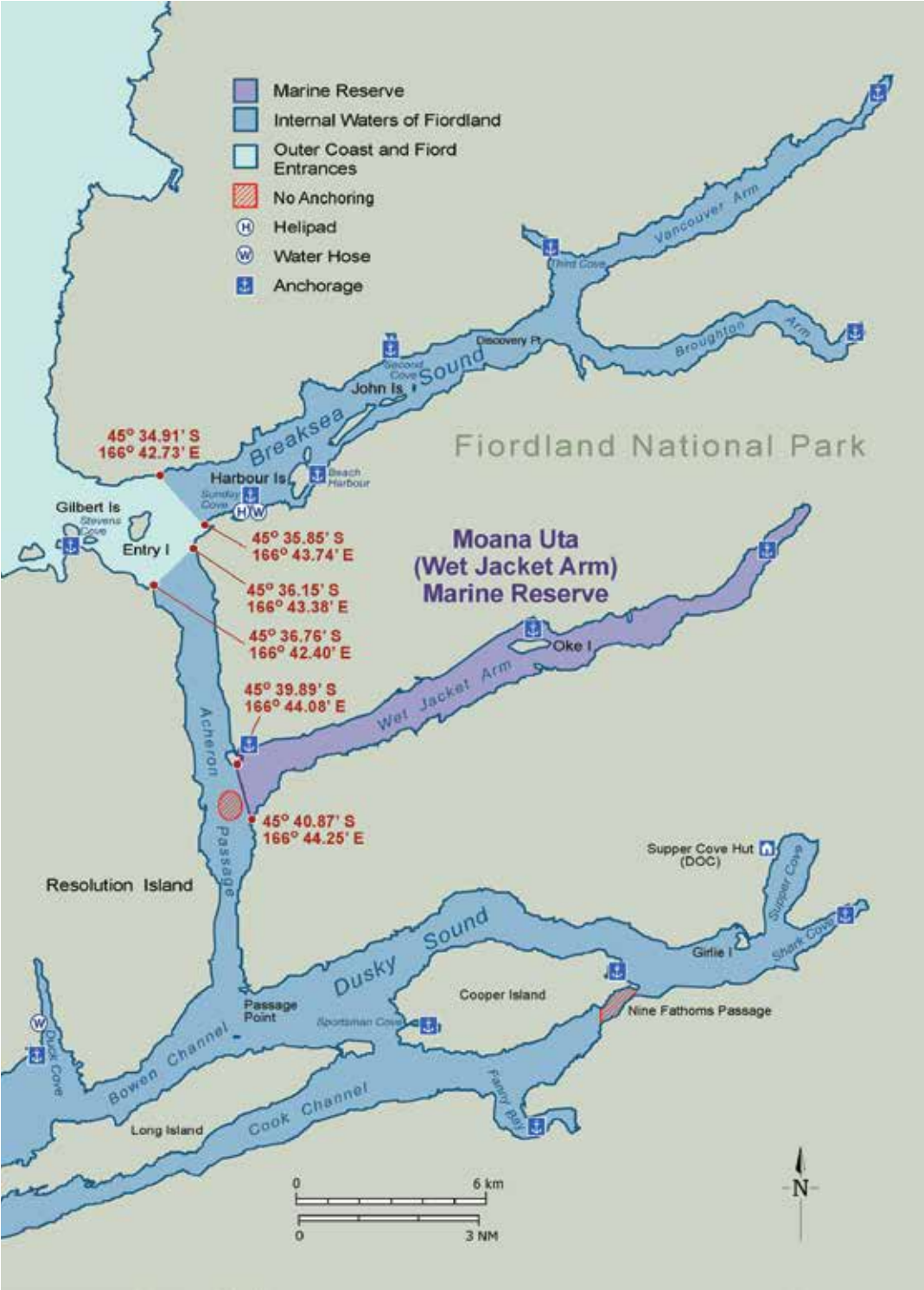
Radio communication is available on Channel 66.

Navigation

There is a shallow rock on the northern side of the fiord halfway between the entrance and Otago Point (see LINZ Chart 7624) that will break regularly.

When travelling from Dagg Sound to Breaksea Sound, keep in water deeper than 45 metres.

Be careful of the shallow area at the entrance to Breaksea Sound south of Rocky Point (see LINZ Chart 7653 marked 64). In a heavy north-west roll this area will break.



Breaksea and Dusky Sounds

Breaksea Sound/Te Puaitaha and Dusky Sound/Tamatea complex

Like the Doubtful Sound complex, the Breaksea Sound/Dusky Sound complex is a combination of interconnected fiords. It is made up of Breaksea Sound/Te Puaitaha, Wet Jacket Arm, the Acheron Passage, and Dusky Sound/Tamatea.

Dusky Sound is the biggest fiord complex in Fiordland, covering almost 30,000 hectares.

Like Doubtful Sound/Patea to the north, there is a population of bottlenose dolphins that is believed to be resident in the complex, so please be aware of your responsibilities when travelling around the area.

There are also a number of islands in the area that are internationally important for conservation. Anchor, Breaksea and Pigeon Islands (along with numerous other smaller islands) are predator-free and home to endangered species, including the critically endangered kākāpō.

Resolution Island, which is Fiordland's biggest island (20,860 hectares), is one of the DOC's most ambitious projects for stoat and deer eradication. It was the first area in New Zealand to be set aside as a reserve (in 1894), and was managed by Richard Henry. Henry had noticed the damage that introduced predators were having on native bird species and transferred a number of birds to Resolution Island to protect them. The remains of Henry's camp are still visible today on Pigeon Island, which is southwest of Resolution Island.

Resolution Island and all of the other small islands in Dusky are unique for the level of pests present on them. It is very important when travelling in the vicinity that you are aware of your biosecurity responsibilities (see the 'Biosecurity in Fiordland' section, page 32).



Porcupine fish. STEVE WING

Breaksea Sound/Te Puaitaha



Breaksea Sound/Te Puaitaha. ANDRIS APSE

Breaksea Sound, also known as Puaitaha, is named after Breaksea Island, which is at the entrance to the fiord. It was named by Captain John Stokes during his survey in *HMS Acheron*.

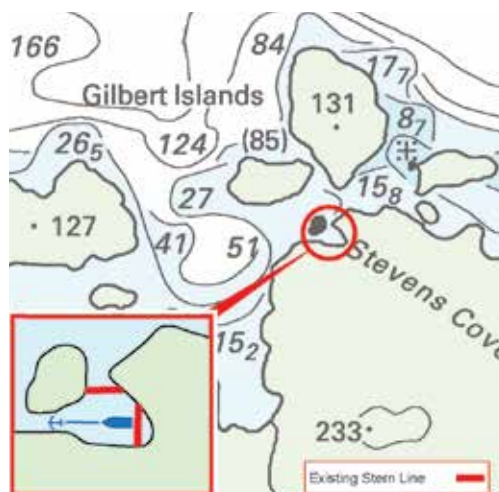
The fiord was previously labelled by Captain Cook as 'Nobody knows what' because he didn't have time to explore the arms and find if they connected to Doubtful Sound/Patea. In 1791 Captain George Vancouver completed Cook's previous exploration and named it 'Somebody knows what' (Hall-Jones, 1979). Vancouver Arm was later named in honour of George Vancouver.

Breaksea Sound is 33 kilometres long and splits into two arms at its head (Vancouver Arm and Broughton Arm), which are similar in appearance to the more northerly fiords. There are many densely forested islands spread throughout the whole of Breaksea Sound, making it another very beautiful place.

There is good evidence of early Māori visitation in the heads of Breaksea Sound, where many rock shelters can be found.

Anchorage

Stevens Cove

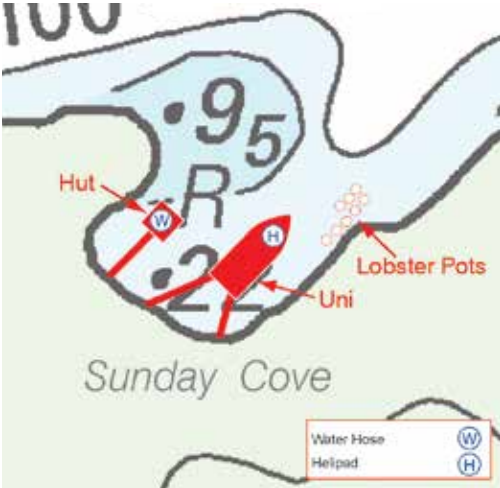


Stevens Cove

This is a fair-weather anchorage with a stern line. It is not suitable in strong south-westerly conditions, or in westerly or northerly conditions.

No radio repeater communications are available.

Sunday Cove



Sunday Cove

This is a good anchorage in most conditions; however, it is unsuitable in very strong conditions from the north-west and north. Ocean roll will be felt in this anchorage. Water is available from the floating hut.

The barge *Uni* is moored here, and is commonly used to tie alongside. There is also a helipad on the *Uni*. This is used to transport lobsters from commercial holding pots, which are regularly placed on the starboard front side of the *Uni*. Caution should be used when manoeuvring in this area.

Radio communication is available on Channel 66.

Undaria in Sunday Cove

Sunday Cove, and surrounds, is currently the site of biosecurity eradication for the Asian seaweed *Undaria*. Help stop the spread of *Undaria* by not removing shellfish and kina from Breaksea Sound. Please do not store fishing gear such as pots in this area. Obey all signage in the area. Refer to page 35 of this guide for more information.

IMPORTANT!

A Controlled Area notice is in place for Breaksea Sound to reduce the spread of *Undaria*. For more information see Environment Southland's fact sheet on their website or call Environment Southland 0800 76 88 45.

Second Cove



Second Cove

This is a reasonable all-weather anchorage; however, in strong winds use of a stern line is required. Be aware of the rocks on the western side while entering the cove.

Radio repeater communication is available on Channel 66.

Third Cove

This is a good all-weather anchorage except in very strong northerly winds. Drop anchor at head of cove; a stern line not required.

Navigation

Towards the head of Vancouver Arm there is a shallow estuarine sill from a river off the northern side, which must be avoided. Stick to the southern side heading to the top of the arm as the shallow sill comes two-thirds of the way across.

The Acheron Passage and Wet Jacket Arm



Wet Jacket Arm. ANDRIS APSE

The Acheron Passage is named after John Stokes' boat *HMS Acheron*, while Wet Jacket Arm is named for one of Captain Cook's lieutenants, Richard Pickersgill, who was caught in a fierce downpour there (Hall-Jones, 1979).

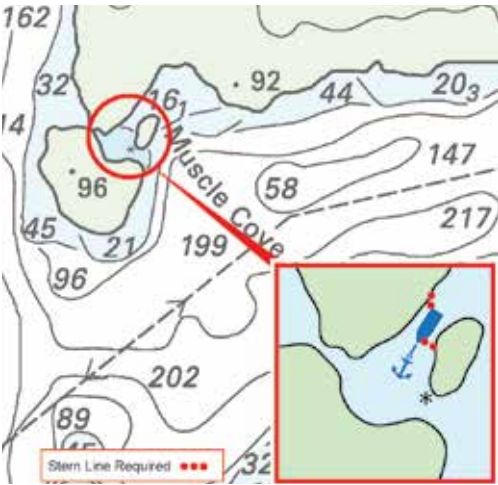
Wet Jacket Arm is approximately 20 kilometres long, heading inland from about halfway along the Acheron Passage. The Acheron Passage is around 15 kilometres long and connects Breaksea Sound in the north to Dusky Sound in the south. The passage is very narrow and is bordered on the western side by Resolution Island.

Moana Uta (Wet Jacket Arm) Marine Reserve

This reserve includes significant expanses of rock-wall, broken rocky reef, deep-basin and estuarine habitats. Sub-tidal 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 other suspension feeders. The environment around Moana Uta produces the highest known density of black coral of any site in the fiords.

Anchorage

Muscle Cove



Muscle Cove

This is an all-weather anchorage. When approaching from the southern side of Stick Island, keep to port as there are rocks on the south-west corner of the island.

Oke Island

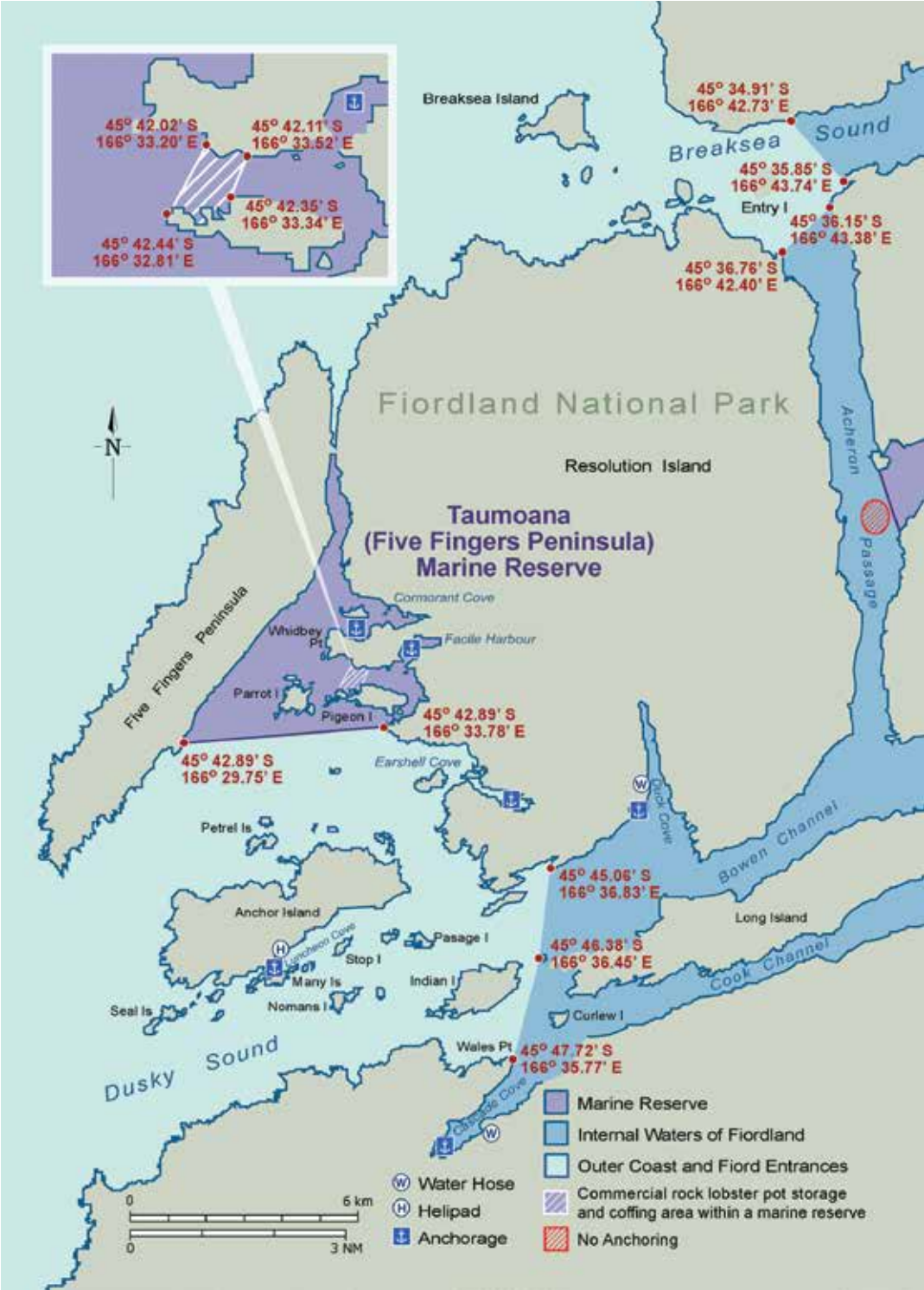
This is a good fair-weather anchorage between the island and the mainland.

The Acheron Passage/Wet Jacket Arm china shop - no-anchoring area

At the intersection of the Acheron Passage and Wet Jacket Arm there is a no-anchoring area, which is shown in red on the fiord map on page 126. This contains many very delicate invertebrate species such as lace coral and other bryozoan species that can be easily damaged.



White lampshell. STEVE WING



Dusky Sound/Tamatea including Bowen and Cook Channels

Dusky Sound/Tamatea



Anchor Island/Pukeni. ANDRIS APSE

See also *Breaksea Sound map*, page 120.

Dusky Sound was named by Captain Cook during his first visit to Fiordland in 1770, as it was getting dark when he sailed past (Department of Lands & Survey, 1986). The Māori name for Dusky Sound is Tamatea after the great Māori explorer who travelled through the fiords.

Dusky Sound is Fiordland's longest, most extensive, and possibly most picturesque fiord, penetrating 43.9 kilometres inland. It is dotted with many islands inside its wide entrance.

Anchor Island, in the middle of the fiord's mouth, is one of two islands where some of the last kākāpō reside, along with yellowhead (mohua), saddleback (tīeke), parakeet (kākārīki), and a host of other native birds. There is an interesting walk on Anchor Island, which heads through this pest-free reserve and up to a large lake that almost cuts the island in half. Please be aware of the quarantine requirements before you set foot on or moor alongside Anchor Island (see 'Island biosecurity in Fiordland' section, page 40). Take care when going ashore on Resolution Island, Indian Island, and many other small islands throughout Dusky Sound.

Dusky Sound is steeped in history. New Zealand's first European house and wooden ship were constructed at Luncheon Cove on Anchor Island by an 11-man party from the sealer *Britannia*, who were dropped off in November 1792 and lived on Anchor Island for 10 months.

There are many wrecks around the fiord, the most famous being the 800-tonne *Endeavour*, which sank off Facile Harbour in 1795, and the 3,071-tonne steamer *Waikare*, which sank off Stop Island in 1910 during a summer cruise, although nowadays little remains of either.

Pickersgill Harbour in Dusky Sound is where Captain Cook moored for six weeks in 1773 to chart the transit of Venus at what is now named Astronomer's Point. His men lived there, repaired the ship, brewed Rimu beer, and described many of the native species found. There is a short walk around the point where it is possible to see the site.

Hut

The head of Dusky Sound is also the location of the final Department of Conservation hut on the Dusky Track. The hut, which sleeps 12 people, overlooks the fiord at Supper Cove.

Taumoana (Five Fingers Peninsula) Marine Reserve

Taumoana (Five Fingers Peninsula) Marine Reserve contains some of the only wave-exposed, rocky-reef habitats that are fully protected in the Fiordland marine reserve network. These rocky reefs contain a high diversity of fish and kelp species at a much higher density compared to the inner fiord habitats. The area used to be a major pāua and rock lobster fishery before the reserve was created, and it supports good numbers of both.

Exposure to the south-west means that ocean swells come into Dusky Sound, 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 habitats around Five Fingers Peninsula, Cormorant Cove and Facile Harbour.

A part of the reserve, north of Pigeon Island, is a designated area for commercial rock lobster holding and pot storage.



Parrot Island with views into Taumoana (Five Fingers Peninsula) Marine Reserve. ANDRIS APSE



Rock lobster pack. STEVE WING

Anchorage

Supper Cove

This is a fair-weather anchorage and should not be used in strong winds.

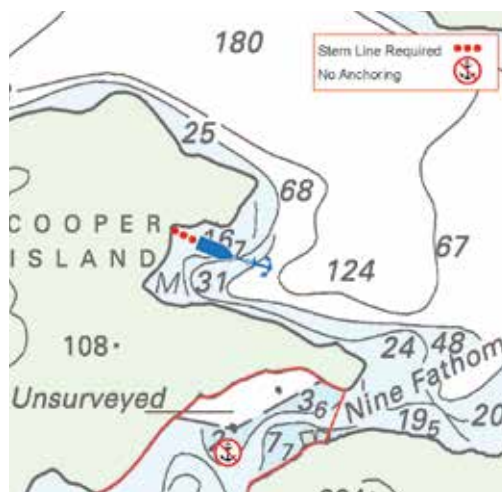
No radio repeater communication is available.

Shark Cove

This is a fair-weather anchorage. It is not recommended in strong south-westerly conditions (see Eastern Cooper Island).

No radio repeater communication is available.

Eastern Cooper Island



Eastern Cooper Island

This is a good south-westerly and westerly anchorage. Use stern line as shown on map. Please be aware that the vessel *Georgina* is usually moored here, and so it is necessary to steer clear when anchoring (there is still plenty of room).

No radio repeater communication is available.



Anchorage areas in Luncheon Cove, Dusky Sound/Tamatea.

Nine Fathom Passage, Cooper Island China Shop – **no-anchoring area**

Where the passage narrows, high currents foster dense colonies of particularly large bryozoans, black corals and red corals. These brittle species are protected by the no-anchoring zone.

Fanny Bay

This is a moderate-weather anchorage only.

No radio repeater communication is available.

Sportsman Cove

This is a fair-weather anchorage only and should not be used in any strong winds. The entrance is very narrow but is clear of rocks. Anchor in the middle of the cove.

No radio repeater communication is available, but it is possible to receive Channel 01 with a good VHF aerial.

Inner Luncheon Cove

This is a good all-weather anchorage and is known for its lack of sandflies. However, it can be very gusty in strong northerly conditions. Use a stern line on the south-eastern shore in conjunction with the breast line that is attached to the stern line, and anchor as shown on the map. Caution should be taken on the approaches to Luncheon Cove because of numerous rocks, most of which are submerged (use the map for guidance).

No radio repeater communication is available.

Outer Luncheon Cove

This is a good fair-weather anchorage and is known for its lack of sandflies. Anchor where shown on the map.

Duck Cove



Duck Cove

There is a fair-weather anchorage in the middle of Duck Cove. Be aware of the large area of mud flat that protrudes out into the cove. There is another moderate-weather anchorage at the entrance to Duck Cove on the south-western side, as shown on the map. Use of a stern line is essential. There is a water hose halfway along the southern wall of the cove.

The entrance to the cove has repeater communication on Channel 01.

Cormorant Cove

This is a moderate-weather anchorage and should not be used in any fresh to strong northerly conditions.

It is possible to get radio repeater communication here on Channel 01 in good conditions and with a good aerial.

Facile Harbour

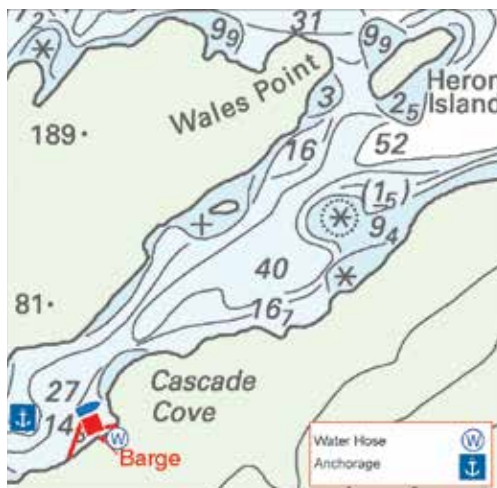
This is a fair-weather anchorage only. Caution should be used when entering the harbour as there is a rock on the port-hand side and it is extremely shallow on the starboard side.

Earshell Cove

This is a fair-weather anchorage and the bay should only be entered during daylight hours, through the channel either side of the island at the entrance. It is very narrow but has sufficient depth for safe navigation.

No radio repeater communication is available.

Cascade Cove



Cascade Cove

This is an all-weather anchorage. Stay alongside the barge as shown on the map. There is a water hose available on the barge. Be aware of the rocks (as shown on the map) as you enter Cascade Cove.

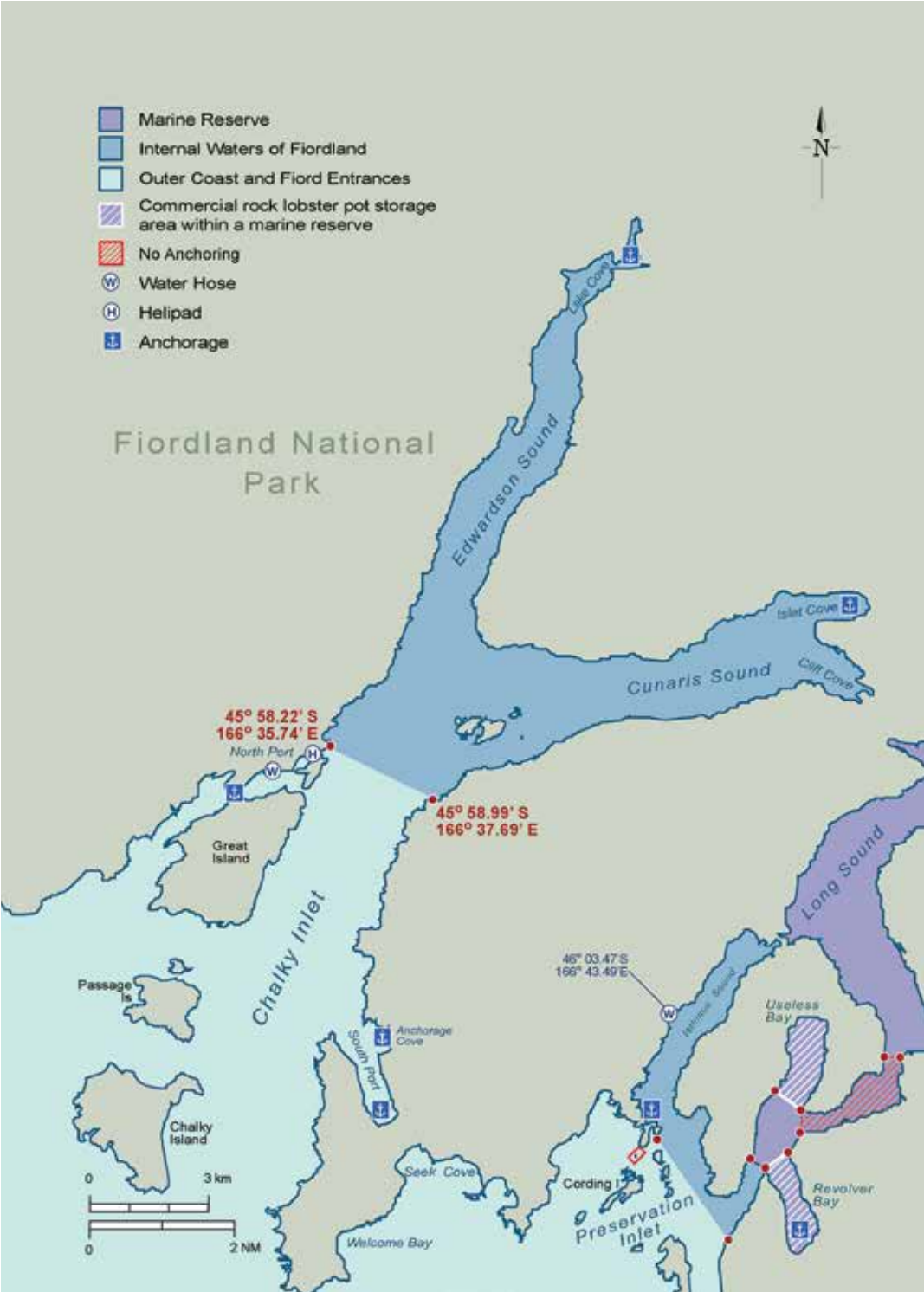
Navigation

It is very important to have the most up-to-date chart, as there are a multitude of rocks and hazards throughout the Breaksea Sound/Dusky Sound complex.

When travelling from Dusky Sound to Chalky Inlet, keep in water deeper than 45 metres.



Crinoid/Featherstar. STEVE WING



Chalky Inlet/Taiari

Chalky Inlet/Taiari



Chalky Island/Te Kakahu-o-Tamatea. ANDRIS APSE

Chalky Inlet is one of the most exposed fiords in Fiordland, as it faces to the southwest. It is dominated at the entrance by the striking white cliffs of Chalky Island, which give the fiord its name. Chalky Island is also known as Te Kakahu-o-Tamatea, meaning ‘the cloak of the great Māori explorer chief Tamatea’ (Hall-Jones, 1979).

Chalky Inlet has a very wide, exposed double seaward entrance of 7–8 kilometres, divided by Chalky Island, which lies in the middle of the entrance. The expansive fiord stretches 15 kilometres inland until it splits into Edwardson Sound and Cunaris Sound, both of which are roughly 12 kilometres long. Chalky Inlet is a substantial body of water of over 60 square kilometres.

The area has a rich Māori and European history. Māori occupied many sea caves and frequented nohoanga (campsites) during their seasonal visits to the fiords. European settlers started a number of short-lived industries in the area, beginning with sealing and whaling, followed in the 1890s by a fish-freezing depot and sawmill.

The exposure to the open ocean creates a lot more outer coast habitat in the fiord, which is dominated by significant quantities of seaweed, especially bladder kelp (*Macrocystis pyrifera*). The kelp species in turn supports large kina populations, as well as fish and shellfish.



Kina. STEVE WING

Anchorage

Radio communication is available on Channel 01 for all the anchorages below.

North Port



North Port

The two main anchorages in North Port are to be approached only through Ship Entrance, which is between Little Island and Great Island, and not through Blind Passage, which is very shallow. The good all-weather anchorage is on the northern and south-western side of Little Island and can be approached from either side with caution. Anchor and use the stern lines as indicated on the map.

The second anchorage is towards Mosquito Point, and is a good anchorage except in strong winds. Water is available from a waterfall in a little bay on the northern side of this anchorage, where a black hose will be found floating in the water.

Anchorage Cove, South Port



Anchorage Cove, South Port

This is a fair-weather anchorage only and is not suitable in north to north-west conditions. Caution should be used when entering South Port as there is a shallow area adjacent to Anchorage Cove (indicated on the map).

Lake Cove

This is a good all-weather anchorage.

Islet Cove

This is a fair-weather anchorage.

Navigation

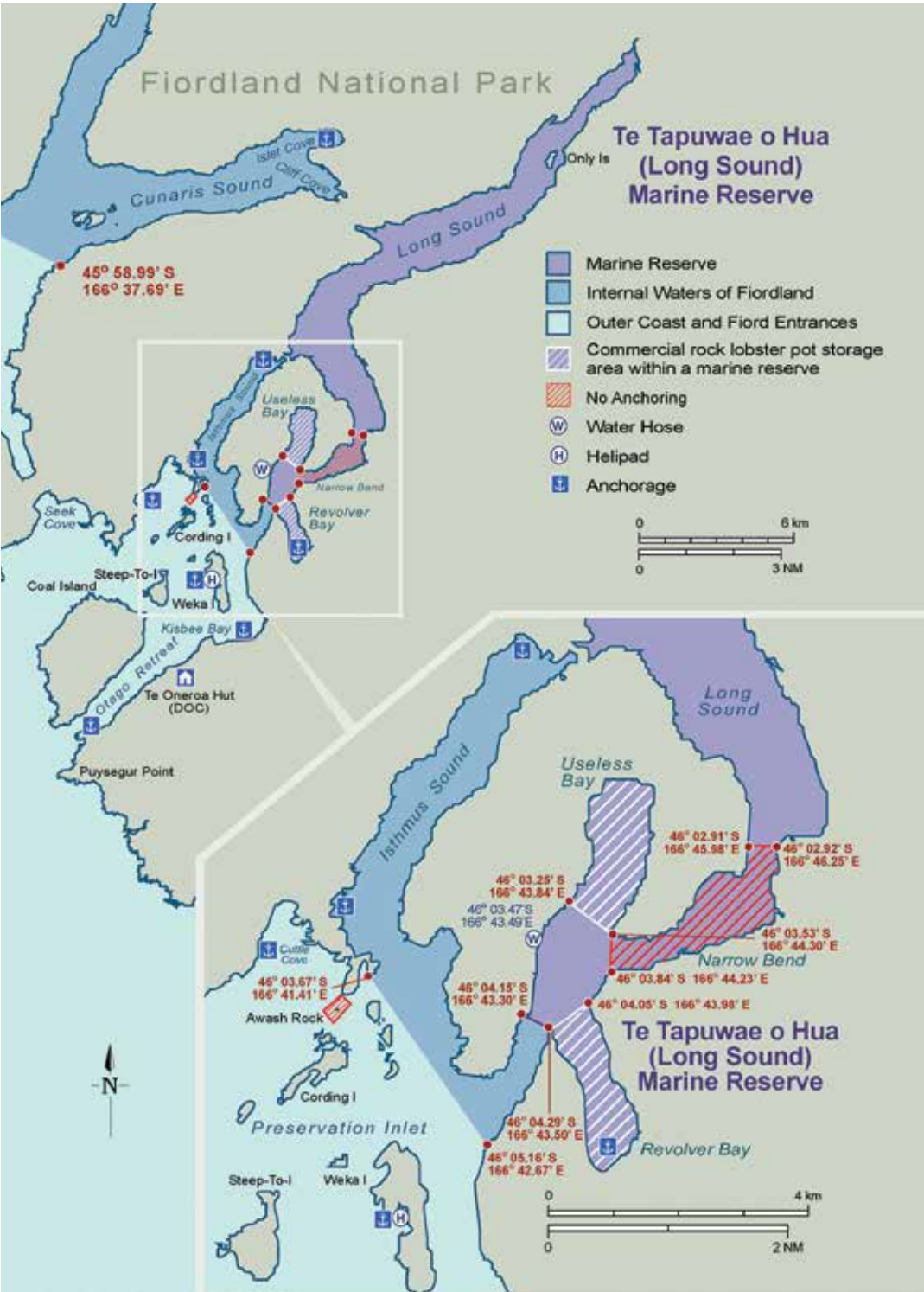
It is very important to have the most up-to-date chart for Chalky Inlet, as there are a multitude of rocks and hazards throughout, making navigation difficult at times.

There is a shallow area in Western Passage that can break in heavy swells. The entrance to Chalky Inlet can be a dangerous place in large west or south-west swells, so take extra care in these conditions.

When travelling from Chalky Inlet to Preservation Inlet, use Broke Adrift passage. This passage is relatively safe unless there is very heavy weather.



Telescope fish. VINCENT ZINTZEN



Preservation Inlet showing Te Tapuwae o Hua (Long Sound) Marine Reserve

Preservation Inlet/Rakituma



Preservation Inlet/Rakituma. ERIN GREEN

Preservation Inlet was initially named by Europeans as Preservation Harbour, and then Port Preservation. The Māori name for this area, Rakituma, means ‘the threatening sky’ (Hall-Jones, 1979).

Preservation Inlet is the southernmost of the fiords, extending 36 kilometres into the heart of southern Fiordland. It starts off wide and open and contains a number of islands, coves and small bays. The expansive and aptly named Long Sound begins at Narrow Bend.

As with Chalky Inlet to the west, Preservation Inlet has a host of historical sites and past industries. During the latter part of the 19th century there was a thriving town in Preservation Inlet, which is amazing when you consider the isolation of the area.

There is plenty of evidence of gold mining, with quartz gold-stamping batteries, various mines, a smelter, sawmills and bush tramways. Mining sites date from the 1890s through to 1913 when the last mine closed. There were even two small towns that sprang up at Cromarty and Te Oneroa to service the gold miners and to ship out sawn timber; the remains are now largely reclaimed by the forest.

There is a very interesting, usually windswept, walk out to the lighthouse on Puysegur Point, where the area’s first lighthouse was built. It was first lit in 1879.

Hut

There is one Department of Conservation hut in Preservation Inlet. The Te Oneroa A-frame hut is a basic bivvy that has two bunks. Kisbee Lodge, a private lodge, is situated in the former Cromarty settlement at Kisbee Bay.

Te Tapuwae o Hua (Long Sound) Marine Reserve

The reserve includes the main Long Sound basin, the Narrows, and Revolver and Useless Bays. Long Sound (along with Sutherland Sound) is the most physically isolated basin in the Fiordland system, with a very narrow entrance and shallow sill at the Narrows, which inhibits the exchange of deep water from the open coast. This physical structure means that all of the areas within the reserve are sheltered from ocean swells and contain a constant and thick freshwater layer.



Tidal mudflats at the head of Long Sound. ANDRIS APSE

Research has shown that the rock-wall habitats in Long Sound contain unique suspension feeder communities, and species like the 11-armed starfish, whose genes are different to those elsewhere in the fiords. The Narrows contains the very delicate and internationally revered 'strawberry fields'. This is an area with large congregations of a 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.

Two parts of Te Tapuwae o Hua (Long Sound) Marine Reserve, Revolver Bay and Useless Bay, are designated areas for commercial rock lobster holding and temporary pot storage.



Eleven-armed starfish. KEN GRANGE

The Narrows China Shop – no-anchoring area

All anchoring is prohibited in the Narrows (Narrow Bend), from Adam Head to Sandy Point, to protect fragile marine life. An abundance of sea pens occurs on the sand, with scallops located among them. Holothurians (in the 'strawberry fields'), red coral, and white brachiopods are also outstanding features of the Narrows.



Strawberry holothurians. STEVE WING

Awash Rock – no-anchoring area

There is a small no-anchoring area situated around Awash Rock. The coordinates are:

46° 03'.86S, 166° 41'.12E

46° 03'.97S, 166° 40'.91E

46° 04'.07S, 166° 41'.01E

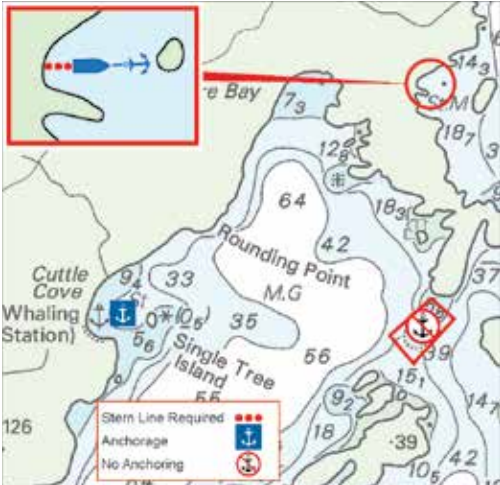
46° 03'.93S, 166° 41'.22E

(See Isthmus Sound anchorage map, page 139.) This is a very fragile area and caution should be taken. There are many other (sandy) areas around the rock that should be used for anchoring purposes.

Anchorage

Radio communication is available on Channel 01 for all the anchorages below.

Isthmus Sound



Isthmus Sound

This is an all-weather anchorage and should be approached with caution because of the shallow nature of the area. Use of a stern line, as shown on the map, is essential.

Otago Retreat

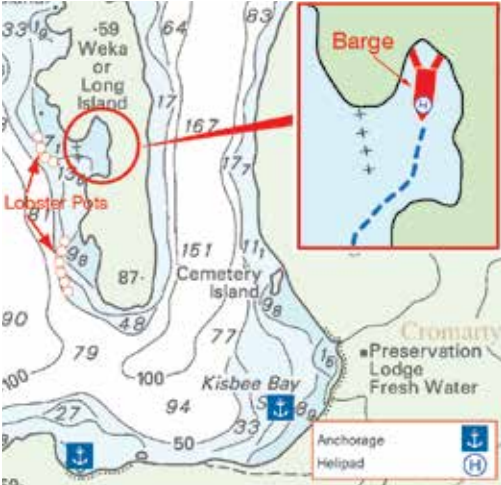


Otago Retreat

When approaching the anchorage, keep to the south-eastern side of the channel, as the area is very shallow. This anchorage is not recommended for overnight use but is used to access the track to the Puysegur Point lighthouse.

When approaching the boatshed landing in your dinghy, take extreme care through the narrow channel that was blasted out of the rocky reef during the construction of the lighthouse.

Weka Island



Weka Island

This is a fair-weather anchorage and is not suitable in strong south-west conditions. There is a barge moored in this cove, with a helipad on top, used for berthage of commercial rock lobster fishing vessels and helicopter servicing. Keep well over to the starboard side on entering the anchorage (as shown on the map), as there is a shallow rock reef that extends on the port side.

Cuttle Cove

This is for moderate south-west to north-west conditions.

Powell's Beach, Kisbee Bay

This is a reasonable easterly anchorage as well as being good in light to moderate south-west conditions.

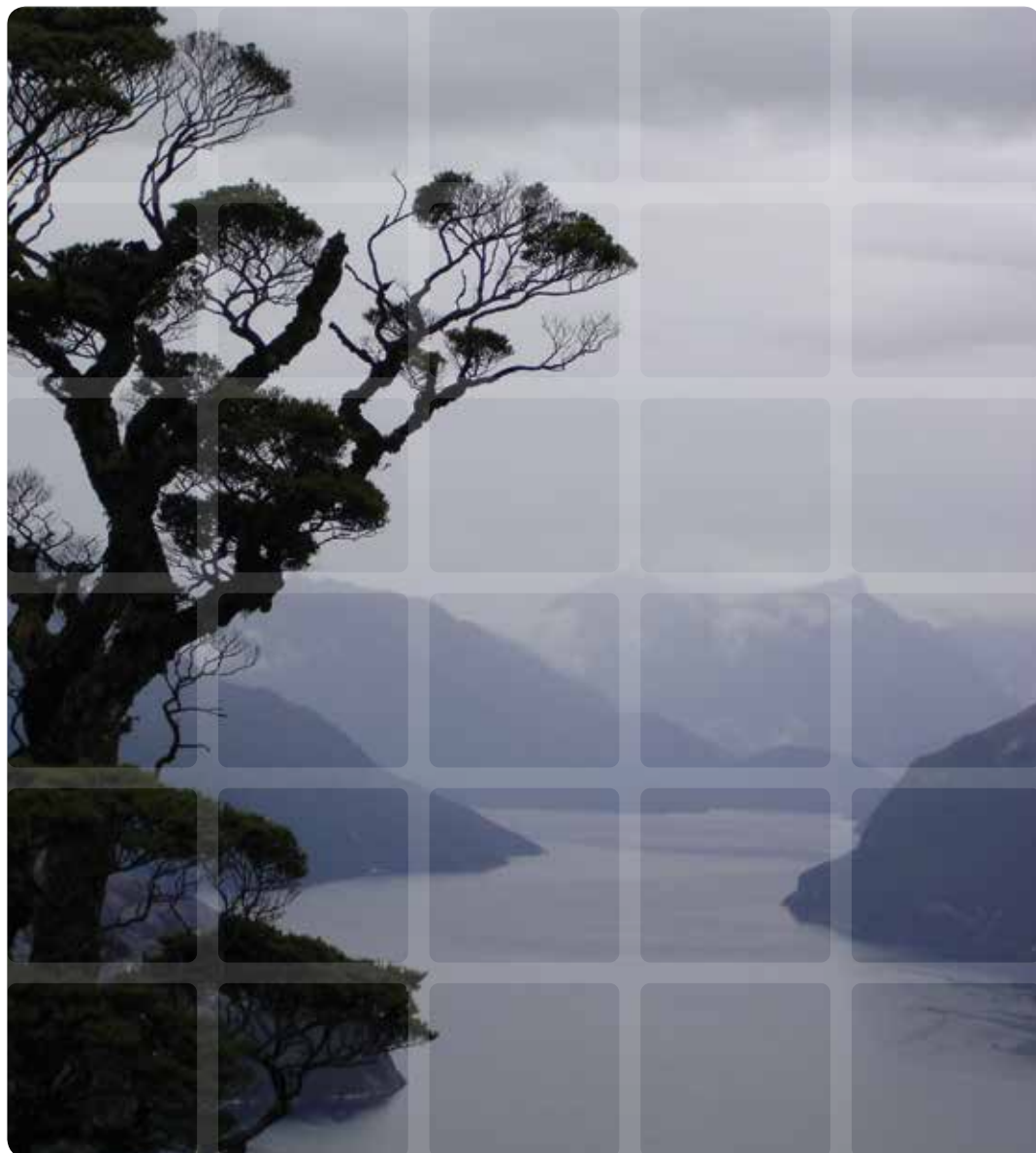
Preservation Lodge, Kisbee Bay

This is a fair-weather anchorage in moderate conditions.

Navigation

It is very important to have the most up-to-date chart for Preservation Inlet, as there are a multitude of rocks and hazards throughout, making navigation difficult at times.

CHARTS AND BOOKS



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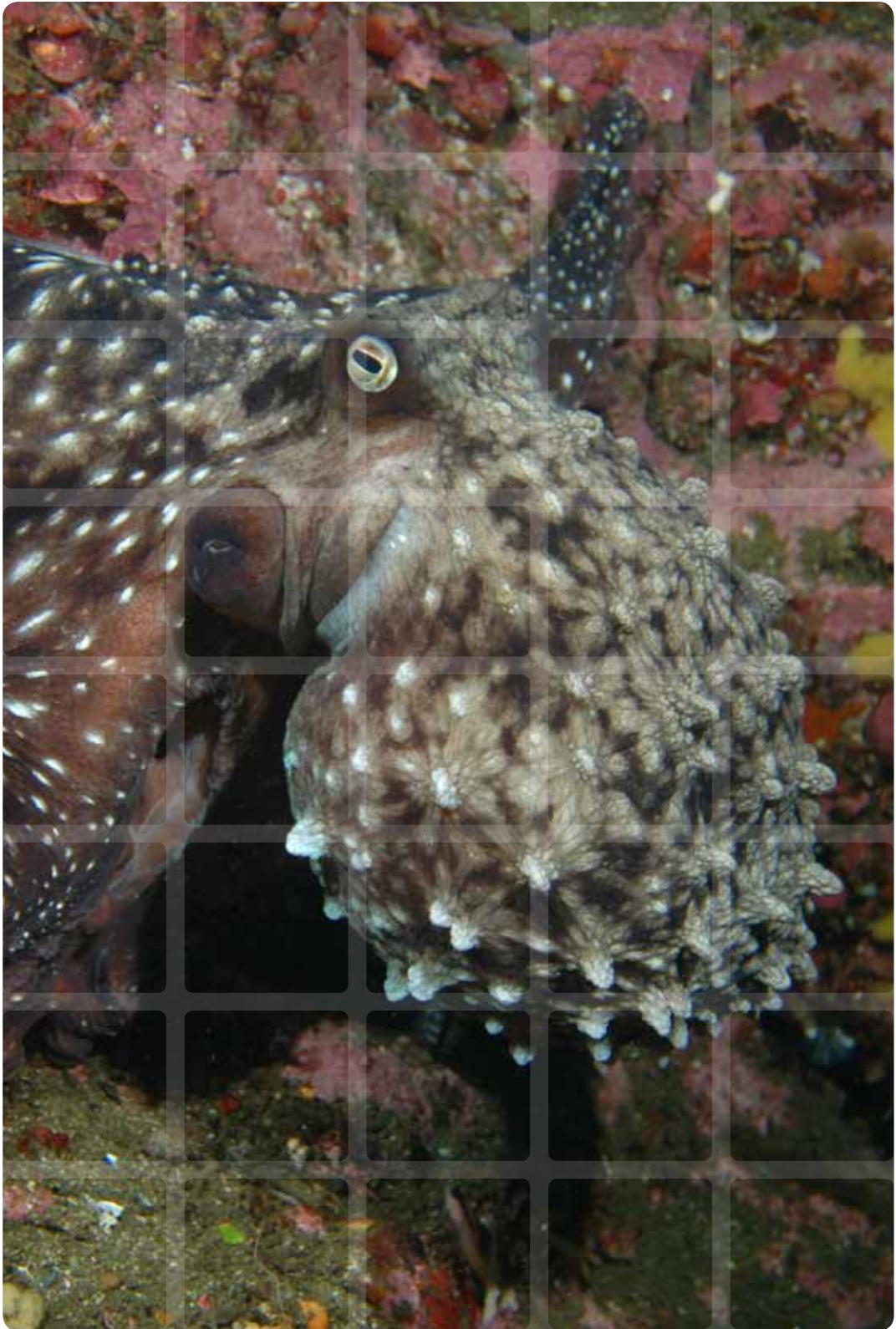
Recommended navigational charts

Land Information New Zealand Navigational Charts of Fiordland

NZ69	Stewart Island/Rakiura	Edition 7/2016
NZ73	Abut Head to Milford Sound	Edition 3/2002
NZ76	Western approaches to Foveaux Strait	Edition 11/2016
NZ681	Approaches to Bluff and Riverton/Aparima	Edition 6/2016
NZ 7621	Milford Sound/Piopiotahi	Edition 8/2009
NZ 7622	Milford Sound/Piopiotahi to Sutherland Sound	Edition 5/2016
NZ 7623	Bligh Sound to Caswell Sound	Edition 4/1999
NZ 7624	Charles Sound to Dagg Sound	Edition 8/2009
NZ 7625	Thompson Sound and Doubtful Sound/Patea	Edition 8/2009
NZ 7653	Breaksea and Dusky Sounds.	Edition 8/2009
NZ 7654	Chalky and Preservation Inlets	Edition 7/2016
NZ 7655	Breaksea Sound	Edition 8/2009
NZ 7656	Dusky Sound	Edition 8/2009

Note: These references are correct up to New Zealand Notice to Mariners 6/2017 dated 17 March 2017. Further updates are published by Land Information New Zealand (LINZ) in Section IV of the New Zealand Notice to Mariners (available on the LINZ website at www.linz.govt.nz/sea).

To purchase charts contact a LINZ authorised reseller.



Octopus. STEVE WING

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area 24-hour pollution hotline on
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Since this guide was published there may have been changes to the regulations.

Please insert any supplied updates into this pocket.

You can search for updates to regulations on the following websites:

Ministry for Primary Industries

www.mpi.govt.nz

Department of Conservation

www.doc.govt.nz

Environment Southland

www.es.govt.nz

Fiordland Marine Guardians

www.fmg.org.nz

The information contained in this guide is correct at the time of printing (July 2017) and is subject to change without notice. It is intended to be used as a guide only. The maps in the 'Fiord-by-fiord' chapter show the general locations of points of interest – they are not navigational charts.

