

Regulatory Impact Statement

Review of the recreational blue cod fishing rules in Doubtful, Thompson, and Bradshaw Sounds, Fiordland.

Agency Disclosure Statement

This Regulatory Impact Statement (RIS) has been prepared by the Ministry for Primary Industries (MPI). It provides an analysis of options for ensuring sustainable utilisation of the recreational blue cod fishery in Doubtful, Thompson, and Bradshaw Sounds which are located in Fiordland, following a proposal from the Fiordland Marine Guardians (the Guardians) to review the rules for these areas.

The Guardians are an advisory body established under the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 (the Fiordland Act). Their functions include providing advice and recommendations in regard to the effectiveness of management measures within the Fiordland Marine Area (FMA).

When exercising functions in relation to the FMA, such as making decisions about fishing rules, Ministers and agencies must take the advice and recommendations of the Guardians into account.

The Fisheries Act 1996 (the Fisheries Act) states that decisions should be based on the best available information; that decision makers should consider any uncertainty in the information; that decision makers should be cautious when information is uncertain, reliable, or inadequate; and that the absence of, or uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of the Act.

The analysis in this RIS relies on the best available information. There is uncertainty in some of that information, including:

- It is not clear to what extent depletion is occurring in Thompson and Bradshaw Sounds. The analysis in this regard is based largely on anecdotal information.
- There is uncertainty around what bag limits would be sustainable in the three areas.
- The number of recreational fishers that utilise the areas and annual blue cod take by recreational fishers are not known; therefore, the impact of the proposals on recreational fishers, including recreational charter vessels is not able to be quantified.
- There is uncertainty regarding environmental impacts of the proposals.

The analysis considers these uncertainties and cautious recommendations have been put forward as a result.

The information used to determine abundance of blue cod in Doubtful Sound comes from peer reviewed scientific research conducted by National Institute of Water and Atmospheric Research in 2012. Given the high costs associated with blue cod surveys, and resource constraints within MPI, specific surveys to assess the level of potential depletion in Thompson and Bradshaw Sounds have not been undertaken. Similarly, it is not clear that surveys could be scheduled in the near future given high costs and other priorities. Waiting for additional information risks further depletion in Thompson and Bradshaw Sounds.

MPI has primarily relied on submissions received during formal statutory consultation with the public from recreational fishers and charter vessel operators to assess the impact that different proposals may have on them. Charter vessels are also required to report blue cod fishing by latitude and longitude and MPI has investigated these records.

The analysis has been guided by discussions with the Guardians given their expertise and role as a statutory advisory body. MPI has developed the preferred option following consultation with the public and discussions with the Guardians.

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26 August 2015

Executive summary

Blue cod is an important recreational species in the Fiordland Marine Area (FMA), but it is vulnerable to localised depletion and overfishing.

The recreational blue cod fishery in the internal waters of Doubtful Sound, Fiordland, was closed in 2005 due to localised depletion and a need to research the fishery in the absence of fishing pressure (the internal waters of Fiordland are closed to all commercial fishing). This closure was based on a recommendation from the Fiordland Marine Guardians (the Guardians), a statutory advisory group whose functions include providing advice and recommendations in regard to the effectiveness of management measures within the Fiordland Marine Area (FMA). The Fiordland Marine Guardians (the Guardians) anticipated that the numbers of blue cod would increase as a result of the closure and intended to be able to reopen the area eventually.

Research conducted since the closure was implemented suggests that habitat, rather than fishing pressure, is limiting the blue cod population in Doubtful Sound. Scientific surveys suggest that the number of blue cod is not increasing in Doubtful Sound, regardless of the closure or marine reserves. Therefore, it is considered unlikely that this blue cod fishery will ever sustain recreational fishing pressure at the same level as other fiords. However, based on their local expertise and fisher knowledge, the Guardians consider that a very low bag limit is likely to be sustainable. As a result, they consider that the current regulation may be unnecessarily restricting recreational utilisation.

MPI has led a review of the closure following advice and recommendations from the Guardians, and considers that a small amount of take is likely to be sustainable in Doubtful Sound.

Anecdotal information and accounts from MPI Compliance staff suggest that, as a result of the closure in Doubtful Sound, fishing pressure has been displaced to the connected Thompson and Bradshaw Sounds.

Reports of depletion in blue cod numbers in Thompson and Bradshaw Sounds are concerning enough for a review of the recreational fishing rules to have become a key issue for the Guardians. MPI considers that waiting for further information, such as a scientific survey of Thompson and Bradshaw Sounds, risks allowing further depletion in Thompson and Bradshaw Sounds.

Management on a fiord by fiord basis can be complicated due to unintended consequences such as displaced fishing effort that can lead to higher impacts on nearby areas. As a result, MPI considers it is opportune to review Thompson and Bradshaw Sounds alongside the Doubtful Sound closure.

MPI has consulted on a range of options for the recreational blue cod fishery in Doubtful, Thompson, and Bradshaw Sounds following discussion with the Guardians. MPI's preferred option is Option 2.

MPI expects any changes to regulations to be implemented in early November 2015. Enforcement of any new regulations will be part of standard MPI processes, which include a number of Compliance trips into Fiordland throughout the year. MPI will follow up with stakeholders and the Guardians regarding the outcomes of any regulation changes, as well as consider potential future surveys in Doubtful, Thompson, and Bradshaw Sounds.

Status quo

Current blue cod management measures in the FMA

Blue cod is one of the most highly regarded recreational species in New Zealand. It is an important target species for visitors to the Fiordland Marine Area (FMA) that go fishing. However, blue cod are vulnerable to localised depletion. They are relatively slow growing and long-lived, they take bait easily, and tend to be short-ranging (reports of migrations or long distance movement are rare). Additionally, blue cod can change sex from female to male, which can affect reproductive output.

Concerns regarding depletion of blue cod in Fiordland led to conservative management measures being put in place in 2005 under the Fiordland (Te Moana o Atawhenua) Marine Management Area Act 2005 (the Fiordland Act). The new regulations for blue cod complemented a wider management framework targeted at a range of species, fisheries and ecosystems for Fiordland. The wider management framework was recommended by the Fiordland Marine Guardians (the Guardians)¹ in 2005 in response to growing concerns over depletion of fishstocks inside the fiords and a need for localised management measures.

The management framework implemented different management measures for the internal waters² of Fiordland and the outer coast (Figure 1), because the internal waters were recognised as being unique and requiring more cautious management.

In the internal waters of the FMA, the rules for blue cod were changed to a bag limit of 3 and accumulation of bag limits was prohibited (i.e. no one may possess more than the daily limit of blue cod regardless of whether or not they have been fishing over multiple days). Commercial fishing in the internal waters of Fiordland was banned entirely and remains prohibited.

In addition, the recreational blue cod fishery was closed in the internal waters of Doubtful Sound (Figure 2), as it was identified as being particularly depleted. Doubtful Sound is more accessible than most other locations in the FMA because it has road access from Lake Manapouri; therefore, fishers with trailer boats are able to access it relatively easily. This also makes Doubtful Sound a particularly important fishing ground for recreational fishers.

Thompson and Bradshaw Sounds are connected to Doubtful Sound by internal waters (Figure 2)³, and therefore are also important recreational fishing grounds as they are easily accessed by fishers with trailer boats that come to Doubtful Sound from Lake Manapouri.

MPI does not have estimates for the number of recreational fishers that visit Doubtful, Thompson, and Bradshaw Sounds on an annual basis. MPI also does not have an estimate for the amount of blue cod taken from these areas annually, or the monetary value of these recreational fishing grounds.

¹ The Fiordland Marine Guardians are a group comprised of commercial, recreational, customary, and science representatives. They were established under the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 (the Fiordland Act) as an advisory body for the Fiordland (Te Moana o Atawhenua) Marine Area (the FMA).

² The internal waters of the Fiordland Marine Area are defined in the Fisheries (Amateur Fishing) Regulations 2013 in Schedule 18.

³ Doubtful, Thompson, and Bradshaw Sounds are connected by internal waters, meaning that each of these sounds is accessible from the other without having to pass by the open coast.

The Fiordland Act established the Guardians, whose functions include providing advice and recommendations in regard to the effectiveness of management measures within the FMA.

When exercising functions in relation to the FMA, such as making decisions about fishing rules, Ministers and agencies must take the advice and recommendations of the Guardians into account (s 26 of the Fiordland Act). The objectives and options in this paper take into account the advice and recommendations provided by the Guardians.

Problem Definition

Doubtful Sound Closure is an unnecessary barrier to recreational fishing

Recreational fisheries such as blue cod fisheries suffer from common resource problems. Where there is free access to them, the quantity of fish available can decrease with use, and fishers lack incentives to fish sustainably. In New Zealand, the common resource problem of recreational fisheries is managed through setting an allowance for recreational take within the Total Allowable Catch for a fish stock. The primary tools used to manage recreational take to the level of the allowance are the daily bag limit and minimum legal size. Fishery closures may be used when stronger controls are deemed necessary.

The current closure of Doubtful Sound to blue cod fishing is not meeting the original objectives of the closure or the purposes of the Fisheries Act 1996 (the Fisheries Act). This is due to a lack of information about what daily bag limit is sustainable in Doubtful Sound for recreational fishing of blue cod and the impact of the closure in Doubtful Sound on blue cod fishing effort in Thompson and Bradshaw Sounds.

The original goal of the closure was to restore the blue cod population, while also providing an opportunity to study the population in the absence fishing pressure. The closure was viewed as an interim measure, and the Guardians had intended to be able to lift the closure in the future given the particular importance of the recreational blue cod fishery in Doubtful Sound to recreational fishers.

Ten years on from when the closure was first implemented, utilisation of the recreational blue cod fishery in Doubtful Sound remains prohibited. The purpose of the Fisheries Act is to provide for utilisation of fisheries resources while ensuring sustainability. The Guardians consider the closure in Doubtful Sound to be an unnecessary barrier to utilisation, and have recommended that the closure be reviewed, given their local expertise, fisher knowledge and role as a statutory advisory body regarding management in the FMA.

Scientific surveys conducted in Doubtful Sound since the closure was implemented indicate that blue cod numbers have remained low in the inner fiord habitats of Doubtful Sound in both the fishery closure area and in marine reserves³. This appears to be because preferred blue cod habitat (flat foul ground) is limited in the underwater fiord environment, which is typically steep. Evidence suggests that the fish that live in these locations originate from the open coast as small blue cod are very rarely detected in Doubtful Sound (i.e. reproduction in the internal waters is likely to be very low).⁴

⁴ Willis, T. J. and Handley, S. J. 2012. Relative density of blue cod (*Parapercis colias*) in Milford and Doubtful Sounds in response to spatial management. New Zealand Fisheries Assessment Report 2012/36. 27 p.

Given the results of the surveys and the lack of suitable habitat for blue cod, the Guardians consider that it is unlikely that the fisheries in Doubtful and Milford Sounds will ever be able to sustain recreational fishing pressure at the same level as other fiords (where the daily bag limit is 3). However, the Guardians believe that a very low bag limit could be sustainable in Doubtful Sound based on their local expertise and due to migration of fish from the more productive outer coast.

MPI agrees with the Guardians that a small amount of take may be sustainable in Doubtful Sound, and there may be no need to retain the closure. The continued impact of a closure in Doubtful Sound is a loss of sustainable utilisation, and depletion of blue cod in Thompson and Bradshaw Sounds.

Depleted blue cod in Thompson and Bradshaw Sounds

The current bag limits for blue cod permitted in Thompson and Bradshaw Sounds are also not meeting the objectives of the Fisheries Act 1996. This is due to a lack of information about the impacts of the closure on Doubtful Sound on Thompson and Bradshaw Sounds and what bag level is sustainable for recreational blue cod fishing in Thompson and Bradshaw Sounds.

Information from MPI compliance records and anecdotal information suggests that, as a result of the closure in Doubtful Sound, recreational fishing effort for blue cod has been displaced to Thompson and Bradshaw Sounds. As Thompson and Bradshaw Sounds are connected by internal waters to Doubtful Sound (Figure 2), they are more accessible than other fiords, particularly for fishers with small boats for whom it can be dangerous to access the open coast.

Anecdotal information from fishers suggests that displaced fishing effort is having an adverse impact on the blue cod populations in Thompson and Bradshaw Sounds, and that the current daily bag of 3 may be too high. Given the high costs associated with blue cod surveys, it is unlikely that research on depletion in Thompson and Bradshaw Sounds would be able to be undertaken in the immediate future. Allowing the current regulations to continue and waiting for further information, risks that these blue cod populations may become depleted, which could ultimately lead to the closure of the blue cod fishery in Thompson and Bradshaw Sounds, as it has for Doubtful Sound. This would fail to achieve the purpose of the Fisheries Act, which is to provide for utilisation of fisheries resources while ensuring sustainability. Given these concerns, it is opportune to review the regulations that apply to these fisheries concurrently with the Doubtful Sound review.

While the impact on Thompson and Bradshaw Sounds from fishing effort displaced from Doubtful Sound is uncertain, it is concerning enough to the Guardians to have become a key issue for them. The Guardians believe that recreational fishing in Fiordland appears to be increasing over time, and closing Thompson and Bradshaw Sounds would have a considerable impact on the recreational users that utilise this blue cod fishery. There are no other blue cod fisheries that fishers can access from Doubtful Sound without navigating the open coast.

Similarly, local businesses such as charter operators may be affected as further closures would reduce the number of locations that they could take clients. Four charter vessels have reported blue cod fishing activity around Doubtful, Thompson, and Bradshaw Sounds. While the majority of activity is concentrated at the entrances where the bag limit is higher, charters do rely on internal waters for fishing in adverse weather conditions.

MPI compliance records indicate that there is also some confusion currently around the boundaries of the closure in Doubtful Sound, and where it is legal to take fish in Thompson and Bradshaw Sounds, although this appears to be a minor issue.

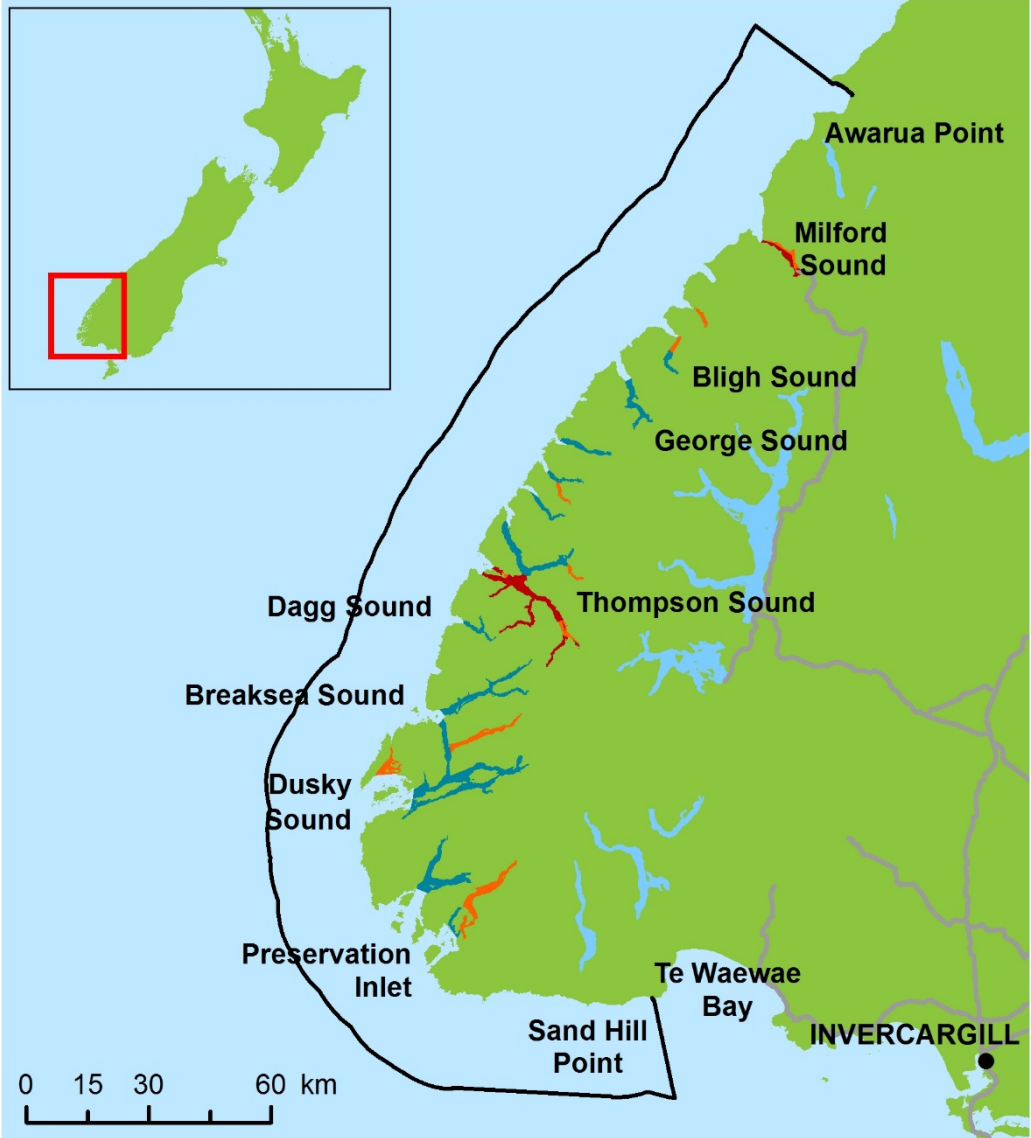


Figure 1: the Fiordland Marine Area (black line), showing the internal waters of Fiordland (blue), blue cod recreational fisheries closures (red), and marine reserves (orange).

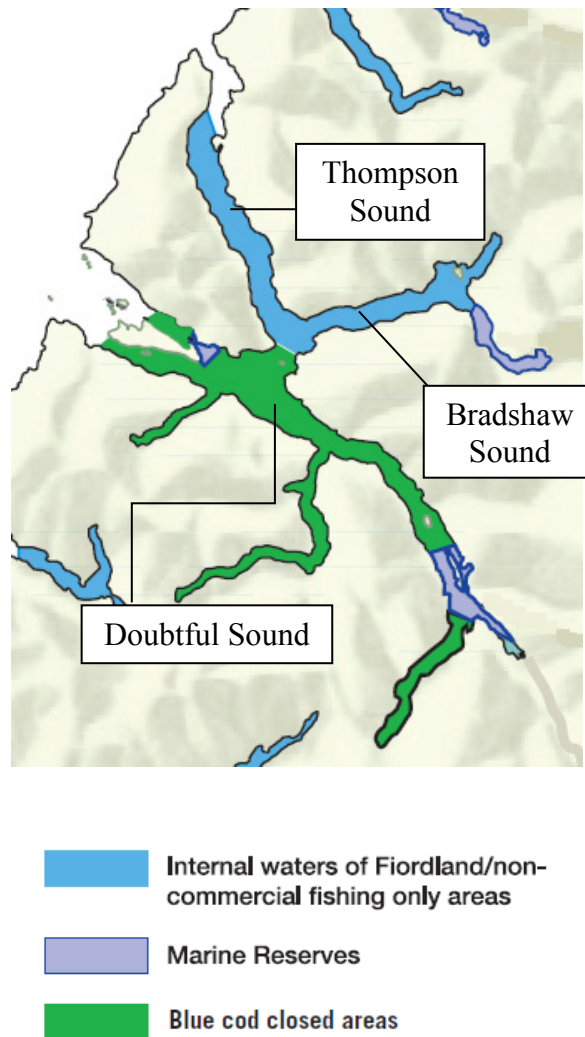


Figure 2: Doubtful, Thompson, and Bradshaw Sounds. The blue cod closure covering the internal waters of Doubtful Sound is shown in green, while the internal waters in Thompson and Bradshaw Sounds that are open to recreational blue cod fishing are shown in blue. Marine reserves are also shown (purple).

Objectives

MPI has analysed the options proposed in this RIS against the following objectives. Objectives 1 through 3 are aligned with the purpose of the Fisheries Act (to provide for the utilisation of fisheries resources while ensuring sustainability) and environmental obligations under the Fisheries Act. Objective 4 supports Objectives 1 – 3 by ensuring effective compliance and enforcement. Objectives 1, 2, and 3 are the primary objectives for the analysis as they are aligned with statutory obligations under the Fisheries Act. Objective 4 is a secondary objective.

- Objective 1 – ensure sustainability of the blue cod fishery in the internal waters of Doubtful, Thompson, and Bradshaw Sounds.
- Objective 2 – avoid, remedy, or mitigate any adverse effects of fishing on the marine environment.

- Objective 3 – maximise the long term utilisation benefits for recreational and customary fishers from the blue cod fishery in the internal waters of Doubtful, Thompson, and Bradshaw Sounds.
- Objective 4 – ensure effective compliance and enforcement.

Summary of Options	Objective 1: Ensure sustainability of the blue cod fishery in the internal waters of Doubtful, Thompson, and Bradshaw Sounds.	Objective 2: Avoid, remedy, or mitigate any adverse effects of fishing on the marine environment.	Objective 3: Maximise the long term utilisation benefits for recreational and customary fishers from the blue cod fishery in Doubtful, Thompson, and Bradshaw Sounds.	Objective 4: Ensure effective compliance and enforcement.
Option 1 – Status quo	x May lead to further depletion in Thompson and Bradshaw Sounds and compromise sustainability of these fisheries.	? Adverse effects are unlikely in Doubtful Sound, but depletion in Thompson and Bradshaw Sounds may have knock-on effects on the marine environment.	x No utilisation is allowed for in Doubtful Sound. Potential sustainability concerns may compromise utilisation benefits over the long term in Thompson and Bradshaw Sounds.	x No action will be taken to address confusion around the boundary of the closure in Doubtful Sound.
Option 2 (preferred) – Reopen Doubtful Sound and set a daily bag limit of 1 for Doubtful, Thompson, and Bradshaw Sounds	✓ Most likely to ensure sustainability in Doubtful, Thompson and Bradshaw Sounds.	✓ Setting a conservative bag limit is most likely to mitigate any adverse effects of fishing.	✓ This is most likely to maximise benefits obtained from the fishery by providing for utilisation over the long term.	✓ Consistent rules across Doubtful, Thompson, and Bradshaw Sounds will mean rules are easy to enforce and comply with.
Option 3 – Reopen Doubtful Sound and set a daily bag limit of 2 for Doubtful, Thompson, and Bradshaw Sounds	? It is less likely that a bag limit of 2 can be sustained in Doubtful Sound. There is uncertainty that the bag limit will ease depletion in Thompson and Bradshaw Sounds.	? Potential sustainability concerns for blue cod mean that there may be concerns for associated species also. It is uncertain if this option will sufficiently avoid, remedy, or mitigate sustainability concerns.	? Potential impacts on the sustainability of the fishery in each fiord may compromise the long term benefits. Future closure may be required.	✓ Consistent rules across Doubtful, Thompson, and Bradshaw Sounds will mean rules are easy to enforce and comply with.
Option 4 – Reopen Doubtful Sound and set a daily bag limit of 3 for	x	x Sustainability concerns for the blue cod fishery mean that there may be concerns for associated species also.	x Potential impacts on the sustainability of the fishery in each fiord may	✓ Consistent rules across Doubtful, Thompson, and Bradshaw Sounds will mean rules are easy to enforce and comply with.

Doubtful, Thompson, and Bradshaw Sounds	It is unlikely that Doubtful, Thompson, or Bradshaw can sustain a bag limit as high as 3.		compromise the long term benefits. Future closure may be required.	
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Table 1: Analysis of options against objectives for the recreational blue cod fishery in Doubtful, Thompson, and Bradshaw Sounds

Options and impact analysis

Option 1 – *status quo*

Objective 1

While retaining the *status quo* may preserve the population of blue cod in Doubtful Sound, it does not address concerns regarding sustainability of the blue cod fishery in Thompson and Bradshaw Sounds. As such, it poses a risk to meeting the sustainability objective under Objective 1.

Objective 2

MPI has limited and uncertain information regarding the impact of blue cod fishing on the marine environment. One possible impact is that species associated with blue cod may be adversely affected if a population of blue cod becomes depleted. Therefore, Option 1 is likely to avoid, remedy, or mitigate any adverse effects of fishing on the marine environment in Doubtful Sound as it prohibits any take of blue cod from that area; however, it is unlikely to meet Objective 2 in Thompson and Bradshaw Sounds. This is because the *status quo* may lead to further depletion of the blue cod fishery in Thompson and Bradshaw Sounds, and therefore impact negatively on any species associated with blue cod (such as those that feed on blue cod).

Objective 3

Option 1 does not meet Objective 3 in Doubtful Sound, as it prohibits utilisation of the blue cod fishery in this location, whereas the Guardians believe that a low level of utilisation is possible.

Option 1 is also unlikely to meet Objective 3 in Thompson and Bradshaw Sounds. While this option provides for benefits in Thompson and Bradshaw Sounds over the short-term as it does not further restrict take, over the long-term these benefits may disappear if the fishery becomes depleted. Depletion in Thompson and Bradshaw Sounds in the future could lead to more restrictive rules, such as a total closure, as occurred in Doubtful Sound.

Objective 4

MPI Compliance staff have indicated that there is some confusion around the current boundary of the closure in Doubtful Sound. Although this appears to be a minor issue, retaining the *status quo* will not address this concern. As a result, under Option 1 there may be unintentional non-compliance with the fishery closure, and compliance with rules will remain complicated by the continued need to enforce the boundary between Doubtful Sound and Thompson and Bradshaw Sounds.

Option 2 – reopen Doubtful Sound and set a bag limit of 1 for all three areas (preferred option)

MPI considers that this option best meets the objectives.

Objective 1

MPI expects Option 2 to meet Objective 1 and ensure sustainability of the blue cod populations in Doubtful, Thompson, and Bradshaw Sounds. Although it allows for reopening of Doubtful Sound, it sets a very low daily bag limit, which, when combined with the current regulation for no accumulation, restricts take to a low level. Setting a bag limit of one provides a strong incentive for fishers to utilise the blue cod fishery on the outer coast where blue cod abundance and the bag limit are both higher. Reopening Doubtful Sound will also provide an opportunity for catch to spread across a wider area, rather than concentrating effort in Thompson and Bradshaw Sounds.

Objective 2

Option 2 is the most conservative option across all the fiords. Given that this option will restrict utilisation of the blue cod fishery to a low level, environmental impacts from fishing are expected to be very low. The primary method of fishing for blue cod is by rod and reel, which is not expected to adversely affect the marine habitats. Providing for a low level of take in Doubtful Sound is not expected to adversely impact any associated species. Reducing take of blue cod in Thompson and Bradshaw Sounds is likely to positively affect the marine environment.

Objective 3

MPI also expects Option 2 to achieve objective 3. As Option 2 is most likely to ensure sustainability, it is most likely to maximise the benefits obtained from the fishery over the long term.

Option 2 provides for utilisation in an area that is currently closed to recreational fishing. Recreational fishers will benefit from the opening up of Doubtful Sound and the greater utilisation of the blue cod fisheries in the three Sounds over the long term. This will allow fishers, for example, to take a blue cod that they incidentally catch or injure while fishing for other species in Doubtful Sound, positively influencing the fishing experience as they will not be required to return a fatally injured blue cod to the water.

Some members of the public may perceive Option 2 as overly restrictive and therefore as limiting the benefits that may be obtained from the fishery. However, given that it is the most cautious option, it is the least likely to result in fishery closures in the future. As a result, it is the most likely to maximise benefits over the long term. The Guardians consider that a bag limit of 1 could be sustained in Doubtful, Thompson, and Bradshaw Sounds.

This option may impact those charter fishers who rely on fishing in the internal waters in poor weather. However, MPI notes that there are numerous other species that charter vessels may target in the internal waters of the FMA. Additionally, our records indicate that only four registered charter vessels reported targeting blue cod in Doubtful and Thompson Sounds in the last two years and the majority of charter vessel activity is concentrated at the fiord entrances where the bag limit is higher. Therefore, it is unlikely that charter vessel operators would be unduly affected by Option 2.

Objective 4

Option 2 proposes consistent rules across Doubtful, Thompson, and Bradshaw Sounds that are simpler and easier to comply with than the *status quo*. This is likely to increase compliance with the rules, and will also be easier for MPI to enforce.

Under this option, the bag limit that would apply to the internal waters of Doubtful, Thompson, and Bradshaw Sounds would differ from the bag limit that applies to other internal waters of Fiordland. MPI Compliance does not foresee any complications with enforcing a different bag limit for Doubtful, Thompson, and Bradshaw Sounds.

Option 3 – reopen Doubtful Sound and set a bag limit of 2 for all three areas

Objective 1

Option 3 creates a higher risk to sustainability than Option 2. MPI does not know what level of utilisation is sustainable. Given the biological and ecological constraints that make blue cod susceptible to overfishing in Doubtful Sound, MPI is not confident that Doubtful Sound can sustain a daily bag limit of 2. Additionally, the Guardians do not recommend that a bag limit of 2 be set. Therefore, it is not clear that Option 3 will meet the sustainability objective. It is also uncertain whether a reduction in the bag limit from 3 to 2 in Thompson and Bradshaw Sounds is sufficient to ensure the sustainability of the blue cod population in these areas.

Objective 2

It is uncertain what effects Option 3 would have on the marine environment. As noted above, increased fishing pressure is not expected to adversely affect the marine environment given that blue cod is primarily a rod and reel fishery. However, if sustainability of blue cod is threatened by setting a bag limit of 2, then associated species may be adversely affected under Option 3.

Objective 3

Although Option 3 has higher short term benefits to utilisation as it provides for higher take than Option 2, it is less likely to maximise benefits over the long term given the higher risk to sustainability. The Guardians consider that the number of recreational fishers utilising the FMA is increasing over time. If further monitoring of Doubtful Sound suggests that depletion is occurring, the fishery may need to be closed again, therefore prohibiting utilisation. Similarly, if Thompson and Bradshaw Sounds continue to decline, stricter rules may be required in the future, such as full fishery closure. Therefore, Option 3 is less likely to meet Objective 3 than Option 2.

Objective 4

Option 3 proposes consistent rules across Doubtful, Thompson, and Bradshaw Sounds that are simpler and easier to comply with than the *status quo*. This is likely to increase compliance with the rules, and will also be easier for MPI to enforce.

Under this option, the bag limit that would apply to the internal waters of Doubtful, Thompson, and Bradshaw Sounds would differ from the bag limit that applies to other internal waters of Fiordland. MPI Compliance does not foresee any complications with enforcing a different bag limit for Doubtful, Thompson, and Bradshaw Sounds.

Option 4 – reopen Doubtful Sound and retain a bag limit of 3

Objective 1

Option 4 is the least likely to meet the sustainability objective. Fishing effort may be spread over a larger area than under the *status quo*, but overall take will not be reduced in Thompson and Bradshaw Sounds. Additionally, given that Doubtful Sound is recognised as being more vulnerable to overfishing than other fiords, it is uncertain that a bag limit of 3 would be sustainable.

Objective 2

It is uncertain what effects Option 4 would have on the marine environment. As noted above, increased fishing pressure is not expected to adversely affect marine habitats given that blue cod is primarily a rod and reel fishery. However, given the increased sustainability concerns, Option 4 is more likely than the other options to adversely affect associated species through depletion of blue cod, which other species may rely on.

Objective 3

MPI does not expect Option 4 to meet the utilisation objective in the long term. Despite providing for the highest level of utilisation than other options over the short term, depletion is most likely to occur under this option. The Guardians consider that the number of fishers utilising the FMA is increasing over time, meaning that more and more fishers are likely to be fishing in Doubtful, Thompson, and Bradshaw Sounds. As a consequence, Option 4 is more likely than other options to ultimately lead to restrictions, such as full fishery closures, and the least likely option to maximise benefits over the long term.

Objective 4

Option 4 proposes consistent rules across the internal waters of Fiordland, providing rules that are simpler and easier to comply with than other option in this paper.

Non-regulatory options

There are no non-regulatory options to provide for utilisation in Doubtful Sound as it is closed by regulation. However, if the regulatory closure was lifted, a voluntary recreational bag limit could be considered. Similarly, MPI has considered voluntary bag limits for Thompson and Bradshaw Sounds.

The recreational sector is not cohesively organised, and therefore differs from the commercial sector, where codes of practice may be implemented with greater success. Particularly in Fiordland, recreational fishers visiting from other parts of New Zealand are unlikely to be associated with a local fishing club or organisation. As such, it is unlikely that there would be effective levels of compliance with voluntary measures. A voluntary bag limit change is, therefore, likely to result in the same outcomes as *status quo* and require further review of management controls in the near future to ensure the sustainable utilisation of this fishery. Consequently MPI did not consult on such an option.

Other Options Considered

Other options considered for Doubtful, Thompson, and Bradshaw Sounds include: retaining the closure in Doubtful Sound and reducing the bag limit in Thompson and Bradshaw

Sounds, or retaining the closure in Doubtful Sound and applying the same closure to Thompson and Bradshaw Sounds.

Retaining the closure in Doubtful Sound and reducing the bag limit in Thompson and Bradshaw Sounds was not consulted on as an option as it did not address the fundamental issue that initiated the review, which was the belief that the continued closure of Doubtful Sound was an unnecessary barrier to utilisation.

Retaining the closure and applying the same closure to Thompson and Bradshaw Sounds was not consulted on for the same reason. This option would not have resolved concerns regarding the closure in Doubtful Sound. In addition, anecdotal reports do not suggest that the fishery in Thompson and Bradshaw Sounds is depleted to a point where closure is appropriate. Such an approach would unnecessarily restrict recreational fishing over a large area of importance to the recreational sector.

MPI chose to consult on the four most appropriate options for solving the problems identified in Doubtful Sound and Thompson and Bradshaw Sounds. These options were variants of opening up Doubtful Sound and looking at the appropriate bag limit in Thompson and Bradshaw Sounds. MPI's preferred option is a measured response that provides for the fishery to remain open and continues to provide benefits to the recreational sector.

Consultation

The development of a consultation document was informed by discussions with the Guardians. The consultation document included a range of options for bag limits in the event that Doubtful Sound was reopened. The consultation document did not include a voluntary (non-regulatory) option.

The Guardians represent recreational, commercial, customary, and science interests for the FMA. Based on their discussions with the community, the Guardians fully supported the options presented in the consultation document, though their preferred option was to reopen Doubtful Sound and set a low bag limit for Doubtful, Thompson, and Bradshaw Sounds (Option 2).

The consultation document was released on 22 April 2015 and consultation closed on 18 May 2015. It was published on the MPI website, and details of the consultation were sent to stakeholders with an interest in the fishery, including those with commercial, recreational, customary, and scientific interests. Additionally, the Guardians distributed information regarding the review to their contacts. During this consultation period, MPI invited stakeholders to provide feedback on the proposals or other information that could be helpful to the review.

Fourteen submissions were received. Four of these were from organisations, and ten were from individuals. One individual submitter was a former Fiordland Marine Guardian. Another individual submitter identified with a business (Fiordland Cruises). Other individual submitters did not show affiliation with any particular sector or organisation. The organisations that submitted were:

- Deep Cove Charters
- Real Journeys

- Marine Science University of Otago
- Southland Conservation Board

Submissions supporting the *status quo*

Three submissions supported retaining the *status quo*, and therefore retaining the closure in Doubtful Sound. Each of these highlighted that given that the fishery has not recovered, it should not be reopened to fishing.

Real Journeys, a tourism provider, noted that blue cod are an important prey species for the Doubtful Sound bottlenose dolphin population, which is also low in numbers and not recovering. As such, they do not support reopening the fishery and increasing competition for food for the dolphins.

The Southland Conservation Board indicated that the outcome of proposed changes should be a viable blue cod population. Given that there has been no significant increase in blue cod numbers, they argue that the fishery should remain closed.

Marine Science University of Otago, signed by a former Fiordland Marine Guardian, suggested that the purpose of the original closure was to rebuild the blue cod stocks to “healthy levels” by removing fishing mortality, and that the fishery should not be reopened given low populations levels of blue cod. They suggested that rebuild could be expected to take a much longer time given the biological and ecological characteristics of the blue cod fishery in Doubtful Sound. Specifically, they noted that the biology of blue cod in the inner fiord results in very low growth and population recovery rates. They also suggested that environmental changes in Doubtful Sound due to the Manapouri Power Station likely influence recovery rates. Overall, Marine Science University of Otago recommended retaining the closure and extending it to other locations that may be suffering from depletion.

Submissions supporting reopening

Eleven submissions supported reopening Doubtful Sound. These were split as to what bag limit they supported.

- One submitter did not comment specifically on the bag limit.
- Deep Cove Charters supported Option 2 (daily bag limit of **1** across the internal waters of Doubtful, Thompson, and Bradshaw Sounds).
- One submitter supported Option 3 (daily bag limit of **2** across the internal waters of Doubtful, Thompson, and Bradshaw Sounds); however, it is not clear if the submitter intended to support Option 4 as the submission lacked sufficient detail, and a number of other submitters wrote that they supported Option 3 but described Option 4.
- Five submitters supported Option 4 (the bag limit would be captured by the current regulation of **3** for the internal waters of Fiordland), including a former Guardian.
- One submitter supported reopening Doubtful Sound with a bag limit of 3, but leaving the arms that come off the main Doubtful Sound fiord closed (this was not consulted on).

- Two submitters requested that the daily bag limit be increased to 5 (this was not consulted on).

Four of the submitters provided specific feedback on the proposals or other information that could be helpful to the review. This included:

- Deep Cove Charters, who considered that a bag limit of 1 would be sustainable in Doubtful Sound, and would ease pressure on the fishery in Thompson and Bradshaw Sounds.
- One submitter that suggested that the impact from increased boat activity on bottlenose dolphins needed to be considered.
- One submitter that suggested that reopening Doubtful Sound would be great news for the school camps that utilise the area.
- A former Guardian, who suggested that the goal of the original closure was to allow research to be done to assess the impact that recreational fishing was having on the blue cod population within Doubtful Sound. The submitter argued that the fishery should be reopened, given that the research has been completed and has concluded that factors other than recreational fishing pressure are limiting the blue cod population in Doubtful Sound.

Guardians' views

The Guardians' preference is to reopen Doubtful Sound and set a daily bag limit of one for Doubtful, Thompson, and Bradshaw Sounds.

The Guardians consider that the original closure came about because of localised depletion, and as a result, a need for research to be undertaken in the absence of fishing pressure. The results of the research have consistently suggested that there are sustainability concerns for Doubtful Sound if it is reopened to recreational blue cod fishing. Given the biological and ecological constraints on the blue cod fishery in Doubtful Sound, it is unlikely that the fishery will ever grow to large numbers capable of sustaining a recreational fishery at the same level as other fiords. However, it should be able to sustain a very low bag limit. This fishery is an example of an area that relies on fishers to responsibly "fish for a feed but not for the freezer".⁵

The Guardians have received a number of anecdotal reports from fishers that the blue cod fishery in Thompson and Bradshaw Sounds is declining. Additionally, the number of recreational fishers involved in recreational fisheries in Fiordland appears to be increasing over time. Given this information, the Guardians consider it particularly important to be conservative and look after the fishery in Thompson and Bradshaw Sounds.

Overall, the Guardians consider that reopening Doubtful Sound to recreational blue cod fishing, and lowering the daily bag limit that can be taken in Doubtful, Thompson, and Bradshaw Sounds to one, achieves the best balance between utilisation and sustainability

⁵ This philosophy, "fish for a feed but not for the freezer", underpinned the development of the original management plan for Fiordland when the Fiordland Marine Guardians first formed under the title of the Guardians of Fiordland's Fisheries and Marine Environment. It remains an integral component of the approach to recreational fishing regulation advice in the Fiordland Marine Area.

concerns for the area. The Guardians recognise that there are still unknowns, as well as a strong need for the development of a future management framework including a consistent and well-designed approach to monitoring for the recreational blue cod fishery.

MPI response to submissions

MPI recognises that a majority of the submitters support reopening Doubtful Sound with a bag limit of three. However, only one submitter provided rationale for a bag limit of three, and none commented on sustainability concerns for the areas in question. A former Guardian suggested that recreational fishing is not limiting the blue cod population. MPI notes, however, that given the ecological constraints on the growth of the blue cod population, the population is unlikely to be able to sustain a recreational fishery at the same level as other fiords. However, a very low bag limit should be sustainable. Restricting the daily bag limit to one fish will allow fishers to take a blue cod that they have caught or injured incidentally while fishing for other species, but a bag limit this low will incentivise fishers to utilise the more productive outer coast if they are capable of accessing it.

It is not clear that Thompson and Bradshaw Sounds will benefit from spreading fishing effort out over a wider area to address concerns over potential depletion unless the bag limit is reduced from the current three.

The *status quo* does not address concerns in Thompson and Bradshaw Sounds. Marine Sciences University of Otago suggests that there is no evidence of Thompson and Bradshaw Sounds being subject to displaced fishing effort. MPI considers that given anecdotal information of potential depletion, the Guardians' concerns and accounts from MPI Compliance, a cautious approach to managing Thompson and Bradshaw Sounds is warranted. MPI considers this is needed to avoid a situation where full fishery closure becomes necessary.

Given the evidence that implicates habitat limitation as the prime reason for a lack of rebuild of the blue cod fishery in Doubtful Sound, MPI does not consider that continuing the closure is likely to result in a further rebuild in the future.

Two submitters raised concerns about the impact of fishing for blue cod on the resident bottlenose dolphin population. One submitter was concerned that allowing recreational blue cod fishing in the internal waters of Doubtful Sound could reduce an important food source for the bottlenose dolphins, while another considered that it may increase boat traffic, adversely affecting the bottlenose dolphins. MPI has limited information regarding potential impacts on bottlenose dolphins, but considers that any impacts are likely to be minimal under the preferred option given the conservative bag limit that it recommends. Evidence suggests that bottlenose dolphin diets are varied and include a number of species other than blue cod alone, therefore it is possible that bottlenose dolphins will be able to supplement their diet with a range of different species⁶. MPI does not expect a considerable increase in boat traffic if the Doubtful Sound fishery is reopened under the preferred option as the bag limit is likely too low to motivate a large increase in the number of people that will utilise the area.

MPI recognises that concerns remain for the viability of the blue cod population in Doubtful Sound if it is reopened to recreational blue cod fishing. However, any risks to sustainability are likely to be managed by setting a low bag limit and continuing to monitor the fishery.

⁶Department of Conservation. 2009. Ecology, status, and conservation of bottlenose dolphins in Fiordland, New Zealand. Version 1.0

Overall, MPI's preferred option is Option 2: to reopen Doubtful Sound and set a bag limit of one across Doubtful, Thompson, and Bradshaw Sounds.

Conclusions and recommendations

MPI has undertaken a review of the regulations applying to the blue cod fishery in Doubtful, Thompson, and Bradshaw Sounds following a recommendation from the Guardians, a statutory advisory group whose functions include advising and making recommendations to management agencies and Ministers in regard to the effectiveness of management measures within the FMA.

MPI consulted on a range of options for this fishery. While the majority of submissions supported reopening Doubtful Sound and allowing for a bag limit of 3 or more across Doubtful, Thompson, and Bradshaw Sounds, these did not comment on the sustainability concerns that are present for the area. There was also support for other options including retaining the closure or opening with a bag limit of 1.

Overall, MPI supports Option 2 – to reopen the Doubtful Sound fishery, and set a bag limit of 1 across Doubtful, Thompson, and Bradshaw Sounds. This is most likely to ensure sustainability and maximise the long term benefits obtained from the fishery.

Implementation plan

The relevant regulations for recreational bag limits and closures in Fiordland are the Fisheries (Amateur Fishing) Regulations 2013. The preferred option would see the removal of an existing regulation (closure for Doubtful Sound), and setting of an additional measure (bag limit for the internal waters of Doubtful, Thompson, and Bradshaw Sounds).

Changes to regulations would come into effect in early November 2015. MPI will follow standard processes for implementing any changes to regulations. The Guardians will also be able to publicise any changes to regulations through separate means.

The Guardians have initiated a process to replace signs regarding management in Fiordland with a generic message directing visitors to seek out brochures or other mediums for current regulations, in an attempt to reduce the number of changes needed to signs, and therefore minimise costs.

MPI brochures are updated annually as part of standard process, and changes to the regulations would be updated in the FMA brochure during the next brochure review. The Guardians will also educate fishers about the changes when the Fiordland User Guide is updated this year.

In addition, all submitters and those persons with an interest that were contacted regarding the start of the original consultation will be notified by a letter from the Minister for Primary Industries of his decisions regarding the fishery.

MPI Compliance does not see any difficulties associated with implementing a different bag limit between the internal waters of Doubtful, Thompson, and Bradshaw Sounds, and the internal waters of other fiords. Enforcing changes to regulations would be included in standard MPI compliance checks. These involve multiple trips into the FMA throughout the year to check for fisher compliance and ensure regulations are being followed.

Bag limits are one of the main regulations used to control recreational fishing around the country in most fisheries. Bag limits are amended from time to time as new information becomes available. Based on its experience with previous bag limit changes, MPI is confident that the transition to the new requirements would not result in any implementation risks or unforeseen implications.

Monitoring, evaluation and review

MPI monitors and reviews the effectiveness of current fisheries regulations in supporting management objectives through an annual fisheries planning process.⁷

The performance of Fiordland blue cod fisheries will be monitored and reviewed in discussion with tangata whenua, the recreational fishing sector, the fishing industry, and other stakeholders as part of the Annual Review Report. Through this process, MPI will be able to gather information directly from stakeholders about the impacts of any regulatory changes in Doubtful, Thompson, and Bradshaw Sounds.

The fishery in Doubtful, Thompson, and Bradshaw Sounds has the added guardianship of the Guardians, who will continue to provide local expertise and advice based on their engagement with the Fiordland community. MPI regularly meets with the Guardians, and will use these meetings to collect information about the impacts of any regulatory changes.

Performance of the regulatory changes will be assessed using anecdotal information regarding the impacts of any changes on blue cod abundance and on the recreational fishing experience. If information suggests that abundance is decreasing then additional changes may be necessary. Compliance rates would also be used to assess the performance of the proposed rules. Compliance rates with bag and size limits are monitored as part of existing compliance activities (e.g. inspection of fishing activities) occurring within the fishery. These can be compared over time. If compliance rates are poor then additional changes may be required. Because monitoring occurs as part of existing compliance activities, no additional monitoring costs are expected.

MPI and the Guardians will consider in 2016 the timing for any future blue cod abundance surveys for Doubtful, Thompson, and Bradshaw Sounds. Given the high cost of these surveys, the benefits of future surveys will need to be assessed against other priorities.

⁷ MPI's fisheries planning process is the main mechanisms to guide and prioritise fisheries management interventions for deepwater, highly migratory species, inshore finfish, inshore shellfish and freshwater fisheries based on an objectives-based framework. The process is based on National Plans for each of the fishery groupings. The Plans define management objectives and performance measures. Each year an assessment of fishery performance against the management objectives, based on the performance measures, is carried out. Annual Operational Plans for each of the fishery groupings, specifying services and interventions, are developed to address identified gaps in performance or to enable identified opportunities. This is done in close discussion with tangata whenua, the fishing industry and other stakeholders. For more information please refer to the [MPI Fisheries website](#).