Ministry for Primary Industries Manatū Ahu Matua



Proposal for an in-season increase to the Total Allowable Catch for Red Cod 2 (RCO 2)

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1 Submission Information

The Ministry for Primary Industries (MPI) welcomes written submissions on the proposals contained in this Consultation Document. All written submissions must be received by MPI no later than 5pm on Wednesday 14 June 2017.

Written submissions should be sent directly to:

Inshore Fisheries Management Ministry for Primary Industries P O Box 2526 Wellington 6011

or emailed to FMsubmissions@mpi.govt.nz

1.1 OFFICIAL INFORMATION ACT 1982

All submissions are subject to the Official Information Act and can be released (along with personal details of the submitter) under the Act. If you have specific reasons for wanting to have your submission or personal details withheld, please set out your reasons in the submission. MPI will consider those reasons when making any assessment for the release of the submission if requested under the Official Information Act.



Figure 1: Quota Management Areas (QMAs) for red cod (RCO) stocks. RCO 2 is indicated by shading.

2 Executive Summary

The Ministry for Primary Industries (MPI) is seeking tangata whenua and stakeholder information and views on a proposal to change the management settings for red cod in RCO 2, (see Figure 1) for the remainder of the 2016/17 fishing year. RCO 2 is one of a limited number of stocks whose total allowable catch (TAC) can be increased during a fishing year in response to increases in abundance.

The current TAC, total allowable commercial catch (TACC) and allowances for RCO 2 are shown as Option 1 (the *status quo*) in Table 1. These are commonly referred to as "baseline settings" because of the provisions to make increases for the RCO 2 TAC within a fishing year.

	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Additional Annual Catch Entitlement ¹ under s 68 (t)	Allowances	
Option 1 (Status Quo)	500	500	0	There are currently no allowances set for this fishstock for Maori customary fishing, recreational fishing or all other sources of	
Option 2 (Preferred Option)	807	500	233	mortality caused by fishing. Allowances of 1 t, 36 t and 37 t, respectively, are proposed for the 2016/17 fishing year.	

Table 1: TAC, TACC and allowances for RCO 2

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¹ Annual Catch Entitlement is used for balancing commercial catch under the Quota Management System

MPI proposes two options for discussion, as outlined in Table 1. Option 1 is to make no change to the TAC and commercial catch allowance under the *status quo*. Option 2 proposes to increase the TAC, and after considering likely increases in customary fishing, recreational fishing and all other sources of mortality caused by fishing, proposes to create additional "in-season" Annual Catch Entitlement (ACE) of 233 tonnes.

RCO 2 is primarily taken as unintentional bycatch in the commercial inshore bottom trawl fishery. Option 2 recognises that the composition of catches in the fishery for the remainder of this fishing year is likely to change given the increased abundance of red cod. The proposed increases to the TAC and Annual Catch Entitlement are intended to provide for the increased levels of red cod catch, reduce the amount of RCO 2 over-catch required to be covered with deemed value payments, and not unnecessarily constrain the sustainable utilisation of RCO 2 and other stocks taken in association.

The proposed increase under Option 2 is lower than the amount supported by a scientifically reviewed management procedure that is updated each year with data from the commercial fishery. The management procedure is designed to inform in-season TAC adjustments and to estimate a commercial catch level for the full fishing year that maintains exploitation rate at a sustainable level. The output of the management procedure indicated that the RCO 2 commercial catch for the 2016/17 fishing year could be increased from a baseline of 500 tonnes to 955 tonnes. The commercial fishing industry has recommended a more cautious approach and has proposed an increase of half of this level, to 733 tonnes.

Although the management procedure relies on data from the commercial fishery, MPI considers that it is reasonable to assume that the output reflects the increased overall abundance of RCO 2 and greater availability to all fishing sectors. There are currently no allowances set for customary Māori or recreational catch, but best available information shows these catches to be low relative to commercial catches. MPI considers any change in commercial catch allowance is not likely to impact on the availability of RCO 2 for customary Māori and recreational fishers, and, given the increased abundance, has allowed for a likely increase in catches for these sectors when developing this proposal.

MPI is proposing a separate wider review of the management of RCO 2, including revision of the TAC and the setting of baseline allowances for customary fishing, recreational fishing and all other sources of mortality caused by fishing, for the 2017/18 fishing year onwards, as part of the Review of Sustainability and other Management Controls for 1 October 2017. The consultation period for this review will begin in June 2017 and any setting of these baseline allowances would come into effect from 1 October 2017. The in-season TAC and allowances proposed in this document would remain in place until 30 September 2017 when they would revert to the baseline settings that are set as a result of this separate consultation.

3 Purpose

3.1 NEED FOR ACTION

The RCO 2 stock is managed to recognise its inter-annual variability with an agreed procedure for estimating the in-season abundance and predicting a sustainable full-season catch. A scientific assessment of the stock early in the 2016/17 fishing year indicated an increase in red cod abundance that could support additional commercial catch of 466 tonnes above the baseline TACC.

MPI has undertaken pre-consultation with the commercial fishing sector on the proposed inseason increase to the TAC by 466 tonnes for the 2016/17 fishing year. The Fisheries Inshore New Zealand organisation, representing commercial fishing interests, has indicated a preference for a more cautious approach to the in-season management for RCO 2 for 2016/17 and has recommended that an alternative option be presented for consultation. This option proposes an increase of half of the amount predicted by the procedure, at 233 tonnes (Option 2), consistent with the approach put forward by members of the industry in pre-consultation for a proposed in-season TAC increase for the 2012/13 fishing year.

MPI considers that the current abundance of red cod in RCO 2 may also result in additional fishing and catch by other sectors and this should be considered in setting the allowance for the commercial sector.

3.2 MANAGEMENT APPROACH

The annual TAC for RCO 2 can be increased within a fishing year under section 13(7) of the Fisheries Act 1996 (the Act), as the stock is included on Schedule 2 of the Act and recognised to have high inter-annual variability in abundance. The management approach is designed to enable responsiveness to increases to the overall abundance of red cod in RCO 2 while maintaining a baseline setting for stock sustainability over the longer term. Key indicators used to monitor and inform management of RCO 2 include catch per unit effort (CPUE) indices from commercial reporting.

Since 2013, a management procedure² has been updated annually to inform decisions on whether to make in-season adjustments to the RCO 2 TAC. This management procedure was reviewed and updated by the Northern Inshore Science Working Group in 2014. The in-season procedure is based on achieving an agreed target exploitation rate (a fixed proportion of abundance) that maintains exploitation rate at a sustainable level. The procedure predicts the full-season catch for each fishing year based on information on the stock's relative abundance (i.e. standardised CPUE) from the first two months of the fishing year.

The outputs from the management procedure and other relevant information are discussed further in the background section below.

4 Background Information

4.1 BIOLOGICAL CHARACTERISTICS OF RED COD

Red cod are a fast-growing, short-lived species with highly variable recruitment. These factors result in pulses of recruitment leading to variable stock abundance and a large variation in catches between years. Red cod enter the fishery at approximately two years of age and few fish older than six years remain in the commercial fishery. These periods of increased abundance tend to be short-lived and the management approach for RCO 2 is designed to enable the utilisation opportunities to be realised.

² A management procedure in this context is a set of agreed science-based decision rules to inform advice on the adjustment of current management measures.

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4.2 COMMERCIAL FISHERY

The significant majority of the red cod catch in RCO 2 is caught as bycatch in the inshore bottom trawl fishery (approximately 97% of the total RCO 2 estimated catch between 2013/14 and 2015/16). This estimated RCO 2 catch comes from three main target species of tarakihi (35.7%), flatfish (24.2%) and gurnard (19.8%), and a smaller variety of others

Of the small proportion of targeted RCO 2 catch, approximately 98% is taken by bottom trawl, 2% are taken by set net and less than 1% by other methods. Peak catches in the trawl fishery occur in summer for most of the areas within RCO 2. The main bycatch species associated with the targeted RCO 2 trawl fishery are barracouta, gurnard and tarakihi, at approximately 5%, 4% and 4% of total catch, respectively, over the last three fishing years.

Reported commercial landings from RCO 2 in the last six years have varied, with high landings exceeding the TACC of 500 tonnes in 2010/11 and 2011/2012 and a low landing of 142 tonnes in 2014/15. While the quota management area covers a relatively large area (Fisheries Management Areas 2 and 8) approximately two-thirds of commercially caught RCO 2 has been reported as being taken in and around Hawke Bay in recent years. Historically, catches have varied year to year and exceeded the TACC several times. Following high landings in the early 1990s, the TACC was increased in 1995 from 364 tonnes to 500 tonnes. After 1996, catch did not approach this current TACC of 500 tonnes again until 2010.

Trawl surveys and catch sampling of red cod have shown that the fishery is based almost exclusively on two and three year old fish and is highly dependent on recruitment success. From commercial catch data, recruitment appears largely influenced by the climatic variability that prevails during early life history stages. The Fisheries (Commercial Fishing) Regulations 2001 define the minimum legal commercial size for red cod to be 25 cm, and because the fishery is based almost exclusively on two and three year old fish, a strong or weak year class can have a major impact on abundance of red cod of legal size in the fishery.

Anecdotal information from commercial fishers suggests that catches of red cod are currently higher with a lot of bigger (mature) fish being caught. The vessels that have been targeting RCO 2 in and around Hawke Bay are reporting high volume landings. Other fishers who are targeting tarakihi, flatfish and gurnard are reporting higher volumes of RCO 2 bycatch.

Anecdotal information is in-line with the most recent CPUE index for red cod, which has shown a long-term increasing trend from 2000 to 2013, before decreasing sharply in 2014 and 2015. The CPUE has rapidly increased since 2015 and the current CPUE for the 2016/17 fishing year is at the highest level in the last twenty years.

4.3 RECREATIONAL FISHERY

Red cod is a reasonably important recreational fish species. The main method used to harvest red cod is line fishing from boat and shore. There is a minimum recreational legal size for red cod of 25 cm and a maximum daily bag limit of 20 in the RCO 2 area.

The most recent National Panel Survey of recreational fisheries harvests estimated 23.7 tonnes of red cod were caught by recreational fishers in the RCO 2 management area in the 2011/12 fishing year.³ However, MPI notes that there is uncertainty in using the estimate

³ Wynne-Jones J, Gray A, Hill L, Heinmann A (2014) National Panel Survey of Marine Recreational Fishers 2011-2012: Harvest Estimates. New Zealand Fisheries Assessment Report 2014/67. 139p.

from 2011/12 to estimate or predict current catches. There is currently no recreational catch allowance set for RCO 2, though it is believed that the recreational catches of RCO 2 are low compared to those of the commercial sector. An updated survey of recreational catch is scheduled for the 2017/18 fishing year, and alongside existing information could inform the setting of a baseline recreational allowance in the future.

4.4 MĀORI CUSTOMARY FISHERY

Information on customary catch is uncertain but MPI has no information to indicate that customary catch has changed significantly over the last few years. Anecdotal information suggests that fishers are taking fish for customary purposes under the recreational daily bag limit of 20 red cod. In meeting obligations to $M \Box$ ori, MPI is working together with relevant local iwi forums to improve customary reporting at all levels.

The taiāpure of Porangahau, Palliser Bay and the mātaitai reserves of Hakihea, Horokaka, Toka Tamure, Te Hoe, Moremore (a) and (b), and Marokopa are all within, or partially within, the RCO 2 QMA. MPI notes that the proposals in this paper will not impact on, or be impacted by, these taiāpure and mātaitai reserves. The RCO 2 QMA does not encompass any areas covered by section 186B of the Act.

4.5 ALL OTHER SOURCES OF MORTALITY CAUSED BY FISHING

There are various potential other sources of mortality related to fishing of RCO 2, but MPI is not able to quantify these precisely. In addition to any red cod below the minimum legal size that do not survive after being returned to the sea, sources may include illegal discarding of legal sized red cod to avoid deemed value payments and unseen mortality caused by trawl fishing methods. Currently there is no specific allowance set for other sources of mortality related to fishing for this fishery. MPI considers an increase in the quantity of fishing-related mortality is likely due to the increased abundance of red cod and that this could be mitigated to some extent by recognising and allowing for an increase in bycatch.

4.6 PREVIOUS REVIEWS

A high abundance of red cod in the 2011/12 fishing year led to commercial fishers landing approximately 10% more RCO 2 than the TACC of 500 tonnes. Due to the nature of the RCO 2 fishery, it is likely that the majority of this was caught as unintentional bycatch.

In the following fishing year of 2012/13, research was undertaken to develop an in-season management procedure, and this was presented to stakeholders as an alternative management approach for RCO 2. The 2012/13 management procedure indicated that a TAC increase of 238 tonnes could be made. Representatives of the commercial fishing industry supported the in-season management approach in MPI's preliminary discussions, but proposed a more precautionary commercial catch allowance. Industry indicated they preferred an increase to the TAC by half of the output of the management procedure and MPI consulted on an inseason TAC increase of 119 tonnes. This was used to generate an additional 119 tonnes of RCO 2 ACE in the 2012/13 fishing year.

4.7 NEW INFORMATION

The RCO 2 management procedure was updated and revised in 2014. The RCO 2 CPUE for first three months of the 2016/17 fishing year was matched against historical annual catch, represented as a regression line. The output of the procedure forecasts the end of season catch to be 966 tonnes (a 466 tonne increase above the baseline TACC) for the 2016/17 fishing year.

Given the variable abundance and high productivity of red cod in RCO 2, MPI considers an in-season increase for RCO 2 within the amount recommended by the procedure to be low-risk to the long-term sustainability of the stock based on the available information.

5 Legal Considerations

5.1 SETTING MANAGEMENT MEASURES

This paper proposes changes to the in-season settings only. No changes are proposed to the baseline settings. As discussed in the Management Approach section of this document, red cod (RCO, which includes RCO 2) is on Schedule 2 of the Act. Schedule 2 applies to stocks whose abundance is highly variable from year to year. For any of these stocks, section 13(7) of the Act allows the Minster to increase the TAC within a fishing year. The Minister may do so only after considering information about stock abundance in the current fishing year and after having regard to the matters specified in subsections 13(2), 13(2A) (if applicable) and 13(3) of the Act.

Section 13(2) of the Act specifies requirements for setting a TAC where a reliable estimate of the current biomass ($B_{CURRENT}$) of the stock and the level of biomass that can produce the maximum sustainable yield (B_{MSY}), is known. Since estimates for $B_{CURRENT}$ and B_{MSY} are not known for RCO 2, section 13(2A)(c) of the Act provides for the Minister to use the best available information to set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, the B_{MSY} level.

Red cod stocks are characteristic of high inter-annual variability, and, under the agreed management procedure, any increase to the annual catch allowances that result from increased red cod abundance will only be in effect for the current fishing year. MPI considers that the proposed increase of the in-season TAC for RCO 2 is not inconsistent with the objective of maintaining the stock at or above, or moving towards or above a level that can produce the MSY for the long-term sustainability of the stock.

When making a decision concerning the TAC for a stock under section 13(2A), subsection (b) requires the Minister to also have regard to the interdependence of stocks, the biological characteristics (discussed above) and any environmental conditions affecting the stock. MPI considers that the options proposed are unlikely to adversely affect interdependent stocks (the main species caught in association with RCO 2 are barracouta, gurnard and tarakihi). RCO 2 recruitment variability is thought to be linked to environmental conditions and the management approach provides for this variability.

Section 20(4) of the Act does not allow the TACC to be increased in-season if the Minister decides to increase the TAC. Despite this, section 68(1) allows the Minister to create an additional amount of ACE equal to the amount by which he would have increased the TACC. This is provided that the TAC is increased in accordance with section 13(7) and that the

Minister considers the matters referred to in section 21(1) which include making allowances for Māori customary non-commercial fishing interests, recreational interests and all other mortality caused by fishing.

Any additional ACE generated will be allocated to existing quota owners according to the formula in section 68(2).

5.2 FURTHER CONSIDERATIONS

Hawke Bay

As red cod in RCO 2 is primarily taken by bottom trawl fishing, and approximately two-thirds of commercially caught RCO 2 has been taken in and around Hawke Bay in recent years, MPI notes specific local area concerns that are being discussed in that region.

MPI notes that while a small amount of increased targeting of red cod may occur in the Hawke Bay area as a result of the proposed catch limit increase, the proposal largely recognises the expected change in red cod catches within the mixed fishery and the ability to sustainably allow for this in the short term so that the sustainable utilisation of RCO 2 and other stocks is not unnecessarily constrained.

The proposed increase applies until 30 September 2017 and does not overlap with the voluntary seasonal closures that have recently been introduced to two areas within Hawke Bay.

MPI seeks views from tangata whenua and stakeholders on possible impacts of an in-season increase on the Hawke Bay area including suggestions from the fishing industry about how to mitigate recreational concerns about the impacts on the local area and/or other species taken in the mixed fishery.

Protected Species

The current interactions between the target RCO 2 fishery and protected species are unknown, but are likely to be relatively minor given the relatively small amount of targeting that occurs. As previously discussed a large proportion of RCO 2 catch is taken as bycatch in the Hawke Bay area and there is limited information to suggest that interactions with protected species would increase as a result of allowing for greater volumes of RCO 2 bycatch. However, the RCO 2 QMA overlaps with part of the known range of the Maui's dolphin and this should be given specific consideration. Due to their low abundance around the northern Taranaki coast in the North Island the endemic Maui's dolphin is declared as a threatened species under the provisions of the Marine Mammals Protection Act 1978. The set net and bottom trawl fisheries in this area have been subject to a range of measures designed to reduce interactions with Maui's dolphins.

MPI considers there will be no significant change as additional fishing effort is not anticipated, but if this did occur it would likely be in the bottom trawl fishery which, as a result of the measures that now apply, is considered low risk to dolphins. MPI notes that there has been no targeting of RCO 2 north of the Whanganui River in the past five years, and only one event six years ago.

6 Proposed Options

6.1 OPTION 1 (STATUS QUO)

Option 1 is the status quo and proposes no changes to the TAC and no additional ACE generated under section 68 of the Act.

The commercial fishing sector is the only sector constrained by the baseline settings. Abundance is considered greater than in previous years and if fishers could not avoid catching red cod, Option 1 could necessitate the additional cost to fishers of covering over-catch of RCO 2 with deemed value payments, and unnecessarily constrain sustainable utilisation of RCO 2 and other stocks. Based on the 2016/17 RCO 2 port price of \$0.71/kg, MPI considers that not landing all RCO 2 of legal size could lead to a missed opportunity for increased utilisation, while ensuring long-term sustainability, with a loss of revenue up to \$165,430.

Option 1 would be a departure from the management procedure informed approach that has been in place for RCO 2 since 2013 and would signal the desire to re-evaluate approaches to monitoring and managing this fishery.

6.2 OPTION 2 (PREFERRED OPTION)

Option 2 proposes:

- The TAC be increased from 500 t to 807 t;
- Allowance be made for the current fishing year for customary fishing (1 t), recreational fishing (36 t) and all other mortality caused by fishing (37 t);
- Additional ACE of 233 t to be provided, increasing total ACE for the 2016/17 year from 500 t to 733 t (an approximately 47% increase).

The proposed in-season TAC increase to 807 tonnes under Option 2 considers the range of sources of fishing-related mortality that may occur in this fishery. The proposed allowance of 36 tonnes for recreational fishing is based on the most recent 24 tonne estimate of recreational catch in the 2011/12 fishing year, with an additional pro-rated increase of 47% (12 tonnes), consistent with the proposed level of the 2016/17 in-season increase for the commercial sector. This allows for an increase in recreational catch given the likely higher abundance of red cod this year. An allowance of 1 tonne for customary fishing recognises that some catch for customary purposes is likely to occur under recreational fishing provisions. An allowance of all other sources of mortality caused by fishing is proposed at 5% of the commercial catch limit, consistent with level of allowance for the similar trawl fishery of RCO 3 (East Coast South Island). More precise information is not available to inform the setting of these allowances, however, MPI considers that they provide reasonable estimates of the potential mortality that may occur in the fishery.

Option 2 provides for half of the additional sustainable level of commercial catch estimated by the output of the management procedure. As RCO 2 is primarily taken as unintentional bycatch in the inshore bottom trawl fishery, MPI considers that an in-season increase in the TAC to 733 tonnes under Option 2 would be well within the sustainable harvest level and recognise increases in red cod bycatch, reducing the potential amount of RCO 2 over-catch required to be covered with deemed value payments.

Based on the 2016/17 RCO 2 port price of \$0.71/kg, full commercial utilisation of landed RCO 2 under Option 2 could potentially generate an additional \$165,430 of revenue compared to the baseline setting under Option 1 (the *status quo*). Due to the current lack of targeted commercial fishing for RCO 2 and the relatively low market value, MPI considers that an increase to the TAC under Option 2 is unlikely to result in any significant increase in commercial effort targeting RCO 2 or new vessels entering the fishery.

While it is possible that the proposed increases under Option 2 could influence fishing activity, given the historically small proportion of targeting it is unlikely to have significant impacts on other species or the environment. MPI notes that there has been no targeting of RCO 2 north of the Whanganui River in the past five years, and only one event six years ago.

If increased, the TAC would revert to existing baseline levels at the close of the 2016/17 fishing year on 30 September 2017. ACE for 2017/18 will be based on the TACC at 1 October 2017.

7 Other Matters

7.1 FUTURE MANAGEMENT CONSIDERATIONS

MPI notes that under-caught RCO 2 ACE can be carried forward to the subsequent fishing year. This is provided for under section 67A of the Act. For stocks not listed on Schedule 5A of the Act, at the end of each fishing year, MPI must allocate to ACE holders for the next fishing year the lesser of:

- the difference between the stock's ACE and reported catch from that preceding fishing year; or
- 10% of the amount of the stock's ACE from that preceding fishing year.

Given that the current management procedure uses information about in-season abundance to estimate a full-season sustainable catch limit, MPI considers that the output of the management procedure should provide for the full extent of the fishing-year catch. Providing for the carry-forward of ACE in addition to the increase indicated by the management procedure is not generally appropriate. MPI is planning to review the ACE carry-forward provisions for RCO 2 and other stocks managed with in-season reviews to address this. However, MPI does not consider the carry-forward provisions to pose risks in determining a possible in-season increase of the RCO 2 TAC for the 2016/17 fishing year.

MPI is proposing a separate wider review of the management of RCO 2, including revision of the TAC and the setting of baseline allowances for customary fishing, recreational fishing and all other sources mortality caused by fishing, for the 2017/18 fishing year onwards, as part of the regular review of Quota Management Settings. A consultation period will begin in June 2017 and any setting of these allowances would come into effect from 1 October 2017.

8 Conclusion

The best available information suggests that the current RCO 2 abundance is relatively high. As RCO 2 is primarily taken as unintentional bycatch, an in-season increase in the TAC and provision of additional ACE would help to address the changes in catches, reduce the potential amount of RCO 2 over-catch required to be covered with deemed value payments,

and would ensure that the sustainable utilisation of RCO 2 and associated stocks is not unnecessarily constrained.

MPI considers that Option 2 would provide this. Option 2 is consistent, as a proportion of the output from the RCO 2 management procedure, with the level of TAC increase and additional ACE granted under the previous RCO 2 in-season review in 2012/13.

MPI is seeking information and views from tangata whenua, fishery stakeholders and other interested parties to inform the review of in-season catch limits for RCO 2.

It is important to note that the Minister has broad discretion in exercising his powers of decision-making. He will make his own independent assessment of the information presented to him by both MPI and stakeholders before making a final decision.