Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of the recreational daily limit for kina in FMA 1

Once you have completed this form, send it by email to FMsubmissions@mpi.govt.nz
While we prefer email, you can also post your submission to:

Fisheries Management
Fisheries New Zealand
17 Maurice Wilson Avenue
PO Box 53030
Auckland Airport 2022
New Zealand

Submissions on the proposals must be received no later than 5pm on Friday 3 May 2024

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own. If preparing your own, please use the same headings as used in this form.

Submitter details

Name of submitter or contact person	Carolyn Aguilar, Advisor, Conservation Impact
Organisation (if applicable)	WWF-New Zealand
Email address	caguilar@wwf.org.nz
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	Option 2 with other measures implemented to address overfishing of predator species

Submissions are public information

Note that all, part, or a summary of your submission may be published on this website. Most often this happens when we issue a document that reviews the submissions received. People can also ask for copies of submissions under the Official Information Act 1982 (OIA).

The OIA says we must make the content of submissions available unless we have good reason for withholding it. Those reasons are detailed in sections 6 and 9 of the OIA. If you think there are grounds to withhold specific information from publication, make this clear in your submission or contact us. Reasons may include that it discloses commercially sensitive or personal information. However, any decision MPI makes to withhold details can be reviewed by the Ombudsman, who may direct us to release it.

Submission:[1]

Details supporting your views:

Introduction

As one of the leading environmental Non-Governmental Organisations (eNGOs) in New Zealand, WWF-New Zealand (WWF-NZ) supports science-based, pragmatic solutions that can deliver a future where humanity lives in harmony with nature. We further consider that achieving sustainable fisheries, in line with Target 10 of the Kunming-Montreal Global Biodiversity Framework, is essential for New Zealand.

WWF-NZ appreciates the opportunity to provide input on the proposed recreational daily limits for kina and Centrostephanus: Fisheries Management Area 1 (the east coast of the upper North Island). Although we support increasing recreational daily limits as a strategy for reducing urchin barrens, that alone is not sufficient as these options fail to address the root cause. Therefore, this proposal alone will not create the change needed for long term ecosystem recovery of FMA 1.

It is noted in the consultation document that this proposal is not the sole measure being taken by Fisheries New Zealand to address urchin barrens. It is important that the comprehensive set of measures taken include measures to address the overfishing of key sea urchin predators, including crayfish.

The proposed options for kina in FMA 1 are:

- Option 1: Status quo (retain the current daily limit of 50 kina per person per day).
- Option 2: Increase the daily limit from 50 to 100 kina per person per day.
- Option 3: Increase the daily limit from 50 to 150 kina per person per day.

Sea urchin barrens are a significant threat to marine ecosystems

In Aotearoa New Zealand, the overgrazing of vegetation by sea urchins leads to the ecological collapse of a functioning shallow-water reef ecosystem. Ecological shifts occur from kelp forests full of biological diversity to rocky reefs with very little biodiversity and primary productivity.[2]

Kelp forests play a large role in ensuring a healthy and thriving ecosystem as they are highly productive components of rocky marine coastlines. They provide habitat structure, nurseries and serve as a food source for other species.[3] They also moderate sedimentation, water flow, carbon sequestration and are a key component of nutrient dynamics.[4,5] Kelp also provides global ecosystem services valued at over $500 billion US dollars annually.[6]

In a world suffering the impacts of a changing climate, studies show that kelp forests also demonstrate resilience to climate change and persist despite warming temperatures.[7] However, when a kelp forest is destroyed, these areas become exceptionally vulnerable to climate change impacts.[8]

Given the economic and ecological benefits of kelp forests, the threat posed by urchin barrens is critical to address. WWF-New Zealand supports the desire of Fisheries New Zealand to mitigate this issue using an integrated and comprehensive set of measures. The goal is to achieve long-term reduction of urchin barrens if we want our ocean biodiversity and marine ecosystems to thrive in the face of climate change. The restoration of kelp forest productivity and biodiversity depends not only on controlling kina and Centrostephanus, but also on addressing the root causes of urchin barrens. WWF-New Zealand believes that this should be the top priority beyond managing the recreational daily catch limits.

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[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

[2] Ling S.D. (2008) Range expansion of a habitat-modifying species leads to loss of taxonomic diversity: a new and impoverished reef state. Oecologia 156:883–894

[3] Jones, C. G et al. (1997) Positive and negative effects of organisms as physical ecosystem engineers. Ecology 78, 1946–1957

[4] Schmitz, O. J. et al. (2010) Predator control of ecosystem nutrient dynamics. Ecol. Lett. 13, 1199–1209

[5] Arkema, K. K. et al. (2013) Coastal habitats shield people and property from sea-level rise and storms. Nature Climate Change 3, 913

[6] Eger, A.M. et al. (2023) The kelp forest challenge: a collaborative global movement to protect and restore 4 million hectares of kelp forests. Journal of Applied Phycology

[7] Krumhansl, K.A. (2024) Loss, resilience and recovery of kelp forests in a region of rapid ocean warming, Annals of Botany, Volume 133, Issue 1, 73–92

[8] Rogers-Bennett, L., Catton, C.A. (2019) Marine heat wave and multiple stressors tip bull kelp forest to sea urchin barrens. Sci Rep 9, 15050

Overfishing, the main cause of urchin barrens, needs to be addressed

To address urchin barrens, the proposed method of increasing the recreational daily take limit is part of an integrated management approach to address the causes and effects of urchin barrens. The consultation document states that this is not the sole measure being taken; however, there is not much detail about other management actions that are to be taken, including to address the main cause.

Although urchin barrens can be exacerbated by environmental changes, such as climate change or pollution, it is the trophic cascades brought on by fisheries that is their main cause.[9] There is a wide range of scientific evidence that demonstrates that a reduction of predator species, such as crayfish, is the primary cause of the extreme rise of kina populations.[10,11] WWF-NZ believes it is essential that addressing the overfishing of predator species be a top priority for Fisheries New Zealand. Changing the recreational catch limits of kina and Centrostephanus is not enough to achieve long-term and meaningful change.

In section 5.1 of the consultation document, Fisheries New Zealand provided a summary of engagement with Iwi Fisheries Forums. Both Te Hiku o te Ika and Mid-North Fisheries Forums emphasised the importance of restoring populations of kina predators in order to maintain ecosystem balance and that it should be a priority.[12]

Large-scale urchin removals can help improve kelp recovery and WWF-NZ acknowledges that option 2 (increasing recreational take limits from 50 to 100) would be a good tactic *when* coupled with implementation of additional measures to restore predator populations.

Marine protection as a tool to mitigate urchin barrens

In regions where sea urchin barrens are prevalent, rebuilding predator populations through marine protection can provide a feasible ecosystem-based approach to restoring resilient kelp forest ecosystems and their associated ecosystem services.[13]

There are many examples of marine protection as a tool for promoting kelp forest restoration and ecological recovery on urchin barrens. One example is the La Palma marine protected area, where over four years of protection, seaweed expanded in areas that were formerly urchin barren. These changes were directly related to increases in the abundance of predators of the sea urchins. Specifically in the no-take area, predator populations were recovered enough to induce these quick shifts in the benthic community.[14]

A study that took place in Aotearoa found that within two no-take marine reserves, snapper and crayfish were substantially larger and more abundant than in adjacent fished areas.[15] Because of this, these areas were found to have considerably less incidence of urchin barrens compared to adjacent fished areas.[16]

It is noted that the Hauraki Gulf Marine Park is situated within FMA 1. Given the recent consultation regarding the Hauraki Gulf/Tīkapa Moana Marine Protection Bill, WWF-NZ wants to reemphasize the importance that the Bill proceeds to implement the marine protection proposed and is supported by Fisheries New Zealand. Due to the presence of urchin barrens and biodiversity decline in FMA 1, we consider more spatial protection in FMA 1 beyond what is proposed in the Hauraki Gulf Marine Protection Bill is merited.

We further consider that other forms of protection, such as fisheries closures for crayfish and other urchin predator species should be included in the set of measures taken as well.

[9] Doheny B., Davis J.P., Miller B. (2023) Fishery-induced trophic cascades and sea urchin barrens in New Zealand: a review and discussion for management
[10] Wernberg, T. et al. (2019) Chapter 3 - Status and Trends for the World's Kelp Forests. In C. Sheppard (Ed.), World Seas: an Environmental Evaluation: Volume III: Ecological Issues and Environmental Impacts (2nd ed), 57–78
[11] Shears, N., Babcock, R. C. (2004). Community composition and structure of shallow subtidal reefs in northeastern New Zealand. Science for Conservation, 245
[12] Fisheries New Zealand Discussion Paper No: 2024/12 at line 62, p 10-11
[13] Peleg O. et al. (2023) Long-term marine protection enhances kelp forest ecosystem stability. Ecological Applications. 33(7)
[14] Sangil, C. et al. (2012) No-take areas as an effective tool to restore urchin barrens on subtropical rocky reefs, Estuarine, Coastal and Shelf Science, Volume 112, 207-215
[15] Willis T.J. et al.(2003) Protection of exploited fish in temperate regions: high density and biomass of snapper Pagrus auratus (Sparidae) in northern New Zealand marine reserves. Journal of Applied Ecology. 40(2):214–227
[16] Kerr, V. C. et al. (2024) Estimating the extent of urchin barrens and kelp forest loss in northeastern Aotearoa, New Zealand, New Zealand Journal of Marine and Freshwater

Conclusion

WWF-NZ does want to express our appreciation that Fisheries New Zealand is desirous to restore ecological balance and strengthen their actions to mitigate urchin barrens. The proposed options are welcomed only if additional action is taken to address the underlying cause of urchin barrens. This can include fisheries closures for predator species and creating additional marine protected areas in FMA 1. It is not only our obligation under the Fisheries Act 1996, but also our duty as stewards of our species and environments here in Aotearoa New Zealand. We would be happy to meet with you to discuss any of our recommendations in this submission independently.