



Fisheries New Zealand

Tini a Tangaroa

Proposed recreational daily limits for kina and *Centrostephanus*: Fisheries Management Area 1

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1 Why are we proposing a review?

1. Urchin barrens are a significant concern across New Zealand, where they proliferate due to high densities of sea urchins. These barren areas emerge when sea urchins consume virtually all vegetation on rocky reefs, leading to a loss of habitat and biodiversity. The widespread occurrence of barrens at such a scale is generally attributed to the removal of sea urchin predators through fishing activities, noting a wide range of factors also likely play a part. Consequently, the marine ecosystem experiences reduced biodiversity and productivity, posing challenges for the overall health and resilience of coastal environments. Addressing urchin barrens, and their causes, is crucial for restoring and maintaining the ecological balance of these marine habitats.
2. Fisheries New Zealand is adopting an integrated management approach to address the proliferation of these barren areas, recognising the urgent need for comprehensive action. This approach encompasses a suite of management initiatives aimed at restoring kelp forests and mitigating the adverse effects of urchin barrens. The consideration of adjustments to the recreational daily limit for kina is one of many tools in Fisheries New Zealand's broader management efforts.¹ There will be further opportunity to input into the various other initiatives as they are progressed.
3. Fisheries New Zealand is reviewing the recreational daily limit for kina in the Auckland East Fisheries Management Area (FMA) 1 (Figure 1). FMA 1 covers the inshore waters and harbours along the north-eastern coast of the North Island from North Cape to Cape Runaway. It includes the eastern coast of Northland, the Hauraki Gulf, the Coromandel, and the Bay of Plenty.

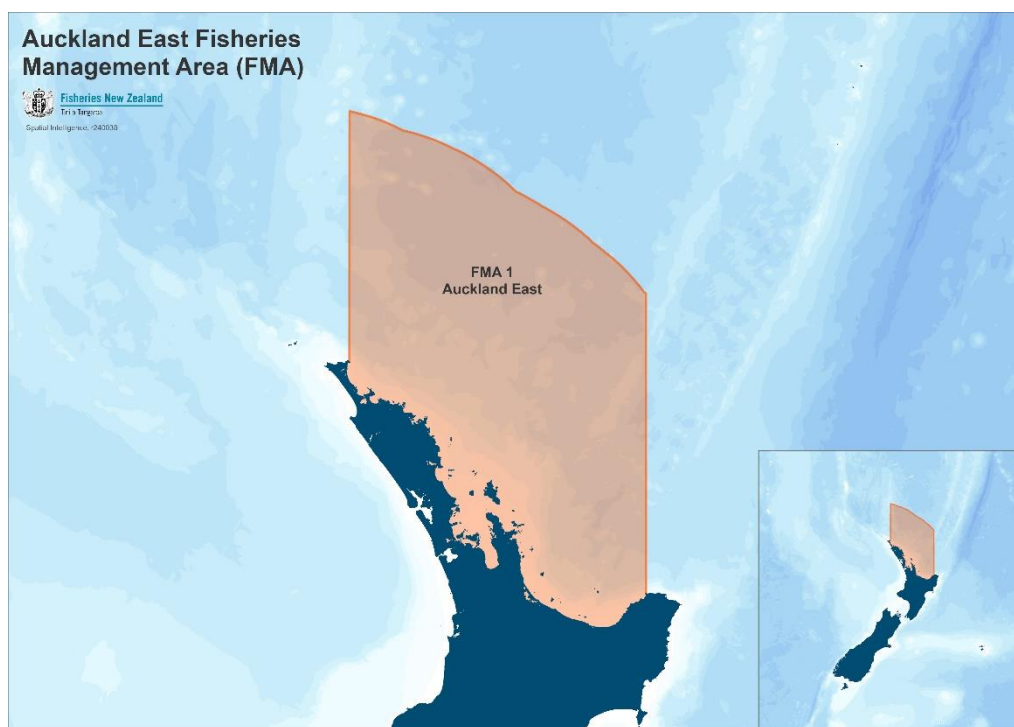


Figure 1: Auckland East Fisheries Management Area (FMA 1).

4. Under the Fisheries (Amateur Fishing) Regulations 2013 ('the Amateur Regulations'), the daily limit for "kina" covers two sea urchin species - *Evechinus chloroticus* (commonly referred

¹ Fisheries New Zealand envisions the development of initiatives like rock lobster and snapper management, special permits, increased research efforts, working in tandem to provide an integrated solution to kina barrens. An integrated management approach will be developed in collaboration with tangata whenua, commercial and recreational fishers, and local communities to address more localised concerns.

to as kina and managed under the Quota Management System ['QMS']) and *Centrostephanus rodgersii*² (the purple or long-spined urchin that is not managed under the QMS)³.

5. Information from fishers, scientists, and other stakeholders (including through local area surveys) suggests kina abundance is high in many areas of FMA 1 leading to the formation 'urchin barrens'. Urchin barrens are areas of subtidal rocky reef where grazing by sea urchins has removed most, or all, of the kelp and other macroalgae, leaving bare or barren rock. In these areas, sea urchins prevent the growth of kelp and other macroalgae, causing a shift to barren rocky habitats. Urchin barrens are characterised by the absence or depletion of kelp forests and the proliferation of sea urchins, resulting in reduced biodiversity and ecological imbalance.
6. High densities of kina and associated sea urchin barrens were first recorded in scientific literature in 1964 and kina abundance is thought to have increased significantly since the mid-1900s.⁴
7. Urchin barrens in north-eastern New Zealand are also caused by the long-spined sea urchin (*Centrostephanus rodgersii*; hereafter referred to as *Centrostephanus*). *Centrostephanus* has been present in New Zealand since at least 1897, but recently due factors such as to climate change, warming waters and shifting ocean currents, the species has both extended its range southwards and increased in abundance throughout New Zealand and Australia.⁵ *Centrostephanus* has few predators due to its long spines and is known to either create barrens in areas where kina would not or join existing barrens alongside kina.
8. *Centrostephanus* are frequently observed at greater depths than kina, and it are known to form urchin barrens in these habitats as well. Unlike kina, *Centrostephanus* exhibits a nocturnal feeding behaviour, residing in cracks and pockets within the rocks during the day and emerging to graze on algae at night⁶. This nocturnal behaviour makes *Centrostephanus* less susceptible to predation compared to kina, contributing to its ability to thrive in certain environments. *Centrostephanus* is not encompassed within the QMS and does not have an allocated Total Allowable Catch (TAC).
9. In recent years urchin barrens have become an increasing concern which has prompted significant management and research, as well as engagement with iwi and stakeholders. In February 2024 the Minister for Oceans and Fisheries committed to prioritise and accelerate these initiatives, including a review of the recreational daily limit for kina.
10. Fisheries New Zealand is now seeking feedback on proposals to increase the recreational daily limit in FMA 1 for kina (Table 1). For the purposes of this paper, when referring to the daily limit for kina, it encompasses both species of kina and *Centrostephanus*.

Table 1: Proposed options for the recreational daily limit for kina in FMA 1.

Option	Recreational Daily Limit
Option 1 (status quo)	50 per person
Option 2	100 per person
Option 3	150 per person

11. It is important to note that the proposed increases to the daily limits are not intended as the sole measure to address urchin barrens. A comprehensive set of measures is required to respond to the causes and effects of urchin barrens and Fisheries New Zealand is also developing and implementing other actions to address the kina barrens issue.

² refer definition of 'kina in regulation 8 of the Amateur Regulations

³ For more information about the QMS go to <https://www.mpi.govt.nz/law-and-policy/legal-overviews/fisheries/quotamanagement-system/>

⁴ Dromgoole (1964); Shears & Babcock (2007)

⁵ Sweatman (2021)

⁶ Byrne & Andrew (2013)

2 Recreational fishing rules

12. Recreational fishing rules are set under the Amateur Regulations and apply to all recreational fishers. A recreational fisher is a person not fishing for the purpose of sale and in accordance with the Amateur Regulations and includes those fishing on an amateur fishing charter vessel and commercial fishers taking fish for non-commercial purposes under section 111 of the Fisheries Act 1996⁷ (**the Act**). The Amateur Regulations do not apply to commercial fishers⁸ or fishing carried out under customary fishing regulations.
13. Recreational fishing rules can include minimum size limits, daily limits⁹, fishing area restrictions or closures, accumulation limits, and gear restrictions. This proposal only considers changes to the recreational daily limit for kina.

2.1 Recreational daily limits

14. A recreational daily limit refers to how many fish¹⁰ one person can take each day. There are two types of recreational limits:
 - **an individual species limit:** the total number of a specific species of fish that one person can take per day; and
 - **a combined daily limit:** the total number of any combination of specified fish species that one person can take per day.
15. Individual species and combined daily limits can operate together or separately, with individual limits for some species being additional to the combined limit, and individual limits for other species included within the combined limit. These limits can also differ depending on region.¹¹
16. A daily limit is intended not only to ensure sustainable harvesting levels, but also to share the resource between individual fishers. As there are no constraints on the number of recreational harvesters, overall recreational harvest is unconstrained. In some cases, a limit addresses the additional harvest pressure that close proximity to a major population centre, such as the Auckland and Coromandel regions, can create.
17. Taking or possessing catch above the daily limits may be subject to enforcement action, including infringement notices or prosecution.

2.2 Daily limits for shellfish

18. The daily limit for recreational take of kina across New Zealand is 50 kina per person. *Centrostephanus* is included in this daily limit for kina.
19. Under regulation 5A of the Amateur Regulations, the Minister may make any instruments that set or vary any daily limits, accumulation limits, minimum or maximum legal sizes, or other recreational fishing management controls.
20. These controls are currently specified in the Fisheries (Recreational Management Controls) Notice (**the Notice**).¹² Fisheries New Zealand is proposing a new daily limit for kina taken from FMA 1 is set, which (if agreed) would be given effect through an amendment to the Notice.

⁷ [Fisheries Act 1996](#)

⁸ Commercial Fishers are fishers who have a fishing permit issued under section 91 of the Fisheries Act entitling them to take fish for commercial purposes.

⁹ Also known as 'daily catch limits' and referred to as 'daily limits' in the Amateur Regulations.

¹⁰ Fish includes all species of finfish and shellfish, at any stage of their life history, whether living or dead.

¹¹ For more information on regional recreational daily limits visit [Recreational Fishing Rules](#)

¹² Fisheries Notices: <https://www.mpi.govt.nz/fisheries-notices/>

3 Sea urchins

3.1 Biology

3.1.1 Kina

21. Kina are found throughout New Zealand and the sub-Antarctic Islands in rocky reefs, generally in waters from the shallow subtidal to depths of at least 60 metres.¹³
22. Kina has an annual reproductive cycle which culminates in multiple spawning events across mid- and late summer.¹⁴ Size at maturity appears to vary between locations and may be as small as 30 mm test diameter (**TD**) and as large as 75 mm TD.¹⁵ The rate of settlement is likely to vary between years and appears to differ among locations and habitats. The rate of settlement is likely to vary between years and appears to differ among locations and habitats. Larval abnormalities have also been correlated with increasing suspended sediment concentration in laboratory experiments.¹⁶ This signals a link between environmental factors associated with terrestrial runoff and kina abundance.
23. Feeding experiments have indicated that kina possess a selective mode of feeding, being able to distinguish between algal species but with a preference for the kelp *Ecklonia radiata*¹⁷ and to a lesser extent *Sargassum sinclarii*, *Landsburgia quercifolia* and *Carpophylum maschalocarpum*.¹⁸ However, kina can also feed on encrusting organisms, such as sponges, when algal food is scarce.¹⁹
24. There is little genetic difference between kina that have been analysed in different parts of New Zealand, and the boundaries of the biological stock are unknown.
25. Other factors, for example wave exposure, climate, disease, and toxic microalgae²⁰, are also known to negatively impact on the abundance and distribution of kina and urchin barrens.

3.1.2 Centrostephanus

26. *Centrostephanus*, like kina, are predominantly located in the northern and offshore regions of New Zealand but are increasingly expanding their range southward and toward inshore areas. This expansion is facilitated by factors such as climate change, warming waters, and alterations in ocean currents. They are commonly observed in rocky reef habitats and can be found along the coastline of FMA 1.²¹
27. With an annual reproductive cycle, sexual maturity is reached at 40-60 mm TD. Spawning in smaller individuals (30-50 mm TD) can be induced but individuals of these size classes are not reliably fertile.²²
28. *Centrostephanus* primarily feed on algae, including kelp and macroalgae. However, they exhibit a different grazing pattern to kina, showing a preference for understorey grazing which inhibits new recruitment of algal species.²³

¹³ Miller & Abraham (2011)

¹⁴ Walker (1982)

¹⁵ Miller & Abraham (2011)

¹⁶ Phillips & Shima (2006)

¹⁷ Cole et al. (1998); Choat & Schiel (1982)

¹⁸ Choat & Schiel (1982)

¹⁹ Ayling (1978)

²⁰ Shears et al. (2008); Shears & Ross (2010)

²¹ Balemi & Shears (2023)

²² Byrne & Andrew (2020)

²³ Doheny et al. (2023)

3.2 Status of the stocks

3.2.1 Kina

29. FMA 1 consists of two kina fisheries under the QMS: East Northland (**SUR 1A**) and Hauraki Gulf/Bay of Plenty (**SUR 1B**) (Figure 2). Kina was introduced to the QMS in 2003. At that time, it was acknowledged that there would be benefits in managing kina catches at a finer scale than the standard FMAs used for the majority of QMS stocks. The division between SUR 1A and SUR 1B provided a degree of finer scale management while still giving fishers flexibility to gather kina from a variety of locations. Initial catch limits were set cautiously, below the maximum historical recorded catches.
30. There are no established reference points to use for estimating the maximum sustainable yield²⁴ of kina, no recognised approach for assessing the status of the stock and there is insufficient information to estimate current stock status.²⁵
31. While there is no formally assessed estimate of kina biomass for the SUR 1A and SUR 1B stocks, kina do exist at extremely high densities (greater than 20 per m²)²⁶ in areas known as kina barrens. Information from tangata whenua, fishers, scientists, and other stakeholders suggests kina abundance is high in many areas and having clear impacts on other species and the wider marine ecosystem. Kina abundance is thought to have increased significantly since the mid-1900s²⁷.
32. As an indication of the biomass present in some areas within SUR 1A and 1B, University of Auckland researchers, operating under a Fisheries New Zealand special permit, recently removed an estimated²⁸ 65 tonnes of kina (~403,000 individual kina) from just 7.1 ha of shallow subtidal reef at sites at Hauturu-o-Toi / Little Barrier Island, Leigh, and Ōtata (Noises)²⁹.
33. Fisheries New Zealand recognises that kina are not uniformly distributed and do not occur at such high densities at all locations. However, there is suitable reef habitat for kina along much of the FMA 1 coastline and it is anticipated that the overall kina biomass for both stocks is very high relative to the current total allowable catch (**TAC**).

3.2.2 *Centrostephanus*

34. Currently, there is limited information available on the stock status of *Centrostephanus*. However, reports from fishers indicate an increasing abundance and range of *Centrostephanus*, raising concerns about the potential impact. This expansion is of concern particularly due to the ability of *Centrostephanus* to form new barrens and extend existing ones, highlighting the need for further research and management measures to address this issue.

3.3 Management background

3.3.1 Kina

35. The TACs of SUR 1A and SUR 1B were last reviewed in 2023. The Minister at the time decided to increase the TACs for both stocks, noting that (despite the absence of a formal stock assessment) reports from iwi, scientists, and fishers indicated the abundance across FMA 1 is high and would sustainably support increased utilisation. Through this review some concerns were raised by iwi in the SUR 1A region that this taonga species may be over-exploited,

²⁴ The Fisheries Act (1996) defines 'maximum sustainable yield' as the greatest yield that can be achieved over time while maintaining the stock's reproductive capacity, having regard to the population dynamics of the stock and any environmental factors that influence the stock.

²⁵ Fisheries New Zealand (2023) – [May 2023 Fisheries Assessment Plenary](#).

²⁶ Miller & Abraham (2011)

²⁷ Dromgoole (1964); Shears and Babcock (2007)

²⁸ Miller & Shears, (unpublished data)

²⁹ Miller & Shears, (2022)

particularly in areas significant to customary harvest. As such the decision was made to implement a more cautious increase in this fishery.³⁰

36. In March 2023, a National Science Workshop on kina barrens was held to prioritise scientific research to inform management of kina barrens. There was widespread concern expressed in the workshop regarding the state of the environment with respect to kina barrens and it was acknowledged an integrated management approach was required. It was noted by the workshop attendees that while kina harvest or removal can support kelp regrowth of macroalgae, it does not solely address the underlying causes of elevated sea urchin populations and is not a long-term solution for ecosystem recovery. Thus, any kelp recovery would be temporary unless broader ecosystem issues are addressed concurrently.
37. In January 2024, Fisheries New Zealand convened management workshops with tangata whenua in Northland to explore various management strategies and tools. During these sessions, there was support for ecosystem-based approaches and management tools that empower kaitiaki, reflecting a desire for indigenous stewardship. Additionally, it was also expressed that each management tool alone may not be effective, highlighting the need for integrated and complementary approaches.
38. Specific insights and considerations regarding the daily limit are discussed in section 6 of this document.

3.3.2 *Centrostephanus*

39. *Centrostephanus* is not currently managed under the QMS. However, there has also been engagement with iwi, fishers, and other stakeholders to discuss their potential impacts and management.
40. Abundance surveys for *Centrostephanus* have been carried out in limited areas across New Zealand. The exact arrival time of this species is uncertain, but it is believed to have originated from Australia in the last century with its presence first being recorded in 1897.³¹ Its long larval stage, lasting approximately three months, suggests it could have been transported successfully across the Tasman Sea during this time. Due to factors such as climate change, warming waters, and shifting ocean currents, *Centrostephanus* is extending its range southward and increasing in abundance in northern New Zealand and southern Australia. There is little knowledge on the extent of the threat this species poses however it is known to have potential to create more persistent barrens across a range of differing habitats.³²

3.4 Recreational catch information

3.4.1 Quota Management System

41. The QMS currently only accounts for kina (*E. chloroticus*). *Centrostephanus* is not currently managed under the QMS framework.
42. The current TACs for kina in SUR 1A and SUR 1B are 247 and 509 tonnes, respectively (Table 1). This is made up of allowances for customary Māori, recreational, and all other mortality caused by fishing and a Total Allowable Commercial Catch (**TACC**). The recreational allowance in SUR 1A is 65 tonnes and 90 tonnes in SUR 1B, with a combined recreational allowance of 155 tonnes across FMA 1, which encompasses SUR 1A and SUR 1B (Figure 2).

³⁰ [The Minister's Decision Letter for October 2023.](#)

³¹ Sweatman (2021)

³² Doheny et al. (2023)

Table 1: TAC, TACC and Allowances (in tonnes) for SUR 1A and SUR 1B from 1 October 2023.

Stock	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
SUR 1A	247	80	100	65	2
SUR 1B	439	280	135	90	4

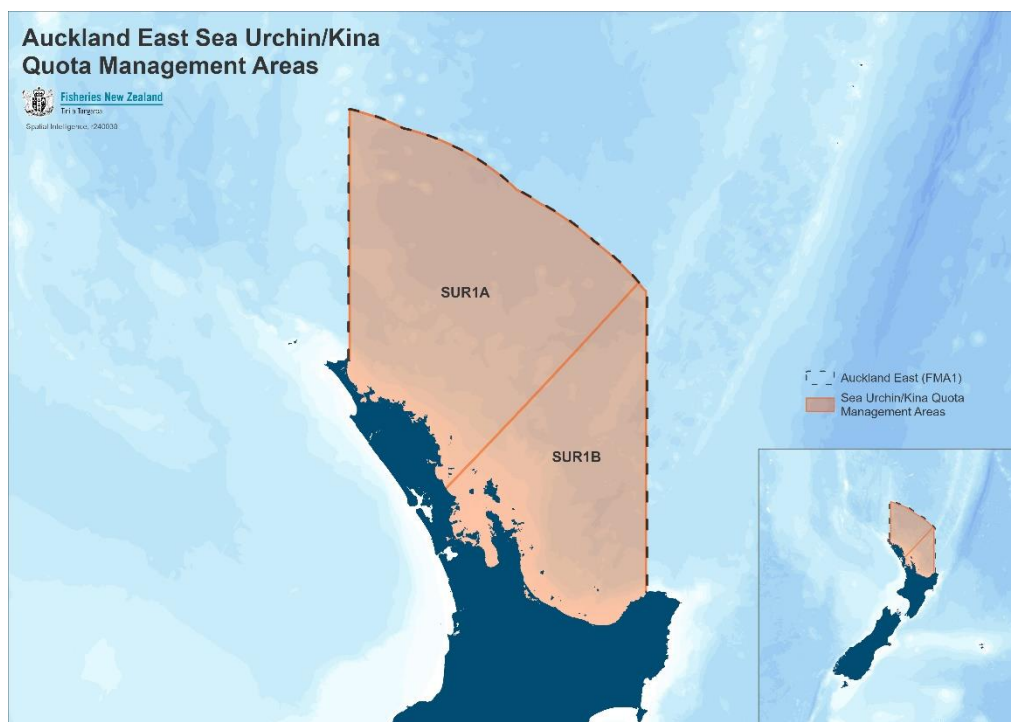


Figure 2: Quota Management Areas East Northland (SUR 1A) and Hauraki Gulf /Bay of Plenty (SUR 1B) encompassed by FMA 1.

3.4.2 Recreational fishery

43. Under the Amateur regulations, kina is defined as both *E. chloroticus* and *C. rodgersii* species.
44. Kina are amongst the top six shellfish species harvested by recreational fishers nationally and are typically harvested by hand gathering while wading, freediving or scuba diving, either from shore or from a boat. Recreational fishing occurs across most of the area where rocky reefs exist, with much of the FMA 1 coastline offering accessible areas of rocky intertidal and subtidal reefs where kina are found. The use of underwater breathing apparatus is permitted in the recreational fishery.
45. The best available information on the current recreational catch is preliminary data from the 2022/23 National Panel Survey of Marine Recreational Fishers³³ (NPS), which provides a snapshot of the level of recreational take in that fishing year. The 2022/23 NPS estimated 557,000 kina were harvested across all kina areas in New Zealand, with approximately 23% (130,000) of the national recreational harvest of kina taken in FMA 1.
46. Estimates of mean kina weight are not available to allow recreational catch estimates reported in the NPS to be converted into harvested weight (catches in the NPS are reported as numbers of individual kina). However, by using a conversion factor of 161 g per individual (used recently

³³ The 2022/23 National Panel Survey for Marine Recreational Fishers is not yet available. Public release of this is expected in April 2024. The latest available NPS is from 2017/18 and accessible at: <https://www.mpi.govt.nz/dmsdocument/36792-far-201924-national-panel-survey-of-marine-recreational-fishers-201718>

be researchers studying kina barrens in SUR 1B³⁴), the recreational catch from FMA 1 can be estimated at approximately 21 tonnes.

47. New data indicates a decline in recreational harvest within FMA 1, dropping from 290,000 to 130,000 between 2017/18 and 2022/23. It's important to note that while this represents a decrease, there is some uncertainty surrounding the estimate.
48. A breakdown specifying the species caught under the category of kina is unavailable, however it is understood that vast majority of recreational harvest is *E. chloroticus*.

4 Sea urchin barrens

49. There is a trend occurring in parts of New Zealand (and in other places globally), where sections of rocky reef previously covered in kelp forest, have been, or are being, converted to homogenous sea urchin dominated barrens, largely devoid of kelp and other benthic biodiversity.
50. There is currently no broadly accepted formal definition of what constitutes an urchin barren. Consequently, Fisheries New Zealand has developed a definition for the purposes of identifying those areas that are of concern. Urchin barren areas vary depending on ecological factors, but they typically exhibit low biodiversity and reduced primary production compared to healthy ecosystems. With this in mind, urchin barrens have been defined as:

*“sea urchin dominated areas of rocky reef that would normally support healthy kelp forest but have little or no kelp due to overgrazing by sea urchins.”*³⁵

51. The driver for this pattern of increased barrens in north-eastern New Zealand is a trophic cascade, where the ecosystem is controlled from the top down.^{36,37} There is evidence to suggest that sea urchin predators, including snapper and spiny rock lobsters, when at sufficient abundance, can prevent kina attaining a density where they graze a kelp forest to the point of complete algal removal.³⁸ However, when predator abundance is reduced (by fishing or other factors), sea urchin populations are released from top-down control, and eventually reach an abundance where their grazing results in kelp deforestation and the formation of kina barrens. These barrens are less biologically diverse and less productive environments than the kelp forest habitats they replace. In areas of FMA 1, evidence indicates that snapper and spiny rock lobster are not present at an abundance that enables them to meaningfully contribute to controlling kina populations, whether alone or in combination with other factors.³⁹
52. The increase in sea urchin abundance and subsequent loss of kelp forests is considered a problem because it is indicative of a significant adverse effect of fishing on aquatic ecosystems⁴⁰, and because kelp forests provide a wide and diverse range of ecosystem services. These include:
 - Providing important settlement, nursery, shelter, and refuge habitats for a wide range of coastal and inshore shellfish and finfish species, including sea urchin and rock lobster.
 - Providing food for invertebrates, shellfish, finfish, and seabird species, which in turn supports a variety of important commercial and non-commercial fisheries resources.
 - Modifying wave and tidal action and influencing coastal and physical processes such as erosion, sedimentation, and turbidity.
 - Driving primary production and energy and nutrient recycling that contribute to other near-shore systems including sandy beaches and deepwater ecosystems.

³⁴ Miller *pers comm*.

³⁵ Doheny et al. (2023)

³⁶ Paine (1980)

³⁷ Doheny et al. (2023)

³⁸ Shears & Babcock (2003)

³⁹ Shears et al. (2008)

⁴⁰ Ministry for Primary Industries (2021) [Aquatic Environment and Biodiversity Annual Review \(AEBAR\): A summary of environmental interactions between the seafood sector and the aquatic environment.](#)

Once a reef is converted from kelp forest to urchin barren, these ecosystem services are lost.

53. Urchin barrens are not ubiquitous across rocky reefs and tend to be restricted to different depth zones determined by environmental conditions. On moderately exposed coasts the shallow reef (0–3 m water depth) is characterized by stands of fucallean algae⁴¹, intermediate depths (3–8 m water depth) are maintained as urchin barrens, and deeper reef (>8 m water depth) is dominated by kelp forests.⁴² On more exposed reefs, barrens form on deeper sections of reef (12–20 m), while in more sheltered conditions barrens are restricted to shallower depths.⁴³ Urchin barrens tend to not form in very sheltered areas that experience high sediment loads.
54. Urchin barrens in north-eastern New Zealand are also caused by *Centrostephanus*. As highlighted in section 4 of this consultation paper, *Centrostephanus* has been present in New Zealand since at least 1897, but recently due environmental factors, the species has both extended its range and increased in abundance. It is known to either create barrens in areas where kina would not or join existing barrens alongside kina.

Relevant predators of sea urchins

55. Kina are an important prey species on rocky reefs across New Zealand. Within FMA 1, their main predators are considered to be rock lobsters and snapper (although numerous other fish and echinoderm species also prey on them to a lesser extent).
56. In describing predators of urchins there is an important relationship between the size classes of both predator and prey. A wide variety of species predate kina, with the range of predators narrowing as kina increase in size. Large predators are generally required to successfully manipulate and kill a large sea urchin whereas smaller urchins are easier to both pry off rocks and consume whole. Predatory consumption by fish has been linked directly to gape size (mouth size) in New Zealand.⁴⁴ While they have a similar relationship between predator and prey size, lobsters are more unique in their ability to pry sea urchins from rocks and consume the animal via the unprotected mouthparts.⁴⁵ Thus, the largest size classes of kina (>15 cm) 'might be immune to predation by all but the largest of lobster'.⁴⁶
57. The only known predators of *Centrostephanus* are lobsters.⁴⁷ *Centrostephanus* likely has few predators and is not a preferred prey for rock lobster due to its long spines and nocturnal grazing behaviour.

5 Treaty of Waitangi obligations

58. Section 5(b) of the Act requires that the Act be interpreted and people making decisions under the Act do so in a manner that is consistent with the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (**the Settlement Act**). The Settlement Act provides that non-commercial customary fishing rights continue to be subject to the Principles of the Treaty of Waitangi and give rise to Treaty obligations on the Crown.
59. Section 10 of the Settlement Act requires the Minister to develop policies and programmes to give effect to the use and management practices of tangata whenua. Consistent with this section, the Ministry has worked with iwi to develop engagement processes that enable iwi to work together to reach a consensus where possible and to inform the Ministry on how tangata whenua wish to exercise kaitiakitanga in respect of fish stocks in which they share rights and interests and how those rights and interests may be affected by sustainability measures proposed by the Ministry.

⁴¹ Brown algae that belong to the order Fucales and are commonly found in marine environments.

⁴² Choat & Schiel (1982), Shears & Babcock (2004)

⁴³ Shears et al. (2004)

⁴⁴ Marinovich (2022)

⁴⁵ Flood (2021)

⁴⁶ Andrew & MacDiarmid (1991)

⁴⁷ Balemi & Shears (2023)

5.1 Input and participation of tangata whenua

60. Section 12 (1)(b) of the Act requires that before undertaking any sustainability process the Minister shall provide for the input and participation of tangata whenua who have a non-commercial interest in the stock or an interest in the effects of fishing on the aquatic environment in the area concerned. The Minister is required to have particular regard to kaitiakitanga.⁴⁸ Input and participation of tangata whenua into the sustainability decision-making process is provided mainly through Iwi Fisheries Forums, which have been established for that purpose. Each Iwi Fisheries Forum can develop an Iwi Fisheries Forum Plan that describes how the iwi in the Forum exercise kaitiakitanga over the fisheries of importance to them, and their objectives for the management of their interest in fisheries. Iwi Fisheries Forums may also be used as entities to consult iwi with an interest in fisheries.⁴⁹
61. The proposal to review the recreational daily limit for kina has been discussed with Te Hiku o te Ika Iwi Fisheries Forum and the Mid-North Iwi Fisheries Forum, as well as wider kaitiaki in the region. These discussions took place during the management meetings held in Whangarei and Kaitaia on the 23rd and 24th of January 2024, and subsequent iwi fisheries forum hui in February 2024.
62. Feedback from tangata whenua regarding the proposal to increase the recreational daily limit was mixed. Support for the proposal was expressed only if this was coupled with spatial restrictions to address the risk of recreational fishers over exploiting areas in which kina populations are healthy. Additionally, the issue was raised that recreational fishers exhibit selective harvesting behaviour when collecting kina, often starting with a few and deciding whether to continue based on their quality, suggesting that they may abandon the effort if the initial collection is unsatisfactory. Thus, an increase in the daily limit may not achieve any meaningful impact on reducing kina densities from within barren areas.

Table 2: Summary of engagement with Iwi Fisheries Forums.

Iwi Fisheries Forum	Engagement on SUR 1A & SUR 1B
Te Hiku o te Ika	Noted concern that increasing the recreational bag limit is unlikely to resolve kina barrens as recreational harvesters will not target 'skinny' kina from barren areas. This extended to concern that providing for additional recreational harvest may impact significant cultural and customary harvest areas. Forum members did not want to see the balance upset by stripping areas of good kina. The forum indicated that restoring populations of kina predators should be a priority and that communications about the issue of kina barrens should be available so people can engage in the issue and get involved.
Mid-North (East)	Also raised concerns that the recreational limit would not be an effective tool for controlling kina barrens and that the key measure was restoring predator numbers to maintain ecosystem balance. There was also a strong desire for iwi and hapu to be directly involved in monitoring and management of kina barrens within their respective rohe moana. There was also a desire to connect those doing research and monitoring of kina barren areas to ensure the best available information was available to iwi and hapu, as well as Government, to inform management approaches.

⁴⁸ The Fisheries Act 1996 defines Kaitiakitanga to mean "the exercise of guardianship; and, in relation to any fisheries resources, includes the ethic of stewardship based on the nature of the resources, as exercised by the appropriate tangata whenua in accordance with tikanga Māori", where tikanga Māori refers to Māori customary values and practices.

⁴⁹ However, Fisheries New Zealand also engages directly with Iwi (outside of Forums) on matters that affect their fisheries interests in their takiwā and consults with any affected Mandated Iwi Organisations and Iwi Governance Entities where needed.

Mid-North (West)	The forum stressed the need for local input in monitoring, research and management decision making for fisheries issues, including kina barrens.
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63. All iwi forums agreed that kina barrens were an issue of concern however also stressed that kina are a taonga species that is culturally important and regularly taken as customary harvest.
64. Fisheries New Zealand will undertake further engagement with Iwi Fisheries Forums during consultation to seek input on the specific options outlined in this proposal, and we welcome any input and submissions from tangata whenua on these options.

5.2 Kaitiakitanga

65. Information provided by forums, and iwi views on the management of fisheries resources and fish stocks, as set out in Iwi Fisheries Plans, are ways that tangata whenua can exercise kaitiakitanga in respect of fish stocks.
66. Kina is identified in the Te Hiku O Te Ika Iwi Fisheries Forum Fisheries Plan as a taonga species.⁵⁰
67. Fisheries New Zealand considers that the management options presented in this consultation paper align with the objectives of these plans, which generally relate to the maintenance of healthy and sustainable fisheries. However, Fisheries New Zealand notes initial feedback from iwi has been mixed and seeks further input to help inform final advice on this review.
68. Fisheries New Zealand is seeking input from tangata whenua on how the proposed options for the daily limits in FMA 1 may or may not provide for kaitiakitanga as exercised by tangata whenua, and how tangata whenua consider the proposal may affect their rights and interests in this FMA.

5.3 Mātaitai reserves and other customary management tools

69. There are 11 customary fisheries management areas within FMA 1. These include two taiāpure, five temporary closures, and four mātaitai reserves implemented under section 186A of the Act (Table 3).

Table 3: Customary fisheries management areas in FMA 1.

Customary Area	Management Type
Waikare Inlet Taiāpure	Taiāpure All types of fishing are permitted within a Taiāpure. The management committee can recommend regulations for commercial, recreational, and customary fishing.
Maketu Taiāpure	
Marsden Bank and Mair Bank Temporary Closure	Section 186A temporary closures
Maunganui Bay Temporary Closure	Section 186A temporary closures are used to restrict or prohibit fishing of any species of fish, aquatic life or seaweed or the use of any fishing method.
Rehuotane Ki Tai	
Te Mata and Waipatukahu Temporary Closure	
Umupuia Beach Temporary Closure	
Raukokere Mātaitai	Mātaitai reserve
Te Kopa o Rongokānapa Mātaitai	Commercial fishing is not permitted within mātaitai reserves unless regulations state otherwise.
Te Maunga o Mauoa Mātaitai	
Te Rae o Kohi Mātaitai	

⁵⁰ Taonga is defined as a treasure, or anything prized and considered to be of value.

70. Recreational fishing is permitted (subject to any bylaws) within mātaihai reserves. The section 186A temporary closures above prevent recreational fishing of the species to which they apply. The Maunganui Bay section 186A temporary closure is an exception as it prohibits all take other than recreational and customary harvest of kina. At this time no taiāpure within FMA 1 have introduced regulations that prohibit the harvest of kina.
71. Fisheries New Zealand does not anticipate that an increase in daily limit for kina will impact customary management areas as the best available information suggests that kina abundance is high right across the FMA.

6 Purpose of the Act – section 8 of the Act

72. The purpose of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability. Section 8(2) of the Act defines ensuring sustainability:
- a) as maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and
 - b) and avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment.
73. Fisheries New Zealand considers the proposals to increase the daily limit for kina aligns with section 8(2) of the Act. Given that information suggests that there is a high abundance of kina, there is an opportunity for utilisation while ensuring sustainable management practices. While increasing the daily limit is not considered the sole solution to manage urchin barrens, it may contribute to reducing herbivory in some areas, potentially leading to increased abundance of macroalgae. When combined with other management initiatives, this could aid in mitigating adverse effects on the aquatic environment.

7 Environmental principles – section 9 of the Act

74. The environmental principles that must be taken into account by the Minister in making their decision are as follows:
- Associated or dependent species should be maintained above a level that ensures their long-term viability.
 - Biological diversity of the aquatic environment should be maintained; and
 - Habitats of particular significance for fisheries management should be protected

7.1 Associated or dependent species – section 9(a) of the Act

7.1.1 Protected species interactions

75. Harvesting of kina is considered to pose little to no risk to seabirds.⁵¹ However, harvesting involves the use of boats or vessels and there is a risk of direct collisions between seabirds and the vessels, leading to injury or mortality.
76. There are no known captures of marine mammals, seabirds, or protected fish species in New Zealand kina fisheries.

7.1.2 Fish and invertebrate bycatch

77. Kina are recreationally harvested by hand-gathering while freediving or SCUBA diving in FMA 1. The method of hand-gathering is a highly selective one and there is no direct bycatch of any fish and invertebrate species.

⁵¹ Ministry for Primary Industries (2021) [Aquatic Environment and Biodiversity Annual Review \(AEBAR\): A summary of environmental interactions between the seafood sector and the aquatic environment.](#)

7.2 Biological diversity of the aquatic environment – section 9(b) of the Act

78. In FMA 1, harvesting is conducted through hand gathering while freediving. The selective nature of this method of harvesting ensures that there is no direct bycatch or incidental mortality of kina or non-target organisms.
79. Additional harvesting of kina may lead to a reduction in herbivory on a reef resulting in an increase in the abundance of macroalgal and invertebrate species and a corresponding increase in associated biodiversity.
80. The removal of predators (particularly large predators) through fishing, and the occurrence of kina barrens as a result, will have an impact on associated biodiversity.⁵² The full extent of this impact is unknown (including on associated and dependent species), but it is likely that a shift from productive kelp forests to kina barrens will result in reduced primary production and biodiversity. It is acknowledged that kelp habitats are likely to be important for a range of harvested and non-harvested species, and any reduction in such habitats is therefore likely to be adverse to species that rely on kelp⁵³.
81. Fisheries New Zealand notes that environmental factors, such as sedimentation and water quality, also affect the distribution and abundance of biological diversity on rocky reefs but are not directly managed by Fisheries New Zealand. Fisheries New Zealand will continue to monitor research done in this field and will engage with relevant local authorities in this regard.

7.3 Habitats of particular significance for fisheries management – section 9(c) of the Act

82. Habitats of particular significance for fisheries management are not defined in the Act. Fisheries New Zealand recently consulted on guidance for defining, identifying, and managing habitats of particular significance for fisheries management and for how Fisheries New Zealand takes into account that these habitats should be protected when preparing fisheries management advice.⁵⁴
83. There are no specific habitats of particular significance identified for FMA 1 but certain features of rocky intertidal and subtidal reefs important to kina are discussed in Table 4. It is acknowledged that kelp habitats are likely to be important for a range of harvested and non-harvested species, and any reduction in such habitats is therefore likely to be adverse to kina and other species that rely on kelp.

Table 4: Summary of information on potential habitats of particular significance for fisheries management for FMA 1.

Habitat of particular significance	Rocky intertidal and subtidal reefs
Attributes of habitat	Sea urchins are found along most coastal habitats, particularly in rocky intertidal and subtidal reefs dominated by encrusting algae. They inhabit shallow subtidal waters to depths of about 60 metres. Sea urchin populations are not uniformly distributed across all rocky reef habitats. Abundance is primarily determined by depth and wave exposure ⁵⁵ . On the north-eastern coastline of the North Island, dense aggregations of sea urchins can form at depths between 3-20 metres. These areas are characterised by low algal abundance and are known as urchin barrens.
Reasons for particular significance	Sea urchin larvae settle on rocky substrate indicating the importance of the presence of suitable settlement surfaces. Rocky intertidal and subtidal reefs are also characterised by the growth of seaweed species and algae. Rocky shores provide stable platforms for seaweeds to anchor

⁵² MacDiarmid et al. (2013)

⁵³ Dayton (1985)

⁵⁴ The habitat of particular significance for fisheries management consultation material is available here:

<https://www.mpi.govt.nz/consultations/guidance-for-identifying-a-habitat-of-particular-significance-for-fisheriesmanagement/>

⁵⁵ Shears & Babcock (2007)

	<p>themselves to and create forests. These kelp forests provide shelter and nursery grounds for many fish species such as kina, snapper, and crayfish. They also provide food for grazing species such as kina, crabs and snails which serve as prey for large predatory fish species.</p> <p>Rocky shores in areas of wave exposure are important, as species that attach themselves to substrate permanently, such as barnacles and sea squirts, cannot forage for food, and therefore rely on waves to transport food to them.</p> <p>Intertidal and subtidal reefs, as a result of the points mentioned above, are typically defined as ecosystems that are high in biodiversity.</p>
Risks/threats	<p>The overfishing of key predator species, such as snapper and crayfish, is considered a key contributor to the formation of urchin barrens. Urchin barrens are characterised by bare rocky substrate, a complete or significant loss in seaweeds, low biodiversity, and high densities of kina and they ultimately threaten healthy kina habitats.</p> <p>Fine sediments introduced from runoff from the land may have adverse effects on sea urchins and their habitat. Layers of fine sediment can reduce light levels for marine plant species which could impact food availability for intertidal and subtidal species⁵⁶.</p> <p>The oceans around the east coast North Island of New Zealand are warming at a rate well in excess of the global average⁵⁷, and moderate to strong heatwaves have been recorded in recent years in the Hauraki Gulf⁵⁸. Changes in the environmental conditions associated with marine heatwaves may have impacts on the survival of larval kina and food availability for kina. However, the extent to which changes in climate and temperature may be affecting kina habitat suitability in FMA 1 is unknown.</p> <p>The increased presence of the <i>Centrostephanus</i> may also pose a risk to sea urchin habitat. <i>Centrostephanus</i> has been observed to cause barren expansion⁵⁹.</p>
Confidence	<p>A body of empirical work exists but it is associated with some uncertainty, or the expert has direct personal research experience.</p>

8 Considerations for setting sustainability measures under section 11 of the Act

84. Section 11 of the Act sets out various matters that the Minister take into account or have regard to when setting or varying sustainability measures (such as the daily limit changes proposed in this paper). These include:

- c) any effects of fishing on any stock and the aquatic environment; and
- d) any existing controls under the Act that apply to the stock or area concerned; and
- e) the natural variability of the stock concerned; and
- f) any relevant planning instruments, strategies, or services.⁶⁰

⁵⁶ Nicholls et al. (2003)

⁵⁷ Sutton & Bowen (2019)

⁵⁸ Moana Project (n.d.)

⁵⁹ Kerr (2016)

⁶⁰ Sections 11 (2) and (2A).

8.1 Effects of fishing on any stock and the aquatic environment

85. In setting or varying a sustainability measure the Minister must take into account any effects of fishing on any stock and the aquatic environment. “Effect” is defined widely in the Act.⁶¹
86. All information regarding the effects of harvesting kina on any stock and the aquatic environment is discussed above under ‘*Environmental principles*’, and below under ‘*Total Allowable Catch*’ and ‘*Options and analysis*’.

8.2 Existing controls that apply to the stock or area

87. In setting or varying a sustainability measure the Minister must take into account any existing controls under the *Fisheries Act 1996* (including rules and regulations made under the Act (s 2(1A)) that apply to the stock when setting or varying the TAC.
88. Aside from the daily limit for recreational take in FMA 1 of 50 kina per person per day, there are catch limits and allowances set under the TAC.

8.3 The natural variability of the stock

89. In setting or varying a sustainability measure the Minister must take into account the natural variability of the stock.
90. Settlement of kina larvae within FMA 1 is likely to vary between years and appears to differ among locations and habitats, attributed to the variability in larval mortality.⁶²
91. In laboratory and field studies, larval mortality and developmental abnormalities have been observed to increase with increasing concentrations of suspended sediment. The suspended sediment concentrations used in these experiments were equivalent to typical peak sediment loads to the Wellington Harbour System.⁶³ This suggests that environmental conditions associated with terrestrial runoff are of importance.
92. Population growth of kina and the establishment of kina barrens has been attributed to fishing of large predators, as discussed under section 7 of this paper.
93. The proposed increases to the daily limit for kina provide for additional sustainable utilisation of the kina resource and may also contribute, in part, to managing the expansion of kina barrens in the short to medium term for areas that are fished. Fisheries New Zealand does not anticipate a sustainability risk with the proposed increases as the best available information on recreational catch suggests that kina are being under-caught and information from fishers, scientists, and other stakeholders (including through local area surveys) suggests kina abundance is high in many areas.
94. Fisheries New Zealand will continue to monitor recreational catch in both fisheries, and should new information suggest that kina abundance has changed over time in a way that may signal a sustainability concern, the management settings will be reviewed.

8.4 Relevant statements, plans, strategies, provisions, and documents – section 11(2) of the Act

95. In setting or varying any sustainability measure, the Minister must have regard to relevant statements, plans, strategies, provisions, and planning documents that apply to the coastal marine area. The following plans and strategies apply to kina in FMA 1.

⁶¹ Section 2(1) of the Act defines “effect” to mean the direct or indirect effect of fishing, and includes any positive, adverse, temporary, permanent, past, present, or future effect. It also includes any cumulative effect, regardless of the scale, intensity, duration, or frequency of the effect, and includes potential effects.

⁶² Walker (1984)

⁶³ Phillips & Shima (2006), Schwarz et al. (2006)

8.4.1 Regional Plans – section 11(2)(a)

96. Four Regional Councils have coastlines within the boundaries of the kina in FMA 1 areas: Northland, Auckland, Waikato, and Bay of Plenty. Each region has policy statements and plans to manage the coastal and freshwater environments, including terrestrial and coastal linkages, ecosystems, and habitats.
97. Fisheries New Zealand considers that the proposed options presented in this document are in keeping with the objectives of relevant regional plans, which generally relate to the maintenance of healthy and sustainable ecosystems to provide for the needs of current and future generations. The provisions that might be considered relevant can be found in a separate document titled *Regional plan provisions and policy statements*, accessible at <https://www.mpi.govt.nz/dmsdocument/57115>.
98. The Environment Court has released its finalised decision on marine protection measures under the proposed Northland Regional Plan. Of relevance to kina in SUR 1A, is the prohibition of all fishing, except for kina harvest, in Maunganui Bay to Oke Bay and Mimiwhangata under the proposed Plan to protect the biodiversity values identified. It is uncertain what effect these areas will have but Fisheries New Zealand will take interest in any data and studies produced in the future about the closed areas and will continue to work with the council and share information in this regard.
99. The Bay of Plenty Regional Coastal Environment Plan also contains rules since 2021 prohibiting all fishing in the three areas that make up the Motiti protection area. The rules have been introduced to protect indigenous biodiversity and acknowledge the significant marine landscape and cultural values in the area. Those three areas comprise of Ōtaiti (Astrolabe Reef); including Te Papa (Brewis Shoal), Te Porotiti, and Okarapu Reef, Motuhaku Island (Schooner Rocks) and Motunau Island (Plate Island). These areas are located in the SUR 1B QMA.
100. Fisheries New Zealand engages with the RMA coastal planning processes (including regional authorities) to support marine management decisions to manage not only the fishing effects on the coastal environment but also land-based impacts on fisheries.

8.4.2 Hauraki Gulf Marine Park Act (HGMPA) – section 11(2)(c)

101. The Hauraki Gulf Marine Park (HGMP) is situated within FMA 1. Therefore, sections 7 (recognition of national significance of Hauraki Gulf) and 8 (management of Hauraki Gulf) of the *Hauraki Gulf Marine Park Act 2000 (HGMPA)* apply to the management of this fishery.
102. Fisheries New Zealand considers that this review and the proposed options are consistent with obligations under sections 7 and 8 of the HGMPA in that the proposed options aim to address a sustainable utilisation opportunity in both fisheries. Addressing this should help to:
 - a) support the life-supporting capacity of the environment of the Hauraki Gulf and its islands;
 - b) protect natural and historic resources (i.e., kina and their ecosystems) in the Hauraki Gulf; and
 - c) provide the capacity for future use of these resources by people and communities in the Hauraki Gulf.

8.5 Relevant services or fisheries plans – section 11(2A) of the Act

103. Before making any decision or recommendation under this Act to regulate or control fishing or setting or varying any sustainability measure, the Minister must take into account any conservation or fisheries services, and any relevant fisheries plans approved under section 11(2A) of the Act.
104. There are no fisheries plans approved under section 11(2A) specific to SUR 1A or SUR 1B, or of specific relevance to this review of measures for FMA 1.

105. Fisheries services of relevance to the options in this paper include the research used to monitor the fisheries and the tools used to enforce compliance of management controls in the fishery. Fisheries Compliance regularly monitors FMA 1 areas to ensure that management controls are being adhered to.

8.6 Other plans and strategies

106. The following plans and strategies are not mandatory considerations under section 11 of the Act, but they may be considered relevant to this review.

8.6.1 Te Mana o te Taiao (Aotearoa New Zealand Biodiversity Strategy)

107. Te Mana o te Taiao – the Aotearoa New Zealand Biodiversity Strategy sets a strategic direction for the protection, restoration and sustainable use of biodiversity, particularly indigenous biodiversity, in Aotearoa New Zealand⁶⁴. The Strategy sets a number of objectives across three timeframes. The most relevant to setting sustainability measures for SUR 1A and SUR 1B are objectives 10 and 12:

Objective 10: Ecosystems and species are protected, restored, resilient and connected from mountain tops to ocean depths.

Objective 12: Natural resources are managed sustainably.

108. Fisheries New Zealand is working with the Department of Conservation and other agencies on implementation of the strategy. As part of that work, we are progressing to a more integrated ecosystem-based approach to managing oceans and fisheries. In that context, this review contains information on biodiversity impacts, ecosystem function and habitat protection associated with adjustments to sustainability measures (see environmental principles section and interdependence of stocks sections above).

8.6.2 Hauraki Gulf Fisheries Plan

109. In addition to the HGMPA, the *Revitalising the Gulf: Government action on the Sea Change Plan* Strategy is relevant to the future management of the portion of SUR 1A and SUR 1B that lies within the HGMP. A key fisheries output from Revitalising the Gulf was the development of an area specific fisheries plan⁶⁵ under section 11A of the *Fisheries Act 1996*. There are also new marine protection proposals for the HGMP which would overlap SUR 1A and SUR 1B.
110. The Hauraki Gulf Fisheries Plan proposes specific management measures to support the sustainability and improved future management of kina within the HGMP. The plan was approved by the then Minister in August 2023. Fisheries New Zealand considers that the changes to the daily limit would be consistent with the actions in Hauraki Gulf Fisheries Plan.

9 Proposed options and analysis

111. Fisheries New Zealand is proposing a new daily limit for kina taken from FMA 1 is set, which (if agreed) the Minister would give effect to by amending the Fisheries (Recreational Management Controls) Notice.⁶⁶
112. Fisheries New Zealand envisions the development of initiatives like rock lobster and snapper management, special permits, increased research efforts, working in tandem to provide an integrated solution to kina barrens. An integrated management approach will be developed in collaboration with tangata whenua, commercial and recreational fishers, and local communities to address more localised concerns.

⁶⁴ Accessible at: <https://www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/>.

⁶⁵ The Hauraki Gulf Fisheries Plan is still in draft and not yet approved under section 11A of the Fisheries Act, which means the Minister is not required to take it into account.

⁶⁶ Fisheries Notices: <https://www.mpi.govt.nz/fisheries-notice/>

9.1 Proposed increases to the kina daily limit of 50 kina

113. Three options are proposed for the daily limit of kina in FMA 1 as outlined in Table 4 below. Option 1 is status quo and does not provide for an increase. Options 2 and 3 provide for an increase to the daily limit and consider the practicalities of recreational fishing. They also provide a reasonable allowance that would facilitate the collective efforts of recreational fishers in addressing the ecological challenges of sea urchin barrens.
114. Reports of kina abundance suggest that there is an opportunity for increased utilisation. Fisheries New Zealand recognises that, if daily limits of kina were increased, it is unlikely the additional harvest would be taken from kina barren areas because of roe quality. However, in areas that are currently fished, and new areas that may be fished, harvest would likely be sustainable and may also help prevent the formation of additional barrens.
115. Should concerns arise regarding concentrated fishing efforts, particularly in areas of significance to other sectors, Fisheries New Zealand is prepared to engage with all parties and review management settings accordingly.
116. Feedback is sought on the options below, or alternatives within this range.

Table 4: Proposed options for an increase to the recreational daily limit for kina in SUR 1A and SUR 1B.

Option	Recreational Daily Limit
Option 1 (status quo)	50 per person
Option 2	100 per person
Option 3	150 per person

9.1.1 Option 1 – Status quo

Option	Recreational Daily Limit
Option 1 (status quo)	50 per person

117. Option 1 is status quo and would retain the current recreational daily limit of 50 kina per person per day in FMA 1.
118. Option 1 does not provide for further utilisation despite the high likelihood that further kina harvest in FMA 1 would be sustainable. This option reflects a cautious approach to management and puts the most weight on the concern expressed by tangata whenua that increases to the recreational daily limit, without additional restrictions (such as spatial closures) may negatively impact on local customary fisheries.
119. This option carries the least sustainability risk to kina in FMA 1, however does not provide for any potential benefits of additional harvest.

9.1.2 Option 2 and 3

Option	Recreational Daily Limit
Current settings	50 per person
Option 2	100 per person
Option 3	150 per person

120. Options 2 and 3 propose moderate increases to the recreational daily limit in FMA 1. Fisheries New Zealand is not proposing to increase in the recreational fishing allowance (155 tonnes in FMA 1), as the estimated harvests of kina in FMA 1 from the 2017/18 NPS is at an estimated 48

tonnes, which is 107 tonnes less than the combined recreational allowance. Fisheries New Zealand anticipates that harvest levels under either option 2 or 3 would still be well within the existing allowances.

121. The proposed increases to the recreational daily limit for kina may result in a lower abundance of kina in some areas which may reduce herbivory and result in increased abundance of macroalgae. It may also contribute to managing the expansions of kina barrens in the short to medium term for areas that are fished.
122. It is important to note the concerns of mana whenua around the potential for localised depletion of healthy kina populations, as it is unlikely the any additional harvest under increased daily limits would be taken from sea urchin barren areas. Feedback from tangata whenua so far suggests that the intended purposes of these increases, which is to provide for additional sustainable utilisation with additional potential of reducing kina densities in areas fished, may not have the desired impact without spatial restrictions to prevent harvest occurring in healthy kina populations.

10 Public Consultation

123. Section 12 (1)(a) of the Act requires that before undertaking any sustainability process the Minister shall consult with such persons or organisations as the Minister considers are representative of those classes of persons having an interest in the stock or the effects of fishing on the aquatic environment in the area concerned, including Māori, environmental, commercial, and recreational interests. Fisheries New Zealand is seeking your feedback on these proposed changes to the daily limits for kina in FMA 1 so we can provide your views to the Minister.
124. We particularly welcome additional feedback from tangata whenua about how the proposed options for the daily limits in FMA 1 may or may not provide for kaitiakitanga as exercised by tangata whenua, and how tangata whenua consider the proposal may affect their rights and interests in this FMA.

10.1 Questions for submitters

- Which option do you support for revising the daily limit for kina in FMA 1? Why?
 - If you do not support any of the options listed, what alternative(s) should be considered? Why?
 - Do you have any concerns about potential impacts of the proposed options on the aquatic environment?
125. Fisheries New Zealand welcomes your views on these proposals. Please provide detailed information and sources to support your views where possible.

11 How to get more information and have your say

126. Fisheries New Zealand invites you to make a submission on the proposals set out in this discussion document. Consultation closes at 5:00 pm on 3 May 2024.
127. Please see Fisheries New Zealand's consultation webpage (<https://www.mpi.govt.nz/consultations/review-of-the-recreational-daily-kina-limit-in-fishery-management-area-1-the-east-coast-of-the-upper-north-island>) for related information, an optional submissions template, and information on how to submit your feedback. If you cannot access the webpage or require hard copies of documents or any other information, please email FMSubmissions@mpi.govt.nz.

12 Legal basis for managing fisheries in New Zealand

128. The *Fisheries Act 1996* provides the legal basis for managing fisheries in New Zealand, including the Minister's responsibilities for setting and varying sustainability measures. See the separate document Overview of legislative requirements and other considerations at <https://www.mpi.govt.nz/dmsdocument/57112> for more information.

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