

Review of the Kaikōura recreational pāua fishery for 2023/24

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Contents

1	Why are we proposing a review?	1
2	Summary of proposed options	2
3 3.1 3.2 3.3	Background The Kaikōura coastline has been closed to pāua fishing The Kaikōura pāua fishery has been reopened to enable limited fishing Recreational pāua fishing remains very popular	2 2 3
4	Fishery information	3
5 5.1 5.2 5.3	Treaty of Waitangi obligations as set in legislation Input and participation of tangata whenua Kaitiakitanga Mātaitai reserves and other customary management tools	4 5 5 6
6	Environmental and sustainability considerations under the Act	6
6.1 6.2 6.3	Overview Application of international obligations and the Treaty of Waitangi (Fisheries Claims) Settlem Act 1992 – Section 5 of the Act Purpose of the Act – section 8 of the Act	6 ent 7 7
6.4 6.5	Environmental principles – section 9 of the Act Considerations for setting sustainability measures under section 11 of the Act	7 9
7	Information principles: Uncertainties and unknowns	11
8	Options and analysis	11
9	Future considerations	13
10	Questions for submitters	13
11	How to get more information and have your say	13
12	Legal basis for managing fisheries in New Zealand	13
13	Referenced reports	14
Арре	ndix 1: Map of customary management areas along the wider Kaikōura pāua fishery	15
Арре	ndix 2: Modelling of future PAU 3A biomass projections against recreational catch scenarios	16
Арре	ndix 3: PAU 3A, PAU 3B, & PAU 7 Quota Management Area boundaries and closed area	a 17

Area being reviewed

Wider Kaikoura paua recreational fishery (PAU 3A and part PAU 7)



Blackfoot pāua and yellowfoot pāua Haliotis iris, Haliotis australis



Figure 1: Map of the wider Kaikōura pāua fishery (Marfells Beach to Conway River). The recreational pāua fishery closed area is highlighted in red (see Appendix 3 for larger map).

1 Why are we proposing a review?

- 1. Fisheries New Zealand (FNZ) is seeking feedback on an open season to allow recreational fishers to take pāua along the wider Kaikōura coastline in the 2023/24 fishing year.¹ This area extends from Marfells Beach in the north to Conway River in the south, and includes the Kaikōura Marine Area/Te Whata Kai o Rakihouia i Te Tai o Marokura (Figure 1). The area is currently closed to all recreational pāua fishing.
- 2. This fishery has been subject to closure since the 2016 Kaikōura earthquakes to enable the recovery of the remaining pāua biomass. The subsequent rebuilding of the fishery led to an initial three-month recreational fishing season during the summer of 2021/22 and a subsequent two-month season from 15 April to 15 June in 2023.²
- 3. FNZ welcomes feedback on options for a further open season (Table 1). We propose a similar management approach to the last season, which constrained recreational catch to a sustainable level through a relatively short season during autumn/winter 2023. Customary management areas would continue to remain closed to recreational fishing (with the exception of the southern Oaro-Haumuri Taiāpure). The season would apply to both blackfoot and yellowfoot pāua.
- 4. Any decision to reopen the recreational fishery would be implemented as a new section 11 sustainability measure under the Fisheries Act 1996 (**the Act**) by notice in the *New Zealand Gazette*.

¹ Pāua has a 1 October fishing year, which extends from 1 October to 30 September.

² Commercial pāua fishing was also allowed during the initial three-month season and permanently reopened from 5 January 2023.

5. This proposal does not include changes to the PAU 3A Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC), or non-commercial allowances. New stock assessment information for this fishery may become available next year to enable FNZ to consider a review of the TAC for the 2024/25 fishing year and changes to the TACC and noncommercial allowances.

2 Summary of proposed options

6. Two options are proposed to reopen the wider Kaikōura recreational pāua fishery in the 2023/24 fishing year. These options are outlined in Table 1 below. Both options delay fishing until 22 April 2024 to avoid the peak summer period.

	Table 1: Proposed manageme	nt options (including	g both blackfoot and	yellowfoot pāua)
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Option	Description
Option 1	Wider Kaikōura recreational pāua fishery open from 22 April to 22 June 2024 (two months)
Option 2	Wider Kaikōura recreational pāua fishery open from 22 April to 22 July 2024 (three months)

- 7. Under each option, all other existing management measures will continue to apply to the fishery (refer Table 2).
- 8. Feedback on these options, as well as alternative opening periods is sought.

3 Background

3.1 The Kaikoura coastline has been closed to paua fishing

- 9. In November 2016, the Kaikōura region experienced a series of earthquakes that caused major coastal uplift along the coastline. This led to extensive habitat disturbance and modification, which caused large-scale mortality of a wide range of species in the intertidal and subtidal zones. There was a significant loss of critical habitat and there were initially very high levels of pāua mortality at all life stages. Research estimated that the seabed uplift led to a loss of up to 50% of the pre-earthquake fished area across the wider area (Neubauer, 2017).
- 10. To protect the remaining pāua biomass, the wider Kaikōura pāua fishery that extends from Marfells Beach in the north to Conway River in the south,³ including the Kaikōura Marine Area⁴ (Figure 1) was closed to all commercial and recreational fishing between November 2016 and November 2021 under the Act.

3.2 The Kaikoura paua fishery has been reopened to enable limited fishing

- 11. Research conducted since the 2016 earthquakes has shown that, in response to the five-year fishery closure, pāua abundance recovered significantly in many parts of the coastline. Following a biomass survey of the adult pāua population in PAU 3A conducted in 2021/22 (McCowan & Neubauer, 2021), the Minister approved the permanent reopening of the PAU 3A commercial fishery from 5 January 2023 (under a reduced TACC of 23 tonnes) and the wider Kaikōura recreational pāua fishery was reopened for two specified periods (seasons):
 - **2021/22 season**: 1 December 2021 to 28 February 2022 (three months). A daily bag limit of five paua per person applied (it was previously six) with an accumulation limit of two daily limits.

³ The Marfells Beach to Conway River Area is defined in the <u>Fisheries (Amateur Fishing) Amendment Regulations 2023</u> (Schedule 16A).

⁴ Kaikōura Marine Area — Te Whata Kai o Rakihouia i Te Tai o Marokura was established under the <u>Kaikōura (Te Tai o</u> <u>Marokura) Marine Management Act 2014</u> and extends between the Clarence River and Conway River, and out to the outer limit of the Territorial Sea (12 nautical miles).

^{2 •} Review of sustainability measures April 2024: Kaikōura recreational pāua fishery

- **2023 season**: 15 April to 15 June 2023 (two months). A daily bag limit of three pāua per person applied to reduce recreational catches within the shallow, more easily accessible wade-able areas. The existing accumulation limit of two daily bag limits continued to apply.
- 12. Both seasons were implemented as sustainability measures⁵ under section 11 of the Act, which were published in the *New Zealand Gazette*.⁶
- 13. During both seasons, most customary management areas remained closed to all recreational pāua fishing.⁷ Fishing was permitted within the southern Oaro-Haumuri Taiāpure (see Appendix 1) under a reduced daily bag limit of two pāua per person and a larger minimum legal-size limit (**MLS**) of 135 mm for blackfoot pāua (the national 125 mm MLS applies to the wider fishery). These measures reflect the significance of the wade-able fishery in the Taiāpure for customary fishing.

3.3 Recreational paua fishing remains very popular

- 14. The two recreational seasons in 2021/22 and 2023 were supported by independent recreational fishing surveys conducted by Blue Water Marine⁸ to better understand and estimate recreational catch. Survey results highlighted that recreational fishing for pāua was a very popular activity along the Kaikōura coastline when the fishery was reopened. Estimates of recreational catch from the Kaikōura Marine Area for each season were as follows:⁹
 - 2021/22 season (three months) 42 tonnes
 - 2023 season (two months) 12 tonnes
- 15. During both seasons, catch exceeded the recreational allowance of five tonnes set within the PAU 3A TAC.
- 16. The large recreational catch taken during the initial 2021/22 season was attributed to fishing occurring over the peak summer period (December to February) when visitor numbers into the region were highest and an initial very high abundance of easily accessible pāua in shallow wade-able areas close to shore with car parking availability. Fishers were able to quickly collect the daily limit of five pāua per person within these areas, with most pāua taken well above the 125 mm MLS.
- 17. In response to this initial high catch, the 2023 season (April to June) was delayed to avoid the peak summer months and a lower daily bag limit of three pāua per person was applied. Within the southern Oaro-Haumuri Taiāpure, a daily bag limit of two pāua per person and a larger MLS of 135 mm applied for blackfoot pāua. There was general community support for these measures with most fishers collecting the daily limit with relative ease and with most pāua taken again well above the MLS.
- 18. FNZ will consider a review of the TAC of PAU 3A for the 2024/25 fishing year, which may include a review of the TACC, recreational and other allowances, as well as other management measures where appropriate.

4 Fishery information

19. The wider Kaikōura pāua fishery encompasses the PAU 3A (Kaikōura) Quota Management Area (**QMA**)¹⁰ and the southern portion of the PAU 7 (Nelson/Marlborough) QMA. There are

⁷ Commercial fishing within these customary management areas was also prohibited.

⁵ Section 11(3)(e) states that "Without limiting the generality of subsection (1), sustainability measures may relate to - '...the fishing season for any stock, area, fishing method, or fishing vessel".

⁶ https://gazette.govt.nz/notice/id/2022-sl5573 and https://gazette.govt.nz/notice/id/2023-sl1465

⁸ The independent recreational fishing survey reports can be found here: <u>https://www.mpi.govt.nz/dmsdocument/52552-FAR-202240-Harvest-estimates-from-landbased-amateur-fishers-Kaikoura-Marine-Area-to-Marfells-Beach</u> and <u>https://fs.fish.govt.nz/Page.aspx?pk=113&dk=25583</u>

⁹ Estimated catch from the northern Marfells Beach/Cape Campbell was about 3 tonnes in 2021-22.

¹⁰ On 1 October 2021, the PAU 3 QMA was sub-divided into two smaller QMAs – PAU 3A (Kaikōura) and PAU 3B (Canterbury) to better reflect the nature of each fishery following the 2016 earthquakes.

five customary management areas within the recreational closed area – Mangamaunu, Oaro, and Te Waha o te Marangai Mātaitai, Te Taumanu o Te Waka a Māui and Oaro-Haumuri Taiāpure.¹¹

- 20. This is a widely shared fishery with pāua highly valued by Māori, recreational fishers, and the commercial fishing industry alike. Blackfoot pāua make up most of the catch, while the smaller yellowfoot pāua are only caught in small numbers. Recreational fishers harvest pāua by the method of hand-gathering only, usually from shore where there is suitable beach access and carparking availability. The use of underwater breathing apparatus (**UBA**) is prohibited in this fishery.
- 21. Customary and recreational fishers harvest from the same general areas where large pāua are abundant and most easily accessible. The commercial fishery is generally away from these areas with harvestable beds located further offshore and along the wider coastline where road or other access is limited. Commercial harvest is primarily managed under the TACC (a 23-tonne TACC is set for PAU 3A, which equates to approximately half the estimated commercial catch from the area prior to the earthquakes) and in accordance with fine-scale management measures prescribed in the PAU 3 Fisheries Plan.
- 22. Primary fishing controls that apply to the wider Kaikōura recreational pāua fishery are shown in Table 2.

	Daily bag limit	Accumulation limit	MLS (blackfoot pāua)	MLS (yellowfoot pāua)
Marfells Beach to Conway River, including the Kaikōura Marine Area	3 pāua per person	2 daily limits	125 mm	85 mm
Oaro-Haumuri Taiāpure	2 pāua per person	2 daily limits	135 mm	85 mm

Table 2: Fishing controls that apply to the wider Kaikoura recreational paua fishery.

23. Stock assessment information (July 2022) includes model simulations of predicted future biomass under various recreational catch scenarios and this provides guidance on setting future management options (Appendix 2). This information indicates that the PAU 3A stock is safe for the next two to three years under all modelled catch assumptions, but there is uncertainty beyond this timeframe. Nevertheless, scientific modelling suggests that constraining recreational catch at 20 tonnes or less remains necessary if the fishery is to remain sustainable long-term.

5 Treaty of Waitangi obligations as set in legislation

- 24. Section 5(b) of the Act requires that the Act be interpreted, and that people making decisions under the Act will act, 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.
- 25. Section 10 of the Settlement Act requires the Minister to develop policies and programmes to recognise the use and management practices of tangata whenua. The Minister must also recommend the making of customary fishing regulations under section 186 of the Fisheries Act to recognise and provide for customary food gathering by Māori and the special relationship between tangata whenua and those places of customary food gathering importance. Consistent with this section, FNZ has worked with iwi to develop the Fisheries (South Island Customary Fishing) Regulations 1999 and the Fisheries (Kaimoana Customary Fishing) Regulations 1998 to manage the activity of customary fishing.

¹¹ The Waiopuka (Wakatu Quay) Reef is also closed to all fishing (<u>https://gazette.govt.nz/notice/id/2023-sl1465</u>). This area had been previously closed under a section 186B) temporary closure.

26. FNZ has also consulted with tangata whenua to develop policies on the best way to establish 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 FNZ. These policies support the requirements under section 12 of the Act to provide for the input and participation of tangata whenua into sustainability process and to inform the Minister on how tangata whenua exercise kaitiakitanga.

5.1 Input and participation of tangata whenua

- 27. 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. In considering the views of tangata whenua, the Minister is required to have particular regard to kaitiakitanga.¹²
- 28. Input and participation of tangata whenua into the sustainability decision-making process is provided mainly through lwi Fisheries Forums, which have been established for that purpose. Each lwi Fisheries Forum can develop an lwi 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.¹³
- 29. Iwi with interests within the wider Kaikōura pāua fishery are Rangitāne o Wairau, Ngati Toa Rangatira, and Ngāi Tahu, including Ngāti Kuri hapū.
- 30. To facilitate input and participation, FNZ engages with tangata whenua through Te Waka a Maui me ona Toka Fisheries Forum (which comprises all Te Tau ihu iwi and Ngāi Tahu).

Table 3: Summary of engagement with Iwi Fisheries Forums.

lwi Fisheries Forum	Engagement
Te Waka a Maui me ona Toka Fisheries Forum	The forum has been regularly updated and input sought on the ongoing management of the wider Kaikōura pāua fishery. The forum was supportive of the measures applied during the 2023 season and the options proposed in this document during discussions at hui in July and December 2023.

5.2 Kaitiakitanga

- 31. 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.
- 32. Te Waipounamu (all of South Island) lwi consider pāua a taonga species and as such there is an important customary use of pāua by Māori for food, and the shells have been used extensively for decorations and fishing devices (FNZ Fisheries Assessment Plenary, 2023).
- 33. Te Waipounamu lwi Forum Fisheries Plan contains objectives to support and provide for the interests of South Island iwi, and contains the following objectives that are relevant to the management options proposed for the wider Kaikōura recreational pāua fishery:
 - **Management Objective 1**: To create thriving customary non-commercial fisheries that support the cultural wellbeing of South Island iwi and whanau.

¹² The Fisheries Act 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.

¹³ However, FNZ also engages directly with Iwi (outside of Forums) on matters that affect their fisheries interests in their takiwa (district) and consults with any affected Mandated Iwi Organisations and Iwi Governance Entities where needed.

- Management Objective 3: To develop environmentally responsible, productive, sustainable, and culturally appropriate commercial fisheries that create long-term commercial benefits and economic development opportunities for South Island iwi.
- **Management Objective 5**: To restore, maintain and enhance the mauri and wairua of fisheries throughout the South Island.
- 34. FNZ considers the proposed options presented in this document are consistent with these objectives, as they will constrain recreational catch levels and continue to prohibit non-customary fishing within most customary management areas. Input is sought from tangata whenua on how these options may affect the rights and interests of tangata whenua in this fishery.

5.3 Mātaitai reserves and other customary management tools

35. Customary fisheries areas within the wider Kaikōura pāua fishery are shown in Table 4 and Map 1.

Area	Management type	
Te Taumanu o Te Waka a Māui	Taiāpure The management committee can recommend regulations to manage commercial,	
Oaro-Haumuri	recreational, and customary fishing to conserve and manage fisheries resources related to the taiāpure.	
Te Waha o te Marangai	Mātaitai reserve	
Mangamaunu	Commercial fishing is not permitted within mātaitai reserves unless regulations state otherwise. Amateur and customary fishing may be managed through bylaws recommended to the Minister by the Tangata tiaki for that reserve.	
Oaro		

Table 4: Customary fisheries management areas within the wider Kaikoura paua fishery

6 Environmental and sustainability considerations under the Act

6.1 Overview

- 36. Any decision to implement a further Kaikōura recreational pāua season would be made under section 11 of the Act as a sustainability measure. Before setting or varying a sustainability measure under section 11, the Minister must adhere to the relevant provisions of this section and must also act consistently with the requirements in section 5, and sections 8-10 (Purpose and Principles of the Act).
- 37. The requirements and details of each of these sections are set out below, in the following order:
 - a) Section 5 (Application of international obligations and Treaty of Waitangi (Fisheries Claims) Settlement Act 1992)
 - b) Section 8 (Purpose)
 - c) Section 9 (Environmental principles)
 - d) Section 11 (Sustainability measures)
 - e) Section 13 (Setting a Total Allowable Catch), and
 - f) Section 10 (Information principles).

6.2 Application of international obligations and the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 – Section 5 of the Act

- 38. The Minister must act in a manner consistent with both the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 and New Zealand's international obligations relating to fishing. Discussion of these relevant obligations is provided in the *Overview of legislative requirements and other considerations* document available on our website (https://www.mpi.govt.nz/consultations/review-of-sustainability-measures-2024-april-round).
- 39. There are no international obligations associated with this proposal. Consistent with requests from tangata whenua, it is proposed that customary management areas will again remain closed to recreational pāua fishing (with the exception of the southern Oaro-Haumuri Taiāpure).

6.3 Purpose of the Act – section 8 of the Act

- 40. The Act's purpose is to "provide for the utilisation of fisheries resources while ensuring sustainability." Guidance on the meaning of section 8 and how it should be applied for decision making (for all the stocks being reviewed as part of this round) is provided in the Overview of legislative requirements and other considerations document available on our website (https://www.mpi.govt.nz/consultations/review-of-sustainability-measures-2024-april-round).
- 41. The proposal to reopen the Kaikōura recreational pāua fishery is consistent with this purpose. A further reopening of the fishery under either of the two proposed options would provide recreational fishers with an opportunity to harvest pāua within sustainable catch levels.

6.4 Environmental principles – section 9 of the Act

- 42. The environmental principles that must be taken into account when considering a new sustainability measure for the wider Kaikōura recreational pāua fishery are as follows:
 - Associated or dependent species should be maintained above a level that ensures their long-term viability;
 - b) Biological diversity of the aquatic environment should be maintained; and
 - c) Habitats of particular significance for fisheries management should be protected.

6.4.1 Associated or dependent species – section 9(a)

43. Pāua fishing by all sectors is restricted to hand-gathering only within the shallow subtidal areas. This is considered to pose little to no risk to seabirds, mammals, and other protected species. There are no known captures of marine mammals, seabirds or protected fish species in New Zealand pāua fisheries.¹⁴ Therefore, FNZ considers that recreational pāua fishing under any of the proposed options is unlikely to affect the long-term viability of any associated or dependent species.

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

44. The environmental impact of pāua harvesting is minimal because pāua are selectively hand gathered by free divers. Habitat contact by divers at the time of harvest is minimal and limited to the area of pāua foot attachment (pāua are usually removed with a blunt tool to minimise damage to the flesh). The diver's body is also seldom in contact with the benthos. While vessels anchoring during or after fishing have the potential to damage the reef, most recreational fishing along the Kaikōura coastline is directly from the beach. FNZ considers it highly unlikely that recreational pāua fishing would have a demonstrable adverse effect on biodiversity along the Kaikōura coastline.

¹⁴ FNZ (2022) - Aquatic environment and biodiversity annual review (AEBAR) 2021 – accessible here.

6.4.3 Habitats of particular significance for fisheries management – section 9(c)

- 45. Habitats of particular significance for fisheries management are not defined in the Act. In 2022 FNZ consulted on draft guidelines for identification of habitats of particular significance for fisheries management and the operational proposals to support its application. In this context, protect means taking measures that would avoid, remedy, or mitigate the adverse effect of a decision that could undermine the function the habitat provides for the fisheries resource and ecosystem.
- 46. There are no specific habitats of particular significance for fisheries management identified for pāua at this time in the draft guidelines. What is known about potential habitats of particular significance for fisheries management for pāua is outlined in Table 5. Irrespective of whether a habitat of particular significance for pāua has yet been identified, FNZ considers that a two- or three-month recreational fishing season would not increase adverse effects from fishing on any significant pāua habitats in the wider Kaikōura pāua fishery, as pāua are harvested through a highly selective method, thus reducing the direct impacts on their habitat and benthos.
- 47. Pāua inhabit reefs within the intertidal and shallow subtidal coastal areas along the Kaikōura coastline. All fishing is targeted and restricted to hand-gathering. FNZ considers that the options presented in this document relate to the timing of recreational fishing only and are unlikely to pose a threat to any areas of potential habitats of significance.

Area	Wider Kaikōura pāua fishery
Potential habitat of particular significance	Adult pāua move into deeper waters with the onset of maturity where they become largely sedentary and live in aggregations in rocky crevice and boulder habitats.
Attributes of habitat	 Pāua are found in shallow rocky reefs in coastal waters generally less than 10 m depth. Intertidal and subtidal rocky reefs typically consist of rocks and boulders, interspersed with cobble substrate and rock pools. Alongside these substrates, reefs typically include a wide range of seaweeds. Crustose coralline algae attach to hard surfaces on intertidal and subtidal rocky reefs. This habitat is favoured by newly settled juveniles, is a cue for settlement, and also provides a food source for adults and juveniles. Rocky crevices and boulders provide a cryptic habitat in the form of shade and cover for pāua. Cryptic habitats are important for pāua, particularly for juveniles.
Reasons for particular significance	 Growth and recruitment success can be influenced by food availability, with rocky reef communities offering a food source in the form of coralline algae and seaweeds. Rocky reefs also provide shelter and shade, a source of refuge for pāua. Rocky crevices and boulders provide substrate for adults to aggregate and support localised recruitment. As pāua are broadcast spawners, fertilisation success depends on proximity and density of mature adults.
Risks/Threats	 Land based impacts, particularly sediment deposition on habitats with benthic structure, are a threat to intertidal and subtidal rocky reefs. Sedimentation smothers coralline algae and seaweeds that provide adult and juvenile habitat. The Kaikõura earthquakes caused significant uplift along the coastline and was estimated to have caused about 20% loss of pre-earthquake fished areas. The effects of subsequent land-based sedimentation and gravel deposition onto reefs caused further loss of habitats and will continue to be affected for many years to come. This means that pāua recovery will be variable across the fishery. The earthquakes caused significant loss of intertidal and subtidal seaweed communities that continue to impact surviving pāua populations through loss of shade, cover, and food source. Ocean warming due to climate change contributes to higher sea surface temperatures and may influence the extent of productive pāua beds over time.¹⁵ Ocean acidification may influence the survival of crustose coralline algae, with New Zealand crustose coralline algae species found to exhibit a reduction in growth rates under lower pH.¹⁶ Reduced availability of crustose coralline algae could threaten habitat used for settlement and a source of food for inveniles.

Table 5: Summary of information on pote	ential habitats of particular significance	for the wider Kaikōura pāua fishery.
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¹⁵ Naylor et al., 2006.

¹⁶ Cornwall et al., 2014.

Area	Wider Kaikōura pāua fishery
Existing protection	 Recreational pāua fishing has negligible effect on habitats. Steps have been taken to reduce the effects of land-based gravel deposition along the coastline with the placement of concrete barriers and walls where hillsides are close to the coastline.
Evidence	 Cornwall, C E; Boyd, P W; McGraw, C M; Hepburn, C D; Pilditch, C A; Morris, J N; Smith, A B; Hurd, C L (2014). Diffusion boundary layers ameliorate the negative effects of ocean acidification on the temperate coralline macroalga Arthrocardia corymbosa. PloS one, 9(5), e97235. Naylor, J R; Andrew, N L; Kim, S W (2006). Demographic variation in the New Zealand abalone Haliotis iris. Marine and Freshwater Research 57: 215–224.

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

- 48. Section 11(1) of the Act sets out various matters that the Minister must take into account or have regard to when setting or varying sustainability measures (such as a fishing season). These include:
 - a) any effects of fishing on any stock and the aquatic environment; and
 - b) any existing controls under the Act that apply to the stock or area concerned; and
 - c) the natural variability of the stock concerned; and
 - d) any relevant planning instruments, strategies, or services.¹⁷

6.5.1 Effects of fishing on any stock and the aquatic environment – section 11(1)(a)

- 49. In setting or varying a sustainability measure the Minister must take into account any effects of fishing on any stock and the aquatic environment.
- 50. "Effect" is defined widely in the Act.¹⁸ The Minister must take into account the broader effects of fishing for pāua on the ecosystem.
- 51. Recreational pāua fishing is highly localised in nature and restricted to the method of hand-gathering only. The proposal to constrain fishing to a limited two or three-month season, which together with other supporting management measures (i.e., MLS, daily bag limits, and accumulation limits), will act to constrain catch to a sustainable level. These measures will mitigate any significant effect on the stock and aquatic environment.

6.5.2 Existing controls that apply to the stock or area – section 11(1)(b)

- 52. In setting or varying a sustainability measure the Minister must take into account any existing controls under the Act (including rules and regulations made under the Act (section 2(1A)) that apply to the stock.
- 53. A range of existing management controls apply to pāua in the Kaikōura recreational pāua fishery, including:
 - a) Daily limits: recreational fishing of pāua is managed through daily limits. In the Kaikōura recreational pāua fishery no person may take or possess more than three pāua per day from Marfells Beach to Conway River. Within the Oaro-Haumuri Taiāpure no person may take or possess more than two pāua per day.
 - b) Accumulation limit: recreational fishing of pāua is managed through an accumulation limit, which refers to the number of pāua that can be accumulated over a period of

¹⁷ Sections 11 (2) and (2A).

¹⁸ 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.

more than one day. From Marfells Beach to Conway River no person may possess more than six pāua, and within the Oaro-Haumuri Taiāpure no person may possess more than four pāua.

- c) Size restrictions: blackfoot and yellowfoot pāua from Marfells Beach to Conway River have a minimum legal size of 125 mm and 85 mm, respectively. Within the Oaro-Haumuri Taiāpure blackfoot pāua has a MLS of 135 mm.
- d) Prohibited states: nationally, it is illegal to possess seaward of the mean high-water mark any recreationally taken shellfish with a minimum size restriction in such a state that it cannot be measured. This means pāua cannot be possessed seaward of the mean highwater mark in a shucked state.
- e) Prohibited method: pāua are targeted by hand-gathering across the fishery and the use of UBA is strictly prohibited.

6.5.3 The natural variability of the stock – section 11(1)(c)

- 54. In setting or varying a sustainability measure the Minister must take into account the natural variability of the stock.
- 55. A variety of environmental factors influence settlement, growth, and recruitment of pāua, including wave exposure, food availability, water temperature and population density.¹⁹
- 56. Pāua generally grow faster in areas with lower mean monthly sea surface temperatures (Naylor et al., 2006). Growth rates and maximum size of pāua vary across the Kaikōura pāua fishery. Diver perceptions indicate that the northern region (Clarence River to Hapuku River) has more areas of faster pāua growth than the southern region (Hapuku River to Conway River).
- 57. Biomass of pāua along the wider Kaikōura coastline was significantly decreased following the 2016 earthquakes (Neubauer, 2017). As a direct result of fisheries closures, this biomass has substantially increased to a level that can support limited fishing opportunities (FNZ Fisheries Assessment Plenary, 2023). It is likely that the fishery is still in a rebuilding phase, which will continue to be influenced by ongoing fishing and non-fishing related factors, such as sedimentation and coastal erosion. As such, the options presented in this document continue a cautious approach to enabling further recreational pāua harvest in light of this rebuilding phase.

6.5.4 Relevant statements, plans, strategies, provisions, and documents - section 11(2)

58. In setting a sustainability measure for this stock, the Minister must have regard to relevant statements, plans, strategies, provisions, and planning documents under section 11(2) of the Act, that apply to the coastal marine area. The following relevant plans and strategies apply to the wider Kaikōura pāua fishery.

Regional Plans

- 59. There are two regional councils that share unitary authority along the wider Kaikōura coastline Marlborough District Council and Environment Canterbury Regional Council. These Councils have respective coastal-related environmental plans to manage the coastal and freshwater environments, including terrestrial and coastal linkages, ecosystems, and habitats.
- 60. The provisions of these various documents are, for the most part, of a general nature and focus mostly on land-based stressors on the marine environment. FNZ has reviewed these documents and the provisions that might be considered relevant can be found in a separate document entitled 'Regional plan provisions and policy statements', which is accessible at https://www.mpi.govt.nz/dmsdocument/54625. FNZ considers that the proposed options in this document are consistent with the objectives of these relevant regional plans.

¹⁹ Fisheries New Zealand (2023). Fisheries Assessment Plenary, May 2023: stock assessments and stock status. Compiled by the Fisheries Science and Information Group, Fisheries New Zealand, Wellington, New Zealand.

- 61. The FNZ Coastal Planning Team 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.
- 62. FNZ considers that the proposed options presented here concern recreational pāua fishing and are 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.

6.5.5 Relevant services or fisheries plans – section 11(2A)

- 63. There are no applicable conservation services or fisheries services under section 11A of the Act that relate to wider Kaikōura recreational pāua fishery.
- 64. Fisheries Plans have been approved under section 11A for the Nelson/Marlborough Pāua Fishery (PAU 7)²⁰ and the Kaikōura/Canterbury Pāua Fishery (PAU 3).²¹ The two plans exclusively concern their individual commercial pāua fisheries and are unrelated to the context of this proposal.

Kaikōura Marine Strategy

- 65. The Kaikōura Marine Strategy was developed under the Kaikōura (Te Tai ō Marokura) Marine Management Act 2014 and aims to integrate and establish marine protection and fisheries measures in the Kaikōura marine environment.
- 66. FNZ considers that the proposed management options presented here are in keeping with this Strategy.

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

67. FNZ considers that the sustainability measures proposed for the wider Kaikōura recreational pāua fishery are generally consistent with relevant objectives of the Te Mana o te Taiao – the Aotearoa New Zealand Biodiversity Strategy, including Objective 10 to ensure that ecosystems are protected, restored, resilient and connected from mountain tops to ocean depths, and Objective 12 to manage natural resources sustainably.

7 Information principles: Uncertainties and unknowns

- 68. Under section 10 of the Act, decision-makers are required to take into account four information principles:
 - a) decisions should be based on the best available information.²²
 - b) decision makers should consider any uncertainty in the information available in any case;
 - c) decision makers should be cautious when information is uncertain, unreliable, or inadequate;
 - d) the absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of this Act.
- 69. FNZ considers that the information presented in this document represents the best available information.

8 Options and analysis

70. Past management decisions to transition the wider Kaikōura coastline from fully closed to a sustainably harvestable pāua fishery have adopted an 'adaptive rebuild' strategy. This approach

²⁰ 9 May 2023, https://www.mpi.govt.nz/dmsdocument/45067-PAU7-Fisheries-Plan

²¹ 9 April 2021 https://www.mpi.govt.nz/dmsdocument/45064-PAU3-Fisheries-Plan

²² Section 2(1) of the Act defines "best available information" to mean "the best information that, in the particular circumstances, is available without unreasonable costs, effort, or time"

applies a conservative level of utilisation, together with management based on the collection of comprehensive finer-scale catch information and reporting. FNZ maintains that this strategy remains appropriate for this fishery as it continues to rebuild, and the proposed options presented in this document align with this overarching approach.

- 71. FNZ welcomes feedback on the following two options set out below in Table 6 to allow recreational pāua (blackfoot and yellowfoot pāua) fishing to resume along the wider Kaikōura coastline for a specified period (season) in the 2023/24 fishing year. They reflect that the fishery remains in a fluid and rebuilding phase as both the fishery and supporting environment continues to recover from the effects of the 2016 earthquakes. Both options assume, based on the available stock assessment, that recreational catch should be maintained at or below 20 tonnes to allow the fishery to continue to rebuild and not impact on other fishery users.
- 72. The proposed season would apply across the wider Kaikōura coastline: Marfells Beach to Conway River, including the Kaikōura Marine Area.
- 73. Under both options, all other existing management measures would continue to apply to the Kaikōura recreational pāua fishery (see Table 2).

Table 6: Proposed management options (blackfoot paua and yellowfoot paua).

Option	Description
Option 1	Wider Kaikoura recreational paua fishery open from 22 April to 22 June 2024 (two months)
Option 2	Wider Kaikoura recreational paua fishery open from 22 April to 22 July 2024 (three months)

- 74. The timing and duration of the two-month season earlier this year (15 April to 15 June 2023) were key to constraining recreational catch to less than 20 tonnes. Both proposed options would continue to delay the start of fishing until Autumn (22 July 2024) after the peak summer period and the Easter public holidays (when visitor numbers and recreational fishing activity in the Kaikōura region are higher).
- 75. Option 1 provides for a two-month period (i.e., the same as the 2022/23 season), while Option 2 provides for a longer period of fishing of three months.
- 76. Subject to weather conditions, it is likely that recreational catch under Option 1 would be similar to that estimated for the 2023 season i.e., about 12 tonnes (Holdsworth, 2023; see footnote 8). Catch under Option 2 would be higher, potentially about 16 tonnes (assuming a diminishing harvest as the season extends into the months when sea temperatures are colder and recreational effort is expected to reduce).²³ On this bases recreational take under both options is expected to be below the 20 tonnes suggested as sustainable under the stock assessment; however, the risk of exceeding this level of catch is higher under Option 2.
- 77. FNZ is proposing to commission a third independent survey to estimate recreational harvest of pāua if the season is opened. This survey will enable weekly catch totals to be reviewed by a reference group consisting of FNZ, Te Rūnanga o Kaikōura, Kaikōura Marine Guardians, and relevant stakeholder representatives, with the potential to adjust recreational controls in-season if appropriate.
- 78. No changes are proposed within the five customary management areas; pāua fishing within these areas would continue to be managed by tangata whenua and the appropriate mātaitai and taiāpure management committees. As occurred last year, these areas would remain closed to recreational fishing, except for the southern Oaro-Haumuri Taiāpure, which was relatively unaffected by the earthquakes. This area would be open according as per the proposed season options. FNZ will continue to engage with Te Rūnanga o Kaikōura and the relevant management committees regarding ongoing management of these areas.

12 • Review of sustainability measures April 2024: Kaikōura recreational pāua fishery

²³ These estimates assume similar weather and fishing conditions that can influence fishing opportunities.

9 Future considerations

- 79. New stock assessment information for this fishery may become available next year that will enable FNZ to consider longer-term management approaches. This includes a potential review of the TAC for the 2024/25 fishing year and changes to the TACC and allowances, including the recreational allowance.
- 80. FNZ is also working with Te Waka a Maui me ona Toka Fisheries on a South Island Pāua Strategy. Such a strategy would provide guidance on effective, sustainable long-term management approaches, including for recreational pāua fisheries.
- 81. Feedback was previously sought on increasing the MLS for blackfoot pāua within the Kaikōura Marine Area (as part of past consultations to reopen the fishery to recreational pāua fishing) and views were mixed. While there was some support for a larger MLS, feedback indicated that this should be implemented when the fishing season extends over a longer duration. FNZ considers a review of the recreational MLS is best considered as part of a wider review for the South Island pāua fisheries.
- 82. As with past seasons, a permanent reopening of the smaller northern Marfells Beach/Cape Campbell area is not being proposed at this time. This area would reopen as per the seasons proposed in this paper. FNZ considers a shift in effort into this area during the period the Kaikōura Marine Area is closed could lead to a sustainability risk. A permanent reopening of this area may be considered as part of a potential TAC review of PAU 3A for the 2024/25 fishing year.

10 Questions for submitters

- Which option do you support to reopen the Kaikōura recreational pāua fishery in the 2023/24 fishing year? Why?
- If you do not support any of the options listed, what alternative(s) should be considered? Why?
- 83. We welcome 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

- 84. FNZ invites you to make a submission on the proposals set out in this discussion document. Consultation closes at 5pm on 2 February 2024.
- 85. Please see the Fisheries New Zealand sustainability consultation webpage (<u>https://www.mpi.govt.nz/consultations/review-of-sustainability-measures-2024-april-round</u>) for related information, a helpful submissions template, and information on how to submit your feedback. If you cannot access to the webpage or require hard copies of documents or any other information, please email <u>FMSubmissions@mpi.govt.nz</u>.

12 Legal basis for managing fisheries in New Zealand

86. 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/60415 for more information.

13 Referenced reports

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- McCowan, T.A.; Neubauer, P. (2021). Pāua abundance trends and population monitoring in areas affected by the November 2016 Kaikōura earthquake. New Zealand Fisheries Assessment Report 2021/26. 23 p.
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- Neubauer, P. (2017). Area lost to the pāua fishery from the November 2016 Kaikoura earthquake. Final Research Report for Ministry for Primary Industries project KAI2016-04 (Unpublished report held by Ministry for Primary Industries, Wellington).

Appendix 1: Map of customary management areas along the wider Kaikōura pāua fishery

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Appendix 2: Modelling of future PAU 3A biomass projections against recreational catch scenarios

- The above graph models various catch scenarios for the PAU 3A stock over time with respect to current/projected spawning biomass against pre-fishing (virgin) spawning biomass (Relative SSB). Spawning biomass means total weight of mature pāua within the overall stock.
- 1. Model projections are shown against hard (10%) and soft (20%) limits prescribed in the Harvest Strategy Standard for New Zealand Fisheries (2008). A default management target (40%) is also shown.
- 2. Two alternative models were tested to predict future biomass under various recreational catch scenarios (10 tonnes, 15 tonnes, and 20 tonnes). The models assume maximal impact from the earthquakes (short-term mortality and permanent recruitment reduction).
- 3. Because of the uncertainty around the actual level of impact from the earthquakes, these models should be taken as trajectories measuring the risk level under high impact rather than showing most likely outcomes.
- 4. One of the two models explicitly includes the post-earthquake recreational survey (noted as '_survey'), and the other does not. Note the lower three lines on the right-hand side of the figure are the ones without the survey fit; lines that remain close to 40% are those fitting to surveys.
- 5. Models ignoring fitting to survey data generally produced more pessimistic outcomes, with long term expected biomass below target levels (target being 40% of the spawning biomass before any fishing started) at all levels of recreational catch, while the alternative model was more optimistic, with expected biomass levels at or above target despite high impact assumptions. The models highlight considerable uncertainty about population trajectories, which largely outweighs differences in management scenarios.
- 6. It should be noted that model accounting for surveys of biomass trends since the earthquakes is *a priori* preferable as it includes more data, but it produced relatively poor fits to the survey trends in order to fit survey length frequency measures. Therefore, the Shellfish Working Group decided in July 2022 that no single trajectory could be chosen on the basis of available data at this point. Management options and risks were therefore tested using both models, with varying levels of recreational catch (10 tonnes, 15 tonnes, and 20 tonnes). A harvest control rule for commercial catch based on CPUE was included in the model.

Appendix 3: PAU 3A, PAU 3B, & PAU 7 Quota Management Area boundaries and closed area

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