Fisheries New Zealand
Tini a Tangaroa

Review of sustainability measures for kingfish (KIN 3) for 2024/25

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Te Kāwanatanga o Aotearoa
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Kingfish / Haku (KIN 3) – East Coast South Island, Southland & Sub-Antarctic

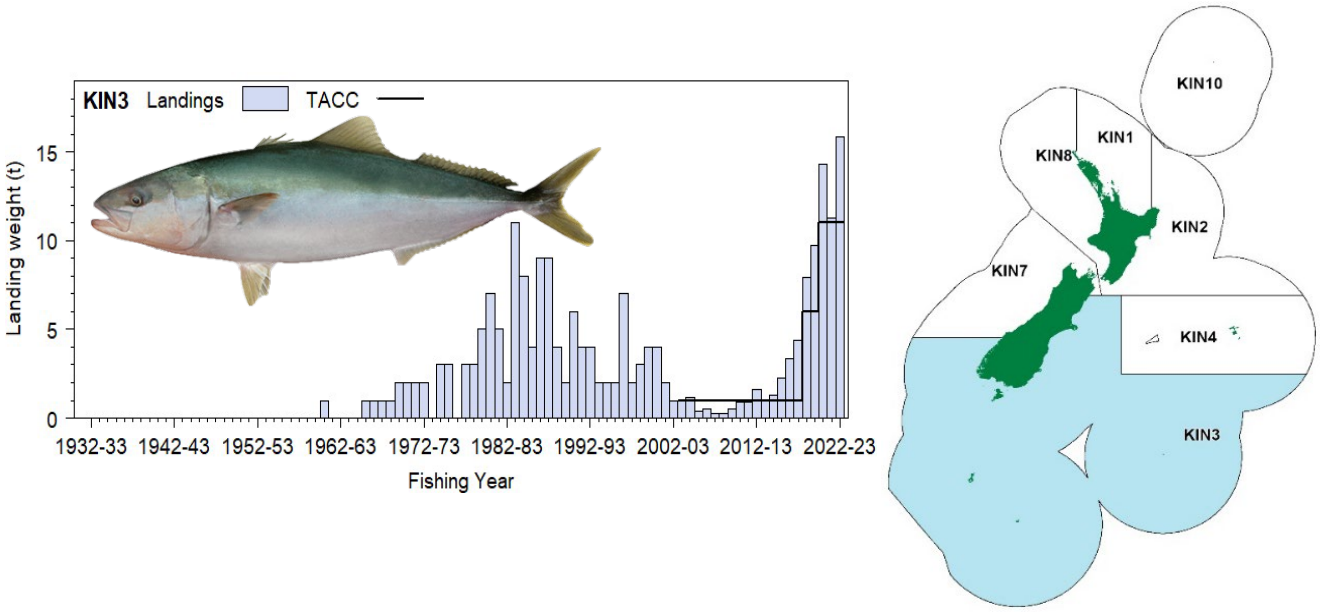

Figure 1: Quota Management Areas (QMAs) and total allowable commercial catches (TACCs) for kingfish/haku (*Seriola lalandi*), with KIN 3 highlighted.

Why are we proposing a review?

1. Fisheries New Zealand (**FNZ**) is reviewing sustainability measures for kingfish (*Seriola lalandi)* in KIN 3 for the 1 October 2024 fishing year (Figure 1).
2. Kingfish in KIN 3 are taken in low quantities as non-target catch by commercial setnet, bottom trawl and midwater trawl fishers targeting a range of other species.
3. Increased catches and catch per unit effort (**CPUE**) in the last five years indicate a rapidly increasing abundance of kingfish. The Total Allowable Commercial Catch (**TACC**) has been increased twice since 2018, in 5-tonne increments, to 11 tonnes. In the last fishing year, landings of KIN 3 were 144% of the TACC. In the current fishing year to the end of April, 24 tonnes have been caught (Figures A1 and A2).[1]
4. The increased abundance of KIN 3 is likely to be a range extension from healthy kingfish stocks (KIN 7 and KIN 8) further north. As probable source populations, both KIN 7 and KIN 8 are currently above target (Figure A3) and are also being reviewed for TAC increases in this sustainability round (the relevant consultation document can be found here, also see the Fisheries Assessment Plenary).
5. Catch information shows the range of kingfish has expanded significantly, as far south as the Snares Shelf below Stewart Island/Rakiura. This information suggests a utilisation opportunity is available through an increase to the Total Allowable Catch (**TAC**), TACC, and recreational allowance and has been used to define the options proposed below (Table 1). As there are no accepted reference points to determine the status of KIN 3 in relation to the biomass that can support the maximum sustainable yield, adjustment to the TAC of KIN 3 would be made under section 13(2A) of the Fisheries Act 1996 (**the Act**), and any changes would apply from 1 October 2024 (the beginning of the next fishing year).

Proposed options

Table 1: Proposed management options (in tonnes) for KIN 3 from 1 October 2024.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 (*Status quo*)	23	11	4	6	2
Option 2	33 (↑ 10)	16 (↑ 5)	4	10 (↑ 4)	3.0 (↑ 1)
Option 3	37.5 (↑ 14.5)	20 (↑ 9)	4	10 (↑ 4)	3.5 (↑ 1.5)

[1] 12 tonnes of this has not been landed but returned to sea under section 72(A), previously Schedule 6.

6. No changes are proposed to the deemed value rates for KIN 3 at this time. FNZ acknowledges that if the TACC of this stock is varied, subsequent changes in fishing behaviour and the Annual Catch Entitlement (**ACE**) market may result in the need for the KIN 3 deemed value rates to be re-evaluated in the future, so that they provide sufficient incentives for fishers to balance their catch with ACE and remain consistent with section 75(2)(a) of the Act and the Deemed Value Guidelines.
7. For more information on the current management settings for KIN 3, see the Fisheries Infosite. For general information about fisheries management in New Zealand, see our fisheries management webpage, and our webpage about the Quota Management System (**QMS**).

Option 1 – retain current settings (*status quo*)

Benefits	This option is the most cautious with respect to ensuring sustainability. It takes into account the limitations in the available information, including the reliance on limited CPUE data and catch trend information. The TACC under this option is lower than current catch levels, which retains incentives for fishers to release live kingfish wherever possible.
Risks	As the majority (55%) of kingfish in KIN 3 is taken using set netting, most fishers will be unable to manage the increasing abundance through releasing live kingfish under section 72A provisions without incurring significant deemed value invoices (kingfish cannot be released from set nets as they are unlikely to survive).

Option 2 – 43% TAC increase

Benefits	Option 2 provides sufficient ACE to cover landings at the current recorded levels. This will reduce some financial pressure on fishers required to land and pay deemed values for kingfish caught in KIN 3. Some commercial fishers can, where legally able, release live kingfish under section 72A of the Act and this option takes this into account. Increasing the recreational allowance to 10 tonnes is consistent with the approach decided on when kingfish were put into the QMS in 2003, which was to manage commercial catches to non-target levels only, in recognition of the value of kingfish to non-commercial fishers.
Risks	Despite efforts by commercial fishers to avoid kingfish in KIN 3 and the incremental TACC increases over the past five years, catches have regularly exceeded the available ACE, resulting in substantial deemed value payments. Should kingfish abundance in KIN 3 continue to increase, the TACC increase under this option may provide insufficient ACE to cover incidental bycatch, and fishers who cannot release live kingfish under section 72A (i.e. set net fishers) will continue to incur deemed value payments for kingfish they are required to land.

Option 3 – 63% TAC increase

Benefits	This option is based on the possibility that the trend of increasing abundance may continue as a result of range extension from the core stocks of kingfish further north and spawning. The option increases the recreational allowance to 10 tonnes recognising the high value recreational fishers place on kingfish and that their catches will increase if this is the case. As kingfish in KIN 3 are difficult to commercially target, FNZ considers it likely it would remain a small bycatch fishery as it is unlikely the level of TAC change proposed would be a sufficient driver of behaviour change to see significant increase in kingfish caught. This option will provide for set net fishers to balance more of their catch with ACE.
Risks	While it is believed that the increase in KIN 3 is an extension of range from kingfish migrating south from northern populations, kingfish under the minimum legal size have been caught in KIN 3 (1.2 tonnes) which could suggest some spawning and recruitment could be occurring within KIN 3. If so, and if less live kingfish returned to the sea by commercial fishers, this may negatively impact any emerging spawning stock that is independent of northern kingfish.

Who is affected by the proposed changes?

8. Kingfish in KIN 3 are caught by commercial fishers as bycatch from the set net and midwater and bottom trawl fisheries. Based on the last three fishing years in KIN 3, there have been on average 19 quota owners providing ACE to 23 permit holders, landing kingfish to 10 licensed fish receivers (**LFRs**).
9. Over the last three fishing years, the number of vessels catching kingfish in KIN 3 was 32 to 38 vessels, none of which reported targeting kingfish.
10. Recreational fishers report a growing interest in targeting kingfish in KIN 3, especially in the Banks Peninsula area and North Canterbury.

Input and participation of tangata whenua

11. Te Waka a Māui me Ōna Toka Iwi Forum represent iwi with an interest in KIN 3. FNZ circulated a summary of the stocks proposed for review in this round (including KIN 3) to the chair and members of Te Waka a Māui me Ōna Toka Iwi Forum in March 2024. FNZ invited feedback and offered to provide more detailed information for any stocks upon request.
12. To date, no specific feedback on KIN 3 has been received, nor further information requested. FNZ will engage further with the iwi fisheries forums during consultation. FNZ also welcomes any input from tangata whenua outside of this planned engagement.

Fishery characteristics and current settings

Commercial (TACC)
The commercial catch of KIN 3 is taken by set net (55%) largely targeting elasmobranchs and hapuka bass, bottom trawl (23%), midwater trawl (18%), and other inshore fishing methods (4%). Given the difficulty of commercially targeting kingfish, the high deemed values associated with catching kingfish in excess of ACE, and that fishers are able to return live kingfish to the sea (in circumstances where it is likely to survive), these catches are exclusively unavoidable bycatch when targeting other species. Commercial fishers must also return kingfish under the minimum legal size (**MLS**) of 65 cm, dead or alive. The TAC was reviewed in 2018 and again in 2020, increasing the TACC from 1 tonne (**t**) to 6 t and then to 11 t. Catches regularly exceed the available ACE resulting in annual deemed value invoices of up to $5,000 for an individual fisher. The amount of KIN 3 caught but not landed this fishing year (1 October 2023 to 30 April) is 12 t, higher than the current TACC, with six months of the fishing year remaining.
Customary Māori
The current allowance for Māori customary fishing is 4 t. FNZ holds no reports of customary authorisations in KIN 3 and it is assumed customary fishing needs are met under the current allowance, and under recreational limits. While FNZ does not have evidence to suggest change to the customary allowance is needed, the increasing kingfish abundance in KIN 3 may mean increased Māori customary take of KIN 3 through authorisations in the future. FNZ welcomes feedback on whether the customary allowance proposed is appropriate and sufficiently provides for customary harvest.
Recreational
The current allowance for recreational fishing within the TAC is 6 t. In line with the apparent increase in abundance, there have been reports of increased recreational targeting of kingfish from Kaikōura and around Banks Peninsula. Most recreational targeting of kingfish is by rod and reel, with some targeting by spear fishing. The 2022/23 National Panel Survey of Marine Recreational Fishers (**NPS**) (Heinemann & Gray 2024, in prep.) estimated an annual recreational take of 2.54 tonnes. This estimate, combined with estimates of Amateur Charter Vessel harvest (0.9 tonnes), and recreational take under s111 of the Act (recreational harvest taken by commercial fishers) (0.3 tonnes), provides a total estimated recreational catch of just under 4 t. There is considerable uncertainty in the NPS estimate (Coefficient of variation = ±1.7 tonnes). This is due to the large area encompassed by the KIN 3 QMA, and relatively low number of KIN 3 fishers. Given the above information, the value of kingfish to recreational fishers, and the likelihood that recreational catch will increase in response to the increase in kingfish abundance, FNZ proposes to increase the allowance for recreational fishing to 10 t under Options 2 and 3.

Other sources of mortality caused by fishing
This allowance is intended to provide for generally unrecorded mortality of fish associated with fishing activity. This is naturally difficult to quantify when considering the range of contributing sources and as a result there is uncertainty in the estimates used to set this allowance. The introduction of onboard cameras across most vessels that catch KIN 3 will improve reporting verification and reduce uncertainty around other sources of mortality caused by fishing. The current allowance was set during the 2020 review at a level that equates to 10% of the TACC, Māori customary and recreational allowances combined. While kingfish are generally robust and thought to survive when returned to sea in good condition (McKenzie *et al*., 2024), this approach takes into account the fact that not all kingfish released alive may survive. As there is no new information to suggest that a different level would be appropriate, FNZ is proposing to set the allowance based on the same approach under both Options 2 and 3.

Additional supporting information and legal context

13. There are additional figures and more information on pages 6-7 below which support the above analysis and proposed options.

14. On the following pages (page 8 onward) FNZ has provided a series of tables outlining key matters that support an initial assessment of the proposed changes against provisions of the Fisheries Act 1996. This includes matters relevant to sections 9, 10, 11, and 13 of the Act, as well as mātaitai reserves and other customary management tools which are relevant to the Minister's decision making under section 21(4).

15. For information on the relevance of sections 5 (Application of international obligations and Treaty of Waitangi (Fisheries Claims) Settlement Act 1992), and 8 (Purpose) of the Act, as well as detail on the statutory considerations relevant to TAC decisions, please see the **Legal Appendix** ('*Overview of legislative requirements and other considerations in relation to sustainability measures for the 2024 October round'*) on our consultation webpage.

How to have your say

16. We welcome your views on these proposals. Please provide detailed information and sources to support your views where possible.

    - Which option do you support for revising the TAC and allowances? Why?
    - If you do not support any of the options listed, what alternative(s) should be considered? Why?
    - Are the allowances for customary Māori, recreational and other sources of mortality appropriate? Why?
    - Do you think these options adequately provide for social, economic, and cultural wellbeing?
    - Do you have any concerns about potential impacts of the proposed options on the aquatic environment?

17. FNZ invites you to make a submission on the proposals set out in this discussion document. Consultation closes at 5pm on **Monday 29 July 2024**.

18. Please see the FNZ sustainability consultation webpage for related information, a helpful submission 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

Supporting information

Additional figures

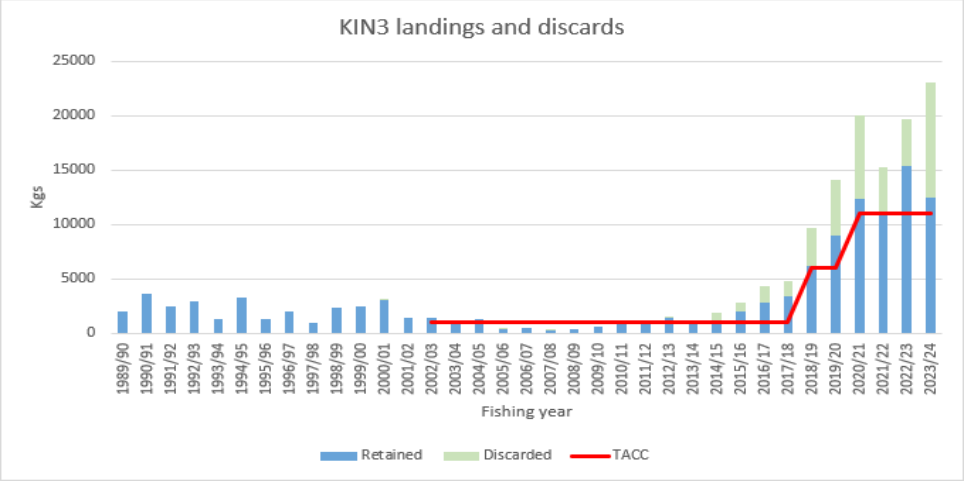

Figure A1: Landings and commercial catch limits for KIN 3 (2023/24 is to April only). Commercial catch has increased over the last decade despite fishing effort by the coastal set net fleet decreasing over this time period.

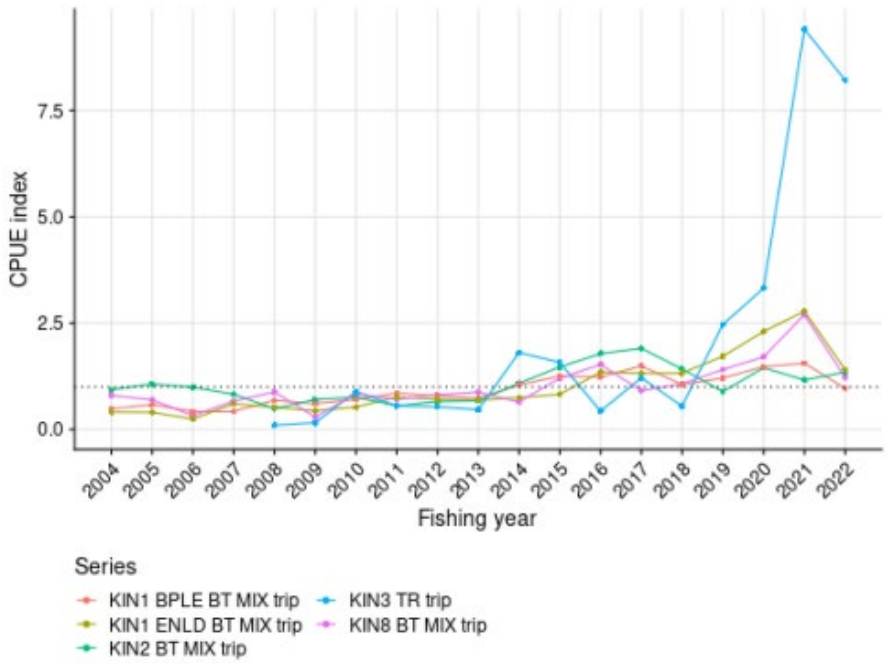

Figure A2: CPUE indices for bottom trawl fisheries (combined bottom and midwater fishing in KIN 3) illustrating the substantial increase in KIN 3 abundance from 2018 to 2021 (Middleton *et al* 2023, *in prep*).

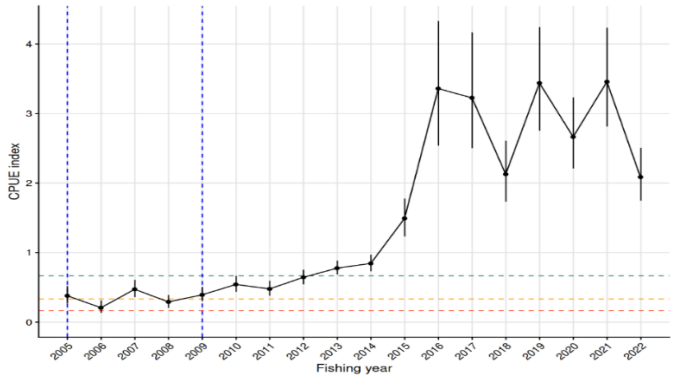

Figure A3. Standardised catch per unit effort (**CPUE**) index for KIN 7 and KIN 8 from midwater trawling targeting jack mackerel (observer tow-level index), relative to the agreed reference points, defined by the period indicated between dashed blue vertical lines**.** The green, orange, and red dashed lines represent the interim target, soft limit, and hard limit, respectively. (Middleton *et al* 2023)

Information on biology, interdependence, and environmental factors

Biological characteristics

19. Kingfish are large predatory fish that can exceed 1.5 metres in length. They typically occur in schools varying from tens to hundreds of individuals. Kingfish tend to be semi-pelagic and mainly occur in open coastal waters but are wide-ranging and can also be found in shallow enclosed bays or areas of sandy bottoms.

20. Kingfish is a fast-growing species that reaches sexual maturity around five to six years of age.

21. For a more detailed summary of the biological characteristics for KIN 3, see the kingfish chapter of the Fisheries Assessment Plenary, May 2024.

Interdependence of stocks

22. Kingfish have only recently extended their range into southern waters so their role in the ecosystem within KIN 3 is unlikely to be fully established. The preferred prey species in southern waters are unknown but some southern species will likely be vulnerable to kingfish as a new predator.

23. For more information, see the Plenary and the Aquatic Environment and Biodiversity Annual Review.

Environmental conditions affecting the stock

24. Increases in average sea surface temperature around New Zealand have likely made southern regions more habitable for kingfish, with both commercial and recreational fishers reporting increasing kingfish catches from as far south as Stewart Island and the Snares Shelf.

Relevant provisions of the Act

Key matters for assessment of the proposals against section 13 of the Act

Matters for assessment under section 13(2A) of the Act	
Section 13(2A)	The best available information on the status of KIN 3 comes from catch and CPUE data (Figures A1-A3), which indicate rapidly increasing abundance. However, the biomass of KIN 3 cannot be reliably estimated in relation to *MSY* using this information, and as such, section 13(2A) applies when varying the TAC for this stock. Under this section, the Minister must set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, a level that can support *MSY*, while having regard to the interdependence of stocks, the biological characteristics of the stocks, and any environmental conditions affecting the stocks. FNZ's initial view is that all the options proposed for KIN 3 would not be inconsistent with the objective of maintaining or moving the stock to a level that supports *MSY*.
Harvest Strategy Standard	Under the Harvest Strategy Standard (HSS), the default management target is 40% B_0 (unfished biomass), the soft limit is 20% B_0, and the hard limit is 10% B_0. The default management target applies to KIN 3. There are no established reference points or available estimates of B_{MSY} (the biomass that enables a fish stock to deliver *MSY*), and as such there is uncertainty as to where the current KIN 3 biomass sits in relation to the default targets (including the soft or hard limit) set out by the HSS. FNZ considers, however, that given the apparent large increase in kingfish abundance in KIN 3, the proposed options are unlikely to result in the stock moving below the HSS default limits.
Section 13(2A)(b) Interdependence of stocks	FNZ considers that the proposed increases to the TAC of KIN 3 could have some effect on their associated predator and prey species, however, any effects are likely to be small given the small size of the KIN 3 fishery and magnitude of the proposed changes. Specific impacts for other species are uncertain, and their extent cannot be quantified based on the information available.
Section 13(2A)(b) Biological characteristics of the stock	Kingfish are fast growing and relatively early to mature. These characteristics mean kingfish is regarded as a moderately productive species. They can therefore be expected to have a moderate level of resilience to increased fishing pressure.
Section 13(2A)(b) Environmental conditions	FNZ is not aware of any environmental conditions that may be negatively affecting the stock or their resilience to fishing pressure. As noted above, increases in average sea surface temperature around New Zealand may have made southern regions (including KIN 3) more habitable for kingfish. If this continues in future it may lead to further increases in the abundance of kingfish in KIN 3.
Section 13(3) Factors to have regard to in considering the way and rate the stock is moved towards or above B_{MSY}	Section 13(3) is not considered relevant to the TAC decisions for KIN 3 because the options only aim to maintain the stock at or above *MSY*. They are not intended to move the stock to a certain level in a certain way or rate (noting that forward projections are also not available to help FNZ determine what way and rate these options would move the stock in relation to *MSY*).

Mātaitai reserves and other customary management tools

25. When making TAC decisions, the Minister must allow for Māori customary non-commercial interests. In doing so, the Minister must take into account any gazetted mātaitai reserve in KIN 3, and any area closure, fishing method restriction, or prohibition imposed in KIN 3 under section 186A or 186B.

26. For more information on how mātaitai reserves and other customary management tools are relevant for TAC decisions, see heading 2.7 in the Legal Appendix.

Mātaitai reserves and other customary management tools	
Customary area	**Management type**
Horomamae Kahutara Kaihuka Koukourārata Lyttleton Harbour/Whakaraupo Mangamaunu Moeraki Motupohue Oaro Ōpihi Ōpihi Extension Oreti Otakou Pikomamaku Puna-wai-Toriki (Hays Gap) Rapaki Bay Te Ahi Tarakihi Te Kaio Te Waha o te Marangai Te Whaka a Te Wera Tuhawaiki Tūtaeputaputa Waihao Waitarakao Waitutu	**Mātaitai reserve** Commercial fishing is not permitted within mātaitai reserves unless regulations state otherwise. All fishing is prohibited within the Pikomamaku (Womens Island) mātaitai.
Te Taumanu o Te Waka a Māui Oaro-Haumuri Akaroa Harbour East Otago	**Taiāpure** All types of fishing are permitted within a taiāpure. The management committee can recommend regulations to manage commercial, recreational, and customary fishing.

Key matters for assessment of the proposals against section 9 of the Act

27. When considering sustainability measures, the Minister must take into account the below environmental principles. For more information on how section 9 of the Act relates to TAC decisions, see heading 1.4. of the Legal Appendix.

28. As a wholly bycatch fishery with no targeted fishing and given the small quantities being caught across a large area, the proposed TAC changes are unlikely to result in extra fishing effort.

29. The proposed options are therefore considered unlikely to have an adverse effect on associated or dependent species (under section 9(a) of the Act), biological diversity of the aquatic environment (section 9(b)), or any potential habitats of particular significance for fisheries management (section 9(c)).

Associated or dependent species should be maintained above a level that ensures their long-term viability - Section 9(a) of the Act	
Seabirds	While trawl and set net fishing interacts with seabirds, KIN 3 is an incidental bycatch, non-target fishery. A decision to change the TAC will neither change the quantity of kingfish caught, effort, nor any interactions with seabirds. As such there are no attributable interactions with seabirds from a decision to change the TAC for KIN 3. Over the past five fishing years (2018/19 - 2022/23) an average of 20 seabirds have been reported as caught annually by set net vessels that catch kingfish in KIN 3. Species reported caught were shags (unidentified, pied, spotted and Otago and Foveaux), petrels, prions and shearwaters (unidentified, cape and white-chinned petrels, and sooty shearwater) and penguins (yellow-eyed and crested). Over that same period, an average of 285 seabirds have been reported as caught annually by trawl vessels that catch kingfish in KIN 3. Species reported caught were albatrosses (unidentified, Buller's and Pacific, white-capped, Chatham, Campbell, light-mantled sooty, black-browed, royal, wandering, grey-headed and Salvin's), petrels, prions or shearwaters (unidentified and black, grey, storm, Westland and white-chinned petrel, and fairy prions, and flesh-footed, sooty, fluttering, and short-tailed shearwaters) and a crested penguin and pied shag.[2]

[2] The 2023 update to the risk assessment for New Zealand seabirds identified Southern Buller's albatross as the most at-risk seabird with respect to commercial fishing impacts, followed by four taxa in the high risk category: Salvin's albatross, New Zealand white-capped albatross, black petrel and Westland petrel.

	Management of seabird interactions in New Zealand commercial fisheries is guided by the National Plan of Action Seabirds, with mandatory mitigation measures under the Seabird Scaring Devices Circular and recommended measures under the Trawl Mitigation Standards. FNZ, the Department of Conservation, and industry also work to ensure vessels have and follow a vessel-specific Protected Species Risk Management Plan (**PSRMP**). A PSRMP specifies measures that should be followed on board each vessel to reduce risk of incidental seabird captures. While there is no legal requirement that fishers have a PSRMP, more than 95% of full-time inshore trawl vessels have and follow one.[3]
Mammals	While trawling and set netting have interactions with marine mammals, KIN 3 is an incidental bycatch, non-target fishery. Changes in the TAC will not change effort, the quantity of kingfish caught, nor interactions with marine mammals. As such there are no attributable interactions with mammals from a decision to change the TAC for KIN 3. Over the past five fishing years (2028/19 – 2022/23) an average of 14 marine mammals have been reported as caught annually by set net vessels that have had a bycatch of kingfish in KIN 3. Species that have been reported caught over this period are New Zealand fur seals, unidentified seals or sealions, dusky dolphins and Hector's dolphins. Over the same period, an average of 31 marine mammals have been reported as caught annually by trawl vessels that have had a bycatch of kingfish in KIN 3. Species that have been reported caught are New Zealand fur seals, New Zealand sea lions, Hector's dolphins, Dusky dolphins, a bottlenose dolphin, and unidentified seal or sealion and an unidentified dolphin or toothed whale. The 2022 updated spatially explicit fisheries risk assessment for New Zealand marine mammal populations identified the three species most impacted by fishing as Maui dolphin, New Zealand fur seal and Hector's dolphin. In general, trawl fisheries have been assessed as posing a substantially lesser risk to dolphins and other marine mammals than commercial set-net fisheries. Risks to Hector's dolphins are managed under various trawl and set restrictions, as well as the Hector's and Māui Dolphin Threat Management Plan and Hector's Dolphin Bycatch Reduction Plan.
Fish and invertebrate bycatch	FNZ considers a TACC increase is unlikely to result in change to the current impact on fish and invertebrates in the fisheries where KIN 3 is landed. Three white pointer sharks have been reported by set net vessels that catch kingfish in KIN 3 over the past five fishing years (2018/19 – 2022/23). White pointer sharks are classed as 'Threatened Nationally Endangered' under the New Zealand Threat Classification System. The management of protected fish interactions within New Zealand's commercial fisheries is guided by the NPOA Sharks (2013). Over the same period, an average of 6 protected fish have been reported as caught annually by trawl vessels that catch kingfish in KIN 3. Species reported are White pointer sharks and basking sharks. White pointer sharks are classed as 'Threatened – Nationally Endangered' and basking sharks are classed as 'Threatened – Nationally Vulnerable' under the New Zealand Threat Classification System. The management of protected fish interactions within New Zealand's commercial fisheries is guided by the NPOA Sharks (2013).
Biological diversity of the environment should be maintained - Section 9(b) of the Act	
Kingfish are large predatory fish which have only recently appeared in Southern waters. It is not known which species kingfish are predating in southern waters and what the implications for biological diversity may be. Fishers have expressed concern for blue cod as a prey species. Bottom trawling can damage the marine environment; particularly where trawling occurs on biogenic habitats. Research has characterised both New Zealand's benthic environment and the level of benthic impact from fisheries activity (MacGibbon & Mules 2023, AEBR 316).	

[3] Department of Conservation Liaison Programme Annual Report, 2022-23 Fishing Year (In Press).

FNZ considers that the TAC changes proposed for are unlikely to significantly increase bottom trawl effort or the overall trawl footprint within KIN 3 because they reflect increased fish abundance. However, FNZ will continue to monitor changes in these fisheries (including trawl footprints) that occur as a result of this review.	
Habitat of particular significance for fisheries management should be protected - Section 9(c) of the Act	
There is little information available to guide identification of habitats of particular significance for kingfish. None have been formally identified for KIN 3. General habitat that may potentially be significant is discussed below. As an incidental bycatch, any decision to change the KIN 3 TAC will have no implications for habitats of particular significance for fisheries management.	
Potential habitat of particular significance	**Spawning:** likely to occur in a range of settings, from estuaries out to deep water but unknown to be occurring within KIN 3. **Juveniles**: juvenile kingfish and their habitats are poorly known but are associated with floating kelp rafts.
Attributes of habitat	Kingfish occupy a wide range of habitats down to about 200 m water depth.
Reasons for particular significance	There is limited knowledge of the conditions that make the spawning and juvenile habitats favourable for kingfish.
Risks/Threats	The importance of environmental conditions to the success of kingfish spawning is unknown. It is unknown to what extent fishing activity may impact kingfish habitats.
Existing protection measures	There is a network of marine reserves and other marine protected areas within KIN 3 (and new areas proposed under the South-East-Marine Protected Area programme). Trawl and set-net specific fisheries regulations are in place across KIN 3 including commercia spatial closures and gear restrictions and can be found in the commercial fisheries regulations.
Evidence	Morrison, M.A. *et al.,* (2014)

Key matters for assessment of the proposals against section 11 of the Act

30. Section 11 of the Act sets out various matters that the Minister must take into account (sections 11(1) and 11(2A)) or have regard to (section 11(2)) when setting or varying sustainability measures such as the proposed TAC changes. The matters relevant to this review under section 11 are set out below. For more information on how section 11 is relevant for TAC decisions, see heading 2.2 in the Legal Appendix.

Effects of fishing on any stock and the aquatic environment – section 11(1)(a)	As an unavoidable bycatch fishery, any decision to change the TAC at the tonnages proposed is not expected to significantly change the quantity of kingfish caught, or the level of fishing effort and therefore should have little material effect or change to any stock or the aquatic environment.
Existing controls that apply to the stock or area – section 11(1)(b)	**Recreational** (under the Fisheries (Amateur Fishing) Regulations 2013): • There is currently a daily limit of three kingfish per fisher within the combined daily bag limit of 30. However, if caught in conjunction with hāpuku, there is a combined daily limit of five. The recreational MLS is 75 cm. • Ulva Island – Te Wharawhara Marine Reserve and the Pikomamaku (Womens Island) mātaitai are closed to fishing. • Set net prohibitions at Slope Point to Sandhill Point and Te Waewae Bay between Old Man Rock, west of Garden Bay and Sandhill Point. Commercial controls that apply to the fisheries in which KIN 3 is caught can be found in the Fisheries (South-East Area Commercial Fishing) Regulations 1986 and the Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Regulations 1986. These include headline height, mesh size, and other gear restrictions that relate to trawling and set netting.

	Under section 72A of the Act, commercial fishers are permitted to return live legal-size kingfish in accordance with the Fisheries (Landing and Discard Exceptions) Notice if the fish is likely to survive on return and the return takes place as soon as practicable. This does not apply to fish caught by set net. All commercial fishers are required to return kingfish below the commercial MLS of 65 cm, dead or alive, irrespective of capture method.
The natural variability of the stock – section 11(1)(c)	Kingfish are a moderately productive and fast-growing species, and there has been a sustained increase in abundance of KIN 3 over the last decade. The abundance and range of kingfish appears to be extending further south, potentially because of environment changes including increasing ocean temperatures.
Relevant statements, plans, strategies, provisions, and documents - section 11(2)	There are three regional councils that have coastlines within the boundaries of KIN 3: Canterbury, Otago, and Southland. Each of these regions have policy statements and plans to manage the coastal and freshwater environments, including terrestrial and coastal linkages, ecosystems, and habitats. 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. There are no provisions specific to KIN 3. FNZ has reviewed the documents and the provisions that might be considered relevant. A summary of these can be found on our website here. FNZ considers the options in this paper are all consistent with the objectives of these relevant plans.
Relevant services or fisheries plans – section 11(2A)	Within the National Inshore Finfish Fisheries Plan KIN 3 is a Group 3 stock, which means it is managed to provide for lower levels of use, with lower levels of information to monitor stock status. Stocks are monitored against trends in catch over time, and any other relevant information. FNZ considers Options 2 and 3 provide for the inevitable bycatch of KIN 3, rather than targeting by commercial fishers.
Other plans and strategies	Te Mana o te Taiao (Aotearoa New Zealand Biodiversity Strategy) FNZ considers that the changes proposed for KIN 3 are generally consistent with this strategy – including Objective 10, which is to ensure that ecosystems are protected, restored, resilient and connected from mountain tops to ocean depths, and Objective 12, which is to manage natural resources sustainably.

Information principles: section 10 of the Act

31. The best available information relevant to this review of KIN 3 is presented throughout this paper, and uncertainties in the information have been highlighted where relevant. The table below provides an additional summary of the best available information and key areas of uncertainty, unreliability, or inadequacy in information. As per section 10(c) of the Act, caution is required in decision making where information is uncertain, unreliable, or inadequate. However, as per section 10(d) of the Act, the absence of, or any uncertainty in, any information must not be used as a reason for postponing or failing to make a decision.

32. For more information on how section 10 is relevant for TAC decisions, see heading 1.5 in the Legal Appendix.

Best available information	Areas of uncertainty
Results from the 2022/23 National Panel Survey for Recreational Fishing (Heinemann and Gray, in prep), combined with amateur charter vessel data and section 111 recreational catch records, shows a catch of just under 4 tonnes.	There is considerable uncertainty in the National Panel Survey estimate for KIN 3 due to the large area encompassed by the KIN 3 QMA and relatively low number of KIN 3 fishers.
Key Information used to inform the options in this paper includes the Fisheries Assessment Plenary, May 2024, other	There is uncertainty about the origin of kingfish caught within KIN 3. It is unknown whether spawning is occurring within KIN 3.

Best available information	Areas of uncertainty
publications in the references section, and catch/landings data held by FNZ.	There is uncertainty as to where the current KIN 3 biomass sits in relation to *MSY* and the default targets (including the soft or hard limit) set out by the HSS. It is unknown to what degree kingfish caught and released were accurately recorded. On-board cameras are now operating on the majority of vessels that catch KIN 3, providing improved monitoring and more confidence in the accuracy of catch reporting. However, over the last five fishing years, the average observer coverage was 6.2% of events that caught kingfish in KIN 3.[4]

[4] This coverage is calculated based on fishing events (individual tows, sets or shots) in which the fish stock was recorded as caught and an observer was on board. This metric does not reflect the overall level of monitoring in the fishery.

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