



# Proposal for an in-season increase to the Total Allowable Catch for Flatfish 3 (FLA 3)

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# 1 Submission Information

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

Written submissions should be sent directly to:

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

or emailed to [FMSubmissions@mpi.govt.nz](mailto:FMSubmissions@mpi.govt.nz)

## 1.1 OFFICIAL INFORMATION ACT 1982

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

## Flatfish 3 (FLA 3)

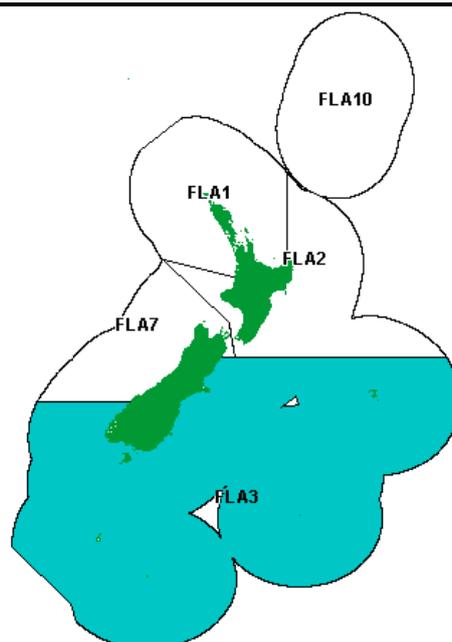


Figure 1: Quota Management Areas (QMAs) for flatfish (FLA) stocks. FLA 3 is indicated by shading.

## 2 Executive Summary

The Ministry for Primary Industries (MPI) is seeking tangata whenua and stakeholder information and views on a proposal to change the management settings for flatfish in FLA 3,<sup>1</sup> (see Figure 1) for the remainder of the 2016/17 fishing year. FLA 3 is one of a limited number of stocks whose total allowable catch (TAC) can be increased during a fishing year in response to increases in stock abundance.

The current TAC, total allowable commercial catch (TACC) and allowances for FLA 3 are shown as the *status quo* in Table 1. These are commonly referred to as “baseline settings” because of the provisions to make increases for the FLA 3 TAC within a fishing year.

Table 1: TAC, TACC and allowances for FLA 3

	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Additional Annual Catch Entitlement <sup>2</sup> under s 68 (t)	Allowances		
				Māori Customary (t)	Recreational (t)	All Other Sources of Mortality Caused by Fishing (t)
Option 1 ( <i>Status Quo</i> )	1617	1430	0	5	150	32
Option 2 ( <i>Preferred Option</i> )	2335	1430	635	7	217	46

<sup>1</sup> FLA 3 comprises: yellow-belly flounder, *Rhombosolea leporina*; sand flounder, *Rhombosolea plebeia*; black flounder, *Rhombosolea retiaria*; greenback flounder, *Rhombosolea tapirina*; lemon sole, *Pelotretis flavilatus*; New Zealand sole, *Peltorhamphus novaezeelandiae*; brill, *Colostium guntheri*; and turbot, *Colistium nudipinnis*.

<sup>2</sup> Annual Catch Entitlement is used for balancing commercial catch under the Quota Management System.

MPI proposes two options for discussion, as outlined in Table 1. Option 1 is to make no change to the baseline TAC and commercial catch allowance under the *status quo*. The commercial fishing sector would be the most constrained by the baseline settings. Option 2 proposes to increase the TAC, and after considering likely increases in customary fishing, recreational fishing and all other sources of mortality caused by fishing, and proposes to create additional “in-season” Annual Catch Entitlement (ACE) of 635 tonnes.

The proposed increases under Option 2 are based on a scientifically reviewed management procedure that is updated each year with data from the commercial fishery. The management procedure is designed to inform in-season TAC adjustments and to estimate a commercial catch level for the fishing year that maintains exploitation rate at a sustainable level. The management procedure indicated that the FLA 3 commercial catch for the 2016/17 fishing year could be increased from a baseline of 1,430 tonnes to 2,335 tonnes while ensuring sustainability in the long-term.

Although the management procedure relies on data from the commercial fishery, MPI considers that it is reasonable to assume that the output reflects the increased overall abundance of FLA 3 and greater availability to all fishing sectors and MPI proposes to increase allowances for all sectors. These in-season settings would remain in place until 30 September 2017 when they would return to the baseline settings.

## 3 Purpose

### 3.1 NEED FOR ACTION

The FLA 3 stock is managed to recognise its inter-annual variability with an agreed procedure for estimating the in-season abundance and predicting sustainable full-season catch. A scientific assessment of the stock early in the 2016/17 fishing year indicated an increase in flatfish abundance that could support additional commercial catch of 635 tonnes above the baseline setting.

MPI considers that the abundance in FLA 3 may also result in additional fishing and catch by other sectors and this should be considered in setting allowances for all sectors.

### 3.2 MANAGEMENT APPROACH

The “flatfish complex” of eight species<sup>3</sup> is managed together as a single stock. This approach provides flexibility for fishers, as the abundance of different species within the complex can vary from year to year. The main associated bycatch is usually large quantities of red cod and lesser amounts of barracouta, skate, elephant fish, giant stargazer, gurnard, spiny dogfish, and terakihi.

The annual TAC for FLA 3 can be increased within a fishing year under section 13(7) of the Fisheries Act 1996 (the Act), as the stock is included on Schedule 2 of the Act and recognised to have high inter-annual variability in abundance. The management approach is designed to enable responsiveness to increases to the overall abundance of flatfish in FLA 3 while maintaining a baseline setting for stock sustainability over the longer term.

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<sup>3</sup> FLA 3 comprises: yellow-belly flounder, *Rhombosolea leporina*; sand flounder, *Rhombosolea plebeia*; black flounder, *Rhombosolea retiaria*; greenback flounder, *Rhombosolea tapirina*; lemon sole, *Pelotretis flavilatus*; New Zealand sole, *Peltorhamphus novaezeelandiae*; brill, *Colistium guntheri*; and turbot, *Colistium nudipinnis*.

Key indicators used to monitor and inform management of FLA 3 include catch per unit effort (CPUE) indices from the commercial reporting of sand flounder, lemon sole and New Zealand sole (three of the species in the FLA 3 complex).

Since 2010, a management procedure<sup>4</sup> has been updated annually to inform decisions on whether or not to make in-season adjustments to the FLA 3 TAC. This management procedure was reviewed and updated by the Southern Inshore Science Working Group in 2015. The in-season procedure is based on achieving an agreed target exploitation rate (harvesting a fixed proportion of the stock abundance) that maintains abundance at, or above, a sustainable level. The procedure predicts the full-season catch for each fishing year based on information on the stock's relative abundance (i.e. standardised CPUE) from the first months of the fishing year.

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

## 4 Background Information

### 4.1 BIOLOGICAL CHARACTERISTICS OF FLATFISH

Flatfish abundance is highly variable, and the species that make up the stock have different biological characteristics. Some species (e.g. soles and flounder) are fast-growing and short-lived, generally only surviving to 3-4 years of age, with very few reaching 5-6 years. Others, such as brill and turbot, are longer lived, reaching a maximum age of 21 years and 16 years respectively.<sup>5</sup> Juvenile survival of all species is highly variable, and adult mortality is high. Nonetheless, fecundity is high in FLA 3 species. For example, sand flounders produce from 0.2 million to over 1 million eggs.

MPI notes that the catch of all flatfish species in the FLA 3 complex is composed primarily of lemon sole, New Zealand sole, and sand flounder.

### 4.2 COMMERCIAL FISHERY

Much of the catch in FLA 3 is targeted (between 85% and 97%). Around 95% of targeted FLA 3 landings are taken by bottom trawl, 3% are taken by set net and less than 1% by Danish seine. The majority of trawling occurs on the open coast from Pegasus Bay south to Te Waewae Bay. Danish seining occurs almost exclusively off Lyttleton. The peak catches in the trawl fishery occur in spring to autumn for most of the areas within FLA 3.

Reported commercial landings from FLA 3 in the last six years have varied between a low since QMS introduction of 1027 tonnes in 2010/11 to catches of approximately 1500 tonnes in 2011/12 and 2012/13. Historically catches have varied from year to year, and at times exceeded 2000 tonnes. Peaks of 2573 tonnes and 2458 tonnes occurred in 1996/97 and 1988/89, respectively.

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<sup>4</sup> A management procedure in this context is a set of agreed science-based decision rules to inform advice on the adjustment of current management measures.

<sup>5</sup> Stevens DW, Francis MP, Shearer PJ, McPhee RP, Hickman RW, Tait M (2001) Age and growth of brill (*Colistium guntheri*) and turbot (*C. nudipinnis*) from the west coast South Island. Final research report for Ministry of Fisheries research project FAL2001/01. 35 p.

The main associated bycatch is usually comprised of large quantities of red cod and lesser amounts of barracouta, skate, elephant fish, giant stargazer, gurnard, spiny dogfish and tarakihi.

Flatfish is only a significant bycatch when trawling for red cod. Flatfish is a minor bycatch of other targeted species, e.g. elephant fish, hāpuku and bass, ling, red cod, red gurnard, rig, school shark, sea perch, and tarakihi.

Anecdotal information suggests that catches of sand flounder are currently better in the central part of FLA 3 – around Timaru. Commercial fishers have reported high abundance of yellow-belly flounders in Lake Ellesmere and lemon sole off the South Otago coast. Commercial landing data provides support for the anecdotal information about regional variation in abundance. The data illustrates that there have been historically higher landings in the southern part of FLA 3 (mainly the Otago and Southland coastal areas), although the north-south distribution of catch has fluctuated from year-to-year. The fluctuation may reflect the natural seasonal variability of flatfish.

Anecdotal information is in-line with the most recent CPUE index for sand flounder, which is well above the long term mean, while lemon sole is near the long term mean, with New Zealand sole below it.

MPI has recently clarified the reporting obligations which require individual flatfish species codes to be reported in the Catch Effort section of forms. Obtaining catch effort data by species rather than a generic “flatfish” figure is important because the data is used to monitor all the species that make up the stock. Reporting by species will assist with the functioning of the management procedure and help MPI to better assess the abundance of individual species within the complex.

### 4.3 RECREATIONAL FISHERY

Flatfish is an important recreational fish species. Important recreational fisheries for sand, black and yellow-belly flounder occur in most estuaries, coastal lakes and coastal inlets throughout the South Island, including the east coast harbours and estuaries, shallow bays, and Lake Ellesmere. The main methods used to harvest flatfish are set netting, drag netting, and spearing.

There is a minimum legal size for flatfish (except for sand flounders) of 25 cm. For sand flounders, the minimum legal size is 23 cm. There is a minimum set net mesh size (100mm) for flatfish. The maximum daily bag limit is 30 in the FLA 3 area.

The most recent National Panel Survey of recreational fisheries harvests estimated 21.9 tonnes of flatfish were caught by recreational fishers in the FLA 3 management area in the 2011/12 fishing year.<sup>6</sup> This catch estimate is low compared to the 150 tonne recreational allowance, however, MPI notes that there is uncertainty in using the estimate from 2011/12 to estimate or predict current catches. An updated survey of recreational catch is expected to be conducted in 2017 and 2018, and could inform any setting of the baseline recreational allowance in the future.

In past reviews, some recreational fishers advised that they considered the abundance of some components of FLA 3 were low, especially around some southern estuaries, and as a

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<sup>6</sup> Wynne-Jones J, Gray A, Hill L, Heinmann A (2014) National Panel Survey of Marine Recreational Fishers 2011-2012: Harvest Estimates. New Zealand Fisheries Assessment Report 2014/67. 139p.

consequence they were effectively being denied access to the resource. This issue has been compounded by the ban on recreational set netting in open water. The FMA 3 & 5 Recreational Fishing Forum members still maintain this is the case. Forum members have proposed that recreational fishers be permitted the use of powered recreational trawls to be able to access the deeper sole stocks. MPI is not currently considering any changes to recreational fishing regulations regarding powered trawls in the FLA 3 QMA.

#### 4.4 MĀORI CUSTOMARY FISHERY

Flatfish are important Māori customary species. Information on customary catch is uncertain but MPI has no information to indicate that customary catch has changed significantly over the last few years. Anecdotal information suggests that some catch for customary purposes is being taken under the recreational daily bag limit of 30 flatfish. In meeting obligations to Māori, MPI is working together with the Te Waka a Māui me ōna Toka Forum (TWAM) to improve customary reporting at all levels.

There is a proposal to increase the customary allowance for FLA 3. The best available information suggests that new settings will provide for both current levels of catch and possible increased customary harvest of flatfish in FLA 3. The allowance for customary use is not set to constrain catch, but to reflect levels of current utilisation.

The taiāpure of East Otago, Akaroa Harbour, Te Taumanu o Te Waka a Māui and Oaro-Haumuri, and the mātaimai reserves of Te Waha o te Marangai, Mangamaunu, Oaro, Rapaki Bay, Koukourarata, Te Kaio, Wairewa/Lake Forsyth, Opihi, Waitarakao, Waihao, Moeraki, Puna-wai-Tōriki, Waikawa Harbour/Tuma Toka, Motupōhue, Oreti, Te Whaka a Te Wera, Pikomamaku, Kaihuka, Horomamae and Waitutu are all within the FLA 3 quota management area. MPI notes that the proposals in this paper will not impact on, or be impacted by, these taiāpure and mātaimai reserves. The FLA 3 QMA does overlap two areas covered by section 186B of the Act; but proposals in this paper will not impact or be impacted by these closures.

#### 4.5 ALL OTHER MORTALITY CAUSED BY FISHING

There are various potential other sources of fishing-related mortality of FLA 3, but MPI is not able to quantify these precisely. Sources may include discarding to avoid deemed value payments and unseen mortality caused by particular fishing methods. The allowance for all other sources of mortality caused by fishing is currently set at 2.25% of the TACC. MPI has no information to suggest this proportion should be changed.

#### 4.6 PREVIOUS REVIEWS

In the 2007/08 fishing year, the baseline TAC for FLA 3 was reduced from 2893 tonnes to 1617 tonnes. The then Minister of Fisheries noted the inter-annual variability of flatfish abundance and that FLA 3 is on Schedule 2 of the Act. He directed that research be undertaken to develop an in-season increase management procedure by which in-season adjustments could be made to the TAC. In-season increases have occurred four times since then (2009/10, 2011/12, 2012/13 and 2015/2016).

The most recent changes to the settings for FLA 3 were an in-season TAC increase of 250 tonnes in the 2015/16 fishing year (resulting in a TAC of 1867 tonnes). This was used to generate an additional 220 tonnes of ACE.

## 4.7 NEW INFORMATION

The FLA 3 management procedure was updated and revised in 2015 (Starr and Kendrick in prep.). The most recent assessments indicate an increasing CPUE index for sand flounder, with lemon sole near the long term mean and New Zealand sole just below the long term mean. There is no information about the abundance of the other individual species in the FLA 3 stock complex, or the specific risks to them of an in-season increase in the TAC.

The management procedure matches the CPUE from the first two months of the fishing year against historical annual catch represented as a regression line. Due to disruptions to the fishery caused by the Kaikōura Earthquake in November 2016, the management procedure for 2016/17 used standardised CPUE information for an additional third month. The output of the procedure forecasts the end of season catch to be 2065 tonnes (a 635 tonne increase above the baseline TACC) for the 2016/17 fishing year. From previous TAC increases under the management procedure, the procedure has about a 90% confidence in forecasting an appropriate end of season commercial catch level.

Given the variable abundance and productivity of the main FLA 3 species, MPI considers an in-season increase for FLA 3 to be low-risk to the long-term sustainability of the stock based on the available information and given that the increase is available only until the end of the current fishing year.

## 5 Legal Considerations

### 5.1 SETTING MANAGEMENT MEASURES

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

Section 13(2) of the Act specifies requirements for setting a TAC where a reliable estimate of the current biomass ( $B_{\text{CURRENT}}$ ) of the stock and the level of biomass that can produce the maximum sustainable yield ( $B_{\text{MSY}}$ ), is known. Since estimates for  $B_{\text{CURRENT}}$  and  $B_{\text{MSY}}$  are not known for FLA 3, section 13(2A)(c) of the Act provides for the Minister to use the best available information to set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, the  $B_{\text{MSY}}$  level.

In view of the results of the in-season management procedure, MPI considers that the proposed increase of the in-season TAC for FLA 3 is not inconsistent with the objective of maintaining the stock at or above, or moving towards or above a level that can produce the MSY.

When making a decision concerning the TAC for a stock under section 13(2A), subsection (b) requires the Minister to also have regard to interdependence of stocks, the biological characteristics (discussed above) and any environmental conditions affecting the stock. MPI does not consider, based on the available information, that the proposed measures are likely to

affect the sustainability of FLA 3, or the main associated bycatch species red cod, barracouta, skates, elephant fish, giant stargazer, gurnard, spiny dogfish and tarakihi.

Section 20(4) of the Act does not allow the TACC to be increased in-season if the Minister decides to increase the TAC. Despite this, section 68(1) allows the Minister to create an additional amount of ACE equal to the amount by which he would have increased the TACC. This is provided that the TAC is increased in accordance with section 13(7) and that the Minister considers the matters referred to in section 21(1) which include making allowances for Maori customary non-commercial fishing interests, recreational interests and all other sources of mortality caused by fishing.

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

## 5.2 FURTHER CONSIDERATIONS

Due to their low abundance in both the North and South Island, the endemic Hector's dolphin is declared as a threatened species under the provisions of the Marine Mammals Protection Act 1978. The set net and bottom trawl (when targeting flatfish) fisheries have been subject to a range of measures designed to reduce interactions of this fishery with Hector's dolphins. The Plenary report states the current interactions between the FLA 3 fishery and protected species are believed to be low. MPI does not anticipate an increase in fishing effort as a result of an in-season increase as the increased catch would be supported by the higher abundance of flatfish.

# 6 Proposed Options

## 6.1 OPTION 1 (*STATUS QUO*)

Option 1 is the status quo and proposes no changes to the TAC, TACC or allowances for customary Māori, recreational or all other sources of mortality caused by fishing, and no additional ACE generated under section 68 of the Act. As the CPUE analysis shows, FLA 3 abundance is high and there is potential for commercial utilisation opportunities that will not be realised under Option 1.

Relative to the abundance of flatfish in FLA 3, the allowable catch of the commercial fishing sector is the most constrained by the baseline settings, and therefore would be the most impacted by Option 1. Based on the 2016/17 FLA 3 port price of \$3.32/kg, MPI considers Option 1 as a missed opportunity for increased utilisation, while ensuring the long-term sustainability, with a loss of revenue up to \$2,108,200.

Option 1 would be a departure from the management procedure informed approach that has been in place since 2010 and would signal a more cautious approach to managing FLA 3 for the remainder of the 2016/17 fishing year. As the most recent assessments indicate an increasing CPUE index for sand flounder, with lemon sole near the long term mean and New Zealand sole just below the long term mean, the key driver for changing this approach would be concerns for other species in the flatfish complex, for which there is no indicator available. MPI is exploring ways to improve information for future management so that potential effects on the other species or the increase in bycatch in the FLA 3 fishery can be better understood.

## 6.2 OPTION 2 (PREFERRED OPTION)

Option 2 proposes:

- The TAC be increased from 1617 t to 2335 t;
- Additional ACE of 635 t to be provided, increasing total ACE for the 2016/17 year from 1430 t to 2065 t (an approximately 44% increase);
- Additional allowance of 2 t and 67 t to be provided for Māori customary non-commercial and recreational interests respectively, increasing the allowance for Māori customary to 7 t, and for recreational to 217 t; and
- The allowance for all other sources of mortality caused by fishing increased from 32 t to 46 t.

MPI considers that an in-season increase in the TAC to 2065 tonnes under Option 2 provides for increased utilisation while ensuring long-term sustainability. The proposed in-season increase is based on an accepted peer-reviewed analysis to estimate in-season abundance.

Option 2 proposes additional ACE to be provided under section 68(1) of the Act. The best available information suggests that catches at current levels would be unlikely to cause the stock to decline. MPI considers that, while ensuring sustainability, Option 2 can provide for increased utilisation.

Based on the 2016/17 FLA 3 port price of \$3.32/kg, full commercial utilisation of the fishery under Option 2 could potentially generate an additional \$2,108,200 of revenue compared to the baseline setting under Option 1 (the *status quo*).

The main bycatch species in the FLA 3 fishery is red cod and numerous other low volume species. MPI considers that the proposed in-season increase is not likely to see an increase in fishing effort so is not likely to adversely affect the sustainability of these species, nor the availability to non-commercial fishers.

As there is potential for catches to increase for all sectors during periods of increased abundance, MPI considers it reasonable to increase the recreational and Maori customary allowance in proportion to the increase to the commercial ACE (approximately 44%). The proposed increases for the recreational and Māori customary interests are 67 tonnes and 2 tonnes, respectively, above the baseline allowances for the 2016/17 fishing year.

MPI proposes an allowance for all other sources mortality caused by fishing of 46 tonnes, pro-rated at 2.25% of the 2016/17 ACE, consistent with its current setting relative to the TACC.

If increased, the TAC would revert to existing baseline levels at the close of the 2016/17 fishing year on 30 September 2017. ACE for 2017/18 will be based on the TACC at 1 October 2017. This paper does not propose changes to the TACC.

## 7 Other Matters

### 7.1 FUTURE MANAGEMENT CONSIDERATIONS

MPI notes that a substantial amount of under-caught FLA 3 ACE has been carried forward to the current fishing year. This is provided for under section 67A of the Act. For stocks not listed on Schedule 5A of the Act, at the end of each fishing year, MPI must allocate to ACE holders for the next fishing year the lesser of:

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

Given that the current management procedure uses information about in-season abundance to estimate a full-season sustainable catch limit, MPI considers that the output of the management procedure should provide for the full extent of the fishing-year catch. Providing for the carry-forward of ACE in addition to the increase indicated by the management procedure is not generally appropriate. MPI is planning to review the ACE carry-forward provisions for FLA 3 and other stocks managed with in-season reviews to address this. However, MPI does not consider the carry-forward provisions to pose risks in determining a possible in-season increase of the FLA 3 TAC for the 2016/17 fishing year.

## 8 Conclusion

The best available information suggests that current abundance is relatively high and there is the opportunity for increased utilisation from FLA 3, at least in the short-term and that Option 2 would provide this.

MPI is seeking information and views from tangata whenua, fishery stakeholders and other interested parties to inform the review of in-season catch limits for FLA 3.

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