



Proposed Separation of South Island Eel Stocks

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Executive Summary

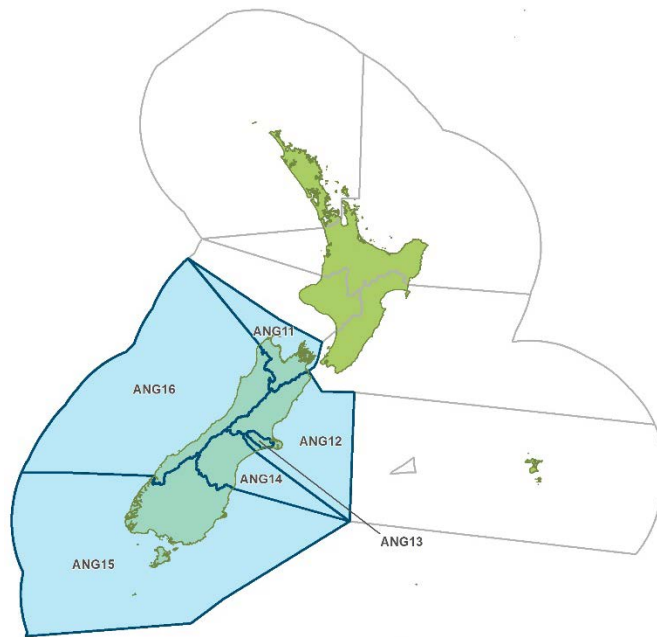


Figure 1: The six South Island Quota Management Areas (QMAs) for freshwater eels (shortfin and longfin).

Following a report by the Parliamentary Commissioner for the Environment on longfin eels, the Minister for Primary Industries (the Minister) has decided to progress a package of management measures to increase the population and improve the long-term sustainability of longfin eels. This package includes a review to consider separating South Island longfin and shortfin stocks to ensure the management framework best supports sustainable utilisation of each species.

The Ministry for Primary Industries (MPI) seeks feedback from interested parties on this review. Specifically on whether longfin and shortfin eels in the South Island, which are currently managed as combined stocks (ANG 11 – 16) (Figure 1), should be managed as separate longfin (LFE 11 – 16) and shortfin (SFE 11 – 16) stocks.

Two options are presented for consideration. Under **Option 1 (preferred)** South Island longfin and shortfin eels would be managed separately. MPI's initial position is that Option 1 will better ensure sustainability and utilisation of each species by allowing the different biological characteristics; economic, social, cultural and economic values; and associated management objectives to be reflected in the catch limits set and other sustainability settings. Under **Option 2 (status quo)** South Island eels would continue to be managed as combined stocks. This option provides industry with greater flexibility to adjust catches between species year to year (depending on market demand and other factors), however, it creates a risk that one of the species could be overfished. Addressing this risk would be complex and would come with significant cost in terms of utilising the species not at risk.

Once the Minister decides whether to manage South Island eels separately or retain the status quo, additional consultation will be undertaken regarding the proposed Total Allowable Catches (TAC), Total Allowable Commercial Catches (TACC) and allowances for these stocks (whether managed separately or combined). This review will be part of the 2016 sustainability round for fisheries stocks with a 1 October fishing year.

MPI invites stakeholder and public submissions on these options. Feedback and information provided will be reported to the Minister to inform his decision on whether to proceed with separate management of longfin and shortfin eel stocks in the South Island.

Purpose

The purpose of this document is to initiate consultation on behalf of the Minister for Primary Industries (the Minister) on the proposed separation of the South Island eel stocks (refer to Figure 1). The following two options are proposed.

Option 1 (Preferred)	Manage South Island longfin and shortfin eels separately as six shortfin (SFE 11-16) and six longfin (LFE 11-16) stocks
Option 2 (Status quo)	Continue to manage South Island longfin and shortfin eels as six combined stocks (ANG 11-16)

MPI is seeking feedback and submissions on these options. Under Option 1, longfin and shortfin South Island eels would be managed separately as six separate longfin (LFE 11-16) and six separate shortfin (SFE 11-16) stocks from the beginning of the next fishing year (1 October 2016). Under Option 2 (status quo) longfin and shortfin eels would continue to be managed as combined stocks.

Should the Minister decide to separate the current ANG stock into longfin and shortfin stocks, the quota management areas (QMAs) for eels in the South Island will need to be altered under section 25 and 26 of the Fisheries Act (the Act), along with consequential amendments to fisheries regulations. For the Minister to make a recommendation to alter QMAs without receiving a request from quota holders he must be satisfied, having considered alternative options, that the alteration is necessary to ensure sustainability. This discussion paper reviews the proposal against the requirements of the Act, and invites tangata whenua and stakeholder submissions to inform the Minister's decision.

NEED FOR ACTION

In 2013, the Parliamentary Commissioner for the Environment released a report outlining the status of longfin eel populations in New Zealand.¹ In this report, the Commissioner recommended that the Minister:

- suspend the commercial catch of longfin eels until longfin eel stocks are shown to have recovered; and
- direct his officials to establish a fully-independent expert peer review panel to assess the full range of information available on the status of the longfin eel population.

Subsequently, an independent scientific review of the information available on the status of eels was carried out by a panel of international experts in November 2013.² The independent panel concluded that while there was a trend of decline from the early 1990s to the late 2000s, there has been a relatively stable, and in some areas increasing abundance in recent years.

¹ On a pathway to extinction? An investigation into the status and management of the longfin eel, April 2013

² www.mpi.govt.nz/Portals/0/Documents/fish/Eel-Review-Report-25-11-2013.pdf

Based on the panel's report, and after consideration of the relevant scientific evidence, the Minister decided that the information available was not sufficient to support a complete closure of the longfin eel fishery.

As an alternative, the Minister decided to progress a package of management measures to ensure an increase in the number of longfin eels and their long-term sustainability. These management measures include:

1. A review to consider the separation of South Island longfin and shortfin stocks to support improved management of each species.
2. A review of catch limits for North and South Island longfin eels to ensure that they will support/promote an increase in longfin eel abundance.
3. The introduction of abundance target levels to support assessment of the status of the longfin eel population and rate of rebuild.³
4. Improved information from the commercial longfin eel fishery to better inform stock assessment.⁴

This discussion paper relates to Part 1 of this package (separation of longfin and shortfin stocks).

Note that, in relation to Part 2 of this package (review of catch limits), additional consultation will be undertaken regarding catch limits (TAC and TACC) and allowances for South island eel stocks, as part of the sustainability round for stocks with a 1 October fishing year.

Legal Considerations

Sections 25-26 of the Fisheries Act 1996 (the Act), provide for the alteration of QMAs (including dividing a multi-species stock) and set out certain roles and responsibilities to be undertaken by the Minister before an alteration can take place.

Section 25 of the Act enables the Minister to recommend to the Governor General, by Order in Council, that a QMA be altered by dividing a multi-species stock (e.g. ANG) into 2 or more stocks (e.g. LFE and SFE). The Minister may make such a recommendation if—

- a) the Minister complies with section 25A and quota owners who hold in the aggregate not fewer than 75 000 000 (75%) quota shares for any stock that would be affected by the proposed alteration have requested the Minister to make such a recommendation; or
- b) the Minister complies with section 25B, in which case a request specified in paragraph (a) is not required.

Under section 25(3), before recommending the alteration of any QMA, the Minister must:

³ Part 3 of the package for South Island eel stocks has already been completed. MPI completed a new stock assessment for South Island eel stocks in 2015. North Island eel stocks are scheduled for review in 2016. From the 2015 stock assessment, an abundance target (ANG 13 only) and sustainability limits have been set for those South Island eel stocks where there is sufficient data to do so. These targets are used to guide the options described in this paper as longfin and shortfin eel abundance is able to be compared with these levels.

⁴ In relation to Part 4 of the package, MPI has reviewed using a more comprehensive and integrated information base to inform the stock assessment process for longfin eels. This included improved commercial catch reporting and additional data provided by universities, the Department of Conservation and local councils to assist in monitoring eel abundance. Not all of this information was able to be utilised as part of the current stock assessment, but it still being collected and may be used in the future. MPI is also undertaking research looking at the percentage of available habitat that is commercially fished. The preliminary results of this work have been considered in the development of the options presented in this paper. Abundance indices have already been updated using the latest information for South Island longfin eel stocks, and will be updated in 2016 for North Island longfin eel stocks.

- a) have regard to
 - i. non-commercial fishing interests in the affected area,
 - ii. the biological characteristics of each stock that would be affected by the recommendation and
 - iii. any other such matters that the Minister considers important.
- b) consult the persons and organisations considered by the Minister to be representative of those classes of persons having an interest in the relevant quota management area, including Maori, recreational, commercial and environmental interests; and
- c) provide for the input and participation of tangata whenua who have
 - i. a non-commercial interest in the stock concerned, or
 - ii. an interest in the effects of fishing on the aquatic environment in the area concerned; and
- d) for the purpose of paragraph (c), have particular regard to kaitiakitanga.

Separation of the South Island eels stocks is being considered under section 25B of the Act. Section 25B of the Act sets out the matters that must be addressed in the absence of a request from quota owners for a QMA alteration. The Minister may recommend the alteration if the Minister has:

- a) approved a plan that provides for all of the following matters:
 - i. the boundaries of the proposed quota management area or quota management areas;
 - ii. the species that comprise the stock or stocks after the proposed alteration; and
 - iii. the manner in which quota shares are to be apportioned after the alteration;
- b) is satisfied, having considered alternative options, that the alteration as specified in the plan is necessary to ensure sustainability; and
- c) has publicly notified his or her intention to recommend the alteration of the QMA or areas; and
- d) has also notified his or her intention to recommend the alteration of the QMA or areas to:
 - i. persons who are noted on the Quota Register as having an interest in the quota to which the proposed alteration relates; and
 - ii. parties to leases or transfers registered on the Transitional Register in respect of quota to which the proposed alteration relates.

Relevant Information

BIOLOGICAL CHARACTERISTICS

While both longfin and shortfin eel species are native to New Zealand, only the longfin eel is endemic (only found in New Zealand). Both species are found throughout New Zealand, but they have different habitat preferences, growth rates, and maturity, which made them vulnerable to harvesting pressure in different ways. These characteristics are discussed in further detail in Appendix 1.

In general, the longfin eel is characterised as more vulnerable to harvest pressures than the shortfin eel because they are slower growing, mature much later, live longer and do not migrate for spawning until later in life.

STOCK INFORMATION

For longfin and shortfin eel populations within ANG 11 (Nelson/Marlborough), 12 (North Canterbury) and 14 (South Canterbury), there is insufficient data to determine stock trends or status against limits and targets. For longfin and shortfin eel populations within ANG 13 (Te Waihora/Lake Ellesmere)⁵, 15 (Otago/Southland), and 16 (West Coast) there is sufficient data to determine stock status through the standardised catch per unit effort (CPUE) time series. In the case of longfin in ANG 15 and 16 the stock is above the 'soft limit', a limit at which MPI would consider implementing a rebuilding plan, but its status relative to legislative target levels is uncertain. In the case of ANG 13 (a shortfin only fishery) the stock is well above the target level.

INITIAL CONSULTATION

Prior to the release of this consultation paper, MPI undertook preliminary consultation regarding separate management of South Island eel stocks with the South Island Eel Industry Association. The association has stated it is not entirely opposed to separate management of each species, however, it has stressed that this is a difficult process and caution should be exercised during implementation. In the absence of a request from quota holders to manage the stocks separately under section 25A of the Act (refer section 3 of this paper), the proposal is being considered at this time under section 25B of the Act.

MPI has also provided for the input and participation of tangata whenua through Te Waka a Māui me ona Toka and Ngāi Tahu Mahinga Kai Hī Ika Kōmiti. Tangata whenua through these forums have stated they support the proposal to manage longfin and shortfin eels as separate stocks.

⁵ There is no longfin fishery in ANG 13 – it is a shortfin fishery only.

Analysis

OPTION 1 – MANAGE SOUTH ISLAND EELS AS SEPARATE SHORTFIN AND LONGFIN STOCKS

Option 1 proposes that separate longfin (LFE) and shortfin (SFE) stocks would be created within the quota management system for each of the current combined eel (ANG) QMAs in the South Island.

MPI considers the current combined management approach does not provide the best means of ensuring sustainability of longfin eels due to the differences in biological characteristics of longfin eel in comparison to shortfin eel. Option 1 would allow sustainability measures to be set that take into account that longfin eel is more vulnerable to harvest pressures than shortfin eel because they are slower growing, mature much later, live longer and do not migrate for spawning until later in life.

In considering whether to recommend alteration of QMAs to provide for separate management of longfin and shortfin eels the Minister must meet the requirements of sections 25 and 26 of the Act. An assessment of these is set out below in the same order that they occur in the Legal Considerations section of this document (refer section 3):

Non-commercial fishing interests

MPI considers non-commercial fishing interests would not be detrimentally affected by managing the stocks separately. MPI notes that recreational catch of eels is considered to be relatively low (refer Appendix 1), and that tangata whenua support the proposal to manage longfin and shortfin eels separately (see below).

Biological characteristics

The biological characteristics of longfin and shortfin eels (refer section 4.1 and Appendix 1) are a fundamental driver for separate management of each species. Longfin and shortfin eels have different growth, maturity and other biological characteristics that support the need to manage them separately.

Consultation

MPI has undertaken preliminary consultation with tangata whenua and stakeholders and is commencing the formal consultation process on stock separation through release of this discussion document. MPI seeks submissions from Maori, recreational, commercial and environmental interests on the proposal to manage the eel species separately.

Input and participation of tangata whenua

Tangata whenua have already provided input and participation on the proposal to manage shortfin and longfin species separately through Te Waka a Māui me ona Toka and Ngāi Tahu Mahinga Kai Hī Ika Kōmiti. Tangata whenua support the proposal.

Kaitiakitanga

MPI notes the Minister is required to have particular regard to kaitiakitanga when considering alterations to QMAs. Eels (tuna) are of particular importance to tangata whenua in the South

Island, who hold a good understanding of the habits and life history of tuna, and exercise stewardship of the resource in accordance with tikanga Maori. Tangata Whenua, through the joint MPI/ iwi forums noted above, have advised that they support the proposal to manage South Island eel species separately.

Proposed stock separation plan

Under section 25B of the Act, the Minister may recommend the alteration of any QMA under section 25(1) without receiving a request from quota owners. To do so, the Minister will be required to approve a plan that provides for all of the following matters:

- a) The boundaries of the proposed quota management area or areas.

MPI proposes that the boundaries for the separate longfin and shortfin QMAs will remain the same as they currently are under the current combined stocks (ANG 11-16) (figure 2). For example, if separated the QMA boundary for LFE 12 and SFE 12 will be the same as the current ANG 12. A map showing the proposed QMAs is provided below.



Figure 2: The twelve proposed South Island QMAs for shortfin (SFE) and longfin (LFE) eels under Option 1.

- b) The species that comprise the stock or stocks after the alteration.

The species will be shortfin eel *Anguilla australis* (SFE 11-16) and longfin eel *Anguilla dieffenbachii* (LFE 11-16).

- c) And the manner in which quota shares are to be apportioned after the alteration.

On the close of the day prior to the date on which the amalgamation takes place (i.e. 1 October 2016), all existing ANG quota shares will be cancelled in accordance with section 26(4) of the Act. New quota shares will be allocated on and from 1 October 2016 for the new LFE and SFE stocks.

MPI's initial proposal is that the existing shares within each existing ANG QMA would be allocated pro-rata to the new LFE and SFE QMAs. That is, if a quota holder holds 20% of quota shares in ANG 11 they would receive 20% of quota shares in each of SFE 11 and LFE 11. This approach enables quota holders to utilise both species

(should they choose) in the future, or to buy or sell quota to obtain their preferred mix of longfin and shortfin shares. MPI invites submissions on the manner in which quota shares could be apportioned in the event the stocks are separated.

Alteration necessary to ensure sustainability

MPI's initial view, subject to consultation, is that having considered alternatives (e.g. Option 2 and other options discussed in the following sections) managing the species separately is necessary to ensure sustainability of the longfin eel fishery in particular.

This approach would allow species-specific catch limits and other sustainability measures to be set that take into account the biological characteristics of longfin eels. Stock separation will enable MPI to better respond to changes in longfin eel abundance and local sustainability concerns. If South Island eels continue to be managed as combined stocks there is a continuing risk that either of the species could be overfished as most (or all) of the TAC could potentially be taken as one species. While sustainability settings for combined stocks could be adjusted to try to address this risk, this is more complex, less effective and less efficient for a multi species stock compared to a single species stocks. Managing the species as separate stocks allows such settings to be more clearly defined and activities to ensure fishing stays with sustainable limits to be better directed.

Notification

If the Minister decides to recommend the stocks be managed separately he will notify the public and those with an interest in South Island eel quota, or leases and transfers, of this intention.

Timing

The proposed separation of stocks would be effective on and from the first day of the next fishing year, being 1 October 2016 for all stocks except for those stocks created within ANG 13, which has a different fishing year and would come into effect on 1 February 2017.

OPTION 2 – CONTINUE TO MANAGE SOUTH ISLAND EELS AS COMBINED LONGFIN AND SHORTFIN STOCKS

Option 2 would retain the existing management framework where longfin and shortfin eel species are managed under a single stock (ANG) in six QMAs.

From an utilisation perspective, commercial eel fishers currently benefit from having both species managed as one stock. This framework allows flexibility for fishers to switch between species, either:

- increasing the catch of the highest value species, as market demand changes; or
- targeting the species with the highest availability given prevailing environmental conditions.

Currently, shortfin eels are the most marketable species but this could change in the future, which may increase the demand for longfin eels. MPI does not have sufficient data to reliably estimate the economic benefit of this flexibility, and invites fishers to provide information on this.

MPI considers the current management framework does not provide the best means of ensuring sustainability of the longfin eel due to the significant differences in biological characteristics and the vulnerability of longfin eel in comparison to shortfin eel.

If the species continue to be managed as combined stocks, the sustainability measures that are applied to each ANG stock would need to be reviewed to ensure that they will promote/support an increase in longfin eel abundance and their long-term viability. This may be best achieved if the TAC, TACC and allowances for the combined stocks are set at a level that supports an increase in the numbers of the longfin eel, taking into account that a large proportion of (or the entire) TACC could be taken as longfin. The TAC level required to achieve this would create a constraint on utilisation of the shortfin fishery that would otherwise not be necessary.

MPI invites submissions on the above assessment.

OTHER OPTIONS CONSIDERED

MPI has considered whether voluntary catch splitting arrangements could be used to ensure harvest levels are constrained appropriately. However, MPI considers these types of arrangements are difficult to enforce and monitor and rely on strong industry governance. MPI supports a strong regulatory environment when there are significant sustainability concerns and/or these other factors noted above are unclear.

Although separation of the stocks could be considered for only some South Island eel QMAs, MPI considers it would be inefficient and costly to manage longfin and shortfin eel stocks separately for only some QMAs. MPI, therefore proposes, an ‘all or nothing approach’ to separation; that is, the same approach will be taken in all the South Island QMAs. MPI notes this option would also align the management framework with that of eels in the North and Chatham Islands, providing management consistency across all of New Zealand’s eel stocks.

MPI invites submissions on the above assessment.

Consequential Regulatory Amendments

To give effect to the alteration of QMAs to separate management of longfin and shortfin eel species (if approved), a number of consequential regulatory and other amendments will be required. These include the following:

CREATION OF QUOTA MANAGEMENT AREAS

The geographical description of the new LFE and SFE QMAs are to be the same as the current ANG QMAs defined in the First Schedule, Part III of the Act. MPI does not propose any changes to the current QMA area descriptions, just that they be applied to both LFE and SFE stocks.

FISHERIES (REPORTING) REGULATIONS 2001

Table 1 in Part 1 of Schedule 3 to the Reporting Regulations will need to be amended to specify the new fish stock codes to be used when reporting.

OTHER MEASURES

Other QMS settings such as the Deemed Values Order will need to be amended to revoke the interim and annual deemed values for all ANG stocks and to insert new deemed value for each of the South Island LFE and SFE stocks. The setting of deemed values, should separation occur, will be considered as part of the sustainability round for 1 October 2016 along with the setting of TACs, TACCs and allowances.

The new SFE and LFE stocks will need to be referred to in Schedules 2 and 3 of the Act and align them with management of eel stocks generally.

MPI seeks submissions on these proposed regulatory and other amendments.

Conclusion

MPI's initial view is that managing longfin and shortfin eels in the South Island as separate stocks (**Option 1**) is necessary to ensure the sustainability of the South Island freshwater eel fisheries.

MPI invites stakeholder submissions on this assessment, and on any alternative options to separating the stocks that should be considered. This information will be reported to the Minister to inform his decision on whether to proceed with separate management of longfin and shortfin eel stocks in the South Island.

Appendix 1: Background Information

BIOLOGICAL CHARACTERISTICS OF EELS

New Zealand has two main species of freshwater eel⁶, the native shortfin eel *Anguilla australis* (also found in South Australia, Tasmania and New Caledonia) and the endemic (found only in New Zealand) longfin eel *Anguilla dieffenbachii*.

New Zealand freshwater eels are regarded as temperate species and have a unique life history. They live predominantly in freshwater and undertake a spawning migration to an oceanic spawning ground. The majority of the life cycle is spent in freshwater or estuarine/coastal habitat. Spawning of New Zealand species is presumed to take place in the Southwest Pacific. Offspring undertake a long oceanic migration back to freshwater where they grow to maturity before migrating back to the oceanic spawning grounds.

The habitat of both species overlap, however, shortfins prefer lowland lakes and slow moving soft bottom rivers and streams and are predominant in coastal areas. Longfins prefer fast flowing stony rivers and are dominant in high country lakes.

Growth in freshwater is highly variable and dependent on food availability, water temperature and eel density. Eels, particularly longfins, are generally long-lived. The maximum recorded age is 106 years for longfins and 60 years for shortfins. Longfin eels take approximately 4.7 years longer to reach the minimum legal size (220 g). South Island shortfin eels take, on average, 12.8 years to reach the minimum legal size, compared with 17.5 years for longfins.

Migration appears to be dependent on attaining a certain length/weight combination and condition. The range in recorded age at migration for shortfin males is 5–22 years and 9–41 years for females. For longfin eels the range in recorded age at migration is 11–34 years for males, and 27–61 years for females.

In general, the longfin eel could be characterised as more vulnerable to harvest pressures than the shortfin eel because they are slower growing, mature much later, live longer and do not migrate for spawning until later in life.

COMMERCIAL FISHERY

Virtually all commercially caught eels (98%) are taken with fyke nets. Eel catches are greatly influenced by water temperature, flood events (increased catches) and drought conditions (reduced catches). Catches decline in winter months (May to September), particularly in the South Island where fishing ceases.

The South Island eel fishery was introduced into the quota management system (QMS) on 1 October 2000 with shortfin and longfin species combined into six stocks (codes ANG 11 to ANG 16). TACs, TACCs, allowances and other management settings for management within the QMS were developed in consultation with tangata whenua and stakeholders (Table 1).

⁶ A third species of freshwater eel, the Australasian longfin (*Anguilla reinhardtii*) was identified in the North Island 1996. When caught it is included as part of the shortfin catch as this species has productivity characteristics closer to shortfins than longfins, and because the catch is not sufficient to justify its own separate stocks

Table 1: Current TACs, TACCs, and customary non-commercial and recreational allowances (t) for South Island eel stocks. Note as eels are a selective target fishery there is no allowance for other sources of fishing-related mortality.

	ANG 11	ANG 12	ANG 13	ANG 14	ANG 15	ANG 16
	Nelson/ Marlborough	North Canterbury	Te Waihora Lake Ellesmere	South Canterbury	Otago/Southland	West Coast
TAC	51.29	54.8	156.32	45	150.85	80.41
TACC	40	42.74	121.93	35.1	117.66	62.72
Customary Non- Commercial Allowance	10.258	10.96	31.26	9	30.17	16.082
Recreational Allowance	1.0258	1.096	3.13	0.9	3.017	1.608

The Chatham and North Island eel fisheries were introduced into the QMS on 1 October 2003 and 1 October 2004 respectively using separate quota management areas for shortfin and longfin eels.

The fishing year for all stocks extends from 1 October to 30 September except for ANG 13 (Te Waihora/Lake Ellesmere), which has a fishing year from 1 February to 31 January (since 2002). Currently, there are minimum and maximum commercial size limits for both longfins and shortfins (220 g and 4 kg, respectively) throughout New Zealand. Quota owners from both islands formally agreed in 1995–96 not to land migratory female longfin eels. Since about 2006 there has been a voluntary code of practise to return all longfin eels caught in Te Waihora/Ellesmere; catches of these longfins are recorded on Eel Catch Effort Returns (ECERs), but not on the Eel Catch Landing Returns (ECLRs).

Commercial catch data is available from 1965 and comes from different sources. Catch data prior to 1988 is for calendar years, whereas those since 1988 is for fishing years (Figure 3).

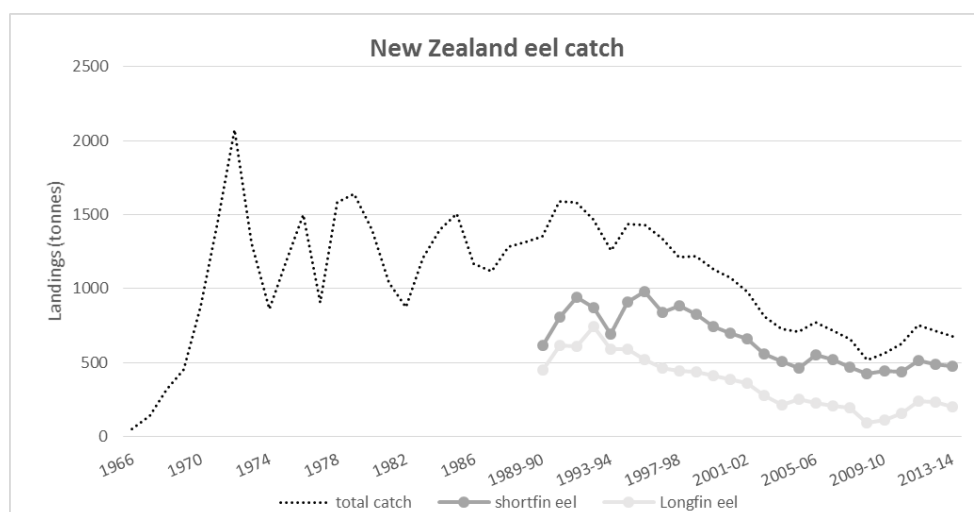


Figure 3: Total eel landings from 1965 to 2012–13, as well as separate shortfin and longfin landings from 1989–90 to 2012–13.

Commercial catch landings for South Island stocks have been reported separately for longfin and shortfin eels since QMS entry in 2000 (refer to Figure 4).

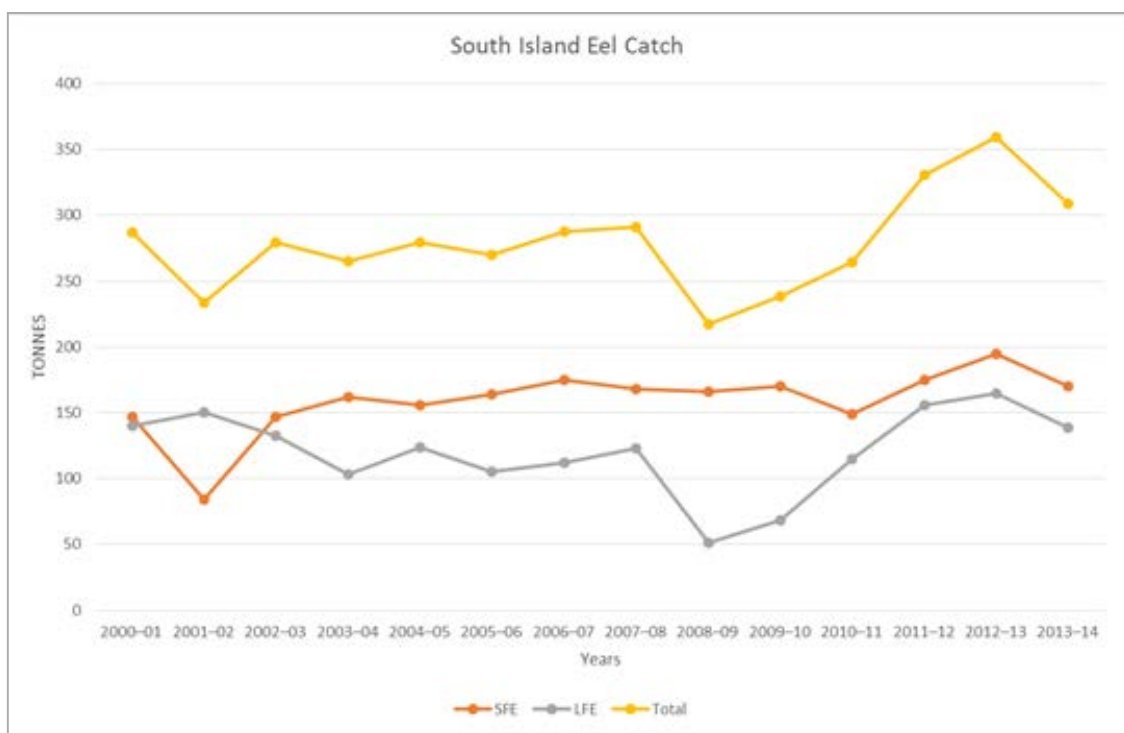


Figure 4: Total commercial landings (t) for South Island eel stocks (based on ECLR data).⁷

The species proportion of the landings varies by QMA. From analyses of landings to eel processing factories and estimated catch from ECLRs, longfin are the dominant species in most areas of the South Island, except for discrete locations such as lakes Te Waihora / Ellesmere, Brunner, and the Waipori Lakes, where significant quantities of shortfin are landed.

Graphs showing catch landings by shortfin and by longfin species and TACCs since 2000–01 are presented in Appendix 2. Tables of this data are set out in Appendix 3.

The average port price for South Island eels since QMS entry is \$4.17 per kg, giving an average annual total port price for eel landings of \$501,317.40 for longfin and \$647.184 for shortfin in the South Island.

RECREATIONAL FISHERY

In October 1994, a recreational individual daily bag limit of six eels was introduced throughout New Zealand. There is no quantitative information on the recreational harvest of freshwater eels, but it is considered to be low and likely to be less than the existing recreational allowance (refer Table 1). The recreational fishery for eels includes any eels taken by people fishing under the amateur fishing regulations⁸ and includes any harvest by Maori not taken under customary provisions.

When the South Island eel fishery was introduced into the QMS, an allowance was made for recreational harvest of 2% of the TAC for each QMA, currently equating to 11 tonnes (Table 1). Based on available information, current recreational harvest is within this allowance.

⁷ Appendix 3 – Eel catch per QMA

⁸ Fisheries (Amateur Fishing) Regulations 2013

CUSTOMARY FISHERY

Eels (tuna) are considered taonga (treasured) by Maori and are traditionally an important food source. Maori developed effective methods of harvesting, and hold a good understanding of the habits and life history of eels. Maori retain strong traditional ties to eels and their harvest.

In the South Island, a number of areas have been set aside as non-commercial areas for customary (and recreational) fisheries. Additionally, there are seven mātaihai reserves covering freshwater (five that are solely freshwater, and two that cover both freshwater and saltwater bodies) that have been established where commercial fishing is prohibited.

Customary non-commercial fishers prefer eels of a large size, i.e. over 750 mm and 1 kg. There is no complete assessment of the current or past customary non-commercial take for the South Island. However, there is information on customary non-commercial catches from authorisations issued under customary fisheries regulations. These regulations are in force across most of the South Island (not ANG 11). The data collected over the last 17 years shows the majority of customary catch is from ANG 12 (North Canterbury) and ANG 13 (Te Waihora/Lake Ellesmere). The records also suggest that eel customary permit fulfilment (comparison of quantity authorised to that able to be caught under that authorisation) is of particular concern for ANG 12 and ANG 14.

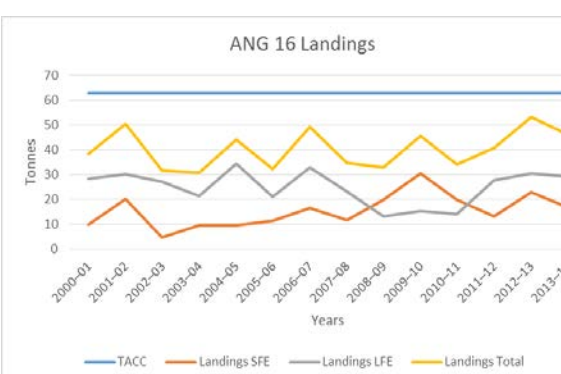
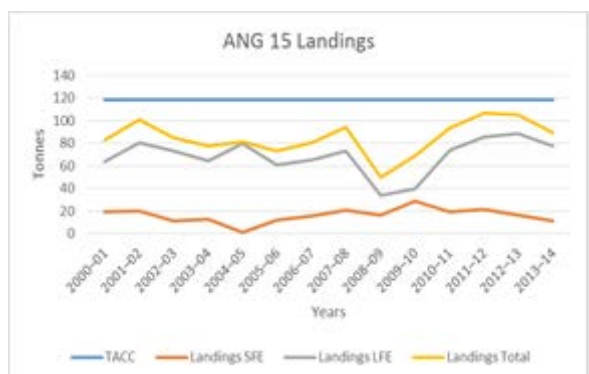
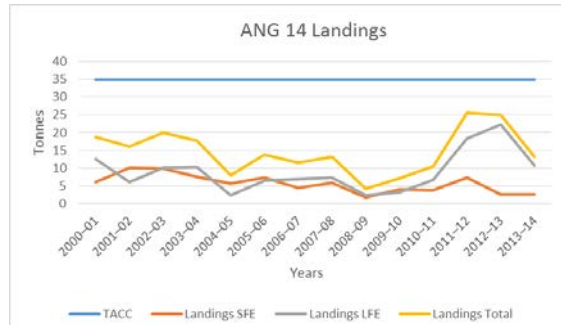
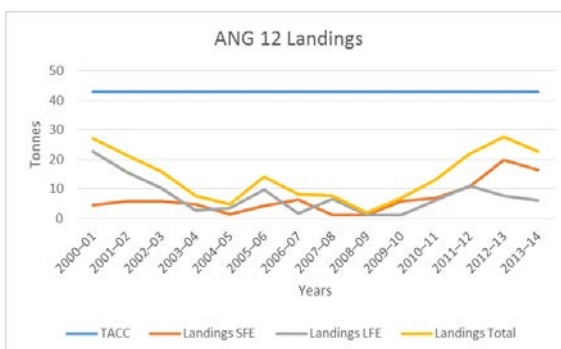
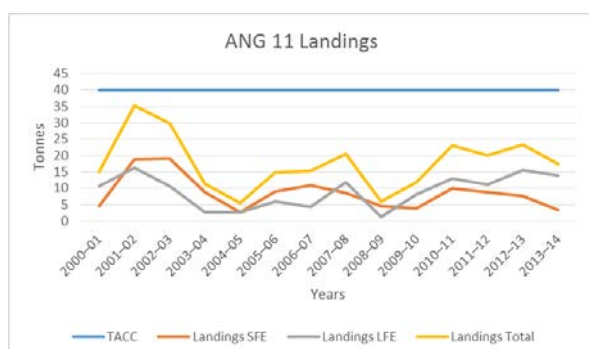
When the South Island eel fishery was introduced into the QMS, an allowance was made for customary non-commercial harvest. It was set at 20% of the TAC for each QMA, currently equating to 107 tonnes (Table 1). Based on available information, current customary harvest is within this allowance.

STOCK INFORMATION

For longfin and shortfin eel populations within ANG 11, 12 and 14, there is insufficient data to determine stock trends or status against limits and targets. For longfin and shortfin eel populations within ANG 13, 15, and 16 there is sufficient data to determine stock status through the standardised catch per unit effort (CPUE) time series. In the case of longfin in ANG 15 and 16 the population is above the 'soft limit', a limit at which MPI would consider implementing a rebuilding plan. In the case of ANG 13 (a shortfin only fishery) the stock is well above the target level.

Appendix 2: Eel commercial catch landings by QMA

The annual landings are based on data recorded on Eel Catch Landing Return (ECLR) forms.



Appendix 3: TACCs and commercial landings (t) for South Island eel stocks (based on ECLR data)

Fishing Year	ANG11		ANG12		ANG13		ANG14		ANG15		ANG16		Total landings
	TACC	Landings	TACC	Landings	TACC	Landings	TACC	Landings	TACC	Landings	TACC	Landings	
Shortfin Eel (SFE)													
2000–01	40	4.5	43	4.4	122	102.2	35	6.1	118	19.4	63	9.8	146.6
2001–02	40	18.9	43	5.7	122	63.6*	35	10.1	118	20.2	63	20.2	83.8
2002–03	40	19.2	43	5.9	122	95.4	35	9.9	118	11.7	63	4.5	146.7
2003–04	40	8.7	43	4.8	122	118.2	35	7.5	118	13.0	63	9.4	161.8
2004–05	40	2.7	43	1.4	122	121.3	35	5.7	118	1.5	63	9.6	156.0
2005–06	40	9.0	43	4.3	122	119.9	35	7.4	118	12.0	63	11.2	164.0
2006–07	40	10.9	43	6.3	122	121.5	35	4.4	118	15.4	63	16.5	175.2
2007–08	40	8.5	43	1.2	122	119.7	35	5.8	118	21.2	63	11.5	167.9
2008–09	40	4.7	43	< 1	122	123.0	35	1.8	118	16.6	63	19.7	166.0
2009–10	40	3.8	43	5.8	122	97.3	35	3.9	118	29.1	63	30.3	170.2
2010–11	40	10.0	43	6.9	122	89.3	35	3.7	118	19.4	63	19.9	149.2
2011–12	40	8.8	43	10.8	122	113.3	35	7.3	118	21.4	63	13.1	174.8
2012–13	40	7.6	43	19.9	122	125.0	35	2.6	118	16.7	63	22.8	194.6
2013–14	40	3.4	43	16.5	122	119.3	35	2.5	118	11.7	63	16.8	170.2
Longfin Eel (LFE)													
2000–01	40	10.6	43	22.6	122	2.1	35	12.6	118	63.6	63	28.4	140.1
2001–02	40	16.4	43	15.6	122	1.0*	35	6.0	118	80.5	63	30.2	150.1
2002–03	40	10.6	43	10.1	122	1.4	35	10.0	118	73.0	63	27.2	132.6
2003–04	40	2.8	43	2.7	122	< 1	35	10.2	118	64.7	63	21.2	102.9
2004–05	40	2.8	43	3.4	122	< 1	35	2.3	118	79.6	63	34.4	123.7
2005–06	40	6.0	43	9.8	122	< 1	35	6.4	118	61.1	63	21.1	105.5
2006–07	40	4.4	43	1.7	122	< 1	35	7.0	118	65.0	63	32.8	112.1
2007–08	40	11.9	43	6.5	122	< 1	35	7.4	118	73.0	63	23.1	122.9
2008–09	40	1.4	43	< 1	122	0	35	2.3	118	33.7	63	13.2	51.0
2009–10	40	8.0	43	< 1	122	< 1	35	3.2	118	40.0	63	15.3	68.0
2010–11	40	13.1	43	6.1	122	< 1	35	6.7	118	73.9	63	14.1	114.9
2011–12	40	11.2	43	11.0	122	2.0	35	18.4	118	85.4	63	27.6	155.7
2012–13	40	15.6	43	7.6	122	<1	35	22.3	118	88.6	63	30.4	164.5
2013–14	40	14.0	43	6.1	122	<1	35	10.7	118	77.9	63	29.3	138.5

*For the transition from a 1 October to 1 February fishing year, an interim TACC of 78 t was set for the period 1 October 2001 to 31 January 2002. From January 2002 the Te Waihora (Lake Ellesmere) fishing year was 1 February to 31 January. Fishing year for all other areas is 1 October to 30 September.