

Paua (PAU 5B)

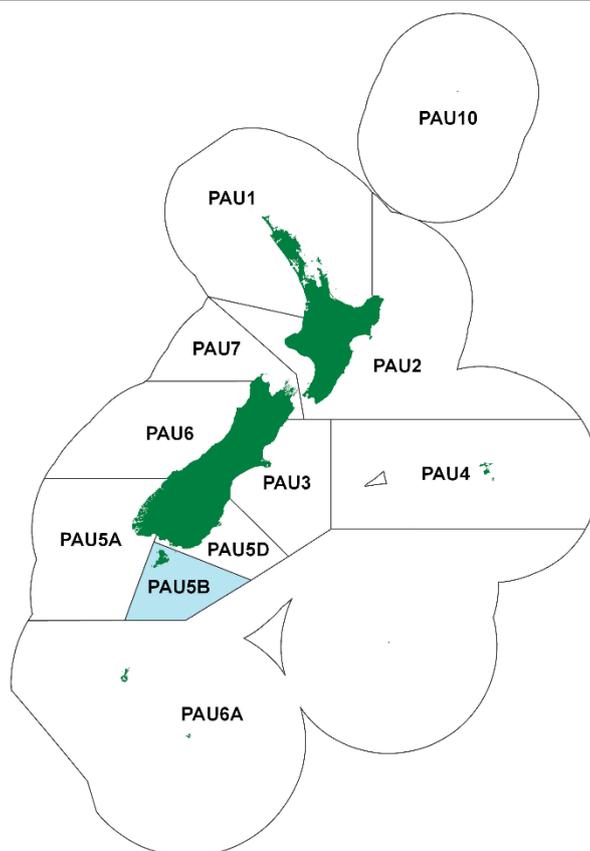


Figure 1: Quota management areas (QMAs) for the paua (PAU) fishery, with PAU 5B highlighted in blue.

1. What is proposed?

772. Fisheries New Zealand is reviewing the total allowable catch (TAC), allowance for Māori customary fishing, allowance for recreational fishing, allowance for all other mortality to the stock caused by fishing, and the total allowable commercial catch (TACC) for paua (*Haliotis iris*, *Haliotis australis*) in PAU 5B off the coast of Stewart Island (Figure 1). Fisheries New Zealand proposes that the following initial options be considered, and seeks information and views from tangata whenua and stakeholders (Table 1):

Table 1: Proposed management settings in tonnes for PAU 5B from 1 October 2018, with the percentage change relative to the *status quo* in brackets.

Option	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 (<i>Status quo</i>)	105	90	6	6	3
Option 2	115.2 ↑ (10%)	99 ↑ (10%)	6.6 ↑ (10%)	6.6 ↑ (10%)	3
Option 3	125.4 ↑ (19%)	108 ↑ (20%)	7.2 ↑ (20%)	7.2 ↑ (20%)	3

773. The current interim deemed value rate for PAU 5B is set at approximately 75% of the annual deemed value rate. The deemed value rates for other paua stocks are set at the same level. As the current interim and annual deemed value rates are consistent with the Guidelines,¹ no changes are proposed to the deemed value rates for PAU 5B, as outlined in Table 2.

Table 2: Standard deemed value rates (\$/kg) for PAU 5B.

	Interim Rate (\$/kg)	Annual Differential Rates (\$/kg) for excess catch (% of Annual Catch Entitlement)					
		100-120%	120-140%	140-160%	160-180%	180-200%	200%+
<i>Status quo</i>	50.00	66.00	79.20	92.40	105.60	118.80	132.00

2. Why the need for change?

774. The best available information suggests the biomass of PAU 5B has been steadily increasing since 2002. The most recent stock assessment (2018) suggests that biomass is currently above the target biomass of 40% B_0 (i.e. the level of biomass that is 40% of what the level would be if no fishing was taking place) and is trending upwards. Therefore there is an opportunity to provide for an increase in utilisation while still ensuring sustainability of this stock.

2. Background

2.1 FISHERY CHARACTERISATION

Māori customary fishery

775. Paua is a highly important fishery to Māori, although the amount of customary harvest of paua in PAU 5B is low but significant due to its cultural importance.

776. Customary fishing in PAU 5B is governed by the Fisheries (South Island Customary Fishing) Regulations 1999 (the South Island Regulations).

777. Customary food gathering reporting under the South Island Regulations indicates that there have been 43 customary authorisations issued to take paua from PAU 5B since 1999. In the past eight months, 1910 individual paua have been taken under customary authorisations. The volumes reported taken over this period reflect tangata whenua's conservative take, and show regard to kaitiakitanga in managing PAU 5B.

Recreational fishery

778. There is a small recreational fishery in PAU 5B. The current management of the recreational fishery is primarily through a daily bag limit of 10 paua per person, and minimum legal sizes of 125 mm for ordinary paua (*Haliotis iris*) and 80 mm for yellow foot paua (*Haliotis australis*).

¹ Available at www.mpi.govt.nz/document-vault/3663

779. The National Panel Survey of Marine Recreational Fishers (2011/12) estimated there to be 0.82 tonnes of recreational harvest in PAU 5B in that fishing year.² For the purposes of stock assessment, recreational harvest has been assumed to have increased, but not above 5 tonnes. Overall it is not certain whether recreational harvest is exceeding the current allowance.

All other mortality caused to the stock by fishing

780. There are various other potential sources of paua mortality caused by fishing, for example paua can die from wounds caused by removal from the reef, desiccation and stress if they are brought to the surface and kept out of water for a prolonged period of time. Sub-legal paua may be subject to handling mortality in the fishery if they are removed from the substrate to be measured. Indirect mortality may also occur where paua are returned to unsuitable habitat such as sand, or to areas where they are easily predated.

781. Research from other paua stocks suggests that overall incidental mortality of paua from commercial fishing could be approximately 0.3% of the landed catch (less than 1 tonne under each proposed option). This does not include incidental mortality from non-commercial fishing; however, non-commercial fisheries are small in PAU 5B and are unlikely to cause substantial incidental mortality.

Commercial fishery

782. The commercial fishing sector accounts for the majority of the harvest in PAU 5B.

783. PAU 5B was originally part of the PAU 5 quota management area. In 1995, PAU 5 was split into three quota management areas, and the TACC was set at 148.98 tonnes for PAU 5B. A TAC was set for the first time for PAU 5B in 1999, and the TACC was reduced by 5 tonnes. It has been reduced twice more since, to the current level of 90 tonnes.

784. The TACC of 90 tonnes has been in place since 2002. Prior to this reduction to 90 tonnes, concerns about the stock inspired industry to shelve quota to reduce harvest. Since the reduction in the TACC, catches have been constant at about the level of the TACC.

² 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. Accessible at: <https://www.mpi.govt.nz/dmsdocument/4719/send>

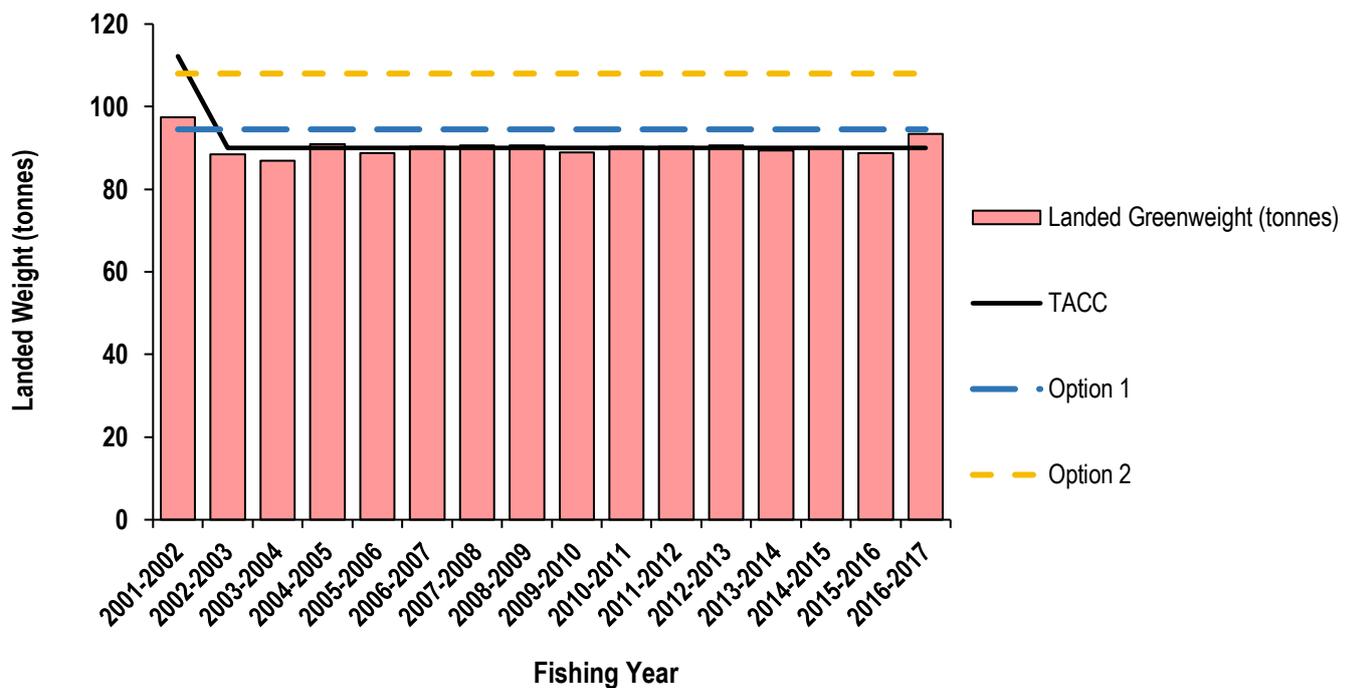


Figure 2: Annual landings vs TACC for PAU5 B between 2001/02 and 2016/17 fishing years (as at April 2017), including TACC levels proposed for Options 1 and 2.

Status of the stock

785. The target biomass for PAU 5B is 40% B_0 . This target is used as a proxy for B_{MSY} .³

786. The 2018 stock assessment estimates spawning stock biomass of PAU 5B to be at 47% B_0 and very unlikely to fall below the target at current catch levels. Stock projections suggest that under a 10% increase to the TAC the stock biomass is likely to remain constant. Stock projections further suggest that under a 20% increase to the TAC, the stock biomass has in the worst case a 91% probability of remaining above the target of 40% B_0 and a 59% probability of increasing above the current biomass.

787. The options in this paper reflect the range of projections provided by the stock assessment.

3. Why are these options proposed?

787. The options proposed for PAU 5B are given in Table 3 and discussed below.

³ Harvest Strategy Standard for New Zealand Fisheries, October 2008, accessible at: <http://fs.fish.govt.nz/Page.aspx?pk=113&dk=16543>
The Harvest Strategy Standard is a policy statement of best practice in relation to the setting of targets and limits for New Zealand fishstocks managed under the quota management system (QMS).

Table 3: Proposed management settings in tonnes for PAU 5B from 1 October 2018, with the percentage change relative to the *status quo* in brackets.

Option	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 (<i>Status quo</i>)	105	90	6	6	3
Option 2	115.2 ↑ (10%)	99 ↑ (10%)	6.6 ↑ (10%)	6.6 ↑ (10%)	3
Option 3	125.4 ↑ (19%)	108 ↑ (20%)	7.2 ↑ (20%)	7.2 ↑ (20%)	3

3.1 VARYING THE TAC

778. The TAC for PAU 5B can be set or varied under section 13 of the Fisheries Act 1996 (the Act). Section 13(2) of the Act specifies requirements for setting a TAC where a reliable estimate of the current biomass of the stock and the level of biomass that can produce the maximum sustainable yield (B_{MSY}) is known.
779. In cases such as PAU 5B, where there is uncertainty around estimates of B_{MSY} , section 13(2A) 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_{MSY} level.
780. The best available information is that the biomass level of paua in PAU 5B is currently well above the management target. Consequently, there is an opportunity to increase utilisation (increase the TAC) while ensuring sustainability, in a manner that is not inconsistent with the objectives of section 13.
781. Along with the *status quo*, two different options are proposed which allow for consideration of the uncertainty in the available information and to manage the sustainability risk. This requires that caution be applied in decisions (see the information principles under section 10 of the Act).
782. Option 1 is the *status quo*.
783. Option 2 (an increase to the TAC of 10.2 tonnes, 10% of the current TAC) would provide for a modest increase in catch and a low risk to sustainability.
784. Option 3 (an increase to the TAC of 20.4 tonnes, 19% of the current TAC) provides for a higher level of catch, with a comparatively greater (but still low) risk to sustainability.
785. Fisheries New Zealand considers that both options are likely to maintain the stock above 40% B_0 .
786. In either case, ongoing monitoring of the stock using stock assessments will enable responsive management and appropriate adjustments to address risk and possible opportunity. An updated stock assessment is scheduled for 2022-23.

3.2 VARYING ALLOWANCES AND THE TACC

787. In setting a TACC, the Minister must have regard to the total allowable catch and make allowances for Māori customary non-commercial fishing interests, recreational fishing interests, and all other mortality to the stock caused by fishing (section 21 of the Act).

Allowance for Māori customary fishing

788. Fisheries New Zealand proposes to apply the percentage increase to the TAC (a 10% increase for Option 2, and a 20% increase for Option 3) proportionally to the allowance for customary non-commercial fishing, to reflect the likely increased availability of paua given recent increases in abundance. For Option 2 this results in a 0.6-tonne increase, raising the allowance from 6 to 6.6 tonnes. For Option 3 this results in a 1.2-tonne increase from 6 to 7.2 tonnes.

789. Fisheries New Zealand considers that the proposed allowances will allow for customary take considering paua are likely becoming increasingly available off the coast of the Stewart Island.

Allowance for recreational fishing

790. Fisheries New Zealand proposes to apply the percentage increase to the TAC (a 10% increase for Option 2, and a 20% increase for Option 3) proportionally to the allowance for recreational non-commercial fishing, to reflect the likely increased availability of paua given recent increases in abundance. For Option 2 this results in a 0.6-tonne increase, raising the allowance from 6 to 6.6 tonnes. For Option 3 this results in a 1.2-tonne increase from 6 to 7.2 tonnes.

791. Fisheries New Zealand considers that the proposed allowances will allow for recreational take considering paua are likely becoming increasingly available to recreational fishers, but invites feedback and information from stakeholders and tangata whenua on likely recreational catch levels in PAU 5B.

Allowance for all other mortality to the stock caused by fishing

792. A 3 tonne mortality allowance is proposed for all options. Fisheries New Zealand considers that the current 3 tonne allowance for all other mortality caused by fishing is sufficient, because overall incidental mortality from fishing is considered to be low.

TACC

793. The two options proposed for the PAU 5B TACC (Table 1 and Table 3), a 10% increase from 90 to 99 tonnes (Option 2) and a 20% increase from 90 to 108 tonnes (Option 3), are intended to provide an opportunity for increased sustainable utilisation of paua in PAU 5B.

794. The 2018 stock assessment results indicates that the biomass of paua in PAU 5B has steadily increased since the TACC was set at 90 tonnes in 2002. The assessment modelled two potential increases in the TACC: 10% and 20%. Under both options, the projections suggested that the stock biomass was likely to stay at or above 40% B_0 in the next 3 years.

3.3 DEEMED VALUE RATES

795. There are no proposed changes to the deemed value rates for PAU 5B for the 2017/18 fishing year (see Table 2 above).

3.4 EVALUATION OF OPTIONS

796. Fisheries New Zealand considers there is an opportunity to provide for increased utilisation from the PAU 5B fishery while ensuring sustainability. Retaining the status quo provides the greatest assurance of the proposed options, that biomass will stay at or above the target; however, this will not allow for increased utilisation. Fisheries New Zealand considers that Options 2 and 3 better fulfil the Minister’s obligations under the Act to provide for utilisation while ensuring sustainability. Stock assessment results suggest that additional paua can be harvested from the fishery without posing a risk to the sustainability of the stock.

797. Increasing the non-commercial allowances and TACC will provide fishers with the opportunity to take advantage of increased abundance of paua. The predicted economic revenues from the proposed TACC options are outlined in Table 4. Retaining the current TAC and TACC (Option 1, *status quo*) may result in opportunity loss through unnecessarily constrained catch.

Table 4: Predicted changes to commercial revenue of the proposed options, based on port price of \$23.50/kg for PAU 5B in 2017/18.

Stock	TACC	Change from status quo (t)	Predicted revenue change (\$ p.a.)
Option 1 (<i>Status quo</i>)	90		
Option 2	99	9 ↑ (10%)	\$211,500 ↑
Option 3	108	18 ↑ (20%)	\$423,000 ↑

798. The increases to catch limits and allowances above current settings in Option 1, as proposed in Option 2 and Option 3, are both considered to be sustainable, and supported by the best available information which suggests that paua abundance in PAU 5B is above the management target of 40% B_0 . Fisheries New Zealand will continue to monitor the state of the PAU 5B fishery via stock assessments, and may consider reviewing the TAC when this information is updated.

799. Available information suggests recreational and customary Māori take is well within current allowances. However, non-commercial take may be increasing considering the current increased stock abundance in the fishery.

800. Fisheries New Zealand welcomes information and views of tangata whenua and stakeholders regarding these proposed options, including any other information to support alternate options.

Option 1 (*Status quo*)

801. Option 1 proposes no change to the *status quo*. This option reflects the most cautious approach to the increase in PAU 5B abundance given the long-term increase of biomass in this fishery since 2002. However retaining the current TAC settings would result in opportunity lost for the commercial sector.

Option 2

802. Under Option 2, the TAC would be increased by 10.2 tonnes, including a 10% increase to the TACC. This option is the lowest increase in TACC that was modelled by the stock assessment, which suggested that an increase of this magnitude is still likely to retain the biomass at or above the target over the next 3 years.

803. Under this option it is proposed that the non-commercial allowances be increased by 10% (increasing both the Māori customary allowance and the recreational allowance by 0.6 tonnes from 6 to 6.6 tonnes). The increase allows for a likely increase in the availability and catch of paua given the increase in abundance.

804. A 9 tonne (10%) increase in the TACC from 90 to 99 tonnes under this option is considered to be a conservative response to the observed increase in PAU 5B biomass.

805. Overall, Option 2 is a more cautious approach for providing for an increased utilisation for paua in comparison to Option 3. This option is more favourable to any long-term sustainability considerations for paua.

Option 3

806. Under Option 3, the TAC would be increased by 20.4 tonnes, including a 20% increase to the TACC. This option is the highest increase in TACC that was modelled by the stock assessment. The stock assessment results suggests that an increase of this magnitude is still likely to retain the biomass at or above the target over the next 3 years.

807. Under this option it is proposed that the non-commercial allowances be increased by 20% (increasing both the Māori customary allowance and the recreational allowance by 1.2 tonnes from 6 to 7.2 tonnes). These increases allow for a likely greater harvest of paua, above those provided for in Option 2, given the increase in stock abundance and availability.

808. An 18 tonne (20%) increase in the TACC from 90 to 108 tonnes under this option places greater weight on the information showing increased abundance and further opportunities for sustainable utilisation.

809. Fisheries New Zealand acknowledges that Option 3 presents a less cautious approach to providing for increased utilisation of PAU 5B compared to Option 2. The greater catch allowances proposed under this option would still ensure the long-term sustainability of the PAU 5B stock, considering that the stock assessment predicted that the stock is unlikely to fall below the management target with this level of catch.

810. The primary benefit of Option 3 is that it provides for greater utilisation than Option 2. The primary cost is that it is less conservative than Option 2 in terms of ensuring the

biomass at or above the target. However, the stock assessment suggests that this level of utilisation is still likely to retain biomass at or above the target.

4. Other Relevant Matters

4.1 ENVIRONMENTAL PRINCIPLES (SECTION 9)

811. Section 9 prescribes three environmental principles that the Minister must take into account when exercising powers in relation to the utilising of fisheries resources or ensuring sustainability. See “Statutory Considerations” Part 1.4 for a full description of these environmental principles.
812. Diving for paua is selective and not associated with a bycatch of associated or dependent species. Fisheries New Zealand is not aware of specific impacts of paua harvesting on inshore benthic community structure. No habitats of particular significance for fisheries management have been identified in PAU 5B, and it is considered unlikely that the method of hand gathering while diving would have a demonstrable adverse effect on habitat.
813. For the last 17 years, commercial paua fishers have used a voluntary minimum harvest size in the PAU 5B fishery to improve yield per recruit as a sustainability measure. This has meant that all commercially harvested fish were well above the legal minimum size of 125mm and at present this voluntary minimum harvest size is set at 137 mm. This is regularly verified by shell catch sampling that measures harvested shells, the PAU5 B fishery now has the biggest average shell lengths of all the New Zealand commercial paua fisheries. The result is that all 125-137 mm paua in PAU 5B are not presently being utilised by commercial fishers.

4.2 SUSTAINABILITY MEASURES (SECTION 11)

814. Section 11 sets out various matters that the Minister must take into account or have regard to when setting or varying any sustainability measure (such as a TAC). See “Statutory Considerations” Part 1.6 for a full description.
815. Fisheries New Zealand seeks information and views from tangata whenua and stakeholders regarding section 11 matters they consider relevant to PAU 5B.

4.3 PREFERENTIAL ALLOCATION RIGHTS (28N RIGHTS)

816. There are 0.157 tonnes of preferential allocation (“28N”) rights in PAU 5B. Under Options 1 and 2, these rights will be discharged (see Part A section 1.10 – Statutory Considerations). Te Runanga o Ngai Tahu (TRoNT) considers the discharge of 28N rights in PAU 5 B as a contemporary grievance of the Treaty of Waitangi, as the discharge of the 157 kg of 28N rights would reduce and reallocate a percentage of TRoNT’s settlement quota.

4.4 INPUT AND PARTICIPATION OF TANGATA WHENUA

817. The proposal to consult on PAU 5B was presented to the Te Waka a Māui me Ōna Toka Iwi Forum. This forum represents the nine iwi of the South Island, each holding mana moana and significant interests (both commercial and non-commercial) in South Island fisheries. The forum supported a review of the PAU 5B fishery, however the existence of 28 N rights in PAU 5B means that Te Runanga o Ngai Tahu does not support Option 2 or 3.

Kaitiakitanga

818. Under Section 12(1)(b) the Minister must also have particular regard to kaitiakitanga before setting or varying a TAC. Under the Act, kaitiakitanga is the exercise of guardianship, and in relation to any fisheries resources, includes the ethic of stewardship based on the nature of the resources, as exercised by the appropriate tangata whenua in accordance with tikanga Māori.

819. Relevant Iwi or Forum Fish Plans provide a view of the objectives and outcomes iwi seek from the management of the fishery and can provide an indication of how iwi exercise kaitiakitanga over fisheries resources. Iwi views from Forum meetings and submissions received from iwi can also provide an indication.

820. Paua is identified as a taonga species in the Te Waipounamu Iwi Fisheries Plan. This plan contains objectives to support and provide for the interests of South Island iwi. That Forum Fisheries Plan contains three objectives which are relevant to the management options proposed for PAU 5B:

- a) Management objective 1: to create thriving customary non-commercial fisheries that support the cultural wellbeing of South Island iwi and our whānau;
- b) Management objective 3: to develop environmentally responsible, productive, sustainable and culturally appropriate commercial fisheries that create long-term commercial benefits and economic development opportunities for South Island iwi; and
- c) Management objective 5: to restore, maintain and enhance the mauri and wairua of fisheries throughout the South Island.

821. Fisheries New Zealand considers that the management options presented in this advice paper will contribute towards the achievement of these three management objectives in ensuring that appropriate allowances are made for customary non-commercial fishing, the fishery remains sustainable, and that environmental impacts are minimised.

5. Further Information

Should you require further information, please see:

Fisheries Act (1996)

www.legislation.govt.nz/act/public/1996/0088/latest/DLM394192.html

Fisheries New Zealand Plenary document

Fisheries New Zealand (2018). Fisheries Assessment Plenary, May 2018: stock assessments and stock status. Compiled by the Fisheries Science Group, Fisheries New Zealand, Wellington, New Zealand.

Harvest Strategy Standard for New Zealand Fisheries

<http://fs.fish.govt.nz/Page.aspx?pk=113&dk=16543>

Fisheries New Zealand recreational fishing page

<https://fs.fish.govt.nz/Page.aspx?pk=8&tk=31&stock=PAU5B>