1. Executive Summary

1077. Fisheries New Zealand is seeking information and views from tangata whenua and stakeholders to inform a review of deemed value rates for thirteen stocks managed under the Quota Management System (QMS).

1078. Deemed values rates are set by the Minister, by Gazette Notice, under section 75 of the Fisheries Act 1996 (the Act). Commercial fishers[1] who do not balance catch with transferable Annual Catch Entitlements (ACE) must make deemed value payments. The deemed value regime is intended to constrain commercial catch to respective catch limits by encouraging fishers to balance their catch with ACE, while not discouraging them from landing and accurately reporting catch.

1079. The rates can be grouped into three key types;

a. **Interim** – the rate charged during the year, which can be remitted if ACE is obtained.

b. **Annual** – the base rate charged at the end of the fishing year for catch in excess of ACE.

c. **Differential** – increased annual rates for higher levels of excess catch. The standard approach is to increase rates once a fisher has caught 120% of his or her entitlement, increasing in 20% increments up to a maximum of 200% of the annual deemed value rate. A special annual deemed value schedule may be applied to some stocks where utilisation and sustainability objectives are best met by providing stronger incentives for catch not to exceed ACE. The exact structure of the schedule and maximum annual differential rate will be tailored to the stock in question.

1080. Under s 75 of the Act, the Minister is required to set both an interim and annual deemed value rate specific to each fisheries stock or sub-stock. The Minister has discretion on where to set the interim and annual rates, and how to apply the differential schedule for annual deemed value rates. The setting of deemed value rates and deemed value differential schedules are guided by the principles of the Deemed Value Guidelines (the Guidelines)[2]. The deemed value framework is explained in detail in the Guidelines and generally applies across all fishstocks.

1081. However, in consideration of the particular circumstances relevant to each fishstock or sub-stock, the Minister has discretion to apply deemed value rates and differential schedules that provide the right incentives for commercial fishing operations.

1082. The Guidelines have been used to identify stocks for review and formulate the following options for selected fish stocks in the upcoming fishing year.

[1] As defined in section 76(1) of the Act
[2] Available at www.mpi.govt.nz/document-vault/3663

1083. The stocks identified for review are set out in Table 1 below. The shaded information in Table 1 are the changes to deemed values rates and differential schedules for the identified stocks for the 2018/19 fishing year.

Table 1: Current and proposed deemed value rates ($/kg) for selected stocks from 1 October 2018

		Current				Proposed			
Species	Stock	Interim $/kg	Annual $/kg	Annual at maximum excess $/kg	Differential	Interim $/kg	Annual $/kg	Annual at maximum excess $/kg	Differential
Bluenose	BNS 3	2.70	3.00	10.00	Special	3.60	4.00	11.00	Special
	BNS 3[3]	0.95	1.05	10.00	Special	1.26	1.40	11.00	Special
Flatfish	FLA 1	0.75	1.50	3.00	Standard	1.35	1.50	3.00	Standard
John dory	JDO 1	1.96	3.92	7.84	Standard	3.53	3.92	7.84	Standard
	JDO 7	2.62	5.25	10.00	Special	4.73	5.25	10.00	Special
Pilchard	PIL 7	0.30	0.60	1.20	Standard	0.30	0.45	0.60	Special
	PIL 8	0.54	0.60	1.20	Standard	0.30	0.45	0.60	Special
Gemfish	SKI 3	0.65	1.29	2.58	Standard	0.65	0.72	1.44	Standard
	SKI 7	0.65	1.29	2.58	Standard	0.65	0.72	1.44	Standard
Tarakihi	TAR 1	1.50	3.00	5.50	Special	3.15	3.50	5.75	Special
	TAR 2	2.48	2.75	5.75	Special	3.15	3.50	5.75	Special
	TAR 3	0.55	1.09	2.18	Standard	3.15	3.50	5.75	Special
	TAR 7	1.25	2.50	5.50	Special	3.15	3.50	5.75	Special
Trevally	TRE 1	0.70	1.25	2.50	Standard	1.13	1.25	5.00	Special

2. Purpose

2.1 THE DEEMED VALUE FRAMEWORK

1084. The Quota Management System (QMS) is the backbone of the New Zealand fisheries management regime and includes a total of 642 fish stocks representing 98 species or species groups. Balancing catch against catching rights is known as the catch balancing regime and is key to ensuring the integrity of the QMS.

1085. On the first day of the fishing year all quota owners are provided with ACE based on their quota share and the current TACC. Under the catch balancing regime, fishers are required to balance their catch with ACE or pay a deemed value on catch in excess of ACE.

1086. Deemed values are charges that commercial fishers must pay for every unprocessed kilogram of QMS fish stock landed in excess of their ACE holdings ($/kg). The purpose of the deemed value framework is to encourage commercial fishers to balance their catch with ACE, while not discouraging them from landing and accurately reporting catch. The intent is to protect the long-term value of stocks and to support kaitiakitanga by providing incentives for the overall commercial catch for each QMS stock to remain within the total available ACE and/or the Total Allowable Commercial Catch (TACC). The effectiveness of this incentive is dependent on individual fishers' compliance with landing and reporting requirements, their responses to the incentives provided, and on the impact of other incentives such as those created by market conditions.

[3] Landed to licenced fish receivers located on the Chatham Islands

1087. Effective deemed value rates contribute to both sustainability and utilisation objectives under the Act. Section 8 of the Act states that the purpose of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability. Sustainability objectives are achieved as appropriate deemed value rates encourage fishers to balance catch with ACE and, in doing so, encourage harvesting to remain within the TACC. Utilisation objectives relate not only to the long-term benefits from managing catches within limits, but the deemed value framework also provides flexibility for commercial operators to manage small, unexpected amounts of catch by balancing unintentional catches in excess of ACE.

1088. Incorrectly set deemed value rates may lead to catches in excess of the TACC (i.e., if set too low), or discourage landing and accurate reporting (i.e., if set too high) which may have negative implications for sustainability and the long-term value of the resource. Likewise, incorrectly set deemed value rates may also discourage landing and accurate reporting (i.e., if set too high) which can compromise fisheries management.

1089. The deemed value system does not create a standard deemed value rate, but a set of rates that apply under different circumstances. The base rate is the annual deemed value which is charged at the end of the fishing year on catch in excess of ACE. Interim deemed value rates are charged each month to commercial fishers for every kilogram of fish landed in excess of ACE ($/kg). Annual deemed value rates must be set higher than the interim rate, and interim rates have historically been set at 50% of the lowest annual rate. If the fisher sources enough ACE to cover his or her catch, the interim rates paid are remitted. If the fisher does not source enough ACE by the end of the fishing year, the difference between the interim and annual deemed value rates is charged for all catch in excess of ACE. As mentioned the annual rate applies at the end of the fishing year only.

1090. In reviewing deemed value settings, and being consistent with the Deemed Value Guidelines, Fisheries New Zealand recommends that interim deemed value rates for the majority of fish stocks for review be transitioned from the historic 50% of annual rate to 90%. This is to incentivise fishers to cover deemed value payments on a regular basis should targeted or bycatch landings change throughout the fishing year.

1091. For each stock, the Minister sets progressively increased, or differential, annual deemed value rates to also be charged at the end of the fishing year if the fisher harvested well in excess of their ACE holdings. This is permitted under section 75(4) of the Act. This results in an escalated schedule of rates as the percentage by which catch exceeds ACE increases. The standard approach increases in 20% increments up to a maximum of 200% of the annual deemed value (see Table 2). Differential rates reflect the increasingly detrimental impact on sustainability of higher levels of over-catch and on the long-term value of the resource, providing stronger incentives to avoid over-catch.

Table 2: Standard differential deemed value rate schedule for most stocks

Catch in excess of ACE holdings	Differential deemed value rate as a percentage of the annual deemed value rate
0-20%	100%
>20%	120%
>40%	140%
>60%	160%
>80%	180%
>100%	200%

1092. For vulnerable or rebuilding stocks, a more stringent non-standard differential or special annual deemed value schedule (e.g., applying from 5% or 10% over-catch) may be more appropriate than the standard schedule.

1093. For targeted stocks with high selectivity and low vulnerability to bycatch a more stringent non-standard differential or special annual deemed value schedule may also be more appropriate than the standard schedule.

1094. The deemed value rate changes proposed in this paper are aimed at protecting the TACC, regardless of the level at which it is set, by encouraging balancing of landings with ACE while avoiding creating incentives to discard and misreport.

2.2 THE ACT AND THE DEEMED VALUE GUIDELINES

1095. Section 75(1) of the Act requires the Minister to set deemed value rates for all stocks managed under the QMS.

1096. Section 75(2)(a) requires the Minister, when setting deemed value rates, to take into account the need to provide an incentive for every commercial fisher to acquire or maintain ACE that is not less than the fisher's total catch of each stock taken.

1097. Section 75(2)(b) allows the Minister, when setting deemed value rates, to have regard to:

- the desirability of commercial fishers to land catch for which they do not have ACE;
- the market value of ACE;
- the market value of the stock;
- the economic benefits obtained by the most efficient fisher, licensed fish receiver, retailer or any other person from the taking, processing or sale of the fish or associated with the fish;
- the extent to which the catch of that stock has exceeded or is likely to exceed the TACC for the stock in any year; and
- any other matters that the Minister considers relevant.

1098. The practical application of these statutory criteria is set out in the Guidelines, which are summarised below:

- deemed value rates must generally be set between the ACE price and the reported landed (port) price[4];
- deemed value rates must generally exceed the ACE price by transaction costs;
- deemed value rates must avoid creating incentives to misreport;
- deemed value rates for constraining bycatch species may be higher;
- deemed value rates must generally be set at twice the port price for high value single species fisheries and species subject to international catch limits;
- deemed value rates for Chatham Island landings may be lower;
- interim deemed value rates must generally be set at 90% of the annual deemed value rate; and
- differential deemed value rates must generally be set.

3. Background Information

3.1 IDENTIFYING STOCKS FOR DEEMED VALUE RATE REVIEW

1099. Before determining which stocks to review deemed value rates for, Fisheries New Zealand:

- considered stocks where total allowable catch reviews were being considered for 1 October 2018;

- assessed October fishing year stocks against the Performance Measures outlined in the Guidelines for the deemed value framework -

    - Catch in excess of the available ACE[5]
    - The percentage of catch for each stock not balanced with ACE;

- considered whether deemed value rates were consistent with the Guidelines (i.e., interim deemed value rates 90% of annual rate and how annual rates relate to ACE and port price); and

- compared the ratio of the total deemed value payments to the value of quota (at a general and stock level) – the target in relation to this indicator is less than 0.1% of the value of quota in any fishing year.

[4] Reported port prices are the average price for greenweight fish of each stock reported to be paid to independent fishers by licensed fish receivers (LFRs). These values ignore differences in size, quality and state of fish landed (i.e. fishing method), location of landings, seasonal price variations, deductions that fishers may pay to LFRs from time to time, and price differentials for vertically integrated fishing companies. Reported port prices are therefore an indicator of limited reliability. In general, real port prices for average size and quality fish landed in the main ports by independent fishers would tend to be higher than the average prices reported by LFRs.

[5] Catch in excess of ACE as an alternative to catch in excess of the TACC, because a small amount of ACE can be carried over from the previous fishing year.

Table 3: Rationale for fish stocks prioritised for review

Stock	Rationale for review
BNS 3	- 112% caught 2016/17 - Ratio of 2016/17 DV[6] payments to QV[7] of 0.1083, or 10.83% - Current DV rate does not exceed ACE price by transaction costs
FLA 1	- Subject to a TACC review in 2018 - Interim DV rates not consistent with Guidelines
JDO 1	- Subject to a TACC review in 2018 - Interim DV rates not consistent with Guidelines
JDO 7	- Subject to a TACC review in 2018 - Interim DV rates not consistent with Guidelines
PIL 7	- 141% caught in 2017/18[8] - Ratio of predicted 2017/18 DV payments to QV of 0.2892, or 28.92% - Overestimated port price
PIL 8	- 224% caught in 2017/18[9] - Ratio of predicted 2017/18 DV payments to QV of 1.983, or 198.3% - Overestimated port price
SKI3	- 119% caught in 2017/18[10] - Interim and Annual DV rates not consistent with Guidelines
SKI 7	- 131% caught 2016/17 - Ratio of 2016/17 DV payments to QV of 0.4884, or 48.84% - Annual DV rate exceeds 2017/18 port price
TAR 1	- Subject to a sustainability review in 2018 - Interim and annual DV rates not consistent with Guidelines
TAR 2	- Subject to a sustainability review in 2018 - 107% caught 2016/17 - Interim and annual DV rates not consistent with Guidelines
TAR 3	- Subject to a sustainability review in 2018 - Interim and annual DV rates and differential schedule not consistent with Guidelines
TAR 7	- Subject to a sustainability review in 2018 - Interim and annual DV rates not consistent with Guidelines
TRE 1	- Predicted over catch in 2017/18 - Underestimate of port price - Interim DV rates and differential schedule not consistent with Guidelines

[6] DV = Deemed value
[7] QV = Quota value
[8] As of June 2018
[9] As of June 2018
[10] As of June 2018

4. Proposed Options

1100. Table 4 sets out key information that informed the development of proposals for the prioritised stocks. Relevant fishery information is also discussed alongside the proposals in this section.

Table 4: Information to support review of deemed value rates for stocks that meet the criteria

Stock	TACC (tonnes)	% Caught in 2016/17[11]	ACE $/kg[12]	Interim Deemed Value (DV)$/kg	Annual DV $/kg	2017/18 Port Price $/kg	Ratio of 2016/17 DV payments to total QV (%)
Stocks to be considered in conjunction with current TAC decisions							
FLA 1	1187	32	0.52	0.75	1.50	6.23	0.045%
JDO 1	704	47	0.84	1.96	3.92	5.64	0.016%
JDO 7	190	65	2.04	2.62	5.25	6.50	0.001%
TAR 1	1447	87	1.12	1.50	3.00	3.50	0.006%
TAR 2	1796	107	1.44	2.48	2.75	2.40	1.195%
TAR 3	1403	84	0.29	0.55	1.09	2.00	<0.001%
TAR 7	1088	96	0.80	1.25	2.50	2.03	<0.001%
Stocks with catch in excess of available ACE in 2016/17							
SKI 7	300	131	0.56	0.65	1.29	1.25	48.84%
BNS 3	140	112	2.97	2.70	3.00	4.65	10.83%
Stocks with catch in excess of available ACE in 2017/18							
Stock	**TACC (tonnes)**	**% caught in 2017/18[13]**	**ACE $/kg**	**Interim DV $/kg**	**Annual DV $/kg**	**2017/18 Port Price $/kg**	**-**
PIL 7	150	141	0.18[14]	0.54	0.60	0.83	-
PIL 8	65	224	0.25	0.30	0.60	0.83	-
SKI 3	300	119	0.35	0.65	1.29	1.57	
TRE 1	1507	85[15]	0.51	0.70	1.25	0.83	-

5. Stocks to be considered in conjunction with current TAC decisions

5.1 FLATFISH (FLA 1) - NORTHERN NORTH ISLAND

Fishery information

1101. FLA 1 is composed of eight species of flatfish, and the flatfish species principally caught in FLA 1 are sand flounder and yellow belly flounder. Flatfish are mainly taken by targeted set net fishing in shallow inshore bays and harbours. The FLA 1 TACC was set at 1,187 tonnes on introduction to the QMS and has not been changed since. Landings have never exceeded the available ACE. For 1 October 2018, options to reduce the FLA 1

[11] 2016/17 landings against available ACE, as opposed to the TACC
[12] Average price paid for an ACE transfer (exc. GST) between May 2017 and May 2018 as reported by FishServe
[13] 2017/18 landings against available ACE for the 2017/18 fishing year to the Jun 2018
[14] PIL 7 and PIL 8 ACE is traded infrequently, therefore price shown is the average price paid per ACE transfer for the 10-year period 2008-2018
[15] Landings of TRE1 are expected to exceed available ACE during the 2017/18 fishing year based upon historical fishing effort.

TACC are proposed, to be set at a level that reflects stock abundance and recent catch and that may allow for rebuild of the stock.

Deemed value rates

Table 5: Current and proposed deemed value rates ($/kg) for FLA 1

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
FLA 1	Current	0.75	1.50	1.80	1.81	2.10	2.40	2.70
	Proposed	1.35	1.50	1.80	1.81	2.10	2.40	2.70

1102. Consistent with Principle 7 of the Guidelines, Fisheries New Zealand recommends increasing the interim FLA 1 deemed value rate from 50% of the annual deemed value rate to 90%, as outlined in the shaded part of Table 5, to encourage fishers to balance their catch against ACE regularly throughout the fishing year. Fisheries New Zealand is not proposing to adjust annual FLA 1 deemed value rates or differential schedules.

5.2 JOHN DORY (JDO 1) - NORTHERN NORTH ISLAND

Fishery information

1103. John dory in JDO 1 is mainly taken in the targeted mixed inshore trawl fishery. As the catch of JDO 1 has not exceeded the available ACE for the last 25 years and catches have shown a long term decline, a review to reduce the JDO 1 TACC is proposed for the fishing year beginning 1 October 2018. Options are proposed to set the TACC at a level that reflects stock abundance and recent catch and that may allow for rebuild of the stock to management targets.

Deemed value rates

Table 6: Current and proposed deemed value rates ($/kg) for JDO 1

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
JDO 1	Current	1.96	3.92	4.70	5.49	6.27	7.06	7.84
	Proposed	3.53	3.92	4.70	5.49	6.27	7.06	7.84

1104. Consistent with Principle 7 of the Guidelines, Fisheries New Zealand recommends increasing the interim JDO 1 deemed value rate from 50% of the annual deemed value rate to 90% , as outlined in the shaded part of Table 6, to encourage fishers to balance their catch against ACE regularly throughout the fishing year. Fisheries New Zealand is not proposing to adjust annual JDO 1 deemed value rates or differential schedules.

5.3 JOHN DORY (JDO 7) - WEST COAST SOUTH ISLAND

Fishery information

1105. John dory in JDO 7 is mainly taken in the targeted mixed inshore trawl fishery. Landings of JDO 7 have not exceeded the available ACE since the TACC was increased to 150 tonnes at the start of the 2012/13 fishing year. Following the results of the 2017 West Coast South Island and Tasman and Golden Bay trawl survey[16] (which estimated the biomass of John dory in JDO 7 to be above management targets), an increase to the TACC of JDO 7 from 1 October 2018 is proposed. Alongside the TAC review, an adjustment to the deemed value rates for JDO 7 is proposed so that they are consistent with the Guidelines.

Deemed value rates

Table 7: Current and proposed deemed value rates ($/kg) for JDO 7

Stock	Option	Interim deemed value rate	Special annual differential rates ($/kg) for excess catch (% of ACE)			
			100-120%	120-130%	130-140%	>140%
JDO 7	Current	2.62	5.25	6.00	8.00	10.00
	Proposed	4.73	5.25	6.00	8.00	10.00

1106. Consistent with Principle 7 of the Guidelines, Fisheries New Zealand recommends increasing the interim JDO 7 deemed value rate from 50% of the annual deemed value rate to 90%, as outlined in the shaded part of Table 7, to encourage fishers to balance their catch against ACE regularly throughout the fishing year. Fisheries New Zealand is not proposing to adjust annual JDO 7 deemed value rates or differential schedules.

5.4 TARAKIHI (TAR 1, TAR 2, TAR 3 & TAR 7) – EAST COAST NORTH ISLAND AND EAST COAST SOUTH ISLAND

Fishery Information

1107. Reductions to the commercial catch allowances for the east coast tarakihi stocks (TAR 1, TAR 2, TAR 3 and TAR 7) are proposed as part of a stock rebuilding strategy. Options for these reductions are outlined in the tarakihi discussion document. Fisheries New Zealand considers that tarakihi on the east coast of New Zealand composes one biological stock, and options proposed for setting commercial catch allowances under the rebuild strategy include proportional TACC reductions and industry administered sub-stock catch limits.

1108. In conjunction with setting tarakihi commercial catch allowances, Fisheries New Zealand is proposing initial adjustments to the deemed value rates to encourage commercial fishers to constrain catches to within available ACE. As part of the east coast tarakihi rebuild strategy, Fisheries New Zealand considers that providing incentives to constrain

[16] Stevenson, M.L.; MacGibbon, D.J. (2018). Inshore trawl survey of the west coast South Island and Tasman and Golden Bays, March-April 2017 (KAH1703), New Zealand Fisheries Assessment Report 2018/18. 93 p.

the catch of tarakihi to the available ACE under the proposed deemed value rates is critical to achieving stock rebuild objectives.

1109. Fisheries New Zealand notes that options proposed for the tarakihi stock rebuilding strategy are to be implemented over multiple year timeframes, with ongoing monitoring of catch and stock biomass indices to determine the rate at which stocks are moving towards rebuild objectives. As such, Fisheries New Zealand will be monitoring tarakihi ACE market activity and deemed value payments incurred as part of the rebuild strategy. Future east coast tarakihi deemed value rates will be consulted on and adjusted accordingly as appropriate.

1110. As the majority of east coast tarakihi are taken in targeted fishing for tarakihi, Fisheries New Zealand considers that most fishers will be able to adjust their fishing activity to limit their catch of tarakihi to some extent. Fisheries New Zealand also acknowledges that, as a result of the reduction in tarakihi TACCs, tarakihi ACE available for trading will become scarcer, and likely more costly. In some circumstances, tarakihi may be taken unintentionally and deemed value payments may have significant economic impacts on fishers that abide by their legal obligation to land all tarakihi of legal size, but are unable to readily source ACE to cover their catch.

Deemed value rates

Table 8: Current and proposed deemed value rates ($/kg) for TAR 1, 2 & 7

Stock	Option	Interim deemed value rate	Special annual differential rates ($/kg) for excess catch (% of ACE)		
			100-110%	110-120%	>120%
TAR 1	Current	1.50	3.00	4.00	5.50
	Proposed	3.15	3.50	4.25	5.75
TAR 2	Current	2.48	2.75	4.25	5.75
	Proposed	3.15	3.50	4.25	5.75
TAR 7	Current	1.25	2.50	4.00	5.50
	Proposed	3.15	3.50	4.25	5.75

Table 9: Current and proposed deemed value rates ($/kg) for TAR 3

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
TAR 3	Current	0.55	1.09	1.31	1.53	1.74	1.96	2.18
	Proposed	3.15	Special annual differential rates ($/kg) for excess catch (% of ACE)					
			100-110%	110-120%	>120%	-	-	-
			3.50	4.25	5.75	-	-	-

1111. Fisheries New Zealand generally sets the annual deemed value rates between the ACE transfer price and the landed (port) price under Principle 1 of the Guidelines. However, under certain circumstances this approach may be departed from.

1112. The reported port price of tarakihi across the east coast stocks ranges from $2.00/kg to $3.50/kg. Given that Fisheries New Zealand intends for fishers to constrain catch of tarakihi to available ACE, and that the TAR 1, TAR 2, TAR 3 and TAR 7 stocks are contiguous, Fisheries New Zealand proposes setting deemed value rates under Principle

3 of the Guidelines. Principle 3 provides for setting deemed value rates to avoid creating incentives to misreport between adjacent stocks.

1113. Where there are differing deemed value rates across adjacent stocks, there may be an incentive to misreport the QMA in which the catch was taken to benefit from a lower deemed value rate. Given the proposed rebuild strategy for east coast tarakihi, Fisheries New Zealand considers the accurate reporting of tarakihi essential to supporting this. In order to discourage misreporting and to provide incentives to fishers to constrain catch to within available tarakihi ACE, Fisheries New Zealand proposes setting the annual deemed value rate for all east coast tarakihi stocks (TAR 1, 2, 3, and 7) at the upper bound of the (landed) port price indices of the east coast tarakihi stocks, this being the landed (port) price of TAR 2 of $3.50/kg.

1114. Consistent with Principle 7 of the Guidelines, Fisheries New Zealand also proposes adjusting the interim deemed value rate for east coast tarakihi stocks from 50% to 90% to encourage fishers to balance catch with ACE regularly throughout the year.

1115. The annual deemed values for TAR 1, TAR 2 and TAR 7 have a special differential schedule where the maximum deemed value rate applies at 120% of excess catch. Given the proposed rebuild strategy for east coast tarakihi stocks, Fisheries New Zealand considers that it is appropriate to set an identical special deemed value differential schedule for TAR 3 under Principle 8 of the Guidelines.

6. Stocks with over catch in the 2016/17 fishing year

6.1 GEMFISH (SKI 7) - WEST COAST SOUTH ISLAND

Fishery information

1116. Gemfish in SKI 7 are primarily taken as bycatch within the middle-depth trawl fishery targeting hoki or ling, with smaller quantities taken in a small target trawl fishery or as bycatch by vessels targeting inshore species (chiefly tarakihi). The review of deemed value rates for SKI 7 has been triggered by landings in excess of the available ACE during the 2016/17 fishing year.

1117. The port price of SKI 7 has decreased over recent years from $2.42/kg in 2006/07 to $1.25/kg in 2017/18. The annual deemed value rate for SKI 7 has remained unchanged since 2001 and currently exceeds the port price. Substantially higher SKI 7 biomass was observed in the 2016 West Coast South Island (WCSI) trawl survey when compared to previous surveys and it is likely that a high level of gemfish bycatch, above what is provided for under the current SKI 7 TACC, will be observed in the coming years.

1118. Consistent with Principle 1 of the Guidelines, Fisheries New Zealand proposes decreasing the annual deemed value rate of SKI 7 so that the annual deemed value rate is set between the ACE price and the landed (port) price.

Deemed value rates

Table 10: Current and proposed deemed value rates ($/kg) for SKI 7

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
SKI 7	Current	0.65	1.29	1.55	1.81	2.06	2.32	2.58
	Proposed	0.65	0.72	0.86	1.01	1.15	1.30	1.44

1119. Fisheries New Zealand proposes adjusting the deemed value rates of SKI 7 to those shown in the shaded part of Table 10. The proposed adjustment would retain an interim deemed value rate of $0.65/kg and, consistent with Principle 7 of the Guidelines, decrease the annual deemed value rate to $0.72/kg. The proposed adjustment is consistent with both Principles 1 and 2 of the Guidelines in that the annual deemed value rate of SKI 7 would lie between the ACE price and the port price and exceed the ACE price by transaction costs. No adjustments are proposed to the differential schedule for SKI 7, although the values change proportional to the change in the annual deemed value rate.

6.2 BLUENOSE (BNS 3) - EAST COAST AND SOUTHERN SOUTH ISLAND

Fishery information

1120. A small amount (approximately 10% of total landings) of bluenose in BNS 3 is targeted (primarily by bottom longline), however, the majority is taken as bycatch within middle depth trawl or bottom longline fisheries targeting a variety of species (such as ling, alfonsino, hoki and hapuku). The review of deemed value rates for BNS 3 was triggered by landings in excess of the available ACE during the 2016/17 fishing year.

1121. The TACC of BNS 3 has been incrementally reduced from 925 tonnes for the 2007/08 fishing year to 93 tonnes for the 2017/18 fishing year due to concerns regarding the status of the stock. Landings of BNS 3 have consistently exceeded the available ACE over the last six fishing years. The annual deemed value rate for BNS 3 has been fixed at $3.00/kg since the start of the 2008/09 fishing year, with the interim rate increased from $1.50/kg to $2.70/kg (consistent with Principle 7 of the Guidelines) at the start of the 2011/12 fishing year. Given the status of the BNS 3 stock, the deemed value rates for BNS 3 include a special differential schedule, consistent with Principle 8 of the Guidelines.

1122. Between May 2017 and May 2018, the average price paid per kilo of BNS 3 ACE was $2.97. Fisheries New Zealand proposes that the adjustment of BNS 3 deemed value rates be guided by Principle 2 of the Guidelines so that deemed value rates exceed the ACE price by transaction costs.

Deemed value rates for BNS 3 (excluding BNS 3 landed to the Chatham Islands)

Table 11: Current and proposed deemed value rates ($/kg) for BNS 3 (exc. BNS 3 landed to the Chatham Islands)

Stock	Option	Interim deemed value rate	Special annual differential rates ($/kg) for excess catch (% of ACE)							
			100-105%	105-110%	110-120%	120-130%	130-140%	140-150%	150-160%	>160%
BNS 3	Current	2.70	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
	Proposed	3.60	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00

1123. Fisheries New Zealand proposes increasing the interim and annual deemed value rate for BNS 3 to those shown in the shaded part of Table 11. The proposed adjustments would be consistent with Principles 2 and 7 of the Guidelines in that the annual deemed value rate would exceed the ACE price by transaction costs and the interim deemed value rate would be set at 90% of the annual rate.

1124. Fisheries New Zealand proposes retaining the special differential schedule for BNS 3, but adjusting the rate at each step on the schedule so as to continue to provide a strong incentive for catch to not exceed ACE. The proposed changes would make the deemed value rates for BNS 3 consistent with those of BNS 2, as per Principle 3 of the Guidelines (adjacent QMAs should have identical, or very similar deemed value rates, to provide incentives to not misreport).

1125. BNS 3 landed to a licenced fish receiver (LFR) located on the Chatham Islands has lower deemed value rates than BNS 3 landed elsewhere. To avoid creating an incentive for fishers to land BNS 3 under deemed values to the Chatham Islands, rather than covering catches with BNS 3 ACE, Fisheries New Zealand proposes increasing the annual Chatham Island deemed value rate for BNS 3.

Deemed value rates for BNS 3 landed to the Chatham Islands

Table 12: Current and proposed deemed value rates ($/kg) for BNS 3 landed to the Chatham Islands

Stock	Option	Interim deemed value rate	Special annual differential rates ($/kg) for excess catch (% of ACE)						
			100-120%	120-130%	130-140%	140-150%	150-160%	160-220%	>220%
BNS 3	Current	0.95	1.05	3.00	4.00	5.00	6.00	7.00	10.00
	Proposed	1.26	1.40	4.00	5.00	6.00	7.00	8.00	11.00

1126. Fisheries New Zealand proposes increasing the annual and interim deemed value rates of BNS 3 landed to the Chatham Islands to those shown in the shaded part of Table 12. The proposed changes to the interim and annual deemed value rates represent an increase by the same proportion to that proposed for BNS 3 landed elsewhere. Fisheries New Zealand proposes retaining the special differential schedule for BNS 3 landed to Chatham Islands, but adjusting the rate at each step on the schedule so as to continue to provide a strong incentive for catch to not exceed ACE.

7. Stocks with over catch in the 2017/18 fishing year

7.1 PILCHARD (PIL 7 & PIL 8) – WEST COAST NORTH ISLAND AND WEST COAST SOUTH ISLAND

Fishery information

1127. Pilchards are a fast growing, low trophic level species that form a key component of marine food webs. The abundance and spatial distribution of pilchard stocks (both in New Zealand and elsewhere) are subject to considerable short term and long term fluctuations in response to oceanographic and climatic conditions, which leads to difficulty in estimating a level of catch that would not pose a risk to the sustainability of the stocks[17]. No reliable estimates of biomass are available for pilchard stocks in New Zealand, however it is considered likely that pilchards comprise abundant, but localised, coastal populations[18]. When introduced to the QMS in 2002, the TACCs for pilchard stocks were set conservatively (150 tonnes for PIL 7 and 65 tonnes for PIL 8) to reflect the importance of the species within the wider marine system and uncertainty of information to estimate the biomass that would support the maximum sustainable yield.

1128. The vast majority (> 99%) of pilchards in PIL 7 and PIL 8 are taken by large (> 80 m) vessels as bycatch in the West Coast jack mackerel trawl fishery (JMA 7), which covers the stock areas of both PIL 7 and PIL 8. No target fishing for PIL 7 or PIL 8 occurs. Due to the large volume of jack mackerel caught per fishing event in the JMA 7 fishery, pilchards brought on board are typically in poor condition and thus not suitable for entry into the frozen bait market (the usual destination for pilchards caught elsewhere in New Zealand). Therefore all pilchards are processed into a low–value fishmeal product.

1129. The review of deemed value rates for PIL 7 and PIL 8 was triggered by landings in excess of the available ACE during the 2017/18 fishing year. Table 13 shows current catch and available ACE for PIL 7 and PIL 8 as of July 2018.

Table 13: Current catch and available ACE for PIL 7 and PIL 8 (tonnes)

	2017/18 Available ACE	2017/18 Catch as of July
PIL 7	165	232
PIL 8	72	162

1130. Given the biological characteristics of pilchards (described above), it is not considered that catch in excess of the available ACE during the 2017/18 fishing year will significantly impact on the stock biomass or the sustainability of the PIL 7 and PIL 8 stocks.

1131. Despite fluctuations in landings of PIL 7 and PIL 8, the current TACCs (which have remained unchanged since the species was introduced to the QMS) are sufficient to cover landings during most years. The large quantities of pilchards caught during the 2017/18

[17] Paul, L. J.; Taylor, P.R.; Parkinson, D.M. (200 1). Pilchard (*Sardinops neopilchardus*) biology and fisheries in New Zealand, and a review of pilchard (*Sardinops, Sardina*) biology, fisheries, and research in the main world fisheries. New Zealand Fisheries Assessment Report 2001/37. 44 p.

[18] Ministry for Primary Industries (2017). Fisheries Assessment Plenary, May 2017: stock assessments and stock status. Compiled by the Fisheries Science Group, Ministry for Primary Industries, Wellington, New Zealand, 1596p. Volume 2, Chapter PILCHARD (PIL), p1026.

fishing year are suggestive of a large year class and/or changes in pilchard distribution. It is considered this may be due to above-average sea surface temperatures observed in the Tasman Sea during the 2017/18 summer.

1132. Catches of pilchard by the JMA 7 fleet are likely unavoidable given that pilchards are caught sporadically but in large quantities (49% of PIL 7 and PIL 8 catches during 2017/18 occurred during seven fishing events[19]) coupled with the fact that pilchards comprise a very small proportion of the total catch[20]. Additionally, comparison of the spatial distribution of PIL 7 and PIL 8 catches during 2017/18 indicates that no spatial, temporal or operational changes in the activity of the JMA 7 target fleet are evident in 2017/18[21] compared to previous years where there has been little, if any, pilchard bycatch.

1133. The port price for PIL 7 and PIL 8 is the same as for PIL 1, where there is target fishing for pilchard based on their commercial value for use as bait fish in other fisheries. This is not currently the case in PIL 7 and PIL 8 and therefore, Fisheries New Zealand considers that the current port price of both stocks ($0.83/kg) likely highly over-estimates of the market value of the stock.

Deemed value rates

1134. The catch in PIL 7 and PIL 8 is significantly above available ACE in the current (2017/18) fishing year. Fisheries New Zealand considers this likely reflects a change in either abundance or distribution of pilchards consistent with their biology and known variability in response to environmental conditions. The catch is likely to be unavoidable, and it is recognised that unlike other pilchard stocks (e.g., PIL 1), pilchards caught in PIL 7 and PIL 8 have very little commercial value.

1135. Consistent with the deemed value guidelines, the level of overcatch in 2017/18 prompts a review of the deemed value rates. However, Fisheries New Zealand notes that:

a. catch over the TACC is infrequent (never in PIL 7 and not since 2013/14 in PIL 8);
b. pilchard is an important species in marine ecosystems, often considered to be a food for a number of other fish species; and
c. there is a high level of uncertainty in relevant data including to estimate the maximum sustainable yield and estimates of commercial value.

1136. These factors may mean that adjustments to deemed value rates are not the most appropriate tool and that future review of the TAC or TACC may be required.

1137. Fisheries New Zealand is consulting on the following options in recognition of the high levels of catch in excess of available ACE for PIL 7 and PIL 8 in 2017/18.

[19] For comparison, 681 fishing events targeting JMA 7 were conducted between November 2017 and April 2018 (the time period over which all PIL 7 and PIL 8 catches occurred).
[20] Estimated reported catches of PIL 7 & PIL 8 totalled less than 1% of the total estimated catches (all species combined) reported by vessels targeting JMA 7 between November 2017 and April 2018.
[21] 86% of tows targeting JMA 7 between November 2017 and April 2018 (588 out of 681 tows) had fisheries observers monitoring and verifying catches

1138. Fisheries New Zealand is consulting on one option for PIL 7 to maintain the interim deemed value rate at $0.30/kg, but adjusting the differential rates to be consistent with Principle 8 of the Deemed Value Guidelines, which addresses low value/low TACC stocks where occasional unintended bycatch may occur.

1139. Fisheries New Zealand is consulting on two options for PIL 8, the first would set an interim deemed value rate consistent with that for PIL 7 and maintain the current differential rates (as per the status quo for PIL 7). The second option would reduce the interim deemed value rate to $0.30/kg, and adjust the differential rates to be consistent with both Principle 8 of the Deemed Value Guidelines and the proposed option for PIL 7.

Table 14: Current and proposed deemed value rates ($/kg) for PIL 7

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
PIL 7	Current	0.30	0.60	0.72	0.84	0.96	1.08	1.20
	Proposed	0.30	Special annual differential rates ($/kg) for excess catch (% of ACE)					
			100-200%	>200%	-	-	-	-
			0.45	0.60	-	-	-	-

Table 15: Current and proposed deemed value rates ($/kg) for PIL 8

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
PIL 8	Current	0.56	0.60	0.72	0.84	0.96	1.08	1.20
	Option 1	0.30	0.60	0.72	0.84	0.96	1.08	1.20
	Option 2	0.30	Special annual differential rates ($/kg) for excess catch (% of ACE)					
			100-200%	>200%	-	-	-	-
			0.45	0.60	-	-	-	-

1140. The options above are consistent with the Deemed Value Guidelines in that the deemed value rate is set above the ACE price, and below the port price. The proposed change in the differential rates schedule is consistent with Principle 8 of the Guidelines, which recommends a differential deemed value rates schedule as proposed for low value, low TACC stocks.

1141. Available information on ACE price is limited, information from 2002 indicates a value of approximately $0.23/kg for PIL 7. Available information on ACE price for PIL 8 indicates an average value of approximately $0.18/kg.

1142. Fisheries New Zealand seeks written feedback on these options and any additional information of relevance.

7.2 GEMFISH (SKI 3) - EAST COAST AND SOUTHERN SOUTH ISLAND

Fishery information

1143. Approximately 70% of gemfish in SKI 3 is caught as bycatch by large (> 28 m) trawl vessels targeting squid within the SQU 1T fishery with smaller quantities caught by large trawl vessels targeting barracouta and silver warehou. Negligible target fishing for gemfish occurs in SKI 3. Landings of SKI 3 have noticeably increased over recent years, from 21 tonnes during the 2014/15 fishing year to 381 tonnes in the 2017/18 fishing year, despite SQU 1T effort remaining relatively constant over this period. As of June 2018, 119% of available SKI 3 ACE for the 2017/18 fishing year has been caught.

1144. Gemfish in both SKI 3 and SKI 7 are thought to form one biological stock[22], with the 2016 West Coast South Island trawl survey detecting substantially higher biomass of gemfish in SKI 7. As landings of SKI 7 have increased in a similar fashion to those of SKI 3, it is possible that increased abundance of gemfish in SKI 3 is driving increased landings.

1145. The port price of SKI 3 has decreased over recent years from $2.42/kg in 2006/07 to $1.57/kg in 2017/18. The deemed value rates of SKI 3 have remained constant over this time frame. Given the decrease in the port price of SKI 3, Fisheries New Zealand proposes decreasing the deemed value rates of SKI 3.

Deemed value rates

Table 16: Current and proposed deemed value rates ($/kg) for SKI 3

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
SKI 3	Current	0.65	1.29	1.55	1.81	2.06	2.32	2.58
	Proposed	0.65	0.72	0.86	1.01	1.15	1.30	1.44

1146. Fisheries New Zealand proposes adjusting the deemed value rates of SKI 3 to those shown in the shaded part of Table 16. The proposed adjustment would retain an interim deemed value rate of $0.65/kg and, consistent with Principle 7 of the Guidelines, decrease the annual deemed value rate to $0.72/kg. The proposed adjustment is consistent with both Principles 1 and 2 of the Guidelines in that the annual deemed value rate of SKI 3 would lie between the ACE price and the port price and exceed the ACE price by transaction costs.

1147. The proposed adjustments to the deemed value rates of SKI 3 are identical to those proposed for SKI 7 (outlined above), to be consistent with Principle 3 of the Guidelines. No adjustments are proposed to the differential schedule for SKI 3 with Fisheries New Zealand proposing to retain the standard differential rate schedule.

[22] Ministry for Primary Industries (2017). Fisheries Assessment Plenary, May 2017: stock assessments and stock status. Compiled by the Fisheries Science Group, Ministry for Primary Industries, Wellington, New Zealand, 1596p. Volume 1, Chapter GEMFISH (SKI), p372.

7.3 TREVALLY (TRE 1) - NORTHEAST NORTH ISLAND

Fishery information

1148. Trevally in TRE 1 is both targeted and caught as bycatch within the inshore bottom trawl and purse seine fisheries. As of May 2018, 85% of available TRE 1 ACE for the 2017/18 fishing year has been caught. Given that approximately 30% of TRE 1 landings between the 2014/15 and 2016/17 fishing years occurred between June and the end of the fishing year, it is likely that TRE 1 landings will exceed the available ACE for the 2017/18 fishing year.

Deemed value rates

Table 17: Current and proposed deemed value rates ($/kg) for TRE 1

Stock	Option	Interim deemed value rate	Standard annual differential rates ($/kg) for excess catch (% of ACE)					
			100-120%	120-140%	140-160%	160-180%	180-200%	>200%
TRE 1	Current	0.70	1.25	1.50	1.75	2.00	2.25	2.50
	Proposed	1.13	Special annual differential rates ($/kg) for excess catch (% of ACE)					
			100-110%	110-120%	>120%	-	-	-
			1.25	3.50	5.00	-	-	-

1149. The current interim deemed value rate of TRE 1 is set at 50% of the annual rate. Consistent with Principle 7 of the Guidelines, and to incentivise fishers to regularly cover catch with ACE throughout the year, Fisheries New Zealand proposes increasing the interim deemed value rate of TRE 1 to 90% of the annual rate (Table 15).

1150. To further incentivise fishers to balance catch with available ACE, Fisheries New Zealand proposes adjusting the differential schedule for TRE 1 to that shown in the shaded part of Table 17. The proposed adjustments to the interim deemed value rate and the differential schedule of TRE 1 are consistent with Principle 3 of the Guidelines in that the deemed value rates, and differential schedule of TRE 1 would be set at the same level as those of TRE 2 to discourage misreporting between adjacent areas.

8. Conclusion

1151. The Guidelines have been used to identify thirteen stocks for review of deemed value rates. Proposals for adjustments have been developed based on statutory requirements, the Guidelines and other key information.

1152. All proposed adjustments increase interim deemed value rates from 50% to 90% of the annual deemed value rate and will lead to more regular balancing throughout the year with ACE.

1153. Fisheries New Zealand is seeking information and views from tangata whenua and stakeholders to support the development of final advice to the Minister on the setting of revised deemed value rates for the fishing year commencing 1 October 2018.

1154. 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 before making final decisions on deemed value rates.