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Ministry for Primary Industries
Manatū Ahu Matua

Review of sustainability controls for the Bounty Platform southern blue whiting fishery (SBW6B)

Decision Document

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By the Ministry for Primary Industries

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Growing and Protecting New Zealand

Contents

1 Executive Summary

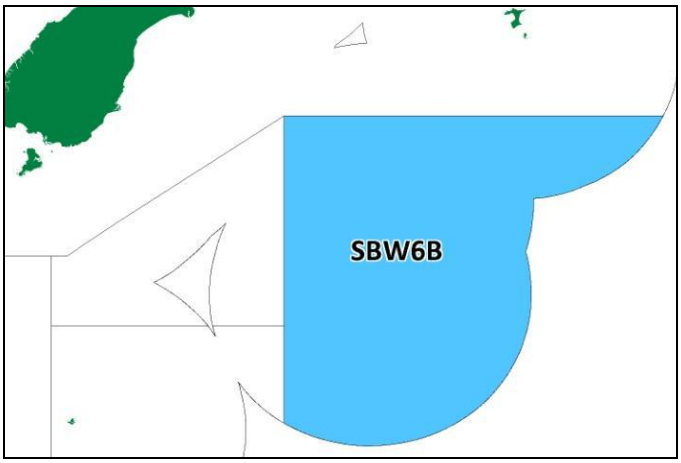

Figure 1: Quota Management Area (QMAs) for the southern blue whiting fishery at the Bounty Platform (SBW6B).

The southern blue whiting fishery at the Bounty Platform (SBW6B) is New Zealand's second largest southern blue whiting fishery (Figure 1). MPI's Deepwater Fisheries Assessment Working Group have concluded that the best available information indicates that SBW6B stock biomass is likely to be below the management target of $40\%B_0$ and below the level that can produce the maximum sustainable yield (B_{MSY}). Consequently, the Ministry for Primary Industries (MPI) consulted on three options that reduce the total allowable catch (TAC).

Three submissions were received on the SBW6B Consultation Document, all of which supported decreasing the TAC to 3,000 tonnes (Option 2).

After considering the submissions received, MPI recommends Option 2, that the TAC for SBW6B is reduced from 7,000 tonnes to 3,000 tonnes, the total allowable commercial catch (TACC) to 2,940 tonnes, and the allowance for other sources of mortality to 60 tonnes. It is estimated that this would result in a $3.4 M reduction in export revenue.

There is no known customary Maori or recreational take of southern blue whiting and it is recommended to retain zero allowances for these sectors. In addition, MPI proposes to maintain the allocation for other sources of fishing related mortality at 2% of the total allowable commercial (TAC). MPI is not proposing any changes to SBW6B deemed values.

Table 1: TACs, TACCs and allowance options consulted on for SBW6B

Options	Allowances				
	TAC (t)	TACC (t)	Customary Māori (t)	Recreational (t)	Other sources of fishing-related mortality (t)
Current Settings	**7,000**	**6,860**	**0**	**0**	**140**
Option 1	4,000	3,920	0	0	80
Option 2 (Recommended)	**3,000**	**2,940**	**0**	**0**	**60**
Option 3	2,000	1,960	0	0	40

2 Purpose

This decision document details the information, management rationale and MPI's recommended option for reducing the TAC and allowances for SBW6B. A summary of submissions received during consultation and an outline of the legal considerations you must take into account when making your decisions are also included.

2.1 BACKGROUND

2.1.1 Biology

Southern blue whiting (*Micromesistius australis*) is a relatively productive species that is generally confined to depths of 250-600 metres in sub-Antarctic waters to the south of New Zealand. This species exhibits fast growth especially during the juvenile life stage.

Adult southern blue whiting form dense spawning aggregations at four known locations across the sub-Antarctic. The available scientific information shows that these four spawning locations represent four distinct biological stocks.

New Zealand's southern blue whiting stocks are characterised by highly variable recruitment, often referred to as year class strength. Very strong year classes are observed infrequently and are separated by longer periods of average or below average recruitment. When very strong year classes recruit to the fishery as they spawn for the first time, stock biomass can increase significantly. The variables that drive the fluctuations in recruitment are poorly understood, but it is recognised that the strong year classes can produce very large spikes in available biomass, which provide short term utilisation opportunities.

2.1.2 SBW6B Fishery

Southern blue whiting was introduced to the quota management system (QMS) in 1999. Before this, harvests were managed via sub-area catch limits from 1992. Each of the four southern blue whiting stocks is managed separately. The SBW6B fishery operates when this stock aggregates to spawn, during mid to late August. The fishery is purely a commercial fishery in which between five and nine deepwater trawl vessels participate each year.

Landings from the four southern blue whiting stocks combined totalled over 33,500 tonnes during 2014/15 and provided export earnings of approximately $25 million in the 2014 calendar year. Roughly 26% of these landings came from SBW6B, leading to an estimated value of $6.5 million for the SBW6B fishery. The SBW6B fishery is one of the southern blue whiting fisheries that has been certified as sustainable by the Marine Stewardship Council since April 2012.

The SBW6B stock has supported catch limits between 3,500 and 15,000 tonnes over the last ten years. The wide variation in the catch limits indicates where the TACC has been amended to reflect changing stock biomass caused by fluctuations in recruitment to the stock (Figure 2). More detail on these previous TAC reviews is provided below.

2.1.3 Management Approach

SBW6B is managed within the National Fisheries Plan for Deepwater and Middle-Depth Fisheries (National Deepwater Plan) as a Tier 1 stock. A fisheries-specific southern blue whiting chapter of the National Deepwater Plan was finalised in 2011. The chapter details the management approach and operational objectives for the fishery.

The management approach for SBW6B employs regular acoustic surveys as a key source of information for the estimation of stock status. Between 1993 and 2001, a time series of wide area acoustic surveys for southern blue whiting were carried out on the Bounty Platform using the research

vessel *Tangaroa*. From 2004 to 2014, local area aggregation surveys have been carried out by industry vessels fishing at the Bounty Platform. These surveys inform regular stock assessments and TAC reviews. Stock assessments incorporate all available data, which includes the commercial catch history, acoustic research surveys, and biological sampling which provides proportion-at-age data.

The TAC and TACC are set using information on the status of the stock in relation to the current reference points for southern blue whiting. The current reference points for SBW6B are the default targets and limits set out in the Harvest Strategy Standard for New Zealand Fisheries and described in Table 2.[1] The management target of 40%B_0 is understood to be a conservative proxy for B_{MSY} for a species with the life history characteristics of southern blue whiting.

Table 2: Southern blue whiting default reference points and the associated management response.

Reference point	Management response
Management target of 40% B_0	Stock permitted to fluctuate around this management target. TAC changes will be employed to move stock toward or above target.
Soft limit of 20% B_0	A formal time constrained rebuilding plan will be implemented if this limit is reached.
Hard limit of 10% B_0	The limit below which fisheries will be considered for closure.
Harvest control rule	Management actions determined by the results of a series of forward projections under a range of catch assumptions, guided by the biological reference points

If the SBW6B stock assessment model is not accepted by MPI's Deepwater Fisheries Assessment Working Group (DWWG), an appropriate current annual yield (CAY) is instead calculated from the current biomass estimate. The CAY is the "one year catch" that is calculated by applying a sustainable level of fishing mortality to an estimate of current fishable biomass. For SBW6B the current biomass estimate is provided from the most recent acoustic survey and the level of fishing mortality that will provide the maximum sustainable yield (F_{MSY}) is applied.

A common method used to estimate F_{MSY}, and the method used here, is to apply an F that is equivalent to the natural mortality rate (M) of the harvested species. F=M is considered a conservative proxy for F_{MSY} and for southern blue whiting M is estimated to be 0.21. The CAY is therefore estimated to be approximately 20% of the available stock biomass.

2.2 RATIONALE FOR MANAGEMENT INTERVENTION

2.2.1 Previous Reviews

TAC reviews of SBW6B have previously occurred in 2008, 2009 and 2011. The reviews in 2008 and 2009 resulted in TAC increases that allowed the fishery to take advantage of a significant biomass increase that resulted from the recruitment of the very strong 2002 year class. The TACC was increased from 3,500 tonnes up to 14,700 tonnes over the two year period (Figure 2).

In 2011, the biomass estimate from the survey declined. It is unknown why the estimated stock biomass decreased so soon after these fish had first recruited to the adult stock, but it is thought that either a large proportion of the strong 2002 year class died off naturally or did not spawn in the same area at the time of the survey. In response to the biomass reduction, the TACC was decreased to 6,860 tonnes.

[1] The Harvest Strategy Standard can be found at http://fs.fish.govt.nz/Page.aspx?pk=104

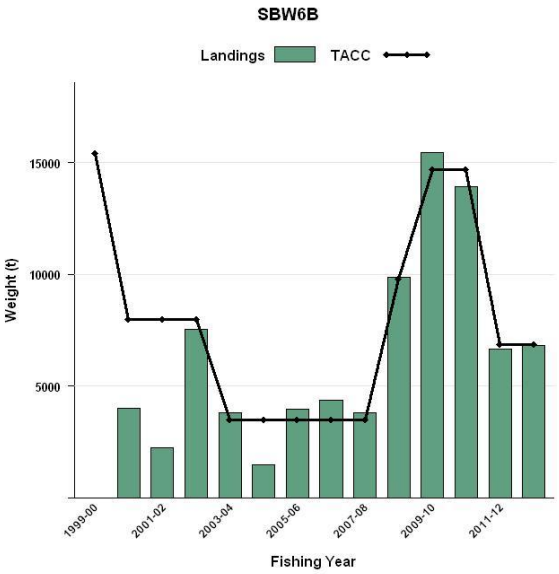

Figure 2: Landings and the TACC for SBW6B from 1999-00 to 2012-13

The 2012 survey also provided a low biomass estimate consistent with 2011. The TAC was not reviewed at that time because there was a lot of uncertainty associated with this survey estimate and concern that the low estimate was because the survey vessel was unable to effectively survey the whole spawning aggregation. In the subsequent fishing season, quota owners voluntarily shelved annual catch entitlement (ACE) to reduce the effective catch limit to 4,028 tonnes and ensure that the stock was not overfished.

All the reviews mentioned above before 2014 were informed by a CAY calculation as the DWWG did not accept that the attempted SBW6B stock assessment provided a sufficiently robust estimate of stock status. The models did not provide satisfactory fit to the local area aggregation surveys estimates and also struggled to fit the large biomass increase from 2007 and the subsequent decrease.

In 2014, The DWWG accepted an updated stock assessment model with a base case that gave less weight to the biomass estimates from the 2009-2012 acoustic surveys. The biomass estimate from the survey in 2013 was 12,200 tonnes higher than the previous year, supporting the view that the 2009-2012 surveys may not have sampled the entire spawning aggregation.

The 2014 stock assessment model estimated stock status to be between 40%B_0 and 50% B_0, above the management target. It was projected that biomass would decrease over the following three years as the 2002 and 2007 year classes were fished out.

The TAC was not reviewed in 2014 in response to the assessment. The shelving arrangement from 2013 was not continued as the stock assessment indicated that harvest levels of up to 10,000 tonnes would not cause the stock to decrease below the management target of 40% B_0.

2.2.2 Current Status

The most recent acoustic aggregation survey (October 2014) estimated the 2015 spawning stock biomass is approximately 17,300 tonnes. The survey confirmed that stock biomass has continued to decline and provided no evidence of any significant new recruitment into the fishery.

The 2015 stock assessment has not been accepted by the DWWG as it did not provide a sufficiently accurate estimate of current stock status. Similar to the previous assessment, the model did not provide a sufficient fit to the observed biomass estimates from the aggregation surveys, particularly since 2010.

Although the assessment was not accepted, the DWWG considered two model runs (model 2.3 and 3.11) to be useful for informing fisheries management on the upper and lower bounds of a plausible stock status. Both model runs suggest that the stock is likely to be below the management target of $40\%B_0$, and therefore likely to be below B_{MSY}. These model runs were used to conduct projections that would provide information on the biomass trajectory of the stock under a range of catch scenarios.

These projections assumed no future recruitment and suggested that the biomass of the SBW6B stock is likely to continue to decrease even in the absence of fishing. These projections can be used to suggest a plausible trajectory of the stock, with the understanding that such results are inherently uncertain given that the assessment was not accepted by the DWWG.

In the absence of an accepted assessment model, the biomass estimate from the most recent survey is used to determine an appropriate harvest level for the next fishing year using the CAY approach. A 2015 CAY of 3,452 tonnes is calculated by using the survey estimate of mid-year spawning biomass in 2014, adjusting for acoustic target strength and the harvest taken after the mid-point of the season, and then applying a constant fishing mortality of 0.2 (F=M).

Option one would set a TACC slightly higher than the CAY estimate while the other two options would set a TACC lower than the CAY estimate, one being further below and therefore more conservative (Table 1 and Table 4).

3 Consultation

Decisions to vary TACs are made under section 13(4) of the Act. Therefore, the consultation requirements of section 12(2) apply. Decisions to vary TACCs are made under section 20(2), to which the consultation requirements of section 21(2) apply. These provisions require consultation with such persons or organisations representative of those classes of persons having an interest in the stock or the effects of fishing on the aquatic environment in the area concerned, including Maori, environmental, commercial and recreational interests.

MPI consulted on the sustainability controls for SBW6B on your behalf. MPI followed its standard consultation process of posting Consultation Documents on the MPI website and alerting stakeholders to this through a letter sent to approximately 140 companies, organisations and individuals.

There is also an obligation to provide for input and participation of tangata whenua and have particular regard to kaitiakitanga. MPI recognises that information on customary harvest is uncertain and invited, iwi, Tangata Tiaki/Kaitiaki, and customary permit holders to submit information.

3.1 SUMBISSIONS RECIEVED

Submissions on the SBW6B Consultation Document were received from the following:

a) The Deepwater Group Ltd (DWG)
b) Te Ohu Kaimoana (TOKM)
c) Iwi Collective Partnership (ICP)

3.2 SUMMARY OF SUBMISSIONS

A brief summary of the submission is outlined below. [2] The Ministry's response to any issues raised in the submission can be found within the relevant sections of this Decision Document.

The DWG, which represents 85% of SBW6B quota holders, submit that there is unanimous support for Option 2 from the SBW6B quota holders they represent. DWG submits that the TACC of 2,940 tonnes under Option 2 'represents a sensible balance between maximising value and mitigating

[2] A copy of the submission is available in Appendix 1

losses'. DWG notes that ongoing observer coverage of the fleet is important to ensure sufficient length and age samples are collected. This information will help indicate when another strong year class of fish enters the fishery. DWG also notes quota holder support and commitment to programmes already in place which aim to manage risks to seabirds and marine mammals.

TOKM, although noting support for the DWG submission, sought feedback from Iwi Mandated Organisations and decided to send their own submission. TOKM supports Option 2 to reduce the TAC to 3,000 tonnes as well as retain non-commercial allowances at 0 tonnes.

ICP is a limited partnership of 12 iwi that own both settlement and general quota in SBW6B. In their submission, ICP noted they receive $85K in annual revenue from the SBW6B fishery. Each proposed option will therefore cause a reduction in revenue for ICP. Within their submission ICP outlines the fiscal impact of each option as follows:

- Option 1: 43% reduction to $48,571
- Option 2: 57% reduction to $36,429
- Option 3: 71% reduction to $24,484

ICP notes that they support Option 2 even though it will result in a financial loss. ICP also submits that this lower TAC should only apply until catch in SBW6B increases, indicating an increase in biomass and potential for increased harvest levels.

4 Legal Considerations

Relevant legal considerations in the Fisheries Act 1996 (the Act) are discussed in the following paragraphs.

4.1 SECTION 8 – PURPOSE OF THE ACT

Section 8 of the Act says that the purpose of the Act is to provide for utilisation while ensuring sustainability:

- ***ensuring sustainability*** means—
  a. maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and
  b. avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment
- ***utilisation*** means conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural well-being

MPI considers that all options presented in this paper satisfy the purpose of the Act in that they provide for utilisation in the SBW6B fishery while ensuring sustainability.

4.2 SECTION 9 – ENVIRONMENTAL PRINCIPLES

Section 9 of the Act requires that you take the following environmental principles into account when exercising or performing functions, duties, or powers in relation to the utilisation of fisheries resources or ensuring sustainability:

a) Associated or dependent species should be maintained above a level that ensures their long-term viability;
b) biological diversity of the aquatic environment should be maintained;
c) habitats of particular of significance for fisheries management should be protected.

MPI considers that all options presented in this paper satisfy your obligations under section 9 of the Act. A summary of the interactions between the SBW6B fishery and the aquatic environment, and how these are likely to be affected by the proposals in this paper are discussed below.

4.2.1 Fish bycatch

Total fish bycatch in the southern blue whiting fisheries is estimated to be <1% of the total catch from the fishery. The fishery targets single species schools of southern blue whiting and as a result takes minimal bycatch.

All of the options within this Discussion Document result in decreased fishing effort so it is likely that all of the options will result in a concurrent reduction in fish bycatch and will therefore reduce the impacts on any bycatch species.

4.2.2 Protected species interactions

Seabirds

Management of seabird interactions with New Zealand's commercial fisheries is driven through the 2013 National Plan of Action to Reduce the Incidental Captures of Seabirds in New Zealand fisheries (NPOA-Seabirds). The NPOA-Seabirds has established a risk-based approach to managing fishing interactions with seabirds, targeting management actions at the species most at risk as a priority but also aiming to minimise captures of all species to the extent practicable.

The level of risk from commercial fishing to individual seabird species has been identified through a comprehensive hierarchical risk assessment [3] that underpins the NPOA-Seabirds. Seabird interactions with SBW6B generally occur at low rates, although interactions are known to occur. The southern blue whiting fisheries overall were assessed to contribute very low levels of risk to a small number of seabird species.

Regulatory and non-regulatory management measures are in place to mitigate and manage interactions with seabirds. Mandatory measures include the requirement that all trawl vessels over 28 m in length deploy bird mitigation devices during fishing. Non-regulatory management measures include vessel-specific vessel management plans (VMPs). The VMPs describe onboard practices vessels must follow to reduce the risk of a seabird capture, including offal management and good factory cleanliness. MPI monitors each vessel's performance against its VMP and works with DWG to rectify any issues that arise during the fishing season. This practice will continue during the 2015-16 fishing year.

All options proposed would result in decreased fishing effort in SBW6B. With the range of regulatory and non-regulatory measures in place, the management proposals should reduce the impacts on seabirds.

Marine mammals

The SBW6B fishery overlaps somewhat with the foraging range of New Zealand fur seals which live on the Bounty Islands. Interactions between the SBW6B fishery and fur seals are known to occur, with the fishery being responsible for one of the highest rates of fur seal mortalities in New Zealand.

Despite this high capture rate it is thought that current rates are not having an adverse effect on the population, due to the most recent estimates indicating a large population at the Bounty Islands. Work is needed however to improve these population estimates and assess the potential of the fur seal population at the Bounty Islands to sustain the present levels of bycatch.

It is MPIs intention that incidental fur seal interactions are minimised to the extent practicable, in accordance with Management Objective 2.5 of the National Deepwater Fisheries Plan and Operational

[3] http://www.mpi.govt.nz/Default.aspx?TabId=126&id=1758

Objective 2.3 and in the southern blue whiting fisheries-specific chapter within this Plan. These objectives state that MPI will work to ensure that incidental New Zealand fur sea mortalities do not impact the long term viability of the fur seal population and that captures are minimised through good operational practices.

MPI works closely with the industry to increase awareness amongst the fleet of the risk of interactions, and emphasises the importance of adherence to the current marine mammal operational procedures (MMOP). The MMOP aims to reduce the risk of interactions with marine mammals by requiring that vessels minimise the length of time the fishing gear is on the surface, remove all pieces of dead fish from the net before shooting the gear, steam away from any congregations of marine mammals before shooting the gear and appoint a crew member to watch for marine mammal interactions every time the gear is shot or hauled. Performance in relation to these procedures is audited by MPI, which will continue into the 2015/16 fishing year.

With the range of non-regulatory measures in place, the options should have no additional effects on fur seals as decreased catch limits are proposed.

Benthic impacts

Southern blue whiting are generally fished using mid-water trawl gear near or on the seabed, as this is where the fish aggregate. The gear is generally not fished hard down on the seabed, which may reduce the severity of any benthic impact. SBW6B also operates over a relatively restricted area which changes very little from year to year.

Research has been reported to characterise both New Zealand's benthic environment and the level of benthic impact from fisheries activity. [4] This work, which produced a benthic-optimised marine environmental classification (BOMEC) of New Zealand's exclusive economic zone (EEZ), is not specific to SBW6B but identifies that all SBW6B fishing activity occurs over one of the 15 BOMEC habitat classes - BOMEC class L. MPI acknowledges that the total trawl footprint on BOMEC class L is estimated at 24% of the total area. This includes trawl effort from all deepwater and middle-depth fisheries, not solely SBW6B.

The options proposed will decrease fishing effort within SBW6B so it is unlikely any options will result in an increased benthic impact. Furthermore it is highly likely that any future fishing effort will occur over ground that has been trawled previously.

4.3 SECTION 10 – INFORMATION PRINCIPLES

Section 10 of the Act requires that you take the following information principles into account:

a) Decisions should be based on the best available information;
b) Decision makers should take into account any uncertainty in the available information;
c) Decision makers should be cautious when information is uncertain, unreliable, or inadequate; and
d) The absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of the Act.

MPI considers that the best available information has been used as the basis for the recommendations herein. All science information upon with the management options are based has been peer reviewed by one of MPI's Fisheries Assessment Working Groups. Although the assessment was not accepted, the DWWG considered two model runs (model 2.3 and 3.11) to be useful for informing fisheries management on the upper and lower bounds of a plausible stock status.

[4] Leathwick, J.R., Rowden, A., Nodder, S., Gorman, R., Bardsley, S., Pinkerton, M., Baird, S.J., Hadfield, M., Currie, K., Goh, A., 2010. Benthic-Optimised Marine Environment Classification (BOMEC) for New Zealand waters. Final Research Report for BEN2006-01 Objective 5. 52pp.

4.4 SECTION 11 – SUSTAINABILITY MEASURES

Under section 11 of the Act, before setting or varying any sustainability measure for any stock, you must:

a) Section 11(1)(a): take into account any effects of fishing on any stock and the aquatic environment. All information relevant to your decision is discussed above under Section 9 - environmental principals.
b) Section 11(1)(b): take into account any existing controls under the Act that apply to the stock or area concerned. For SBW6B, the measures that apply currently are a TAC, TACC, and allowances for customary take, recreational take, and incidental fishing-related mortality. No other controls under the Act specifically apply to this stock.
c) Section 11(1)(c): take into account the natural variability of the stock. The management approach used for SBW6B accounts for the biological characteristics of southern blue whiting and therefore takes into account the factors that are thought to drive the natural variability of the stock.
d) Sections 11(2)(a) and (b) require you to have regard to any provisions of any regional policy statement, regional plan, or proposed regional plan under the Resource Management Act 1991 and any management strategy or management plan under the conservation Act 1987 that apply to the coastal marine area and that you consider relevant. A proposed regional coastal plan exists for the subAntarctic Islands. MPI is satisfied that no provisions within this plan are relevant to your decision.
e) Section 11(2)(c): have regard to sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000 that apply to the coastal marine area and you consider relevant. The boundaries of the quota management area for this stock do not intersect with the Park boundaries.
f) Section 11(2)(d): have regard to any planning document lodged by a customary marine title group under section 91 of the Marine and Coastal Area (Takutai Moana) Act 2011. No planning documents applicable to this fishery have been lodged.
g) Section 11(2A)(b): take into account any relevant fisheries plan approved under section 11A. The application of the National Fisheries Plan for Deepwater and Middle-depth Fisheries is discussed in the following section.
h) Sections 11(2A)(a) and (c): take into account any conservation or fisheries services, or any decision not to require such services. MPI does not consider that existing or proposed services materially affect the proposals for SBW6B. No decision has been made to not require a service in this fishery at this time.

4.4.1 Section 11A – Fisheries Plans

MPI, in collaboration with industry and environmental organisations, has developed the National Deepwater Plan which was given Ministerial approval in 2010. The National Deepwater Plan sets out the long-term goals and objectives for deepwater fisheries. Fishery-specific chapters set specific Operational Objectives that are delivered annually for each key deepwater species, and established performance indicators to assess if the management objectives have been delivered.

The fishery-specific chapter of the National Deepwater Plan for southern blue whiting was completed in 2011. You are required to take the National Deepwater Plan into account when making a decision on the management options presented for SBW6B. The management options proposed are consistent with the dual Outcomes of the National Deepwater Plan:

a) The Use Outcome: Fisheries resources are used in a manner that provides greatest overall economic, social and cultural benefit
b) The Environment Outcome: The capacity and integrity of the aquatic environment, habitats and species are sustained at levels that provide for current and future use.

These dual Outcomes are given effect to by a series of Management Objectives, the most relevant of those being:

a) Management Objective 1.1: Enable economically viable deepwater and middle-depth fisheries in New Zealand over the long-term

b) Management Objective 2.5: Manage deepwater and middle-depth fisheries to avoid or minimise adverse effects on the long-term viability of endangered, threatened and protected species.

MPI considers the management options proposed in this paper will contribute to achieving these two Management Objectives.

4.5 SECTION 13 – SETTING THE TAC

The TAC for SBW6B is set under section 13 of the Fisheries Act 1996 (the Act). This section requires the Minister for Primary Industries (the Minister) to set a TAC that maintains the stock at or above a level that can produce the maximum sustainable yield (B_{MSY}), or if the stock is above or below that level, to move the stock towards or above the level that can produce the maximum sustainable yield.

The best estimate of SBW6B stock status is considered likely to be below the management target of $40\%B_0$. The southern blue whiting harvest strategy notes that $40\%B_0$ is understood to be a conservative proxy for B_{MSY}. However, as mentioned previously, in the absence of a full stock assessment, stock status can only be approximately inferred.

Where reliable estimates of stock status in relation to B_{MSY} are not available, s 13(2A) of the Act requires the Minister to use 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, a level that can produce the maximum sustainable yield. The options proposed provide the Minister with a choice on how he fulfils his obligations under section 13(2A).

Under section 13(3) of the Act, relevant social, cultural and economic considerations must be considered by the Minister in determining an appropriate way and rate to move the stock towards or above a level that can produce the MSY.

4.6 SECTIONS 20 & 21 – ALLOCATING THE TAC

The TAC must be apportioned among the relevant sectors and interests as required under sections 20 and 21 of the Act. Section 21 prescribes that you shall make allowances for Maori customary non-commercial interests, recreational fishing interests, and for any other sources of fishing-related mortality, before setting the TACC.

There is no known customary Maori or recreational take in SBW6B; and as such, MPI proposes retaining nil allowances for these sector groups.

Currently, an allowance of 2% of the TAC exists to account for other sources of fishing related mortality. MPI proposes to retain this allowance for the 2015-16 fishing year.

4.7 SECTION 75 – DEEMED VALUE RATES

Section 75 of the Act requires that you set deemed value rates for every stock in the QMS. Deemed values are an economic tool that incentivises commercial fishers not to catch in excess of their individual annual catch entitlement (ACE).

This ensures there are appropriate incentives for fishers to acquire or maintain sufficient ACE so that fishing effort does not result in catch limits being exceeded.

Ensuring deemed value rates are appropriately set is a fundamental principle of the quota management system.

Over the last ten years the SBW6B TACC has been exceeded five times. MPI has reviewed the SBW6B deemed value rates each year since 2006.The TACC, however, has not been exceeded in the

last three years and the port price for SBW has remained stable at $0.56 per kg over the last three years. MPI is therefore confident that the current deemed value rates are set appropriately and does not propose any further changes to the current regime.

5 Management Options

MPI consulted on three options for setting the TAC, TACC, and allowances for SBW6B (Table 4). The options proposed would progressively reduce the rate of stock biomass decline and are close to, or more conservative than, the CAY estimated for 2015. The status quo is not considered to be an appropriate option given the reduction in available biomass. Ongoing monitoring of the SBW6B stock will also occur to enable annual harvest levels to be adjusted in response to future biomass changes.

Table 4: TAC, TACC and allowance options consulted on for SBW6B, with the recommended Option 2 in bold.

			Allowances		
	TAC (t)	**TACC (t)**	**Customary Māori (t)**	**Recreational (t)**	**Other sources of fishing-related mortality (t)**
Current Settings	7,000	6,860	0	0	140
Proposed Options					
Option 1	4,000	3,920	0	0	80
Option 2 (Recommended)	**3,000**	**2,940**	**0**	**0**	**60**
Option 3	2,000	1,960	0	0	40

5.1 ANALYSIS OF OPTIONS

5.1.1 Option 1

SBW6B stock biomass is highly likely to decrease over the short to medium term. Implementing Option 1 would reduce harvest levels by over 40% and reduce fishing mortality to a level which projections suggest may maintain the stock around the soft limit of 20%B_0 in the short term.

Option 1 would set the TAC above the 3,452 tonnes estimated CAY for 2015 by 548 tonnes. This option is less conservative than Options 2 and 3, but would minimise the immediate impacts on the fishing industry and may not reduce stock status to below the soft limit in the short term. However, unless an increase in recruitment is detected, if Option 1 were implemented, additional reductions to the TAC after 2015 may be required to ensure stock status does not fall below the soft limit.

Based on export figures from 2014 of $1.42/kg dressed SBW, a TACC decrease of 2,940 tonnes as proposed in this option may result in approximately $2.5 million reduction in export revenue. [5]

No submissions were received in support of Option 1.

5.1.2 Option 2

Implementing Option 2 would decrease harvest levels by over 50%, and is projected to reduce the rate at which the SBW6B biomass decreases compared to Option 1. Option 2 would also set the harvest level closely in line with, and slightly below, the 2015 CAY estimate of 3,452 tonnes. This Option is considered likely to maintain the stock at or above the soft limit of 20% B_0 in the short to medium term. Given the uncertainty in both the stock assessment and the available projections, it is appropriate to set a TAC below the CAY estimate.

[5] This estimate is based on export figure of $1.42 / kg for dressed SBW, from Jan 2014- Oct 2014, and uses a conversion factor of 1.65 to estimate the greenweight to dressed product, and then export price. Precise revenue gain is difficult to estimate and will be influenced by factors such as commodity prices, exchange rate, catching costs and export state.

This option would reduce the TAC to a similar level to that was in place before the recruitment of the large 2002 and 2007 year classes. Based on export figures from 2014 of $1.42/kg for dressed SBW, a TACC decrease of 3,920 tonnes could result in approximately a $3.4 M reduction in export revenue. [5]

This option received unanimous support from the SBW6B quota holders represented by DWG, and TOKM and ICP. This is also MPI's recommended option, as it reduces the TAC to a level just under the 2015 CAY of 3,452 tonnes, and therefore to a harvest level that the current biomass can support.

5.1.3 Option 3

Option 3 presents the most conservative option, which would reduce the harvest levels by 70% would have the greatest financial impact on the fishing industry. Option 3 would set harvest levels below the CAY estimate for 2015 by more than 1,000 tonnes. The TAC for SBW6B has not been set this low in the past and SBW6B landings have only dropped below 1,900 tonnes twice in the last twenty years. Implementing this option would allow stock biomass to remain at or above the soft limit for longer than the other options in the absence of future recruitment, but could reduce the ability to monitor the stock by limiting the number of vessels that could access the fishery and carry out an acoustic survey.

Based on export figures from 2014 of $1.42/kg for dressed SBW, A TACC decrease of 4,900 tonnes could result in approximately $4.2 M reduction in export revenue. [5]

MPI did not receive any submissions in support of Option 3.

6 Conclusion

The SBW6B stock is considered to be below the management target, and possibly around the soft limit. A reduction in the current harvest level is required to ensure fishing mortality decreases along with available biomass and to allow the stock to move back towards the management target if further recruitment is observed.

All three options proposed in this paper will reduce harvest levels to an acceptable annual yield. However the extent of the reductions and the financial impact increase with each option. MPI recommends Option 2 as this option will balance the economic impact on the SBW6B commercial fishery with ensuring that catch rates are kept within a sustainable limit. MPI also recommends that all other allowances, and the deemed value rates for this stock remain the same.

7 Recommendations

MPI recommends that you:

a) **Note** the contents of this Decision Document when making your decisions set out in Cover Briefing B14-377.

Noted

Scott Gallacher
Deputy Director-General
Regulation & Assurance
for Director-General

Hon Nathan Guy
Minister for Primary Industries

/ / 2015

Appendix 1 – Submissions

- Deepwater Group Ltd
- Te Ohu Kaimoana
- Iwi Collective Partnership

deepwater group

COMMITTED TO
HEALTHY OCEANS
SUSTAINABLE FISHERIES

12 February 2015

Ministry for Primary Industries
PO Box 2526
Wellington 6140
New Zealand

Dear Sir/Madam,

SBW6B Submission on the Review of Sustainability Controls for 2015-16

Deepwater Group (DWG) is a non-profit organisation that works in partnership with the Ministry for Primary Industries to ensure that New Zealand gains the maximum economic yields from their deepwater fisheries resources, managed within a long-term sustainable framework.

Our mission is to optimise the sustainable economic value of our deepwater fisheries. Our vision is to be recognised as the best managed deepwater fisheries in the world.

Support for Management Options

DWG represents of the owners of 85% of SBW6B (Bounty Platform) quota. These quota owners gave unanimous support for Option 2, which provides for the TACC to be reduced to 2,940 tonnes. This represents a sensible balance between maximising value and mitigating loss to New Zealand's economy from natural mortality in an ageing stock, while conserving the stock for the future.

DWG also notes the importance of recording recruitment into this fishery and the need for sufficient scientific observers to be present in the fleet to ensure representative length and age sampling of the catch.

Mitigating Environmental Risks

DWG remains committed to the programmes already in place to manage risks to seabirds and marine mammals and will continue to remain active in supporting, in collaboration with MPI, those procedures (both mandatory and industry required) that reduce these risks.

Regards,

Richard Wells
Fisheries Specialist
Deepwater Group Ltd

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TE OHU
KAIMOANA
MĀORI FISHERIES TRUST

17 February 2015

To Ministry Primary Industries

Tena koe,

RE: REVIEW OF SUSTAINABILITY CONTROLS FOR THE BOUNTY PLATFORM SOUTHERN BLUE WHITING FISHERY (SBW6B) AND REVIEW OF DEEMED VALUE RATES FOR GIANT SPIDER CRAB STOCKS

Introduction
This paper sets out the views of Te Ohu Kaimoana (Te Ohu) on Ministry of Primary Industry (MPI) proposals relating to Southern Blue Whiting (SBW6B) and Giant Spider Crab (GSC) stocks. In preparing this submission we have sought and received feedback from Iwi Mandated Organisations. We have also taken into account the Deep Water Group submission on SBW6B. We support their submission and acknowledge the efforts they have made in consulting with quota owners and Iwi Asset Holding Companies.

REVIEW OF SUSTAINABILITY CONTROLS FOR THE BOUNTY PLATFORM SOUTHERN BLUE WHITING FISHERY (SBW6B)

Background
The 2014 acoustic survey indicates that biomass has continued to decline and is below the management target of 40% B0, and below the level that can support the maximum sustainable yield. The 2014 survey also indicated that there has been a very low recruitment to the fishery since 2007. Accordingly, MPI considers it is necessary to reduce the TAC to ensure harvest levels remain sustainable given the lower stock biomass. MPI believe a reduction will return the TAC closer to the level that it was set prior to the very large biomass increase in 2007. This increase was a result of recruitment of a single very strong year class.

Proposals
All of the options proposed by MPI result in decreased fishing effort and reduced earnings. See Table 1 below. According to MPI estimates which are based on 2012 export prices option 1 will result in a loss of export earnings of approximately $4.1m, option 2 $5.6m, and option 3$7.0m.

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Trustee for the Maori Fisheries Trust
Protecting Maori fisheries assets for future generations

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Table 1: Proposed TAC, TACC and allowance options for SBW6B

	Allowances				
	TAC(t)	TACC(t)	Customary (t)	Recreation (t)	Other sources mortality
Current settings	7,000	6,860	0	0	140
Proposed Options					
Option 1	4,000	3,920	0	0	80
Option 2	3,000	2,940	0	0	60
Option 3	2,000	1,960	0	0	40

Te Ohu's position on SBW6B stocks

In relation to the setting of a TAC and TACC Te Ohu supports option 2 to reduce the TAC to 3,000t, reduce the TACC to 2,940t, reduce other mortality to 60t, and retain the non-commercial allowances at 0. In relation to deemed values, we support retaining them at current levels.

REVIEW OF DEEMED VALUE RATES FOR GIANT SPIDER CRAB STOCKS (GSC)

Background

MPI is proposing a reduction in deemed values for GSC stocks. When GSC was brought into the QMS in 2004 the deemed values were based upon 60% of the estimated port price of $3.00kg. At the time the Minister considered the fishery would be developed so the deemed value was set high to incentivise quota owners to catch within their ACE holdings.

The reality however is GSC has never developed as a target fishery and the only stocks that have been landed have been as bycatch. Furthermore, the $3.00kg port price was never realistic because of the poor condition of GSC stocks – essentially there is little meat inside the crabs and they are worth very little. Crab quota owners have instead focused their attention on developing king crab fisheries because it is considered to have greater commercial potential.

The existing annual deemed value rate of $1.80kg is 50% of the 2013/14 port price of $3.60kg.

Proposals

MPI proposes that the annual deemed value rate for all GSC stocks for the fishing year commencing 1 April 2015 be set at $0.10 per kg, which is 50% of the 2014/15 port price of $0.20 per kg. The current and proposed deemed value rates for all GSC are set out in Table 1 below.

Table 1: Current and proposed deemed value rates for all GSC stocks

Annual (including differential rates based on % in excess of ACE holding)								
	Stocks	**Interim**	**0-20%**	**20-40%**	**40-60%**	**60-80%**	**80-100%**	**>100%**
	GSC1							
	GSC3							
	GSC5							

	GSC6A	$1.62	$1.80	$2.16	$2.52	$2.88	$3.24	$3.60
	GSC6B							
	GSC10							
	GSC1							
	GSC3							
	GSC5							
	GSC6A	$0.09	$0.10	$0.12	$0.14	$0.16	$0.18	$0.20
	GSC6B							
	GSC10							

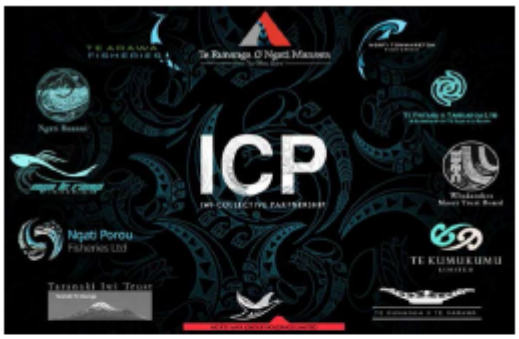
Te Ohu's position on GSC deemed values

Te Ohu support the proposal to set the deemed value rate for all GSC stocks for the fishing year commencing 1 April 2015 at $0.10 per kg. We also support differential annual deemed value rates continuing to be based upon the standard schedule (i.e. increasing to a maximum of $0.20 per kg for catch more than 100% in excess of ACE Holdings.

Please feel free to contact the writer on any matters concerning this submission.

Noho ora mai

Alan Riwaka
Senior Fisheries Management Advisor



Iwi Collective Partnership
General Manager
Maru Samuels
Auckland

17 February 2015

Fisheries Management
Ministry of Primary Industries
PO Box 2526
Wellington 6140 Email: FMSubmissions@mpi.govt.nz

Tena koe,

Review of Sustainability Measures for 1 April 2015

Thank you for the opportunity to submit on the review of sustainability measures for selected fish stocks for the 1 April 2015 fishing year. The review specifies that all submissions must be received by the Ministry of Primary Industries (MPI) no later than **5pm Tuesday, 17 February 2015.**

This submission is presented on behalf of the Iwi Collective Partnership (ICP), a limited partnership of 12 iwi partners, formed in 2010. The companies representing each iwi partner have their genesis in the Maori Fisheries Act 2004. Our 12 iwi partners own both settlement and general quota in CRA1, CRA3, CRA9, SBW6B and GSC which are subject stocks of this review.

In providing our submission we also wish to state our support for the submissions of our individual iwi partners. The following table lists our 12 iwi partners. Furthermore, the ICP has a formal arrangement to manage quota on behalf of two additional iwi, Rongowhakaata and Te Aitanga a Mahaki.

No.	Iwi	Region
1	Te Arawa	Bay of Plenty
2	Ngati Tuwharetoa	Bay of Plenty
3	Ngai Te Rangi	Bay of Plenty
4	Whakatohea	Bay of Plenty
5	Ngati Awa	Bay of Plenty

6	Ngai Tai	Bay of Plenty
7	Ngati Manawa	Bay of Plenty
8	Ngati Ruanui	Taranaki
9	Nga Rauru	Taranaki
10	Taranaki Iwi	Taranaki
11	Te Rarawa	Northland
12	Ngati Porou	Gisborne

Table 1: List of ICP Iwi Partners

The ICP prides itself on being an active participant in the management of New Zealand's fisheries. Our participation stems not only from our commercial ownership of quota but more importantly from the unique position of our 12 iwi partners as the original inhabitants, owners and fisheries managers of Aotearoa, New Zealand. Our beliefs are embodied in our organisation purpose which is to, *"share sustainable Maori seafood with the world"*.[1]

1. CRA1

In summary, three of the five review options for CRA1 are based on the current Total Allowable Commercial Catch (TACC) whilst two options seek an increase. All five options reference different Total Allowable Catch (TAC) volumes.

CRA 1 Options	TAC	Custom	Recs	Other mortality	TACC
1. Use the new rule 8d and set following TAC, allowances and TACC	269.62t	10t	50t	72t	137.62t
2. Use the new rule 8d and set following TAC, allowances and TACC	279.62t	20t	50t	72t	137.62t
3. Use the new rule 9d and set following TAC, allowances and TACC	263.062t	10t	50t	72t	131.062t
4. Use the new rule 9d and set following TAC, allowances and TACC	273.062t	20t	50t	72t	131.062t
5. Retain the current CRA 1 TACC (no TAC or allowances have been previously set for CRA 1)	0	0	0	0	131.062t

While it is acknowledged that the CPUE (catch per unit effort) has improved for CRA1, there is some uncertainty whether the improvement is the result of greater abundance or the result of improved efficiencies relating to larger vessels, more horsepower, larger pots but less in number and improved technologies.

The ICP supports a conservative approach that begins by retaining the current TACC until such time as the improvements to the CPUE are clearly shown to be the result of abundance. In this respect we would

[1] The Iwi Collective's commercial aspirations to supply sustainable seafood to the world is consistent with our ethical value of manakitanga – that is to present the best of our kaimoana (seafood) to our manuhiri (visitors but customers in widest context) as the responsibility of tangata whenua (hosts). Manakitanga or sharing is not a choice, it is a culturally essential practice of being Maori as predetermined by the tikanga (practices) of our tupuna (ancestors). These things are what distinguish us as being unique in the world as Maori yet similar to the practices of other international First Nations Indigenous Peoples. Coupled within this is the obligation for the kaimahi (workers) in this process to come from the host area. This later point leads into the importance of employment and sustainable job creation within rural Maori communities such as Gisborne (Ngati Porou) and Rotorua (Te Arawa).

support either option 3 or 4 without stating a specific view on the level of customary catch. For the sake of clarity, we do not support options 1, 2 and 5.

2. CRA3

In summary, there are two review options for CRA3 both involving the same TAC, customary catch, recreation, mortality and TACC as shown in the following table.

CRA 3 Options	TAC	Customs	Recs	Other Mortality	TACC
1. Use the new Rule 4 CRA 3 management procedure and retain the TAC, allowances and TACC	389.95t	20t	20t	89t	260.95t
2. Use the new Rule 6 CRA 3 management procedure and retain the TAC, allowances and TACC	389.95t	20t	20t	89t	260.95t

Both review options have been tested and both will result in the desired outcome of maintaining stock abundance above the statutory reference level *Bmsy*. There are very little differences in the models but the potential frequency of change in TACC for Rule 6 is slightly less.

As seen previously, CRA3 stock abundance can be variable due to a range of biotic and abiotic factors. The ICP believes both options provide the appropriate means to manage the fishery but believe Option 1 (Rule 4) is more dynamic and responsive and has the ability to set catch limits that reflect the current state of the fishery more accurately than Option 2 (Rule 6).

Therefore the ICP supports the use of a new management procedure to guide TAC and TACC setting in CRA3 being Option 1 (Rule 4).

3. CRA9

In summary, there are two review options for CRA9. The first involves a decrease while the second retains the current TACC.

CRA 9 Options	TAC	Customs	Recs	Other Mortality	TACC
1. Use the current CRA 9 management procedure and decrease the TAC and TACC	101t	20t	30t	5t	46t
2. Retain the current CRA 9 TAC, allowances and TACC	115.8t	20t	30t	5t	60.8t

Option 1 to reduce the TAC appears to be the result of a faulty Management Procedure. The number of fishers and catch scenarios appears to be too low for the model which has created a recommendation that is not supported by catch effort on the water. In fact the empirical evidence tends to point to a healthy fishery.

Therefore the ICP supports Option 2 which is to retain the current TACC. However, out support comes with the proviso that the Management Procedure is reviewed as to whether it is operating correctly, or whether it is In fact the correct Procedure. Appropriate amendments should be made based on the result of the review. If a TACC reduction is then warranted under the newly amended Management Procedure,

that cut should be supported. Conversely, if the review supports retention or an increase to the TACC, that should also be supported.

We support the submission of Port Nicholson Fisheries and Ngati Porou.

4. Southern Blue Whiting (SBW6B)

Option	TAC (t)	TACC (t)	Customary Māori (t)	Recreational (t)	Other sources of fishing-related mortality (t)
Current Settings	**7,000**	**6,860**	**0**	**0**	**140**
Option 1	4,000	3,920	0	0	80
Option 2	3,000	2,940	0	0	60
Option 3	2,000	1,960	0	0	40

The science is clear that there are issues with the SBW6B fishery biomass having peaked in 2008 and declined ever since. Modelling has shown the fishery to be below the default management target of 40% Bo the results of the 2015 survey not being accepted.

In terms of the economic impact, the ICP currently receives $85k annual revenues from SBW6B, and the impact of each review option can be demonstrated as follows:

Option 1: 43% reduction to $48,571.
Option 2: 57% reduction to $36,429.
Option 3: 71% reduction to $24,284.

However, irrespective of the present day economic impact, the ICP supports Option 2 which equates to a 57% reduction in the TAC and ICP revenue from SBW6B. The new TAC should apply until such time as catch improvements indicate an increase in biomass at which point quota owners could commission a new biomass survey.

Nga mihi,

Maru Samuels
General Manager
Iwi Collective Partnership

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