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Draft Fishery Improvement Plan Auckland Island Arrow Squid Trawl Fishery (SQU6T)

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Overview

Deepwater Group (DWG) and the Ministry for Primary Industries (MPI) are committed to the ongoing sustainable management of New Zealand's deepwater fisheries. To this end we have jointly embarked on a Fisheries Certification Programme (FCP) with the objective of achieving independent certification of New Zealand's key deepwater fisheries (Figure 1). Our FCP is a four-staged work programme and a summary of this process to date can be seen on our website. As part of this programme, two key squid fisheries are in formal Fishery Improvement Plans (FIP). These are: New Zealand's Auckland Island Squid Trawl Fishery (SQU6T) and New Zealand EEZ Squid Trawl Fishery (SQU1T).

This draft FIP for SQU6T will be provided to MSC Stakeholders for their consideration. DWG have developed this FIP using tools and templates provided by MSC to establish a public, transparent, inclusive and stepwise approach towards MSC certification.

The objective of this FIP is to ensure the performance of this fishery meets the MSC Fisheries Standard and subsequently achieves MSC certification. This FIP provides external observers the ability to monitory fisheries improvement, to track progress, and to assess fisheries performance against the MSC Fisheries Standard.

The following sections provide further detail on SQU6T FIP including a Gap Analysis and Remedial Action Plan.

SQU6T is currently progressing through Stage 2 Phase 2 FIP (see Table 1). This involves remedial management actions and monitoring progress according to a public, time-bound FIP. This FIP will be updated and made available on our website along with all supporting documentation.

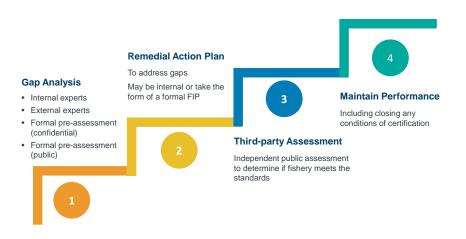


Figure 1 Deepwater Group's Fisheries Certification Programme Stages



Table 1 Timelines and milestones for the Fisheries Certification Programme for SQU6T

Fisheries Certification Stage	Deliverables and Outcomes	Action Lead	Timeline	Progress
Gap Analysis	Phase 1 – Fishery Evaluations: Completed on the 'Fishsource' template. Provided the Sustainable Fisheries Partnership (SFP) with current information, for evaluation and for SFP to post to their FishSource [™] website. Published relevant documents on the DWG website.	DWG & MPI	Jul-Aug 2012	Completed
	Phase 2 – Fishery Gap Analysis: Assessed SQU6T against MSC Fisheries Standard to identify potential non-conformities and information gaps.	DWG & MPI	Aug 2012	Completed
	Phase 3 – MSC Confidential Pre-assessments: In September 2008 contracted Conformity Assessment Body (CAB) undertook a high level confidential pre-assessment of SQU6T against the MSC Fisheries Standard. Updated 2009 pre-assessment findings July 2012. The performance of this fishery was reviewed against the MSC Fisheries Standard by DWG and MPI in October 2014 and in April 2015.	CAB & DWG	Sept 2008 July 2012 Oct 2014 April 2015	Completed
Remedial Action Plan	Phase 1 – Fishery Improvement Analysis: Identified the reasons why the CAB pre-assessment identified certain Performance Indicators as unlikely to meet the MSC Fisheries Standard. Identified remedial management actions. Held consultation meeting with MSC Stakeholders.	DWG & MPI	Oct 2014 – April 2015	Completed
	Phase 2 – Fishery Improvement Plan: Implemented remedial management actions within an agreed and time-bound plan using the MSC Monitoring and Benchmarking FIP Template. Once finalised, posted with SFP for public viewing.	DWG & MPI	Oct 2015	Remedial Actions In process
Third Party Assessment	Phase 1 – MSC Assessment: Formal assessment of the SQU6T fishery against the MSC Fisheries standard.	CAB, DWG & MPI	Aug 2017	
	Phase 2 – MSC Certification: Achieved certification of the SQU6T fishery against the MSC Fisheries Standard.	DWG & MPI	Dec 2018	



Gap Analysis



The first three phases have been completed:

- Phase 1 Fishery Evaluations
- Phase 2 Fishery Gap Analys
- Phase 3 MSC Confidential Pre-assessments:

This version of the FIP addresses the outcomes of the pre-assessments and the reviews of these in 2014 and 2015.

Phase 3: MSC Confidential Pre-assessment

In October 2008, Moody Marine Ltd (now Intertek Fisheries Certification) undertook a high level confidential pre-assessment of the SQU6T squid trawl fishery against the MSC Fisheries Standard.

Subsequent reviews of this pre-assessment were undertaken (October 2014 and April 2015) and the fishery was rated for each Performance Indicator (PI) and a detailed rationale was provided. The pre-assessment and reviews identified areas of non-conformity to provide an indication of the work required for the fishery to meet the MSC SG80 and SG60 Certification Requirements.

The compiled outcomes from Intertek Fisheries Certification Ltd's confidential pre-assessment and subsequent October 2014 and April 2015 reviews are summarised in Table 2. This is a snapshot of the fishery and results for each PI are categorised as:

- Red = likely to score below 60
- Orange = likely to score between 60 & 80
- Green = likely to score above 80.
- Green = likely to score above 80.



Table 2 SQU6T 2013 pre-assessment results

MSC Component	MSC Performance Indicator	MSC Performance Indicator	Outcome					
	1.1.1	Stock Status: Stock at a level which maintains high productivity						
Outcome	1.1.2	Reference Points: Appropriate limits and reference points for the stock						
	1.1.3	Stock Rebuilding: Where stock depleted - there is evidence of rebuilding						
	1.2.1	Harvest Strategy: Precautionary and robust harvest strategy in place						
Managament	1.2.2	Harvest Control Rules & Tools: Well defined harvest control rules in place						
Management	1.2.3	Information & Monitoring: Relevant Information collected to support harvest strategy						
	1.2.4	Assessment of Stock Status: Assessment of stock status is adequate						
	P1 ALL	Sustainability of Exploited Stock						
	2.1.1	Retained Species Outcome: Does not cause serious or irreversible harm to retained species						
Retained Species	2.1.2	Retained Species Management: Strategy in place for managing retained species						
	2.1.3	Retained Species Information: Relevant information to help manage retained species						
	2.2.1	Bycatch Species Outcome: Does not cause serious or irreversible harm to bycatch species						
Bycatch species	2.2.2	Bycatch Species Management: Strategy in place for managing bycatch species						
	2.2.3	Bycatch Species Information: Relevant information to help manage bycatch species						
	2.3.1	ETP Species Outcome: Meets national and international requirements for ETPs protection						
ETP species	2.3.2	ETP Species Management: Precautionary management strategies in place						
	2.3.3	ETP Species Information: Relevant information to support management of impacts on ETPs						
	2.4.1	Habitats Outcome: Does not cause serious or irreversible harm to habitat structure						
Habitats	2.4.2	Habitats Management: Information is adequate to determine risk to habitat types						
	2.4.3	Habitats Information: Information adequate to determine risk to habitats						
	2.5.1	Ecosystem Outcome: Does not cause serious or irreversible harm to ecosystem						
Ecosystem	2.5.2	Ecosystem Management: Measures are in place to mitigate risk to ecosystem						
	2.5.3	Ecosystem Information: Adequate knowledge of impacts of fishery on the ecosystem						
	P2 ALL	Maintenance of Ecosystem						
	3.1.1	Legal/Customary Framework: Management system exists with legal/customary framework						
Governance and	3.1.2	Consultation, Roles & Responsibilities: Management system has clear processes						
Policy	3.1.3	Long Term Objectives: Management policy contains clear long-term objectives						
	3.1.4 Incentives for Sustainable Fishing: Management system has sustainability incentives							
	3.2.1	Fishery Specific Objectives: Fishery has clear and specific outcome objectives						
Fisher, anasifis	3.2.2	Decision Making Processes: Management system includes effective decision making						
Fishery specific management	3.2.3	Compliance & Enforcement: Monitoring, control and surveillance mechanisms in place						
system	3.2.4	Research Plan: Research plan that addresses management needs are in place						
	3.2.5	3.2.5 Management Performance Evaluation: Performance Evaluation processes in place						
	P3 ALL Effective Management System							
Key: Indicative As	ssessment Scores	>80 (Pass) 60-80 (Condition) <60 (Fail) Indicative Aggregate Scores Pass	Fail					

Deepwater Group Ltd - Draft Fisheries Improvement Plan - SQU6T- June 2015



Remedial Action Plan



There are two phases to the Remedial Action Plan:

- Phase 1 Fishery Improvement Analysis
- Phase 2 Fishery Improvement Plan.

Phase 1 Fishery Improvement Analysis

The performance of SQU6T has been considered against the MSC Fisheries Standard to identify non-conformities and information gaps against the MSC Performance Indicators (SG60 and SG80) (Appendix 1).

Phase 2 Fishery Improvement Plan

This involves implementing the remedial management actions and monitoring progress according to a public, time-bound FIP.

Table 3 gives management actions to remedy identified gaps in Phase 1 of the Remedial Action Plan.

Table 4 presents timelines for each of the remedial management actions.

Table 3 Remedial management actions

		Links to MSC Performance Indicators										
					P1 Target stock	3			P2 Ecosystem	Components	P3 Manager	nent System
		1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	2.2.3	2.3.1	3.2.1	3.2.2
	ACTION LEAD &		Deferrer	Qual	Userset	Harvest	Information		Bycatch spp:	ETD	Fishery-	Decision-
ACTIONS	PARTNERS	Stock status	Reference points	Stock rebuilding	Harvest Strategy	control rules and tools	and monitoring	Assessment	Information & monitoring	ETP spp. status	specific objectives	making processes
1. Stock assessment												
1.1 Develop and update stock assessment methodology appropriate for SQU6T stock and fishery.	DWG & MPI											
1.2 Acceptance of SQU6T stock assessment methods by MPI.	DWG & MPI											
1.3 Develop and test near-real time collections and handling of fishery data to support in-season assessment and management.	DWG & MPI											
1.4 Undertake annual stock assessments for the SQU6T stock for fishery performance.	DWG & MPI											
Conduct a Management Strategy Evaluation to define appropriate harvest strategy and harvest control 1.5 rules. Review the BOE3A harvest strategy and harvest control rules to align with Management Strategy Evaluation.	DWG & MPI											
1.6 Implement harvest strategy and harvest control rules through a Management Procedure.	DWG & MPI											
1.7 Undertake near-real time stock assessments of the SQU6T stock during an active fishery.	DWG & MPI											
1.8 Review the 2016 data provision, assessment and management processes and make improvements where necessary.	DWG & MPI											
2. Habitats and ecosystems							1					
2.1 Analyse the fish bycatch to define whether bycatch species should be considered as minor and major species.	DWG & MPI											
2.2 Collate information that demonstrates the stock status of main bycatch species relative to reference points and review the outcome to determine whether any remedial actions are required.	DWG & MPI											
2.3 To review the evidence with respect to the likelihood of unacceptable impacts of the fishery on the relevant ETP species, especially seabirds and sea lions.	DWG & MPI											
3. Management System				·		·	•					
Update the fisheries management planning documentation to clearly express the short- and long-term 3.1 objectives for this fishery such that they are consistent with the HS and HCRs developed to address the needs of the NZ HSS and MSC Principles.	DWG & MPI											
Develop, agree, document and, implement clear decision making processes that will enable 3.2 successful implementation of in-season stock assessments and management for this fishery in a manner that ensures all PI 3.2.2 SG 80 guidepost are met.	DWG & MPI											

Notes: DWG (Deepwater Grup Ltd.) MPI (Ministry for Primary Industries for New Zealand)

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Table 4 Timelines for each of the remedial management actions

				P	rogre	ss (se	e key	belo	w)		
		20	2015 2016			20)17	2018		20	19
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
MS	C Principle 1: Stock Status										
1.1	Develop and update stock assessment methodology appropriate for SQU6T stock and fishery.										
1.2	Acceptance of SQU6T stock assessment methods by MPI.										
1.3	Develop and test near-real time collections and handling of fishery data to support in-season assessment and management.										
1.4	Undertake annual stock assessments for the SQU6T stock for fishery performance.										
1.5	Conduct a Management Strategy Evaluation to define appropriate harvest strategy and harvest control rules. Review the BOE3A harvest strategy and harvest control rules to align with Management Strategy Evaluation.										
1.6	Implement harvest strategy and harvest control rules through a Management Procedure.										
1.7	Undertake near-real time stock assessments of the SQU6T stock during an active fishery.										
1.8	Review the 2016 data provision, assessment and management processes and make improvements where necessary.										
MS	C Principle 2: Ecosystem Management										
2.1	Analyse the fish bycatch to define w hether bycatch species should be considered as minor and major species.										
2.2	Collate information that demonstrates the stock status of main bycatch species relative to reference points and review the outcome to determine w hether any remedial actions are required.										
2.3	To review the evidence with respect to the likelihood of unacceptable impacts of the fishery on the relevant ETP species, especially seabirds and sea lions.										
MSC	C Principle 3: Management System										
3.1	Update the fisheries management planning documentation to clearly express the short- and long-term objectives for this fishery such that they are consistent with the HS and HCRs developed to address the needs of the NZ HSS and MSC Principles.										
3.2	Develop, agree, document and, implement clear decision making processes that will enable successful implementation of in-season stock assessments and management for this fishery in a manner that ensures all PI 3.2.2 SG 80 guidepost are met.										

In-progress
Completed
Expected completion date



Third-party Assessment



MSC Assessment

Stage 3 of the SQU6T FCP requires the submission of this fishery for full MSC Assessment by an accredited MSC Conformity Assessment Body against the MSC Fisheries Standard. It is anticipated that the SQU6T fishery will be ready for full MSC assessment in mid-2017.

MSC Certification

Certification of the SQU6T squid trawl fishery against the MSC Standard is achieved, the report is published and appropriate certificate(s) granted. Any Conditions of Certification laid out in the certification report will be addressed by managers within the agreed timeframes. It is anticipated that the SQU6T fishery will complete the full MSC assessment process by December 2018.



Appendix 1

New Zealand's Auckland Island (SQU 6T) Squid Trawl Fishery Improvement Analysis (Actions are referenced to Tables 3 and 4)

PI 1.1.1 – The stoc	k is at a level which maintains high productivity and has a low probability of recruitment overfi	shing
MSC SG80 Certification Requirements	a) It is highly likely that the stock is above the point where recruitment would be impaired.b) The stock is at or fluctuating around its target reference point.	
Gap Analysis Findings	 The Gap Analysis found that: There is currently no assessment for the SQU6T stock. There are currently no stock specific limit or target reference points defined for the SQU6T stock. Therefore, it is currently not possible to demonstrate that it is <u>highly likely</u> that the stock is above recruitment would be impaired (i.e. above the limit reference point) or that the stock is at or fluct target reference point. 	e the point where
Responses	 Develop and implement an assessment approach that will inform on the status of the SQU6T stock relative to appropriate limit and target reference points. Demonstrate, using an appropriate and accepted stock assessment methodology, that the stock status is either at or above an appropriate target reference points or it is highly likely that the stock is above the point where recruitment would be impaired. 	Actions 1.1-1.4 & 1.7-1.8



PI 1.1.2 – Limit and target reference points are appropriate for the stock				
	a) Reference points are appropriate for the stock and can be estimated			
MSC SG80 Certification	b) The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity			
Requirements	c) The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome			
	d) For key low trophic level species, the target reference point takes into account the ecological role of the stock.			
Gap Analysis Findings	 The Gap Analysis found that: There are currently no defined target reference point There is currently no limit reference point that is set above the level at which there is an appreciable risk of impairing reproductive capacity It is currently not possible to ascertain the appropriateness of any specific SQU6T target or limit reference points 			
	 Generic reference points exist in relation to a small number of other squid fisheries This stock is not considered low trophic species. 			
Responses	 Use the stock assessment methodology developed to address PIs 1.1.1 and 1.2.4, to inform on appropriate reference points for the SQU6T stock Formalise a rationale to define appropriate reference points for the SQU6T stock in relation to the SG 80 requirements of PI 1.1.2. 			



PI 1.1.3 – Where th	ne stock is depleted, there is evidence of stock rebuilding within a specified timeframe				
MSC SG80 Certification Requirements					
Gap Analysis Findings	 The Gap Analysis found that: There is currently no evidence that this stock has ever been depleted. As this is essentially an annual stock, should rebuilding be necessary at any point, effective rebuirequire rapid implementation of a rebuilding plan. There is no formal harvest strategy which provides for rebuild consistent with the biology of this Any defined rebuilding timeframe should be consistent with the essentially annual population dy stock. Recruitment in invertebrate stocks is usually substantially driven by environmental factors. 	species.			
Responses	 Develop and formalise a rebuilding plan for the SQU6T stock which would be applicable should the stock become depleted. Define the target and time-frame for rebuilding appropriate to the biology and population dynamics of the species. Use the stock assessment methodology developed to address PIs 1.1.1 and 1.2.4, to run simulations to support the development and testing of the rebuilding plan. 	Action 1.5			



PI 1.2.1 – There is a	robust and precautionary harvest strategy in place				
MSC SG80 Certification Requirements	a) The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.b) The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives.				
Gap Analysis Findings	harvest strategy elements successfully "work together towards achieving management objectives reflected in the				
Responses	 Conduct a Management Strategy Evaluation to define appropriate harvest strategy and harvest control rules. Review the BOE3A harvest strategy and harvest control rules to align with Management Strategy Evaluation. Implement harvest strategy and harvest control rules through a Management Procedure. 				
PI 1.2.2 – There are v	vell defined and effective harvest control rules in place				
MSC SG80 Certification Requirements	(b) The selection of the harvest control rules takes into account the main uncertainties.				
Gap Analysis Findings					
Responses	 Develop, formalise, test and implement "well defined" HCRs that "are consistent with the harvest strategy and ensure that these will reduce the exploitation rate as limit reference points are approached." The HCR will demonstrably address the main uncertainties relating to the fishery, its assessment and management. 				



PI 1.2.3 – Information and Monitoring				
MSC SG80 Certification Requirements	 (a) Sufficient relevant information related to stock structure, stock productivity and fleet composition support the harvest strategy. (b) Stock abundance and fishery removals are regularly monitored at a level of accuracy and cover the harvest control rule, and one or more indicators are available and monitored with sufficient f the harvest control rule. (a) There is good information on all other fishery removals from the stock. 	age consistent with		
	(c) There is good information on all other fishery removals from the stock.			
Gap Analysis Findings	 The Gap Analysis found that: The fishery has no shortage of "sufficient relevant information related to stock structure, stock p composition" The timescales for collecting and handling of some of the fishery data collection will not support time) stock assessments With no Harvest Strategy or HCRs, the adequacy of the information to adequately support and n the fishery in relation to the HCRs cannot be evaluated There is good information on all other fishery removals from the stock through the quota manage 	in-season (near-real monitor the stock,		
Responses	 monitoring, control and surveillance (MCS) systems. Develop, test and implement protocols to collect and handle those fishery data necessary for near-real time, in-season stock assessments in a timely manner Available information and indicators, and on-going information collection programme, should be reviewed following development of the Harvest Strategy and HCRs. This is to ensure both will be adequately monitored and supported by the information that will continue to be collected from the fishery Any deficits found in the type, quality or quantity of information to support the Harvest Strategy and HCRs will be addressed. 	Actions 1.3 & 1.8		
PI 1.2.4 – Assessme	ent of Stock Status			
MSC SG80 Certification Requirements	a) The assessment is appropriate for the stock and for the harvest control ruleb) The assessment takes uncertainty into accountc) The assessment of stock status is subject to peer review.			
Gap Analysis Findings	The Gap Analysis found the following:There is currently no assessment for the SQU6T stock.			
Responses	 Develop and implement an assessment approach that is appropriate for the stock and for the HCR and will inform on the status of the SQU6T stock relative to appropriate biological and management reference points Characterise the nature and relative scale of assessment uncertainties and ensure that the assessment takes the principal uncertainties into account in an appropriate way. 	Actions 1.1-1.3 & 1.7-1.8		



PI 2.2.3 – Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch

MSC SG80 Certification Requirements	 a) Qualitative information and some quantitative information are available on the amount of main byca affected by the fishery. b) Information is sufficient to estimate outcome status with respect to biologically based limits. c) Information is adequate to support a partial strategy to manage main bycatch species. d) Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy). 	·
Gap Analysis Findings	 The Gap Analysis found that: For a few bycatch species, defining whether they are main or minor was problematic. Information to score stock status for some main bycatch species is lacking. There are on-going improvements in the monitoring and reporting of bycatch, driven in part by the 2014, improvements in modelling bycatch quantities and through the development of risk assessment for bycatch species. 	
Responses	 Prepare analyses of fishery data quantitatively or semi-quantitatively to enable main and minor by-catch species to be clearly distinguished based on percentage catch by weight from the fishery and for the total catch of the species or stock and on the vulnerability of the species concerned. Draw together other relevant quantitative, semi-quantitative and qualitative information (including from observer data and scientific surveys) that inform on the stock status of main by-catch species. Should evidence be found that any main by-catch stock is depleted, collate evidence that shows whether the fishery is likely to hinder the recovery and rebuilding of the stock and, where necessary, develop and implement a partial strategy that may include mitigation measures, to ensure that recovery and rebuilding is not hindered by the fishery. 	Actions 2.1 & 2.2



PI 2.3.1 – The fishery meets national and international requirements for protection of ETP species. The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species

MSC SG80 Certification Requirements	b) Direct effects are highly unlikely to create unacceptable impacts to ETP species				
Gap Analysis Findings					
Responses	 To review the available information and present the best scientific evidence with respect to the level of impacts on the likelihood of unacceptable impacts of the fishery on the affected ETP Action 2.3 species. 				
PI 3.2.1 – The fishe	ry has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2				
MSC SG80 Certification Requirements	 a) Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system. 				
Gap Analysis Findings					
Responses	Update the fisheries management planning documentation to clearly express the short- and long-term objectives for this fishery such that they are consistent with the HS and HCRs developed to address the needs of MSC Principle 1.				



PI 3.2.2 – The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives and has an appropriate approach to actual disputes in the fishery under assessment.

MSC SG80 Certification Requirements	 a) There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. b) Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. c) Decision-making processes use the precautionary approach and are based on best available information. d) Information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring evaluation and review activity. e) The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from the state action is available to active the fishery.
Findings from Gap Analysis	 any legal challenges. The Gap Analysis found that: Appropriate decision making processes for managing in-season assessments and implementing necessary in-season management have not been agreed and formalised.
Proposals for Fisheries Improvement	 To develop, agree, document and implement clear decision making processes that will enable successful implementation of in-season stock assessment and management for this fishery. To ensure that, as appropriate, this implementation also addresses serious and important issues (b), meets precautionary decision making objectives (c), is available to those interested (d) and supports the existing approach to compliance with judicial decisions (e) above.