

Fishery Improvement Plan SSO4 Oreo Trawl Fishery

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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, three key oreo fisheries are in formal Fishery Improvement Plans (FIP). These are: Black Oreo Trawl Fishery (BOE 3A), Smooth Oreo Trawl Fishery (SSO3A), and Smooth Oreo Trawl Fishery (SSO4).

This FIP for SSO4 was provided to MSC Stakeholders for their consideration during June and July 2015. DWG has developed this FIP using tools and templates provided by the 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 monitor fisheries improvement, to track progress, and to assess fisheries performance against the MSC Fisheries Standard.

The following sections provide further detail on the SSO4 FIP including a Gap Analysis and Remedial Action Plan.

SSO4 is currently progressing through Stage 2 Phase 2 FIP (see Figure 1 and 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.

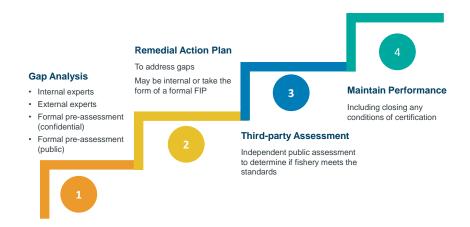


Figure 1 Deepwater Group's Fisheries Certification Programme stages



Table 1 Timelines and milestones for the Fisheries Certification Programme for SSO4

Fisheries Certification Stage	Deliverables and Outcomes	Action Lead	Timelines for Milestone	Progress
Gap Analysis	Phase 1 – MSC Confidential Pre-assessments: In September 2009 a Conformity Assessment Body (CAB) undertook a high level confidential pre-assessment of SSO4 against the MSC Fisheries Standard. The performance of this fishery was reviewed against the MSC Fisheries Standard by DWG and MPI in October 2014 and in April 2015.	DWG & MPI	Sept 2009 Oct 2014 April 2015	Completed
	Phase 2 – Fishery Gap Analysis: Assessed SSO4 against MSC Fisheries Standard to identify potential non-conformities and information gaps.	DWG & MPI	Oct 2014- Apr 2015	Completed
	Phase 3 – Fishery Evaluations: Completed on the 'Fishsource' template. Provided 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	Nov 2014- May 2015	Completed
Remedial Action Plan	Phase 1 – Fishery Improvement Analysis: Identified reasons why the CAB pre-assessment identified certain Performance Indicators as unlikely to meet the MSC Fisheries Standard. Identified remedial management actions. Consulted with MSC Stakeholders.	DWG & MPI	Apr 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	Apr 2015- Nov 2019	Remedial Actions In Progress
Third Party Assessment	Phase 1 – MSC Assessment: Formal assessment of the SSO4 fishery against the MSC Fisheries Standard.	CAB, DWG &	Dec 2019	
3	Phase 2 – MSC Certification: Achieved certification of the SSO4 fishery against the MSC Fisheries Standard.	DWG & MPI	Dec 2020	



Gap Analysis



The first three phases have been completed:

- Phase 1 MSC Confidential Pre-assessments
- Phase 2 Fishery Gap Analysis
- Phase 3 Fishery Evaluations.

This version of the FIP addresses the outcomes of the pre-assessment and the review of these in 2014 and 2015.

Phase 3: MSC Confidential Pre-assessment

In September 2009, Moody Marine Ltd (now Intertek Fisheries Certification Ltd) undertook a confidential pre-assessment of the SSO4 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.



Table 2 SSO4 pre-assessment results

MSC Component	MSC Performance Indicator		M	SC Performance In	dicator		Outcome	
	1.1.1	Stock Status	: Stock at a level wh	ch maintains high pr	oductivity			
Outcome	1.1.2	Reference Po	oints: Appropriate lin	nits and reference po	ints for the stock			
	1.1.3	Stock Rebuil	ding: Where stock d	epleted - there is evi	dence of rebuilding			
	1.2.1	Harvest Strat	egy: Precautionary	and robust harvest st	rategy in place			
	1.2.2	Harvest Cont	rol Rules & Tools:	Well defined harvest	control rules in place			
Management	1.2.3	Information 8	& Monitoring: Relev	ant Information colle	cted to support harvest strate	ду		
	1.2.4	Assessment	of Stock Status: As	sessment of stock st	atus is adequate			
	P1 ALL	Sustainability	y of Exploited Stoc					
	2.1.1	Retained Spe	ecies Outcome: Doe	s not cause serious	or irreversible harm to retaine	d species		
Retained Species	2.1.2	Retained Spe	ecies Management:	Strategy in place for	managing retained species			
	2.1.3	Retained Spe	ecies Information: F	Relevant information	o help manage retained spec	ies		
	2.2.1	Bycatch Spe	cies Outcome: Doe	s not cause serious o	r irreversible harm to bycatch	species		
Bycatch species	2.2.2	Bycatch Spe	cies Management:	Strategy in place for	managing bycatch species			
	2.2.3	Bycatch Spe	cies Information: R	elevant information to	help manage bycatch specie	es		
	2.3.1	ETP Species	Outcome: Meets na	tional and internation	nal requirements for ETP prot	ection		
ETP species	2.3.2	ETP Species Management: Precautionary management strategies in place						
	2.3.3	ETP Species	Information: Releva	ant information to sup	pport management of impacts			
	2.4.1	Habitats Out	come: Does not cau	se serious or irrevers	ible harm to habitat structure			
Habitats	2.4.2	Habitats Man	agement: Information	on is adequate to det	ermine risk to habitat types			
	2.4.3	Habitats Info	rmation: Information	adequate to determ	ine risk to habitats			
	2.5.1	Ecosystem C	outcome: Does not o	ause serious or irrev	ersible harm to ecosystem			
Ecosystem	2.5.2	Ecosystem N	lanagement: Measu	res are in place to m	itigate risk to ecosystem			
	2.5.3	Ecosystem Ir	nformation: Adequa	te knowledge of impa	acts of fishery on the ecosyste	em		
	P2 ALL	Maintenance	of Ecosystem					
	3.1.1	Legal/Custon	nary Framework: M	anagement system e	xists with legal/customary fra	mework		
Governance and	3.1.2	Consultation	, Roles & Responsi	bilities: Managemer	nt system has clear processes	6		
Policy	3.1.3	Long Term O	bjectives: Manager	nent 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						
T:-b:6:-	3.2.2	Decision Making Processes: Management system includes effective decision making						
Fishery specific management	3.2.3	Compliance	Compliance & Enforcement: Monitoring, control and surveillance mechanisms in place					
system	3.2.4	Research Pla	n: Research plan th	at addresses manag	ement needs are in place			
	3.2.5	Management	Performance Evalu	uation: Performance	Evaluation processes in place	e		
	P3 ALL	Effective Mar	nagement System					
Key: Indicative As	sessment Scores	>80 (Pass)	60-80 (Condition)	<60 (Fail)	Indicative Aggregate Scores	Pass	Fail	



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 SSO4 has been considered against the MSC Fisheries Standard to identify non-conformities and information gaps against the MSC Performance Indicators (SG80 and SG60) (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 presents management actions to remedy identified gaps in Phase 1 of the Remedial Action Plan.

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

Ta	able 3 Remedial management actions										
	<u> </u>		Links to Relevant MSC Performance Indicators								
					P1 Targ	et stocks			P2 Ecosystem components		
			1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.2 1.2.3		2.3.1	
	ACTIONS	ACTION LEAD & PARTNERS	Charle states	Reference	Stock	Harvest		Information and	Bycatch	ETP species	
1.	Stock assessment	PARINERS	Stock status	points	rebuilding	Strategy	rules and tools	monitoring	species status	status	
1.	1 Review biomass survey methodologies, undertake improved SSO4 biomass surveys.	DWG & MPI									
1.	2 Validate ageing information and age estimation method for SSO4.	DWG & MPI									
1.	3 Develop and update stock assessment methodology appropriate for SSO4 stock and fishery.	DWG & MPI									
1.	4 Acceptance of SSO4 stock assessment methodology by MPI.	DWG & MPI									
1.	Conduct a Management Strategy Evaluation to define appropriate harvest strategy and 5 harvest control rules. Review the SSO4 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 Review the need for, and implement if deemed necessary, a rebuilding plan.	DWG & MPI									
2.	Habitats and ecosystems										
2.	Undertake analysis to provide metrics of main/minor bycatch species in SSO4 and in the EEZ.	DWG & MPI									
2.	Articulate and formalise management strategy for main/minor bycatch species in SSO4 and in the EEZ.	DWG & MPI									
2.	3 Quantitatively determine distributions of ETP corals within the SSO4 fishery and the New Zealand EEZ.	DWG & MPI									
2.	4 Assess nature and extent of impact by the SSO4 fishery on ETP corals.	DWG & MPI									
2.	Document the management strategy to provide information and outline management measures ensure the fishery does not hinder recovery and minimises mortality of ETP coral species.	DWG & MPI									

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



Table 4 Timelines for each of the remedial management actions

		Progress (see key below)																					
		20	2015 2016		2015 2016		5 2016		2016		2016		2016		2016		2017		2018 2019		19	202	20
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2										
MS	C Principle 1: Stock Status																						
1.1	Review biomass survey methodologies, undertake improved SSO4 biomass surveys.																						
1.2	Validate ageing information and age estimation method for SSO4.																						
1.3	Develop and update stock assessment methodology appropriate for SSO4 stock and fishery.																						
1.4	Acceptance of SSO4 stock assessment methodology by MPI.																						
1.5	Conduct a Management Strategy Evaluation to define appropriate harvest strategy and harvest control rules. Review the SSO4 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	Review the need for, and implement if deemed necessary, a rebuilding plan.																						
MS	C Principle 2: Ecosystem Management																						
2.1	Undertake analysis to provide metrics of main/minor bycatch species in SSO4 and in the EEZ.																						
2.2	Articulate and formalise management strategy for main/minor bycatch species in SSO4 and in the EEZ.																						
2.3	Quantitatively determine distributions of ETP corals within the SSO4 fishery and the New Zealand EEZ.																						
2.4	Assess nature and extent of impact by the SSO4 fishery on ETP corals.																						
2.5	Document the management strategy to provide information and outline management measures ensure the fishery does not hinder recovery and minimises mortality of ETP coral species.																						

In-progress					
Completed					
Expected completion date					



Third-party Assessment



MSC Assessment

Stage 3 of the SSO4 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 SSO4 fishery will be ready for full MSC Assessment in December 2019.

MSC Certification

Certification of SSO4 against the MSC Fisheries 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 SSO4 will complete the full MSC Assessment process by December 2020.



Appendix 1

SSO4 Fishery Improvement Analysis (Actions are referenced to Tables 3 and 4)

PI 1.1.1 – The stoo	PI 1.1.1 – The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing						
MSC SG80 Certification Requirements	a) It is highly likely that the stock is above the point where recruitment would be impairedb) The stock is at or fluctuating around its target reference point.						
Gap Analysis Findings	 The Sap Analysis found that: The stock is estimated to be below the current management target of 40% B₀ An updated stock assessment for SSO4 was finalised in July 2014. The assessment estimates SSO4 stock status to be 27% B₀. The assessment indicates that, under the current catch, biomass is declining toward the Soft Limit (20% B₀). 						
Responses	 Develop and implement a Management Strategy Evaluation to better determine the management targets Develop and implement a rebuilding plan for SSO4 Demonstrate through an accepted stock assessment that the stock status is highly likely to be above the point at which recruitment would be impaired. 	Action	s 1.1 & 1.3 – 1.4				
PI 1.1.2 – Limit and	d target reference points are appropriate for the stock						
MSC SG80 Certification Requirements	tion b) The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive						
Gap Analysis Findings							
Responses	Undertake a Management Strategy Evaluation to establish and test Management Pro- and harvest control rules that meet the requirements of PI 1.1.2.	cedures	Action 1.2 & 1.5 - 1.6				

PI 1.1.3 – Where the stock is depleted, there is evidence of stock rebuilding within a specified timeframe



MSC SG80 Certification Requirements	 a) A rebuilding timeframe is specified for the depleted stock that is the shorter of 20 years or 2 time time. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years). b) There is evidence that the rebuilding strategies are rebuilding stocks or it is highly likely, based of modelling or previous performance, that they will be able to rebuild the stock within the specified. 	rs. on simulation				
Gap Analysis Findings	The Gap Analysis found that: The current biomass is below the management target and needs rebuilding The 2014 stock assessment estimates biomass will continue to decline under current catch levels.					
Responses	 Develop and implement a rebuilding plan for the SSO4 fishery Test the robustness of the rebuilding plan using the Management Strategy Evaluation based on the stock assessment model. 	Action 1.1 – 1.2 & 1.5 – 1.7				
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	The Gap Analysis found that: The lack of analyses to demonstrate that the harvest strategy (HS) is "responsive to the state of the stock" or to demonstrate that the HS elements successfully "work together towards achieving management objectives reflected in the target and limit reference points." The lack of analyses to demonstrate the efficacy of the HS in achieving its objectives					
Responses	· · · · · · · · · · · · · · · · · · ·					

PI 1.2.2 – There are	well defined and effective harvest control rules in place
MSC SG80	(a) Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the
Certification	exploitation rate is reduced as limit reference points are approached



(b) The selection of the harvest control rules takes into account the main uncertainties (c) Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. The Gap Analysis Findings The Gap Analysis found that: Generally understood harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached The harvest control rule, as it implemented for New Zealand fish stocks and for oreos in particular, is consistent with the aims of the Harvest Strategy Standard, although it is not fully specified at present. The harvest control rule applied to oreos is less well-specified than that for orange roughy. There is a lack of documentation of the main uncertainties for the SSO4 fishery and the selection of the harvest control rules to address those uncertainties. There is a lack of evidence indicating that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. Responses Undertake a Management Strategy Evaluation to establish and test Management Procedures and harvest control rules that meet the requirements of PI 1.2.2. Actions 1.2 & 1.5- PI 1.2.3 – Information and Monitoring (a) Sufficient relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest control rule. (b) Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule. (c) There is good information on all other fishery removals from the stock. Gap Analysis The Gap Analysis found that: The fishery lacks information related to stock structure, including validating ageing information and age estimation methodology. Responses Formalise stock structure information for SSO4 (including information on natural mortality, growth and ageing) Validate a						
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The fishery lacks information related to stock structure, including validating ageing information and age estimation methodology. Responses Formalise stock structure information for SSO4 (including information on natural mortality, growth and ageing) Action 1.2	Gap Analysis	The Gap Analysis found that:				
growth and ageing) Action 1.2	Findings					
Validate age estimation method for smooth oreo.	Responses	· · · · · · · · · · · · · · · · · · ·	Action 1.2			
		Validate age estimation method for smooth oreo.				



PI 2.2.1 – The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups.

hinder recovery of	depleted bycatch species or species groups					
MSC SG80 Certification Requirements	 a) Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue (b) below) b) If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding. 					
Gap Analysis Findings	 The Gap Analysis found that: There was a lack of information to score the stock status of key bycatch species There was a lack of information to determine whether or not a species comprises 5-20% or more of the total catch of that species. 					
Responses	 Provide information to demonstrate (semi-quantitatively) that bycatch species are highly likely (70%) to be within biologically based limits or there is evidence that the fishery does not hinder recovery and rebuilding (B_{LIM}) Identify vulnerable species and document impacts of this fishery on those species Where possible document bycatch that are recorded under generic codes as species Provide information (semi-quantitatively) to support findings and to demonstrate the nature and extent of the impacts of the smooth oreo fishery on bycatch stocks. 	Actions 2.1 & 2.2				



	ery meets national and international requirements for protection of ETP species. The fisher rirreversible harm to ETP species and does not hinder recovery of ETP species.	ry does not pose
MSC SG80 Certification	(a) The effects of the fishery are known and are highly likely to be within limits of national and requirements for protection of ETP species	d international
Requirements	(b) Direct effects are highly unlikely to create unacceptable impacts to ETP species	
	(c) Indirect effects have been considered and are thought to be unlikely to create unacceptal	ole impacts.
	The Gap Analysis found that:	
	There was a lack of robust distributional information of several cold water coral species (the OEO Fishery) outside fished areas	at overlap with the
Gap Analysis Findings	There was a lack of information describing the level of impacts with fisheries of protected c identification, quantities taken and distribution	orals, species
	There was a lack of any rationale to quantitatively determine if any impacts are such that the serious or irreversible harm to ETP coral species.	ney pose a risk of
	Document national (and relevant international) requirements for the protection of corals, demonstrating that direct effects (considering also indirect effects) are highly unlikely to create unacceptable impacts (impacts that hinder recovery or rebuilding) to ETP coral species	
Responses	 Undertake a desktop analysis of the nature and extent of information used in modelling coral density distributions, including (where possible) the distribution of corals within fished areas, outside fished areas, and within protected areas (BPAs and Seamount Closures) 	Actions 2.3 - 2.5
Responses	Undertake a desktop analysis of the distribution of coral genera/species in the New Zealand EEZ and within the SSO4 fishery, coral taken within the SSO4 fishery and determine (where possible) which genera/species are affected most by the SSO4 fishery.	ACIONS 2.3 - 2.3
	 Undertake a semi-quantitative analysis to demonstrate the nature and extent of the interactions with corals in areas that are fished (taking into account recovery and closed areas). Determine if effects of the fishery are: highly likely to be within limits of national (and international) requirements for protection of ETP coral species; highly unlikely to create unacceptable impacts to ETP coral species; and, consider indirect effects. 	