



**Surveillance Report
New Zealand Hoki Fishery**

Certificate No.: **MML-F-030**

Moody Marine Ltd.
October 2008 v2

Author(s): A Punt, G Tingley, J Akroyd, A Hough

Moody Marine Ltd.
Merlin House
Stanier Way
Wyvern Business Park
Derby. DE 21 6BF
UK
Tel: +44 (0) 870 7529002
Fax: +44 (0) 1332 675020

1.0 GENERAL INFORMATION

Scope against which the surveillance is undertaken: MSC Principles and Criteria for Sustainable Fishing as applied to the New Zealand Hoki Fishery

Species: Hoki *Macrurnous novazelandie*

Area: New Zealand EEZ

Method of capture: Trawl fishery

Date of Surveillance Visit:	22-26 September 2008			
Initial Certification	Date: 1 Nov 2007		Certificate Ref: MM-F-030	
Surveillance stage	1st	2nd	3rd	4th
Surveillance team:	Lead Assessor: Andrew Hough Assessor(s): A Punt, G Tingley, J Akroyd			
Company Name: Address:	Deepwater Group Ltd Nelson Office: 98 Vickerman Street PO Box 1460 Nelson New Zealand			
Contact 1	George Clement, CEO			
Tel No:	+64 3 545 7020			
Fax No:	+64 3 545 7021			
E-mail address:	clement@fishinfo.co.nz			

2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

2.1 Introduction

This report contains the findings of the first surveillance cycle in relation to this fishery. Accordingly, most findings relate to compliance with the Conditions of Certification set out in the certification report. As Conditions are closed out (i.e. actions are completed), the assessment focus will concentrate on the overall ongoing operation of the fishery in relation to the MSC Principles and Criteria.

Information has been collected principally from reports provided by the client and directly from Ministry of Fisheries (MFish) Deep Water, Science and Compliance Teams. Consultations have also been undertaken with Royal Forest and Bird, WWF NZ, NIWA and SeaFIC.

For each Condition, the report sets out the following. Firstly, the original assessment scoring guideposts, scoring commentary and the requirements of the original Condition ('Activity assessed') are provided. These identify the areas in which the fishery was determined to perform below the level required by the MSC standard during the 2007 re-certification assessment, and the required actions to address these issues. As required by the MSC assessment methodology, DWG produced an Action Plan setting out the stages involved in addressing the Conditions raised ('DWG Action'). This Action Plan was deemed to be adequate by the original main assessment team. According to the terms of the Action Plan, the client has provided information on the work undertaken to date (the 'DWG Progress Report') and further information was provided during the audit. This progress report and associated information has now been evaluated by the Moody Marine assessment team ('Observations' and 'Conclusion') against a) the commitments made in the Action Plan, b) the intent of the original Condition and c) the original scoring indicator, guideposts and commentary. The influence of any overall legislative and management changes in the fishery are also taken into consideration.

It is also noteworthy that the MSC has issued a Directive to Certification Bodies on the content of Conditions of Certification. Significant features of the directive are that Conditions should be targeted towards achievement of measurable outcomes, where appropriate, in terms of information, management processes and/or eventual outcomes and should have clear timelines. Where possible, therefore, the phrasing of Conditions is considered here in relation to this directive. The directive also makes clear that Conditions cannot be used to direct a client, in detail, as to *how* a Condition is to be met, only as to what is the required outcome. Where guidance is provided in the original text of Conditions of Certification, this should be interpreted, therefore, as a recommendation on how to proceed in meeting Conditions, not a requirement.

The fishery was originally certified in March, 2001 by SGS and was then subject to a full sequence of surveillance audits. Prior to expiry of the original certificate, the fishery was re-assessed by SGS. The re-assessment of the fishery gave rise to an objection which was eventually resolved through the MSC's Objection Procedure. As the objection procedure took some time to resolve, an extraordinary surveillance audit took place in August 2007. The fishery was re-assessed and re-certified in November 2007, again by SGS.

The Client (at that time the Deepwater Stakeholder Group; DSG) produced an Action Plan for meeting Conditions of Certification (or CARs) that was accepted by the SGS assessment team.

Following re-certification, the client, Deepwater Group Ltd, then decided to transfer the contract for surveillance audits to Moody Marine Ltd. In accordance with MSC Tab Directive 12, the SGS certificate was replaced by a Moody Marine certificate at the agreed transfer date (12 September 2008).

During the period of the re-certification, there were also significant changes in both the client for the MSC assessment (with Deepwater Group Ltd replacing the previous entity, DSG) and within the Ministry of Fisheries (MFish established their Deepwater Team). The extent and implications of these changes is summarised in Section 17 below.

One significant result of these management changes was that Deepwater Group Ltd (DWG) and MFish produced, and later amended, a Memorandum of Agreement to facilitate co-management of the deepwater (or EEZ) fisheries, including hoki. This modified approach allowed DWG to update their Action Plan to address the Conditions of Certification. For completeness, this is reproduced here:

“Since the 2005-06 MSC re-assessment of the hoki fisheries, the Deepwater Group Limited (DWG) has changed its strategic focus and mode of operation and formed a partnership with the Ministry of Fisheries (MFish) to enable a collaborative approach in the management of New Zealand’s EEZ fisheries, including the hoki fisheries. The hoki fisheries were recertified by SGS under the MSC programme on 1 November 2007, the certificate being issued to DWG on behalf of HOKI quota owners. DWG and MFish have agreed to jointly manage the hoki fisheries, primarily through the development and implementation of a Hoki Fisheries Plan, pursuant to s11A of the Fisheries Act 1996. The management measures within this Fisheries Plan will encompass the requirements of “well managed” fisheries under the MSC programme and deliver improved management outcomes. These improved outcomes will meet the requirements of the Conditions of Certification, which SGS referred to as Corrective Action Requests (or CARs), raised during the MSC re-certification. Conditions are raised against areas of non-conformance, for those performance Indicators (PIs) where the fishery scored between 60 and 80, with agreed actions and timelines that, on implementation, will raise the performance of the fishery above the 80 “pass mark”. The purpose of this document is to summarise each of these twelve Conditions; the findings of the SGS assessment team against each of those Performance Indicators that scored below 80; the desired outcome against each PI; and the objectives, actions and milestones accepted by DWG. Comments are provided for some Conditions, summarising progress to date.”

Both the original (DSG) and updated (DWG) text in relation to the Action Plan is considered here. Critical, however, is the satisfactory achievement of each Condition of Certification and compliance of the fishery with the requirements of the MSC standard.

Specific Issues

Item	Comments
0.1	Update on Stock Status
Observations	<p>The hoki TACC for the 2007-08 fishing season was set at 90,000t, down from 100,000t which was set for the 2004-05 to 2006-07 fishing seasons. This TACC is the lowest since TACCs were first set for the 1986-97 fishing season. It is aimed that the catch from the western fishing grounds during 2007-08 will be 25,000t (~28% of the 90,000t TACC). The 2006-07 catch exceeded the TACC by approximately 1,000t and unlike 2005-06 when 45% of the catch was taken from the west stock, the catch from the west stock in 2006-07 equalled the desired proportion of 40%. A major reason for this was a reduction in catch from the West Coast South Island (WCSI) fishery from 38,500t to 32,500t.</p> <p>The 2008 assessment was again based on the stock assessment package CASAL and involved a two stock population dynamics model fitted using Bayesian methods. The new data included in the assessment were a Cook Strait acoustic survey, two trawl surveys (Chatham Rise and sub-Antarctic), and survey and fishery proportion-at-age data. The assessment also used a modified value for the parameter which determines the extent of compensation in the stock-recruitment relationship (0.75 rather than 0.9), and revised information on the proportion spawning based on surveys in the sub-Antarctic.</p> <p>As in past years, the assessment considered several alternative model specifications which led to two final accepted model runs (2.3 and 2.4). Previous assessments considered a model specification in which there is no natal fidelity, but this model was dropped for the 2008 assessment owing to difficulties defining virgin biomass uniquely. Stock status is more optimistic based on the 2008 assessment (Table 1) and suggests that the east stock remains at or above the range conventionally assumed for B_{MSY} in New Zealand (30-40% of B_0) and will remain at current levels under current catches. The point estimates of the size of the west stock from the two agreed model runs (28% and 30% of B_0) are close to the lower limit of the range for B_{MSY}. Projections suggest that the biomass of this stock is likely to increase under current catches. Recruitment for the west stock from 2002 is estimated to be higher than that during 1995-2001, at or below the average over the entire period considered in the assessment.</p> <p>A key uncertainty in the 2008 assessment was the catchability for the 2008 (actually December 2007) trawl survey in the sub-Antarctic. Catchability in this survey does appear to have been higher in 2008 than in 2007, and ignoring the results from this survey has a large impact on assessment outcomes (the current spawning biomass of the west stock is estimated to be 4 percentage points lower when the results of the 2008 survey are omitted). However, the assessment indicates an increase in the size of the west stock irrespective of whether the 2008 survey data are included in the assessment. A second uncertainty is that spawning biomass has been expressed as total spawning biomass in New Zealand assessments; expressing spawning biomass based on females only leads to a more pessimistic appraisal of stock status. The impact of the catchability in the 2008 sub-Antarctic survey will be better understood when the results from the next survey becomes available.</p> <p>The implications of changes in stock status, and management response to current stock status are discussed below.</p>

Item	Comments
0.2	CAR0701:
Activity assessed	<p>Under the previous certification of this fishery (by SGS), an extraordinary Surveillance Audit was carried out in August 2007.</p> <p>As a result of this additional audit, a supplementary Condition (or CAR) was raised because the west stock of hoki was assessed to be depleted and did not have a rebuilding program. Therefore, based on Performance Indicator 1E (2001 certificate) and MSC Criterion 1.2 (the 2001 assessment tree did not include Performance Indicators for Criterion 1.2 because neither the west nor east stocks were considered depleted at the time of certification), the hoki fishery was found to be out of compliance with the MSC standard, and corrective action was required. CAR07/01 is:</p> <p><i>The fishery needs to develop a rebuilding plan for the western stock of hoki, including a rebuilding target, a desired rate of rebuilding and a desired time to recovery. Evidence of satisfactory progress in this regard could be the funding and initiation of a Management Strategy Evaluation exercise for hoki that has commenced by March 2008.</i></p>
SGS Comments on CAR07	<p>The assessment team evaluated information provided to it by the certificate holder (Deepwater Group Ltd.) outlining the development of a rebuilding plan for the hoki fishery, in particular the western stock of hoki, and the status of the hoki stocks as assessed in 2008. NIWA have conducted analyses to assess the rate at which the hoki population is expected to rebuild under a no-catch scenario and a scenario in which catches are equal to the current TAC (and the agreed split of that TAC between the west and east). Stock status in the middle of 2007-08 is assessed to be close to the lower bound of the range assumed for B_{MSY} (30-40% of B_0) [38% for run 2.3 and 52% for run 2.4] and projections based on the current assessment (documents 1 and 4) suggest continued increase in population size under the current TAC and east-west split even if future recruitment is assumed to be like that during 1995-2006. The proposed hoki rebuilding plan (document 5) includes a desired rate of rebuilding which is tied to that attainable under zero harvest, a target reference point of 30-40% of B_0, and a commitment to monitor progress against the rebuilding objectives.</p> <p>The assessment team is satisfied that work undertaken provides the basis for a rebuilding plan for the hoki stock. Thus, CAR 07/01 is now closed. Future performance audits will continue to monitor stock status and the extent to which the proposed rebuilding plan is adopted and implemented.</p> <p>Objective Evidence Sighted</p> <ol style="list-style-type: none"> 1. Hoki, Fishery Assessment Plenary Report for 2008. 2. A Generalization of the 2Tmin Constraint: Memo from Chris Francis to Aoife Martin dated 16 January 2008. 3. Some Long-term Projections for Hoki: Memo from Chris Francis to Aoife Martin dated 18 January 2008. 4. More Projections for Rebuilding Plan: Memo from Chris Francis to Aoife Martin dated 8 July 2008. 5. Hoki Fishery Rebuild: Management, Strategy and Implementation: Document submitted to SGS by George Clement on 12 August 2008.
Conclusion of Moody Marine Assessment Team	<p>The SGS assessment team was satisfied that work undertaken provides the basis for a rebuilding plan for the hoki stock and hence closed CAR 07/01. This has been accepted by Moody Marine as part of the certificate transfer procedure.</p> <p>Future performance audits will continue to monitor stock status and the extent to which the proposed rebuilding plan is adopted and implemented. This matter is discussed further under Condition of certification 2.</p>

Item	Comments
1	Condition of Certification 1: Appropriate target and limit reference points
Activity assessed	<p data-bbox="492 247 1193 279">PI 1.1.4.2 Are appropriate target and limit reference points used?</p> <p data-bbox="492 300 1453 363">SG 60: Generic reference points, appropriate for the species, are reported against, and form the basis for, management advice.</p> <p data-bbox="492 384 1453 499">SG 80: The reference points are in line with current practice for well-managed fisheries and take account of what known about the biology of the species and the nature of the fishery. The values for the reference points can be estimated reliably for the species. There is limited scientific opposition to the reference points.</p> <p data-bbox="492 520 1453 730">SG 100: The reference points have been selected specifically for the species / fishery and take account of stock- specific concerns including uncertainty about stock assessments, serial depletion, ecosystem considerations, and data. The reference points meet or exceed current international practice (e.g. a limit reference point for biomass above BMSV and a limit reference point for fishing mortality below FMSV). The reference points have been developed collaboratively among all major stakeholders and there is no significant disagreement among stakeholders regarding the appropriateness of the reference points.</p> <p data-bbox="492 751 722 783">Original Evaluation:</p> <ul data-bbox="540 783 1453 1623" style="list-style-type: none"> <li data-bbox="540 783 1453 961">• The Fisheries Act 1996 requires the Minister of Fisheries to set a TAC that maintains the stock at or above a level that can produce the maximum sustainable yield (MSY), any, or which moves the stock towards BMSY (or a higher biomass). Various interpretations of <i>MSY</i> (and hence BMSY) have been developed (e.g. Constant Annual Yield, CAY; Maximum Constant Yield, MCY) and estimates of these quantities are reported for some New Zealand fish stocks. <li data-bbox="540 961 1453 993">• The legislation does not specify whether BMSY is a target, limit, or threshold. <li data-bbox="540 993 1453 1108">• Each of the MFish Working Groups, including the Middle Depths Working Group, has selected its own set of reference points. The forecast for hoki in recent years have been based on 20% and 40% of the unfished spawning stock biomass (0.2B0 and 0.4B0), the latter being treated as proxy for B. <li data-bbox="540 1108 1453 1339">• 0.2 Bo has formed a key basis for reporting the results of forecasts and, although implicitly interpreted as a level "below which one does not want to go", has not been adopted formally as a limit reference point for hoki by the Middle Depths Working Group. The fishing mortality levels used to calculate CAY and MCY are based on there being no more than a 10% probability of the spawning stock biomass dropping below 0.2 Bo. However, CAY and MCY have not been calculated for hoki since the stock assessment became based on the two-stock model as it is not straightforward to define these quantities when a fishery takes from two stocks that mix. <li data-bbox="540 1339 1453 1623">• The assessments and management advice for hoki are based on the use of reference points (e.g. 0.2 and 0.4 Bo). These reference points are typical of those used for well-managed fisheries. However, 0.2 Bo and 0.4 Bo have not been adopted formally by the Middle Depths Working Group and their status (limit / target) remains unclear. Although 0.2 and 0.4 Bo appear to be defect^o limit and target reference points (the hoki TACC was reduced substantially when the western stock was assessed to be below 0.2 Bo), the lack of clarity about their status, and the lack of formal adoption of reference points, means that the score for this Indicator is less than 80. CAR 001 addresses the need for formally-adopted target and limit reference points for the fishery. <p data-bbox="492 1644 1453 1900">The assessments and management advice for hoki are clearly based on the use of reference points (e.g. 0.2 and 0.4 Bo). These reference points are typical of those used for well-managed fisheries. However, 0.2 Bo and 0.4 Bo have not been adopted formally by the Middle Depths Working Group and their status (limit / target) remains unclear. Although 0.2 and 0.4 Bo appear to be de facto limit and target reference points (the hoki TACC was reduced substantially when the western stock was assessed to be below 0.2 Bo), the lack of clarity about their status, and the lack of formal adoption of reference points, means that the score for this Indicator is less than 80. CAR 001 addresses the need for formally-adopted target and limit reference points for the fishery.</p>

	<p>Score: 76</p> <p>Text of Condition of Certification:</p> <p><u>Performance Indicator 1.1.4.2</u> Are appropriate target and limit reference points used?</p> <p><u>Findings</u> The status of the reference points (targets and limits) used as the basis for forecasts and the provision of management advice is unclear.</p> <p><u>Corrective Action Request</u> By 9 months after certification, DWG shall determine a policy position regarding the status of target and limit reference points for the hoki fishery. Reference points related to fishing mortality and biomass should be defined. By 18 months after certification, DWG will have secured formal recognition / adoption of a standard set of hoki limit and target reference points for the reporting of assessment results and forecasts and for the purposes of assessing fishery performance by the MFish Hoki Stock Assessment Working Group. Once adopted, reference points should form the basis for subsequent assessments and the status of the stock relative to such reference points will be included in stock assessment reports. The DWG will consult on, and consider the views of, all stakeholders and acquire appropriate scientific advice in the development of the policy position regarding the status of target and limit reference points for the hoki fishery.</p>
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DWG Action	<p>Corrective Action Request</p> <ul style="list-style-type: none"> • By 9 months after certification, DWG shall determine a policy position regarding the status of target and limit reference points for the hoki fishery. Reference points related to fishing mortality and biomass should be defined. • By 18 months after certification, DWG will have secured formal recognition / adoption of a standard set of hoki limit and target reference points for the reporting of assessment results and forecasts and for the purposes of assessing fishery performance by the MFish Hoki Stock Assessment Working Group. Once adopted, reference points should form the basis for subsequent assessments and the status of the stock relative to such reference points will be included in stock assessment reports. The DWG will consult on, and consider the views of, all stakeholders and acquire appropriate scientific advice in the development of the policy position regarding the status of target and limit reference points for the hoki fishery. <p>Response</p> <p>Desired Outcome A standard set of target and limit reference points are agreed for the hoki fishery that:</p> <ul style="list-style-type: none"> • Are in line with current practice for well managed fisheries and take account of what is known about the biology of hoki and the nature of the fishery • Have values that can be reliably estimated and have limited scientific opposition (MSC performance indicator 1.1.4.2 – 80 level). <p>Specific Objectives</p> <ul style="list-style-type: none"> • To consult on and consider the views of all stakeholders and acquire appropriate scientific advice in the development of stock-related fishery objectives and appropriate target and limit reference points for guiding management of the hoki fishery. • To develop a standard set of target and limit reference points for the hoki fishery. <p>Actions & milestones</p> <ul style="list-style-type: none"> • Determine stock-related and other fishery objectives and develop appropriate target and limit reference points in consultation with stakeholders, including WWF-NZ and RF&BPS, to guide management of the hoki fishery, including as appropriate reference points relating to fishing mortality and biomass, within 9 months of certification • Work to secure formal recognition / adoption of a standard set of hoki limit and target reference points for the reporting of assessment results and forecasts (and for the purposes of assessing fishery performance by the MFish Middle Depths Fisheries Assessment Working Group) within 18 months of certification. <p>Responsibilities The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG.</p>
DWG Progress Report	<p>1. Performance Indicator 1.1.4.2 Are appropriate target and limit reference points used?</p> <p>2. Findings The status of the reference points (targets and limits) used as the basis for forecasts and the provision of management advice is unclear. Score: 76</p> <p>3. Management objective Develop and adopt an agreed set of target and limit reference points, relating to biomass and fishing mortality, for the hoki fisheries.</p> <p>4. Desired outcomes Adopt target and limit reference points selected specifically for the New Zealand hoki stocks that: take account of stock-specific concerns including uncertainty about hoki stock assessments, serial depletion, ecosystem considerations, and data; meet current international practice; and there is no significant disagreement among stakeholders regarding the appropriateness of the reference points. (PI 1.1.4.2 - 100 level).</p> <p>5. Operational tasks Determine appropriate target and reference points for the hoki fisheries on the basis of best</p>

	<p>scientific advice, in consultation with stakeholders, and in agreement with MFish that such reference points will be reported in stock assessment reports and used as a basis for managing the hoki fisheries. Include outcomes within the Fisheries Plan.</p> <p>6. Actions and milestones</p> <p>By 31 July 2008:</p> <ul style="list-style-type: none"> Determine stock-related fishery objectives and appropriate target and limit reference points, relating to biomass and fishing mortality, to guide management of the hoki fisheries in consultation with MFish, WWF-NZ and RF&BPS <p>By 30 April 2009:</p> <ul style="list-style-type: none"> Secure formal recognition/adoption of the above target and limit reference points for the reporting of assessment results and forecasts by the Ministry of Fisheries Hoki Stock Assessment Working Group <p>7. Summary to date</p> <p>Actions are on track to meet the milestones.</p> <p>An agreed set of reference points is being developed as part of the hoki fisheries plan. Initial discussions have taken place with stakeholders in August and with interested parties in August/September 2008. DWG and MFish expect that an agreed set of reference points will be in place before the target date of 30 April 2009, and that the first assessment of the performance of the hoki fishery against these reference points will also be made before 30 April 2009.</p>
Observations	<p>The draft hoki fisheries plan includes a management objective to assess the annual performance of the hoki fishery against a set of biological reference points. The plan refers to establishing target, threshold and limit reference points and to include a monitoring and reporting regime in the stock assessment process to enable managers to assess how the fishery is performing relative to these reference points.</p> <p>A meeting with participation from MFish, SeaFIC, NIWA, DWG and quota holders was held on 6 August 2008 to discuss reference points. This meeting discussed target, threshold, soft limit and hard limit reference points. It was agreed that target reference points should be MSY-related reference points (B_{MSY} and F_{MSY}) or better, and some possible operational definitions for these reference points were outlined.</p>
Conclusion	<p>The Condition of certification required a policy position regarding reference points nine months after certification (31 July 2008). Aspects of this policy position have been developed, but the position is not yet available. This Condition of certification remains open pending adoption of specific operational values for reference points following consultation with the view of all stakeholders.</p> <p>The Condition is therefore behind target, but clear actions are underway to complete the requirements of the Condition within the overall timescale.</p>

Item	Comments
2	Condition of Certification 2: Stock rebuilding strategy
Activity assessed	<p data-bbox="492 264 1453 321">PI 1.2.1.1 Are measures in place to rebuild a stock if it is found to be below a target or limit reference point?</p> <p data-bbox="492 344 1453 401">SG 60: Measures to reduce exploitation rates are in place, and the stock is being monitored to determine the extent to which management actions are achieving the goal of rebuilding.</p> <p data-bbox="492 424 1453 510">SG 80: Management measures based on an explicit rebuilding strategy designed to have a high probability of recovery to the reference point are in place. The delay in recovery to the reference point caused by the fishery is expected to be no longer than one generation.</p> <p data-bbox="492 533 1453 674">SG 100: Rebuilding measures are in place based on agreed decision rules that have been evaluated and found to have a very high probability of rebuilding. The delay in recovery to the reference point caused by fishery is expected to be less than one generation. A review of previous decision rules is being undertaken to determine how future recurrences of depletion can be reduced.</p> <p data-bbox="492 697 716 728">Original Evaluation:</p> <p data-bbox="492 751 1453 808">Only the western stock is considered to be depleted at present, so the considerations for this Indicator are restricted to the western stock.</p> <ul data-bbox="540 810 1453 1182" style="list-style-type: none"> • Measures have been imposed to reduce fishing mortality on the western stock (a lower TACC and a shift in catch towards the eastern stock) based on the results of forecasts during the 2004 assessment. • There is no formal rebuilding plan for the western stock. No analyses are included in the 2004 and 2005 Plenary reports that indicate the probability of recovery to B_{MSY} (or its proxy) and the expected time to recover to $/3msy$ under the current TACC for the western stock. This is due, to some extent, to the desire not to make forecasts beyond about 5 years. • The status of the stock is monitored using trawl surveys and the results synthesized through the stock assessment process. • The rate of rebuilding depends on the strength of future recruitment. In the 2005 assessment, recruitment was estimated to be close to the long-term average, but this remains uncertain. <p data-bbox="492 1205 1453 1440">The score for this Indicator is at least 60 because the exploitation rate for the western stock has been reduced and the status of this stock will continue to be monitored through surveys and assessments. However, the score for the Indicator is not 80 because there is no explicit rebuilding strategy and the rate and probability of recovery to $/3msy$ are therefore unknown. CAR002 provides a mechanism to rectify this problem by having the DSG facilitate the adoption of a rebuilding plan for the western stock that is adaptive and which can also be used to monitor progress towards rebuilding while the western stock remains below the target.</p> <p data-bbox="492 1463 591 1495">Score: 73</p> <p data-bbox="492 1518 1068 1549">PI 1.1.5.1 Are the stocks at or above reference points?</p> <p data-bbox="492 1572 1453 1659">SG60: The stocks are likely above their limit reference points or a rebuilding program is in place so that recovery to above the limit reference points will likely not be delayed by more than one generation.</p> <p data-bbox="492 1682 1453 1747">SG 80: The stocks are being maintained above their limit reference points and are likely currently, and in the future, to be around their target reference points.</p> <p data-bbox="492 1770 1453 1835">SG 100: There is a very high probability that all stocks are above their target reference points, and are likely currently, and in the future, to be around their target reference points.</p> <p data-bbox="492 1858 716 1890">Original Evaluation:</p>

	<p><u>The Eastern stock</u></p> <p>The spawning stock biomass of the eastern stock was estimated in 2005 to lie between 35-42% of its unfished level (95% probability intervals 28-42% and 29-56%). Although the biomass of the eastern stock has been declining, it is currently close to the proxy for F_{msy} of $0.48B_0$ and forecasts based on a TACC of 100,000t split 60:40 east: west suggest that it likely to remain so unless future recruitment is poor.</p> <p><u>The Western stock</u></p> <ul style="list-style-type: none"> • The western stock was estimated in 2004 to be 13-22% of its unfished level. This stock is therefore likely below $0.2 B_0$, the de facto limit reference point for the stock. The TACC was reduced from 180,000t in 2003-04 to 100,000t in 2004-05. Projections based on a TACC of 100,000t split 60:40 east-west indicate that the western stock is likely to rebuild over the next few years unless recruitment is poor. • Although a rebuilding program is in place for the western stock, it is not expressed formally. <p>The score for this Indicator is below 80 because, although the eastern stock satisfies the 80 guidepost, this is not the case for the western stock. This re-assessment considers the western stock to be depleted and hence evaluates the rebuilding plan for the western stock under MSC Criterion 2. CAR002 addresses the need for rebuilding of the western stock. The projections suggest that rebuilding to above 20% B_0 is not likely to be delayed by more than one generation (approximately 8 years) unless recruitment is poor and one of the configurations of model ("model 4.3") is correct, so the 60 guidepost is satisfied for the western stock.</p> <p>Score: 67</p> <p>Text of Condition of Certification:</p> <p>Performance Indicator 1.2.1; and PI 1.1.5.1 Are measures in place to rebuild a stock if it is found to be below a target or limit reference point?</p> <p>Findings</p> <p>There is no rebuilding strategy that estimates the probability of recovery to above the limit reference point and to the target reference point to provide the basis for an adaptive harvest strategy to allow recovery of the western stock to occur.</p> <p>Corrective Action Request</p> <ul style="list-style-type: none"> • By 12 months after certification, DSG shall determine a policy position regarding the desired rate at which a depleted stock of hoki is to be recovered. This could be expressed in the form of the delay in recovery to the target reference point compared to a no-fishing scenario to account for biological uncertainty regarding, for example, future recruitment. The minimum required rate of recovery will, however, be such that there is at least a 50% probability of recovery to the target level by the end of the certification period. • By 18 months after certification, DSG will have secured adoption of a rebuilding plan for the depleted western stock and which will be used to summarize progress towards rebuilding while it remains below the target level. This plan could be an appendix to the Middle Depths Working Group report and shall include: <ul style="list-style-type: none"> • estimates of the expected time to recover to the limit and target reference points for biomass for the scenarios considered to encompass a plausible, yet biologically precautionary, range by the Middle Depths Working Group; • current and expected future exploitation rates (across all fisheries for hoki) relative to (a proxy for) F_{msy} as well as to the reference points related to fishing mortality; and • estimates of the probability that recovery to the target and limit reference points for biomass will occur by various years and the extent to which recovery is delayed because of fishing.
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	<ul style="list-style-type: none">• In May each year commencing 2008, DSG will ensure that the rebuilding plan is updated annually to monitor progress towards rebuilding and particularly if the rate of recovery is lagging behind / ahead of the expected rate based on projections conducted in 2004 (which led to the reduction in the TAC from 2004-05). The annual update shall document: how management measures (e.g. the TACC and how it is split between the east and west) have been modified during the rebuild period to ensure that progress towards rebuilding remains adequate given the desired rate of recovery; and reasons why the rate at which the stock is expected to recover has changed compared to that expected from the 2004 assessment.• By March 2010, DSG shall conduct a policy analysis of alternative decision rules for the hoki fishery that are designed to avoid the stock(s) being below the limit and target reference points (with appropriate levels of probability negotiated among stakeholders) with the aim that such decision rules could become an agreed formalism for providing management advice. The decision rules should ensure that removals are reduced if the stock is approaching the limit reference point.• The DSG will consult on, and consider the views of, all stakeholders and acquire appropriate scientific advice in the development of a policy position regarding the desired rate at which a depleted stock of hoki is to be recovered.
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DWG Action	<p>Corrective Action Request</p> <p>By 12 months after certification, DSG shall determine a policy position regarding the desired rate at which a depleted stock of hoki is to be recovered. This could be expressed in the form of the delay in recovery to the target reference point compared to a no-fishing scenario to account for biological uncertainty regarding, for example, future recruitment. The minimum required rate of recovery will, however, be such that there is at least a 50% probability of recovery to the target level by the end of the certification period.</p> <p>By 18 months after certification, DSG will have secured adoption of a rebuilding plan for the depleted western stock and which will be used to summarize progress towards rebuilding while it remains below the target level. This plan could be an appendix to the Middle Depths Working Group report and shall include:</p> <ul style="list-style-type: none"> • estimates of the expected time to recover to the limit and target reference points for biomass for the scenarios considered to encompass a plausible, yet biologically precautionary, range by the Middle Depths Working Group; • current and expected future exploitation rates (across all fisheries for hoki) relative to (a proxy for) F_{msy} as well as to the reference points related to fishing mortality; and • estimates of the probability that recovery to the target and limit reference points for biomass will occur by various years and the extent to which recovery is delayed because of fishing. <p>In May each year commencing 2008, DSG will ensure that the rebuilding plan is updated annually to monitor progress towards rebuilding and particularly if the rate of recovery is lagging behind / ahead of the expected rate based on projections conducted in 2004 (which led to the reduction in the TAC from 200405). The annual update shall document:</p> <ul style="list-style-type: none"> • how management measures (e.g. the TACC and how it is split between the east and west) have been modified during the rebuild period to ensure that progress towards rebuilding remains adequate given the desired rate of recovery; and • reasons why the rate at which the stock is expected to recover has changed compared to that expected from the 2004 assessment. <p>By March 2010, DSG shall conduct a policy analysis of alternative decision rules for the hoki fishery that are designed to avoid the stock(s) being below the limit and target reference points (with appropriate levels of probability negotiated among stakeholders) with the aim that such decision rules could become an agreed formalism for providing management advice. The decision rules should ensure that removals are reduced if the stock is approaching the limit reference point.</p> <p>The DSG will consult on and consider the views of all stakeholders and acquire appropriate scientific advice in the development of a policy position regarding the desired rate at which a depleted stock of hoki is to be recovered.</p> <p>Response</p> <p>Desired Outcome</p> <p>Management measures will be based on an explicit rebuilding strategy such that the hoki stock has a high probability of recovery to the reference points that are in place; and, where the delay in recovery to the agreed reference point is expected to be no longer than one generation. (MSC performance indicator 1.2.1 1— 80 level.)</p> <p>Specific Objectives</p> <ol style="list-style-type: none"> a. To determine a policy position regarding the desired rate at which the Western stock of hoki is to be recovered to the agreed target reference point (see CAR 001). b. To develop a rebuild strategy for the western hoki stock, including an appropriate rebuild target reference point relevant to the period of certification and given likely recruitment to the fishery. c. To agree to and implement a formalised management strategy for hoki fisheries, based on a full management strategy evaluation. <p>Actions & milestones</p> <ol style="list-style-type: none"> a. Consult on and consider the views of stakeholders and acquire appropriate scientific
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	<p>advice in the development of a policy position regarding the desired rebuild rate for the western stock of hoki. Consistent with this position, develop a rebuild target reference point relevant to the period of certification.</p> <p>b. Confirm the DWG policy position on western stock rebuild within 12 months of certification.</p> <p>c. Secure adoption of a rebuilding plan for the western stock within 18 months of certification that includes:</p> <ul style="list-style-type: none"> • estimates of the expected time to recover to the limit and target reference points for biomass for the scenarios considered to encompass a plausible, yet biologically precautionary, range by the Middle Depths Fisheries Assessment Working Group; • current and expected future exploitation rates for both eastern and western hoki stocks relative to (a proxy for) Fmsy as well as to the reference points related to fishing mortality; and • estimates of the probability that recovery to the target and limit reference points for biomass will occur by various years considering options that include a range of annual catch levels, including zero. • Once implemented, ensure that the rebuilding plan is updated annually to • ensure progress towards rebuilding. • By March 2008 the DWG shall analyse alternative management strategies for the hoki fishery that are designed to achieve multiple utilisation and sustainability objectives, certainty as to management actions and clear specification of necessary services. <p>Responsibilities The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG.</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicators 1.1.5.1 and 1.2.1 Are stocks at or above reference points? & Are measures in place to rebuild a stock if it is found to be below a target or limit reference point?</p> <p>2. Findings There is no rebuilding strategy that estimates the probability of recovery to above the limit reference point and to the target reference point to provide the basis for an adaptive harvest strategy to allow recovery of the western stock to occur. Scores: 67 and 73.</p> <p>3. Management objective Ensure there is a rebuilding strategy in place that can be implemented if either fishery falls below the target reference point.</p> <p>4. Desired outcomes There is a very high probability that all stocks are above their target reference points and are likely currently, and in the future, to be around their target reference points. Management measures based on an explicit rebuilding strategy designed to have a high probability of recovery to the reference point are in place. The delay in the recovery to the reference point caused by the fishery is expected to be no longer than one generation. (PI 1.1.5.1, 100 level and 1.2.1 - 80 level)</p> <p>5. Operational tasks Develop and implement a rebuilding strategy to provide stock rebuilding to the target reference point, on the basis of the best scientific advice and in consultation with stakeholders. Apply this to the western hoki stock in the first instance. Include outcomes within the Fisheries Plan.</p> <p>6. Actions and milestones By 31 March 2008</p> <ul style="list-style-type: none"> • Complete CAR 07/01 – ‘A rebuilding plan for the western stock is required’. The fishery needs to develop a rebuilding plan for the western stock of hoki, including a rebuilding target, a desired rate of rebuilding and a desired time to recovery. Evidence of satisfactory progress in this regard could be the funding and initiation of a Management Strategy Evaluation exercise for hoki that has commenced by March 2008. <p>By 31 October 2008:</p> <ul style="list-style-type: none"> • Determine a policy position regarding desired rebuild rate for a depleted hoki stock; • Develop a rebuild target reference point relevant to the certification period; and • Seek agreement from the Ministry of Fisheries for the Hoki Stock Assessment Working Group to assess and report information to inform these management requirements.

	<p>By 30 April 2009:</p> <ul style="list-style-type: none"> • Secure adoption of a rebuilding plan for the western stock which includes: <ul style="list-style-type: none"> o Estimates of the expected time to recover to the limit and target reference points for biomass o Estimates of current and expected future exploitation rates relative to FMSY and the agreed reference points o Estimates of the probability that recovery to the limit and target reference points for biomass will occur by various years considering options that include a range of annual catch levels, including zero o An assessment regime to monitor progress towards rebuilding while it remains below the target level <p>By May each year, commencing 2009:</p> <ul style="list-style-type: none"> • Update the rebuilding plan annually to: <ul style="list-style-type: none"> o Monitor progress and to assess the effects of management actions taken o Determine if further measures are required to ensure progress towards rebuilding remains adequate, given the desired rate of recovery <p>By March 2010:</p> <ul style="list-style-type: none"> • Complete policy analysis of alternative management strategies for both hoki fisheries that are designed to achieve: <ul style="list-style-type: none"> o Multiple utilisation and sustainability objectives o Certainty as to management actions, and o Clear specification of necessary services <p>7. Summary to date</p> <p>On track to meet milestones:</p> <ul style="list-style-type: none"> • CAR 07/01 has been closed by SGS • Rebuilding of western stock commenced on 1 October 2007 with catch limit reduction from 40,000 t to 25,000 t, determined after science modeling and full consultation with stakeholders and interested parties • Further modeling was undertaken in early 2008 to assess rebuild rates under different catch levels using the 2007 Stock Assessment results and in mid 2008, using the 2008 Stock Assessment results • Meeting is scheduled in September 2008 to seek technical advice on options for limit and target reference points • Meetings will then be held with stakeholders and interested parties to consult on these before their incorporation into the Fisheries Plan and into DWG and MFish Operational Plans
Observations	<p>As noted above, CAR 07/01 has been closed by SGS and this has been confirmed and accepted by Moody Marine.</p> <p>The draft hoki fisheries plan include a management objective that the hoki fishery will be rebuild to the target level within 5 years.</p> <p>NIWA have conducted analyses to assess the rate at which the hoki population is expected to rebuild under a no-catch scenario and a scenario in which catches are equal to the catches that occurred during 2008. The projections based on the current assessment suggest continued increase in population size under the current TACC and east-west split if future recruitment is assumed to be like that during 1995-2006 (the “recent” scenario) and like that during 1975-2006 (the “long-term” scenario) although the rate of recovery is lower for the former.</p> <p>The proposed hoki rebuilding plan includes a desired rate of rebuilding which is tied to that attainable under zero harvest, a target reference point of 30-40% of B_0, and a commitment to monitor progress against the rebuilding objectives. The proposed rate of rebuild is that the spawning biomass is greater the mean of the difference between the current stock size and that under zero catch. The rate of rebuild is related to the objective of tying the rebuild rate to that if there were no future catches. This rate of rebuild is also tied to the length of the certification period and the actual rate of rebuilding will be compared with that expected during each assessment. The TACC and catch limits for the east and west stocks will be reviewed annually and, if appropriate, both will be adjusted to ensure that the rate of rebuild with fishing is consistent with the proposed rate of rebuild. It is proposed that projections would continue to</p>

	<p>be conducted for the “recent” and “long-term” recruitment scenarios.</p> <p>In relation to stock status, the east stock remains at or above the range assumed for B_{MSY} (30%-40% of B_0) (Table 1). The status of the west stock, as assessed in 2008, is more optimistic than was the case in 2007. In median terms, the stock is assessed to be 28-30% of the B_0 based on the model runs agreed by the Assessment Plenary and the probability that the stock is smaller than the <i>de facto</i> limit reference point of 20% of B_0 is now much lower than before (Table 1). The assessment report does not report status stock relative to F_{MSY}, but it predicts continuing increase in stock size for the western stock under current catches.</p> <p>Table 1. Estimates of spawning biomass in the most recent year (percentage of B_0) from the 2007 and 2008 assessments (“current year” is 2007 for the 2007 assessment and is 2008 for the 2008 assessment). The runs are selected to be as comparable as possible. Run 2.6 ignores the 2008 sub-Antarctic survey.</p> <table border="1"> <thead> <tr> <th rowspan="3">Run</th> <th colspan="6">Stock / assessment year</th> </tr> <tr> <th colspan="2">Eastern stock</th> <th colspan="2">Western stock</th> <th colspan="2">E+W combined</th> </tr> <tr> <th>2007</th> <th>2008</th> <th>2007</th> <th>2008</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>2.3 (4.4)</td> <td>46 (37,54)</td> <td>45 (38,52)</td> <td>20 (12,32)</td> <td>28 (20,48)</td> <td>29 (24,38)</td> <td>34 (29,47)</td> </tr> <tr> <td>2.4 (4.5)</td> <td>37 (30,48)</td> <td>42 (34,50)</td> <td>24 (19,31)</td> <td>30 (25,37)</td> <td>29 (25,35)</td> <td>35 (30,40)</td> </tr> <tr> <td>2.6 *</td> <td></td> <td>47 (40,55)</td> <td></td> <td>24 (15,45)</td> <td></td> <td>32 (26,45)</td> </tr> </tbody> </table> <p>* Reported in the draft assessment document; not one of the model specifications selected by the assessment plenary and hence on which management advice was based.</p>	Run	Stock / assessment year						Eastern stock		Western stock		E+W combined		2007	2008	2007	2008	2007	2008	2.3 (4.4)	46 (37,54)	45 (38,52)	20 (12,32)	28 (20,48)	29 (24,38)	34 (29,47)	2.4 (4.5)	37 (30,48)	42 (34,50)	24 (19,31)	30 (25,37)	29 (25,35)	35 (30,40)	2.6 *		47 (40,55)		24 (15,45)		32 (26,45)
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Conclusion	<p>The fishery is on target to satisfy the need for a rebuilding strategy (although the stock may have recovered before that plan is fully specified and implemented). Although the various components of a rebuilding plan are available, it has yet to be formally adopted and fully consulted on. The Condition appears on target for completion within the specified timeframe and will be evaluated further at the next surveillance audit.</p>																																								

Item	Comments
3	Condition of Certification 3: Nature and distribution of habitats
Activity assessed	<p data-bbox="492 264 1453 321">PI 2.1.1.1 Are the nature and distribution of habitats relevant to the fishing operations known?</p> <p data-bbox="492 344 1453 401">SG 60: There is some basic information on habitat distributions throughout the fishing grounds, and the extent of fishing effort is broadly documented.</p> <p data-bbox="492 424 1453 480">SG 80: The nature and distribution of the main habitats are known in moderate detail. The distribution of fishing operations is known and monitored in fine-scale detail.</p> <p data-bbox="492 504 1453 531">SG 100:</p> <ul data-bbox="540 554 1453 695" style="list-style-type: none"> <li data-bbox="540 554 1453 611">• The nature and the distribution of all habitats relevant to the fishing operations are known in detail, based on recent survey information. <li data-bbox="540 634 1453 695">• The nature and distribution of all fishing operations are known in fine-scale detail, and regularly analysed and reported. <p data-bbox="492 718 1453 745">Original Evaluation:</p> <p data-bbox="492 768 1453 968">The habitats throughout the NZ EEZ have recently been classified and mapped at the 1 km scale of spatial resolution through the MfE MEC process. This classification is based on a selected suite of physical parameters, and is adequate to provide a basic understanding of the physical aspects of the habitats where the fishery operates (MfE report, 2005). However the habitat classification is not comprehensive for hoki fishery purposes because it does not rely on biological characteristics and the resolution is too coarse for use as the basis for determining the benthic impacts of the fishery.</p> <p data-bbox="492 991 1453 1104">The spatial resolution of the fishing operations is documented in fine-scale detail (TCEPR), but there remains some uncertainty about the use of bottom trawling and specific gear types. The use of heavily rigged demersal trawl gear and the use of possibly damaging multiple-rigged gear is not sufficiently well documented to distinguish the uses of these forms of gear.</p> <p data-bbox="492 1127 1453 1213">The score for this Indicator is less than 80 because the nature and distribution of the habitats are not known in moderate detail, and the use of some of the gear types is not known in fine-scale detail.</p> <p data-bbox="492 1236 1453 1264">Score: 79</p> <p data-bbox="492 1287 1453 1314">Text of Condition of Certification:</p> <p data-bbox="492 1337 1453 1394">Performance Indicator 2.1.1.1 Are the nature and distribution of habitats relevant to the fishing operations known?</p> <p data-bbox="492 1430 1453 1457">Findings</p> <p data-bbox="492 1459 1453 1516">The nature and distribution of the habitats are not known in moderate detail, and the use of some of the gear types is not known in fine-scale detail.</p> <p data-bbox="492 1549 1453 1577">Corrective Action Request</p> <p data-bbox="492 1579 1453 1829">The DSG is to provide support of an appropriate form (such as working group advocacy, in-kind materials, ship-time, at-sea sampling support, or funds) that leads to high quality scientific research being conducted on the Chatham Rise fishing grounds to develop a moderate-resolution classification and mapping of the benthic habitats. This support should be focused on support/extension of the existing and planned research projects on the Chatham Rise area. Achievement of progress against this requirement this will be assessed by annual review of documentation and discussions with stakeholders, and assessment of the progress of the specific DSG-supported research project(s). Specific surveillance milestones will be consistent with those of the supported research project(s).</p> <p data-bbox="492 1862 1453 1919">To achieve a moderate-level resolution of benthic habitats, and hence be compliant with the 80 SG, the supported research project(s) will be expected to have the following properties:</p>

	<ul style="list-style-type: none">• use a combination of biological and physical input data (such as from benthic samples and video or acoustics) from surveys of the Chatham Rise, including point sampled and spatially modelled data as appropriate;• resolve a habitat classification to at least the 20-group level and a spatial resolution in the data of about 1 km within the fishing grounds, or such other level of spatial resolution and classification that is determined by the ESG and the Aquatic Environment Working Group to provide a satisfactory resolution of habitats for the purpose of assessment and mitigation of benthic impacts of the fishery in the Chatham Rise fishing grounds;• build on, and be hierarchically consistent with, the existing EEZ 1 km resolution MEC classification of habitats as the spatial framework for the higher resolution of habitats, although not necessarily using the same data variables;• comprise activities that are prioritised to focus on the highest risk areas of benthic fishing impacts (such as those areas that may have been only rarely bottom trawled but may become more intensively targeted for fishing if the TACO is raised) within a phased and progressively implemented program of survey/mapping to be completed within 4 years of certification. <p>This CAR is to be completed within 4 years of certification. The deficiencies relating to fishing effort are covered in CAR 005.</p>
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<p>DWG Action</p>	<p>Corrective Action Request</p> <p>The DSG is to provide support of an appropriate form (such as working group advocacy, in-kind materials, ship-time, at-sea sampling support, or funds) that leads to high quality scientific research being conducted on the Chatham Rise fishing grounds to develop a moderate-resolution classification and mapping of the benthic habitats. This support should be focused on support/extension of the existing and planned research projects on the Chatham Rise area. Achievement of progress against this requirement this will be assessed by annual review of documentation and discussions with stakeholders, and assessment of the progress of the specific DSG supported research project(s). Specific surveillance milestones will be consistent with those of the supported research project(s).</p> <p>To achieve a moderate-level resolution of benthic habitats, and hence be compliant with the 80 SG, the supported research project(s) will be expected to have the following properties:</p> <ol style="list-style-type: none"> use a combination of biological and physical input data (such as from benthic samples and video or acoustics) from surveys of the Chatham Rise, including point sampled and spatially modelled data as appropriate; resolve a habitat classification to at least the 20-group level and a spatial resolution in the data of about 1km within the fishing grounds, or such other level of spatial resolution and classification that is determined by the ESG and the Aquatic Environment Working Group to provide a satisfactory resolution of habitats for the purpose of assessment and mitigation of benthic impacts of the fishery in the Chatham Rise fishing grounds; build on, and be hierarchically consistent with, the existing EEZ 1 km resolution MEC classification of habitats as the spatial framework for the higher resolution of habitats, although not necessarily using the same data variables; comprise activities that are prioritised to focus on the highest risk areas of benthic fishing impacts (such as those areas that may have been only rarely bottom trawled but may become more intensively targeted for fishing if the TACC is raised) within a phased and progressively implemented program of survey/mapping to be completed within 4 years of certification. <p>This CAR is to be completed within 4 years of certification. The deficiencies relating to fishing effort are covered in CAR 005.</p> <p>Response</p> <p>Desired Outcomes To attain a level of knowledge where the nature and distribution of the main habitats are known in moderate detail; and where the distribution of fishing operations is known and monitored in fine scale detail. (MSC performance indicator 2.1.1.1 – 80 level)</p> <p>Specific Objectives</p> <ol style="list-style-type: none"> To support scientific research led by national agencies to develop a moderate level-resolution classification of benthic habitats; and, specifically to support the national Marine Environments Classification (MEC) being led by the Ministry of Fisheries in partnership with other government agencies. To develop specific milestones in accordance with DSG supported research projects as they are developed. To continue to meet the requirements set under national regulation to complete Trawl Effort Catch Processing Returns (TCEPRs), including maintaining the industry/MFish TCEPR database, and thereby to ensure that the distribution of fishing operations is known and monitored in fine scale detail across the entire New Zealand EEZ. <p>Actions & milestones</p> <p>Specific milestones will be developed as research is progressed by the national agencies (i.e. Ministry of Fisheries, NIWA and FoRST) to develop a phased approach to research planning by, for example:</p> <ol style="list-style-type: none"> Attending and providing input to the research planning processes of the national agencies to promote and support the objectives of achieving a moderate-level resolution of benthic habitats in key hoki fishing grounds Promoting research projects in each relevant meeting of the AEWG and ESG in support of the moderate-level resolution of benthic habitats Consulting with stakeholders to develop the timelines and objectives for supported research projects, to ensure that mapping (as agreed and
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	<p>supported by national agencies and stakeholders) is completed within 4 years after certification.</p> <p>Responsibilities The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG.</p>
DWG Progress Report	<p>1. Performance Indicator 2.1.1.1 Are the nature and distribution of the habitats relevant to the fishing operations known?</p> <p>2. Findings The nature and distribution of the habitats are not known in moderate detail, and the use of some of the gear types is not known in fine-scale detail. Score: 79</p> <p>3. Management objective DWG to support scientific research on the Chatham Rise to develop a moderate-resolution classification and mapping of the benthic habitats of hoki fishing grounds.</p> <p>4. Desired outcomes The nature and distribution of the main habitats for hoki on the Chatham Rise are known in moderate detail and the distribution of fishing operations is known and monitored in fine-scale detail. (PI 2.1.1.1 – 80 level)</p> <p>5. Operational tasks Support the development of a moderate-resolution classification of benthic habitats of hoki fishing grounds on the Chatham Rise and ensure all hoki vessel operators continue to meet their legal requirements in completing Trawl Catch Effort Processing Returns.</p> <p>6. Actions and milestones By 31 October 2011:</p> <ul style="list-style-type: none"> • Support further research and the development of a map of benthic habitats on the Chatham Rise, building on existing research and: <ul style="list-style-type: none"> • Using biological and physical data and spatial modeling, resolve a habitat classification to at least the 20 group level in the Marine Environment Classification (MEC) • Using spatial resolution of 1 km within hoki fishing grounds • Prioritise focus on the benthic areas that are at highest risk of adverse effects from trawling • Support additional “optimisation” of the MEC classification as appropriate to the Chatham Rise • Develop specific milestones and smaller, discrete tasks <p>7. Summary to date</p> <ul style="list-style-type: none"> • On track to meet milestones • The SGS assessment team provided a high level overview in August 2007, which noted that maybe 50% of this CAR has been achieved and that “while the intent of this CAR is not yet satisfied, major progress has been achieved and the intent of the CAR could be reformulated to be a smaller and more discrete task(s) that could be readily resolved” • Discuss with Moody Marine Ltd at first surveillance audit
Observations	<p>There are two factors relevant to the meeting of this Condition. Firstly, there are a number of on-going research projects directly relevant to the meeting of the Condition in providing information on benthic habitats (principally on the Chatham Rise). Secondly, a series of Benthic Protected Areas (BPAs) have been established.</p> <p>In terms of research projects on benthic habitats, both existing and new projects to improve the understanding of the benthic environment are on-going, e.g. BEN2006/01 BEN 2007/01 which collectively aim at developing appropriate GIS data and tools to assess spatial and temporal patterns of fishing effort and fishing behaviour coupled with broad scale assessments of habitat and faunal spatial structure. This research is also programmed to include some experimental assessment of the effects of trawling on the benthic communities and ecological processes at scales relevant to fisheries management. This research is scheduled for completion towards the end of 2010 and should thus be able to report within the timescale of this Condition. In addition, there are also moves towards a more holistic ecosystem approach to fisheries management (e.g. through FRST), although this is on a much longer timescale than this</p>

	<p>certification process.</p> <p>Since this CAR was put in place, a joint industry-Government initiative has been developed and implemented to create a number of Benthic Protection Areas (BPAs) where bottom trawling is not permitted (www.deepwater.co.nz). The BPAs cover about one third of the NZ EEZ and as such represent a significant approach to protecting the benthic environment from the impact of fishing activities. The approach to selecting the BPAs appears to have been informed and was largely rational, using such resources as the Marine Environment Classification (MEC). It can be seen that various sensitive habitat types have been protected in both cold and warm water areas, including, for example, abyssal plain areas, deep trenches, black smokers, tectonic areas and a significant proportion of underwater features and seamounts, all where little or no bottom trawling has previously been conducted.</p> <p>This approach has also addressed protecting substantial areas of each of the MEC area types in the different warm/cold zones. This large-scale approach will clearly protect pristine habitats. Two criticisms have been made of the approach (i) the lack of consultation of other stakeholders prior to implementation and (ii) that most (but not all) areas included in the BPAs were not trawled (some areas have thus been closed to trawling as a result of the BPA establishment). Whilst the lack of consultation across stakeholders has led to a certain lack of buy-in, it did enable the very fast establishment of the existing BPAs covering more than 30% of the EEZ and with immediate effective protection. There is also provision for a review of the BPAs. The second criticism is more important in that it identifies a possible gap in the protection of benthic habitat types. There may be a specific benthic habitat type associated with the community of fish and other organisms that supports hoki in densities that enable viable commercial fishing.</p> <p>It is anticipated that addressing the requirements of this Condition would assist in improving the knowledge about habitat types in the 'hoki zone' in relation to the distribution of the hoki fishery and may allow future specific benthic protection in some areas where hoki are currently fished.</p> <p>The BPA approach included a provision for a 5 year moratorium on additional statutory protected areas. We recommend that the client engages with stakeholders to review the status of the existing BPAs so that any required additional research or discussion can be defined and implemented in a timely manner so as to inform any future review of the BPA approach.</p>
Conclusion	<p>Completion of current initiatives to better define the benthic nature of the Chatham Rise will achieve the requirements of this Condition and will be significant factors in assuring that the hoki benthic habitat requirements are understood and adequately protected.</p> <p>As the BPA approach has defined both substantial and largely representative areas of the benthic environment as protected from the impacts of bottom trawling, part of the need of understanding the distribution of habitat types in relation to the hoki fishery has been removed. There does remain, however, a need for improved knowledge in those areas where the hoki fishery principally operates. There is therefore a remaining issue associated with knowledge of the potential importance of a specific habitat type or types that support the community of the hoki fishery. It is noted that the additional information being collected will be included as part of a future review of BPAs.</p> <p>Overall, this Condition is on-target and will continue to be reviewed in future surveillance audits.</p>

Item	Comments
4	Condition of Certification 4: Trophic relationships of target species
Activity assessed	<p data-bbox="492 264 1166 296">PI 2.1.1.3 <i>Are the trophic relationships of the target species known?</i></p> <p data-bbox="492 317 1256 348">SG 60: Key prey, predators and competitors with the target species are known.</p> <p data-bbox="492 369 1430 426">SG 80: The basic structure of the food web has been determined, and information is available on the position and general trophic importance of the target species at key life stages.</p> <p data-bbox="492 447 1398 504">SG 100: Quantitative information is available on the position and importance of the target species within the food web at key life stages.</p> <p data-bbox="492 525 699 556">Original Evaluation:</p> <p data-bbox="492 577 1435 1003">The likely identity of the main predator and prey species relating to hoki are known, and the basic structure of mid-water food web is broadly understood from a number of earlier feeding studies of hoki, as summarised in the ERA process (Livingstone 2002; the report of ENV 2002/07). Nonetheless, there is little basic knowledge of benthic interactions and trophic relationships. The behaviour of hoki indicates that it is likely to feed primarily in mid-water, and there may be only limited trophic interaction with benthic systems, but, broadly, this remains to be demonstrated. The available data do not provide information about trophic relationships at life stages other than the sizes of hoki taken in commercial operations, and there appears very little quantitative knowledge of the flow of energy/carbon between the target species and predator/prey species for all sizes of hoki. This lack of knowledge prevents any useful estimates of the impact of the fishery-based removal of the commercial-aged biomass of hoki on food webs or on protected species in the region through reduction in the availability, or distribution, of hoki. This Indicator is less than 80 because there is inadequate information on the position and general trophic importance of the target species at key life stages.</p> <p data-bbox="492 1024 591 1056">Score: 78</p> <p data-bbox="492 1077 841 1108">Text of Condition of Certification:</p> <p data-bbox="492 1136 818 1167">Performance Indicator 2.1.1.3</p> <p data-bbox="492 1167 1073 1199">Are the trophic relationships of the target species known?</p> <p data-bbox="492 1199 591 1230">Findings</p> <p data-bbox="492 1230 1419 1287">There is inadequate information on the position and general trophic importance of the target species at key life stages.</p> <p data-bbox="492 1287 781 1318">Corrective Action Request</p> <p data-bbox="492 1318 1442 1566">The DSG will provide support of an appropriate form (such as policy advocacy, in-kind materials, ship-time, at-sea sampling support, or funds) that leads to high quality scientific research being conducted on the Chatham Rise fishing grounds on the trophic interrelationships of hoki at a range of age/size classes. This support should be focused on the existing and planned research projects on the Chatham Rise area (such as ZBD2004- 02). Achievement of progress against this requirement this will be assessed by annual review of documentation and discussions with stakeholders (eg through the ESG), and assessment of the progress of the specific supported research project(s). Specific surveillance milestones will be consistent with those of the supported research project(s).</p> <p data-bbox="492 1566 1435 1738">To achieve a high-quality analysis of trophic interactions of hoki on the Chatham Rise at a range of ages/sizes, and to be compliant with the 80 SG for this PI, the supported research project(s) will need to quantitatively examine the diets of fish in the Chatham Rise area, the spatial and temporal patterns, and examine the nature and trophic linkages between detectable trophic guilds. This will include hoki at a range of sizes smaller than the fish taken in the commercial catch.</p> <p data-bbox="492 1766 1435 1854">This CAR is to be completed within 4 years of certification, and will be assessed against the extent of annual progress by the DSG in providing support that leads to improved information on the trophic position and general importance of hoki at key life stages."</p>
DWG Action	Corrective Action Request

	<p>The DSG will provide support of an appropriate form (such as policy advocacy, in-kind materials, ship-time, at-sea sampling support, or funds) that leads to high quality scientific research being conducted on the Chatham Rise fishing grounds on the trophic interrelationships of hoki at a range of age/size classes. This support should be focused on the existing and planned research projects on the Chatham Rise area (such as ZBD2004-02). Achievement of progress against this requirement this will be assessed by annual review of documentation and discussions with stakeholders (e.g. through the ESG), and assessment of the progress of the specific supported research project(s). Specific surveillance milestones will be consistent with those of the supported research project(s).</p> <p>To achieve a high-quality analysis of trophic interactions of hoki on the Chatham Rise at a range of ages/sizes, and to be compliant with the 80 SG for this PI, the supported research project(s) will need to quantitatively examine the diets of fish in the Chatham Rise area, the spatial and temporal patterns, and examine the nature and trophic linkages between detectable trophic guilds. This will include hoki at a range of sizes smaller than the fish taken in the commercial catch.</p> <p>Response Desired Outcomes The structure of the food web has been determined and information is available on the position and general trophic importance of the target species at key life stages. (MSC performance indicator 2.1.1.3 – 80 level)</p> <p>Specific Objectives</p> <ol style="list-style-type: none"> a. To support MFish research project ZBD2004-02 – see note below. b. To support other relevant multi-stakeholder research projects as they are developed. c. To update the report Potential interactions between New Zealand's hoki fishery and the key components of the marine ecosystem and associated species (Livingston, 2002) and publish it on the hoki website. <p>Note on MFish research project ZBD2004-02 'A study of the trophic interactions of fish species, including hoki and its predators and prey, on the Chatham Rise is presently underway (MFish project ZBD2004-02). The intentions of this project are well described in a report by Livingston & Pinkerton (2004). It will investigate the ontogenetic, seasonal, annual, and spatial variation in predator-prey relationships through the reconstruction of fish diet compositions and daily consumption for major predators, based primarily on stomach contents of fish on the Chatham Rise. The resulting information will provide biological information on the feeding habits and annual consumption rates of the more abundant fish species found in middle depths (200-800 m) on the Chatham Rise. This diet composition and consumption information will be used to estimate dietary overlap and potential competition between predators. It will also be used as input to ecosystem models that describe temporal and spatial variation in energy fluxes on the Chatham Rise. The feasibility of using the new data to calibrate historical stomach content records from the Chatham Rise will be also assessed. This work is seen as a first step to improve our knowledge and understanding of feeding interrelationships in an important New Zealand marine ecosystem, and provide a baseline on which to assess the indirect effects of fishing on the Chatham Rise' (Alison MacDiarmid, 2006).</p> <p>Actions & milestones</p> <ol style="list-style-type: none"> a. To participate in the AEWG review of MFish project ZBD2004-02 and support the project outcomes. b. To publish the updated Livingston report on the hoki website in April 2006. c. To provide active support for other projects addressing the trophic structure issues and particularly projects dealing with young/small hoki. <p>Responsibilities The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicator 2.1.1.3 Are the trophic relationships of the target species known?</p> <p>2. Findings There is inadequate information on the position and general trophic importance of the target</p>

	<p>species at key life stages. Score 78.</p> <p>3. Management objective DWG to be proactively involved in supporting relevant projects that contribute to understanding trophic relationships of hoki on the Chatham Rise.</p> <p>4. Desired outcomes The basic structure of the food web has been determined and information is available on the position and general trophic importance of the target species at key life stages (P2.1.1.3 - 80 level)</p> <p>5. Operational tasks DWG support for MFish research projects ZBD2004-02 & ENV2007/06</p> <p>6. Actions and milestones</p> <ul style="list-style-type: none"> • DWG to participate in the AEWG review of MFish project ZBD2004-02 and support the project outcomes <p>By November 2008:</p> <ul style="list-style-type: none"> • Publish updated Livingstone report update on DWG website • DWG to provide active support for other projects addressing trophic structure issues and particularly projects dealing with young/small hoki on the Chatham Rise <p>7. Summary to date</p> <ul style="list-style-type: none"> • DWG website construction completed, initiated on 11 August 2008 – Livingstone 2002 updated report will be published, if seen as appropriate by Moody Marine Ltd • Discuss with Moody Marine Ltd at first surveillance audit rationale behind CAR and desired outcomes
Observations	<p>Research on the trophic aspects of the environment (including and specifically in relation to the hoki fishery) has continued to progress with industry participation and support. Two projects are notable. The first is an MFish funded research project (ZBD2004-02 Ecosystem-scale trophic relationships: diet composition and guild structure of middle-depth fish on the Chatham Rise) which is a multi-year study that is underway to examine the ecosystem-scale trophic structure of middle depth fish assemblages on the Chatham Rise by analysis of fish stomach contents. The results will contribute to the development of trophic ecosystem models of the Chatham Rise and specifically to an understanding of the trophic importance of hoki. The second project is the recently started ENV2007/06 that will examine the trophic relationships of commercial middle depth species on the Chatham Rise.</p> <p>Other scientific studies of trophic inter-relations pertinent to a broader ecosystems approach to fisheries management have also been commissioned such as ENV2002/07 (energetics and trophic relationships of fish and invertebrate species) and will further fill in gaps in knowledge of the trophic relationships in which hoki is an integral part.</p> <p>Progress within the timeframe of this Condition does require the current research programmes to report in a timely manner, however, some preliminary results are already becoming available (e.g. Dunn <i>et al.</i> 2007)</p>
Conclusion	<p>Progress in this area is consistent with the size and scope of the issue and the timescale set to address trophic issues. Progress against this Condition is on-target for completion within the specified timeframe provided that the current research programmes report in a timely manner.</p>

Item	Comments
5	Condition of Certification 5: Impacts of fishing gear on habitats
Activity assessed	<p data-bbox="492 260 1453 321">PI 2.1.2.2 <i>Is there adequate knowledge of the impacts of fishing gear on the habitats where the fishery operates?</i></p> <p data-bbox="492 342 1453 403">SG 60: The main types of impacts of gear use on habitat have been identified, and their extent and location of impacts are broadly identified.</p> <p data-bbox="492 424 1453 485">SG 80: The main Impacts of gear use on the main habitat types have been identified, including type, extent, location and frequency, and their trends.</p> <p data-bbox="492 506 1453 567">SG 100: The impacts of gear on habitats have been quantified in empirical research studies, including determination of any habitat changes that may be irreversible.</p> <p data-bbox="492 588 1453 619">Original Evaluation:</p> <p data-bbox="492 640 1453 951">There is considerable data and knowledge of the spatial and temporal distribution of the trawl effort and the trends through time, although the data on multiple-rig gear is not distinguished in the trawl monitoring data. This information is contained in the TCEPR data, and verifiable through the MFish VMS system. However there is only a limited level of knowledge of the impact of bottom trawls on the habitats, drawn mainly from inference from the literature on other fisheries. Also, it is unclear how much impact on the biological structure and substrate properties of the habitats is currently imposed by the bottom trawling, as opposed to the impact caused during the developmental history of this fishery. The current focus of the fishery, because of the reduced TACC, is on Chatham Rise (where there is a majority of bottom trawling), and the DSG considers that this is likely to continue for some years in the face of the rebuilding needed for the west coast stock.</p> <p data-bbox="492 972 1453 1230">It is clear (from the literature on fisheries impacts) that bottom trawling in fishing grounds that have not been previously trawled, or have only a limited history of demersal trawling, will have a severe impact on habitat structure, and depending on the ecological relationships of the associated species, and on the uniqueness and level of endemism of such species and habitats, this may cause a major level of habitat damage. However, in the absence of knowledge about the distribution of such species assemblages and habitats, and in the absence of estimates of the rates of recovery of benthic systems, the importance of the present-day impacts of the hoki fishery can only be weakly inferred. So, despite the good spatial resolution of trawling, the main impacts of the gear use on the benthic habitats have therefore not been determined.</p> <p data-bbox="492 1251 1453 1333">The score on this Indicator is less than 80 because although the main types of impacts with extent and location have been broadly identified across the fishing grounds, the specific impacts (including their frequency and their trends) have not yet been identified.</p> <p data-bbox="492 1354 1453 1386">Score: 68</p> <p data-bbox="492 1407 1453 1438">Text of Condition of Certification:</p> <p data-bbox="492 1459 1453 1491">Performance Indicator 2.1.2.2</p> <p data-bbox="492 1491 1453 1551">Is there adequate knowledge of the impacts of fishing gear on the habitats where the fishery operates?</p> <p data-bbox="492 1554 1453 1585">Findings</p> <p data-bbox="492 1585 1453 1667">Although the main types of impacts with extent and location have been broadly identified across the fishing grounds, the specific impacts (including their frequency and their trends) have not yet been identified.</p> <p data-bbox="492 1669 1453 1701">Corrective Action Request</p> <p data-bbox="492 1701 1453 1892">The current impacts of trawling are expected to be maintained within the existing heavily bottom-trawled grounds. Benthic impacts in these areas are probably mainly historic. This CAR applies a process that will provide the DSG with a much more robust understanding of the benthic impacts of current trawling activities on habitats of one of the most important areas of the fishery. Concentrating and coordinating research activities on the Chatham Rise will maximise the benefits of the DSG investments in these (and related) activities. The intention of this CAR is for the DSG to develop a research plan that is based on the best available empirical</p>

	<p>knowledge about the main impacts of gear use on the habitats and leads to quantitative knowledge about the current level of trawling impacts.</p> <p>In preparation for the plan, the details of the main impacts will need to be identified and reviewed, including the type, extent, location and frequency, with indicative estimates of trends related to the short-term and long-term history of trawl effort. The information derived through the research plan may then be used as the basis for a more comprehensive analysis of the impacts of fishing on the habitats, and provide for specific mitigation measures should that be necessary to meet ecosystem objectives that are based on levels of acceptable impact, such as those that will be developed under the SMEEF policy.</p> <p>When the research plan is finalised, specific performance milestones will be established through the MSC surveillance process to plan the achievement of the 80 level of performance for the Chatham Rise grounds, which will be considered to operationally meet the terms of the 80 level scoring guidepost. The required research may not be fully completed by the end of the certification period, but the main impacts must be identified and assessable through progress reports within the certification period. This achievement will also establish the process and procedures through which further such benthic habitat impacts may be determined across other areas of the fishery that are not subjected to such intensive bottom trawling, but this would be beyond the term of this certification.</p> <p>5.1 Monitoring specific gear types</p> <p>Implement a DSG (or revise the MFish TCEPR) at-sea data recording systems so that the shot-by-shot use of each gear type used in the fishery is accurately recorded and reported. The gear-use records should include the configuration of gear used, including:</p> <ul style="list-style-type: none"> • midwater net with midwater groundrope, • midwater net with bobbins on groundrope, • midwater net with rock-hopper groundrope, • bottom gear with rock-hopper groundrope, • twin- and triple-rigs (and type of groundrope used), • the type of trawl door used, • the use of any experimental or new groundrope system, and • a full description of the groundrope used. <p>This will be implemented across all vessels in the fishery within 12 months of certification. This section of the CAR will be satisfied when monitoring systems are revised and routine data is available for verification.</p> <p>5.2 Inclusion with the DSG Code of Practice</p> <p>If the gear-type monitoring is to be implemented within the voluntary arrangements of the DSG, then the requirement for shot-by-shot recording of gear types will be included in the relevant area of the COP. This is to be completed with 12 months of certification, and will be satisfied by verification of relevant updates of the COP.</p> <p>5.3 Benthic Impacts Research Plan</p> <p>A stakeholder agreed plan for high quality research on benthic impacts of the fishery on the Chatham Rise fishing grounds, including consideration of the impacts of single and multiple-rigged gear, will be developed within 2 years of certification. The plan will be based on the use of information on gear types, VMS data, benthic habitat classification/mapping, the observed bycatch of fish and non-fish species as appropriate, and literature information on benthic impacts in other fisheries. The plan will be based on a detailed review/analysis that identifies the types and extent of hoki fishery impacts in the Chatham Rise area, and will be informed by, and coordinated with, the progressive outcomes of CAR 003. The research plan is to be completed within 2 years of certification, and submitted for consideration in the MFish research funding round no later than 3 years beyond certification. In addition to a comprehensive research project proposal, the plan will quantify the nature, extent and timing of support that will be provided by the DSG to the research activities, and show the points of interaction with the SMEEF policy. This section of the CAR will be verified by assessment of annual drafts of the plan, and by acceptance of the project for implementation.</p>
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DWG Action	Corrective Action Request
	<p>The current impacts of trawling are expected to be maintained within the existing heavily bottom-trawled grounds. Benthic impacts in these areas are probably mainly historic. This CAR applies a process that will provide the DSG with a much more robust understanding of the benthic impacts of current trawling activities on habitats of one of the most important areas of the fishery. Concentrating and coordinating research activities on the Chatham Rise will maximise the benefits of the DSG investments in these (and related) activities. The intention of this CAR is for the DSG to develop a research plan that is based on the best available empirical knowledge about the main impacts of gear use on the habitats and leads to quantitative knowledge about the current level of trawling impacts.</p> <p>In preparation for the plan, the details of the main impacts will need to be identified and reviewed, including the type, extent, location and frequency, with indicative estimates of trends related to the short-term and long-term history of trawl effort. The information derived through the research plan may then be used as the basis for a more comprehensive analysis of the impacts of fishing on the habitats, and provide for specific mitigation measures should that be necessary to meet ecosystem objectives that are based on levels of acceptable impact, such as those that will be developed under the SMEEF policy.</p> <p>When the research plan is finalised, specific performance milestones will be established through the MSC surveillance process to plan the achievement of the 80 level of performance for the Chatham Rise grounds, which will be considered to operationally meet the terms of the 80 level scoring guidepost. The required research may not be fully completed by the end of the certification period, but the main impacts must be identified and assessable through progress reports within the certification period. This achievement will also establish the process and procedures through which further such benthic habitat impacts may be determined across other areas of the fishery that are not subjected to such intensive bottom trawling, but this would be beyond the term of this certification.</p> <p>5.1 Monitoring specific gear types</p> <p>Implement a DSG (or revise the MFish TCEPR) at-sea data recording systems so that the shot-by-shot use of each gear type used in the fishery is accurately recorded and reported. The gear-use records should include the configuration of gear used, including:</p> <ul style="list-style-type: none"> • midwater net with midwater ground rope, • midwater net with bobbins on ground rope, • midwater net with rock-hopper ground rope, • bottom gear with rock-hopper ground rope, • twin- and triple-rigs (and type of ground rope used), • the type of trawl door used, • the use of any experimental or new ground rope system, and • a full description of the ground rope used. <p>This will be implemented across all vessels in the fishery within 12 months of certification. This section of the CAR will be satisfied when monitoring systems are revised and routine data is available for verification.</p> <p>5.2 Inclusion with the DSG Code of Practice</p> <p>If the gear-type monitoring is to be implemented within the voluntary arrangements of the DSG, then the requirement for shot-by-shot recording of gear types will be included in the relevant area of the COP. This is to be completed with 12 months of certification, and will be satisfied by verification of relevant updates of the COP.</p> <p>5.3 Benthic Impacts Research Plan</p> <p>A stakeholder agreed plan for high quality research on benthic impacts of the fishery on the Chatham Rise fishing grounds, including consideration of the impacts of single and multiple-rigged gear, will be developed within 2 years of certification. The plan will be based on the use of information on gear types, VMS data, benthic habitat classification/mapping, the observed bycatch of fish and non-fish species as appropriate, and literature information on benthic impacts in other fisheries. The plan will be based on a detailed review/analysis that identifies the types and extent of hoki fishery impacts in the Chatham Rise area, and will be informed by, and coordinated with, the progressive outcomes of CAR 003. The research plan is to be completed within 2 years of certification, and submitted for consideration in the MFish research funding round no later than 3 years beyond certification. In addition to a comprehensive research project proposal, the plan will quantify the nature, extent and timing of support that will be provided by the DSG to the research activities, and show the points of interaction with the SMEEF policy. This section of the CAR will be verified by assessment of</p>

	<p>annual drafts of the plan, and by acceptance of the project for implementation.</p> <p>Response</p> <p>Desired Outcomes Identification of the main impacts of gear use on the main habitat types including type, extent, location and frequency and their trends. (MSC performance indicator 2.1.2.2 – 80 level)</p> <p>Specific Objectives</p> <ol style="list-style-type: none"> To monitor, record and report use of specific gear types. To including monitoring and reporting requirements in the hoki code of practice. To develop a benthic impacts research plan with appropriate linkages to the AEWG mid-term research plan. <p>Actions & milestones</p> <ol style="list-style-type: none"> Work with gear/net companies and stakeholders to develop an agreed definition of gear types and develop a code for skippers to record how gear is used within 10 months of certification. Gear use/type monitoring and reporting requirements will be included in hoki code of practice within 1 year of certification. Consult with stakeholders on priorities for high quality research on benthic impacts of the hoki fishery on the Chatham Rise fishing grounds over the 18 months following certification. Complete a benthic impacts research plan within 2 years of certification Submit a stakeholder agreed benthic impacts research plan for consideration in the MFish research funding round within 3 years of certification. <p>Responsibilities The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG.</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicator 2.1.2.2 Is there adequate knowledge of the impacts of fishing gear on the habitats where the fishery operates?</p> <p>2. Findings Although the main types of impacts with extent and location have been broadly identified across the fishing grounds, the specific impacts (including their frequency and their trends) have not yet been identified. Score 68.</p> <p>3. Management objective Estimate the impacts of hoki fishing on benthic habitats of the Chatham Rise.</p> <p>4. Desired outcomes The main impacts of gear use on the main habitat types have been identified and their extent and location of impacts are broadly identified (PI 2.1.2.2 - 80 level).</p> <p>5. Operational tasks Refine the at-sea data recording system so that the shot by shot use of each gear type used in the fishery is accurately recorded and reported. Develop and implement a benthic research plan for the Chatham Rise</p> <p>6. Actions and milestones</p> <p>By 30 August 2008:</p> <ul style="list-style-type: none"> Develop agreed definition of gear types and develop recording code <p>By 31 October 2008:</p> <ul style="list-style-type: none"> Implement new data recording shot-by-shot a trawl configuration, if required <p>By 31 April 2009:</p> <ul style="list-style-type: none"> Consult with stakeholders on priorities for research on benthic impacts of the hoki fishery on the Chatham Rise <p>By 31 October 2009:</p> <ul style="list-style-type: none"> Complete a plan, with stakeholder agreement, for research on benthic impacts of Chatham Rise fishery <p>By 31 October 2010:</p> <ul style="list-style-type: none"> Submit this plan to MFish <p>7. Summary to date</p> <ul style="list-style-type: none"> Agreed definitions of gear types and codes completed Refinements to at-sea data recording will be met through changes in TCEPR forms (not through hoki Operational Procedures), due for implementation 1 October 2009 Work not yet due to commence on benthic impacts research plan but this will be incorporated

	as part of the Fisheries Plan.
Observations	<p>Development of the approach and new forms for the TCEPR appear to address the identified deficiencies in the recording of data related to gear type. The implementation of these forms will be reviewed following implementation. This aspect of the Condition is slightly behind target, but is expected to be completed and implemented by the next surveillance audit.</p> <p>It is noted that existing TCEPR data are being re-examined to clarify the use of gear types (specifically twin trawls) used in previous years.</p> <p>Progress against some milestones has been delayed, but this been in part due to the statutory nature of some of the process change. Evidence of continuing commitment is strong.</p> <p>The BPA implementation, discussed above, will form part of the overall response to this Condition, as for Condition 3. It is also anticipated that meeting the requirements of Condition 6 (Ecological Risk Assessment) will facilitate meeting of the requirements for stakeholder consultation within this Condition.</p>
Conclusion	<p>Progress has been made and is continuing to be made in this area. Overall, the work to address and meet the requirements of this Condition is progressing adequately. While some initial aspects are slightly behind target to date, appropriate measures are in place to meet the requirements of the Condition within the overall target timescale.</p>

Item	Comments
6	Condition of Certification 6: Ecosystem impact review
Activity assessed	<p data-bbox="492 260 1192 291">PI 2.1.3.1 <i>Are levels of acceptable impact determined and reviewed?</i></p> <p data-bbox="492 312 1414 369">SG 60: Levels of acceptable impacts for the main non-target species and habitats in the fishery have been estimated at least qualitatively.</p> <p data-bbox="492 394 1451 594">SG 80: Risks and acceptable levels of impact have been determined through a robust peer reviewed scientific risk assessment process that takes a precautionary approach to gaps in knowledge and involves the relevant range of ecological expertise and stakeholders. Levels of acceptable impact caused by the removal of the target species, at key life stages, on the main species of prey and predators of the target species are being determined. Research is underway to study impacts related to, and refine the assessment of, any medium-level risks and the main gaps in knowledge.</p> <p data-bbox="492 619 1435 842">SG 100: Levels of acceptable impact caused by the removal of the target species, at key life stages, on the main species of prey and predators of the target species have been determined. The risks and acceptable levels of impact have been determined through a robust peer reviewed scientific risk assessment process that takes a precautionary approach to gaps in knowledge and involves the relevant range of ecological expertise and stakeholders. Research is underway to study impacts related to, and refine the assessment of, any medium-level risks and the main gaps in knowledge. The assignment of acceptable levels of impact is subject to regular review.</p> <p data-bbox="492 867 716 898">Original Evaluation:</p> <p data-bbox="492 919 1435 1178">The fishery conducted a qualitative ERA (in 2002) that identified the main areas of risk. The ERA process involved an appropriate range of stakeholders and technical expertise, and, broadly, identified the areas where a precautionary approach to management was needed. While the ERA was of a qualitative nature, and was highly constrained by lack of knowledge in many areas, it suitably highlighted the key areas for further management responses by the DSG. The ERA did not establish acceptable levels of impact for all areas of 'greater than insignificant risk', but it highlighted the different areas of uncertainty and weaknesses where improved knowledge would be required to enable suitable management responses to be developed and applied in the fishery (ERA Risk Characterisation Workshop, URS 2003).</p> <p data-bbox="492 1203 1443 1371">There was insufficient knowledge to enable the ERA process to consider the possibility of risks of the fishery caused by reduction of abundances of young and old life stages of hoki, the indirect impacts of this, or the removal of the commercial biomass on dependent or ecologically related species. Some agency research projects have been commenced to improve the data/knowledge that could be used for a better assessment of such risks (such as project ZBD2004-02), but these are of limited scope at present.</p> <p data-bbox="492 1396 1443 1619">The DSG has initiated a process to establish a set of Ecosystem Objectives for selected impact issues in the fishery, involving two workshops, the first one conducted at the end of 2005, and the second one in March 2006. This process is expected to identify specific objectives, assign operational levels of acceptable impact, and identify the form of management responses that will be most feasible and achievable for the DSG to implement that are consistent with the MFish Strategy for Management of the Environmental Effects of Fishing (SMEEF), released in August 2005. The DSG Fisheries Environment Strategic Plan (FESP) specifies that such objectives are intended to be operational in the fishery in 2006.</p> <p data-bbox="492 1644 1430 1759">At this time it appears that while there is important progress on setting appropriate objectives to address risks through the objectives workshop process, there is only a minimal process underway for establishing the acceptable levels of impact of removal/reduction of key life stages of hoki on the main species that may be ecologically related to hoki.</p> <p data-bbox="492 1785 1403 1894">The score on this Indicator is less than 80 because, although there have been qualitative estimates of impact of the fishery, the levels of acceptable impact caused by the removal and/or reduction of key life stages of hoki on the main species of prey and predators of the target species are not yet being acceptably determined.</p>

	<p>Score: 76</p> <p>PI 2.1.4.1 Are the impacts of the fishery on ecosystem structure, function, biological diversity, productivity within acceptable levels?</p> <p>SG 60: The main impacts of the fishery are generally considered to be within acceptable levels.</p> <p>SG 80: The effects of removal of the target and non-target species, and impacts and productivity, are generally maintained within acceptable levels for the most important parameters (as established in 2.1.3.1).</p> <p>SG 100: The effects of the fishery on the ecosystem have been quantified in all areas where the fishery operates, and impacts are found to be always maintained within acceptable levels for all the most important parameters.</p> <p>Original Evaluation:</p> <p>The ERA describes impacts on energy flows and food webs as 'major' and 'probable' (Risk Characterisation Workshop, 2003). Acceptable levels of impact have not so far been developed for these or the other main types of ecological impacts (relating to matters other than protected species and habitats, both of which are assessed below) such as ecosystem structure or biological diversity. For commercial species within the QMS (which may comprise many of the ecologically related species), there is a basic form of assessment that determines acceptability of impacts, and these impacts appear to be generally within acceptable levels the effect of the hoki fishery is not cited as a major factor in population depletion for these species, although there are some concerns raised in the ERA about the state of knowledge for some bycatch species. Restriction of the demersal fishery to existing trawl tracks will assist to maintain the impacts of the fishery to within acceptable limits at this time, although, like all forms of acceptable levels of impact, this may need revision when further information about benthic impacts is acquired.</p> <p>The risk of the fishery may be major, as suggested by the ERA, and at this time there is no evidence to suggest that the impacts of the fishery on broad aspects of ecosystem structure and functioning are maintained within acceptable levels. However, currently the major problem is the lack of a clear understanding of what the acceptable levels of impact in this set of ecosystems may be, and hence it is difficult to make an informed assessment of how the fishery performs in relation to such levels of impact. However, very few fisheries have been able to make such determinations, and world's best practice (for the types of impacts assessed in this PI) is considered to be having an effective process in place that is determining such levels, with a demonstrated system of measures and controls that will be able to constrain the fishery should this become required in the near future to maintain the fishery within the determined acceptable levels of impact. So the hoki fishery would be considered to meet the 80 SG for this PI if it has in place an effective ongoing system for progressively determining and keeping under review the levels of acceptable impacts in the fishery, and responding to these by implementing fishery measures as appropriate. The hoki fishery has an appropriate system for implementing such control measures as they may become required (the combination of regulatory and voluntary measures), but as yet does not have a fully effective system in place to routinely determine and review levels of acceptable ecosystem impacts that are considered under this PI.</p> <p>The hoki fishery has a low rate of discards of non-commercial species. Broadly, the fishery maintains a discard rate of about 5% by weight (Anderson & Smith, 2005). Although this is one of the world's lowest discard rates from a trawl fishery of this type, it still amounts to about 35,000 tons each year (estimated from 1998-99 year data; op cit). It has been suggested that this rate may be lowered even further through greater restriction on bottom trawling, and an increase in the use of large vessels with meal plants (op cit).</p> <p>The score on this indicator does not meet the 80 level because the effects of removal of the target and non-target species, including impacts and productivity, are not established as being generally maintained within acceptable levels for the most important parameters.</p> <p>Score: 75</p>
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	<p>PI 2.1.4.2 <i>Are the impacts of the fishery on habitat structure and function within acceptable levels?</i></p> <p>SG 60: The main impacts of the fishery on habitats are generally considered to be within acceptable levels.</p> <p>SG 80: The effects on the benthic and mid-water habitats, and their functions, are generally maintained within acceptable levels for the most important parameters (as established in 2.1.3.1).</p> <p>SG 100: The effects of the fishery on the habitats have been quantified in all areas where the fishery operates, and impacts are found to be always maintained within acceptable levels for the most important parameters.</p> <p>Original Evaluation:</p> <p>The acceptable levels of habitat impact have yet to be defined in relation to either midwater or benthic habitats. However, the benthic impacts are considered in the ERA to be the most significant in this fishery (given about 50% of the effort is classified as bottom trawling', although the exact meaning of this is uncertain). Given the history of the fishery, the present level of effort, and the commitments (via the FESP) to maintain existing trawl paths, it is likely that the main habitat impacts can be generally considered to be acceptable in the short-term (2 to 3 years). However, there is no quantitative information about benthic impacts that could be used to determine if the fishery complies with acceptable levels, as required in the 80 SG.</p> <p>For impacts on midwater habitat structure and function, the most likely interpretation of acceptable levels of habitat impact would be based on parameters involving species composition, trophic linkages and productivity of the midwater ecosystem. However, as for the benthic habitats, there is only qualitative information about impacts (such as the low bycatch rate) that could be used to determine if the fishery complies with acceptable levels.</p> <p>As for PI 2.1.4.1, the fishery would be assessed to be at the level of world's best practice for a fishery of this type and scale (the MSC 80 level of performance) if it has in place an effective ongoing system for progressively determining and keeping under review the levels of acceptable impacts in the fishery, and responding to these by implementing fishery measures as appropriate to maintain impacts within those levels determined to be acceptable. The hoki fishery has an appropriate system for implementing such control measures as may become required, but as yet does not have a fully effective system in place to routinely determine and review levels of acceptable impacts on benthic habitats that are considered under this PI.</p> <p>In a joint initiative, the NZ seafood industry and the government have recently announced that there will be a major new set of marine reserves established covering about 30% of the EEZ (www.seafood.co.nz; accessed 8 March 2006). To the extent that these reserves protect samples of the benthic habitat types also found in hoki fishing grounds, then concerns about benthic impact of the hoki fishery may be mitigated to some extent. The contribution made by these reserves to offsetting benthic impacts of the fishery depends on the level of classification used to design/establish the reserve system, and the degree of overlap with types of habitats also found in hoki fishing grounds. At the time of this assessment, no further details about this matter were available to evaluate the significance of the proposed EEZ reserves in the context of the hoki fishery impacts.</p> <p>The score on this indicator does not meet the 80 level because the effects of the fishery on the benthic and mid-water habitats, and their functions, cannot be demonstrated to be maintained within acceptable levels for the most important parameters.</p> <p>Score: 75</p> <p>Text of Condition of Certification:</p> <p>Performance Indicators 2.1.3.1, 2.1.4.1, 2.1.4.2</p> <ul style="list-style-type: none"> • Are levels of acceptable impact determined and reviewed? • Are the impacts of the fishery on ecosystem structure, function, biological diversity,
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	<p>productivity within acceptable levels?</p> <ul style="list-style-type: none"> • Are the impacts of the fishery on habitat structure and function within acceptable levels? <p>Findings</p> <ul style="list-style-type: none"> • Although there have been qualitative estimates of impact of the fishery, the levels of acceptable impact caused by the removal and/or reduction of key life stages of hoki on the main species of prey and predators of the target species are not yet being acceptably determined. • The effects of removal of the target and non-target species, including impacts and productivity, are not established as being generally maintained within acceptable levels for the most important parameters. • The effects of the fishery on the benthic and mid-water habitats, and their functions, cannot be demonstrated to be maintained within acceptable levels for the most important parameters. <p>Corrective Action Request</p> <p>6.1 Update the ERA Within 18 months, the DSG will conduct a new ERA that updates the existing qualitative ERA and establishes estimates of levels of acceptable impact for each of the main ecological risks including at least fur seal bycatch, seabird bycatch, benthic impacts and the trophic impacts of fish removal (hoki and byproduct species) from the ecosystem.</p> <p>6.2 Quantitative Ecosystem Objectives Based on the ERA, within 24 months, and building on existing DSG initiatives, establish agreed ecosystem objectives for each of the main ecological risk issues identified in the updated ERA, and including quantitative objectives for fur seal bycatch and seabird bycatch, and to the extent that is feasible, quantitative objectives for the benthic and trophic impacts of fish removal (hoki and byproduct species) from the ecosystem. These objectives will be consistent with the standards developed under the SMEEF policy, and with the progressively developed outcomes from CAR 005.</p> <p>6.3 Management Responses Plan Within 36 months, complete an operational plan for how each of the identified ecosystem objectives from CAR 005 will be achieved in the fishery, including the application of specific measures within the COP, and how progress against each objective will be assessed and reported.</p> <p>6.4 Management Measures Implemented Within 48 months, implementation of all relevant procedures/measures in the fishery to meet the agreed ecosystem objectives will be completed, including as necessary, inclusion of procedures within the DSG COP to ensure there can be adequate internal and external audit verification.</p>
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DWG Action	<p>Corrective Action Request</p> <p>a. Update the ERA: Within 18 months the DSG will conduct a new ERA that updates the existing qualitative ERA and establishes estimates of levels of acceptable impact for each of the main ecological risks including at least fur seal bycatch, seabird bycatch, benthic impacts and the trophic impacts of fish removal (hoki and byproduct species) from the ecosystem.</p> <p>b. Quantitative Ecosystem Objectives: Based on the ERA, within 24 months, and building on existing DSG initiatives, establish agreed ecosystem objectives for each of the main ecological risk issues identified in the updated ERA, and including quantitative objectives for fur seal bycatch and seabird bycatch, and to the extent that is feasible, quantitative objectives for the benthic and trophic impacts of fish removal (hoki and byproduct species) from the ecosystem. These objectives will be consistent with the standards developed under the SMEEF policy, and with the progressively developed outcomes from CAR 005.</p> <p>c. Management Response Plan: Within 36 months, complete an operational plan for how each of the identified ecosystem objectives from CAR 006 will be achieved in the fishery, including the application of specific measures within the COP, and how progress against each objective will be assessed and reported.</p> <p>d. Management Measures Implemented: Within 48 months, implementation of all relevant procedures/measures in the fishery to meet the agreed ecosystem objectives will be completed, including as necessary, inclusion of procedures within the DSG COP to ensure there can be adequate internal and external audit verification.</p> <p>Response</p> <p>1. Desired Outcomes</p> <ul style="list-style-type: none"> • Levels of acceptable impact are determined, and relevant/appropriate research projects to address gaps are underway (MSC performance indicator 2.1.3.1 — 80 level) • Effects of the fishery on the main species and habitats are generally shown to within acceptable levels ((MSC performance indicators 2.1.4.1 and 2.1.4.2 — 80 level). <p>2. Specific Objectives</p> <p>a. To identify levels impact of fishing on:</p> <ul style="list-style-type: none"> • Target species • Major fish bycatch • Seabirds • Marine mammals • Benthic habitat and communities <p>b. To establish objectives for each of the main ecological risk issues identified in the updated ERA</p> <p>c. To establish quantitative objectives for fur seal and seabird bycatch</p> <p>d. To develop and progressively implement qualitative objectives for trophic impacts and benthic habitats and communities</p> <p>e. To develop and implement operational measures to achieve the quantitative objectives by inclusions of specific actions in the relevant codes of practice.</p> <p>f. To progressively develop operational measures to work towards the qualitative objectives, to the extent that this is agreed to be feasible.</p> <p>3. Actions & milestones</p> <p>a. Review 2002 ERA methodology — within 8 months of certification</p> <ol style="list-style-type: none"> i. Engage consultant ii. Consult with stakeholders through ESG and other relevant processes <p>b. Scope and develop 2006 methodology — within 12 months of certification</p> <ol style="list-style-type: none"> i. Consult on proposed 2006 ERA methodology with ESG, DSG directors, etc c. Implement ERA — within 18 months of certification d. Scope, design and implement a process to develop objectives for main ecological impacts identified in the 2006 ERA — within 24 months of certification <ol style="list-style-type: none"> i. Consult on proposed process with ESG, DSG directors, etc ii. Develop draft objectives for main ecological risks iii. Review and confirm objectives where they are found to be feasible. <p>e. Begin work on designing, piloting and testing management objectives and practices that will</p>
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	<p>detect and reduce major impacts identified in the ERA –within 36 months of certification.</p> <p>i. Complete an operational plan for implementing (through relevant codes of practice) the management objectives that have been developed and found to be effective through pilot work.</p> <p>ii. Develop and implement a research plan for developing those objectives that have been identified (through testing) has requirement further work and/or information.</p> <p>f. Implement through the relevant codes of practice those management objectives and practices that have been tested (under (e) above) and found to be effective in detecting and reducing impacts – within 48 months of certification.</p> <p>4. Responsibilities The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG.</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicators 2.1.3.1, 2.1.4.1, 2.1.4.2 Are levels of acceptable impact determined and reviewed? Are the impacts of the fishery on ecosystem structure, function, biological diversity, and productivity within acceptable levels? Are the impacts of the fishery on habitat structure and function within acceptable levels?</p> <p>2. Findings Although there have been qualitative estimates of impact of the fishery, the levels of acceptable impact caused by the removal and/or reduction of key life stages of hoki on the main species of prey and predators of the target species are not yet being acceptably determined. Score 76. The effects of removal of the target and non-target species, including impacts and productivity, are not established as being generally maintained within acceptable levels for the most important parameters. Score 75 The effects of the fishery on the benthic and mid-water habitats, and their functions, cannot be demonstrated to be maintained within acceptable levels of the most important parameters. Score 75</p> <p>3. Management objectives</p> <ul style="list-style-type: none"> • Update the ERA to identify levels of impact of fishing on: target species, major fish bycatch, seabirds, marine mammals, benthic habitat and communities. • Establish objectives for each of the main ecological risk issues identified in the updated ERA • Establish quantitative objectives for fur seal and seabird incidental catches • Develop and progressively implement qualitative objectives for trophic impacts and benthic habitats and communities • Develop and implement management responses • Progressively develop operational measures to work towards the qualitative objectives, to the extent that this is agreed to be feasible. <p>4. Desired outcomes Risks and acceptable levels of impact have been determined, levels of acceptable impact caused by the fishery on the main predator and prey species are being determined and relevant/appropriate research projects are underway to address main gaps in knowledge (PI 2.1.3.1 – 80 level) Effects of the fishery on the main species and habitats are generally shown to be within acceptable levels (PIs 2.1.4.1 and 2.1.4.2 – 80 level).</p> <p>5. Operational tasks Update the ERA methodology, implement a new ERA process and the required management measures or research projects emanating form this.</p> <p>6. Actions and milestones By 30 June 2008: <ul style="list-style-type: none"> • Review 2002 ERA methodology and consult with stakeholders By 31 October 2008: <ul style="list-style-type: none"> • Scope, develop and consult with stakeholders on revised ERA methodology By 31 April 2009: <ul style="list-style-type: none"> • Implement a new ERA process By 31 October 2009:</p>

	<ul style="list-style-type: none"> • Scope, design and implement a process to develop objectives for each of the main risk issues identified in the revised ERA • Consult on proposed process • Develop draft objectives for the main ecological risks <p>By 31 October 2010:</p> <ul style="list-style-type: none"> • Design, pilot and test management objectives and practices that will detect and reduce major impacts identified in the ERA • Complete an operational plan on how to achieve each of the above objectives • Develop and implement a research plan for developing those objectives that have been identified (through testing) as requiring further work and/or information <p>By 31 October 2011:</p> <ul style="list-style-type: none"> • Implement the above agreed procedures that have been found to be effective in detecting and reducing impacts <p>7. Summary to date</p> <ul style="list-style-type: none"> • Will be delivered through hoki fisheries plan • The 2002 ERA and methodologies have been reviewed by the Hoki Management Team, discussions yet to be held with stakeholders and interested parties. • Initial meetings with stakeholders and interested parties are scheduled for August/September to commence revision of ERA methodology (due by 31 October 2008).
Observations	<p>The process of updating the ERA has been started as required. A top-level review of the ERA has been made and there is a clearly stated intent to engage with stakeholders about a revised methodology. This is a critical element in managing those aspects of the interaction between fishing activities and the wider marine environment, especially in areas where insufficient information is available. A robust approach is needed, particularly given the moves towards developing an ecosystem approach to fisheries management.</p> <p>The client needs to remain aware of the timescales to ensure that this Condition does not fall behind on delivery against its milestones. Stakeholders need to be given adequate time to consider and respond to consultation, especially in areas that are as complex as this.</p> <p>Stakeholders generally all show commitment to this as a process which has generated positive outcomes in the past and is likely to do so again in the future.</p> <p>It is recommended that the ERA should specifically include elasmobranchs and, in combination with Condition 7, the absolute mortality of seabirds (i.e. for the hoki trawl fishery, not only those recovered from the nets) in relation to population levels of the species concerned.</p>
Conclusion	<p>The further development of the ERA process has begun, albeit rather slowly. The development of a functioning updated ERA process that will address the key ecological risks remains on target for later milestones.</p>

Item	Comments
7	Condition of Certification 7: Impacts on Seabirds
Activity assessed	<p data-bbox="493 264 1453 321">PI 2.2.3.1 Do the impacts of the fishery on protected, endangered, threatened or at risk species exceed unacceptable levels?</p> <p data-bbox="493 346 1453 457">SG 60: Studies in the fishery have examined fishery impacts on protected, endangered, threatened or at risk species, and mitigation strategies are in place or being developed where appropriate. There is no evidence that interactions with the fishery create unacceptable impacts on populations of the species concerned.</p> <p data-bbox="493 483 1453 562">SG 80: Regular assessment of the impacts of the fishery on protected, endangered, threatened or at risk species that may be affected by the fishery demonstrates that fishery impacts are generally maintained within acceptable levels (as established in 2.2.2.1).</p> <p data-bbox="493 588 1453 762">SG 100: The conservation status and impacts of the fishery on all protected, endangered, threatened or at risk species that may be affected by the fishery are regularly assessed, quantified, documented and publicly reported through independent external expert review. Regular quantitative assessment of the impacts of the fishery on protected, endangered, threatened or at risk species that may be affected by the fishery demonstrates that fishery impacts are generally maintained within acceptable levels (as established in 2.2.2.1).</p> <p data-bbox="493 787 716 814">Original Evaluation:</p> <p data-bbox="493 837 1453 949">In relation to the porbeagle shark, the 2005 Plenary assessment report summary is "It is not known if the stock is at or above a level capable of producing the MSY. Furthermore, it is not known whether current catches or the TAC are at levels that will allow the stock to move towards the biomass that would support the MSY."</p> <p data-bbox="493 974 1453 1194">This shark is highly migratory species, and its management throughout the Western and Central Pacific Ocean is the responsibility of the Western and Central Pacific Fisheries Commission (WCPFC). Under this regional convention New Zealand will be responsible for ensuring that the management measures applied within New Zealand fisheries waters are compatible with those of the Commission. However, it is not likely that management measures will be introduced for some years. At this time, it appears that there have been no acceptable levels of harvest set for this shark, and the impacts of the hoki fishery (and others) remain unknown.</p> <p data-bbox="493 1220 1453 1451">In relation to school shark, the 2005 Plenary summary is: "TACCs and recent catch levels for SCH 3,5,7 & 8 appear to have been sustainable, allowing the South Island population to move towards a size that will support the MSY. TACCs for these fish stocks were increased by between 5 and 20% under AMP management in October 2004. It is not known whether the new TACCs are sustainable or whether they will allow the population to move towards Bm.. It is not known whether current TACCs and recent catch levels for SCH 1 and 2 are sustainable or whether these will allow the fish stocks to move towards MSY." At this time the impact of the hoki bycatch of school shark appears to be unknown, but not a matter of major concern.</p> <p data-bbox="493 1476 1453 1556">The impact of the fishery on the basking shark has not been assessed, and may be a matter of concern. About 300 tons of Basking Sharks were likely to have been caught in the fishery between 1999 and 2003 (Anderson & Smith, 2005).</p> <p data-bbox="493 1581 1453 1724">The seabird species most at-risk have been determined by DOC (Source: Department of Conservation; draft list of priority species 2004; SGS surveillance report 9, Feb, 2005). The catch of seabirds is monitored through the observer program. This probably under-estimates the incidental mortality of seabirds, and warp strike experiments are underway to attempt to assess the importance of the non-observed mortality caused by warp strikes. The NPOA</p> <p data-bbox="493 1749 1453 1887">KPI is in the process of establishing levels of apparently acceptable bycatch (as numbers of seabirds, but not by species) (correspondence from MFish to DSG dated 21 October 2004). For the 2005/06 fishing year the acceptable bycatch of seabirds has been proposed by the DSG COP to be 3.89 seabirds per 100 tows. The COP calls for a progressive reduction in bycatch to 3.28 seabirds/100 tows within 5 years, to be achieved through a range of voluntary measures</p>

	<p>(DSG COP seabirds version 5 June 2005). However, in early August 2005, the Minister for Environment announced that seabird bycatch in the hoki fishery (and other fisheries) would be controlled through regulation, rather than voluntary arrangements. The outcome of this intention in respect of the hoki fishery is unknown at this time.</p> <p>While there is concern about the contribution that the hoki fishery makes to the mortality of a number of at-risk seabirds, studies have yet to determine which species of birds are most at risk from the fishery (relevant research projects include ENV 2003/05, ENV2004/05). Nonetheless, mitigation measures have been implemented in the fishery to reduce the total numbers of seabirds caught as bycatch, within the terms of the NPOA and the DSG Seabird COP. It seems likely, although not proven, that such a strategy will also reduce the bycatch of individual at-risk species. The most urgent priorities should be accorded to those at-risk bird species that are not recovering, or where recovery seems unlikely. Where recovery is underway, and the fishery is not the primary determinant of such recovery, then the MSC 80 level of performance is that recovery of such species should not be significantly impeded by the fishery. Where recovery is uncertain, or is not occurring, the MSC 80 level of performance is operationally interpreted here to mean that the fishery should generally have a target of zero bycatch of such at-risk bird species. For recovering, protected or depleted species, bycatch levels should be maintained within well-defined acceptable levels, supported by appropriate objectives, strategies, measures, monitoring, reporting and surveillance/verification procedures</p> <p>All assessments of the seabird bycatch issue identify the discharge of offal wastes (including sumps, production and deck wastes) as the major source of attractant for birds to the vessels, and the major risk factor for seabird bycatch. The management of offal wastes may also be a major factor responsible for the highly non-uniform distribution of bird bycatch across all of the NZ fisheries. From 8 years of observer data, a small number of vessels are noted to consistently catch more than 80% of the seabirds, and between 50 to 60% of the individual vessels observed over these 8 years have consistently recorded no bycatch of birds through the observer programme or other sources (Robertson et al autopsy report for DOC, June 2005). The discharge and management of offal, deck and processing wastes is the major factor predisposing seabirds to being caught in nets, struck by warps, or colliding with vessel structures during fishing activities. The vessel level data that are available for the hoki fishery demonstrate that most of the seabirds are taken by a small number of individual vessels (Baird, June 2004, Summary of fishing effort and seabird bycatch), Reduction and better management of such wastes is the highest single factor that will reduce seabird bycatch across all vessels in the hoki fishery.</p> <p>In the hoki fishery, the at-sea identification of seabirds is difficult, and there is a high likelihood of misidentification of the at-risk birds taken as bycatch. This makes real-time monitoring and reporting impractical, and is not an available strategy for management of the bird bycatch. However, the acceptable level of bycatch expressed as number of seabirds (as expressed in the NPOA KPI and the DSG COP) leaves open the question of bycatch of individual at-risk seabird species and this does not express a well-defined level of acceptable bycatch because it is not precautionary in the absence of species-specific measures. So, despite the documented (small) number of at-risk seabirds taken by the hoki fishery as bycatch, and given the uncertainty surrounding the injuries and mortality imposed by warp-strike it is not clear if the present level of bycatch of the at-risk seabird species is within acceptable levels. A highly precautionary approach to this issue needs to be implemented in the fishery to achieve the MSC 80 level of performance.</p> <p>Populations of fur seals are clearly depleted, but appear to be either stable or slowly recovering from the historic high levels of exploitation (Watson 2004). However, their populations appear to be seriously affected by La Nina warming ocean conditions, and pupping success appears to be heavily influenced by the dynamics of ocean conditions, presumably food availability and related density-dependent issues.</p> <p>The fur seal rookeries on the west coast of the South Island (in the WCSI fishery area) appear to be the only NZ rookeries routinely monitored by DOC that are in overall decline and are also influenced by seal bycatch (Best, DOC paper August 2005; although this paper does not provide the comparable data for other rookeries that are monitored by DOC). The population</p>
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<p>recovery rate appears to be only minimally affected by the fur seal bycatch rates currently experienced in the fishery except in the WCSI areas, where the level of fisheries bycatch is increasing and may be having an important impact on recovery. This inference is based on the assumption that the overall production of adults recruiting to the breeding population in three of the four WCSI rookeries is likely to be about 600 to 900 per year, depending on ocean conditions, and assuming 30% of pups survive to sexual maturity at age 6 years. The hoki fishery currently (last 5 years of data) takes a bycatch of seals from the WCSI area that appears to range from about 200 to 300 seals each year, presumably from a range of ages across the mature individuals (Baird 2005, FAR 02-03 data, op cif, WWF 2006). The present level of bycatch could be interpreted as therefore having a significant influence on the recovery of the WCSI rookeries.</p> <p>At present, the effects of adverse ocean conditions and some very high fishery bycatches of seals in the late 90s and in 2004/05 are likely to be affecting the size of breeding populations, and it is important to ensure a reduced bycatch in the coming years to enable the WCSI populations to progress successfully through this apparent bottleneck. The risk of fishery impacts is currently being mitigated through the DSG Code of Practice that is designed to constrain bycatch rates. The DSG is well aware of the importance of the WCSI in terms of seal bycatch, but at this stage there are no specific targets for bycatch reduction to be achieved under the COP.</p> <p>To achieve the MSC 80 level of performance, the hoki fishery will need to reduce seal bycatch in the WCSI, taking a precautionary approach to the issue of the impact of the fishery on recovery of seal populations. This will need to be both continuing reduction in absolute numbers of seals estimated to be taken as bycatch, and a continuing reduction in the catch rate per tow, to ensure that there is a systematic basis for continuing to reduce bycatch irrespective of the level of fishing effort. However, the rate of seal catch per tow may need to be adjusted as an indicator to reflect the natural population size of seals, since an increasing population of fur seals may also result in increased foraging around fishing vessels as a result of reducing natural food availability. The score on this Indicator fails to achieve 80 because assessment of the impacts of the fishery have not been able to demonstrate that fishery impacts are generally maintained within acceptable levels in relation to either at-risk species of seabirds, or in relation to seals in the WCSI area.</p> <p>Score: 77</p> <p>Text of Condition of Certification:</p> <p>Performance Indicator 2.2.3.1 Do the impacts of the fishery on protected, endangered, threatened or at risk species exceed unacceptable levels?</p> <p>Findings Assessment of the impacts of the fishery have not been able to demonstrate that fishery impacts are generally maintained within acceptable levels in relation to either at-risk species of seabirds or seals in the WCSI area.</p> <p>Corrective Action Request For seabirds, to achieve the MSC 80 level of performance, the acceptable level of performance will be related to the extent to which there is a precautionary approach to the issue of reducing the total bycatch of birds, and by implication reducing the likely catch of the at-risk species. There is no evidence about selectivity of the different sources of mortality for seabirds caused by the fishery operations, and so an overall reduction in the bycatch of birds may reasonably be assumed to be proportionally precautionary for at-risk species. The implicit level of acceptable impacts established in the NPOA is based on total number of birds, not abundance of individual species, and so the impacts of the hoki fishery on at-risk seabird species are unclear. Similarly, the pressure of fishing-related mortality imposed on these seabird populations by the hoki fishery is not clear. This Corrective Action takes a precautionary approach to the issue, and will progressively reduce the risk that the fishery is having an unacceptable level of impacts on seabird populations by requiring the progressive elimination of the discharge of the main forms of bird-attracting offal from all vessels in the hoki fleet at times when birds typically suffer most mortality or injuries. The main form of bird-attracting waste is identifiable pieces of offal, and this is the material that generates the</p>
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	<p>highest risk to seabirds. Macerated wastes may also attract some species of birds, but the risk of mortality is considered to be greatly reduced. The activities conducted to fulfil the terms of this CAR should be coordinated with the CSL project MIT2005/01 if it is approved in 2006/07 (or a later) round of CSL projects.</p> <p>7.1 Design and Implement an Offal Management System</p> <p>Progressively develop and implement revised Vessel Management Plans for each vessel in the hoki fishery so that during times of setting, fishing or hauling of nets, procedures will be implemented to:</p> <ol style="list-style-type: none"> 1. eliminate offal pieces discharge; and 2. ensure that there is fine maceration of any offal wastes that must be discharged; and 3. ensure that appropriate forms of bird bycatch mitigation technology are deployed. <p>Ensure that all changes to procedures and any necessary engineering changes to hoki vessels are fully completed for all vessels, and that the VMPs are fully operational, within 2 years of certification. This section of the CAR will be satisfied if all appropriate VMPs are revised and there is evidence that relevant changes to procedures and/or equipment etc is being implemented across all hoki vessels.</p> <p>7.2 Vessel Auditing</p> <p>Develop a system of verifiable internal auditing that will report to DSG on the compliance of each vessel with the offal discharge behaviour established within the VMPs, on a shot/shot basis. This section of the CAR will be satisfied when the compliance data is verified in the 3rd annual surveillance audit.</p> <p>This CAR overall will be satisfied when the evidence of bird bycatch from MFish observer data (or any other robust data source agreed with stakeholders and the audit team) verifies that the implementation of the offal management program through the VMP achieves a substantive reduction in both overall seabird mortality and in bycatch mortality of the four main at-risk species—Salvins albatross, White-capped albatross, Northern giant petrel and White-chinned petrel. This must be achieved and be verified within 3 years of certification.</p>
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DWG Action	<p>Corrective Action Request</p> <p>For seabirds, to achieve the MSC 80 level of performance, the acceptable level of performance will be related to the extent to which there is a precautionary approach to the issue of reducing the total bycatch of birds, and by implication reducing the likely catch of the at-risk species. There is no evidence about selectivity of the different sources of mortality for seabirds caused by the fishery operations, and so an overall reduction in the bycatch of birds may reasonably be assumed to be proportionally precautionary for at-risk species.</p> <p>The implicit level of acceptable impacts established in the NPOA is based on total number of birds, not abundance of individual species, and so the impacts of the hoki fishery on at-risk seabird species are unclear. Similarly, the pressure of fishing-related mortality imposed on these seabird populations by the hoki fishery is not clear. This Corrective Action takes a precautionary approach to the issue, and will progressively reduce the risk that the fishery is having an unacceptable level of impacts on seabird populations by requiring the progressive elimination of the discharge of the main forms of bird-attracting offal from all vessels in the hoki fleet at times when birds typically suffer most mortality or injuries. The main form of bird-attracting waste is identifiable pieces of offal, and this is the material that generates the highest risk to seabirds. Macerated wastes may also attract some species of birds, but the risk of mortality is considered to be greatly reduced. The activities conducted to fulfill the terms of this CAR should be coordinated with the CSL project MIT2005/01 if it is approved in 2006/07 (or a later) round of CSL projects.</p> <p>7.1 Design and Implement an Offal Management System</p> <p>Progressively develop and implement revised Vessel Management Plans for each vessel in the hoki fishery so that during times of setting, fishing or hauling of nets, procedures will be implemented to:</p> <ul style="list-style-type: none"> (a) eliminate offal pieces discharge; and (b) ensure that there is fine maceration of any offal wastes that must be discharged; and (c) ensure that appropriate forms of bird bycatch mitigation technology are deployed. <p>Ensure that all changes to procedures and any necessary engineering changes to hoki vessels are fully completed for all vessels, and that the VMPs are fully operational, within 2 years of certification. This section of the CAR will be satisfied if all appropriate VMPs are revised and there is evidence that relevant changes to procedures and/or equipment etc is being implemented across all hoki vessels.</p> <p>7.2 Vessel Auditing</p> <p>Develop a system of verifiable internal auditing that will report to DSG on the compliance of each vessel with the offal discharge behaviour established within the VMPs, on a shot/shot basis. This section of the CAR will be satisfied when the compliance data is verified in the 3rd annual surveillance audit</p> <p>This CAR overall will be satisfied when the evidence of bird bycatch from MFish observer data (or any other robust data source agreed with stakeholders and the audit team) verifies that the implementation of the offal management program through the VMP achieves a substantive reduction in both overall seabird mortality and in bycatch mortality of the four main at-risk species—Salvins albatross, White-capped albatross, Northern giant petrel and White-chinned petrel. This must be achieved and be verified within 3 years of certification.</p> <p>Response</p> <p>Desired Outcomes</p> <p>Regular assessments of the impacts of the fishery on seabirds demonstrate that fishery impacts are generally maintained within acceptable levels (MSC performance indicator 2.2.3.1 – 80 level).</p> <p>Specific Objectives</p> <ul style="list-style-type: none"> a. To design and implement an offal management system in the fishery. b. To develop a system of verifiable internal auditing that enables the DSG to monitor (on a vessel by vessel and shot by shot basis) compliance with the offal management system. <p>Actions & milestones</p> <ul style="list-style-type: none"> a. To continue with current design work on a suitable offal management system. b. To test the feasibility of the offal management system, along with other bird mitigation practices, through the already convened joint stakeholder Technical Working Group
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	<p>(TAG) within timeframes agreed by the TAG.</p> <p>c. To implement across the fishery bird mitigation practices recommended by the TAG and an offal management system by inclusion in the hoki code of practice within 2 years of certification.</p> <p>d. Undertake a full analysis of the weekly reporting system that is currently in operation in the fishery (during the TAG conducted sea bird mitigation experiment) to determine the best approach to internal auditing of compliance with the offal management system on a vessel by vessel and shot by shot basis across the fishery – by the end of 2006.</p> <p>e. Develop and implement an effective internal auditing system across the fishery by mid-2008.</p> <p>The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicator 2.2.3.1 Do the impacts of the fishery on protected, endangered, threatened or at risk species exceed unacceptable levels?</p> <p>2. Findings Assessment of the impacts of the fishery have not been able to demonstrate that fishery impacts are generally maintained within acceptable levels in relation to either at-risk species of seabirds or seals in the WCSI area. Score 77.</p> <p>3. Management objectives Reduce the risk of interactions between seabirds and trawl vessels in the hoki fishery through the implementation of an offal management system that includes a verifiable auditing process to enable monitoring of compliance.</p> <p>4. Desired outcomes The conservation status and impacts of the fishery on seabirds that may be affected by the fishery are regularly assessed, quantified, documented and publicly reported through independent external expert review. Regular quantitative assessments of the impacts of the fishery on seabirds are generally maintained within acceptable levels (PI 2.2.3.1 – 100 level).</p> <p>5. Operational tasks</p> <ul style="list-style-type: none"> • Refine VMP process and implement across all trawlers >28 m fishing for hoki • Facilitate further development of measures that reduce the risk of injury or death of seabirds through hoki fishing operations • Recognising that offal is an attractant to foraging seabirds, develop, prove and implement offal management practices that mitigate the risks of harm to seabirds <p>6. Actions and milestones</p> <p>By 31 October 2009:</p> <ul style="list-style-type: none"> • Design and implement an offal management system across entire fleet which will include an effective system to audit compliance <p>By 31 October 2010</p> <ul style="list-style-type: none"> • Develop and implement an effective internal auditing system across both hoki fisheries • Implementation of offal management measures on vessel specific basis completed on 1 June 2007 through Vessel Management Plans for factory trawlers • Extension to all trawlers >28m by 1 October 2008 will be completed • Implementation of effective external auditing system in place from 1 June 2007. This is being revised from 1 October 2008 • SGS advised in August 2007 that: “Overall, this CAR could probably be considered to be fulfilled”. • Further work on refining the VMP requirements, effective offal management measures and auditing processes in conjunction with MFish are underway for implementation on 1 October 2008. • Further offal management research is underway (on the effectiveness of batching and mincing) and the results from this research will be used to develop further or improve existing seabird mitigation measures.
<p>Observations</p>	<p>The interaction of the hoki fleet and seabirds has received considerable focus over recent years. Initial outcomes have been encouraging in terms of reduced interaction, noted as reduced captures (<i>Draft New Zealand Aquatic Environment and Biodiversity Report, 2008</i>). The required reporting practices to fishery managers (including, for example, the use of trigger</p>

	<p>points) demonstrate the level of commitment by the managers to address this issue effectively. Considerable effort continues to be directed towards keeping the issue of seabirds in the minds of the fishers, including learning, information and operational elements such as species identification and mitigation measures.</p> <p>The development of offal management is being implemented through general and vessel specific offal management planning, including the auditing of individual vessels by MFish observers and enforcement officers. The initial approach to sanctions in the event of non-compliance appears adequate and the effectiveness of this will be monitored through future the annual surveillance assessments.</p> <p>There needs to be an adequately robust approach to both assessing and monitoring the effectiveness of the measures implemented (i.e. audit verification of the VMPs). This is to ensure that the measures do (i) deliver the reduction in impact desired; (ii) enable the level or significance of impacts on specific vulnerable or endangered species to be assessed.</p> <p>The population status of many seabirds is poorly understood and it is therefore often impractical to measure impact on populations. Different approaches (e.g. through an ERA) will need to be considered to ensure that the risk to seabirds is adequately managed. Comparing published population and status information (iucnredlist.org) with the list of species reported killed by the hoki fishery in the last few years (<i>Draft New Zealand Aquatic Environment and Biodiversity Report 2008</i>), it is apparent that the hoki fishery poses little risk to the species concerned at the levels of current levels of interaction.</p>
Conclusion	<p>Good progress has been made in addressing the needs of the Condition.</p> <p>Two areas of concern that will need addressing are: (i) the effectiveness of the management (mitigation) measures to reduce both interactions and mortalities needs to appropriately assessed; and (ii) if there are species of specific concern the estimated impact on these populations is appropriately considered and managed.</p> <p>Overall, the Condition is ahead of target and will be further reviewed during the next surveillance audit (although this is well within the overall timeframe for this Condition).</p>

Item	Comments
8	Condition of Certification 8: Impacts on Fur Seals
Activity assessed	<p data-bbox="492 264 1458 321">PI 2.2.3.1 Do the impacts of the fishery on protected, endangered, threatened or at risk species exceed unacceptable levels?</p> <p data-bbox="492 344 1458 457">SG 60: Studies in the fishery have examined fishery impacts on protected, endangered, threatened or at risk species, and mitigation strategies are in place or being developed where appropriate. There is no evidence that interactions with the fishery create unacceptable impacts on populations of the species concerned.</p> <p data-bbox="492 480 1458 573">SG 80: Regular assessment of the impacts of the fishery on protected, endangered, threatened or at risk species that may be affected by the fishery demonstrates that fishery impacts are generally maintained within acceptable levels (as established in 2.2.2.1).</p> <p data-bbox="492 596 1458 762">SG 100: The conservation status and impacts of the fishery on all protected, endangered, threatened or at risk species that may be affected by the fishery are regularly assessed, quantified, documented and publicly reported through independent external expert review. Regular quantitative assessment of the impacts of the fishery on protected, endangered, threatened or at risk species that may be affected by the fishery demonstrates that fishery impacts are generally maintained within acceptable levels (as established in 2.2.2.1).</p> <p data-bbox="492 785 1458 816">Original Evaluation: As in Condition 7 above.</p> <p data-bbox="492 840 1458 871">Score: 77</p> <p data-bbox="492 894 1458 951">PI 2.3.1.1 Are management measures for the target species in place that would allow for the rebuilding of the affected non-target populations?</p> <p data-bbox="492 974 1458 1031">SG 60: There is some information on functional relationships, sufficient to allow alterations to be made to fishing to support the rebuilding of depleted non-target species.</p> <p data-bbox="492 1054 1458 1146">SG 80: There is adequate information, combined with a precautionary approach wherever necessary, to allow alterations to be made to fishing to support the rebuilding of the depleted non-target species, and management measures are in place.</p> <p data-bbox="492 1169 1458 1241">SG 100: There is a clear understanding of functional relationships between all depleted populations and the fishery. Intervention measures based on this understanding have been tested and shown to be effective. All relevant management measures are in place.</p> <p data-bbox="492 1264 1458 1295">Original Evaluation:</p> <p data-bbox="492 1318 1458 1724">This criterion and the performance indicator are operationally interpreted to apply to non-target species that are identified as depleted at the population or sub-population level and are also trophically related to the hoki population. Management strategies and measures that may be applied to hoki fishing can then be implemented to ensure that there is rebuilding of non-target populations that may be linked to hoki as either predators or as prey. Other aspects of any possibly depleted non-target species are assessed in Criterion 1 or 2 above. The only ecologically-dependent species that can be considered to be formally depleted under this Criterion is the fur seal. However there is a high level of uncertainty about such an assignment, since populations are possibly trophically linked to the hoki fishery in only the WCSI area, and may not be trophically linked to the hoki fishery in the other areas (and probably not affected by the hoki fishery). The fishery has implemented a range of strategies under the COP to address the fur seal bycatch, but the recent level of bycatch has been increasing. The level of bycatch in WCSI needs to be progressively reduced through the introduction of an annual target for bycatch reduction to allow for rebuilding of seal sub-populations and rookeries in the WCSI area.</p> <p data-bbox="492 1747 1458 1900">The increase in bycatch in 04/05 in WCSI indicates that the COP is not working effectively across all areas of the fishery. Although the full statistical analysis of the 04/05 data is yet to be completed, the trend in WCSI for 04/05 indicates that the COP needs to be urgently reviewed and assessed, and there needs to be a fully detailed evaluation of the factors that may have contributed to the 04/05 pattern in WCSI, and possibly in other areas of the fishery.</p>

	<p>The score on this Indicator fails to achieve the 80 level because there is not an adequately precautionary approach to management measures to support the rebuilding of the WCSI fur seal sub-population through a continuing reduction in seal bycatch.</p> <p>Score: 78</p> <p>Text of Condition of Certification:</p> <p>Performance Indicators 2.2.3.1 and 2.3.1.1 Do the impacts of the fishery on protected, endangered, threatened or at risk species exceed unacceptable levels? Are management measures for the target species in place that allow for the rebuilding of the affected non-target populations?</p> <p>Findings The assessment of the impacts of the fishery have not been able to demonstrate that fishery impacts are generally maintained within acceptable levels in relation to seals in the WCSI area. There is not an adequately precautionary approach to management measures to support the rebuilding of the WCSI fur seal sub-population through a continuing reduction in the seal bycatch.</p> <p>Corrective Action Request Management measures are in place in the fishery to deal in a precautionary way with impacts of the fishery on the recovery of fur seals generally, although the impact of fishery on recovery of the seal population in the WCSI needs specific attention. The interaction between ocean warming and fishing bycatch mortality is as yet unclear, but the apparently continuing decline of WCSI seal rookeries (Best 2005) suggest that a more precautionary approach will need to be implemented for fishing strategies in WCSI. The newly available data (Best 2005, WWF 2006) indicates that the fishery bycatch may be equivalent to up to 50% of the number of mature female seals that recruit each year to the WCSI rookeries.</p> <p>To achieve the MSC 80 level of performance, the acceptable level of performance will be related to the extent to which there is a successfully implemented and increased precautionary approach to the issue of the recovery of fur seals in the WCSI. This will be demonstrated by an ongoing annual reduction in the seal bycatch number and bycatch/rawl rate in the WCSI. The DSG has a COP in place to address the seal bycatch issue. However the effectiveness of this COP is somewhat uncertain because of a substantial increase in the bycatch of seals recorded from the WCSI area for the 04/05 fishing year.</p> <p>This CAR requires the DSG to develop a series of annual targets for the numbers of fur seals in bycatch to deliver an effective annual reduction in fur seal bycatch numbers and bycatch/rawl in the WCSI fishery in each consecutive year of certification. This is to be achieved through a comprehensive analysis of performance of the COP in 2004/05, a review with stakeholders (eg through the ESG), and if necessary, a consequent revision of the COP for vessels operating in the WCSI fishery and elsewhere as appropriate. The analysis will include a statistical evaluation of the relationship between vessel turns during fishing and seal bycatch as documented in the observer comments for the 04/05 fishing year, and a review of the levels of observer coverage required in each fishery sub-area to provide for statistically robust reporting of seal bycatch across the whole fishery.</p> <p>The review of the COP will also consider the need to improve the process and frequency of internal DSG compliance assessments, including internal reporting of non-compliant bycatch data for DSG action.</p> <p>The benchmark for the annual reduction shall be taken to be the three fishing years prior to the time at which certification is awarded to the fishery, provided there is a statistically reliable estimate of the fur seal bycatch in WCSI in those years (currently 2002-03 fishing year and those prior), and subject to agreement with the ESG. The annual estimate of reduction in bycatch that was actually achieved in WCSI shall be determined each year by statistical analysis using an analytical technique agreed with stakeholders through the ESG. The annual target for progressive reduction in WCSI seal bycatch abundance and bycatch/rawl is to be</p>
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	<p>developed in conjunction with, and may be varied by agreement with, the ESG, DOC and the stakeholders, and is subject to review and approval of the audit team.</p> <p>The CAR will completed with 15 months of certification of the fishery.</p>
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DWG Action	<p>Corrective Action Request</p> <p>Management measures are in place in the fishery to deal in a precautionary way with impacts of the fishery on the recovery of fur seals generally, although the impact of fishery on recovery of the seal population in the WCSI needs specific attention. The interaction between ocean warming and fishing bycatch mortality is as yet unclear, but the apparently continuing decline of WCSI seal rookeries (Best 2005) suggest that a more precautionary approach will need to be implemented for fishing strategies in WCSI. The newly available data (Best 2005, WWF 2006) indicates that the fishery bycatch may be equivalent to up to 50% of the number of mature female seals that recruit each year to the WCSI rookeries.</p> <p>To achieve the MSC 80 level of performance, the acceptable level of performance will be related to the extent to which there is a successfully implemented and increased precautionary approach to the issue of the recovery of fur seals in the WCSI. This will be demonstrated by an ongoing annual reduction in the seal bycatch number and bycatch/rawl rate in the WCSI. The DSG has a COP in place to address the seal bycatch issue. However the effectiveness of this COP is somewhat uncertain because of a substantial increase in the bycatch of seals recorded from the WCSI area for the 04/05 fishing year.</p> <p>This CAR requires the DSG to develop a series of annual targets for the numbers of fur seals in bycatch to deliver an effective annual reduction in fur seal bycatch numbers and bycatch/rawl in the WCSI fishery in each consecutive year of certification. This is to be achieved through a comprehensive analysis of performance of the COP in 2004/05, a review with stakeholders (eg through the ESG), and if necessary, a consequent revision of the COP for vessels operating in the WCSI fishery and elsewhere as appropriate. The analysis will include a statistical evaluation of the relationship between vessel turns during fishing and seal bycatch as documented in the observer comments for the 04/05 fishing year, and a review of the levels of observer coverage required in each fishery sub-area to provide for statistically robust reporting of seal bycatch across the whole fishery.</p> <p>The review of the COP will also consider the need to improve the process and frequency of internal DSG compliance assessments, including internal reporting of non-compliant bycatch data for DSG action.</p> <p>The benchmark for the annual reduction shall be taken to be the three fishing years prior to the time at which certification is awarded to the fishery, provided there is a statistically reliable estimate of the fur seal bycatch in WCSI in those years (currently 2002-03 fishing year and those prior), and subject to agreement with the ESG. The annual estimate of reduction in bycatch that was actually achieved in WCSI shall be determined each year by statistical analysis using an analytical technique agreed with stakeholders through the ESG. The annual target for progressive reduction in WCSI seal bycatch abundance and bycatch/rawl is to be developed in conjunction with, and may be varied by agreement with, the ESG, DOC and the stakeholders, and is subject to review and approval of the audit team.</p> <p>The CAR will be completed with 15 months of certification of the fishery.</p> <p>Desired Outcomes</p> <p>Regular assessment of the impacts of the fishery on fur seals demonstrates that fishery impacts are generally maintained within the acceptable levels established in the ERA (MSC performance indicator 2.2.3.1 – 80 level). There is adequate information to allow alterations to be made to fishing to support the rebuilding of the fur seal populations (where they are depleted to unacceptable levels) and management measures are in place (MSC performance indicator 2.3.1.1 – 80 level).</p> <p>Specific Objectives</p> <p>DSG aims to manage the hoki fishery's interaction with fur seals to meet the following goals:</p> <ol style="list-style-type: none"> 1. To ensure that the long-term viability of fur seals is not threatened by their incidental catch in the hoki fishery; and 2. To further reduce incidental catch of fur seals as far as possible, taking into account advances in technology, knowledge and financial implications. <p>Actions & milestones</p> <ol style="list-style-type: none"> a. Support the existing processes for estimation of fur seal bycatch to provide statistically robust estimates of fur seal bycatch in the hoki fishery for the 2003/04 and 2004/05 fishing years, within 6 months of recertification.
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	<p>b. Work with a science provider, and appropriate scientific working group, to review the new data (Best 2005, WWF 2006) on the current status of the NZ fur seal, within 9 months of recertification, and as necessary, support additional surveys to improve the current information on fur seal abundance.</p> <p>c. Review existing analyses, and, if necessary, seek additional statistical analyses, of factors associated with the capture of NZ fur seals in the hoki fishery, within 9 months of recertification. Revise Code of Practice guidelines, if necessary, to take account of this review, within 12 months of certification.</p> <p>d. Support a working group process to establish appropriate initial fishing related mortality limits for the NZ fur seal population, within 12 months of recertification.</p> <p>e. Develop a process to establish, and ensure appropriate monitoring of, annual fur seal bycatch targets in the WCSI fishery within 15 months of recertification.</p> <p>f. Work with fishing companies to strengthen commitment to the existing Code of Practice regime, and ensure that DSG has appropriate access to vessel specific bycatch information to audit Code of Practice compliance. Timescale will be determined following Government decisions on the regulation of the Non Fish Incidental Catch Return. E.g. Review technological options for mitigation of fur seal bycatch in the WCSI hoki fishery within 12 months of certification. Establish a process for testing and development of promising mitigation technologies.</p> <p>The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicator 2.2.3.1 and 2.3.1.1 Do the impacts of the fishery on protected, endangered, threatened or at risk species exceed unacceptable levels? Are management measures for the target species in place that allow for the rebuilding of the affected non-target populations?</p> <p>2. Findings The assessment of the impacts the hoki fishery is having on the fur seal population has not been able to demonstrate that these impacts are generally maintained within acceptable levels, particularly in relation to seals in the WCSI area. There is also not an adequately precautionary approach to management measures in place that will support a rebuild of the WCSI fur seal sub-population nor are there management measures in place which will deliver a continuing reduction in fur seal bycatch. Score 77 and 78</p> <p>3. Management objectives Ensure that incidental captures of fur seals in the hoki fisheries do not threaten their long-term viability; and further reduce incidental captures of fur seals as far as possible, taking into account advances in technology, knowledge of vessel and crew safety and the economic implications.</p> <p>4. Desired outcomes</p> <ul style="list-style-type: none"> • The impacts that the hoki fishery has on the fur seal population are regularly assessed, quantified, documented and publicly reported through independent external expert review. Regular quantitative assessments indicate that the impacts the hoki fishery has on the fur seal population are generally maintained within acceptable levels. (P2.2.3.1, 100 level). • There is a clear understanding of the functional relationships between the west coast south island (WCSI) fur seal population and the hoki fishery. Intervention measures have been tested and are known to be effective and all relevant management measures are in place. (P2.3.1.1, 100 level). <p>5. Operational tasks</p> <ul style="list-style-type: none"> • Develop and implement a management regime that will ensure there is comprehensive information on the impacts the hoki fishery has on the WCSI fur seal population: <ul style="list-style-type: none"> o Collate all available information on the fur seal population o Identify information gaps and develop a monitoring or research plans over the short to medium term to fill these information gaps • Review available information to assess: <ul style="list-style-type: none"> o Status of the population o Factors which may contribute to incidental fur seal captures o Any impacts that environment is having on the fur seal population • Complete an assessment of the relationship between WCSI hoki fishery and the WCSI fur

	<p>seal population and determine if the impacts arising from this relationship are either adverse or severe.</p> <ul style="list-style-type: none"> • If the impacts of incidental fur seal captures on the WCSI population are determined to be having an adverse effect and management intervention is required, develop and implement management measures to avoid, remedy or mitigate these recognising that such management measures must have been tested previously are known to be successful. <p>6. Actions and milestones All to be completed by 31 March 2009:</p> <ul style="list-style-type: none"> • Support the existing processes for estimation of fur seal bycatch to provide statistically robust estimates of fur seal bycatch in the hoki fishery for the 2003/04 and 2004/05 fishing years, within 6 months of recertification. Completed • Work with a science provider, and appropriate scientific working group, to review the new data (Best 2005, WWF 2006) on the current status of the NZ fur seal, within 9 months of recertification, and as necessary, support additional surveys to improve the current information on fur seal abundance. Review of the data is in Progress. A survey of WCSI fur seal abundance planned for December, consultation with stakeholders and interested parties completed. • Review existing analyses, and, if necessary, seek additional statistical analyses, of factors associated with the capture of NZ fur seals in the hoki fishery, within 9 months of recertification. <p>Revise Code of Practice guidelines, if necessary, to take account of this review, within 12 months of certification. Completed – a technical review of the Marine Mammal Operational Procedures (MMOP, formerly the CoP) was undertaken in 2007 by DWG in consultation with MFish, DoC, and NGOs. The revised MMOP has been implemented during the 2007-08 year</p> <ul style="list-style-type: none"> • Support a working group process to establish appropriate initial fishing related mortality limits for the NZ fur seal population, within 12 months of recertification. Needs discussion with Moody Marine as to requirement, given current knowledge and specificity of measures not outcomes. • Develop a process to establish, and ensure appropriate monitoring of, annual fur seal bycatch targets in the WCSI fishery within 15 months of recertification. Needs discussion with Moody Marine as to requirement, given current knowledge and specificity of measures not outcomes. • Work with fishing companies to strengthen commitment to existing Code of Practice regime, and ensure the DWG has appropriate access to vessel specific incidental capture information to audit Code of Practice compliance. Timescale will be determined following Government decisions on the regulation of the Non Fish Incidental Catch Return. Completed • Review technological options for mitigation of fur seal bycatch in the WCSI hoki fishery within 12 months of recertification. Establish a process for testing and development of promising mitigation technologies. Review completed. Project underway via CSP MIT2006\09 (see DoC website) <p>7. Summary to date</p> <ul style="list-style-type: none"> • Milestones either completed or on track for completion. • Discuss with Moody Marine on the need to first assess the impact of the hoki fishery might be having on the WCSI fur seal populations and therefore the extent to which management intervention might be required.
<p>Observations</p>	<p>Activities against the milestones are progressing well, including improved monitoring and reporting of fur seal by-catch with use of triggers for reporting providing an opportunity for early management intervention. Approaches to identify fishing activity that increases the risk of vessel-fur seal interaction have been developed and this will continue to feed back into improved avoidance behaviours by the vessels. The incorporation of the MMOPs into individual vessel operations will continue to strengthen the application of this approach to mitigate incidents.</p> <p>The next key element will be the fur seal population survey which will provide a baseline against which to judge the scale of the impact of by-catches at a population level. The scheduled review of existing data on fur seals may be critical in interpreting the results of the planned population survey and needs to be completed in a timely manner to assist in making the most from the survey.</p> <p>Managing interactions between marine mammals and fishing equipment is a considerable problem worldwide, especially given the learning capacity of these animals. The approaches</p>

	that have been developed for the hoki fishery appear to be having a positive effect in reducing incidental fur seal mortality (DOC Conservation Observer Report 2004 -2007; <i>Draft</i> New Zealand Aquatic Environment and Biodiversity Report 2008).
Conclusion	Good progress is being made against the milestones and the Condition is on target for completion within specified timeframes.

Item	Comments
9	Condition of Certification 9: Management Plan
Activity assessed	<p data-bbox="492 260 1456 321">PI 3.1.1.2 <i>Is there a Management Plan that includes objectives related to target species and the impacts of fishing on the ecosystem</i></p> <p data-bbox="492 342 1456 403">SG 60: The fishery operates under a set of informal and formal arrangements that broadly constitute a coherent management system.</p> <p data-bbox="492 424 1456 537">SG 80: There is a strategic overview of the management system that identifies the goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and compliance plans, and applicable laws and regulations.</p> <p data-bbox="492 558 1456 703">SG 100: There is a documented system of goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and compliance plans, and applicable laws and regulations. This document is developed within the framework of the Fisheries and other applicable Acts.</p> <p data-bbox="492 724 716 753">Original Evaluation:</p> <ul data-bbox="492 774 1456 1270" style="list-style-type: none"> <li data-bbox="492 774 1456 919">• The fishery operates under a set of informal and formal arrangements that broadly constitute a coherent management system. However there is no comprehensive fisheries plan or documented system that provides an integrated plan of management for the fishery that encompasses stock and environmental management matters, taking account of the mix of regulatory and voluntary arrangements that operate in this fishery <li data-bbox="492 940 1456 1022">• There is evidence for the existence of many of the components of an effective fishery plan, and evidence for the development of some additional aspects, but there is no single strategic overview of the system that contains/describes the necessary elements. <li data-bbox="492 1043 1456 1073">• There is a fisheries plan under development by HFMC and stakeholders. <li data-bbox="492 1094 1456 1270">• The Ministry of Fisheries has recently released a document outlining the need for development of fisheries management plans. The Ministry of Fisheries is to lead the process of developing these plans with stakeholder input, and has selected three fisheries for a pilot (unfortunately hoki is not one of these). This is a change in policy and there was much uncertainty as to who was responsible for developing the plans and the role of stakeholders in the process until the policy was announced recently. <p data-bbox="492 1291 1456 1436">The score for this indicator is below 80 because there is no strategic overview of the management system that identifies the goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and compliance plans, and applicable laws and regulations.</p> <p data-bbox="492 1457 594 1486">Score: 78</p> <p data-bbox="492 1507 862 1537">Text of Condition of Certification:</p> <p data-bbox="492 1558 818 1587">Performance Indicator 3.1.1.2</p> <p data-bbox="492 1589 1456 1650">Is there a Management Plan that includes objectives related to target species and the impacts of fishing on the ecosystem?</p> <p data-bbox="492 1652 591 1682">Findings</p> <p data-bbox="492 1684 1456 1797">There is no strategic overview of the management system that identifies the goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and compliance plans, and applicable laws and regulations.</p> <p data-bbox="492 1799 781 1829">Corrective Action Request</p> <p data-bbox="492 1831 1456 1908">Write a strategic overview of the management system that identifies the goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and</p>

	<p>compliance plans, and applicable laws, regulations and voluntary agreements. This strategic overview must be developed with involvement from relevant government agencies and stakeholders groups.</p> <p>To be completed 6 months after re-certification.</p> <p>A strategic overview of the management system which is either specific to, or includes, the hoki fishery, shall be written. Components of the strategic overview will include:</p> <ul style="list-style-type: none"> • goals and objectives relating to the management of the fishery; and • associated implementation strategies and services (including, but not confined to, harvesting, research, environmental, and compliance) to achieve the objectives. <p>The strategic overview must:</p> <ul style="list-style-type: none"> • include consultation on the management arrangements with those who have an interest in the hoki fishery, including all relevant government departments and agencies as well as interested stakeholders; • provide clear linkages among the various components of the plan; and • provide for continuous monitoring and review.
<p>DWG Action</p>	<p>Corrective Action Request</p> <p>Write a strategic overview of the management system that identifies the goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and compliance plans, and applicable laws, regulations and voluntary agreements. This strategic overview must be developed with involvement from relevant government agencies and stakeholders groups.</p> <p>To be completed 6 months after certification.</p> <p>A strategic overview of the management system which is either specific to, or includes, the hoki fishery, shall be written. Components of the strategic overview will include:</p> <ul style="list-style-type: none"> • goals and objectives relating to the management of the fishery; and • associated implementation strategies and services (including, but not confined to, harvesting, research, environmental, and compliance) to achieve the objectives. <p>The strategic overview must:</p> <ul style="list-style-type: none"> • include consultation on the management arrangements with those who have an interest in the hoki fishery, including all relevant government departments and agencies as well as interested stakeholders; • provide clear linkages among the various components of the plan; and • provide for continuous monitoring and review. <p>This CAR is linked to CAR 12 Research Planning</p> <p>Desired Outcomes</p> <p>There is a strategic overview of the fishery management system that identifies goals, objectives, processes, management tools and arrangements, research, monitoring and compliance plans, and applicable laws, regulations and voluntary agreements. (MSC performance indicator 3.1.1.2 — 80 level)</p> <p>Specific Objectives</p> <p>a. To develop in consultation with stakeholders a management plan for the hoki fishery that includes implementation strategies. The plan will be a strategic overview of the fishery management system that provides for:</p> <ul style="list-style-type: none"> • Clear linkages across the various components of the plan; and, • Continuous monitoring and review. <p>Actions & milestones</p> <p>a. A draft strategic overview of the fishery management system will be developed in consultation with stakeholders within 6 months of certification.</p> <p>b. The strategic overview of the fishery management system will be finalised within a timeframe agreed with stakeholders (so as to provide a reasonable time frame for stakeholder input).</p> <p>Responsibilities</p> <p>The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG.</p>
<p>DWG Progress Report</p>	<p>1. Performance Indicator 3.1.1.2</p> <p>Is there a Management Plan that includes objectives related to target species and the impacts of</p>

	<p>fishing on the ecosystem?</p> <p>2. Findings There is no strategic overview of the management system that identifies the goals and objectives, processes (including strategies, and provision of management advice), management tools and arrangements, responsibilities, points of stakeholder engagement, research, monitoring and compliance plans, and applicable laws and regulations. Score 78</p> <p>3. Management objective Minister of Fisheries approved fisheries plan developed in collaboration with all relevant stakeholder groups and interested parties.</p> <p>4. Desired outcome There is a documented and approved management plan that sets out for the hoki fishery the required goals and objectives, processes, governance arrangements including points of stakeholder engagement, research and monitoring plans and processes to ensure regulatory and non-regulatory management measures are adhered to. This plan will be developed and operate within the framework of the Fisheries Act 1996 and other applicable Acts. (P3.1.1.2,100 level).</p> <p>5. Operational tasks Mfish and DWG will develop the hoki fisheries plan in conjunction with key stakeholder groups and interested parties. This plan will set out the overall strategy and management objectives for the fishery for a five year period. A medium to long-term research plan will be an integral component of the fisheries plan. The plan will also set out the governance arrangements around the delivery of the management objectives.</p> <p>6. Actions and milestones</p> <ul style="list-style-type: none"> • By 1 May 2008 write a draft strategic overview of the management for hoki. Completed on 1 August 2008 • Finalise this plan within a timeframe to be agreed with stakeholders. Aim of DWG and Mfish is for this to be completed by 1 October 2008 <p>7. Summary to date</p> <ul style="list-style-type: none"> • A draft hoki fisheries plan has been developed collaboratively by DWG and Mfish and released for consultation. • Consultation with hoki quota owners, with environmental NGOs and with other interested parties will be held during August/September. The plan will be presented for approval by the Minister of Fisheries before the end of 2008 and will drive management of the hoki fishery over the next five year period.
Observations	<p>A draft hoki fisheries plan has been developed collaboratively by DWG and Mfish. This has been released for consultation. Meetings to discuss the draft plan have been held with hoki quota owners, environmental NGOs and other interested parties.</p> <p>During this consultation, propositions were put forward to refine the plan, in particular strengthen it at the strategic level. These suggestions have been taken up by DWG and Mfish and changes are currently being incorporated into the revised version. The development of the plan is on target, stakeholders are now involved in the process and it is intended that the plan be presented to the Minister of Fisheries for approval by the end of 2008.</p>
Conclusion	<p>The plan is on schedule to be implemented in October 2009. Overall the Condition was initially behind target but is now on target for imminent completion and will be reviewed at the next surveillance audit.</p>

Item	Comments
10	Condition of Certification 10: Compliance and Enforcement
Activity assessed	<p>PI 3.2.4.1 Does the management system determine the extent of compliance and include an enforcement component?</p> <p>SG 60: There is a system for assessing the degree of compliance and an enforcement system to enhance compliance.</p> <p>SG 80: There is an effective system for assessing compliance and enforcing management measures.</p> <p>SG 100: There is an effective system for assessing compliance and enforcing management measures. Penalties are adequate to discourage non-compliant behaviour.</p> <p>Original Evaluation:</p> <ul style="list-style-type: none"> • The MFish compliance system is excellent and there are heavy penalties for non compliance. • Ships and planes of NZ Defence Forces make occasional routine sweeps to identify and report vessels sighted within the NZ EEZ. • The DSG Deed includes an effective system for assessing compliance and enforcing management measures which are clearly linked to the Codes of Practice. There are also graduated penalties to discourage noncompliant behaviour. • Civil contracts have been developed between DSG and its member companies to ensure compliance with DSG requirements. Currently, the Parties to the Hoki Fishery Management Deed collectively hold approximately 75% of the allocated hoki quota shares (excluding any quota held by the Crown and any encumbered quota (as defined in section 2 of the Fisheries Act 1996)). Parties to the Deed have voluntarily agreed to implement certain management measures to promote and enhance the long term sustainability of the hoki fishery and related aquatic environment, beyond those imposed under the Fisheries Legislation. There is a binding compliance regime in place, to promote industry compliance with the Code of Practice developed by participants in the hoki target trawling fishery. However, the binding compliance regime will only be effectual and meaningful if the great majority of the participants in the fishery adhere to the agreement. <p>The score for this Indicator is below 80 because it is considered that an effective system for enforcing management measures requires at least 95% of quota holders to party to the Deed.</p> <p>Score: 78</p> <p>Text of Condition of Certification:</p> <p>Performance Indicator 3.2.4.1 Does the management system determine the extent of compliance and include an enforcement component?</p> <p>Findings Civil contracts have been developed between DSG and its member companies to ensure compliance with DSG requirements. Currently, the Parties to the Hoki Fishery Management Deed collectively hold approximately 75% of the allocated hoki quota shares (excluding any quota held by the Crown and any encumbered quota (as defined in section 2 of the Fisheries Act 1996)). Parties to the Deed have voluntarily agreed to implement certain management measures to promote and enhance the long term sustainability of the hoki fishery and related aquatic environment, beyond those imposed under the Fisheries Legislation. There is a binding compliance regime in place, to promote industry compliance with the Code of Practice developed by participants in the hoki target trawling fishery. However, the binding compliance regime will only be effectual and meaningful if the great majority of quota share holders agree to comply with the Code of Practice.</p> <p>Corrective Action Request</p>

	<p>The 75% threshold of hoki quota holders party to "The Hoki Fishery Management Deed" must be progressively increased, at a rate of 5% per annum, to reach 95% of the allocated hoki quota shares (excluding any quota held by the Crown and any encumbered quota (as defined in section 2 of the Fisheries Act 1996)), before the end of the certification period – 4 years.</p> <p>Milestones to be achieved:</p> <ul style="list-style-type: none"> • 80% signed to the deed 12 months after certification. • 85% signed to the deed 24 months after certification. • 90% signed to the deed 36 months after certification. • 95% signed to the deed 48 months after certification.
DWG Action	<p>Corrective Action Request</p> <p>The 75% threshold of hoki quota holders party to "The Hoki Fishery Management Deed" must be progressively increased, at a rate of 5% per annum, to reach 95% of the allocated hoki quota shares (excluding any quota held by the Crown and any encumbered quota (as defined in section 2 of the Fisheries Act 1996)), before the end of the certification period — 4 years.</p> <p>Milestones to be achieved:</p> <ul style="list-style-type: none"> • 80% signed to the deed 12 months after certification. • 85% signed to the deed 24 months after certification. • 90% signed to the deed 36 months after certification. • 95% signed to the deed 48 months after certification. <p>Response</p> <p>Desired Outcomes</p> <p>There is an effective system for assessing compliance and enforcing management measures (MSC performance indicator 3.1.4.1 — 80 level)</p> <p>Specific Objectives</p> <p>To progressively increase the current 75% threshold of quota holders signed up to the Management Deed in accordance with the percentages and milestones set by the MSC.</p> <p>Actions & milestones</p> <ol style="list-style-type: none"> a. The DSG will review and verify all quota owners currently signed up to the Management Deed within 10 months of certification. b. The DSG will agree a process to achieve progressive sign up to the Management Deed within 12 months of certification. c. To implement a process to achieve the following thresholds: <ul style="list-style-type: none"> • 80% signed to the deed 12 months after certification. • 85% signed to the deed 24 months after certification. • 90% signed to the deed 36 months after certification. • Once 90% is achieved it binds the rest of the quota owners to the Deed under the constitution. <p>The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG</p>
DWG Progress Report	<p>1. Performance Indicator 3.2.4.1</p> <p>Does the management system determine the extent of compliance and include an enforcement component?</p> <p>NOTE: This Condition is applied only to the “non-regulated” management measures (i.e. those agreed to between the Minister, MFish and DWG for quota owners to manage)</p> <p>2. Findings</p> <p>Civil contracts have been developed between DWG and its member companies to ensure compliance with DSG requirements. Currently, the Parties to the Hoki Fishery Management Deed collectively hold approximately 75% of the allocated hoki quota shares (excluding any quota held by the Crown and any encumbered quota (as defined in section 2 of the Fisheries Act 1996)). Parties to the Deed have voluntarily agreed to implement certain management measures to promote and enhance the long term sustainability of the hoki fishery and related aquatic environment, beyond those imposed under the Fisheries Legislation. There is a binding compliance regime in place, to promote industry compliance with the Code of Practice developed by participants in the hoki target trawling fishery. However, the binding compliance regime will only be effectual and meaningful if the great majority of quota share holders agree to comply with the Code of Practice. Score 78</p>

	<p>NOTE: Civil contracts between DWG and “member companies” are now no longer the mechanism being used to ensure “compliance and enforcement” with non-regulated management measure – see below</p> <p>3. Management objective The collaborative working arrangement between MFish and DWG is being used as the basis for developing and implementing a auditing and verification regime to ensure vessel operators fully comply with the non-regulated management measures in place in the fishery.</p> <p>4. Desired outcome There is an effective system for assessing compliance and enforcing non-regulated management measures. (P3.2.4.1,100 level)</p> <p>5. Operational tasks</p> <ul style="list-style-type: none"> • Build on existing MFish observer auditing regime to implement a verification, auditing and monitoring regime around the non-regulatory management measures. This regime will be linked to other MFish processes such as foreign charter vessel registration, as a means to ensure compliance of non-regulatory measures. This monitoring regime will be set out and formalized through the fisheries plan process. • Require that all hoki operators’ sign up to the hoki fisheries plan rather than trying to develop and enforce a civil contract. <p>6. Actions and milestones By 31 October 2011 a system will be in place to ensure there is operator/quota owner compliance with the non-regulatory management systems in place in the fishery.</p> <p>7. Summary to date</p> <ul style="list-style-type: none"> • DWG and MFish are of the view that the desired outcome that “there is an effective system for assessing compliance and enforcing management measures” can be achieved in a variety of ways. The initial requirement for operators to sign up to a civil contract is no longer valid given there has been a change in the management approach since the re-certification process commenced (i.e the MoU and the DWG/MFish collaborative model). An alternative approach is described above under ‘Operational Tasks’. • We consider this Condition to have been met. • Discuss with Moody Marine Ltd during the first audit to confirm that this approach meets the terms of this Condition.
<p>Observations</p>	<p>At the time of recertification process for the hoki fishery, non regulated management measures were incorporated into Codes of Practice and there were Civil contracts between “member companies” to ensure compliance with these measures. Then, 75% of quota share holders were parties to the Hoki Fishery Management Deed and agreed to abide by certain management measures under a Civil contract agreement. It was determined that in order to ensure there was an effective system to manage compliance with regulatory measures the percentage of quota share holders acceding to the ”Deed” needed to be progressively increased to 95%.</p> <p>Since the previous audit there has been a major change in the way DWG operates. The DWG now has a Memorandum of Understanding with the Ministry of Fisheries to cooperatively manage the deepwater fisheries. The DWG and MFish have determined that the civil contract arrangement is not the most appropriate or indeed the most effective way of meeting the intended outcome which is to ensure that there is an effective system for assessing compliance for non regulated management measures.</p> <p>To ensure non regulatory measures are being adhered to, the DWG have introduced measures including an emphasis on education and training of skippers and crew to ensure all fishers are fully informed and aware of the measures. Operating procedures for each non regulatory management measure e.g. the marine mammal operating procedure, are included in each vessel’s “Vessel Management Plan” (VMP). Observers complete an Operating Procedure Review Form and compliance with the measures is audited by the Ministry of Fisheries on a regular and real time basis. If compliance is not adhered to, the DWG have an arrangement whereby a vessel may be required to have a “vessel specific plan” to address any issues, an observer may be compulsory until compliance is assured and in the case of Foreign vessels compliance can be a condition of registration. The Minister of Fisheries may also introduce regulatory controls with accompanying penalties. There is evidence of this having occurred e.g. seabird mitigation. Also the Minister has stated that he will impose regulations if the non</p>

	<p>regulated split of the hoki catch between the west and east stocks is not adhered to.</p> <p>Ongoing audits will monitor compliance with the non regulatory measures and check the Ministry of Fisheries audit process.</p>
Conclusion	<p>This Condition relates to the Performance Indicator 3.2.4.1 “Does the management system determine the extent of compliance and include enforcement? “. The score of 78 was awarded because there was concern about compliance with non regulatory measures in the fishery and the Condition raised was to address the issue that only 75% of quota owners had signed up to a Civil Contract. The DWG have determined that there is an alternative and effective means of assuring compliance and have put appropriate measures in place. These include independent auditing of VMPs by the Ministry of Fisheries, the results of which will be available at the next annual MSC surveillance audit.</p> <p>The fishery is currently considered likely to meet the requirements of this Performance Indicator to at least the 80 level and is on/ahead of schedule. The PI will be fully re-scored at the next surveillance audit when auditing results are available.</p>

Item	Comments
11	Condition of Certification 11: Internal and External Review
Activity assessed	<p>PI 3.3.3.1 <i>Does the management system provide for internal and external assessment and review?</i></p> <p>SG 60: There is a process for occasional internal evaluation of the management system</p> <p>SG 80: There is a process for regular internal and occasional external evaluation of management system. The management system adjusts its practices based on the results of such evaluations.</p> <p>SG 100: There is a process for regular internal and independent external evaluation of the management system. Evaluations of the management system are assessed by stakeholders and made public. The management system adjusts its practices based on the results of such evaluations.</p> <p>Original Evaluation:</p> <ul style="list-style-type: none"> • Government Agencies have their own evaluation systems and the Government departments are subject to the Auditor General's review. • The DSG has limited provision for internal or external review. There appears to be no internal or external reviews of the internal processes of the DSG that relate to fisheries management. <p>There is no overall process for evaluation of the efficiency and effectiveness of the management system in delivering management of the stock and environment aspects of fishery management, including the way in which voluntary and regulatory mechanisms interact with each other to achieve the required objectives of the fishery management system. The indicator therefore does not meet the 80 level and a CAR has been raised to address this</p> <p>Score: 78</p> <p>Text of Condition of Certification:</p> <p>Performance Indicator 3.3.3.1 Does the management system provide for internal and external assessment and review?</p> <p>Findings There is no overall process for evaluation of the efficiency and effectiveness of the management system in delivering management of the stock and environmental aspects of fishery management, including the way in which the voluntary and regulatory mechanisms interact with each other to achieve the required objectives of the fishery management system. This indicator therefore does not meet the 80 level and this CAR has been raised to address this.</p> <p>Corrective Action Request</p> <p>11.1 A procedure or process for regular internal and independent external evaluation of the management systems applied by DSG shall be developed. Evaluations of the DSG management system will be reviewed and assessed by stakeholders and made public and adjusted based on the results of such evaluations. The procedure or process by which the overall management system is to be reviewed and assessed is to be developed and documented within 12 months after certification, and provided for MSC audit. A nominated body shall conduct external independent assessments of the system on a regular basis. This body shall have defined authority to report on the performance of the system to the organisation's management and as a basis for improvement of the overall system.</p> <p>11.2 For the DSG to function effectively, it has to identify and manage numerous linked activities. An activity using resources, and managed in order to enable the transformation of inputs into outputs, can be considered as a process. Often the output from one process directly forms the input to the next. Part of the overall control of the MSC system operated by the DSG would benefit from the implementation of an ISO-based (or similar) type system that includes document control, internal auditing, corrective and preventive action coupled with a strong reference to record keeping. The adoption of such a quality management system should be a</p>

	<p>strategic decision of the DSG.</p> <p>The DSG shall under this CAR implement a system of quality management system standards, which recognizes the less formal structures and systems required by such an organisation as DSG. The system shall be subject to internal and external peer review.</p> <p>When used within a quality management system, such a system emphasises the importance of:</p> <ul style="list-style-type: none">• understanding and meeting requirements;• the need to consider processes in terms of added value;• obtaining results of process performance and effectiveness; and• continual improvement of processes based on objective measurement.
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DWG Action	<p>Corrective Action Request</p> <p>11.1 A procedure or process for regular internal and independent external evaluation of the management systems applied by DSG shall be developed. Evaluations of the DSG management system will be reviewed and assessed by stakeholders and made public and adjusted based on the results of such evaluations. The procedure or process by which the overall management system is to be reviewed and assessed is to be developed and documented within 12 months after certification, and provided for MSC audit.</p> <p>A nominated body shall conduct external independent assessments of the system on a regular basis. This body shall have defined authority to report on the performance of the system to the organisation's management and as a basis for improvement of the overall system.</p> <p>11.2 For the DSG to function effectively, it has to identify and manage numerous linked activities. An activity using resources, and managed in order to enable the transformation of inputs into outputs, can be considered as a process. Often the output from one process directly forms the input to the next. Part of the overall control of the MSC system operated by the DSG would benefit from the implementation of an ISO-based (or similar) type system that includes document control, internal auditing, corrective and preventive action coupled with a strong reference to record keeping. The adoption of such a quality management system should be a strategic decision of the DSG.</p> <p>The DSG shall under this CAR implement a system of quality management system standards, which recognizes the less formal structures and systems required by such an organisation as DSG. The system shall be subject to internal and external peer review.</p> <p>When used within a quality management system, such a system emphasises the importance of:</p> <ul style="list-style-type: none"> • understanding and meeting requirements; • the need to consider processes in terms of added value; • obtaining results of process performance and effectiveness; and, • continual improvement of processes based on objective measurement. <p>Response</p> <p>Desired Outcomes</p> <p>There is a process for regular internal and occasional independent external evaluation of the DSG management system, which will be adjusted in response to such evaluations. (MSC performance indicator 3.3.3.1 — 80 level)</p> <p>Specific Objectives</p> <p>a. To implement a system of quality management system standards that recognises the less formal structures and systems required by such an organisation as the DSG.</p> <p>b. To provide for regular internal and occasional external independent review of the DSG quality management system.</p> <p>Actions & milestones</p> <p>a. The DSG will develop and document a self-auditing quality management process that includes provision for periodic independent external audit within 12 months of certification.</p> <p>b. The DSG will appoint an independent external quality management auditor within 18 months of certification.</p> <p>c. The DSG will work with the external auditor to develop and implement a schedule of external audits over the period of certification in accordance with the procedures set out in the quality management process.</p> <p>Responsibilities</p> <p>The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG</p>
DWG Progress Report	<p>1. Performance Indicator 3.3.3.1</p> <p>Does the management system provide for internal and external assessment and review? NOTE: This Condition is applied only to the “non-regulated” management measures (i.e. those agreed to between the Minister, MFish and DWG for quota owners to manage)</p> <p>2. Findings</p> <p>There is no overall process for evaluation of the efficiency and effectiveness of the management system in delivering management of the stock and environmental aspects of fishery management, including the way in which the voluntary and regulatory mechanisms interact with each other to achieve the required objectives of the fishery management system. This indicator therefore does not meet the 80 level and this CAR has been raised to address</p>

	<p>this. Score 78</p> <p>3. Management objective Implement a system of quality management system standards that recognises the “non-regulated” management measures in place by DWG and hoki quota owners and provide for regular internal and occasional external independent review of the DWG quality management system.</p> <p>4. Desired outcome There is a process for regular internal and occasional independent and external audits of management systems run by the DWG and that the DWG is responsive the results of these external audits and modifies its management systems accordingly. (P3.3.3.1, 100 level)</p> <p>5. Operational tasks</p> <ul style="list-style-type: none"> • DWG to develop and implement an in-house business process system to ensure that the processes around the various operating procedures are managed appropriately so that: <ul style="list-style-type: none"> o They are appropriately codified o Information is correctly filed o Tasks and responsibilities are clearly defined. • Developing this process in-house will require an initial period of staff training before the process systems are developed • Once the system is established the DWG will arrange for an external audit. <p>6. Actions and milestones</p> <ul style="list-style-type: none"> • By 31 October 2008 develop and document a process for regular independent external evaluation of the management systems applied by DWG • By 31 April 2009 appoint an independent external quality management auditor and develop and implement a schedule of external audits over period of certification <p>7. Summary to date</p> <ul style="list-style-type: none"> • See Condition 10, “Summary to date”. • We consider this Condition to have been met • Discussions with Moody Marine Ltd are required during the first audit to confirm that this delivery and audit approach meets the terms of this Condition.
Observations	<p>In the recertification it was determined that there was no overall process for evaluating the effectiveness of the DWG in terms of its role in delivering management of the stock and environmental issues, including the way in which the voluntary and regulatory mechanisms interact with each other to achieve the required objectives of the fisheries management system. The DWG and Ministry of Fisheries are now working collaboratively to address these issues. A process for regular internal review of management measures has been introduced. There now appears to be good document control and record keeping at DWG and an identified process for Corrective Action and Preventive Action. The DWG member’s compliance with non regulatory controls is audited by the Ministry of Fisheries. However although these processes are considered to meet the internal review component of the PI, there is still a need for external reviews of DWG’s management system to be conducted by an independent evaluation body. This body should have defined authority to report on the performance of the system to DWG management as a basis for overall improvement.</p>
Conclusion	<p>This Condition is on target, but there remains a requirement for a process of regular independent external review of the management systems to be applied by DWG.</p>

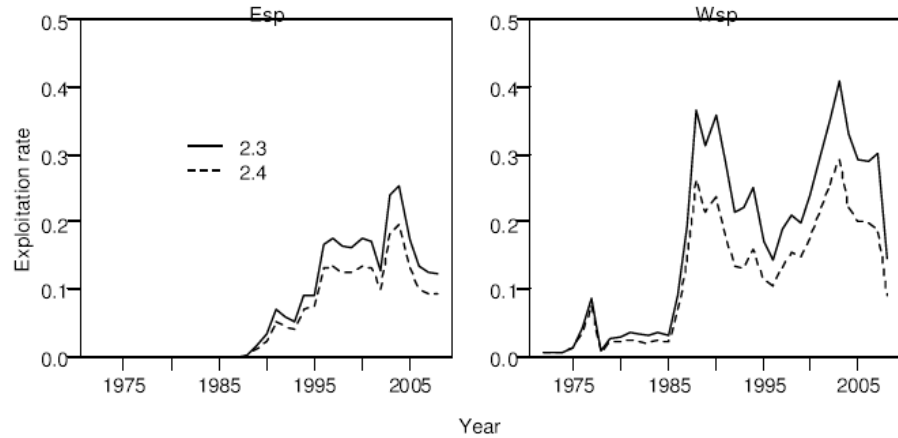
Item	Comments
12	Condition of Certification 12: Research Plan
Activity assessed	<p>PI 3.1.4.1 <i>Does the management system include a research plan to support the management of the target species and protection of the ecosystem?</i></p> <p>SG 60: There is a research plan to support the management needs. Funding is available for projects that are critical</p> <p>SG 80: There is a research plan that involves short and long term projects that are prioritised based on the needs of the management of the target species and protection of the ecosystem. Stakeholders assist in the design of the research projects and the assignment of priorities. Funding is available for many high priority research projects. Some long term research projects are supported</p> <p>SG 100: There is a research plan that involves short and long term projects that are prioritised based on the needs of the management of the target species and protection of the ecosystem. Stakeholders assist in the design of the research projects and the assignment of priorities. Funding is available for all medium and high priority research projects. Long term research projects are encouraged and supported</p> <p>Original Evaluation:</p> <ul style="list-style-type: none"> • The research and monitoring programmes contribute substantially to the information base required for the management of the fishery • MFish has a planning process to establish future directions and priorities for fisheries research in conjunction with stakeholders. The working groups including planning groups and research coordinating committees meet annually. The groups consist of interested stakeholders and MFish staff who discuss, evaluate, and make recommendations on research projects. The relevant committees for hoki are the Hoki and Middle Depths and Aquatic Environment, but there are also research groups associated with DOC responsibilities that relate to ecosystem impacts of the fishery. • There are research programmes in place for short-long term and stock assessment research. • Some long term projects eg work on the Chatham Rise have been approved. • The major weakness in the process is that, although projects are identified as medium or high priority, there is not always funding allocated for them to proceed, and this is particularly true of the Aquatic Environment projects <p>Score: 79</p> <p>Text of Condition of Certification:</p> <p>Does the management system include a research plan to support the management of the target species and protection of the ecosystem?</p> <p>Findings</p> <p>There is no long term research plan in place for the hoki fishery. Various research ideas are assessed on their merit at an annual hoki research planning group meeting, but there is no formally adopted research plan that assesses the need for research over a timeframe longer than the duration of the projects.</p> <p>Corrective Action Request</p> <p>Within 18 months, develop a research plan for hoki, in consultation with government and stakeholders, that provides for the short- and long term needs for the technical guidance and information required for management of hoki and the protection of the ecosystem. The research plan must include a research programme appropriate to the size and scale of the fishery and that provides, in conjunction with monitoring activities, reliable information on the status of the stocks and reliable information to manage the impacts of the fishery on the ecosystem.</p> <p>The research plan should provide continuing and significant progress in scientific</p>

	<p>understanding of:</p> <ul style="list-style-type: none"> • fluctuations in target and impacted non-target species; • effectiveness of harvest strategies; • effects of fishing on the ecosystem; • ecosystem management strategies; and • economic considerations related to the fishery. <p>There must be regular peer review of the content and scope of the research programme by peer groups and stakeholders. Stakeholders must be involved in determining research priorities and the plan should be reviewed annually.</p> <p>There must be adequate funding to support the research plan.</p> <p>This CAR is linked to CAR No 009 Management Plan.</p>
DWG Action	<p>Corrective Action Request</p> <p>Within 18 months of certification, develop a research plan for hoki, in consultation with government and stakeholders that provides for short- and long term needs for the technical guidance and information required for management of hoki and the protection of the ecosystem. The research plan must include a research programme appropriate for the size and scale of the fishery and, in conjunction with monitoring activities, provide the management system with reliable information on the status of the stocks and of the ecosystem required for management.</p> <p>The research plan should provide continuing, significant progress in scientific understanding of:</p> <ul style="list-style-type: none"> • Fluctuations in target and impacted non-target species • Effectiveness of harvest strategies • Effects of fishing on the ecosystem • Ecosystem management strategies • Economic considerations related to the fishery <p>There must be regular peer review of the content and scope of the research programme by peer groups and stakeholders. Stakeholders must be involved in determining research priorities and the plan should be reviewed annually.</p> <p>There must be adequate funding to support the research plan. This CAR is linked to CAR No 009 Management Plan.</p> <p>Response</p> <p>Desired Outcomes</p> <p>A research plan that includes short and long term projects prioritised on management needs for hoki and protection of the ecosystem is agreed with stakeholders, with some long term projects supported by the DSG.</p> <p>Specific Objectives</p> <ol style="list-style-type: none"> a. To develop a long term hoki research plan that is endorsed by stakeholders b. To review the research plan annually c. To ensure that long term research plan links with the MFish Medium Term Research Plan d. To support some of the long term projects specified in the research plan e. To allocate funding to support the research plan. <p>Actions & milestones</p> <ol style="list-style-type: none"> a. The DSG will review the MFish Medium Term Research Plan for hoki and work with stakeholders and government to translate this into a long term hoki research plan within 18 months of certification. b. The long term research plan will be reviewed annually over the period of certification. Stakeholders will be involved in annual reviews of the plan. c. The DSG will provide support to priority long term research projects as agreed in the plan. <p>Responsibilities</p> <p>The CEO of the Deepwater Stakeholder Group (DSG) is responsible for overseeing and implementing the specific objectives and actions to achieve this CAR. The CEO will seek signoff on each of the specific objectives and actions from the Chair of the DSG</p>
DWG Progress Report	<p>1. Performance Indicator 3.1.4.1</p> <p>Does the management system include a research plan to support the management of the target</p>

	<p>species and protection of the ecosystem?</p> <p>2. Findings There is no long-term research plan in place for the hoki fishery. Various research ideas are assessed on their merit at an annual hoki research planning group meeting, but there is no formally adopted research plan that assesses the need for research over a timeframe longer than the duration of the projects. Score 79</p> <p>3. Management objective Develop and implement a research plan and funding process that identifies and prioritizes research over a timeframe longer than the existing annual research round.</p> <p>4. Desired outcome There is a research plan that involves short and long – term projects where these projects are prioritized based on the needs of the of the management of the target and protection of the ecosystem. The design of the research projects and their prioritisation is undertaken in a collaborative approach by the appropriate stakeholder groups. Long term research projects are encouraged and supported and there is sufficient funding to at least ensure that all medium and high priority research projects get funded. (P3.1.4.1, 80-100 level)</p> <p>5. Operational tasks</p> <ul style="list-style-type: none"> • Develop a research plan (looking at both status of the stock and impacts of the fishery on the ecosystem) in consultation with government and stakeholders • This research plan should provide continuing and significant progress in scientific understanding of: <ul style="list-style-type: none"> o Fluctuations in target and impacted non-target species o Effectiveness of harvest strategies o Effects of fishing on the ecosystem o Ecosystem management strategies o Economic considerations related to the fishery. <p>6. Actions and milestones By 31 April 2009 develop a research plan for hoki linked to the management plan in Condition 009.</p> <p>7. Summary to date</p> <ul style="list-style-type: none"> • We note that there was a MFish Medium Term Research Plan for hoki in place at the time of recertification (see MFish website). • However, a revised long-term research plan is currently being developed as a component of the hoki fisheries plan, under the new management objectives for these fisheries. • Discuss requirements with Moody Marine Ltd during first audit.
Observations	<p>The MFish medium-term research plans for hoki and aquatic environment meet some aspects of the Performance indicator but the Condition requires the development of a long- term research plan that provides for the long term needs for technical guidance and information required for management of hoki and protection of the ecosystem. There must be adequate funding to support this research plan.</p> <p>It is proposed that a long term research plan will be included in the hoki fisheries management plan. This will include hoki, trophic effects and habitat effects specifically related to the hoki fishery as well as more general environmental impacts. Government and stakeholders need to be involved in the process and in setting priorities for long term research.</p>
Conclusion	This Condition is on target for completion within specified timeframes.

16	Any complaints against the certified operation; recorded, reviewed and actioned
	<p>A specific issue was raised by eNGO's following some analyses carried out by MFish staff, of potential highgrading of hoki (i.e discard of smaller, less valuable fish to accommodate larger fish). It is noted that the veracity of these analyses has been called into question. Notwithstanding this, the issue has been raised during this audit with MFish Compliance Section who confirmed, after a process of risk-based targeting of surveillance, that IUU (unreported) catches of hoki were not considered significant and reported a high level of compliance within the hoki sector.</p> <p>It is also noted that the re-assessment of the fishery was the subject of an objection raised through the MSC's formal objection process. The conclusion of the Independent Objection Panel (IOP) was that the IOP agreed with the SGS Determination, subject to specific remands. SGS modified the wording of specific CARs in response to remands of the IOP, which have been repeated in this report.</p>

17	<p>Any relevant changes to legislation or management regime.</p>
	<p>Due to the time interval elapsed since the original re-certification, Moody Marine asked DWG to summarise the changes in management in the intervening time. The following update has been provided, which should be read in conjunction with the text above relating to Conditions of Certification.</p> <p>The following management measures and processes have been implemented across all the New Zealand deepwater fisheries and are relevant to the management to the hoki fishery since it was reassessed for MSC certification in 2005-06:</p> <p>1. Introduced Improved Management Regime in 2006</p> <ul style="list-style-type: none"> • In late 2006 the Deepwater Group Limited (DWG) and the Ministry of Fisheries (MFish) entered into a formal partnership agreement to collaborate on the management of New Zealand's deepwater fisheries, including hoki • This has enabled a constructive and close working relationship under an agreed vision, agreed objectives and through a collaborative work plan • The result has been improved management of the hoki fishery in almost all respects • This includes real-time open communication between DWG and MFish on information relevant to management measures, particularly with information from the MFish Scientific Observer Programme and from commercial catching operations <p>2. Reduced Catch Limits in 2007</p> <ul style="list-style-type: none"> • The 2007 stock assessments estimated the spawning biomass for the eastern stock to be above BMSY (BMSY for hoki is assumed to be in the range 30-40% B₀), while that for the western stock was estimated to be around 20% B₀ • As a result, the catch limit for the eastern stock was increased from 60,000 tonnes to 65,000 tonnes and that for the western stock was reduced from 40,000 tonnes to 25,000 tonnes to rebuild the western stock <p>3. Updated Stock Assessments in 2008</p> <ul style="list-style-type: none"> • For the eastern stock, median estimates of current biomass are 42% and 45% B₀ (i.e. above BMSY). Model projections suggest that the biomass of this stock is likely to remain near current levels with current eastern fishery catches of 65,000 tonnes • For the western stock, median estimates of current biomass are 28% and 30% B₀, which are near the assumed value of BMSY. The biomass is estimated to be increasing in the current year. This stock experienced an extended period of poor recruitment from 1995 to 2001. Year-classes after 2001 are stronger, but still below average, except for 2002, which is near average. Model projections estimate that the biomass of this stock will increase with current western fishery catches of 25,000 tonnes <p>4. Commenced Rebuilding Strategy in 2007</p> <ul style="list-style-type: none"> • In response to the 2007 stock assessment, DWG (representing hoki quota owners) agreed with MFish to implement a plan for the western stock that will reduce fishing mortality on the western stock; develop and implement a formal rebuild strategy; and assess the performance of the western stock against the rebuild strategy • The exploitation rate is now reported as one of the outputs from the stock assessment and this has been reduced for the eastern stock from around 22% in 2004 to around 11% in 2007; and for the western stock from around 35% in 2004 to around 10% in 2007 (see figure below from the Fisheries Assessment Plenary Report, May 2008, Ministry of Fisheries Science Group showing exploitation rates on eastern spawning biomass (Esp) and western spawning biomass (Wsp))



- A rebuilding plan has been developed with the objective of determining the catch that will ensure the projected stock biomass is at least 50% of the biomass that would exist in the absence of fishing at the end of a five year period. Each year, or until the western stock fully rebuilds, the rebuild strategy will be modelled against the current stock assessment for the western stock
- The current western stock catch limit of 25,000 tonnes supports this rebuild strategy

5. Improved Catch Management since 2006

- Since the 2006-07 fishing year, MFish and DWG have worked together to ensure the commercial catches are in line with the catch limits through: Implementation of catch plan forecasting by all hoki operators; Requiring in-season progress reports against these catch forecasts; Increasing Deemed Value charges to disincentivise catches being taken without quota.
- Total catches taken in 2006-07 and 2007-08 are within the Total Allowable Commercial Catch (TACC) and closely aligned with catch limits for eastern and western stocks

6. Improved Management of Non-regulatory Measures

- In the hoki fisheries there are a mix of management measures, some prescribed by regulation (e.g. the TACC) and others by industry agreement (e.g. catch limits from eastern and western stocks within the TACC)
- The partnership between DWG and MFish has led to better procedures to manage these nonregulatory measures, including an independent auditing and monitoring regime
- Current operational procedures in place across the hoki fisheries are listed below. MFish audits and monitors performance against each of these operating procedures: Vessel Management Plans to mitigate seabird interactions; Hoki Operational Procedures to reduce catches of juvenile hoki; Providing a period during the spawning season when no fishing occurs; Marine Mammal Operational Procedures which sets out the measures vessels should employ to avoid incidental captures of marine mammals – particularly for interactions with New Zealand fur seals in hoki fisheries

7. Reduced Interactions with Seabirds

- Improved seabird mitigation measures, through a mix of targeted regulatory and non-regulatory measures, have reduced seabird captures.
- Numbers of observed captures of seabirds peaked in 2000-01 at 8.73 captures per 100 observed tows and have been reduced to 1.32 captures per 100 observed tows in 2006-07, when an estimated 128 (range 84 – 179) seabirds of all species were captured across both hoki fisheries.
- Since this time, all hoki trawlers have implemented individually tailored Vessel Management Plans which prescribe agreed ofal management measures with the sole objective of reducing the risk of injury or death to foraging seabirds. These are audited by MFish.
- Preliminary information suggests that levels of seabird interactions have been further

	<p>reduced as a result of these measures.</p> <p>8. Reduced Interactions with New Zealand Fur Seals</p> <ul style="list-style-type: none"> • All vessels in the hoki fishery must comply with agreed Marine Mammal Operational Procedures which have been developed by industry with support from MFish and the Department of Conservation (DoC) to minimise vessel interaction with marine mammals. These are audited by MFish. • Numbers of observed captures of New Zealand fur seals peaked in 2004-05 at 5.72 captures per 100 observed tows and has reduced to 1.66 captures per 100 observed tows in 2006-07, when an estimated 244 (160 – 343) fur seals were captured across both hoki fisheries <p>9. Developed a Draft Fisheries Plan</p> <ul style="list-style-type: none"> • MFish and DWG have developed a draft Fisheries Plan which sets out the objectives and outcomes for the management of the hoki fisheries. This will be introduced as a statutory document under the New Zealand Fisheries Act 1996, after consultation with stakeholders and the community • The present draft is under consultation between MFish and eNGOs • The Fisheries Plan will include agreed reference points for the management of hoki harvest (e.g. target, limit and rebuilding) both in terms of biomass and fishing mortality. It will also prescribe a range of objectives and measures for by-catch and for the mitigation of incidental interactions with protected species (such as marine mammals and seabirds) <p>10. Implemented Benthic Protection Areas</p> <ul style="list-style-type: none"> • In 2007 the New Zealand Government implemented regulations that closed over 30% of the New Zealand Exclusive Economic Zone (NZ EEZ) to bottom trawling and to dredging. These closed areas are known as Benthic Protection Areas (BPAs), an initiative proposed by the industry. • The objective of these large closed areas is to protect a broadly representative range of benthic habitats and the biodiversity of fauna and communities they contain throughout the NZ EEZ. • The selection of these areas was based on the government's recently completed Marine Environment Classification (MEC) scheme, based on a multi-disciplinary review of the available information on marine habitats by Government departments and scientists. • At least 10% of each of the MEC categories in the NZ EEZ has been closed. These areas were preferentially selected to include areas in which no modification has been made (i.e. are largely unfished), and ensure that, within each MEC category, the closure of at least two areas in different bio-geographic regions of the NZ EEZ, which ranges from sub-tropical to sub-Antarctic waters. • These closures include areas of hoki habitat. • Industry has committed to assist the government further explore and establish the nature and extent of marine benthic ecosystems within the EEZ with the objective of ensuring adequate protection is afforded to benthic ecosystems and communities.
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2.2 Conclusions

18	<p>Overall Conclusions</p> <p>The overall management of the fishery continues to be at least at the level observed during the main assessment, and in many areas to a higher level.</p> <p>DWG (and MFish) have taken, or are taking, appropriate measures to address the Conditions of certification raised during the MSC re-certification assessment. These measures (encompassing stock status, notably the rebuilding of the western hoki stock; ecosystem relationships of the hoki fishery; and management of the fishery) further raise the overall level of performance of the fishery against the requirements of each Principle of the MSC standard.</p> <p>Progress against Conditions can be summarised as follows:</p> <ol style="list-style-type: none"> 1. Conditions where requirements are deemed to have been fully met and the Condition closed: <ul style="list-style-type: none"> • None to date, although Condition 10 is nearing completion. 2. Conditions where progress is on or ahead of target dates and which will be reviewed further in future surveillance reports: <ul style="list-style-type: none"> • Conditions 2, 3, 4, 7, 8, 9, 11, 12 3. Conditions which are or have been behind target dates but which are apparently being addressed within overall target timescales: <ul style="list-style-type: none"> • Conditions 1, 5, 6 <p>Some comments and recommendations have been made by the assessment team to assist in further development of measures, as relevant.</p> <p>MSC Certification should therefore continue and surveillance audits continue to the same schedule.</p>
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Information Sources:

Meetings

1. 'Opening' meeting with client. 22-23 Sep 2008 G Clement (DWG). Also present A Martin (MFish), K Stokes (SeaFIC)
2. MFish Science. K Sullivan, P Mace, A Martin. Also present G Clement; 24 Sep 2008
3. NIWA. J McKoy, R Hurst, S Baird. Also present A Martin, MFish. 24 Sep 2008
4. NGO Stakeholders. K Hackwell, K Knowles (RFBPS), C Howe, R Bird (WWF NZ); 25 Sep 2008
5. MFish Compliance Section. A Coleman. Also present A Martin; 26 Sep 2008
6. 'Closing' meeting with client. G Clement, A Martin; 26 Sep 2008

Reports etc

1. Hoki, Fishery Assessment Plenary Report for 2007
2. Hoki, Fishery Assessment Plenary Report for 2008
3. Minutes of the Hoki Fishery Assessment Working Group meetings (12 October 2007; 13 December 2007; 14 February 2008; 6 March 2008; 18 March 2008; 11 April 2008)
4. Francis, R.I.C.C. Assessment of hoki (*Macrurnous novazelandie*) in 2008. *DRAFT New Zealand Fisheries Assessment Report*.
5. Hoki, Fishery Assessment Plenary Report for 2008.
6. A Generalization of the $2T_{min}$ Constraint: Memo from Chris Francis to Aoife Martin dated 16 January 2008.
7. Some Long-term Projections for Hoki: Memo from Chris Francis to Aoife Martin dated 18 January 2008.
8. More Projections for Rebuilding Plan: Memo from Chris Francis to Aoife Martin dated 8 July 2008.
9. Hoki Fishery Rebuild: Management, Strategy and Implementation: Document submitted to SGS by George Clement on 12 August 2008.
10. Draft hoki and selected middle depth species fisheries plan. August 2008.
11. Hoki biological reference points: Meeting Notes.
12. Draft hoki and selected middle species fisheries plan. August 2008.
13. Francis, R.I.C.C. Assessment of hoki (*Macrurnous novazelandie*) in 2008. *DRAFT New Zealand Fisheries Assessment Report*.

14. Hoki, Fishery Assessment Plenary Report for 2008.
15. Minutes of the Hoki Fishery Assessment Working Group meetings (14 February 2008)
16. A Generalization of the $2T_{min}$ Constraint: Memo from Chris Francis to Aoife Martin dated 16 January 2008.
17. Some Long-term Projections for Hoki: Memo from Chris Francis to Aoife Martin dated 18 January 2008.
18. More Projections for Rebuilding Plan: Memo from Chris Francis to Aoife Martin dated 8 July 2008.
19. Hoki Fishery Rebuild: Management, Strategy and Implementation: Document submitted to SGS by George Clement on 12 August 2008.
20. Memorandum of Understanding between Deepwater Stakeholder Group and Ministry of Fisheries
21. Summary of changes in DWG operating and management procedures
- 22.
23. Vessel Management Plans
24. The Marine Mammal Operating Procedure review form
25. MMOP Marine Mammal Operating Procedure review
26. Letter from Minister re East West Split
27. Department Observer Report
28. Summary of audit processes, feedback and compliance for non regulatory measures. MFish report October 2008
29. MFish audit reports
30. Vessel management plan review
31. Summary of audit processes, feedback and compliance for non regulatory measures. MFish report October 2008
32. Dunn M., Connell A., Stevens D. 2007. Preliminary results from Chatham Rise Trophic Study presented at Marine Science Conference, Nelson 2006.

Standards and Guidelines used:

1. MSC Principles and Criteria for Sustainable Fishing
2. MSC Fishery Certification Methodology Version 6. September 2006
3. TAB Directives - all