

**SADSTIA**  
**South African Hake Trawl Fisheries**

**ASSESSMENT AGAINST THE MSC PRINCIPLES AND CRITERIA FOR SUSTAINABLE FISHING**  
**Guide to Performance Indicators and Scoring Guideposts**

**Application of the MSC Principles and Criteria for Sustainable Fishing**

The MSC Principles and Criteria provide the overall requirements necessary for certification of a sustainably managed fishery. The certification methodology adopted by the MSC involves the application and interpretation of the Principles and Criteria to the specific fishery undergoing assessment. This is considered necessary, as the precise assessment of a fishery will vary with the nature of the species, capture method used etc.

Accordingly, the assessment team for this fishery have developed, from the MSC Principles and Criteria, a structured hierarchy of ‘Subcriteria’ and ‘Performance Indicators’ in order to carry out the assessment. The same structure will be applied to both species – leading to two separate reports.

Subcriteria represent separate areas of important information (e.g. Subcriterion 1.1.1 requires a sufficient level of information on the target species and stock, 1.1.2 requires information on the effects of the fishery on the stock and so on). These Subcriteria therefore provide a detailed checklist of factors necessary to meet the MSC Criteria in the same way as the Criteria provide the factors necessary to meet each Principle. Below each Subcriterion, individual ‘Performance Indicators’ are identified. It is at this level that the performance of the fishery is measured. On the following pages we show diagrammatically the relationship between our Subcriteria as detailed in the scoring guidelines and the appropriate MSC criterion.

**Scoring Methodology**

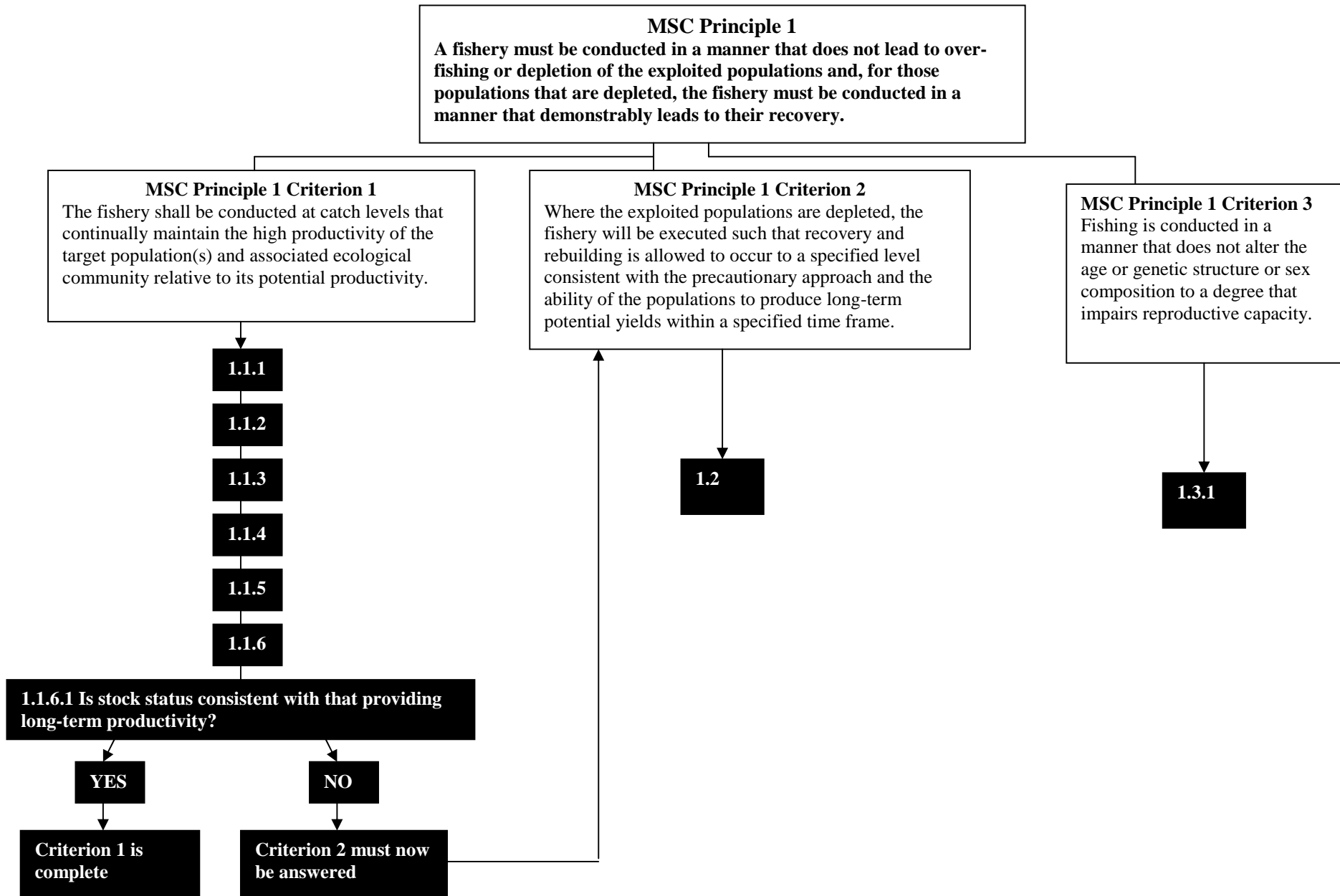
There are two, coupled scoring requirements that constitute the Marine Stewardship Council’s minimum threshold for a sustainable fishery:

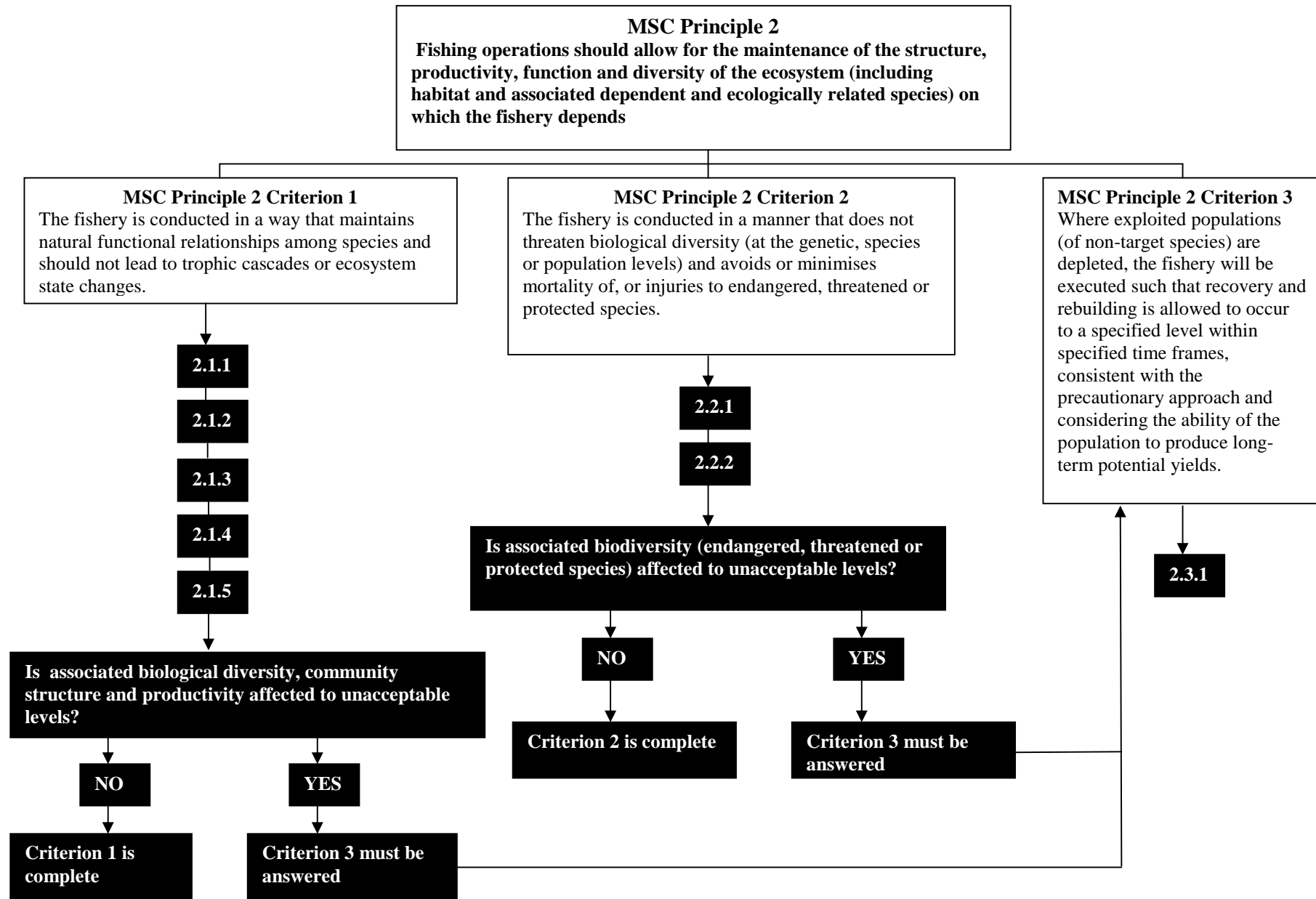
- (1) The fishery must obtain a score of 80 or more for each of the MSC’s three Principles, based on the weighted average score for all Criteria under each principle; and
- (2) The fishery must obtain a score of 60 or more for each Performance Indicator.

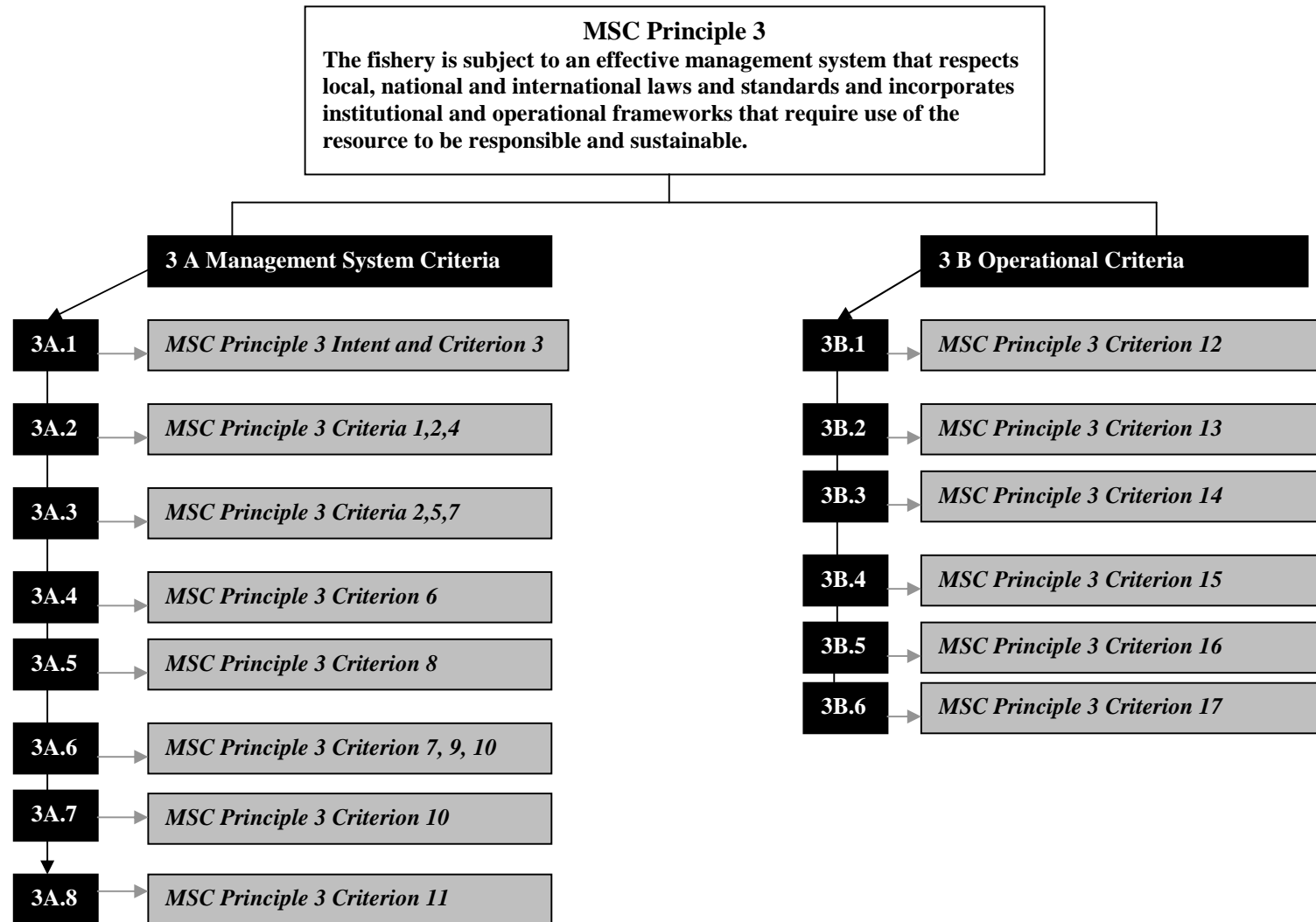
In order to make the assessment process as clear and transparent as possible, the Scoring Guideposts are presented in the scoring table and describe the level of

performance necessary to achieve 100 (represents the level of performance for a performance indicator that would be expected in a theoretically 'perfect' fishery), 80 (defines the unconditional pass mark for a performance indicator for that type of fishery), and 60 (defines the minimum, conditional pass mark for each performance indicator for that type of fishery). A score below 60 for a performance indicator would represent a level of performance that causes the fishery to automatically fail the assessment, unless performance is improved as a pre-condition to certification.

We now invite comment on these Scoring Indicators and Guideposts.







INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<b>Principle 1</b>		<b>A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.</b>		
<b>1.1 (MSC Criterion 1)</b>		<b>The fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity.</b>		
<b>1.1.1</b>		<b>There should be sufficient information on the target species and stock separation to allow the effects of the fishery on the stock to be evaluated.</b>		
1.1.1.1	Is the species readily identified as adults and juveniles?	Misidentification is possible and increases recording errors of catches, but this does not compromise monitoring to unacceptable levels. Methods to improve identification are under development.	The target species is unlikely to be confused with any other species and is recorded appropriately.	The species is readily identified by fishers and by regulators and is recorded appropriately.
1.1.1.2	Is the life history of the species understood and the spawning and nursery areas described?	There are gaps in information but the basis of the life history is understood. Information is adequate to support a general population model, but some assumptions are required. There is some information on spawning and nursery areas.	The life history of the species is clearly documented and understood. Information is adequate to support an appropriate population model. Spawning and nursery areas are adequately well described.	The life history of the species is clearly documented and understood including behaviour and ecological interactions. Spawning and nursery areas are sufficiently well documented to support closed area / seasons where this is deemed necessary.
1.1.1.3	Is the geographical range of the target stock known and any seasonal migration described?	A management unit approximating the stock is used with some biological justification. This is based upon a sufficiently robust estimation of the geographical range of the target stock.	A reliable estimate of the geographic range of the target stock is available including seasonal patterns of movement and availability. Stock assessment and management units are consistent with the majority distribution of the stock.	The complete geographic range of the stock, including seasonal patterns of movement/availability, is estimated and documented and is kept under review.
1.1.1.4	Is there information on fecundity and growth?	There is some appropriate information available on fecundity and growth.	Reliable estimates or indices are available of fecundity at size and/or weight and growth rates, and this information forms an adequate time series.	There is comprehensive and reliable information on fecundity at size, growth rates, and length and weight at age, and these are monitored over time to detect trends and shifts.
1.1.1.5	Is there an understanding of the relationship of recruitment to parental stock?	Indices of recruitment levels and recruiting ages, and corresponding spawning stock levels are used.	Adequate indices of recruitment and spawning stock are estimated and used. Sufficient years of data are available to establish a general relationship between stock and recruitment.	The relationship between stock and recruitment is well understood with high statistical reliability.

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.1.1.6	Is information collected on the abundance/density of the stock?	Either fishery dependent or fishery independent indices are available on the abundance of the stock biomass. Qualitative information exists on the appropriateness of the indices as proportional indicators of stock size.	Fishery dependent and/or fishery independent indices are available on the abundance/density of the stock. Uncertainties have been analysed and any uncertainties reduced so as to allow trends to be determined from the indices. Indices are suitable, either independently or in conjunction with other analyses, to provide a high degree of confidence in the evaluation of stock abundance trends.	Multiple fishery dependent and fishery independent indices are available on the abundance/density of the stock with sufficient time series to allow trends in abundance to be understood clearly. Where fishery independent surveys are used (for juveniles and/or adults) the design of the survey(s) is statistically rigorous and robust, indices are consistent and there is clear evidence that they are proportional to the stock size. Uncertainties have been fully analysed.
1.1.1.7	Is information available on environmental influences on the stock dynamics?	Some relevant studies have been undertaken on the effects of biological and physical factors which could affect the stock (including natural mortality). Research is encouraged and ongoing.	There is knowledge of biological and physical factors affecting distribution, survival and year class strength (including natural mortality). Some information is sufficiently robust for use in the stock assessment process.	There is comprehensive knowledge of biological and physical factors affecting distribution, survival and year class strength (including natural mortality). Key information is sufficiently robust for use in the stock assessment process.
<b>1.1.2</b>		<b>There should be sufficient information on the fishery to allow its effects on the target stock to be evaluated</b>		
1.1.2.1	Are all major sources of mortality recorded/ estimated for the fishery under assessment, including landings, discards and incidental mortality?	Sufficient information is available on the fishery to allow accurate estimates to be made of landings, broken down as required for an evaluation to be made. Estimates of discards and incidental mortality are available.	Landings are accurately recorded. Discards and incidental mortality are well estimated for the fishery.	Landings, discards and incidental mortality are accurately estimated and monitored.
1.1.2.2	Are fleet descriptions, fishing methods and gear types known throughout the fishery under assessment?	Significant fishing methods and gear types are known for the fishery with some information on geographical areas of use. Information is available on the size and composition of the fleets, but is not regularly updated.	Significant fishing methods and gear types are known and information is available on the geographical areas of use. Recorded information is available on the size and composition of the fleets. This is reviewed and updated at appropriate intervals.	All fishing methods and gear types employed in the fishery are known. <i>In-situ</i> observations are made of fishing practices. Comprehensive knowledge is recorded and regularly updated, on the size and composition of the fleets.
1.1.2.3	Is gear selectivity known for the fishery?	Appropriate information is available on selectivity and qualitative changes in selectivity.	Selectivities of gear types are well estimated by size. Information is sufficient to determine any changes in selectivity over time.	Full selectivities have been accurately estimated for all gears, locations and times of fishing over time.

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1.1.2.4	Is the target species taken in other fisheries in the area that are not subject to this certification, and are such catches recorded or estimated?	There is an appropriate level of information relating to other fisheries in the area that are not subject to this certification, although these are not fully identified. The catches are estimated in the stock assessments. Levels of IUU fishing are estimated, but with some uncertainty.	The main fisheries not subject to certification are identified. Significant catches of the target species (including IUU fishing) are either recorded or reliably estimated.	All fisheries (and other sources of human-induced mortality) in the area that are not subject to this certification are identified and monitored. All the catches are recorded and used in the stock assessment. Levels of IUU fishing are reliably estimated to be negligible.
1.1.3		<b>Appropriate reference levels have been developed for the stock.</b>		
1.1.3.1	Are there appropriate limit and precautionary reference points based on stock biomass and/or fishing mortality?	Limit and precautionary reference points have been set based on justifiable and reasonable practice appropriate to the species.	Limit and precautionary reference points are justified based on stock biology (e.g. a stock-recruitment relationship) and are measurable given data and assessment limitations. Reference points may be probability based.	Limit and precautionary reference points are justified based on stock biology, uncertainty, variability, data limitations and statistical simulations of these factors.
1.1.4		<b>There is a well-defined and effective harvest strategy to manage the target stock.</b>		
1.1.4.1	Is there a mechanism in place to contain harvest as required?	Mechanisms are in place to monitor and (if necessary) reduce harvest, but do not fully contain harvest, or have not been tested. Measures provide a reasonable degree of confidence in stock management.	Appropriate mechanisms are utilised to contain harvest as and when required to maintain, or allow the target stock to return to, productive levels. These have been tested if/as appropriate for robustness against uncertainties in the assessment and management process	Mechanisms are in place to contain harvest as and when required to maintain (or allow the target stock to return to) productive levels. Measures are robust to uncertainty in data inputs or stock biology. Specific measures to demonstrate effectiveness are in place and their robustness has been examined against a wide range of uncertainties
1.1.4.2	Are clear, tested decision rules set out?	It can be demonstrated that decision making, though not necessarily formally documented, is recorded, logical and appropriate. Rules may not have not been tested, but appear appropriate for management.	Clear decision making rules exist, are fully documented, and have undergone testing - through implementation or simulation. Decision rules are reconciled with reference points and with data and assessment limitations.	Clear, documented and tested decision rules are fully implemented and have been fully reconciled with reference points and the data and assessment limitations, and have been periodically evaluated.



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1.1.4.3	Are appropriate management tools specified to implement decisions in terms of input and/or output controls?	Management tools exist within the fishery under assessment to implement decisions of input and/or output controls although these are not developed for the specific fishery, or management tools are not fully developed, but are specifically related to the fishery. Some evidence exists to show that tools can be effective in achieving relevant management objectives.	Management tools have been specified to implement decisions of input and/or output controls. These are generic although some attempt has been made to relate them to the specific fishery OR tools are lacking in some details but are specifically related to the fishery. Evidence exists to show clearly that tools are likely to be effective in achieving relevant management objectives.	Management tools, appropriate to the species and fishery, have been specified to implement decisions of input and/or output controls. Tools are responsive, relevant and timely. Performance of the tools has been evaluated and evidence exists to show clearly that the tools have a high probability of achieving relevant management objectives.
<b>1.1.5</b>		<b>There is a robust assessment of stocks.</b>		
1.1.5.1	Are assessment models used and are they appropriate to the biology of the target species and the type of fishery?	Robust assessment models are used. These are generic and do not account for specific characteristics of either the biology of the species or the nature of the fishery.	Adequate assessment models are used. Major assessment components are specific to the species and/or the fishery, but there are some areas of the assessment that are generic to similar stocks or fisheries.	Adequate assessment models are used and capture all major features appropriate to the biology of the species and the nature of the fishery and the nature of the management questions being asked.
1.1.5.2	Does the assessment take into account major uncertainties in data and have assumptions been evaluated?	Major uncertainties are identified. Some attempt has been made to evaluate these in the assessment.	The assessment takes into account major uncertainties in the data and functional relationships. The most important assumptions have been evaluated and the consequences are known.	The assessment addresses all significant uncertainties in the data and functional relationships and evaluates the assumptions in terms of scope, direction and bias relative to management-related quantities. The assessment model has been shown to meet sufficient levels of precision and accuracy to allow the management process to achieve its objectives.
1.1.5.3	Are uncertainties and assumptions explored and reflected in management advice?	Major uncertainties are recognised and are reported in management advice, as well as possible implications of those uncertainties on the management advice.	Major uncertainties and assumptions are addressed in the management advice and through the appropriate decision rules to address those limitations.	All significant uncertainties and assumptions are addressed and reflected in the management advice, including appropriate decision rules.
1.1.5.4	Does the assessment evaluate current stock status relative to reference points and make forecasts for the future?	The stock status is estimated relative to reference points.	The assessment makes an evaluation of the stock status relative to the reference points. Both short and medium term forecasts are made.	The assessment makes a reliable probabilistic evaluation of the stock status relative to the reference points and projects these into the future over appropriate timescales.

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1.1.5.5	Does the assessment include the consequences of current harvest strategies?	The assessment makes an initial approximation of the consequences of current harvest strategies.	The assessment includes a robust approximation of the consequences of current harvest strategies. Uncertainties in the model are considered in harvest strategy evaluations.	The assessment includes the consequences of current harvest strategies, forecasts future consequences of these and evaluates stock trajectories under decision rules.
1.1.6	<b>The stock(s) is/are at appropriate precautionary reference level(s).</b>			
1.1.6.1	Is there evidence that stock status is consistent with that providing long-term productivity? [Score 80+: Criterion 1.1 is complete and Criterion 1.2 does not apply. Score 79 or less: Answer Criteria 1.2 in addition]	The stock has a high probability of being above its limit reference point	The stock has a high probability of being above its limit reference point and the stock is at, or fluctuating around, its precautionary/target reference point.	The stock has a high probability of being consistently at or above its precautionary/target reference levels.
1.2 (MSC Criterion 2)	<b>Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.</b>			
1.2.1	If the stock is below the precautionary reference points, are measures to rebuild the stock specified?	<p>Appropriate rebuilding measures through reduction in exploitation exist and are being implemented. Rebuilding aims to restore the stock such that it is likely to be above reference levels, including precautionary levels.</p> <p>Measures are implemented, while they may not have been tested, they have been shown to work in fisheries of a similar nature or are reasonably expected to work in this situation.</p>	<p>Appropriate rebuilding measures are being implemented to promote recovery within reasonable time frames. Rebuilding aims to restore the stock such that it is likely to be above reference levels, including precautionary levels.</p> <p>Measures have been tested, in this or a highly comparable situation, and can be shown to be effective in helping to rebuild the stock through either simulation analysis or actual case histories of implementation..</p>	<p>Appropriate and demonstrably effective rebuilding measures are being implemented to promote recovery within specified and appropriate timeframes. Rebuilding aims to restore the stock such that it is likely to be consistently above precautionary reference levels.</p> <p>Additional measures are being implemented to prevent problems in the future.</p>

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<b>1.3 (MSC Criterion 3)</b>		<b>Fishing is conducted in a manner that does not alter the age or genetic structure or sex composition to a degree that impairs reproductive capacity.</b>		
<b>1.3.1</b>		<b>Fishing activity maintains the age, genetic structure or sex composition of the stock to a degree that does not impair reproductive capacity.</b>		
1.3.1.1	Is the age/sex/genetic structure of the stock monitored so as to detect any impairment of reproductive capacity?	<p>There is some information available on the sub-population/sex/age structure of the stock, and the relationship of these to reproductive capacity.</p> <p>Some monitoring of sub-populations is available as necessary.</p>	<p>Estimates are available of the sex and size structure, based on adequate sampling and verification for this stock, and the relationship of these to reproductive capacity. Genetic or sub-population studies have been carried out as appropriate.</p>	<p>There is comprehensive and reliable information on the sub-population/sex/age structure of the stock, and the relationship of these to reproductive capacity as well as evaluations of the implications of shifts in these parameters on productivity and management quantities.</p> <p>Population structure is well estimated with only insignificant errors. Appropriate genetic studies have been conducted.</p>
1.3.1.2	Does information indicate any changes in structure that would alter reproductive capacity?	<p>Changes in stock structure have been detected but there is no evidence of negative effect on recruitment of the stock.</p> <p>Or potentially adverse changes in structure are identified and remedial measures are in the process of implementation over defined timeframes.</p>	<p>Evidence exists that the fishery has not caused changes in stock structure that would affect recruitment.</p> <p>Or potentially adverse changes in structure are clearly identified and effective remedial measures are in place.</p>	<p>Data strongly indicate a robust age, sex and genetic structure in the stock, such as would maintain reproductive capacity.</p>

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<b>Principle 2</b>		<b>Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends</b>		
<b>2.1 (MSC Criterion 1)</b>		<b>The fishery is conducted in a way that maintains natural functional relationships among species and should not lead to trophic cascades or ecosystem state changes.</b>		
<b>2.1.1</b>		<b>There is adequate understanding of ecosystem factors relevant to the distribution and life history strategy of the target species.</b>		
2.1.1.1	Are the nature, sensitivity and distribution of habitats relevant to the fishing operations known?	Appropriate information exists but may not be comprehensive or up to date. The seasonal distribution of fishing operations is mapped.	Nature, sensitivity and distribution of all main habitats are known in adequate detail. Information is recent. The distribution of fishing operations is monitored.	The nature, sensitivity and the distribution of all habitats relevant to the fishing operations are known in detail. Information is recent and adequate to determine all significant impacts. The distribution of fishing operations and their effort is monitored, and an appropriate time series of information is available..
2.1.1.2	Is information available on the trophic position, status and relationships of the target species within the food web?	Key prey, predators and competitors are known.	Appropriate information is available on the position, relationships and importance of target species in the environment at key life stages.	Quantitative information is available on the position and importance of the target species and their relationships within the food web at key life stages.
2.1.1.3	Is there information on the potential for the ecosystem to recover from fishery related impacts?	Key elements of the functioning of the ecosystem, relevant to the fishery, are identified and generally understood. This allows some assessment of recovery potential to be made.	The main elements of the functioning of the ecosystem, relevant to the fishery, have been documented and are understood, allowing reasonable assessment of recovery potential.	Detailed information is available on the potential for affected elements of the ecosystem to recover from fishery related impacts.
<b>2.1.2</b>		<b>General risk factors are adequately determined.</b>		
2.1.2.1	Is information available on the nature and extent of the by-catch (capture of non-target species)?	The main non-target species affected have been identified and adequate qualitative information is available on significant by-catch.	Information is available on non-target species directly affected by the fishery including their distribution and/or ecology. Quantitative information is available on significant by-catch. If obtained by sampling, this is considered sufficient to provide adequate information.	Information is available on all non-target species directly affected by the fishery including the distribution and ecology. Accurate records are kept on the nature and extent of all by-catch species including species size and sex composition.

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2.1.2.2	Is information available on the extent of discard and slippage (the proportion of the catch not landed)?	Information is available to estimate the extent of discarding and slippage, including an assessment of the main species represented.	Information is available to allow estimates of discard and slippage to be calculated and interpreted.	Accurate and verifiable information is available on the extent of all discards and slippage (by age/size), and the consequences of these. Or the entire catch is verifiably landed.
2.1.2.3	Is information available on other unobserved fishing mortality on target or other species?	Sources of potential unobserved mortality have been identified.	Information is available to allow estimates to be made of unobserved mortality.	Information is available to allow quantitative estimates to be made.
2.1.3	<b>There is adequate knowledge of the effects of gear-use on the receiving ecosystem and extent and type of gear losses.</b>			
2.1.3.1	Is there adequate knowledge of the physical impacts on the habitat due to use of gear?	Main impacts of gear use on the habitat are identified including extent, timing and location of use.	All impacts of gear use on the habitat are adequately identified including extent, timing and location of use.	The physical impacts on the habitat due to use of gear have been studied and quantified, including details of any irreversible changes.
2.1.3.2	Is any gear lost during fishing operations and can 'ghost fishing' occur?	Some recording of gear losses takes place and an assessment can be made of ecosystem impacts, including possible 'ghost fishing'.	There is knowledge of the type, quantity and location of gear lost during fishing operations. Estimates can be made on the extent of adverse effects, including 'ghost fishing'.	There is detailed knowledge of the type, quantity and location of gear types lost during fishing operations. The impact of gear loss on habitat, target and non-target species has been well estimated or recorded.
2.1.4	<b>Strategies have been developed within the fisheries management system to address and restrain any significant negative impacts of the fishery on the ecosystem</b>			
2.1.4.1	Are management strategies in place to address impact identification and avoidance/reduction?	Management strategies include some appropriate consideration of ecosystem impact identification and avoidance/reduction, but may not be tested.	Management strategies are in place to detect and reduce ecosystem impacts, although these may not have been fully tested. These are designed to adequately protect key aspects of the ecosystem within main fishing areas.	Management strategies are in place to monitor, detect and reduce impacts. These are designed to adequately protect ecosystems, habitats and populations of target and non-target species and keep impacts within determined acceptable levels.
2.1.5	<b>Assessments of impacts associated with the fishery including the significance and risk of each impact show no unacceptable impacts on the ecosystem structure and/or function, on habitats or on the populations of associated species.</b>			
2.1.5.1	Does the removal of target stocks have unacceptable impacts on ecosystem structure and function?	The removal of target stocks could lead to impacts upon ecological systems (applying the precautionary approach where necessary). A program is in	Sufficient information is available on consequences of current levels of removal of target species to suggest no unacceptable impacts of the fishery on	The ecological consequences of current levels of removal of target stocks has been quantified and documented to be within acceptable, pre-determined, limits.

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
		development to identify these and, if appropriate, reduce these to acceptable, defined limits.	ecological systems within major fishing areas.	
2.1.5.2	Does the removal of non-target stocks have unacceptable impacts on ecosystem structure and function?	The removal of non-target stocks could lead to impacts upon ecological systems (applying the precautionary approach where necessary). A program is in development to identify these and, if appropriate, reduce these to acceptable, defined limits.	Sufficient information is available on consequences of current levels of removal of non-target species to suggest no unacceptable impacts of the fishery on ecological systems within major fishing areas.	The ecological consequences of current levels of removal of non-target stocks has been quantified and documented to be within acceptable, pre-determined, limits.
2.1.5.3	Does the fishery have unacceptable impacts on habitat structure?	There is no evidence that the fishery is having unacceptable impacts, further work is planned or underway if appropriate.	Information is available on the effects of the fishery on habitat within major fishing areas. This does not indicate any unacceptable impacts.	Effects on habitat structure are well documented and are within acceptable tested/justified limits.
2.1.5.4	Are associated biological diversity, community structure and productivity affected to unacceptable levels?	There is no evidence that the fishery is having unacceptable impacts, further work is planned or underway if appropriate.	Information is available on the effects of the fishery on biological diversity, community structure and productivity. This does not indicate any unacceptable impacts.	The effects of the fishery on biological diversity, community structure and productivity have been quantified and are within acceptable tested/justified limits
<b>2.2 (MSC Criterion 2)</b>		<b>The fishery is conducted in a manner that does not threaten biological diversity (at the genetic, species or population levels and avoids or minimises mortality of, or injuries to endangered, threatened or protected species.</b>		
<b>2.2.1</b>		<b>Fishing is conducted in a manner that does not have unacceptable impacts on recognised protected, endangered or threatened species.</b>		
2.2.1.1	Is there information on the presence and populations of protected, endangered or threatened (PET) species?	There is a programme in place to identify protected, threatened and endangered species directly related to the fishery. There is periodic monitoring of the main population trends and status of protected, endangered and threatened species.	All protected, threatened and endangered species significantly related to the fishery have been identified. Populations of key species are monitored on a regular basis.	There is knowledge of all populations of protected species directly or indirectly related to the fishery including their dynamics. Regular monitoring of protected, endangered and threatened species is undertaken, supported by research programmes to assess threats and promote their conservation. The type and distribution of critical habitats have been identified.

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2.2.1.2	Are interactions of the fishery with such species adequately determined?	The main interactions directly related to the fishery are known.	Adequate quantitative estimates are made of the effects of interactions directly related to the fishery.	Reliable quantitative estimates are made of the interactions of all populations directly related to the fishery, and qualitative information is available on indirect impacts. Incidental mortalities are recorded and reported.
2.2.1.3	Do interactions pose an unacceptable risk to such species?	Known effects are within acceptable limits of national and international legislative requirements and are believed to create no biological threats to the species concerned.	Critical interactions (which could be direct or indirect effects) are well estimated. Available information shows interactions to be below a level which poses a significant additional risk to PET species. Interactions are monitored at appropriate intervals.	It is established that the direct and indirect effects of fishing on threatened and endangered species are within acceptable pre-defined limits.
<b>2.2.2</b>		<b>Strategies have been developed within the fisheries management system to address and restrain any significant impacts of the fishery on the ecosystem.</b>		
2.2.2.1	Are management objectives and accompanying strategies in place in relation to impact identification and avoidance/reduction?	Management systems are in place to address key areas of impact identification and avoidance/reduction.	Management objectives are set to detect and reduce impacts as appropriate. Accompanying strategies are designed to adequately protect recognised protected, endangered or threatened species.	Tested management objectives are set to detect and reduce impacts as appropriate. Accompanying strategies are designed to adequately protect recognised protected, endangered or threatened species.
<b>2.3 (MSC Criterion 3)</b>		<b>Where exploited populations (of non-target species) are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level within specified time frames, consistent with the precautionary approach and considering the ability of the population to produce long-term potential yields.</b>		
<b>2.3.1</b>		<b>There are management measures in place that allow for the rebuilding of affected populations.</b>		
2.3.1.1	Is there sufficient information to allow determination of necessary changes in fishery management to allow recovery of depleted populations?	There is some information on functional relationships, sufficient to allow alterations to be made to fishing to recover and rebuild depleted species.	There is adequate information, combined with a precautionary approach wherever necessary, to allow alterations to be made to fishing that would be expected to recover and rebuild depleted species to specified levels within appropriate timeframes.	There is a clear understanding of functional relationships between the impacted population and the fishery. Intervention measures based on this understanding have been tested and /or are known to be effective in promoting recovery of depleted species to specified levels within appropriate timeframes..

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.3.1.2	Are management measures in place to modify fishery practices in light of the identification of unacceptable impacts?	An appropriate mechanism exists for the modification of fishing practices in light of the identification of unacceptable impacts.	Effective and timely management measures are in place to modify fishery practices in light of the identification of unacceptable impacts.	Monitoring programs are in place within the management system to allow modification of fishery practices in light of the identification of unacceptable impacts. Objectives and limits for environmental change are used to guide operational practices. It is demonstrated that these are effective.
2.3.1.3	Do management measures allow for recovery of affected populations?	Appropriate rebuilding measures exist and are fully implemented. Measures may not have been tested.	Appropriate rebuilding measures are being implemented. Measures have been tested and can be shown to be promoting the rebuilding of affected populations.	Appropriate rebuilding measures are being implemented to promote recovery as quickly as is possible. Additional measures are being implemented to prevent problems in the future.
<b>Principle 3</b>		<b>The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable</b>		
<b>3.A</b>		<b>Management System Criteria</b>		
<b>3A.1 (MSC Principle 3 Intent and Criterion 3)</b>		<b>A management system containing an institutional and operational framework exists with clear lines of responsibility.</b>		
3.A.1.1	Are organisations with management responsibility clearly defined including areas of responsibility and interactions?	Organisations with management responsibility are known. Responsibilities and interactions may require clarification but are effective in critical areas.	Organisations with management responsibility have been defined including key areas of responsibility and interaction. In general, interactions are effective and operate without serious difficulties.	Organisations with management responsibility are clearly defined including all areas of responsibility and interaction. Interactions are demonstrably effective.
3A.1.2	Is the management system consistent with the cultural context, scale and intensity of the fishery?	Inconsistencies arise in some key areas but a programme is in place to address these.	The system is consistent with key elements of the cultural context, scale and intensity of the fishery.	The system is entirely consistent with the cultural context, scale and intensity of the fishery.
3A.1.3	Is the management system subject to internal review?	There are mechanisms in place to allow for internal review.	The management system is subject to internal review at appropriate intervals.	The management system is subject to regular and frequent internal review. This includes evidence that the assessment methodology has been evaluated extensively and that any recommended changes have been made. Monitoring and evaluation are ongoing and improvements quickly tested and implemented.



INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3A.1.4	Is the management system subject to external review?	There are mechanisms in place to allow for external review.	The management system is subject to external review at appropriate intervals.	The management system is subject to regular and frequent external review. Monitoring and evaluation are ongoing and improvements quickly tested and implemented
<b>3 A.2 (MSC Criteria 1, 2, 4)</b>		<b>The management system has a clear legal basis.</b>		
3A.2.1	Is the fishery consistent with International Conventions and Agreements?	The management system operates under relevant international conventions and agreements, but some management actions may be open to interpretation and challenge in relation to the terms of these.	The management system is generally consistent with relevant international conventions and agreements. The management system does not operate under any controversial exemption to an international fisheries or environment-related agreement.	The management system is demonstrably compliant with all relevant international conventions and agreements.
3A.2.2	Is the fishery consistent with national legislation?	The management system operates under relevant national legislation, but some management actions may be open to interpretation and challenge in relation to the terms of these.	The management system makes consistent, good faith efforts to be consistent with relevant national legislation. Management organisations have not been found to be repeatedly in violation of national law.	The management system is demonstrably compliant with all relevant national legislation.
3A.2.3	Does the system observe the legal and customary rights of people dependent upon fishing?	The customary and legal rights of the people dependent upon fishing are known and no major conflicts have occurred.	The system observes the legal and customary rights of people dependent upon fishing but does not necessarily have a formal codified system.	The system observes all legal and customary rights of people dependent upon fishing under a formal codified system.
<b>3A.3 (MSC Criteria 2, 5, 7)</b>		<b>The management system includes strategies to meet objectives including consultative procedures and dispute resolutions.</b>		
3A.3.1	Does the management system contain clear short and long-term objectives?	Short and long-term resource and environment objectives are implicit within the management system.	The management system contains clear short and long-term resource and environment objectives.	The management system contains clear and explicit short and long-term resource and environment objectives that can be measured by performance indicators.
3A.3.2	Do operational procedures exist for meeting objectives?	Generally adequate operational procedures exist which are applied to the meeting of objectives.	Transparent operational procedures are applied to the meeting of objectives. These procedures can be shown to support the objectives.	Operational procedures are transparent and clearly applied. There is a feedback mechanism testing effective application.

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3A.3.3	Are there procedures for measuring performance relative to the objectives?	Operational procedures exist which can be used to measure performance relative to the objectives.	There are appropriate procedures used for measuring performance relative to the objectives.	Tested procedures are used for regular measurement of performance relative to the objectives.
3A.3.4	Do procedures enable a precautionary approach in the absence of sufficient information?	Measures exist to implement a precautionary approach in the absence of sufficient information. There is some evidence that this is occurring.	Formalised and appropriate measures exist which implement a precautionary approach in the development and application of operational procedures in the absence of sufficient information.	All procedures include for evaluation of uncertainty and application of precaution at an appropriate level.
3A.3.5	Does the system include a consultative process including relevant and affected parties?	The system includes an appropriate consultative process including key stakeholders within the fishery.	The system includes an appropriate consultative process including all main public and private stakeholders and can demonstrate consideration of representations made.	The system includes an appropriate consultative process including all affected stakeholders. Decisions specifically discuss and/or address stakeholder concerns.
3A.3.6	Is there an appropriate mechanism for the resolution of disputes within the system?	Mechanisms are theoretically adequate but have not been consistently applied or tested.	There is an appropriate and established mechanism for the resolution of disputes within the system.	There is an appropriate and tested mechanism within the system for the documentation and resolution of disputes of varying magnitude.
<b>3A.4 (MSC Criterion 6)</b>		<b>The management system operates in a manner appropriate to the objectives of the fishery.</b>		
3A.4.1	Does the system include subsidies that may contribute to unsustainable fishing?	Subsidies exist that may contribute indirectly to unsustainable fishing. These are short-term and are in the process of being removed within acceptable timescales.	The system is essentially free from subsidies that may contribute to unsustainable fishing or ecosystem degradation.	The system has no subsidies that may contribute to unsustainable fishing or ecosystem degradation.
3A.4.2	Does the system include economic/social incentives that contribute to sustainable fishing?	Measures to allocate fishing opportunities and/or entry to the fishery, or other incentives, are generally supportive of achieving fishery objectives.	Allocations of fishing opportunities and/or entry to the fishery, and/or other incentives, promote fishery and ecosystem management goals.	The system has established economic and social incentives that contribute to sustainable fishing and ecosystem management.
<b>3A.5 (MSC Criterion 8)</b>		<b>A research plan exists in line with the management system to address information needs.</b>		
3A.5.1	Have key research areas requiring further information been identified?	Some major areas requiring further research have been identified.	All key areas requiring further research have been identified.	A comprehensive review of necessary information requirements has been undertaken.

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3A.5.2	Is research planned/undertaken by the scientific advisers to meet the specific requirements of the management plan?	Research is planned for highest priority information needs.	Research is planned and undertaken to provide necessary scientific support to the plan. There are demonstrable resources to allow implementation of the programme.	There is an ongoing, adequately funded, comprehensive and balanced research programme, linking research to the management plan.
3A.5.3	Is relevant research carried out by other organizations (e.g. Universities) and is this taken into consideration?	The management system is aware of research carried out by other organisations and elements of this are taken into consideration.	Appropriate research carried out by other organisations is taken into consideration, although there is not necessarily any proactive co-ordination between organisations.	Relevant research carried out by other organisations is taken into account for management considerations. This research is often co-ordinated with existing research plans of the management system.
<b>3A.6 (MSC Criteria 7, 9, 10)</b>		<b>The management system includes measures to achieve objectives for the stock.</b>		
3A.6.1	Are the resource and effects of the fishery monitored?	A monitoring programme is in place that addresses some aspects of resource and effects and which can be extended.	A monitoring programme is in place that addresses all key aspects of resource and effects at appropriate intervals and results are recorded.	The resource and effects of the fishery are closely monitored over appropriate geographical areas and time periods. Full records are kept of monitoring results and these are made available to relevant research and management bodies.
3A.6.2	Are results evaluated against precautionary target and limit reference points?	Target and limit reference points exist and some level of evaluation against these is possible. These take account of the precautionary approach, but this may not be explicit.	Results of monitoring are regularly interpreted in relation to precautionary, target and limit reference points.	Results of monitoring are quantitatively evaluated against precautionary target and limit reference points on a regular and timely basis.
3A.6.3	Do procedures exist for reductions in harvest in light of monitoring results and how quickly and effectively can these be implemented?	Adequate procedures exist to reduce harvest. Programmes to link these with monitoring results are underway.	Appropriate procedures exist to reduce harvest in the light of monitoring results and provide for stock recovery to specified levels. Measures can be implemented in a timely manner.	Practical procedures exist to reduce harvest in light of monitoring results and provide for stock recovery to specified levels within specified time frames. There are well documented procedures to implement changes and these can be effectively introduced on an appropriate timescale.
<b>3A.7(MSC Criterion 10)</b>		<b>The management system includes measures to achieve objectives for the affected ecosystem.</b>		
3A.7.1	Are measures in place to address (avoid or minimise) significant environmental impacts?	Significant environmental impacts are known and measures are being applied to reduce key impacts.	Environmental impacts are known. Measures are being applied to minimise all significant ones and there is evidence that the measures are working.	Measures are in place to avoid all significant environmental impacts and are subject to monitoring and periodic review.

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3A.7.2	Are no take zones, Marine Protected Areas or closed areas for specific periods appropriate and, if so, are these established and enforced?	Suitability of no-take zones and/or closed areas / seasons has been reviewed against objective biological criteria. Plans are in place to implement some or all of these as appropriate.	Suitability of no-take zones and closed areas / seasons has been reviewed and these have been or are currently being implemented and adequately enforced if and where appropriate.	No-take zones and closed areas / seasons are established and effectively enforced if and where appropriate and, if implemented, the consequences are being monitored.
<b>3 A.8 (MSC Criterion 11)</b>		<b>There are control measures in place to ensure the management system is effectively implemented.</b>		
3A.8.1	Are information, instruction and/or training provided to fishery operatives in the aims and methods of the management system?	Mechanisms exist for the dissemination of information, instruction and training of fishery operatives. Implementation of these mechanisms may not be universally implemented.	Information, instruction and training are provided to fishery operatives in the aims and methods of the management system allowing effective management of the system.	Information, instruction and training are provided to fishery operatives in the aims and methods of the management system allowing effective management of the fishery and operatives demonstrate comprehensive knowledge of this information.
3A.8.2	Is surveillance and monitoring in place to ensure that requirements of the management system are complied with?	An enforcement system has been implemented; however, its effectiveness and/or compliance has not been fully demonstrated relative to conservation objectives.	An effective enforcement system has been implemented and there is an appropriate degree of control and compliance. Enforcement systems include measures to control IUU fishing and misreporting.	An effective enforcement system has been implemented and there is a high degree of control and compliance. Robust enforcement systems are in place to effectively control IUU fishing misreporting.
3A.8.3	Can corrective actions be applied in the event of non-compliance and is there evidence of their effectiveness?	Mechanisms exist or are being developed which can be implemented or applied to deal with non-compliance.	There are set measures that can be applied in the event of non-compliance although these may not be included in a formal or codified system. These have been tested if/as appropriate as to their effectiveness.	Agreed and tested corrective actions can be applied in the event of non-compliance.
<b>3.B</b>		<b>Operational Criteria</b>		
<b>3B.1(MSC Criterion 12)</b>		<b>There are measures that include practices to reduce impacts on non-target species and inadvertent impacts upon target species.</b>		
3.B.1.1	Do measures, principally through the use of gear and alternative fishing practices, include avoidance of impacts on non-target species and inadvertent impacts upon target species? These would include by-catch, discard, slippage and high grading.	Appropriate measures have been implemented that are intended to reduce the major impacts on non-target species and inadvertent impacts on target species, but their effectiveness is uncertain.	Measures have been implemented as and when appropriate to avoid or reduce the major impacts on non-target species and inadvertent impacts on target species and there is evidence that they are having the desired effect.	Measures have been implemented to avoid or reduce the major impacts on non-target species and inadvertent impacts on target species, and their effectiveness is clearly demonstrated.

INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<b>3B.2 (MSC Criterion 13)</b>		<b>There are systems in place that encourage fishing methods that minimise adverse impacts on habitat.</b>		
3B.2.1	Do fishing operations implement appropriate fishing methods designed to minimise adverse impacts on habitat, especially in critical or sensitive zones such as spawning or nursery areas?	Fishing operations use measures to reduce major impacts on habitat, especially in critical or sensitive zones such as spawning or nursery areas.	There is evidence that fishing operations are effective in avoiding significant adverse effects on the environment, especially in critical or sensitive zones such as spawning or nursery areas.	There is direct evidence that fishing operations implement appropriate methods to avoid significant adverse impacts on all habitats.
<b>3B.3 (MSC Criterion 14)</b>		<b>The management system incorporates measures that discourage destructive practices.</b>		
3B.3.1	Does the fishery employ destructive fishing practices (such as poisons or explosives)?	The fishery does not allow any such destructive fishing practices.	The fishery does not employ any such destructive fishing practices and enforcement is considered sufficient to prevent their use.	The fishery does not employ any destructive fishing practices and enforcement is considered sufficient to prevent their use. There is also a code of conduct for responsible fishing, prohibiting these, that is fully supported by fishers.
<b>3B.4 (MSC Criterion 15)</b>		<b>The management system incorporates measures that reduce operational waste.</b>		
3B.4.1	Do measures exist to reduce operational waste?	Measures/facilities are in place to reduce sources of operational waste that are known to have detrimental environmental consequences, but further reductions may be possible.	Measures/facilities are in place to reduce all sources of operational waste that are known to have detrimental environmental consequences, and there is evidence they are effective.	Measures/facilities are in place to reduce all sources of operational waste that are known to have detrimental environmental consequences, and there is evidence they are effective and these measures are supported by the fishers.
<b>3B.5 (MSC Criterion 16)</b>		<b>Fishing operations are conducted in compliance with the management system and legal and administrative requirements.</b>		
3B.5.1	Are fishers aware of management system, legal and administrative requirements?	Fishers are aware of key management and legal requirements.	Fishers are aware of management and legal requirements upon them and are kept up to date with new developments.	All fishers are aware of management legal requirements through a clearly documented and communicated mechanism such as a code of conduct.
3B.5.2	Do fishers comply with management system, legal and administrative requirements?	Fishers appear generally to comply with requirements, but there is incomplete information on the actual extent of compliance.	Fishers appear compliant with relevant management and legal requirements and there are no indications of consistent violations.	Fishers are fully compliant with, and fully supportive of, legal, and administrative requirements, such as through a code of conduct.

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3B.5.3	What is the record of enforcement of regulations in the fishery: quota control, by-catch limits, MLS, mesh regulations and closed areas?	There is information on breaches of regulations and on corrective action to prevent or curtail.	Evidence of rigorous monitoring of all the enforcement measures and evidence of effective actions taken in the event of breaches is available.	Strong evidence of rigorous monitoring and control of the enforcement measures through for example satellite monitoring, shipboard observers and nominated landing ports. Strong evidence of firm and effective action taken in the event of breaches.
<b>3B.6</b> ( <i>MSC Criterion 17</i> )		<b>The management system involves fishers in data collection.</b>		
3B.6.1	Do fishery operatives assist in the collection of catch, discard and other relevant data?	Fishery operatives are involved in the collection of some catch, discard and other information.	Fishery operatives are regularly involved in the collection and recording of relevant catch, discard and other information.	Fishery operatives assist significantly in the collection and recording of all appropriate catch, discard and other information.