

MSC Assessment of the SPSG
North Sea herring fishery

Assessment Tree and
Scoring Guideposts

OCTOBER 2007

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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 'Sub-criteria' and 'Performance Indicators' in order to carry out the assessment.

Sub-criteria represent separate areas of important information (e.g. Sub-criterion 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 Sub-criteria, 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 Sub-criterion, individual 'Performance Indicators' (PIs) 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 Sub-criteria as detailed in the scoring guidelines and the appropriate MSC criterion.

The certification methodology adopted by the MSC involves the application and interpretation of the Principles and Criteria to the specific fishery undergoing assessment.

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.

MSC Principle 1
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 assessment.

MSC Principle 1 Criterion 1
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.

MSC Principle 1 Criterion 2
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.

MSC Principle 1 Criterion 3
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.

1.1.1

1.1.2

1.1.3

1.1.4

1.1.5

1.1.6

1.1.6.1 Is the stock(s) at or above reference levels?

YES

NO

Criterion 2 no longer applies; proceed to Criterion 3

Criterion 2 must now be answered

1.2.1

1.3.1

MSC Principle 2

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.

MSC Principle 2 Criterion 1

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.

2.1.1

2.1.2

2.1.3

2.1.4

2.1.5

Are associated biological relationships and productivity affected to unacceptable levels?

NO

Criterion 1 is complete; proceed to Criterion 2

YES

Criteria 2 and 3 must now be answered

MSC Principle 2 Criterion 2

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.

2.2.1

2.2.2

Are biological diversity and / or endangered, threatened or protected species affected to unacceptable levels?

NO

Criterion 2 is complete; proceed to Principle 3

YES

Criterion 3 must now be answered

MSC Principle 2 Criterion 3

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.

2.3.1

MSC Principle 3

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.

3A Management System Criteria

- 3A.1 MSC Principle 3 Intent and Criterion 3
- 3A.2 MSC Principle 3 Criteria 1, 2, 4
- 3A.3 MSC Principle 3 Criteria 2, 5, 7
- 3A.4 MSC Principle 3 Criterion 6
- 3A.5 MSC Principle 3 Criterion 7, 9, 10
- 3A.6 MSC Principle 3 Criterion 10
- 3A.7 MSC Principle 3 Criterion 8
- 3A.8 MSC Principle 3 Criterion 11

3B Operational Criteria

- 3B.1 MSC Principle 3 Criterion 12
- 3B.2 MSC Principle 3 Criterion 13
- 3B.3 MSC Principle 3 Criterion 14
- 3B.4 MSC Principle 3 Criterion 15
- 3B.5 MSC Principle 3 Criterion 16
- 3B.6 MSC Principle 3 Criterion 17

PERFORMANCE INDICATOR	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100	
Principle 1	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.			
1.1 (MSC Criterion 1)	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.			
1.1.1	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.			
1.1.1.1	Are 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.	The target species are unlikely to be confused with any other species; or, if target species are grouped, then life history or stock identification information exists to justify this grouping.	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 well described?	There are gaps in information but the basis of the life history is understood. Information is adequate to support a general population model. 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 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 its seasonal migration well described?	An estimate of the geographical range of the target stock is available. A management unit approximating the stock is used with some biological justification.	A reliable estimate of the geographic range of the target stock is available including seasonal patterns of movement/availability. Scientific research is used to support the stock identification.	The complete geographic range of the stock, including seasonal patterns of movement/availability, is estimated and documented each year. Extensive scientific research is used to justify stock identification.
1.1.1.4	Is life cycle information collected sufficient to populate an appropriate stock assessment model (1.1.5.1) – life cycle, geography, fecundity, growth, sources of natural mortality, stock size/density, relationship between stock size and abundance / density parameters?	There is basic information available on all these parameters.	There is well developed information on all the parameters.	There is comprehensive and reliable information on each of these parameters and their change over time.
1.1.1.5	Is there evidence of the factors causing variability in recruitment and can they be used to predict recruitment?	There is some information on factors generating recruitment variability, including some time series data. Stock/recruit relationship may not be validated.	There is ongoing research into the factors generating recruitment variability. Good time series data are available but the S/R relationship is not sufficiently robust for prediction process.	Strong evidence of ongoing research projects to study recruitment variability factors with some evidence of an understanding of those factors. A good S/R relationship, built up over a long time series exists and can be reliably used to predict recruitment for medium term stock projections.

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.1.1.6	Is information available on environmental influences on the stock dynamics?	Evidence of some research studies providing some understanding of the effects of environmental change. Research is encouraged and ongoing.	There is knowledge of physical and biological factors affecting distribution, survival and year class strength. Some information is sufficiently robust for use in the stock assessment process.	Comprehensive knowledge of physical and biological factors affecting distribution, survival and year class strength. Key information is sufficiently robust for use in the stock assessment process.
1.1.2		There should be sufficient information on the fishery to allow its effects on the target stock to be evaluated		
1.1.2.1	Are all major sources of fishery related mortality recorded/ estimated, including landings, discards, incidental mortality and mortality of juveniles?	Sufficient information is available to allow accurate estimates to be made of landings broken down as required by the population model. Estimates of discards and incidental mortality are available.	Landings are accurately recorded. Discards and incidental mortality are well estimated. Mortality on juveniles is monitored and recorded separately.	Landings, discards and incidental mortality are accurately recorded and monitored. Mortality on juveniles is monitored and recorded separately
1.1.2.2	Are fleet descriptions, fishing methods and gear types known throughout the fishery?	Main fishing methods and gear types are known for the fishery. Information is available on the size and composition of the fleets, but is not regularly updated.	Main 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 updated at irregular intervals.	All fishing methods and gear types employed in the fishery are known. In-situ 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	Information is available on selectivity and qualitative changes in selectivity.	Selectivities of gear types are well estimated by size, sex and maturity.	Full selectivities have been accurately estimated for all gears, locations and times of fishing over time.
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 some 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.	The main fisheries not subject to certification are identified. The catches of the target species are either recorded or estimated in the stock assessments.	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.
1.1.2.5	Are there robust systems to monitor any area and landings misreporting?	There is information on area and landings misreporting. Estimates are included in the stock assessments.	Disclosure and enforcement systems in place are able to detect and discourage misreporting. Where it occurs, it is carefully evaluated and taken into account in the stock assessment.	There is negligible misreporting in this fishery. Where it occurs, reliable estimates are made and used in the stock assessment.
1.1.3		Appropriate reference levels have been developed for the stock.		
1.1.3.1	Are there appropriate limit and	Limit and precautionary reference points have	Limit and precautionary reference points are	Limit and precautionary reference points are justified based on

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
	precautionary reference points based on both biomass and fishing mortality?	been chosen and are justified based on standard international practice.	justified based on stock biology (e.g. a stock-recruitment relationship) and take account of likely factors affecting abundance.	statistical and model structure uncertainty over a wide range of hypotheses of factors affecting changes in abundance.
1.1.4		There is a well-defined and effective harvest strategy to manage the target stock.		
1.1.4.1	Is there a mechanism in place to contain harvest as required?	Mechanisms exist to monitor and (if necessary) contain 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 in place 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 documented, is logical and appropriate. Decision-making rules exist, are consistent with the reference levels, but have not been tested.	Clear decision-making rules are fully implemented and documented. Decision rules have been tested against likely future factors affecting abundance.	Decision rules have been fully evaluated and have been shown to be robust to the data and assessment limitations, and a wide range of projections covering all likely scenarios.
1.1.4.3	Are appropriate management tools specified to implement decisions in terms of input and/or output controls?	Management tools exist to implement decisions of input and/or output controls specifically related to the fishery and consistent with attaining reference levels (1.1.3.1). Some evidence exists to show that tools can be effective in achieving management goals.	Management tools, appropriate to the species and fishery, have been specified to implement decisions of input and/or output controls. The effectiveness of the management tools is actively monitored, and evidence exists to show that tools are effective.	Management tools 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 tools achieve their objectives.
1.1.5		There is a robust assessment of stocks.		
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.	Assessment models are used. Major criteria are related to the species and/or the fishery, but there are some areas of the assessment that are generic.	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.

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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. Data and methodology are applied to develop short and medium term forecasts that are credible and to which are attached expressions of the confidence that may be placed in them.	The assessment makes a reliable probabilistic evaluation of the stock status relative to the reference points and projects these into medium and longer term projections.
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.	The assessment includes the consequences of current harvest strategies, forecasts future consequences of these and evaluates stock trajectories under decision rules.
1.1.5.6	How reliable has the stock assessment been historically using retrospective analysis?	Annual estimates of SSB and F have been reviewed. Where estimates have been found to be unreliable, efforts have been made to improve the performance.	Uncertainty in the estimates of SSB and F and known to occur and are regularly reviewed and corrected. Investigation of the associated problems has led to significant improvement.	Retrospective analysis shows excellent agreement historically for the assessment of both SSB and F.
1.1.6	The stock(s) is/are at appropriate precautionary reference level(s).			
1.1.6.1	Is the stock(s) at or above reference level for SSB? [If below SG80 then Criterion 2 must be scored; if SG80 or above, then Criterion 1 is complete]	The stock is likely to be at or above the limit reference level.	The stock is above the precautionary reference level.	The stock is significantly and consistently above appropriate reference level..
1.1.6.2	Is the stock(s) at or above reference level for F ? [If below SG80 then Criterion 2 must be scored; if SG80 or above, then Criterion 1 is complete]	Fishing mortality is at or below the limit reference level.	Fishing mortality is below the precautionary reference level.	Fishing mortality is significantly and consistently below the appropriate reference level..

PERFORMANCE INDICATOR	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.2 (<i>MSC Criterion 2</i>)	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.		
1.2.1	<p>If the stock is below the precautionary reference point, are measures to rebuild the stock specified?</p> <p>Appropriate rebuilding measures through reduction in exploitation exist and are being implemented. Rebuilding measures other than reduction in exploitation are being considered.</p> <p>Measures have not been tested. Although untested these measures have been shown to work in similar fisheries.</p>	<p>Appropriate rebuilding measures are being implemented to promote recovery within reasonable time frames.</p> <p>Measures have been tested and can be shown to be rebuilding the stock.</p>	<p>Appropriate rebuilding measures are being implemented to promote recovery as quickly as is possible.</p> <p>Additional measures are being implemented to prevent problems in the future.</p>
1.3 (<i>MSC Criterion 3</i>)	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.		
1.3.1	Fishing activity maintains the age, genetic structure or sex composition of the stock to a degree that does not impair reproductive capacity.		
1.3.1.1	<p>Is the age/sex/genetic structure of the stock monitored so as to detect any impairment of reproductive capacity?</p> <p>There is information available on the sub-population / sex /age structure of the stock, and the relationship of these to reproductive capacity. Some monitoring of sub-populations is available as necessary.</p>	<p>Estimates are available of the sub-population / sex / age structure of the stock, and for the relationship of these to reproductive capacity. Population structure is monitored based on adequate sampling and verification for this stock. Ageing errors are estimated and included in the stock assessment. Sub-population / genetic 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>
1.3.1.2	<p>Does information indicate any changes in structure that would alter reproductive capacity?</p> <p>Changes in stock structure have been detected but there is no evidence of negative effect on recruitment of the stock. Or potentially adverse changes in structure are identified and remedial measures are under consideration.</p>	<p>Evidence exists that the fishery had not caused changes in stock structure that would affect recruitment. 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>

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
Principle 2		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		
2.1 (MSC Criterion 1)		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.		
2.1.1		There is adequate understanding of ecosystem factors relevant to the distribution and life history strategy of the target species.		
2.1.1.1	Are the nature, sensitivity and distribution of habitats relevant to the fishing operations known?	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 moderate 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. The distribution of fishing operations and their effort is monitored.
2.1.1.2	Is information available on non-target species directly affected by the fishery?	The main non-target species affected have been identified.	Information is available on non-target species directly affected by the fishery including their distribution and/or ecology.	Information is available on all non-target species directly affected by the fishery including the distribution and ecology.
2.1.1.3	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.	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.
2.1.1.4	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 understood, allowing some position to be taken on the potential for recovery.	The main elements of the functioning of the ecosystem, relevant to the fishery, have been documented and are understood, allowing assessment of potential for recovery.	Detailed information is available on the potential for affected elements of the ecosystem to recover from fishery related impacts.
2.1.2		General risk factors are adequately determined.		
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 qualitative information is available on species that form a significant proportion of by-catch.	Information is available on non-target species directly affected by the fishery including distribution and/or ecology. Quantitative information is available on those species that form a significant proportion of 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.

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.1.2.2	Is information available on the extent of discard and slippage (the proportion of the catch not landed)?	Information is available on 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, sufficient to allow inclusion in stock modelling.	Accurate and verifiable information (quantity and proportions in terms of species, length/weight and sex) is available on the extent of all discards and slippage, and consequences of these. Or the entire catch is landed.
2.1.3		There is adequate knowledge of the effects of gear-use on the receiving ecosystem and extent and type of gear losses.		
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. Effects of habitat perturbations estimated and estimated to be stable.	All impacts of gear use on the habitat are adequately identified including extent, timing and location of use. Habitat perturbations appear shown to be stable.	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 possible 'ghost fishing'.	There is knowledge of the type, quantity and location of gear lost during fishing operations. Estimates made show that losses do not cause unacceptable effects on the ecosystem through for example '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 target and non-target species has been measured and shown to have negligible effects on habitats, ecosystems or species of concern through for example 'ghost fishing'.
2.1.4		Strategies have been developed within the fisheries management system to address and restrain any significant negative impacts of the fishery on the ecosystem		
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, 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 limits..
2.1.5		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.		
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 place to identify these and, if appropriate, reduce these to acceptable, defined limits.	Sufficient information is available on consequences of current levels of removal of 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 target stocks has been quantified and documented to be within acceptable, pre-determined, limits.
2.1.5.2	Does the removal of non-target	The removal of non-target stocks could lead	Sufficient information is available on	The ecological consequences of current levels of removal of

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
	stocks have unacceptable impacts on ecosystem structure and function?	to impacts on ecological systems (applying the precautionary approach where necessary). A program is in place to identify these and, if appropriate, reduce these to acceptable, defined limits.	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.	non-target stocks has been quantified and documented to be within acceptable, pre-determined, limits.
2.1.5.3	Does the removal of target and non-target stocks have unacceptable impacts on the populations / stocks of non-target species?	Impacts of the fishery on the populations / stocks of non-target species have been considered, assessed, and programs considered to mitigate such impacts, but may not have been tested.	Impacts of the fishery on the populations / stocks of non-target species have been considered, assessed, and programs in place and tested to mitigate such impacts.	Impacts of the fishery on the populations / stocks of non-target species have been considered, assessed, and tested remedial actions taken and their impact monitored.
2.1.5.4	Does the fishery have unacceptable impacts on habitat structure?	There is no evidence that the fishery is having unacceptable impacts.	No unacceptable impacts of the fishery on habitat within major fishing areas.	Effects on habitat structure are within acceptable tested / justified limits.
2.1.5.5	Are associated biological diversity, community structure and productivity affected to unacceptable levels?	There is no evidence that the fishery is having unacceptable impacts, although the issue has not been directly studied.	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
2.2 (MSC Criterion 2)		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.		
2.2.1		Fishing is conducted in a manner that does not have unacceptable impacts on recognised protected, endangered or threatened species.		
2.2.1.1	Is there information on the presence and populations of protected, endangered or threatened species?	There is a program 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 directly related to the fishery have been identified. The populations and health of all protected, threatened and endangered species directly related to the fishery are monitored on a regular basis.	There is knowledge of all populations of protected species directly or indirectly related to the fishery including and their dynamics. Regular monitoring of protected, endangered and threatened species undertaken, supported by research programmes to assess threats and promote their conservation. The type and distribution of critical habitats have been identified.
2.2.1.2	Are interactions of the fishery with such species adequately determined?	The main interactions directly related to the fishery are known.	Reliable 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.

PERFORMANCE INDICATOR		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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, including direct and indirect effects that could pose an unacceptable risk, are well estimated and do not threaten protected species. Acceptable incidental take levels are clearly defined.	It is known that the direct and indirect effects of fishing on threatened and endangered species are within clearly defined and acceptable limits.
2.2.2		Strategies have been developed within the fisheries management system to address and restrain any significant impacts of the fishery on the ecosystem.		
2.2.2.1	Are management objectives and accompanying strategies in place to identify fishery impact on recognized protected, endangered and threatened species and to achieve avoidance / reduction?	Management objectives are in place to address key areas of impact identification and avoidance / reduction.	Management objectives are set to detect and reduce impacts. Accompanying strategies are designed to adequately protect recognised protected, endangered or threatened species.	Tested management objectives are set to detect and reduce impacts. Accompanying strategies are designed to adequately protect recognised protected, endangered and threatened species.
2.3 (MSC Criterion 3)		Where exploited populations 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.		
2.3.1		There are management measures in place that allow for the rebuilding of affected populations.		
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 to recover and rebuild depleted species.	There is a clear understanding of functional relationships between the impacted population and the fishery. Intervention measures based on this understanding have been tested.
2.3.1.2	Are management measures in place to modify fishery practices in light of the identification of unacceptable impacts?	A mechanism exists for the modification of fishing practices in light of the identification of unacceptable impacts.	Effective 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?	Rebuilding measures exist and are being implemented. Measures have not been tested.	Appropriate and targeted rebuilding measures are being implemented on a fixed timescale. Measures have been tested and can be shown to be promoting the rebuilding of the affected populations.	Appropriate rebuilding measures are fully implemented to promote recovery as quickly as is possible. Additional measures are being implemented to prevent problems in the future.

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Principle 3	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			
3.A	Management System Criteria			
3A.1 (<i>MSC Principle 3 Intent and Criterion 3</i>)	A management system containing an institutional and operational framework exists with clear lines of responsibility.			
3A.1.1	Are organisations with management responsibility clearly defined including areas of responsibility and interactions?	Organisations with management responsibility are known. Responsibilities and interactions are to be determined.	Organisations with management responsibility have been defined including key areas of responsibility and interaction	Organisations with management responsibility are clearly defined including all areas of responsibility and interaction.
3A.1.2	Is the 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 regular internal review. Recommended changes have been reviewed and implemented as appropriate.	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.
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. Recommended changes have been reviewed and implemented as appropriate.	The management system is subject to regular and frequent external review. Monitoring and evaluation are ongoing and improvements quickly tested and implemented.
3 A.2 (<i>MSC Criteria 1, 2, 4</i>)	The management system has a clear legal basis.			
3A.2.1	Is the fishery consistent with International Conventions and Agreements?	An evaluation is being undertaken to show compliance with relevant international agreements. There is no evidence that the fishery is not consistent with agreements.	An evaluation has been undertaken and fishing appears to comply with international agreements.	An evaluation has been undertaken which clearly shows that the management system is compliant with all relevant international agreements.

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3A.2.2	Is the fishery consistent with EU and national legislation?	An evaluation is being undertaken to show compliance with relevant EU and national agreements. There is no evidence that the fishery is not consistent with EU and national legislation.	An evaluation has been undertaken and fishing is shown to be fully compliant with EU and national legislation as it relates to Principles 1 & 2.	An evaluation has been undertaken which clearly shows that the management system is compliant with all relevant EU and national legislation.
3A.2.3	Accepting the primacy of ecological sustainability in management, does the system also observe the legal and customary rights of people dependent upon fishing?	Accepting the primacy of ecological sustainability in management, the customary and legal rights of the people dependent upon fishing are known and no major conflicts have been recorded.	Accepting the primacy of ecological sustainability in management, the system observes the legal and customary rights of people dependent upon fishing but does not necessarily have a formal codified system.	Accepting the primacy of ecological sustainability in management, the system observes all legal and customary rights of people dependent upon fishing under a formal codified system.
3A.3 (MSC Criteria 2, 5, 7)		The management system includes strategies to meet objectives including consultative procedures and dispute resolutions.		
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 short and long-term resource and environment objectives.	The management system contains clear 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?	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.
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 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 objectives and operational procedures follow the precautionary approach?	Some objectives and procedures implement a precautionary approach.	Key objectives and procedures explicitly implement a precautionary approach.	All objectives and procedures explicitly implement a precautionary approach.
3A.3.5	Does the system include a consultative process including affected parties?	The system includes a consultative process including key stakeholders within the fishery.	The system includes a consultative process including all main stakeholders.	The system includes a consultative process including all affected stakeholders.
3A.3.6	Is there an appropriate mechanism for the resolution of disputes within the system?	A program is being developed to allow for resolution of disputes within the system, but has not been tested.	There is an appropriate mechanism for the resolution of disputes within the system.	There is an appropriate and tested mechanism for the resolution of disputes within the system.

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3A.4 (MSC Criterion 6)		The management system operates in a manner appropriate to the objectives of the fishery.		
3A.4.1	Does the system include subsidies that 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 includes no subsidies that contribute to unsustainable fishing.	The system is not subsidised to any extent.
3A.4.2	Does the system include economic/social incentives that contribute to sustainable fishing?	A program is being developed to promote sustainable fishing practices.	The system has some economic and social incentives that contribute to sustainable fishing.	The system has established economic and social incentives that contribute to sustainable fishing. No subsidies are offered for purchase of vessels or vessels targeting fully exploited or depleted resources (by FAO definitions).
3A.5 (MSC Criterion 8)		A research plan exists in line with the management system to address information needs.		
3A.5.1	Have key research areas requiring further information been identified?	Some major areas requiring further research have been identified.	The key areas requiring further research have been identified.	A comprehensive review of information requirements has been undertaken, resulting in the identification of primary and secondary research requirements.
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, funded, comprehensive and balanced research programme, linking research to the management plan.
3A.6 (MSC Criteria 7, 9, 10)		The management system includes measures to achieve objectives for the stock.		
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, precautionary and limit reference points exist and some level of evaluation is possible.	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 basis.
3A.6.3	Do procedures exist for reductions	Practical procedures exist to reduce harvest.	Practical procedures exist to reduce harvest in	Practical procedures exist to reduce harvest in light of

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	in harvest in light of monitoring results and how quickly and effectively can these be implemented?	Programmes to link these with monitoring results are underway.	the light of monitoring results and provide for stock recovery to specified levels. Measures can be implemented speedily	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 introduced with immediate effect.
3A.7 (MSC Criterion 10)		The management system includes measures to achieve objectives for the affected ecosystem.		
3A.7.1	Are measures in place to address (avoid or minimise) significant environmental impacts?	Significant environmental impacts are known, and where known, 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.
3A.7.2	Are no take zones, or closed areas for specific periods appropriate and, if so, are these established and enforced?	Suitability of no-take zones and closed areas / seasons has been reviewed against objective biological criteria. Plans are in place to implement some or all of these.	Suitability of no-take zones and closed areas / seasons has been reviewed and these have been or are currently being implemented and enforced if and where appropriate.	No-take zones and closed areas / seasons are established and enforced if and where appropriate and, if implemented, the consequences are being monitored.
3 A.8 (MSC Criterion 11)		There are control measures in place to ensure the management system is effectively implemented.		
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 pose a risk of failing to achieve conservation objectives.	An effective enforcement system has been implemented and there is an appropriate degree of control and compliance.	An effective enforcement system has been implemented and there is a high degree of control and compliance.
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, and are subject to evaluation as to their effectiveness.	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 as to their appropriateness and effectiveness.	Agreed and tested corrective actions can be applied in the event of non-compliance.
3.B		Operational Criteria		
3B.1 (MSC Criterion 12)		There are management measures that include practices to reduce impacts on non-target species and inadvertent impacts upon target species.		

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3.B.1.1	Do management measures, principally through the use of gear and other 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.	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 not known.	Measures have been implemented to reduce the major impacts on non-target species and inadvertent impacts on target species and there is some evidence that they are having the desired effect.	Measures have been implemented to reduce the major impacts on non-target species and inadvertent impacts on target species, and their effectiveness is clearly demonstrated.
3B.2 (MSC Criterion 13)		There are management systems in place that encourage fishing methods that minimise adverse impacts on habitat.		
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 that significantly 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.
3B.3 (MSC Criterion 14)		The management system incorporates measures that discourage destructive practices.		
3B.3.1	Does the fishery employ destructive fishing practices?	The fishery does not allow any destructive fishing practices.	The fishery does not employ any destructive fishing practices and enforcement is considered sufficient to prevent their use.	The fishery does not employ any destructive fishing practices. There is a code of conduct for responsible fishing that is fully supported by fishers.
3B.4 (MSC Criterion 15)		The management system incorporates measures that reduce operational waste.		
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.
3B.5 (MSC Criterion 16)		Fishing operations are conducted in compliance with the management system and legal and administrative requirements.		
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 code of conduct.

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3B.5.2	Do fishers comply with management system, legal and administrative requirements?	Fishers comply with some, but not all, requirements.	Fishers are fully compliant with relevant management and legal requirements.	Fishers are fully compliant with, and fully supportive of, a code of conduct which incorporates legal, and administrative requirements
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 actions taken in the event of breaches.	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 action taken in the event of breaches
3B.6 (MSC Criterion 17)		The management system involves fishers in data collection.		
3B.6.1	Do fishery operatives assist in the collection of catch, discard and other relevant data?	Fishery operatives are occasionally involved in the collection of catch, discard and other information.	Fishery operatives are regularly involved in the collection and recording of catch, discard and other information.	Fishery operatives assist significantly in the collection and recording of catch, discard and other information.