MSC ASSESSMENT

Bering Sea/Aleutian Islands
U.S. Longline Freezer-Processor
Pacific Cod Fishery

DRAFT PERFORMANCE INDICATORS AND SCORING GUIDEPOSTS

23 December 2004

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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 to allow the effects of the fishery on the stock to be evaluated.**			
1.1.1.1	The identification and reporting of target species well documented.	• There is only a moderate degree of confidence in proper identification and reporting of the target species. Below 80%.	• There is a high degree of confidence in proper identification and reporting of the target species. Greater than 90%	• There is a very high degree of confidence in proper identification and reporting of the target species. Close to 100%
1.1.1.2	The life history of the species (including age at maturity, natural mortality, growth, and fecundity) is understood.	• There are serious gaps in information but the basis of the life history is understood adequately to support a rudimentary evaluation of the fishery.	• The life history of the species is clearly documented and understood well enough to support a high degree of confidence in the evaluation of the fishery.	• All aspects of the life history of the species are clearly documented and understood so as to support a very high degree of confidence in the evaluation of the fishery. Dependence of life history parameters on density, environment and ecologically related species is well understood and taken into account
1.1.1.3	The geographical range of the target stock is known.	• An estimate of the geographical range of the target stock is available. • Management units encompass the range of the stock, except possibly a very minor component of the stock's range.	• A reliable estimate of the geographic range of the target stock is available including seasonal patterns of movement/availability.	• The complete geographic range of the stock, including seasonal patterns of movement/availability, is reliably estimated and documented each year.
1.1.1.4	Information on the relationship of recruitment to parental stock is understood.	• Indices of recruitment and spawning stock are available but not sufficient to track year class strengths and examine spawner recruit relationships with reliability.	• Estimates of recruitment and spawning stock are available from stock assessments. Enough years of data are available to track changes in recruitment and detect recruitment declines.	• Estimates of recruitment and spawning stock are available from stock assessments. Enough years of data are available to track changes in recruitment and detect recruitment declines. The impact of environment and spawning stock on recruitment is understood.

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1.1.1.5	Information is collected on the abundance/density of the stock.	• Either fishery dependent or fishery independent indices are available on the abundance of the stock biomass for some years. • Qualitative information exists on the appropriateness of the indices as proportional indicators of stock size and to support a rudimentary evaluation of the fishery.	• Fishery dependent and/or fishery independent indices are available on the abundance of the stock for several years. • Uncertainties have been analysed (through for example catch-per-unit-effort standardisation) and those uncertainties have been reduced so as to allow trends to be determined from indices. • The indices are understood well enough to support a high degree of confidence in the evaluation of the trends in stock abundance.	• Multiple fishery dependent and/or fishery independent indices are available on the abundance and density of the stock for enough years that trends in abundance are understood • Survey design and sampling methods are statistically rigorous and robust. • Indices are consistent and there is clear evidence that they are proportional to the stock size and of sufficient precision to support a very high degree of confidence in the evaluation of the fishery. • Uncertainties have been fully analyzed.
1.1.1.6	The age and/or size structure of catches is measured.	• Data on the age and size structure of catches are known well enough to support a rudimentary evaluation of the fishery.	• Data on the age and size structure of catches in the main fishery are of adequate accuracy and measured for enough years to support a high degree of confidence in the evaluation of the fishery. • There is confidence (through observers for instance) that the entire catch is reliably sampled. • There is data on the age and size structure of catches from fishery independent surveys where such surveys exist and from fisheries where the target species is caught incidentally where such fisheries catch significant by-catch.	• There is comprehensive and reliable data on the age and size structure of all significant catches (including incidental catches) on an ongoing basis and support a very high degree of confidence in the evaluation of the fishery. • A high proportion of catches are evaluated by observers. • There is comprehensive and reliable data on the age and size structure of catches from fishery independent surveys where such surveys exist.
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	Fishery related mortality is recorded/ estimated (including landings, discards and incidental mortality).	• Sufficient information is available to allow accurate estimates to be made of landings broken down as required for a rudimentary	• Landings, discards, and incidental mortality are well estimated for each gear type to support a high degree of confidence in the evaluation of the	• Landings, discards, and incidental mortality are accurately estimated and monitored for each gear type to support a very high degree of confidence in the evaluation of the fishery.

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		evaluation of the fishery. • Estimates of discards and incidental mortality are available.	fishery. • The estimates of discarding and incidental mortality are verified by observers or some form of statistical sampling.	• A high proportion of sets are observed or other measures are in place to measure discarding independent of logbooks.
1.1.2.2	Fishing effort is recorded, estimated, and standardized to effective fishing effort.	• Nominal effort data are available which can be used to estimate effective fishing effort well enough to support a rudimentary evaluation of the trends in fishing effort.	• Accurate estimates of effective fishing effort have been made and support a high degree of confidence in the evaluation of the fishery. • The effort data are available on the spatial scale of stock structure and or management units.	• Comprehensive records are kept of fishing effort, recorded at sub-annual intervals at an appropriate degree of spatial resolution and have been standardized to effective fishing effort and support a very high degree of confidence in the evaluation of the fishery.
1.1.2.3	Fishing methods and gear types are known throughout the fishery.	• Main fishing methods and gear types are known for the fishery well enough to support a rudimentary evaluation of the fishery.	• Main fishing methods and all gear types are known and quantitative information is available on the geographical pattern of effort by gear to support a high degree of confidence in evaluation of the fishery.	• All fishing methods and gear types employed in the fishery are known. • In-situ observations are made of fishing practices. • The information and observations support a very high degree of confidence in the evaluation of the fishery.
1.1.2.4	Selectivity is known for the fishery (including incidental catches).	• Some information is available on selectivity and qualitative changes in selectivity and support a rudimentary evaluation of the fishery.	• Selectivities of all gear types including incidental fisheries are well estimated by size of fish with sufficient accuracy to support a high degree of confidence in evaluation of the fishery. • Information is available to evaluate any possible changes in selectivity of gear over time.	• Full selectivities have been accurately estimated for all gears, locations and times of fishing over time and support a very high degree of confidence in the evaluation of the fishery.
1.1.2.5	Other fisheries in the area that are not subject to certification are identified and monitored.	• There is some information relating to other fisheries in the area that are not subject to certification, although these are not adequately monitored. • Significant removals of the subject stock by these fisheries are	• The main fisheries not subject to certification are identified. • Significant mortalities of the subject stock from those fisheries are included in the stock assessments and support a high degree of confidence	• All fisheries (and other sources of human-induced mortality) in the area that are not subject to certification are identified, monitored, and included in the stock assessments and support a very high degree of confidence in the evaluation of the fishery.

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		accounted for in the stock assessments well enough to support a rudimentary evaluation of the fishery.	in the evaluation of the fishery.	
1.1.3	**Appropriate reference levels have been developed for stock abundance and fishing mortality rate.**			
1.1.3.1	There are limit and target reference points that are appropriate for the stock and take ecosystem effects into account. These include limit fishing mortality rates and both limit and target stock abundance levels.	• Limit and target points have been chosen and are justified by general agreement among regional fishery scientists that they are appropriate to achieve management goals for the target stock. • Ecosystem effects are not implicitly or explicitly taken account of in setting reference points for the target species.	• Limit and target points are determined based on stock biology (e.g. a stock-recruitment relationship), they are measurable given data and assessment limitations. • Ecosystem effects have been considered qualitatively.	• Limit and target points are justified based on stock biology, uncertainty, variability, data limitations and statistical simulations of these factors. • Limit and target points take account of ecological impacts and uncertainties associated with those impacts. •
1.1.3.2	Reference points meet acceptable international standards.	• Reference points recognise appropriate international standards and are being developed to meet these.	• Reference points recognise, and are in line with, acceptable international standards.	• Reference points meet or exceed international standards.
1.1.4	**There is a well-defined and effective harvest strategy to manage the target stock.**			
1.1.4.1	There is a harvest strategy in place to adjust harvest as required for management of the stock.	• Mechanisms exist to monitor and (if necessary) reduce harvest, but do not fully contain harvest, or have not been tested, but nevertheless provide a moderate degree of confidence in the management of the stock.	• Mechanisms are in place to reduce harvest as stock biomass declines and have been demonstrated to allow for stock recovery if the stock is depleted.	• Mechanisms are in place to reduce harvest as stock biomass declines and have been demonstrated to allow for stock recovery if the stock is depleted • The robustness of these mechanisms has been tested to verify robustness to uncertainty in data inputs and stock biology. • Measures to demonstrate effectiveness are in place.
1.1.4.2	There are clear, tested decision rules set out for effective management of the stock.	• It can be demonstrated that decision making, though not documented, is logical and appropriate. • Rules have not been tested, but there is a moderate degree of	• Clear decision making rules exist, are fully documented, but have not been fully tested. • Decision rules are reconciled with reference points and with data and	• Clear, documented, and tested decision rules are fully implemented and have been fully reconciled with reference points and there is a very high degree of confidence in their effectiveness for management.

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		confidence in their effectiveness for management.	assessment limitations and there is a high degree of confidence in their effectiveness for management.	• Data and assessment limitations have been periodically evaluated.
1.1.4.3	There are appropriate management tools specified to implement decisions in terms of input and/or output controls for management of the stock.	• Management tools exist 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 at reducing fishing mortality in the event of significant stock declines.	• Management tools have been specified to implement decisions of input and/or output controls. • It has been demonstrated that these tools affect fishing mortality. • The tools in place, when combined with the decision rules are demonstrated to lead to long term sustainable management of the stock.	• 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 tools when combined with the decision rules achieve a high probability of achieving management objectives.
1.1.5	**There is a robust assessment of stocks.**			
1.1.5.1	There are assessment models used for robust assessment of the stock. The model considers the spatial structure of the stock. The assessment has been tested for robustness using simulation.	• The assessment model does not take proper account of spatial structure and only accounts for fishing mortality from landings from the principle fishery. • Model estimation procedures take limited or inappropriate account of statistical uncertainty. • Sensitivity analyses are limited or non-existent. • Results of sensitivity analyses are not properly taken into account in the harvest strategy.	• The assessment model is state of the art for single species assessments, and takes account of spatial structure and of all likely sources of fishing mortality. • Natural mortality can be age and time invariant, and subsumes predation mortality. • The assessment uses parameter estimation procedures that take account of observation and process uncertainty and are recognized to comply with standards of statistical analysis. • There is an evaluation of sensitivities to assumptions for key outputs of interest such as stock abundance. • Uncertainty about key inputs to which assessments are sensitive is taken into	• The assessment model is fully spatially structured, and takes account of all sources of mortality on the target species. • Natural mortality is time and age specific and takes explicit account of predation mortality. • The assessment method has been simulation tested and the results show that major outputs of management interest meet reasonable levels of precision and accuracy • There is a comprehensive evaluation of sensitivities to assumptions, parameters and data for key outputs of interest such as stock abundance. • Uncertainty about key inputs to which assessments are sensitive is taken into account in the harvest strategy.

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			account in the harvest strategy	
1.1.5.2	The assessment takes sufficient account of major uncertainties in data (including evaluation of assumptions) to provide a robust assessment of the stock.	• 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, 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. • .
1.1.5.3	Uncertainties and assumptions are 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	The assessment evaluates current stock and fishing mortality status relative to reference points.	• Some attempt is made to estimate the stock status relative to reference points	• The assessment makes an evaluation of the stock status and fishing mortality status relative to the reference points, but does not attempt to estimate the uncertainty regarding these estimates.	• The assessment makes a reliable probabilistic evaluation of the stock status and fishing mortality status relative to the reference points.
1.1.5.5	The assessment model is used to evaluate the consequences of current harvest strategies.	• The assessment model has not been used to evaluate the consequences of the harvest strategy.	• The assessment model has been used to evaluate the consequences of the harvest strategy.	• The assessment model has been used to evaluate the consequences of the harvest strategy. • Such uncertainties in the assessment model are carried forward into the harvest strategy evaluation. • The assessment model and harvest strategy operate on the same spatial and temporal scale.
1.1.6	**The stock(s) is/are at appropriate reference level(s).**			
1.1.6.1	The stock(s) is at or above appropriate reference levels.	• Assessments show the stock is likely above the limit reference point. However, the probability is undefined.	• Assessments show the stock has a greater than 50% probability of being above the limit reference point.	• Assessments show the stock above the target reference point more than 50% of the time in recent years.

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1.1.6.2	The fishing mortality rate is below the appropriate limit reference point.	• Assessments show the fishing mortality rate is likely below the limit reference point most of the time in recent years.	• Assessments show the fishing mortality rate is very likely below the limit reference point most of the time in recent years.	• Assessments show the fishing mortality rate very likely below the limit reference point consistently for several years.
1.2 *(MSC 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.**		
1.2.1	When the stock is below the target point, there are measures to rebuild the stock specified and implemented for recovery and rebuilding of the stock.	• Appropriate rebuilding measures through reduction in exploitation exist and are being implemented. Rebuilding measures other than reduction in exploitation are being considered. Measures are implemented even if they have not been tested. Fishing mortality is further reduced if the stock is below the limit reference point.	• Appropriate rebuilding measures are being implemented to promote recovery within reasonable time frames. Measures have been tested and can be shown to be rebuilding the stock. Target fishing mortality is reduced enough when the stock is below the limit reference point to allow rebuilding in a timely fashion.	• 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. Total fishing mortality is nearly zero if the stock is below the limit reference point.
1.3 *(MSC 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.**		
1.3.1.	The age/sex/genetic structure of the stock is monitored to detect significant impairment of reproductive capacity.	• Population age/sex structure is based on some sampling and verification but is not sufficient to reliably estimate changes in total reproductive capacity • .	• Population age/sex structure is based on adequate sampling and verification. • Ageing errors are estimated and, if significant, accounted for in the stock assessment. • Trends in reproductive capacity can be measured • Genetic studies of the stock have been made.	• Population age/sex structure is well estimated with only insignificant errors. • Total reproductive capacities for all stock components are estimated. • Genetic studies of the stock are made at time intervals appropriate to the species.
1.3.2	Information from stock assessment indicates any fishery induced changes in the age/sex/genetic structure that would have significantly	• Any fishery-induced trends in recruitment or spawning stock levels have not been shown to be due to changes in the age/sex/genetic composition of the	• There are likely no downward fishery-induced trends in reproductive capacity on local stocks or genetically monitored stocks due to changes in the age/sex/genetic structure beyond	• There is a high degree of confidence that there are no downward fishery-induced trends in reproductive capacity on local stocks or genetically identified stocks due to changes in the age/sex/genetic structure beyond those changes in

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	impaired reproductive capacity.	stock.	those changes in reproductive output normal for an exploited population.	reproductive output normal for an exploited population.

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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[1].**			
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.	The nature and distribution of habitats relevant to the fishing operations are known.	• Some information exists but may not be comprehensive or up to date. • The distribution of fishing operations is mapped.	• Nature and distribution of all main habitats are known in moderate detail. • Information is recent. The distribution of fishing operations is monitored.	• The nature and the distribution of all habitats relevant to the fishing operations are known in detail. • Information is recent.
2.1.1.2	Information is available on the position and importance of the target species within the food web.	• Key prey, predators and competitors are known.	• Qualitative and some quantitative information are available on the position and general importance of target species in the environment at key life stages.	• Quantitative information is available on the position and importance of the target species within the food web at key life stages.
2.1.1.3	There is 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.	• 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 ecosystem dynamics and the functional relationship between key elements, allowing a good assessment to be made of 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	Information is available on the nature and extent of the non-target species caught by the	• The main non-target species have been identified, and trends in abundance are assessed.	• Information is available on non-target species affected by the fishery including their distribution and	• Accurate records by vessel are kept of distribution, abundance, ecology, size, age, and sex composition, where appropriate for by-catch species caught in the

[1] This section relates to the ecosystem in which the fishery takes place only insofar it may be affected by the fishery under certification. Where reference is made to acceptable limits or levels of interaction this refers only to the interaction of the fishery under certification. Interaction on the same ecosystem by other fisheries, or other anthropogenic processes, is not included in the certification assessment. Thus there may be instances where the impacts on the ecosystem as a whole are beyond acceptable limits, but the impacts of the fishery under certification are not. In these cases, the indicators will be used to assess whether the activities of the fishery under certification, on its own, pose an *unacceptable risk* to the receiving ecosystem, not whether they pose an unacceptable *additional* risk to the ecosystem.

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	fishery. This includes all non-target species – invertebrates, fish, mammals, reptiles, birds etc.		abundance. • If obtained by sampling, this is adequate to produce accurate data.	fishery.
		•	•	• Detailed recent information is available on all non-target species affected by the fishery including their.
2.1.2.2	Information is available on the extent and survivability of discards (the proportion of the catch not landed).	• Information is available on the extent of discarding, including a species list and assessment of the main species represented, but no information is available on discard survival/mortality	• Information is available to allow reliable estimates of discard to be calculated and interpreted. • Qualitative information on discarding and discard mortality is used to assess impacts on non-target species.	• Accurate information is available on the extent and proportional survival by age/size of all discards and these estimates are incorporated into assessments of impact on non-target species, or the entire catch is landed.
2.1.2.3	There is information on any unobserved fishing mortality on target or other species (i.e. sources of mortality other than those above such as IUU fishing).	• Areas of potential unobserved fishing mortality are identified but no further information is available.	• Information from existing work has allowed qualitative estimates of unobserved fishing mortality to be made. • Monitoring is occasional or sporadic.	• Research has been carried out on unobserved fishing mortality allowing quantitative estimates to be made (or it is known that significant unobserved mortality does not occur). • Monitoring is continuous.
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	There is 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 and location of use.	• Impacts of gear use on the habitat are identified including extent and location of use. • Effects of habitat perturbations estimated and appear stable.	• The physical impacts on the habitat due to use of gear have been studied and quantified, including details of any irreversible changes. • Habitat perturbations appear sustainable.
2.1.3.2	Any gear lost during fishing operations is documented. There is adequate knowledge of gear losses and their impacts on the ecosystem.	• Some recording of gear losses takes place.	• There is some knowledge of the type, quantity and location of gear lost during fishing operations and its destiny in the receiving ecosystem. • Estimates made show that losses do not cause unacceptable impacts on the ecosystem.	• There is detailed knowledge of the type, quantity and location of gear types lost during fishing operations, and its destiny in the receiving ecosystem • 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.

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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	Levels of acceptable impact are determined and reviewed.	• There is sufficient information to determine acceptable impacts for main target and non-target species and habitats.	• Levels of acceptable impacts (e.g. biological reference points) for key aspects of the ecosystem within main fishing areas have been estimated and are regularly reviewed.	• Levels of acceptable impact for key populations (such as of indicator species) and habitats have been accurately estimated and are subject to frequent review.
2.1.4.2	Management objectives are set in terms of impact identification and avoidance/reduction.	• Limited management systems exist in terms of impact identification and avoidance/reduction. • Ecosystem effects are not implicitly or explicitly taken account of in setting reference points for the target species.	• Management objectives are set to detect and reduce impacts, although these have not been fully tested. • These are designed to adequately protect key aspects of the ecosystem within main fishing areas. • Management reference points take qualitative account (implicit or explicit) of ecosystem effects (see 1.1.3.1) if they are relevant.	• Tested management objectives are set to detect and reduce impacts. • These are designed to adequately protect ecosystems, habitats and populations of target and non-target species and keep impacts within assessed acceptable limits. • Management reference points take quantitative and explicit account of ecosystem effects (see 1.1.3.1)
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	All the significant effects of the fishery on the ecosystem have been identified.	• Main impacts of the fishery on the ecosystem are known from existing information. • Ongoing monitoring is weak.	• There is a comprehensive evaluation of the effects of the fishery on the ecosystem based on existing information. • A monitoring programme is being developed.	• The effects of the fishery on the ecosystem have been identified by appropriate comparative and/or experimental studies. • There is a monitoring programme capable of identifying any fishery-induced changes to community structure and population dynamics.
2.1.5.2	The impacts on ecosystem structure and function from removal of target stocks are known.	• The removal of target stocks is believed not to have unacceptable impacts on ecological systems. • A program is in development to reduce these to acceptable, defined	• Qualitative information is available on consequences of current levels of removal of target species. • This suggests that there are no unacceptable impacts of the fishery	• The ecological consequences of current levels of removal of target stocks has been quantified to a sufficient extent that reasonable predictions can be made about the effect of target removals on ecosystem structure and function.

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		limits.	on ecological systems within major fishing areas.	• This knowledge shows that current removals are within acceptable limits.
2.1.5.3	The impacts on ecosystem structure and function from removal of non-target stocks are known.	• Given the current level of knowledge and uncertainty, and bearing in mind the precautionary approach, the removal of non-target stocks may have unacceptable impacts on ecological systems. • A program is in development to reduce impacts to acceptable, defined limits.	• Some information is available on consequences of current levels of removal of non-target species. • These 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 to a sufficient extent that reasonable predictions can be made about the effect of target removals on ecosystem structure and function. • This knowledge shows that current removals are within acceptable limits.
2.1.5.4	Fishery impacts on habitat structure are known.	• Impacts of the fishery on habitat structure within major fishing areas are estimated, although the issue has not been directly studied.	• Impacts of the fishery on habitat structure within major fishing areas have been studied. • There is no strong evidence of significant impacts.	• Effects on habitat structure are documented and are within acceptable tested and justified limits.
2.1.5.5	The effects of the fishery on associated biological diversity and productivity are documented.	• Impacts of the fishery on biological diversity and productivity are estimated, although the issues have not been directly studied.	• Impacts of the fishery on biological diversity and productivity have been studied and are within estimated limits.	• The effects of the fishery on biological diversity 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	There is information on the presence and populations of protected, threatened and endangered species.	• There is a program in place to identify protected, threatened and endangered species directly related to the fishery.	• Key protected, threatened and endangered species directly related to the fishery have been identified and their distribution within the fishery known.	• There is knowledge of all populations of protected, threatened, and endangered species directly or indirectly related to the fishery including an assessment of temporal variability. • The type and distribution of critical habitats have been identified.
2.2.1.2	The interactions of the fishery	• The main interactions directly	• Quantitative estimates are made of the	• Reliable quantitative estimates are made of the

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	with protected, threatened and endangered species are known.	related to the fishery are known, but the quantitative effect of these interactions on protected, threatened and endangered species is unknown.	effects of interactions directly related to the fishery on populations of protected, threatened and endangered species. No information is available on indirect impacts.	interactions of all populations of protected, threatened, and endangered species directly related to the fishery, and qualitative information is available on indirect impacts.
2 2.1.3	The level of interaction known to pose an unacceptable risk to protected, threatened, or endangered species is known.	• 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 are well known allowing reasonable estimation of the level of interaction that would pose an unacceptable risk to protected, threatened and endangered species. • Available information suggests that current interactions are below the level at which protected, threatened and endangered species would be at risk.	• Critical interactions are well enough known to enable the quantitative determination of acceptable limits of interaction that do not endanger populations of protected, threatened and endangered species. • Current levels of take of endangered and threatened species are sufficiently low that they can be expected to keep impact well below levels that harm threatened and endangered populations.
2.2.2		**Strategies have been developed within the fisheries management system that address and restrain impacts of the fishery on threatened and endangered species and their critical ecosystems to insignificant levels.**		
2.2.2.1	Management objectives are set in terms of impact identification and avoidance/reduction.	• Limited management systems exist in terms of impact identification and avoidance/reduction. • Actions are mainly reactive rather than proactive.	• Management objectives are set to detect and reduce impacts to threatened and endangered species. • These are designed to maintain catch levels to within quantitatively determined acceptable limits	• Tested management objectives are set to detect and reduce impacts, maintaining them well below the levels determined as acceptable catch limits. • Management is also designed to adequately protect ecosystems, habitats and populations of threatened and endangered species.
2.3 *(MSC 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		**There are management measures in place that allow for the rebuilding of affected populations.**		
2.3.1.1	There is sufficient information to allow determination of necessary changes in fishery management to allow recovery	• There is some information on functional relationships, sufficient to allow alterations to be made to fishing in a way that	• There is adequate information, combined with a precautionary approach wherever necessary, to allow alterations to be made to	• There is a clear understanding of functional relationships between the impacted population and the fishery. • Intervention measures based on this

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	of depleted populations.	may reasonably be expected to recover and rebuild depleted species.	fishing in a way that may reasonably be expected to recover and rebuild depleted species.	understanding have been tested, and shown to be effective in promoting recovery and rebuilding of depleted species.
2.3.1.2	Management measures are 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. • The fishery responds rapidly and effectively to implement management measures.	• Monitoring programs are implemented in a proactive manner 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.
2.3.1.3	There is sufficient data and understanding of functional relationships to determine appropriate management measures which will allow recovery of depleted non-target populations.	• Rebuilding measures exist and are fully implemented, but are of largely unknown efficacy.	• Recovery plans to rebuild depleted non-target species are based on incomplete data and understanding, but take a precautionary approach to reduce impacts.	• Appropriate rebuilding measures are based on a sound understanding of functional relationships and have a high expectation of being successful. • 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.**

3.1 Structure and Strategies	**The strategic framework for management is adequate for planning , conduct and evaluation of a management program consistent with MSC Principles and Criteria**

3.1.1	**The management system has a clearly defined scope capable of achieving MSC Principles and Criteria and includes short and long-term objectives, including objectives for managing ecological impacts of fishing, consistent with a well managed fishery.**

3.1.1.1	All elements in the fisheries management system, both national and international, and governmental and private, have clear-cut lines of responsibility. Their functions, particularly those involving interactions between elements, are clearly defined. *[Relates to MSC Criteria 3.]* Elements considered in the scoring include • Clear-cut indications of interactions between elements • Explicit statements of fisheries management responsibilities for individual elements, especially regarding interactions between elements • Demonstration of effectiveness of interactions	• Organizations interacting in the management process have been identified • Functions and responsibilities for interactions with other management entities need refinement • Interactions between elements exhibit occasional specific problems	• Organizations with management responsibilities have been identified • For the most part, functions and responsibilities requiring interactions with other management elements are explicitly defined • In general, interactions between elements are effective and operate without serious difficulties	• Organizations with management responsibilities and their functions, particularly respecting interactions with other management elements, are clearly defined • Interactions between elements are effective and run smoothly.

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3.1.1.2	The management system incorporates and applies an adaptive and precautionary exploited stock strategy. *[Relates to MSC Criteria 3.2, 3.7, 3.9, 3.10]* Elements considered in scoring include • Clear long-term objectives • Application of precautionary approach • Use of best scientific information • Explicit catch control rule (e.g., ABC, TAC) • Annual assessment of stocks	• There are general management objectives that seek to maintain stocks at high levels of productivity • The harvest control strategy is consistent with objectives, but lacks specificity • The harvest control strategy is conservative but not sufficiently precautionary, not taking into account of uncertainties regarding the status of the stocks • The management system provides for making estimates of all catches, landings and bycatch and for making annual assessments of the status of all stocks • The harvest strategy addresses harvest mechanisms (such as gears, seasons) on an ad-hoc basis	• There are long-term management objectives that seek to maintain stocks at high levels of productivity • The harvest strategy, including catch control rule, is explicitly precautionary • The management system provides for making estimates of all catches, landings and bycatch and for making annual assessments of the status of all stocks • The harvest strategy addresses harvest mechanisms (such as gears, seasons) in response to management or allocation conflicts	• The management plan includes long-term stock management objectives that are explicit and consistent with MSC Principles and Criteria • The harvest strategy, including catch control rule, is explicitly precautionary, accounting for variances in survey estimates, uncertainties in stock assessment advice, and other risk factors • The management system provides for making estimates of all catches, landings and bycatch and for making annual assessments of the status of all stocks • The harvest strategy addresses harvest mechanisms (such as gears, seasons) to achieve specific goals for economic efficiency, ecological impacts, social or cultural impacts, and other management measures
3.1.1.3	The management system incorporates and applies an effective strategy to manage ecological impacts of fishing. *[Relates to MSC Criteria 3.2, 3.7, 3.9, 3.10]* Elements considered in scoring include: • Clear long-term objectives • Application of precautionary approach • Consideration of impacts on non-target species and habitats over time and	• The management system takes into account ecological impacts of the fishery, but control measures lack specificity and are not sufficiently precautionary.	• The management plan explicitly takes into account ecological impacts of the fishery • Regulation of the fishery to manage ecological impacts of fishing is precautionary • Assessments (empirical or other) of likely significant ecological impacts of fishing are undertaken on a regular basis • Where appropriate, the plan includes control mechanisms to minimize impacts	• The management system includes a plan with clear long-term objectives for managing ecological impacts of fishing that are explicit and consistent with MSC Principles and Criteria • The plan includes all ecosystem components and is explicitly precautionary, accounting for uncertainty. • The plan requires regular assessments of the status of ecosystem components, taking into account all significant (identified or estimated) ecological impacts of the fishery, including but not limited to food competition, disruption of prey fields, disruption of foraging behavior, disruption to animals, and alterations in food webs and habitats. • Where appropriate, the plan includes mechanisms (such as representative areas set aside as no-take

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	space			zones) to minimize identified impacts from fishing.
3.1.1.4	The management system takes into account socioeconomic impacts in the development of management plans. *[Relates to MSC Criteria 3.2, 3.4, 3.6, 3.7*] Elements considered in scoring include: • Compatibility of economic incentives with exploited stock and ecosystem goals and objectives, including effects of subsidies • Consideration of long-term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability • Application of precautionary approach	• The fishery management system is not free of economic incentives for over-harvest or unproductive use of harvested species, or ecosystem degradation. • Measures for allocating fishing opportunities or for controlling entry to the fishery are not always supportive of` achievement of fishery and ecosystem management goals. . • The fishery management system gives relatively little consideration to the long-term socio-economic interests of Aboriginals and of people dependent on fishing for food and livelihood	• The fishery is substantially free from subsidies that directly and substantially promote overfishing or ecosystem degradation • Measures for allocating fishing opportunities or for controlling entry to the fishery do not undermine fishery and ecosystem management goals. • The management system gives takes into account the long-term socio-economic interests of Aboriginals and of people dependent on fishing for food and livelihood • The fishery management system provides for long-term predictability or other risk management and hedging tools needed for rational and prudent investment • The fishery management system seeks to understand social and economic consequences of decision-making	• The fishery is free from subsidies that directly and substantially promote overfishing or ecosystem degradation • Participants in the fishery have access to short- and long-term economic incentives that, taken alone or in combination with other management measures, act to prevent overfishing and ecosystem degradation • The management system gives full consideration to the long-term socio-economic interests of Aboriginals and of people dependent on fishing for food and livelihood • Measures for allocating fishing opportunities or for controlling entry to the fishery do not undermine fishery and ecosystem management goals. • The fishery management system provides for long-term predictability or other risk management and hedging tools such that rational and prudent investments can be made that are consistent with ecological sustainability (i.e. no overfishing or ecosystem degradation). • The fishery management system continually seeks to understand social and economic consequences of management decisions and seeks and accepts input from all stakeholders regarding management decisions.
3.1.2		**The management system recognizes applicable legislative and institutional responsibilities and coordinates implementation on a regular, integral, and explicit basis**		
3.1.2.1	The fishery is managed and	• From time to time management	• The management system complies	• The fishery is managed and conducted in a manner

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	conducted in a manner that respects international conventions and agreements and not under any controversial unilateral exemption to an international agreement. *[Relates to MSC Criterion 3.1]*	actions may be taken which are questionable under terms of international conventions and agreements	with applicable international fisheries and environmental agreements • The management system does not operate under any controversial exemption to an international fisheries or environment-related agreement.	that complies with applicable international fisheries and environmental agreements and laws, respects fully the spirit of international conventions and agreements, and does not operate under any controversial unilateral exemption to an international agreement. • The management system seeks and uses appropriately the advice of experts in international law.
3.1.2.2	The fishery is managed and conducted in a manner that respects domestic law. *[Relates to MSC Criterion 3.16]* Elements considered in scoring include: • Consistency and quality of compliance with federal law (efforts to assure compliance, reasons for non-compliance, severity of consequences of non-compliance) • Integration of compliance requirements among the multiple domestic legal regimes that apply to the fishery	• The management system generally operates in accordance with all substantive and procedural aspects of applicable domestic law • Harvest management decisions made by fishery managers are sometimes overturned or disallowed upon review by judicial authorities based on the same or substantially similar (i.e., chronic) violations of applicable substantive law • The advice of experts in domestic law is sought only occasionally	• The management system makes consistent, good faith efforts to be in compliance with all substantive and procedural aspects of applicable domestic law • The management system, including its component institutional entities, has not been found repeatedly by any domestic court of jurisdiction to be in violation of any significant aspect of any domestic law related to protection of the human or natural environment, individual species, ecosystems, or fishery dependent communities	• The management system is in compliance with all substantive and procedural aspects of applicable domestic law • The management system, including its component institutional entities, has not been found at any time to be in willful violation of any order of any domestic court of jurisdiction on any matter related to performance of any statutory duty concerning the fishery • No officer or agent of the management system, including its component entities, has at any time been found to be in contempt of any domestic court of jurisdiction on any matter related to performance of official duties on behalf of the management system concerning the fishery • The management system regularly and consistently seeks and uses appropriately the advice of experts in domestic law, including independent experts
3.1.2.3	The fishery is managed or conducted in a manner that observes legal and customary rights. *[Relates to MSC Criterion 3.4]*	• The fishery management system generally recognizes access, subsistence, and customary rights in the fisheries	• The fishery management system recognizes access rights in the fishery • The fishery management system recognizes subsistence and customary rights in the fishery, including those of	• The fishery management system specifically recognizes access rights in fisheries management programs • The fishery management system specifically recognizes subsistence and customary rights in the

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	Elements considered in scoring: • Recognition of and respect for applicable access rights • Recognition of and respect for applicable subsistence or customary rights		Aboriginal communities • The management system includes processes for regular consultations with such communities regarding exercise of their rights • The fishery management system provides a fair means to avoid and reconcile conflicts between legal and customary rights.	fishery including those of Aboriginal communities • The management system includes processes for regular consultations with such communities regarding exercise of their rights • The fishery management system provides a fair, efficient, predictable means to avoid and reconcile conflicts between legal and customary rights.

3.2	**The management program is implemented in an effective manner to meet MSC Principles and Criteria**

3.2.1.	**The management system includes a rational and effective process for acquisition, analysis and incorporation of new scientific, social, cultural, economic, and institutional information.**

3.2.1.1	The management system solicits and takes into account relevant information. *[Relates to MSC Criterion 3.2]* Elements considered in scoring include: • Solicitation and treatment of scientific information • Solicitation and treatment of information from stakeholders • Accommodation of dissent and respect for differing perspectives • Training at all appropriate levels with respect to management principles and criteria	• The management system has mechanisms to receive information and advice from stakeholders and outside technical sources, but does not vigorously solicit such information and advice. • Information and advice is evaluated but there are no well defined procedures for making assessments and responding to such information and advice	• The management system has a stable, well-led, predictable, open and tolerant process to solicit relevant information • The management system accepts information that may be controversial or reveal weaknesses in the management system • The management system shows evidence of listening and responding to diverse points of view	• The management system has a stable, well-led, predictable, open and tolerant process to solicit relevant information • The management system seeks affirmatively to acquire information that may be controversial or reveal weaknesses in the management system, including matters related to compliance with applicable international and domestic law • The management system evaluates information in an unbiased, objective manner and does not discriminate against information solely upon the basis of the identity of stakeholder category from which it was supplied • There is an active program of familiarizing stakeholder groups with the management system's principles and criteria for decision making

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3.2.1.2	The management system involves all categories of stakeholders appropriately on a regular, integral, explicit basis. *[Relates to MSC Criterion 3.2*] Elements considered in scoring: • Composition of decision-making and advisory bodies and terms of service • Process for appointment to standing or ad hoc bodies, criteria for selection and rejection • Quality of advance notice of meetings, availability of information, and other elements of management process	• The management system provides for involvement of representative groups from all parts of the fishing community, but may omit involvement by one or more significant stakeholder interests • Procedures for considering information and advice from stakeholders are not specific and comprehensive • Articulation of management decisions does not necessarily address concerns of stakeholders	• The management system provides for involvement by all significant public and private stakeholders and consideration of their interests • The management system does not show any distinct evidence of a pattern of discrimination against significant stakeholder interests • The management system operates pursuant to stable, predictable, objective procedures	• The management system provides for direct representation of all significant public and private stakeholder interests • The management system actions do not leave a perception of discrimination against significant stakeholder interests • The management system operates pursuant to stable, predictable, objective procedures • The management system produces decisions that take fully into account and, specifically and publicly address all significant stakeholder interests
3.2.1.3	The management system assesses relevant information pursuant to objective, fair, and equitable processes. *[Relates to MSC Criterion 3.2]* Elements considered in scoring: • Burden of proof/persuasion applied to types of proposal or category of stakeholder • Efforts to quantify relative risks borne by different species, ecological systems, and stakeholders as a result of uncertainty	• The management system does not have specific procedures for assessing information from outside sources, but , generally, gives fair consideration to such information • The management system's approach to identifying and reducing sources of uncertainty affecting the quality of management decision-making is inadequate	• The management system allots analytical and deliberative resources in a manner that does not show any distinct evidence of a pattern of discrimination against significant stakeholder interests • The management system attempts to characterize and reveal the risks of harm to different species, ecological systems, and stakeholders arising from management decision making.	• The management system allots analytical and deliberative resources in a manner that does not leave a perception of a pattern of discrimination against significant stakeholder interests • The management system does not place an unfair burden of proof on proposals of a certain type or arising from a particular category of stakeholder • The management system attempts to quantify and document the degree of risk imposed on different species, ecological systems, and stakeholders by particular decisions or courses of action, particularly in light of scientific uncertainty.

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3.2.1.4	The management system provides for timely and fair resolution of disagreements. *[Relates to MSC Criteria 3.2, 3.5]* Elements considered in scoring: • Established, routine system available to all • Objective decision maker • Explanation of decision	• Dispute resolution mechanisms in place are theoretically adequate but are not used in a consistent manner • The management system demonstrates some meaningful progress toward resolution of outstanding disputes	• The management system has established mechanisms for resolution of significant disputes arising within the system • The management system's dispute resolution procedures is clearly open to all significant participants and stakeholders • The management system makes meaningful progress toward resolution of outstanding disputes	• The management system has established mechanisms for resolution of disputes at the principal levels of, and for major issues arising within, the system • The management system provides for appropriate documentation of the nature and resolution of disputes • The management system's dispute resolution procedures is clearly open to all significant participants and stakeholders • The management system's dispute resolution procedures show no evidence of a pattern of discrimination against any participants or significant stakeholder interest • The management system makes substantial progress toward resolution of outstanding disputes
3.2.1.5.	The management system presents managers with clear, useful, relevant information, including advice. *[Relates to MSC Criterion 3.2]* Elements considered in scoring include: • Presentation of alternatives • Characterization of risk, uncertainty, consequences • Opportunity for deliberation	• The management system regularly presents decision makers with a reasonable number of carefully analyzed alternatives for action, but alternatives do necessarily reflect all substantial proposals made by stakeholders • Decision makers sometimes find information provided by technical sources to be inadequate, particularly in respect to assessing risks • Decisions makers do not consistently rely on information presented to them	• The management system regularly presents decision makers with a reasonable number of carefully analyzed alternatives for action that fall in a range that includes all legally permissible options proposed by stakeholders • The management system's decision makers show evidence of relying consistently upon the information provided to them.	• The management system regularly presents decision makers with a reasonable number of carefully analyzed alternatives for action that fall in, and extend to the margins of a range that includes all legally permissible options • The management system provides decision makers with time and opportunity for deliberation in a manner suitable for the nature of the decisions under consideration • The management system shows evidence of a pattern of behavior by decision makers that reveals that they have found the information provided to them to be useful, adequate in scope and detail, and otherwise appropriate to the performance of their duties

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3.2.2	The management system applies information through implementation of measures and strategies (by rule or by voluntary action of fishery) that demonstrably control the degree of exploitation of the resource in the light of the natural variation in ecosystems

3.2.2.1	Catch levels are set to maintain high productivity of the target population and the ecosystem *[Relates to MSC Criterion 3.10]*	• Catch levels are varied in relation to target species population goals, but setting of goals and the degree of conformity with such goals is variable • Setting of catch levels takes into account ecological considerations, but only in a subordinate and variable manner • Evidence of the effects of the management program on productivity is equivocal	• Catch levels and/or catch arrangements are regularly set in a precautionary manner directly tied to, and limited by, target species population goals, including goals for population subcomponents • Catch levels are set in a manner that considers ecological productivity goals, such as, but not limited to, protection of biodiversity, predator-prey dynamics, prey abundance and spatial distribution, food web requirements, and habitat needs • No clear-cut indications of substantial declines in productivity of the target species or the ecosystem as a consequence of harvest levels	• Catch levels are set regularly in a precautionary manner directly tied to, and limited by, target species population goals, including goals for population subcomponents • Catch levels are set in a manner directly tied to, and limited by, specific ecological productivity goals, such as, but not limited to, protection of biodiversity, predator-prey dynamics, prey abundance and spatial distribution, food web requirements, and habitat needs • No evidence that the productivity of target populations, including population subcomponents, is declining as a consequence of harvest levels • No evidence that ecological productivity is declining as a consequence of harvest levels

3.2.2.2	There are gear restrictions and mandatory practices to avoid catch of non-target species, minimize mortality of this catch, and reduce unproductive use of non-target species that cannot be released alive. *[Relates to MSC Criterion 3.12]*	• The fisheries management system has a system for minimizing catches and discard mortality of non-target species, including the setting of targets, but it is difficult to assess its effectiveness • Multi-year trends in catch levels of non-target species are equivocal • Progress in encouraging productive uses of previously discarded non-target species is slow.	• The management system applies an established, widely accepted program to minimize catch and discard mortality of non-target species, including specific goals, such that the take of these species does not exceed established thresholds where appropriate, or is precautionary. • There is evidence of a fishery-wide, multi-year trend of reduced catch and discard mortality of non-target species • There is evidence of a fishery-wide, multi-year trend of reduced non-productive use of non-target species	• The management system applies an established, widely accepted program to minimize catch and discard mortality of non-target species, including specific goals, such that the take of these species does not exceed established thresholds where appropriate, or is precautionary. • The management system has achieved a fishery-wide, multi-year trend of reduced catch of non-target species through restrictions in gear and fishing practices • The management system has achieved a fishery-wide, multi-year trend of reduced discards and discard mortality through restrictions in gear and fishing practices • The management system provides for productive

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				economic or social uses of non-target species that are not released alive
3.2.2.3	The management system accounts for catch of non-target species. *[Relates to MSC Criteria 3.10, 3.17]*	• The management system requires monitoring and accounting of catch of non-target species, but the effectiveness of the measures is uncertain • Information available to managers from monitoring of catches of non-target species is barely adequate or inadequate	• The management system requires reliable, timely monitoring of and accounting for catch of non-target species and use or discard of that catch throughout all significant components of the fishery • Measures taken substantially reduce the capture of non-target species • Measures taken substantially reduce the mortality of discarded non-target species where appropriate	• There is real-time, reliable monitoring of and accounting for catch and use or discard of non-target species throughout the fishery • The management system has achieved continued improvement in the accuracy and precision of monitoring and accounting of catch and use or discard of non-target species • The management system has achieved continued reduction in mortality of discarded species where appropriate
3.2.2.4	The management system minimizes adverse impacts on habitat. *[Relates to MSC Criteria 3.10, 3.13]*	• The management system prohibits destruction of habitat by fishing, but monitoring of effectiveness is inadequate	• The management system has information on the effects of the fishery on habitat • The management system has taken significant actions to restrict fishery gear and practices to reduce fishery impacts on habitat	• The management system conducts continuing studies to identify, document, and assess the risks of fishery impacts on habitat • The management system has demonstrated a pattern of actions to restrict fishery gear and practices to reduce adverse impacts on habitat • The management system has achieved a demonstrated trend of reductions in adverse habitat impacts from fishery
3.2.2.5	The fishery does not use destructive fishery practices. *[Relates to MSC Criterion 3.14]*	There is no evidence that destructive fishing practices take place within the fishery.	• Fishery management system prohibits use of destructive fisheries practices • There is no evidence that destructive fishery practice is occurring	• Fishery management system prohibits use of destructive fisheries practices • There is no evidence that destructive fishery practice is occurring • The management system promotes the use of selective gear that minimized impacts.
3.2.2.6	The management system	• The management system takes steps	• The management system sets goals	• The management system sets goals and has

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	provides for rebuilding and recovery, where applicable. *[Relates to MSC Criterion 3.10]*	to rebuild over-fished stocks, but lacks approaches to reliably ascertain when stocks are over-fished, including those stocks not subject to targeted fisheries at the present time, but depressed due to earlier fishery activity • The management system does not respond in a timely manner to information regarding the need to rebuild and recover stocks.	and has demonstrated a trend toward achieving rebuilding and recovery goals for all over-fished stocks	demonstrated a trend toward achieving rebuilding and recovery goals for all over-fished stocks • The management system does not allow fishing on any stock impacted by the fishery that has declined below limit reference points until the fishery can be demonstrated to be significantly above the limits imposed.
3.2.2.7	The management system applies closures or restrictions when catch limits are reached. *[Relates to MSC Criterion 3.10]*	The management system applies closures or restrictions in a manner that generally prevent catch limits being exceeded, but from time to time significant over-runs occur	• The management system has demonstrated a consistent ability and willingness to close or restrict the fishery to prevent significant over-runs of catch limits by all participants in the fishery • The management system has a record of identifying and eliminating factors that impair the effectiveness of catch limit-related closures or restrictions.	• The management system has demonstrated a consistent ability and willingness to close or restrict the fishery to prevent over-runs of catch limits by all participants in the fishery • The management system has a record of identifying and eliminating factors in season that impair the effectiveness of catch limit-related closures or restrictions.
3.2.2.8	The management system uses no-take zones, and MPAs, or other mechanisms, where appropriate, to achieve harvest limits and ecosystem protection objectives. *[Relates to MSC Criterion 3.10]*	• The management system has some idea of the need for these mechanisms, and has established some control mechanisms (although their effectiveness has not been evaluated adequately).	• The management system has responded to an identified need by establishing no-take zones, MPAs, or other control mechanisms, as appropriate.	• The management system has demonstrated a consistent ability and willingness to research the need for establishing no-take zones, MPAs or other mechanisms as appropriate to achieve harvest limit or ecosystem protection goals • The management system has identified criteria and standards for establishment of closed areas or other control mechanisms.

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3.2.2.9	The management system minimizes operational waste. *[Relates to MSC Criterion 3.15]*	• Many participants in the fishery lack internal programs or controls to minimize operational waste	• The management system has established rules to minimize operational waste, including monitoring and enforcement	• The management system has established rules to minimize operational waste such as lost fishing gear, oil spills, on-board spoilage of catch, etc. • The management system has established a monitoring and enforcement program for operational waste and has achieved a significant trend in reduction of such waste
3.2.3	**A comprehensive research program is conducted**			

3.2.3.1	There is a comprehensive research program that provides for short- and long-term needs for technical guidance and information required for management of target species and protection of the ecosystem. *[Relates to MSC Criterion 3.8]*	• The research program contributes substantially to the information base required for management of the fishery but more comprehensive approaches are needed
		• There is some longer-term research contributing to improvements in basic understandings of fluctuations in target and impacted non-target species
			• The research program, in conjunction with monitoring activities, provide the management system with reliable, on-time information on the status of the stocks and of the ecosystem required for management
			• Longer term research periodically provides improvements in basic scientific understandings of:
			  • Fluctuations in target and impacted non-target species
			  • Effectiveness of harvest strategies
			  • Effects of fishing on the ecosystem
			  • Ecosystem management strategies
			  • Economic considerations related to the fishery
				• The research program, in conjunction with monitoring activities, provide the management system with reliable, on-time information on the status of the stocks and of the ecosystem required for management
				• Research provides continuing, significant progress in scientific understanding of:
				  • Fluctuations in target and impacted non-target species
				  • Effectiveness of harvest strategies
				  • Effects of fishing on the ecosystem
				  • Ecosystem management strategies
				  • Economic considerations related to the fishery

3.2.3.2 (from 3.1.1.5)	There is an adequately funded research strategy to support the harvest strategy and to address information needed to support the identification and mitigation of ecosystem impacts. *[Relates to MSC Criterion 3. 8]* Elements considered include: • Role of science in setting	• Research is generally of good quality, but lacks strategic planning that anticipates future management needs • Cooperation between research staff and fishery managers is frequent but there are often disagreements regarding the significance of research findings for management • Funding is barely adequate to meet	• The management system includes a stable, well-led, diverse and objective research planning organization • There is regular agreement between fishery managers and research scientists on near term research needs and priorities in the fishery • There are documented short-term research plans developed with advice from with stakeholders and external	• The management system includes a stable, well-led, diverse and objective research planning organization • There is significant and regular agreement between fishery managers and research scientists on research needs and priorities in the fishery • There are well documented short- and long-term research strategies developed with advice from stakeholders and external experts • Funding for research is adequate to address all significant knowledge gaps

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	research agenda • Diversity and quality of input • Level of funding • Transparency of process • Relationship between those who design research and those responsible for implementation • Relationship to present and future management needs	short-term information needs for stock assessment and ecological interaction research • Regional bodies may participate in setting research priorities using scientific justification whenever possible.	experts • Funding for research is adequate to address major short-term gaps in knowledge but inadequate for in-depth long-term research • Funding is adjusted to meet requirements of newly identified research priorities • Funding is predictable over long-enough time scale to allow continuity of all major stock assessment and ecological interactions research programs • There is regular peer review of the content and scope of the research program • Regional bodies determine many research priorities using scientific justification, and political influence is minimal with few contradictory priorities.	• Funding is adjusted in a timely and appropriate manner to serve changing research priorities • Funding is predictable over a long-enough time scale to allow research planning appropriate to long-term research needs • There are regular reviews of the content and scope of the research program by peer groups and stakeholders. • Regional bodies determine all research priorities, and the record shows that decisions are predominately in line with scientific advice.
3.2.4		**The management system effectively monitors all relevant aspects the fishery**		
3.2.4.1	The management system has procedures to measure and record and independently evaluates all aspects of the fishery to provide a basis for assessments of stocks and program performance. *[Relates to MSC Criterion 3.10, 3.11, 3.17]* Elements considered in scoring include: • Fishery includes a	• The management system has a monitoring program but lacks means for evaluating its completeness and accuracy. • The monitoring programs have not been subjected to adequate independent outside review and comment • To the extent available, the results of monitoring efforts are compiled, analyzed, and disseminated to fishery managers such that management and research efforts	• The management system has a comprehensive monitoring program • The monitoring programs established in the fishery have been subject to outside review and comment • The results of monitoring efforts are compiled, analyzed, and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements in a timely manner	• The management system has a comprehensive monitoring program • The management system has demonstrated a consistent ability to monitor all relevant aspects of the fishery and employs an independently verified system for validation of reported results • The fishery operates with no significant "blind spots" • The results of monitoring efforts are compiled, analyzed, and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements in a timely manner

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	monitoring program • Monitoring procedures are followed • Monitoring results are useful and used	can be informed as to needed improvements.		

3.2.5	The management system ensures that there is a high degree of compliance in the fisheries with management measures and directives regarding fishing practices required by the system

3.2.5.1	Fishing operations are fully compliant with regulations and directives regarding fishing practices developed by the management system. *[Relates to MSC Criteria 3.11, 3.16]* Elements considered in scoring include: • Contains procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure that management system controls are not violated and appropriate corrective actions are taken • Actual adherence to procedures	• The management system has a comprehensive enforcement system but means of assessing the degree of compliance are inadequate • Information on the actual extent of compliance is incomplete • Prosecutions, convictions and penalties for violations are often inadequate and do not act as strong deterrents to illegal fishing	• The management system has a comprehensive compliance and enforcement system • There no indications of consistent violations in the fishery • There is a record of consistent enforcement and prosecution of violations in the fishery • Convictions and penalties for prosecuted violations are generally adequate to deter illegal fishing	• The management system has a comprehensive compliance and enforcement system • The management system has demonstrated a consistent ability to enforce applicable rules, including a independently verified system for validation of reported results • The fishery operates with no significant patterns of evasion or non-compliance • Prosecutions, convictions and penalties for violations are sufficient to act as strong deterrents to illegal fishing

3.3	The performance of the management system is regularly and candidly evaluated and adapted as needed to improve

3.3.1	Evaluations are conducted in a systematic fashion and the system responds positively to appropriate recommendations for change

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.3.1.1	The management system provides for internal program evaluation and review. *[Relates to MSC Criterion 3.3]* Elements considered in scoring: • Frequency • Candor (accuracy and precision) • Transparency • Participation	• The management system may conduct internal expert program reviews, but does not do so in a systematic manner	• The management system has a provision for an objective system for evaluation of management performance that is conducted periodically as need arises • The criteria for and results of the on-going evaluation of management performance are made public. • Evaluation results demonstrate that the management system shows improvements	• The management system has an internal, continuing, objective system for evaluation of management performance • The criteria for and results of the on-going evaluation of management performance are made public and reflect input from all interested participants and stakeholders • The management system shows a consistent pattern of seeking and using the results of the on-going evaluation of management performance • Evaluation results demonstrate that the management system is effective or rapidly improving
3.3.1.2	The management system provides for external program evaluation and review. *[Relates to MSC Criterion 3.2, 3.3]* Elements considered in scoring: • Frequency • Candor (accuracy and precision) • Transparency • Participation	• The management system may conduct external expert program reviews, but does not do so in a systematic manner	• The management system conducts independent, expert reviews of all significant aspects of management performance on an as required basis • The criteria for evaluation of management performance are set outside the management system • The results of any independent review are made public • Evaluation results demonstrate that the management system shows improvements	• The management system conducts an independent, open, expert review of all significant aspects of management performance on a regular and continuing basis • The criteria for evaluation of management performance are set outside the management system • The results of the independent review are made public • The management system shows a consistent pattern of seeking and using the results of the independent evaluation of management performance • Evaluation results demonstrate that the management system is effective or rapidly improving
3.3.1.3	The management system includes guidelines for responding to assessment outcomes. *[Relates to MSC Criteria 3.3, 3.7]*	• The management system is responsive to assessments of management performance, but has no structured approach for reviewing assessments or for making decisions on relevant actions to bring about consequent improvements	• The management system has established objective guidelines for responding to internal and external assessments of management performance • The management system shows evidence of improved performance	• The management system has established comprehensive, objective standards or triggers for responding to internal and external assessments of management performance • The management system has demonstrated a consistent pattern of responding to the results of internal and external assessments of management

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
	Elements considered in scoring: • Nature of the guidelines • Timing, scope of response to assessment outcomes (actual relevance of process)		based on the results of internal and external assessments of management performance	performance • The management system has demonstrated a consistent pattern of incorporating significant recommendations for improvement developed through internal or external assessments of management performance