



Revised Framework for Evaluation of Scope for Harm under Section 73 of the Species at Risk Act

Background

The *Species at Risk Act (SARA)* is intended to protect species at risk of extinction in Canada, and promote their recovery. SARA includes prohibitions on killing, harming, harassing, capturing or taking individuals of species listed as Threatened or Endangered on Schedule 1. SARA also prohibits sale or trade of individuals of such species (or their parts), damage or destruction of their residences, or destruction of their critical habitat. A Recovery Plan must be implemented for each species listed on Schedule 1. Once the Recovery Plan is adopted, persons engaged in activities included in the Recovery Plan cannot be prosecuted if individuals of the species are killed, harmed, harassed or captured.

During the time between legal listing and adoption of the Recovery Plan, persons may be issued a permit under Section 73. This permit exempts them from prosecution for killing etc individuals of the listed species, as long as the mortality is incidental to pursuit of some other activity for which the permit was issued. The Minister of Fisheries and Oceans can only issue permits under Section 73 of SARA, if the Minister is satisfied that specific preconditions have been met. These are:

- 73(3)(a) all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted;
- 73(3)(b) all feasible measures will be taken to minimize the impact of the activity on the species ...; and
- 73(3)(c) the activity will not jeopardize the survival or recovery of the species.

The initial framework in which evaluation of the extent to which those conditions are met is presented in CSAS Proceedings 2004/040. In the process of applying the framework to cod, cusk, and bocaccio, opportunities for improvements to the framework were identified. Moreover, relationships were identified between the work necessary to determine if permits can be issued under Section 73, and work needed for determining what activities could be included within a Recovery Plan.

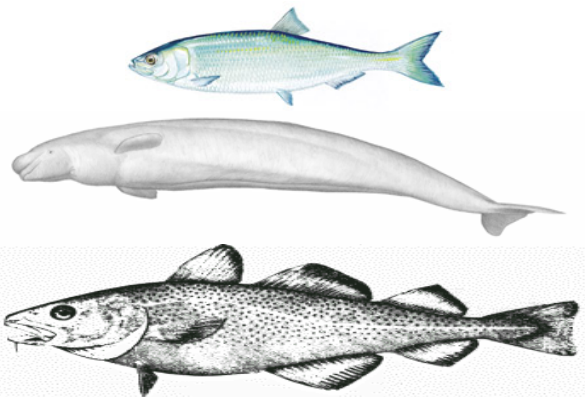


Figure 1: Map of DFO's six administrative regions.

Summary

- Directed fisheries cannot be permitted under Section 73, and marketing of fish taken as bycatch can be allowed but only with substantial administrative overhead. Therefore if there is interest in directed fisheries, priority should be given to having a recovery plan containing such a fishery approved and in place at the time that stock/unit is given protection under SARA.
- It is sufficient to address Section 73(3)c of SARA with a relative risk assessment, in cases when an assessment of absolute risk is not possible due to insufficient data or limited knowledge of a species' biology.
- To conclude that activities can be permitted under Section 73 with an

assessment of relative risk, it is necessary and sufficient to demonstrate that:

- The current population is not so small that random factors threaten population viability nor so concentrated in space that it is vulnerable to elimination by a catastrophic event.
- The recent trajectory of the stock is stable or likely to be increasing, so that survival or recovery is not in jeopardy in the period when the permit is in place
- The known sources of human-induced mortality are unlikely to increase during the permitting period. This means that there is high confidence that the causes of human-induced mortality are under management control, monitored, and can be enforced effectively.
- Consequently, the human-induced mortality will not leave the stock in worse shape at the end of the permitting period than it was at the start. Therefore the activities which were permitted did not “jeopardise survival or recovery of the species” during the period of the permit.
- COSEWIC Designatable Units may contain DFO management units (stocks or stock components) which are in different states. Management based on sound science could include separate measures for these different management units, while being consistent with the provisions and intent of stock recovery under SARA.
- Many of the considerations with regard to scientific advice in permitting under section 73 are also relevant to scientific advice for components of recovery plans, and it is often efficient to advise on both aspects from the same review.
- When scientific advice is provided on whether an activity *could* be included in a recovery plan it is sufficient that the weight of evidence supports a conclusion that the activity would not impede recovery. It is not necessary to meet the standards

necessary for the reversal of burden of proof of no harm specified in section 73 of SARA. However, it is still necessary that when the provisions of the Recovery Plan are viewed together, there must be a high likelihood of achieving recovery targets in reasonable timeframes, and not just better than a risk-neutral chance.

- The designation of recovery targets for species listed under SARA is not exclusively within the mandate of DFO Science, but should be informed by science advice. In that context targets consistent with sound Science would have to be higher than conservation limit reference points for stocks/species.
- Provision of scientific advice with regard to section 73(3)a, requires considering if alternative ways of conducting an activity are “reasonable”. It is stressed that “reasonable” has social and economic dimensions, as well as being biologically feasible. All three dimensions *must* be considered in selecting the “best solution”.

Assessment of Issue

What Is the Function of the Advice Arising from the Framework

SARA provides for a period for development of a Recovery Plan, after a species is listed on Schedule 1. During this period the species is protected from human induced mortality and harm, unless the harm is incidental to an activity not intended to directly affect the listed species, *and* the person inflicting the harm has a permit issued under Section 73. The use of Section 73 permits to provide a period for development of a Recovery Plan allows time for an inclusive consultative process, and increases the likelihood of stakeholder acceptance of the provision in the recovery plan. However, the requirement that the harm be incidental to some other activity means that directed fisheries on the species cannot be permitted during the interval when Section 73 permits are in place. Prohibitions on sale and marketing of fish during this period,

unless additional permitting, possibly at the provincial level, is a further deterrent to allowing any fishery, even as bycatch, on listed species prior to implementation of a Recovery Plan.

Therefore if there is interest in directed fisheries or sale of the species if taken as bycatch, priority should be given to having a Recovery Plan containing such a fishery approved and in place at the time that stock/unit is given protection under SARA.* This provides an incentive to address the scientific basis for both permitting under Section 73 and for the biological components of Recovery Plans early in the process following the recommendation from COSEWIC. There is substantial overlap in the scientific information needed for both activities, and making that information available early in the process allows broader societal choice regarding prosecuting fisheries, if the necessary biological preconditions can be shown to be met.

**ADDENDUM - At the time this report was prepared (October 2004), it was considered possible that directed harvest for commercial sale could be included in Recovery Plans, if other conditions were met. More recent legal advice (April 2005) casts greater doubt on that possibility, although the issue is still uncertain. However, whether commercial harvest and sale is legally allowed or not, there are many benefits from preparing Recovery Plans as soon as possible.*

Source of Uncertainty

What Type of Risk Analysis is Necessary

The wording of Section 73 in SARA and the framework previously developed recognize that it is not possible to know with certainty the likelihood that a depleted stock will recover, nor the degree to which a particular activity will impede or jeopardize recovery. Therefore a risk assessment is the appropriate approach for evaluating the circumstances under which the conditions of Section 73(3) would be met. A full analytical assessment of absolute risk would require substantial information about the status of the

species, its life history dynamics, activities that would occur, and the harm that would result from those activities. This information will often not be available. However, for the decisions to be based on best available scientific information, it is sufficient to address Section 73(3)(c) of SARA with a relative risk assessment, in cases when an assessment of absolute risk is not possible due to insufficient data or limited knowledge of a species' biology.

Scope for Human-induced Harm (or Mortality)

Framework to Evaluate Conditions under which Permits can be issued under Section 73(3)(c)

The full evaluation Framework developed earlier comprises a series of 12 questions, separated in three Phases. The first set of questions establishes current status and trajectory of the species, and at least the general neighbourhood of recovery and timeframe for rebuilding. Their goal is to provide a scientific answer on the question "Can the species recover if human-induced mortality is greater than zero?" If yes, second phase of the full evaluation framework goes on to try to identify all important sources of human-induced mortality and quantify their magnitudes. The final phase of the full evaluation framework attempts to identify alternative ways to conduct all activities which emerged from the second phase, quantify the mortality associated with each, and also identify mitigation measures for the lowest impact alternatives.

This full evaluation framework addresses the conditions in Section 73(3) completely. However, it proved exceptionally demanding in terms of data and knowledge, and in terms of time, to undertake the work in phase 2. In particular, information was rarely available to estimate reliably the mortality rates associated with alternative activities. This situation, combined with the acknowledgement that directed fisheries cannot be conducted with a Section 73 permit, led to a reconsideration of the

components of the full framework, in the context of what is actually needed to fulfill the intent of SARA.

Permits issued under Section 73 of SARA are only in place for a period of 1-2 years or less. Section 73(3)(c) specifies that the *activities for which the permits are issued* do not jeopardize survival or recovery. Determining that a permitted activity does not jeopardize recovery *during the period for which the permit is issued* does not require knowing whether or not the species will recover readily. Rather, it requires evaluating only the likely consequences of the activities being permitted for the period in which the permits would be in place. The evaluation should focus on the question of whether or not those consequences will reduce the ability of the species to recover, relative to the ability at the onset of the permitting period.

To conclude that activities can be permitted under Section 73(3)(c) with an assessment of relative risk, it is necessary and sufficient to demonstrate that:

- The current population is not so small that random factors threaten population viability nor so concentrated in space that that it is vulnerable to elimination by a catastrophic event.
- The recent trajectory of the stock is stable or likely to be increasing, so that survival or recovery is not in jeopardy in the period when the permit is in place.
- The known sources of human-induced mortality are unlikely to increase during the permitting period. This means that there is high confidence that the causes of human-induced mortality are under management control, monitored, and management measures can be enforced effectively.

If these three conditions can be demonstrated, then the human-induced mortality will not leave the stock in worse shape at the end of the permitting period that it was at the start. Therefore *the activities which were permitted* did not “jeopardise

survival or recovery of the species” during the period of the permit.

Units for Evaluation within the Framework

COSEWIC determines the geographic units below the level species for which it recommends designation (“designatable units”) on the basis of taxonomic status, genetic differentiation, gaps in range, or biogeographical considerations. COSEWIC Designatable Units may contain more than one DFO management unit (stocks or stock components) which may be in different states. Although COSEWIC recommends that all the DFO management stocks in a Designatable Unit be assigned the same status, it does not follow that conditions which would influence permitting decisions under Section 73 are the same throughout the Designatable Unit. Management based on sound science could include separate measures for the different DFO management stocks, while being consistent with the provisions and intent of stock recovery under SARA. The important factor is that the management measures ensure that the activities being permitted do not jeopardize survival or recovery of both the DFO management stock *and* COSEWIC Designatable Unit.

Other Considerations

Addressing Social and Economic Considerations

The conditions necessary for issuing permits under Section 73 include more than just the biological factors addressed above. Provision of scientific advice with regard to section 73(3)(a), requires considering if alternative ways of conducting an activity are “reasonable”. It is stressed that “reasonable” has social and economic dimensions, as well as being biologically feasible. All three dimensions *must* be considered in selecting the “best solution”.

Science advice on Sections 73(3)(a and b) will be provided *only* in the context of whether or not an activity is a *technically* feasible

alternative that allows the objectives of the activity to be pursued with less impact on the SARA-listed species. For example, scientific advice may point out a fishery at an alternative time or area, or using a different gear, could catch the target species of a fishery economically (*technically* reasonable or feasible), with a lower bycatch of the protected species (reduced or minimized impact). This does not automatically make the alternative necessarily the “best” solution. This scientific advice should be augmented by information from other sources, including other Sectors of the Department and stakeholders with regard to the social and economic implications of the alternative. As long as the choice is among options all of which meet the standards of Section 73(3)(c), and are evaluated with the Framework above as not jeopardizing survival or recovery, the social and economic analysis are an important part of selecting the “best solution”.

**Additional Considerations Regarding
Science Advice on Measures to be
Included in Recovery Plans**

Many of the considerations with regard to scientific advice in permitting under section 73 are also relevant to scientific advice for components of recovery plans, and it is often efficient to advise on permitting and recovery from the same review. However, the revised Framework will *not* be an approach for determining the types and levels of activities which can be included in a Recovery Plan. This is because the goal of a Recovery Plan is to facilitate recovery of the species, and not just to prevent further decline while a recovery strategy and action plan is developed and implemented.

One of the purposes of SARA, as set out in Section 6, is to provide for the recovery of species that are extirpated, endangered or threatened as a result of human activity. The purpose of Recovery Strategies and action plans can be gleaned from subsections 41(1) and 49(1) of the Act. It consists among other things of the following:

- identifying the threats to the survival of the species and describing a broad strategy to be taken to address those threats [paragraph 41(1)(b)];
- stating the population and distribution objectives that will assist the survival and recovery of the species and describing the management activities needed to meet those objectives [paragraph 41(1)(d)];
- stating the measures that are to be taken to implement the recovery strategy, including those that address the threats to the species and those that help to achieve the population and distribution objectives [paragraph 49(1)(d)];
- stating the methods to be used to monitor the recovery of the species and its long-term viability [paragraph 41(1)(d.1)].

A recovery strategy or action plan authorizing a directed fishery (or, as a matter of fact, an incidental take) that would result in the recovery of a species being jeopardized would not meet the purposes set out above. In such a situation the purpose of the recovery strategy or action plan could not be met, and scientific advice should highlight that such a fishery or bycatch should not be included in a Recovery Plan. On the other hand, it is conceivable that a directed fishery for food, social and ceremonial purposes would not, in a given situation, jeopardize the recovery of a species and could legitimately be authorized in a recovery strategy or action plan.

Given these conditions, for an activity to be included in a Recovery Plan, a scientific evaluation should conclude that there is relatively high likelihood that recovery goals will be achieved in biologically reasonable time frames with the activity present. The complete scientific approach to conducting such an evaluation has not been developed. In particular there are not yet guidelines for the biological properties of suitable recovery targets and recovery times. The designation of recovery targets and times for species listed under SARA is not exclusively a

scientific issue, but should be informed by science advice. In that context targets consistent with sound science would have to be higher than conservation limit reference points for stocks/species.

In following the Framework for evaluation of conditions for issuing Section 73 permits, it will often be necessary to review information regarding population productivity and mortality sources, and possible mortality resulting from a variety of human activities. This information would be the basis for estimating the likelihood of reaching recovery goals when various activities, such as specific fisheries, are allowed. Added to the value of having a Recovery Plan ready for implementation at the time of listing (see "Function of the Framework"), there are good reasons to try to prepare at least key parts the scientific basis for Recovery Plans at the same meeting while developing the scientific advice on Permits under Section 73. However, when scientific advice is provided on whether an activity *could* be included in a Recovery Plan it is sufficient that the weight of evidence supports a conclusion that the activity would not impede recovery. It is not necessary to meet the standards necessary for the reversal of burden of proof of no harm specified in section 73 of SARA. It is still necessary that the probability of achieving the recovery targets is high, given the full suite of measures and provisions in the Recovery Plan.

Conclusion

Section 73(3)c of SARA can be addressed with a relative risk assessment, or, if data and knowledge of a species' biology permits, with an assessment of absolute risk. To conclude that activities can be permitted under Section 73, it is necessary and sufficient to demonstrate that the human-induced mortality to be permitted will not leave the stock in worse shape at the end of the permitting period that it was at the start. Therefore the activities which were permitted did not "jeopardise survival or recovery of the species" during the period of the permit.

Detailed conditions which provide the demonstration are presented in this report. Provision of scientific advice with regard to section 73(3)a, requires considering if alternative ways of conducting an activity are "reasonable". "Reasonable" has social and economic dimensions, as well as being biologically feasible, and all three dimensions *must* be considered in selecting the "best solution".

Many of the considerations with regard to scientific advice in permitting under section 73 are also relevant to scientific advice for components of recovery plans, and it is often efficient to advise on both aspects from the same review. It is necessary that when the provisions of the Recovery Plan are viewed together, there *must* be a high likelihood of achieving recovery targets in reasonable timeframes, and not just better than a risk-neutral chance.

References

DFO, 2004. Proceedings of the National Peer Review Meeting on the Level of Allowable Harm for Newfoundland and Labrador Atlantic Cod, Laurentian North Atlantic Cod, Cusk and Bocaccio in Support of Species at Risk; Halifax, October 25-29, 2004. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2004/040.

For more Information

Contact: Dr. Jake Rice
Canadian Science Advisory
Secretariat
Fisheries and Oceans Canada
200 Kent Street
Ottawa, Ontario
K1A 0E6

Tel: (613) 990-0288

Fax: (613) 954-0807

E-Mail: RiceJ@DFO-MPO.gc.ca

Or: Chris Allen
Fisheries Research Branch
Fisheries and Oceans Canada
200 Kent Street
Ottawa, Ontario
K1A 0E6

Tel: (613) 990-0105

Fax: (613) 954-0807

E-Mail: AllenC@DFO-MPO.gc.ca

This report is available from the:

Canadian Science Advisory Secretariat
National Capital Region
Fisheries and Oceans Canada
200 Kent Street
Ottawa, Ontario
K1A 0E6

Telephone: (613) 990-0293

Fax: (613) 954-0807

E-Mail: CSAS@DFO-MPO.gc.ca

Internet address: www.dfo-mpo.gc.ca/csas

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