

MEMORANDUM FOR THE RDG

**SELECTIVE FISHING IN THE 2004 AREA A & B SEINE FISHERIES**

(Decision Sought)

**SUMMARY**

- Selective fishing and responsible fisheries are endorsed by DFO and the Canadian fishing industry. Up to 5% of the available TAC is supported by DFO policy and the SWG for funding experimental work.
- Conservation of stocks of concern is increasingly key to the prosecution of salmon fisheries. High coho mortality in Area 20 and chinook mortality concerns in Areas 3 and 4 can significantly limit access to target species.
- The seine sector and DFO have invested considerable resources since 1998 on the development of a solution. The use of seine bunt grids and small mesh knotless bunt web, for the release of small coho and chinook, has shown compelling results.
- Continued work on the initial implementation of grids and knotless bunts in Area 20 and the further experimentation in the North Coast will advance this conservation based solution. This will enable more effective access to future target stocks currently limited by impacts on stocks of concern.
- In spite of the large investment and very promising results to date, industry leaders have recently informed DFO that they are opposed to any addition testing or broader implementation of these new selective fishing methods in 2004.
- It is therefore recommended that:
  1. DFO confirm the Department's continued commitment to, and requirement for, selective fishing in the commercial seine sector by approving the initial implementation of grids and knotless bunts in Area 20 and further experimentation in the North Coast.

**Background**

- There were no commercial seine fisheries in Area 20 in 1998, 1999, or 2000 due to Thompson coho concerns. Since 2001 a reduced Area 20 seine fishery has been conducted as a demonstration fishery, with an objective of re-developing this fishery so that it is sufficiently selective and responsible. Finding a suitable solution to the coho by-catch problem in Area 20 has been a condition of any continued seine fishing in this area.
- Seine fisheries in Area 3 and 4 have been shown to have high (80%) mortality on immature Chinook in spite of currently endorsed selective fishing gear and methods.

- There is potential for additional seine fisheries coast-wide if an effective method of in-water sorting different sized salmon can be confirmed (e.g. Sakinaw sockeye, Area 6 pinks) with this gear.
- The “Canadian Code of Conduct for Responsible Fishing Operations” under principle six states *To the extent practical, fish harvesters will minimize unintended by-catch and reduce waste and adverse impacts on the freshwater and marine ecosystems and habitats to ensure healthy stocks.*
- Strategic use of a portion (up to 5%) of the commercial sector’s annual total allowable catch (TAC) is provided for under both the Selective Fishing and Salmon Allocation policies and the Salmon Working Group (SWG) has endorsed this approach for 2004.
- The testing of seine escape grids and knotless bunts has continued since 1998 with considerable investment and compelling results coast-wide. For example, the use of escape grids in the seine bunt allowed the in-water escape of coho, without any human handling or intervention, of 69% of the coho that were caught in the seine net in Area 20 in 2003. The results from the 2002 commercial fishery in Area 20 showed that the leading causes of coho mortality appear to be gilling in the seine web and scale loss. 69% of coho that were gilled died, compared to only 31% mortality of coho that were not gilled in the seine web. Measurement of the amount of scale loss showed that low scale loss resulted in a coho mortality rate of 0%, but medium and high scale loss resulted in coho mortality rates of 31% and 69%, respectively. The re-fitting of seine bunts with knotless web has been shown to result in negligible scale loss from coho.
- Each year of and since the Selective Fishing Program (SFP), proposals have been solicited from industry. The seine escape grid experiment in 2003 was rejected by the seine sector but ultimately approved by DFO as both necessary and strategically important.
- The seine fishery in Area 20 continues to have a high mortality rate (70%) on coho caught and released as by-catch. One vessel that used a knotless bunt and escape grids in 2002 obtained a much lower coho mortality rate of 24%.
- The results from this work have been presented to industry each year since 2002 without hearing any significant arguments to refute the study results.

### **The Current Situation**

- In 2004 the Area B Area Harvest Committee (AHC) again rejected this proposal on the basis of low availability of TAC and inconclusive results (Attachment 1).
- A recent meeting was held on June 18<sup>th</sup> with the Area B AHC resulting in their acceptance of the results related to coho but are reluctant to proceed with implementation (Area 20). The five representatives (out of 12) from the Area B AHC appear to be against moving ahead due to the TAC cost and their belief that solving

the coho problem in Area 20 will not afford them additional commercial fishing time due to the sockeye constraints. The Area A AHC contact (Mr. Chris Cue) has recently informed DFO that it is his feeling that the project will be rejected but he will review the proposal with other board members.

- It appears that the overall commercial impact on Thompson coho in Area 20 may be significantly higher in 2004, due to the potential for increased reliance on accessing Canadian Fraser sockeye TAC in this area. This results from the new constraints on harvesting Fraser sockeye in Johnstone Strait due to conservation measures for Sakinaw sockeye.
- The Department is considering relaxing some of the selective fishing strategies for the 2004 Area 20 fishery, to allow a fishery with significantly more gear to harvest while being limited by total coho and late Fraser sockeye impact (i.e. Cultus sockeye). Modelling the coho impact in Area 20 has resulted in a fishery limited to only 3 fishing days. The results from only adjusting the coho mortality rate from 70% to 30% (use of grids and knotless bunts) provides for an increase in fishing days from 3 to 7 days. The current Fraser sockeye constraints also limit fishing in Area 20 to 3 days but with the predicted northern diversion rate of 77%, further models may allow for some measure of increased boat days for Area 20 based on Late sockeye impacts.
- DFO staff involved with the development of the escape grids and knotless bunts believe this gear is ready for an initial implementation test in Area 20 in 2004 (3-5 boats) while the North Coast requires further experimentation.
- Dr. Brent Hargreaves has been the science authority on this project since 1998 and finds the results very convincing that these new selective fishing methods are effective, but has recommended that a more formal analyses should be conducted (e.g. a PSARC Working Paper) to confirm the potential effectiveness and significance of these methods before larger scale implementation in 2005 and 2006. The SWG has added this analysis to the present PSARC list.

#### **Analysis / DFO Comment**

- The Area B AHC is focused on the increased sockeye returns in 2005 and 2006 being extremely important to their viability. Reducing the coho impediments to fisheries in Area 20 allows the focus to shift to solving sockeye conservation constraints that are also limiting access.
- DFO has reaffirmed the commitment to the Selective Fishing Policy and the 5% TAC set-aside for strategically finding solutions to present and future conservation concerns in the commercial sector. The further experimentation and initial test of implementation of grids and knotless bunts in 2004 is critical to future access and will only cost a fraction of the 5% available for this work. The future cost in lost access will be significantly higher if solutions are not advanced soon.
- The relaxing of selective fishing measures in Area 20 in 2004 will show DFO's flexibility to respond to industry's need to maximize catch in a low abundance year

while being open to criticism. Without furthering this work in the seine sector DFO will have difficulty responding to other sectors concerns about the impacts.

- Conservation concerns are likely to increase with the implementation of the Wild Salmon Policy and Species at Risk legislation.
- When grids and knotless bunts are shown to provide conservation benefits the Department can work in consultation with industry on an implementation plan.
- DFO should continue to provide leadership and guide this process towards more sustainable management of fisheries for the benefit of all present and future Canadians. DFO needs to be clear with the Area A and B harvesters that solutions to high by-catch impacts are required to secure future seine fisheries.

**Recommendations / Next Steps**

- The initial implementation of grids and knotless bunts in Area 20 and further experimentation in the North is recommended.
- A decision is required by June 25th as the salmon season has started and gear preparation for grid and knotless bunt work for 2004 requires completion, prior to fisheries. The proponents have incurred personal costs to date to be able to implement this project this season. If the project is not approved the recovery of outstanding costs should be endorsed.

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I concur:

Region

Regional Director Fisheries Management

or

Regional Director-General Pacific Region

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Attachment(s) (if applicable)

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Gordon Curry, Brent Hargreaves

**Attachment 1:** Email from Chris Ashton (Area B commercial seine sector) informing DFO of results of industry review of selective fishing proposals submitted for 2004.

-----Original Message-----

**From:** Chris Ashton [<mailto:cashton@telus.net>]

**Sent:** May 13, 2004 7:02 AM

**To:** R Brahniuk; [ThomasG@pac.dfo-mpo.gc.ca](mailto:ThomasG@pac.dfo-mpo.gc.ca); [CurryG@pac.dfo-mpo.gc.ca](mailto:CurryG@pac.dfo-mpo.gc.ca); [LochbaumE@pac.dfo-mpo.gc.ca](mailto:LochbaumE@pac.dfo-mpo.gc.ca); [SpencerK@pac.dfo-mpo.gc.ca](mailto:SpencerK@pac.dfo-mpo.gc.ca)

**Cc:** FVOA; Bob Rezanoff; Chris Cook; Chris Cue; Don Heron; Glenn Budden; Gordon Wasden; Joe Radic; Murray Chatwin

**Subject:** 2004 Selective Fishing Projects

The Area B Salmon Area Harvest Committee Directors met on Friday, May 7 and discussed the two Selective Fishing proposals that have been submitted for 2004.

1. **Selectivity Grids in Knotless Seine Bunts** - Paul Brajcich
2. **Selective Salmon Harvesting System** - Wilfred Hunt, Alfred Hunt

The Directors cannot endorse or support either of these Selective projects for the following reasons:

1. The overall TAC in 2004 is far too low.
2. The **Selectivity Grids in Knotless Bunts** study has produced inconclusive results after several years years of comprehensive testing and modifications.
3. The **Selective Salmon Harvesting System** utilizes a new elaborate piece of equipment which does meet the criteria of being a modification to a Seine net. It is also assumed that the un-named table seine vessel proposed to be used in this project does not have an Area B license yet the proponents are asking to be compensated from Area B's sockeye allocation.

It should be noted that the several of the Directors were involved in reviewing the Selective Grid/Knotless Bunt proposal in 2003 and expressed concern that even though this project was not endorsed last year for much the reasons as stated above it was allowed to proceed.