

PSARC Request for Working Paper¹

Date Submitted: 22 October 2004

Individual or group requesting advice: Bert Jonson – Regional Salmon Manager

Proposed PSARC Presentation Date: May 2005

Subject of Paper (title if developed): A review of selective fishing gear and methods used by commercial salmon seine vessels to minimize mortality of non-target species.

Science Lead Author: Dr. Brent Hargreaves

Resource Management Lead Author: Gordon Curry

Rationale for request: Since 1998, many selective fishing experiments have been undertaken by both DFO and the commercial salmon fishing sector to reduce the mortality rate of non-target species, as an alternative to fishing closures. Before the results of these experiments can be considered for incorporation into the regular fishery, a full review is required, including the study designs, results, analyses, and final reports. While many different kinds of selective fishing experiments have been undertaken since 1998, this review will focus on the effectiveness of escape grids and fine-mesh, knotless bunts in the commercial salmon seine nets. A comprehensive scientific review is necessary and very important as some of the components of these new selective fishing approaches will have cost implications for the commercial salmon fleet and will be opposed by those unconvinced that these new selective fishing gear and methods are effective. Fishery managers will also require a sound technical basis from which to implement new fishing gear into the seine fishery.

Objective of Working Paper including assessment of environment/climate impacts:

This paper will review selective fishing experiments related to seine escape grids and small-mesh knotless bunt experiments conducted since 1998 to assess whether, on a case-by-case basis, the study design was appropriate, the experiment met the design criterion, that the analysis was undertaken using scientifically defensible methods, and if the data and results or conclusions are reliable. This paper will also provide an overall synthesis of the information gained from all these various experiments, to assess the effectiveness and potential utility of the new selective fishing gear and methods. As well, the paper will review any mortality information associated with these experiments and provide advice regarding any adjustments to "standard" mortality rates for non-target species that currently are in use for the commercial salmon seine sector.

Question(s) to be addressed in the Working Paper:

- 1) For each experiment reviewed, is the gear and/or method modification successful in
 - avoiding non-target species?
 - permitting the release of non-target species alive and unharmed?
 - achieving substantially lower (e.g. 0-20%) mortality of non-target species?
- 2) What is the mortality rate of all salmon species encountered and/or released from the gear?

Stakeholders Affected:

¹ Once completed and agreed to by leads forward to the PSARC secretariat for routing to appropriate RD. Append approved RFWP to Working Paper.

First Nations groups as well as Recreational and Commercial fishermen.

How Advice May Impact the Development of a Fishing Plan:

The advice will permit the adoption of new salmon harvest strategies and opportunities that can be included into fishing plans. The advice will also provide direction for development of additional selective fishing gear and methods.

Timing Issues Related to When Advice is Necessary:

Ideally the final paper would be ready prior to the 2005 commercial salmon season which begins in May-June 2005. This will allow any critical additional experiments to be planned and conducted in 2005, and adequate time for broad consultations to be completed prior to development of the draft Integrated Fisheries Management Plan release in mid-March 2006. This will allow time to incorporate any new methods and gear into the commercial fishery in 2006, when a large return of salmon is anticipated.

Initiating sector approval:

Regional Director: _____; Date: _____