

Frances - K/IV



Fisheries
and Oceans

Pêches
et Océans

MEMORANDUM NOTE DE SERVICE

To Bud Graham, Director
A Fisheries Management

From Area Chief, Fisheries Management
De Fraser River Division

Security Classification - Classification de sécurité
Our file - Notre référence
Your File - Votre référence
Date May 17, 1996

Subject Salmon Drop-out Rates - REMEC/PSARC
Object

You were copied on a memo, Wilson to Dickson., May 17, 1996, with respect to a recommendation made by the salmon PSARC subcommittee that we attempt to measure drop-out rates in the upriver aboriginal fishery. We are concerned about such recommendations, and would remind you that we did not propose to do such a study. The area in question is not particularly suitable for this study and such a study would be quite costly if conducted properly. As pointed out in the memo, set nets in the Fraser are actively tended, and it is unlikely that dropout is as serious a concern as implied by the observations on the Stikine. If REMEC decides that such a study should be conducted on the Fraser, it should be done on the lower river and we would be happy to put together a research proposal and assist in the study.

Ken Wilson

for Frances Dickson

cc. Sue Farlinger
Ken Wilson

attach.

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Ken - K11V

To Frances Dickson
A Chief, Fisheries Management
Fraser River Division

From Ken Wilson
De Fisheries Biologist
New Westminster

Security Classification - Classification de sécurité
Our file - Notre référence
Your File - Votre référence
Date May 17, 1996

Subject Non-catch fishing mortality in Fraser River fisheries
Object

There seems to be a growing concern within this Department that the landed catch in our in-river First Nations Fisheries is only a fraction of the number of fish killed by the nets. It follows that the impact of our in-river fisheries is far greater than would be expected based on our catch estimates, and that many of our so called missing fish, and many of the apparent problems with the Mission echo sounder can be explained by drop-out (fish being killed by the nets and falling out before they can be removed from the net).

This issue was raised by Pearse and Larkin when they argued that there were many net marked early Stuart sockeye on the spawning grounds, even though the commercial fleet did not fish. 1961
argues that two fish are killed for every fish landed by the in-river set net fisheries on the Stikine, and that the same is likely true everywhere. He's been shopping these ideas around and looking for funding to study this problem. The PSARC Salmon Sub-committee recently lent some credence to his argument by suggesting that we should collect any available data to assess drop out from gill nets during our catch estimation survey in the mid Fraser (but they don't say what these data might be).

Undoubtedly, some fish fall out of set nets, drift nets and even seine nets, and many of these fish are injured and may die, but how serious is this problem, and how should DFO react? If the Fraser River First Nations fishery is (as widely suggested by 1961) killing two million fish a year and only landing one million, the problem warrants an immediate and a significant investment in research followed by significant policy changes. In my opinion this problem may warrant investigation by the department, but it is highly unlikely that drop-out is anywhere near as serious a problem on the Fraser as 1961 suggests.

At the risk of slightly over simplifying 1961 argument is based on the observation that a net fished for two days (without being checked) caught the same number of fish as a net fished for only one day, and none of the fish looked like they had been in the net for two days. While I would agree that some of the fish caught in the first day fell out, net saturation and other factors were likely involved. While these observations may have some relevance on the Stikine, fisheries on the Fraser are very different. Even during openings lasting several days, set gill nets are checked constantly. On the lower Fraser, most nets are checked every few hours during the day, and are checked at dusk and dawn. During sockeye fisheries, most nets are attended even at night, because of the risk that seals or someone other than the nets owner will remove fish from the net. In any event, much of 1961

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the Fraser catch (say 50%) is taken by drift nets and dip nets (where drop out is much less of a problem) and not by set nets. Several studies have examined the drop out rate for ocean drift nets. It has been a long time since I've looked at these studies (so don't quote me) but I recall that wave actions was a significant cause of drop out, and that drop out rates were on the order of 10% or less

There are likely many factors that affect the probability of a fish dropping out of a gill net; time, current velocity, turbulence, temperature (which affects how long the fish stay alive), turbidity, net construction, fishing technique, fish behavior, seals, presence of other fish in the net, and fishing technique to name a few. Many of these factors are site specific, and not all of the fish that drop out of a gill net die. It is irresponsible to imply that there is any strong evidence that drop out from First Nations set nets is a major cause of mortality for Fraser salmon stocks. If, after a careful scientific review, we conclude that drop out warrants further study, such a study should be carefully designed and adequately funded. Off the cuff comments by PSARC and ad-hoc data collection will do nothing to resolve this problem and may simply add to the speculation by individuals with an axe to grind. Our jobs are already tough enough.



Ken Wilson

cc Mike Henderson
Bud Graham
Bridget Ennevor