

VIABILITY OF MATURE SOCKEYE SALMON THAT DISENTANGLE
FROM GILLNETS

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In 1969 we reported on the viability of mature sockeye salmon that became disentangled from gillnets during the summer of 1968 (Thompson, Hunter, and Patten, MS. 1970). This study was repeated during the summer of 1969 to confirm the first year's data and to compare the viability of fish that became disentangled from multifilament gillnets with the viability of fish that became disentangled from monofilament gillnets. Experimental procedures in 1969 and methods of determining viability of disentangled salmon were similar to those of Thompson et al.

The group of fish taken by the multifilament gillnet had a lower survival rate than the group taken by the monofilament gillnet; the monofilament group had a lower survival rate than the control group. For example, 80% of the fish that had escaped from the multifilament net died within 2 days, 80% that escaped from the monofilament net died within 5 days, and 80% of the control group were dead in 9 days. In 1969, the mortality rate within the control group was considerably greater than in 1968 when less than 5% of the control group died within 9 days. There were no changes in the experiment during 1969 to which this rapid mortality rate could be attributed. We then examined some dead fish and determined that they probably died from disease (cultures taken from the kidneys were heavily infected with Vibrio, a marine bacterium). We now assume that some fish within each group were infected with Vibrio.

Some similarity and some differences existed between results of the 1968 and 1969 experiments. In 1968 and 1969, mortalities were higher within the groups that escaped from the multifilament gillnet than within the control groups. The most notable difference between years was the increased mortality in test and control groups during 1969. Although the results of the 1969 study indicate that most fish taken by multifilament and monofilament gillnets were less viable than the control fish, Vibrio-infected fish could have biased these findings, because the fish were subjected to the stress of disease in addition to the stress from handling and enmeshment.

Literature cited

Thompson, R. B., C. J. Hunter, and B. G. Patten. MS. 1970. Studies of live and dead salmon that unmesh from gillnets. Int. N. Pac. Fish. Comm. (INPFC), Annu. Rep. 1969. In press.