



Subject: **LOWER FRASER RIVER RECREATIONAL HOOK AND RELEASE SOCKEYE MORTALITY PILOT STUDY 2008: SUMMARY FOR WEEK 1 – AUGUST 5 TO 9, 2008**

The study began on August 4 with the setup and organization of the Grassy Bar study site and the net pen site. A mechanical problem with the survey vessel on August 4 delayed completion of the planned setup of the net pen until August 5. Accordingly, sockeye caught on August 5 were initially placed in a smaller replacement pen before being transferred to the standard holding pen on the evening of August 5. No sockeye mortalities were encountered from the use of the replacement pen or from the transfer of fish to the larger holding pen.

Here is a brief summary of results from the first week:

- The study averaged 12 anglers per day. Daily angler counts from Tuesday to Saturday were 16, 7, 11, 10 and 16, respectively). The largest daily catch of sockeye (41) occurred on the day of fewest anglers. Angler efficiency was also correlated to where anglers were fishing. The optimal catch site was the bottom portion of the bar, which can effectively support < 20 anglers. If we can be consistent and maintain 15 - 20 anglers per day, we should be able to acquire sufficient fish for the study. The key component will be sockeye abundance.
- The study captured and held 123 sockeye for 24 hour observation. Daily counts from Tuesday to Saturday were 30, 41, 17, 20 and 15, respectively). We witnessed two (2) mortalities during the week with both fish caught on August 6. One of the sockeye mortalities had been foul-hooked above the left pectoral fin and the hook had penetrated the body cavity and pierced either the heart or liver. The necropsy identified the body cavity as full of blood. The second mortality presented no obvious cause of death.

Results of hooking locations were as follows:

<u>Hooking Location</u>	<u>Frequency</u>
Maxillary bone	60%
Chin - exterior	13%
Ventral snag	7%
Corner of mouth - Inside	5%
Lower jaw - Inside	4%
Upper jaw - Inside	2%
Floor of mouth	2%
Dorsal snag	2%
Unknown (hook displaced)	2%
Roof of mouth	1%
Head - exterior	1%
Eye	1%
Other - (tail)	1%
<u>Total</u>	<u>100%</u>



- Beach seining was conducted on Wednesday August 7 to acquire study control fish. A total of 21 sockeye were caught; 15 held in the pens, and 6 sacrificed for physiological sampling. The poor performance of the beach seine confirmed the low abundance of sockeye. As the day progressed, beach seine sets were conducted based on the success of real-time angling.
- Leader length ranged from 8 to 16 feet, with lengths of 12 to 14 feet predominant.
- Data collection during the week included a full spectrum of environmental data including air/water temperatures, current flow, and dissolved oxygen levels. Distinct environmental data was collected at the angling site as well as the net pen site.
- Angling observations recorded data on hooking location, degree of bleeding, scale loss, hook size, leader length, playing time, method of landing, and air exposure.
- Net pen sampling included the application of numbered Floy tags to all sockeye. The tags will allow all angling and release variables to be assessed for individual sockeye

Sincerely,
Jim Thomas
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