

## **Abundance and run timing of adult salmon in Tanada Creek in the Wrangell-St. Elias National Park and Preserve**

**Abstract:** Tanada Creek supports the northern most sockeye salmon run of significant size in the Copper River. Tanada Creek sockeye contribute to fisheries throughout the Copper River drainage, including the Batzulnetas subsistence fishery located at the Tanada Creek confluence with the Copper River. The magnitude of spawning escapement has been sporadically assessed with variable success. This project to assess spawning escapement of sockeye salmon into Tanada Creek was initiated in 2001, and continued in 2002. A floating resistance board weir and video escapement tower were again tested for feasibility. Because of uncertainty with the 2001 weir counts (flooding precluded counting for 10 days), sockeye were marked at the weir for a backup mark-recapture experiment to verify weir results. The weir was operational June 27 – August 15; however, flood conditions precluded counting during only one day of the migration on July 30. While the floating resistance board weir did not appear to be damaged from the flood, the panels were incorrectly attached to the substrate and leakage did occur. A total of 2,489 sockeye were counted through the weir, which is again a relatively low escapement in comparison to past data. However, tagging data were successfully modeled and escapement more credibly estimated at 6,186 (SE = 537) sockeye salmon. Subsequent aerial surveys of escapement in Tanada Lake are more consistent with the tagging estimate of escapement than the lower weir estimate. Age 1.3 was the predominant age and approximately 90% of the escapement through July. The proportion of age 1.2 fish significantly increased (22%) during the last sampling stratum (July 30-August 15). Passage recorded on the video equipment did not correlate well with weir counts. The video equipment was installed downstream of the weir, and recorded milling fish waiting to migrate through the weir. The video equipment will be relocated in 2003.

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