Fisheries and Oceans Canada | Pêches et Océans Canada

Chilliwack River Recreational Fishery Assessment (Creel Survey) October 1 to November 30, 2003

Prepared by: Sue C.H. Grant, M.Sc.
Biologist, Chum Salmon and Fishery Assessments

Stock Assessment, Lower Fraser Area
Fisheries and Oceans Canada

Regulations

The fishing boundary for the Chilliwack River is from Slesse Creek down to the boundary signs near its confluence with the Fraser River. The recreational fishery is closed at night, from one hour after sunset to one hour before sunrise

During the study period (October 1 – November 30), salmon recreational catch limits was as follows:

- **Coho:** 4 hatchery fish (adipose fin clipped) per day
- **Chinook:** 4 per day, only 1 can be over 62 cm
- **Chum:** 1 per day

Study Area

The Chilliwack River sport fishery assessment study area is bounded by its confluence with the Fraser River (downstream boundary) and Slesse Creek (upstream boundary).

Survey Methods

The Chilliwack River recreational fishery survey began on October 1, 2003.

Surveyors worked all weekends and holidays with rotating days off during the week. Surveyors worked one of two shifts (morning or afternoon) that spanned the entire daylight period. Shifts were randomly assigned to each survey day.

Surveyors conducted angler interviews at their survey sites to obtain the following information: where the angler was fishing, length of angling trip, how much longer they intended to fish, target species, gear used, total catch retained (AFC (adipose fin clipped) and non-AFC), total catch released (AFC, non-AFC, and unknown). If permitted by the angler, the surveyor inspected the catch to determine whether the angler's species

identification was correct. The following question was also asked once per angler interviewed (the same angler was not asked this question more than once):

DFO Stock Assessment is interested in studying mortality rates of adipose-fin-clipped and non-adipose-fin-clipped chinook salmon in the Chilliwack River. Can you help us by answering the following question.
During the last 2 years, have you been more likely to keep an adipose-fin-clipped chinook salmon than a non-adipose-fin-clipped chinook salmon?

For all chinook, AFC and non-AFC fish, scale samples were removed from a total of 500 fish systematically selected throughout the survey area and period (October 1 to November 30). When time and anglers permitted, heads were systematically removed from AFC chinook and from non-AFC chinook with CWTs (as determined from head tag detector wanding). When heads were retained by the surveyor, scale book numbers and head tag numbers were recorded on the interview sheets.

Interviews were used to determine catch-per-unit effort (CPUE), release-per-unit effort (RPUE), and to summarize the angler characteristics listed above.

Daily effort is calculated using a combination of interview data, hourly rod counts conducted at the survey sites, and overflight rod counts of the survey area (conducted twice per week: one weekend and one weekday overflight). Using total effort, CPUE and RPUE is expanded to determine catch and release numbers by species for the entire study area. Such analyses are documented in several DFO publications (Schubert 1992; Schubert 1995)

Three surveyors assessed the Chilliwack River recreational fishery. **Two surveyors** conducted a bus-route survey of the upper and lower sections of the river with no overlap in their respective ranges; the Vedder Bridge was selected as the boundary between the upper and lower sections of the river. These two surveyors conducted interviews of anglers in the process of fishing. The sites surveyed were pre-selected for a biweekly period based angler distribution observed on previous roving surveys and overflights of the river. The surveyors start point and direction of travel (upstream or downstream) was randomized each survey day to ensure that the entire survey area was assessed and that each site was visited at different times of the survey day. A **third surveyor** was stationed at an access-point located at the Keith Wilson Bridge from October 1-31 and at Lickman Road from November 1-15. This surveyor obtained exit interviews from anglers and conducted hourly rod counts.

After November 15, due to a significant decline in angling effort and a shift in effort to almost exclusively above the Vedder Bridge, only two surveyors assessed this fishery. One surveyor was stationed at Limits Hole located adjacent to the Chilliwack Hatchery and the second surveyor conducted a bus route survey of high effort angling sites largely concentrated above the Vedder Bridge.

For October and November analyses, data were blocked by day type (weekend and weekday). Data were blocked by region in October but not in November when was significantly reduced and occurred largely above Vedder Crossing. Due to shifts in

angler distribution and effort near the middle of October and November, data were also blocked by two time periods: first and second half of the month.

Data was stored and analyzed using DPA software. The data were verified in three steps. First, all field data sheets were examined for compliance with study procedures by the supervising technician and/or biologist. Second, during data entry, the data entry program performed 31 automatic error checks, including duplication detection, code validity, and range and consistency verification. Third, after data entry was complete, all data were imported into an excel file for verification with the field data sheets; all data were error checked twice by two different individuals (generally the supervising technician and data entry clerk).

References

Schubert, N.D. 1992. Angler Effort and Catch in the 1985-1988 Lower Fraser River Sport Fishery. Canadian Manuscript Report of Fisheries and Aquatic Sciences No. 2170.

Schubert, N.D. 1995. Angler Effort and Catch in Four Fraser River Sport Fisheries, 1991. Canadian Manuscript Report of Fisheries and Aquatic Sciences 2267.

Acknowledgements

Technical and data management oversight was provided by J. Mahoney. Technical support was provided by G. Brown, D. Cline, and D. Clark. Data management and entry was provided by, respectively, T. Cone and P. Lam. Technical assistance and study design input was provided by L. Kalnin, and K. Peters. Study design and analyses input and advice was provided by N. Schubert.