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2004 Nicomen Slough/Norrish Creek Recreational Fishery Assessment
Final Results-October 8 to November 29, 2004

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A. Regulations

Regulations for the 2004/05 fishing season were as follows.

Nicomen Slough is open from the confluence of Siddle (Bell's) Creek downstream to the Fraser River. Coho and chum retention on Nicomen Slough is permitted from April 1 to March 31 and the limits are as follows:

- **Coho**: 4 hatchery fish per day (only 2 can be over 35 cm)
- **Chum**: 2 fish per day

Norrish Creek is open to coho retention only from April 1 to March 31 and the limits are as follows:

- **Coho**: 4 hatchery fish per day (only 2 can be over 35 cm)

Note: for complete fresh water salmon fishing regulations please refer to the BC Fresh Water Salmon Supplement or visit the web page: http://www-comm.pac.dfo-mpo.gc.ca/pages/freshwater/default_e.htm.

B. Study Area

The Nicomen Slough-Norrish Creek study area extends from the mouth of Nicomen Slough to its confluence with Norrish Creek and up Norrish Creek to a point approximately 200 metres upstream of the railway bridge.

C. Survey Methods

The Nicomen Slough/Norrish Creek recreational fishery survey began on October 8 and ended on November 29, 2004.

One surveyor assessed the fishery and was scheduled to work all weekends and holidays with rotating days off during the week. In October, the day was divided into two shifts (morning or afternoon) that spanned the entire daylight period. Shifts were randomly assigned to each survey day. By the start of November, daylight hours have reduced making only one shift necessary.

The surveyor was stationed at the boat launch located at the end of River Road for the majority of the survey day since most of the angling effort (shore and boat-based) was captured at this site. The boat launch site also provided the surveyor with the ability to collect complete fishing trip interviews. Although interviews were obtained from boat-based anglers returning from other systems these were excluded from the Nicomen analyses. The surveyor took time each day to collect incomplete fishing trip interviews from anglers fishing along River Road and in Norrish Creek. For each interview, the following information was obtained: where the angler was fishing, party size, length of angling trip, how much longer they intend to fish (if applicable), target species, gear used, total catch retained, total catch released.

If permitted, the surveyor inspected the catch to verify whether the angler's species identification was correct and to check for mark status. For coho, if the adipose fin was clipped (AFC) the surveyors would wand the head to determine if it contained a coded wire tag (CWT). The mark status for all released fish was also recorded and was stratified into marked (AFC), unmarked (non AFC) and unknown. Interviews were used to determine catch-per-unit effort in hours (CPUE), release-per-unit effort in hours (RPUE), and to summarize the angler characteristics listed above.

In order to generate daily angler profiles, the surveyor conducted hourly rod counts from the boat launch for the majority of the survey period (Oct 8-Nov 22). When angler effort decreased at the boat launch, hourly rod counts were conducted approximately 500m downstream of the Highway 7 bridge crossing for the remaining four survey days. Due to significant differences between angler effort at the two rod count locations, data collected after November 22 were not included in the final analysis.

Daily effort was calculated using a combination of interview data, daily angler profiles, and instantaneous effort rod counts. The surveyor conducted instantaneous rod counts at specific times during the study period by driving through the system and counting the number of anglers twice a week (one weekend and one weekday). Multiplying total effort by CPUE and RPUE produce catch and release estimates by species for the entire study area. Such analyses are documented in several DFO publications (Schubert 1992; Schubert 1995).

D. Data Analysis

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 once by the supervising technician.

For October and November analyses, data were blocked by day type (weekend and weekday).

E. Results

Survey Effort

The study period (October 8 - November 29, 2004) covered 18 weekend and holiday days and 35 weekday days. Survey sampling occurred on 94% of the weekends and holidays, while 60% of the weekdays were surveyed. A total of 1,110 complete and incomplete interviews were collected during this time.

Angler Effort

Instantaneous effort rod counts of actively fishing anglers were conducted twice weekly (one on the weekend and one during the week). During October, 4 weekend and 4 weekday instantaneous counts were conducted, ranging from 28 to 54 anglers on the weekends and from 7 to 23 anglers on the weekdays. In November, 3 weekend and 6 weekday instantaneous counts were conducted ranging from 16 to 69 anglers and 3 to 37 anglers respectively.

Daily Profile: Anglers fished throughout the daylight hours but effort was concentrated between 7:00-18:00 hours in October and between 7:00-16:00 hours in November.

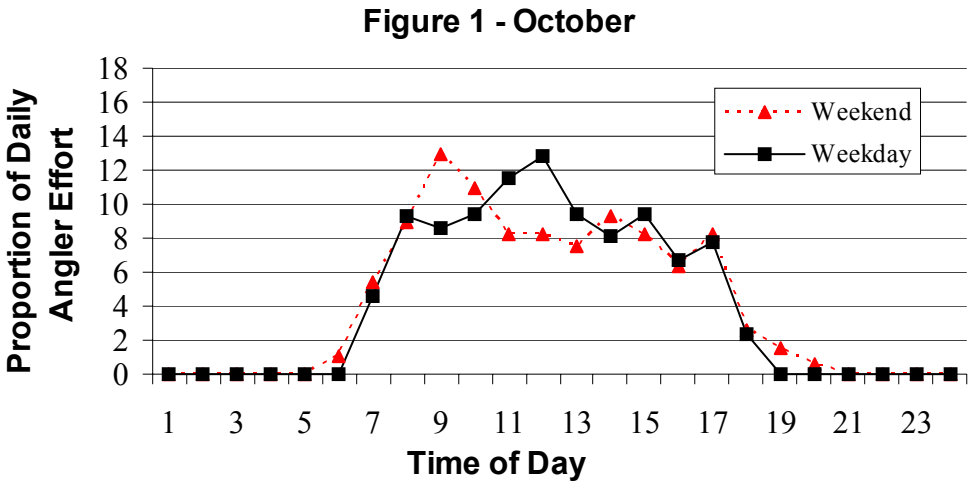

Figure 1. Hourly angler effort profiles for October 8-31, 2004 in the Nicomen/Norrish Recreational Fishery

Figure 2 - November

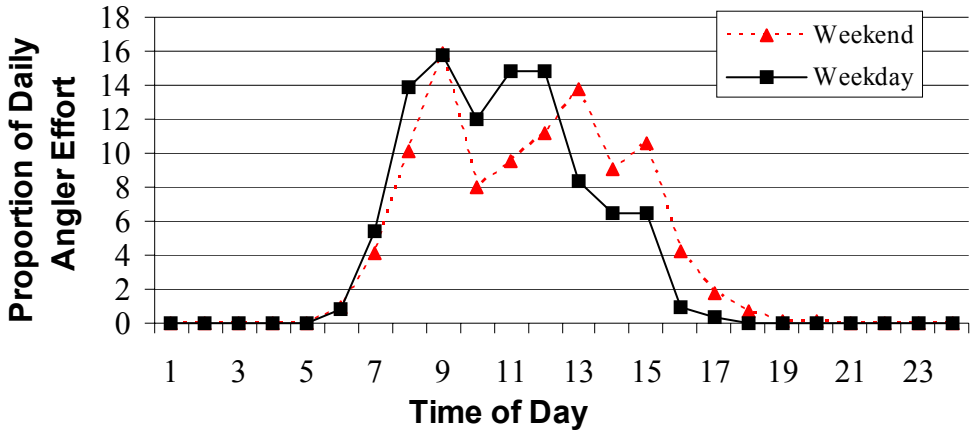

Figure 2. Hourly angler effort profiles for November 1-29, 2004 in the Nicomen/Norrish Recreational Fishery.

Catch-per-Unit-Effort in Hours (CPUE)

During the entire study period anglers were most interested in catching coho. In October, 98% of the anglers were targeting coho, 1% chum and 1% had no preference at all. Those numbers stayed consistent throughout November where 99% of the anglers were targeting coho and 1% had no preference. The species of salmon retained in both months were coho and chum.

Average CPUE in October:

- coho-0.035, coho jacks-0.000 and chum-0.002.

Average CPUE in November:

- coho-0.018, coho jacks-0.002 and chum-0.009.

Catch Inspection

The surveyor will inspect the catch whenever possible to verify species identification, determine the mark status, and test for the presence of a coded wire tag (CWT) . Catch inspection in October occurred in 94% of coho, and in 0% of the chum. During the inspection the angler had correctly identified the species 98% of the time.

In November, catch inspection occurred in 80% of the coho, 100% of the coho jacks and 0% of the chum. Anglers had correctly identified the species 100% of the time.

Of the total coho catch in October, 94% were marked. In November, 100% of coho and coho jacks were marked.

Coded Wire Tag (CWT) Detection

The use of a handheld wand detector was used to determine the presence or absence of a CWT's. The surveyor followed proper wanding procedures, to ensuring false readings were minimized.

Release-per-Unit-Effort in Hours (RPUE)

The species of salmon released by anglers were chinook, coho and chum.

Average RPUE in October:

- coho-0.037, coho jacks-0.005, chum-0.058, chinook-0.001.

Average RPUE in November:

- coho-0.093, coho jacks-0.001, chum-0.208, chinook-0.000

Tables 1 and 2 summarize released coho (adult and jack) that were adipose fin clipped (AFC), not adipose fin clipped (non-AFC) and coho released where the angler did not recall if the adipose was absent or present.

Table 1. Proportion of coho adult AFC verus non-AFC released.

	Sum	Proportion	Proportion
CO AFC (adipose fin absent)	**36**	**0.203**	0.22
CO non-AFC (adipose fin present)	**130**	**0.734**	0.78
CO-Adipose Status Unknown	**11**	**0.062**	
Sum:	**177**		

Table 2. Proportion of coho jack AFC verus non-AFC released.

	Sum	Proportion	Proportion
COJ AFC (adipose fin absent)	**1**	**0.167**	0.17
COJ non-AFC (adipose fin present)	**5**	**0.833**	0.83
COJ-Adipose Status Unknown	**0**	**0.000**	
Sum:	**6**		

Water Level

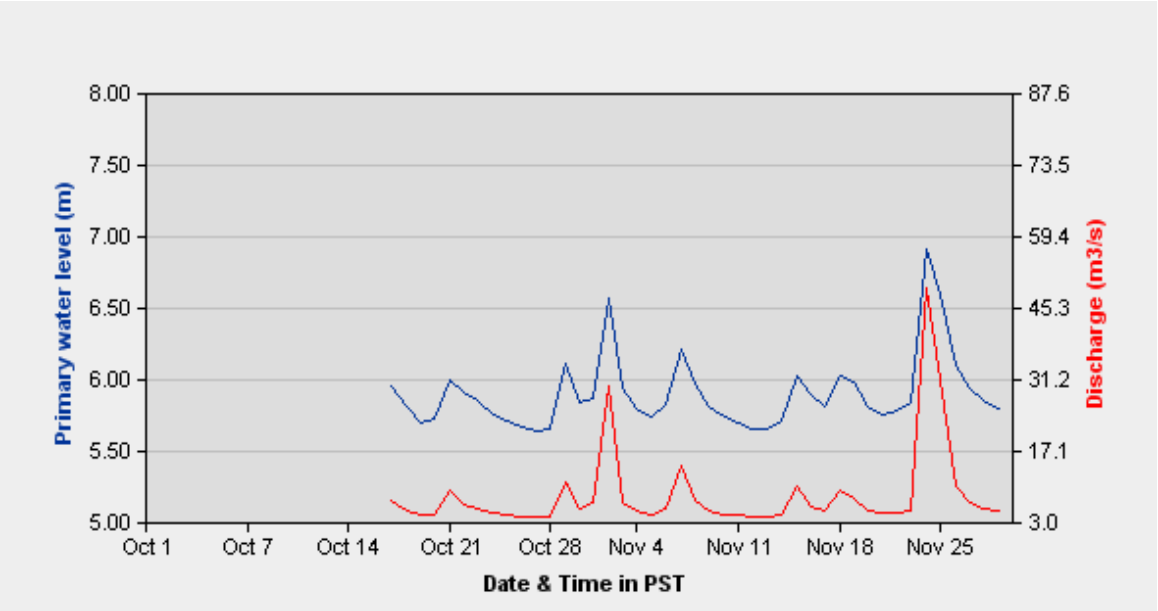

Figure 3. Primary water levels and discharge for Norrish Creek. Data not available prior to October 18.
Data obtained from Environment Canada.
Website: http://scitech.pyr.ec.gc.ca/waterweb/fullgraph.asp.

Table 3. Nicomen Slough and Norrish Creel Recreational Fishery Assessment, Final Results for **October 8-31, 2004**. Data were stratified into weekend and weekday types.

SOURCE DATA

	Weekend	Weekday
Open Days in Study Period	9	15
Number of Survey Shifts	9	9
Number of Interviews	384	214
Interview Hours	1088	579
Number of Instantaneous Effort Counts	4	4
Mean Rod Count (Instantaneous Effort)	43	16
Proportion of Effort in the Instantaneous Effort Count Time Block	0.096	0.105
Estimated Daily Effort (Hours)	452	151
Estimated Total Effort (Hours)	4,067	2,262

CATCH ESTIMATES

	Weekend		Weekday	
	Harvest	**Release**	**Harvest**	**Release**
CHINOOK ADULT	**0**	**0**	**0**	**7**
Marked (Adipose missing)	0	--	0	--
Unmarked (Adipose present)	0	--	0	--
CHINOOK JACK	**0**	**0**	**0**	**0**
Marked (Adipose missing)	0	--	0	--
Unmarked (Adipose present)	0	--	0	--
COHO ADULT	**133**	**105**	**84**	**107**
Marked (Adipose missing)	130	--	74	--
Unmarked (Adipose present)	3	--	10	--
COHO JACK	**0**	**10**	**0**	**17**
Marked (Adipose missing)	0	--	0	--
Unmarked (Adipose present)	0	--	0	--
SOCKEYE	**0**	**0**	**0**	**0**
PINK	**0**	**0**	**0**	**0**
CHUM	**0**	**328**	**7**	**81**

Table 4. Nicomen Slough and Norrish Creel Recreational Fishery Assessment, Final Results for **November 1-29, 2004**. Data were stratified into weekend and weekday types.

SOURCE DATA

	Weekend	Weekday
Open Days in Study Period	9	20
Number of Survey Shifts	8	12
Number of Interviews	280	232
Interview Hours	713	563
Number of Instantaneous Effort Counts	3	6
Mean Rod Count (Instantaneous Effort)	41	22
Proportion of Effort in the Instantaneous Effort Count Time Block	0.111	0.119
Estimated Daily Effort (Hours)	339	154
Estimated Total Effort (Hours)	3,052	3,089

CATCH ESTIMATES

	Weekend		Weekday	
	Harvest	**Release**	**Harvest**	**Release**
CHINOOK ADULT	**0**	**0**	**0**	**0**
Marked (Adipose missing)	0	--	0	--
Unmarked (Adipose present)	0	--	0	--
CHINOOK JACK	**0**	**0**	**0**	**0**
Marked (Adipose missing)	0	--	0	--
Unmarked (Adipose present)	0	--	0	--
COHO ADULT	**47**	**274**	**60**	**297**
Marked (Adipose missing)	47	--	60	--
Unmarked (Adipose present)	0	--	0	--
COHO JACK	**4**	**0**	**5**	**5**
Marked (Adipose missing)	4	--	5	--
Unmarked (Adipose present)	0	--	0	--
SOCKEYE	**0**	**0**	**0**	**0**
PINK	**0**	**0**	**0**	**0**
CHUM	**39**	**565**	**16**	**714**

Table 5. Nicomen Slough and Norrish Creel Recreational Fishery Assessment, Final Results, **October 8-November 29, 2004**. Total catch and release (weekend and weekday catch and release combined).

	October 8-31	November 1-29	Total
Number of Interviews	598	512	**1,110**
Number of Overflights	8	9	**17**
ANGLER EFFORT			
Estimated Effort (hours)	6,329	6,141	**12,470**
ESTIMATED HARVEST			
Chinook Adult	0	0	**0**
Chinook Jack	0	0	**0**
Coho Adult	217	107	**324**
Coho Jack	0	9	**9**
Sockeye	0	0	**0**
Pink	0	0	**0**
Chum	7	55	**62**
ESTIMATED RELEASE			
Chinook Adult	7	0	**7**
Chinook Jack	0	0	**0**
Coho Adult	212	571	**783**
Coho Jack	27	5	**32**
Sockeye	0	0	**0**
Pink	0	0	**0**
Chum	410	1,279	**1,689**

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.

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