



2006 Nicomen Slough/Norrish Creek Recreational Fishery Assessment **October 9 to November 30, 2006**

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Regulations

Regulations for the 2006 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 January 1 to December 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 January 1 to December 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.pac.dfo-mpo.gc.ca/recfish/default_e.htm

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 100 metres upstream of the railway bridge.

Survey Methods

The Nicomen Slough/Norrish Creek recreational fishery survey began on October 9 and ended on November 30, 2006.

One surveyor assessed the fishery and was scheduled to work all weekends and holidays with rotating days off during the weekdays. 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 near the end of River Road for 43% of the survey period (Oct 9 – Oct 31) since most of the angling effort (shore and boat-based) was captured at this site. Although interviews were obtained from boat-based anglers returning from other systems,

these were excluded from the Nicomen analyses. In order to generate daily angler profiles, the surveyor conducted hourly rod counts. When angler effort decreased at the boat launch, hourly rod counts were conducted within visual range (up and down) of the Highway 7 bridge crossing of Norrish Creek, near the hatchery, where angling activity was concentrated. The surveyor was stationed here for the remaining 57% of the study period (Nov 1-30). Both sites provided the surveyor with the ability to collect complete fishing trip interviews.

The surveyor spent approximately 20 minutes of each hour of their survey day collecting incomplete interviews from anglers fishing from the shore along River Road. The surveyor took time each day to drive along the slough and 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 any catch to verify whether the angler's species identification was correct and to check for adipose fin was clipped (AFC) status. The mark status for released fish was also recorded when the angler could remember. Interviews were used to determine harvest-per-unit effort in hours (HPUE), release-per-unit effort in hours (RPUE), and to summarize the angler characteristics listed above.

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 HPUE and RPUE produce harvest and release estimates by species for the entire study area. Such analyses are documented in several DFO publications (Schubert 1992; Schubert 1995).

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). All statutory holidays were included in the weekend analysis.

Results

Survey Effort

The study period (October 9 - November 30, 2006) covered 16 weekend and holiday days and 37 weekday days. Survey sampling occurred on 100% of the weekends and holidays, while 57% of the weekdays were surveyed. A total of 571 complete and incomplete interviews were collected during this period.

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, 3 weekend and 3 weekday instantaneous counts were conducted, ranging from 2 to 35 anglers on the weekends and from 0 to 7 anglers on the weekdays. In November, 4 weekend and 5 weekday instantaneous counts were conducted ranging from 5 to 43 anglers and 0 to 16 anglers respectively.

Daily Profile

Anglers fished throughout the daylight hours. Effort was concentrated between 7:00-16:00 hours in October and between 7:00-14:00 hours in November.

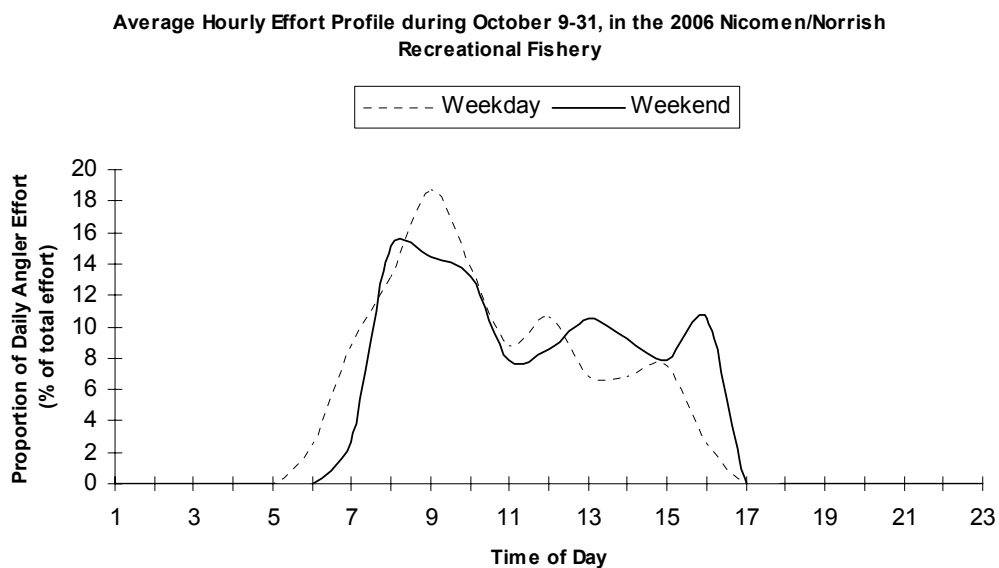


Figure 1. Hourly angler effort profiles for October 9-31, 2006 in the Nicomen/Norrish Recreational Fishery

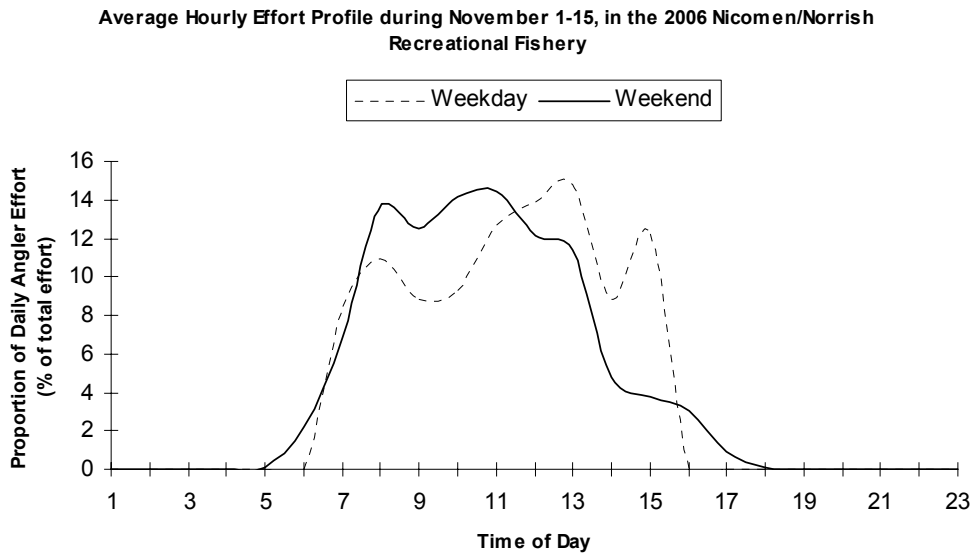


Figure 2. Hourly angler effort profiles for November 1-15, 2006 in the Nicomen/Norrish Recreational Fishery.

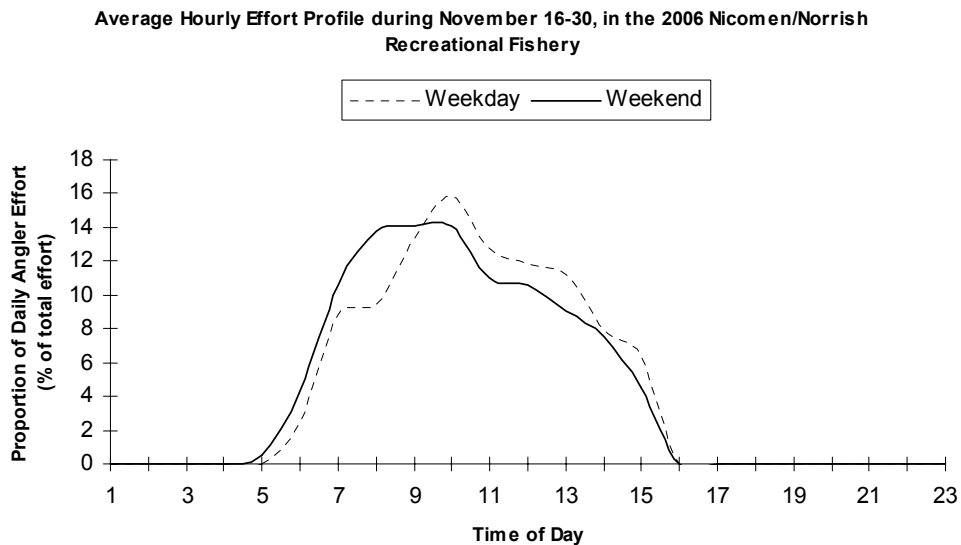


Figure 3. Hourly angler effort profiles for November 16-30, 2006 in the Nicomen/Norrish Recreational Fishery.

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

During the entire study period, anglers were most interested in catching coho. In October, 100% of interviewed anglers were targeting coho. In November, only two anglers (of 471 interviewed

anglers) were not targeting coho. The species of salmon retained were coho and chum. The species of salmon released by anglers were coho, chum and chinook.

Table 1 & 2. Average harvest per unit effort (HPUE) and release per unit effort (RPUE), during the 2006 Nicomen recreational creel assessment.

October				
	Coho	Coho Jack	Chum	Chinook
HPUE	0.01	0.03	0	0
RPUE	0.02	0.003	0.09	0

November				
	Coho	Coho Jack	Chum	Chinook
HPUE	0.1	0.01	0.01	0
RPUE	0.1	0.01	0.1	0.02

Catch Inspection

The surveyor would inspect the catch whenever possible to verify species identification and determine the mark (AFC) status. Catch inspection occurred in 92% of harvested catch. During the inspections, the angler had correctly identified the species 100% of the time. Throughout the entire study period, 100% of harvested coho were marked.

Water Levels

In 2006, Nicomen/Norrish water levels were very low up to the end of October. During the first week of November, the water levels rose substantially, coinciding with heavy rainfalls. The water level peaked at 7.6m on Nov 5.

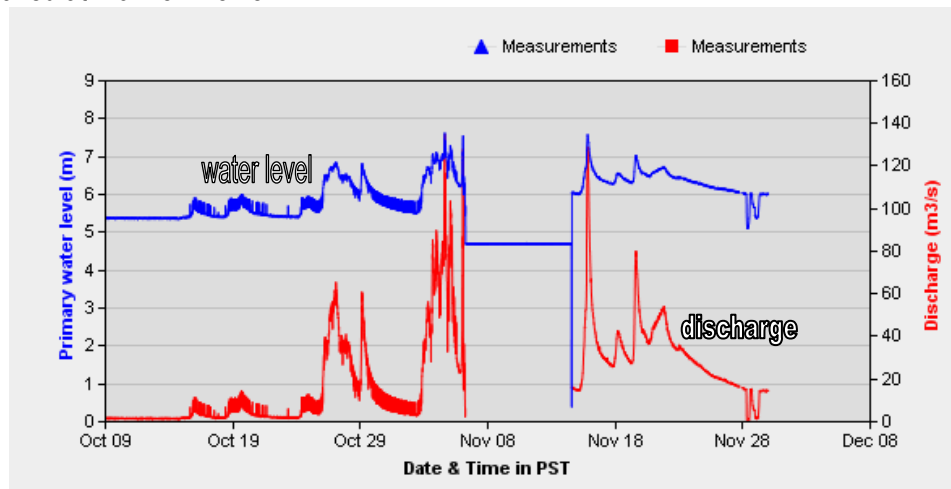


Figure 1 - Primary water levels and discharge data on Norrish Creek, Environment Canada Preliminary Results from October 9 to November 30, 2006. Website: <http://scitech.pyr.ec.gc.ca/waterweb/fullgraph.asp> (accessed on December 13, 2006)

Table 3. Nicomen Slough and Norrish Recreational Creel Fishery Assessment, Results for **October 9-31, 2006.** Data were stratified into weekend and weekday types.

**NICOMEN / NORRISH RECREATIONAL FISHERY ASSESSMENT
RESULTS
(STUDY PERIOD: Oct 9-31, 2006)**

SOURCE DATA	Weekend/Holiday	Weekday
Open Days in Study Period	7	16
Number of Survey Shifts	7	8
Number of Interviews	52	50
Interview Hours	135	124
Number of Instantaneous Effort Counts	3	3
Mean Rod Count (Instantaneous Effort)	18	4
Proportion of Effort in the Instantaneous Effort Count Time Block	0.14	0.17
Estimated Daily Effort (Hours)	129	23
Estimated Total Effort (Hours)	891	335

CATCH ESTIMATES	Weekend/Holiday		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	12	12	2	9
Marked (Adipose missing)	12	—	2	—
Unmarked (Adipose present)	0	—	0	—
COHO JACK	6	0	0	2
Marked (Adipose missing)	6	—	0	—
Unmarked (Adipose present)	0	—	0	—
SOCKEYE	0	0	0	0
PINK	0	0	0	0
CHUM	0	99	0	25

Table 4. Nicomen Slough and Norrish Recreational Creel Fishery Assessment, Results for **November 1-15, 2006.** Data were stratified into weekend and weekday types.

NICOMEN / NORRISH RECREATIONAL FISHERY ASSESSMENT
FINAL RESULTS
(STUDY PERIOD: November 1-15, 2006)

SOURCE DATA	Weekend/Holiday	Weekday
Open Days in Study Period	5	10
Number of Survey Shifts	5	6
Number of Interviews	183	84
Interview Hours	545	194
Number of Instantaneous Effort Counts	2	2
Mean Rod Count (Instantaneous Effort)	34	8
Proportion of Effort in the Instantaneous Effort Count Time Block	0.14	0.08
Estimated Daily Effort (Hours)	243	100
Estimated Total Effort (Hours)	953	473

CATCH ESTIMATES	Weekend/Holiday		Weekday	
	Harvest	Release	Harvest	Release
CHINOOK ADULT	0	0	0	5
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	52	78	34	39
Marked (Adipose missing)	52	—	34	—
Unmarked (Adipose present)	0	—	0	—
COHO JACK	14	10	0	7
Marked (Adipose missing)	14	—	0	—
Unmarked (Adipose present)	0	—	0	—
SOCKEYE	0	0	0	0
PINK	0	0	0	0
CHUM	0	126	2	171

Table 5. Nicomen Slough and Norrish Recreational Creel Fishery Assessment, Results for **November 16-30, 2006**. Data were stratified into weekend and weekday types.

**NICOMEN / NORRISH RECREATIONAL FISHERY ASSESSMENT
RESULTS
(STUDY PERIOD: November 16-30, 2006)**

SOURCE DATA	Weekend/Holiday	Weekday
Open Days in Study Period	4	11
Number of Survey Shifts	4	6
Number of Interviews	104	100
Interview Hours	346	292
Number of Instantaneous Effort Counts	2	3
Mean Rod Count (Instantaneous Effort)	16	7
Proportion of Effort in the Instantaneous Effort Count Time Block	0.14	0.015
Estimated Daily Effort (Hours)	114	467
Estimated Total Effort (Hours)	441	554

CATCH ESTIMATES	Weekend/Holiday		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	19	29	21	47
Marked (Adipose missing)	19	—	21	—
Unmarked (Adipose present)	0	—	0	—
COHO JACK	8	5	11	9
Marked (Adipose missing)	8	—	11	—
Unmarked (Adipose present)	0	—	0	—
SOCKEYE	0	0	0	0
PINK	0	0	0	0
CHUM	0	20	0	25

Table 6. Nicomen Slough and Norrish Creel Recreational Fishery Assessment, Results, **October 9 - November 30, 2006**. Total catch and release (weekend and weekday catch and release combined).

**NICOMEN / NORRISH RECREATIONAL FISHERY ASSESSMENT
RESULTS
(STUDY PERIOD: October 9 to November 30, 2006)**

	October 9-31	November 1-15	November 16-30	Total
Number of Interviews	102	267	204	573
Interview Hours	259	739	638	1,636
Number of Overflights	6	4	5	15
Average Overflight Count	11	21	12	15
ANGLER EFFORT				
Estimated Effort (hours)	1,226	1,426	995	3,647
ESTIMATED HARVEST				
Chinook Adult	0	0	0	0
Chinook Jack	0	0	0	0
Coho Adult	14	86	40	140
Coho Jack	6	14	19	39
Sockeye	0	0	0	0
Pink	0	0	0	0
Chum	0	2	0	2
ESTIMATED RELEASE				
Chinook Adult	0	5	0	5
Chinook Jack	0	0	0	0
Coho Adult	21	117	76	214
Coho Jack	2	17	14	33
Sockeye	0	0	0	0
Pink	0	0	0	0
Chum	124	297	45	466

References

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Pollock, K.H., C.M. Jones, and T.L. Brown. 1994. Angler survey methods and their applications in fisheries management. American Fisheries Society Special Publications 25.

Guthrie, D., J.M. Hoenig, M. Holliday, C.M. Jones, M.J. Mills, S.A. Moberly, K.H. Pollock, and D.R. Talhelm, editors. 1991. Creel and angler surveys in fisheries management. American Fisheries Society Symposium 12.

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