



## ASSESSMENT DRAFT SUMMARY

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Stock Assessment

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### FRASER RIVER RECREATIONAL FISHERY ASSESSMENT July 1<sup>st</sup> – 31<sup>st</sup>, 2007

#### REGULATIONS

	Retention Open	Daily Limit	Notes
<b>Chinook</b>	May 1 to Dec 31	4	only 1 above 50 cm (62cm after Sep 6)
<b>Sockeye</b>	?	?	opportunities expected
<b>Coho</b>	?	?	opportunities expected
<b>Chum</b>	Jan 1 to Dec 31	2	
<b>Pink</b>	Jan 1 to Dec 31	2	

A complete listing of regulations can be viewed at the Fisheries and Oceans Canada Pacific Region Recreational Fishery webpage: [http://www.pac.dfo-mpo.gc.ca/recfish/default\\_e.htm](http://www.pac.dfo-mpo.gc.ca/recfish/default_e.htm)  
All Fisheries and Oceans fishery notices can be viewed at:  
<http://ops.info.pac.dfo.ca/fishman/fnotice/fnotice.htm>

#### STUDY AREA

July: Mouth of the Sumas (Vedder) River, up stream to the mouth of the Coquihalla River. The Agassiz Bridge separates this area into 2 regions.

#### METHODS

July 1<sup>st</sup> to 31<sup>st</sup>: One surveyor conducted interviews at Island 22, of anglers returning at the end of their fishing trip. A second surveyor conducted interviews at Landstrom Bar in Hope. Hourly rod counts were conducted at the Landstrom site, as well as incomplete interviews of anglers still fishing, at the end of the shift.

Interviews were obtained from anglers who had finished fishing for the day. At the end of their shift, surveyors collected interviews from anglers still fishing (incomplete interviews) at sites where it was possible. Overflight angler counts were conducted twice per week (one weekend and one weekday flight per week) by fixed wing plane. The overflights covered the entire study area and were randomly assigned. Sites that had hourly rod counts preformed had a total of 9 counts per day.

Surveyors worked all weekends and holidays with rotating days off during the weekdays. Surveyors worked one of two shifts (morning or afternoon), which were randomly assigned to each survey day. These shifts combined to span the entire daylight period.

Surveyors conducted angler interviews at their survey site to obtain the following information: where the angler was fishing, party size, length of angling trip, how much longer they intend to fish, target species,

gear used, total catch retained, and total catch released. Further, if permitted by the angler, the surveyor inspected the catch to determine whether the angler's species identification was correct and to check for adipose fin-clipped (AFC) fish. Heads from AFC chinook were requested by surveyors due to the possibility of CWT (coded-wire-tag) presence. If there was any doubt that an adipose might have been clipped for a particular fish, for example if the adipose fin was partially regenerated or malformed, the fish was classified as AFC.

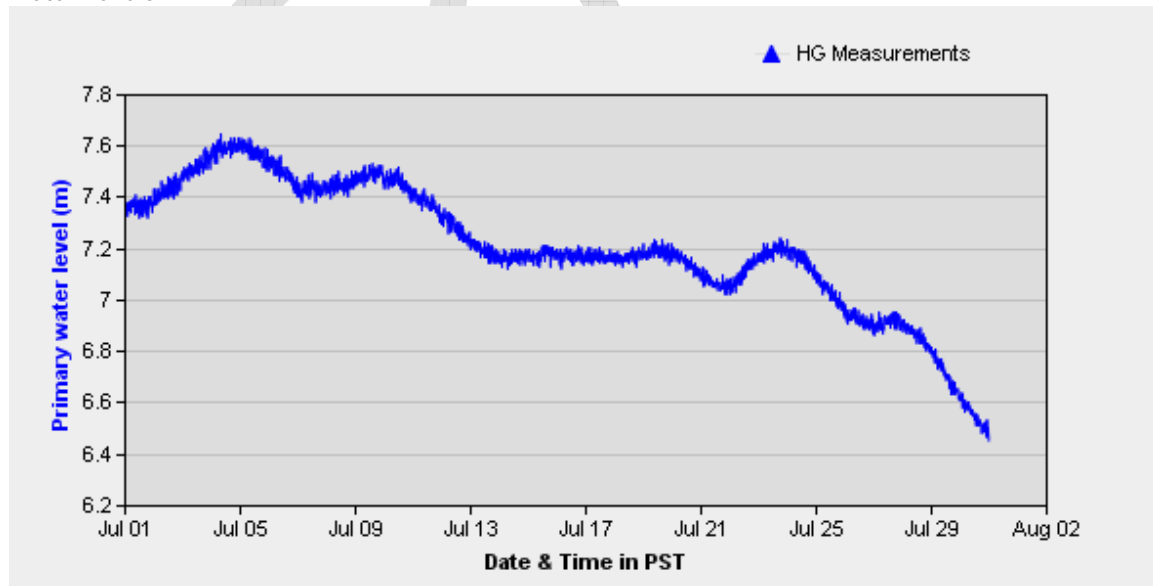
Interviews were used to determine harvest-per-unit-effort (HPUE), release-per-unit effort (RPUE) and to summarize the angler characteristics listed above. Daily effort is calculated using a combination of interview data, hourly rod counts conducted at the survey sites, and overflight rod counts of the survey area. Using the total effort estimate, HPUE and RPUE are expanded to determine harvest and release numbers by species for the entire study area. Such analyses are documented in several DFO publications (Schubert 1992; Schubert 1995).

Interviews from anglers fishing systems other than the Fraser River were excluded from this analysis. Interviews from anglers only targeting sturgeon were also excluded from this analysis. Sturgeon release was not estimated due to different effort profiles required for sturgeon analysis. For anglers alternating fishing effort between sturgeon and salmon, the time fishing for sturgeon and the sturgeon release data were excluded from these interviews; only salmon fishing hours, release and harvest data were included.

Data were 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 the creel data manager. 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.

## RESULTS

### Water Levels



**Figure 1** – 2007 Fraser River primary water level from July 1 to July 31, 2007, at the Hope Hydrometric Station, Environment Canada Website: <http://scitech.pyr.ec.gc.ca/waterweb/fullgraph.asp> (as accessed on August 13, 2007).

## Angler Effort

### July 1-15

Estimated Total Angling Effort : 18,647 hours  
Average Trip Length: 4.9 hours

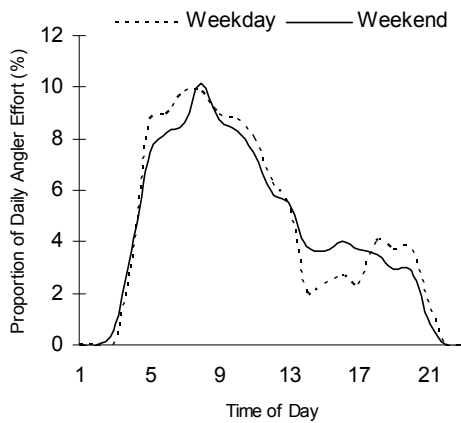
### July 16-31

Estimated Total Angling Effort : 26,677 hours  
Average Trip Length: 5.2 hours

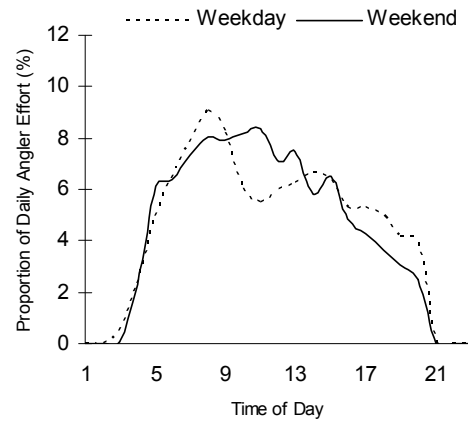
### July 1-31

Estimated Total Angling Effort : 45,324 hours  
Average Trip Length: 5 hours

Effort Profile: Anglers fished throughout the daylight hours. Hourly proportion of daily effort varied among the differing temporal blocks. Daily effort profiles are summarized below (figures 2-4).



**Figure 2** – Hourly angler effort profile for **July 1-15** (Sumas River to Hope) during the 2007 Lower Fraser River recreational fishery.



**Figure 3** – Hourly angler effort profile for **July 16-31** (Sumas River to Hope) during the 2007 Lower Fraser River recreational fishery.

## Catch Rates

### July 1-31

Average Target Species: Chinook (100% of interviews)

Salmon Species Harvested: Chinook

Salmon Species Released: sockeye

**Table 1 & 2 – Average Harvest-per-unit effort - HPUE (fish harvested per hour of angling effort) and release-per-unit-effort – RPUE (fish caught and released per hour of angling effort), for the 2007 Lower Fraser River recreational fishery during May and June.**

HPUE	July 1-15		July 16-31		July Average	
	WE	WD	WE	WD	WE	WD
Chinook Adult	0.033	0.025	0.017	0.029	0.025	0.027
Chinook Jack	-	-	-	-	-	-
Sockeye	-	-	-	-	-	-
Coho	-	-	-	-	-	-
Chum	-	-	-	-	-	-
Pink	-	-	-	-	-	-

RPUE	July 1-15		July 16-31		July Average	
	WE	WD	WE	WD	WE	WD
Chinook Adult	-	-	-	-	-	-
Chinook Jack	-	-	-	-	-	-
Sockeye	-	0.018	0.021	0.023	0.021	0.0205
Coho	-	-	-	-	-	-
Chum	-	-	-	-	-	-
Pink	-	-	-	-	-	-

When permitted by the angler, all catch were inspected for proper species identification. Catch was inspected for 96% of the creel interviews and of these inspections, anglers had correctly identified the species in 100% of these interviews.

**Table 3** - Fraser River recreational fishery assessment final results from July 1<sup>st</sup> – 15<sup>th</sup>, 2007. Data stratified into weekend (including holidays) and weekday.

**FRASER RIVER MAINSTEM RECREATIONAL FISHERY ASSESSMENT  
DRAFT RESULTS**  
*(STUDY PERIOD: July 1 - 15, 2007)*

	<b>SOURCE DATA</b>			
	Weekend/Holiday		Weekday	
Open Days in Study Period	6		9	
Number of Survey Shifts	6		5	
Number of Interviews	350		148	
Interview Hours	1,760.5		681.5	
Estimated Total Effort (Hours)	12,297		5,350	
	<b>CATCH ESTIMATES</b>			
	Weekend/Holiday		Weekday	
	Harvest	Release	Harvest	Release
<b>Chinook Adult</b>	435	0	134	0
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	435	—	134	—
<b>Chinook Jack</b>	0	0	0	0
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	0	—	0	—
<b>Coho Adult</b>	0	0	0	0
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	0	—	0	—
<b>Coho Jack</b>	0	0	0	0
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	0	—	0	—
<b>Sockeye</b>	0	91	0	6
<b>Pink</b>	0	0	0	0
<b>Chum</b>	0	0	0	0

**Table 4** - Fraser River recreational fishery assessment final results from July 16<sup>th</sup>-31<sup>st</sup>, 2007. Data stratified into weekend (including holidays) and weekday.

**FRASER RIVER MAINSTEM RECREATIONAL FISHERY ASSESSMENT  
DRAFT RESULTS**  
(STUDY PERIOD: July 16-31, 2007)

	SOURCE DATA			
	Weekend/Holiday		Weekday	
Open Days in Study Period	4		12	
Number of Survey Shifts	4		7	
Number of Interviews	303		271	
Interview Hours	1,478		1,517	
Estimated Total Effort (Hours)	10,820		15,857	
	CATCH ESTIMATES			
	Weekend/Holiday		Weekday	
	Harvest	Release	Harvest	Release
<b>Chinook Adult</b>	<b>180</b>	<b>0</b>	<b>466</b>	<b>0</b>
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	180	—	466	—
<b>Chinook Jack</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	0	—	0	—
<b>Coho Adult</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	0	—	0	—
<b>Coho Jack</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
marked (adipose missing)	0	—	0	—
unmarked (adipose present)	0	—	0	—
<b>Sockeye</b>	<b>0</b>	<b>362</b>	<b>0</b>	<b>231</b>
<b>Pink</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Chum</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 8 - Fraser River recreational fishery assessment evaluation from May 1<sup>st</sup> to July 31<sup>st</sup>, 2007. Total harvest and release (weekend and weekday data combined).**

**FRASER RIVER MAINSTEM RECREATIONAL FISHERY ASSESSMENT  
DRAFT RESULTS**

	May 1-31 chinook	June 1-30 chinook	July 1-31 chinook	Total
Number of Interviews	59	255	1072	1,386
Interview Hours	190.5	935	5432	6,558
Number of Overflights	8	8	7	23
<b>ANGLER EFFORT</b>				
Estimated Effort (hours)	1,946	3,569	45,324	50,839
<b>ESTIMATED HARVEST</b>				
Chinook Adult	18	89	1,218	1,325
Chinook Jack	0	0	0	0
Coho Adult	0	0	0	0
Coho Jack	0	0	0	0
Sockeye	0	0	0	0
Pink	0	0	0	0
Chum	0	0	0	0
<b>ESTIMATED RELEASE</b>				
Chinook Adult	0	0	0	0
Chinook Jack	0	1	0	1
Coho Adult	0	0	0	0
Coho Jack	0	0	0	0
Sockeye	0	3	689	692
Pink	0	0	0	0
Chum	0	0	0	0

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## Referenced Material

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.

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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