



2011 Yukon River Post-season Review (preliminary)



For:
Yukon River Panel
Dec 5-9, 2011
Whitehorse, YT
CHINOOK



2011 Canadian-origin Chinook Outlook:

below average

65,000 to 89,000

ESCAPEMENT GOAL = 42,500 – 55,000

TAC = 22,500-46,400

US Treaty share applied at 77% (mid-pt.) = TAC **17,300-35,700**

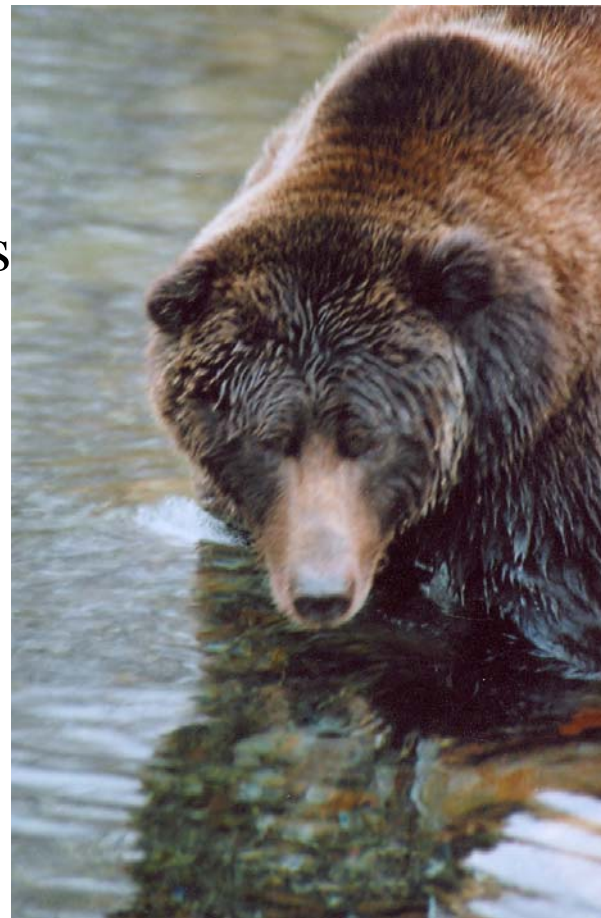
CDN Treaty share applied at 23% (mid-pt.) = TAC **5,200-10,700**

Border Escapement target of **47,700 – 53,700**



Pre-season planning:

- Development and discussion of decision rules through annual processes.
- Canadian commercial, domestic and recreational fisheries would likely be closed.
- Restrictions in the FN fisheries were not anticipated unless run abundance was weaker than the lower end of the outlook range; however First Nations were advised to take a precautionary approach early in the season.



....and then the waiting begins.....



	Border Escapement Projections	Fishery	Guideline Harvest	Anticipated Management Action
RED ZONE	0 – 30,000	TF	0	No fishing; assessment using Eagle sonar.
		FN	0	Closed.
		CF	0	Closed.
		RF	0	Closed, i.e. Chinook quota varied to zero.
		DF	0	Closed.
YELLOW ZONE	30,000 – 51,000	TF	0	Not required. Assessment data using Eagle sonar.
		FN	0 to 8,000	Catch target to vary with abundance within zone: 0 at run size of 30,000; 8,000 catch at run of 51,000. Catch is subject to International harvest sharing provisions.
		CF	0	Closed.
		RF	0	Closed, i.e. Chinook quota varied to zero.
		DF	0	Closed.
GREEN ZONE	>51,000	TF	0	Not required. Assessment data using Eagle sonar.
		FN	8,000+	Unrestricted.
		CF	Variable	Catch target to vary with abundance and be consistent with International agreement on harvest shares.
		RF	100-700	Expected harvest range based on recent harvests. Opportunities subject to abundance and International agreement on harvest shares.
		DF	100–300	

Legend: TF = test fishery; FN = First Nation fishery; CF = commercial fishery; RF = recreational fishery; DF = domestic fishery.



In-season Canadian management summary: Early-mid season (Chinook)

In response to LYTF and Pilot Station indicators of a poor return and subsequent US management actions:

- Sport fishery was closed to Chinook retention July 9th.
- Precautionary approach communicated through weekly conference calls with First Nations.
- Voluntary reductions in the FN fishery to 2/3 discussed on July 25th.
- Tatchun Creek area closed to all angling on July 29th.



In-season Canadian management summary: mid-late season (Chinook):

- Relaxed the recommended reduction in the FN fishery August 3.
- Further confidence in border escapement estimates allowed for a limited recreational fishery to occur. Tatchun Creek re-opened and daily catch varied to 1 with a possession limit of 2 (All fishing locales).
- Commercial and domestic fisheries remained closed.



2011 Harvest Summary-Chinook (preliminary)

Area	FN	Comm/ Domestic	Rec.	Total
Upper Yukon	4000	4	40	4044
Porcupine	285	Na	0	285
Total	4285	4	40	4325



- Old Crow
- Vuntut Gwitchin Government

- Dawson
- Tr'ondëk Hwëch'in First Nation

- Mayo
- First Nation of Na-Cho Nyäk Dun

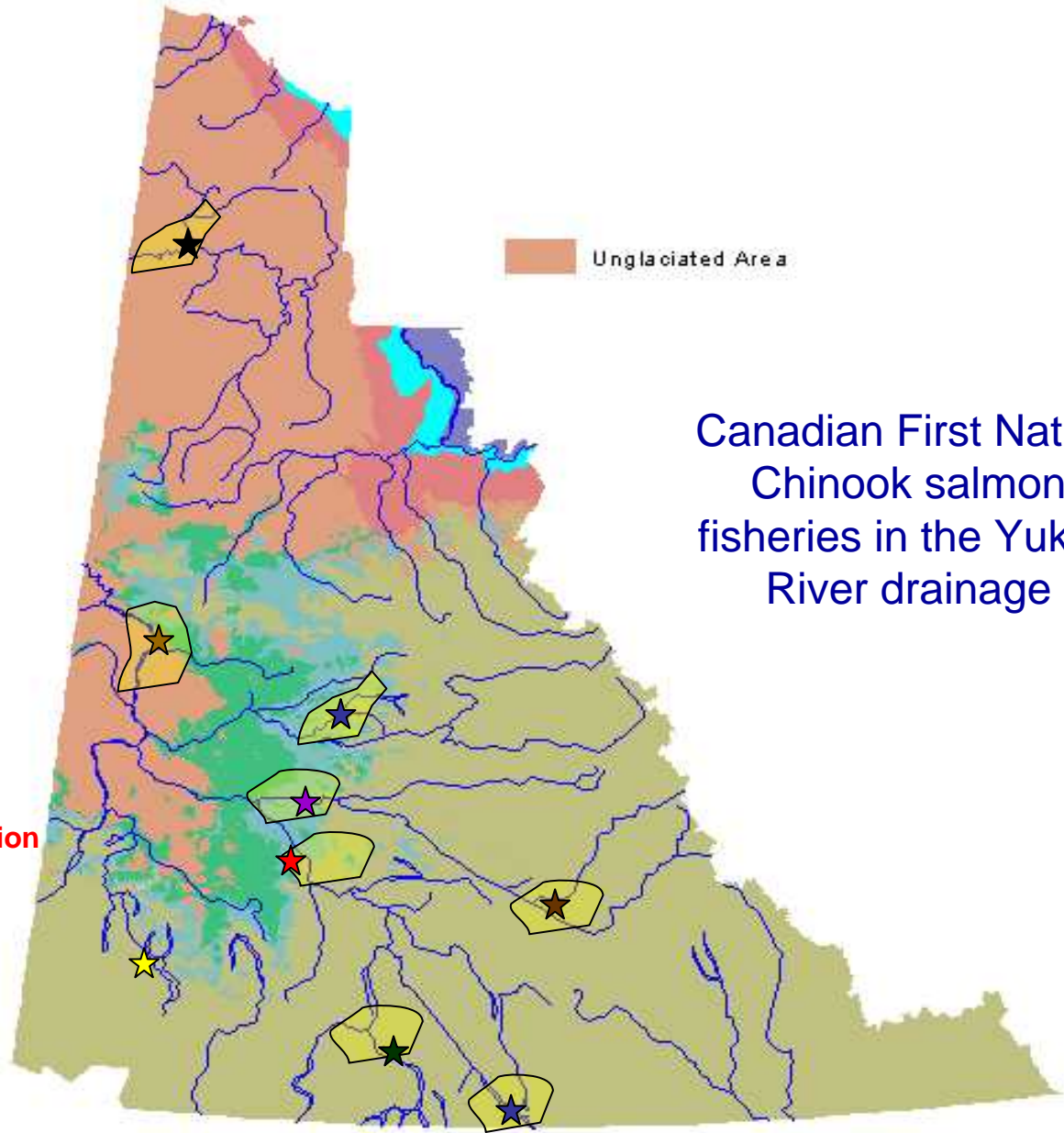
- Pelly Crossing
- Selkirk First Nation

- Ross River
- Ross River Dena Council

- Carmacks
- Little Salmon Carmacks First Nation

- Whitehorse
- Kwanlin Dün First Nation
- Ta'an Kwäch'än Council

- Teslin
- Teslin Tlingit Council



Canadian First Nation
Chinook salmon
fisheries in the Yukon
River drainage



Survey Approach

- calendar distribution
- regular camp visits
- daily catches of salmon
- gear type
- location
- effort



2011 Chinook Harvest (reported)

Upper Yukon 2,879

Porcupine 285

Total 3,164



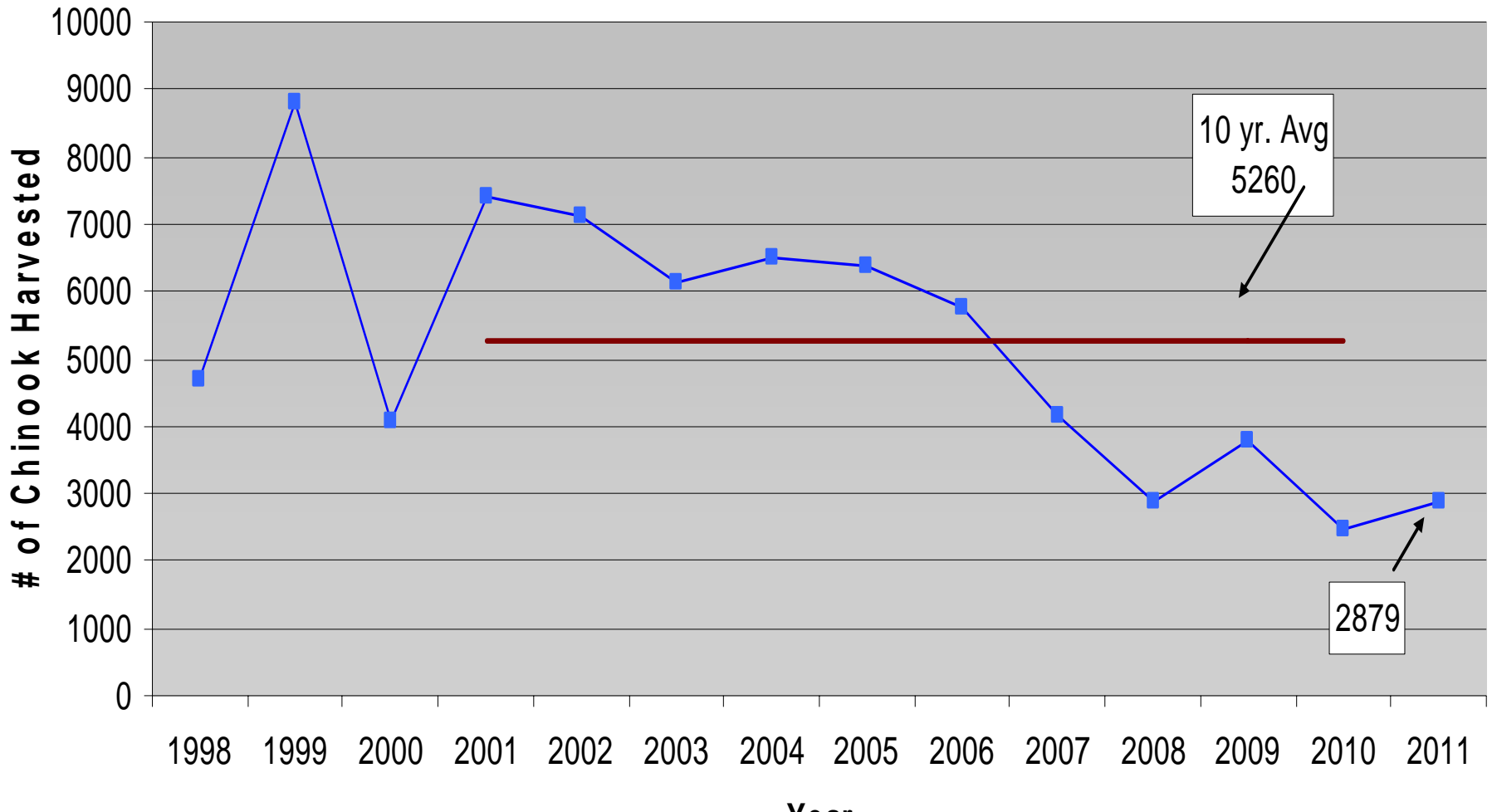


Upper Yukon Chinook Harvest

	<u>2011</u>	<u>10 Yr Avg.</u>
Dawson	1,193	1,028
Mayo	407	764
Pelly	633	1,308
Carmacks	542	1,203
Whitehorse	48	52
Ross River	DNR	271
Teslin	<u>56</u>	<u>554</u>
Total Reported	2,879	5,260

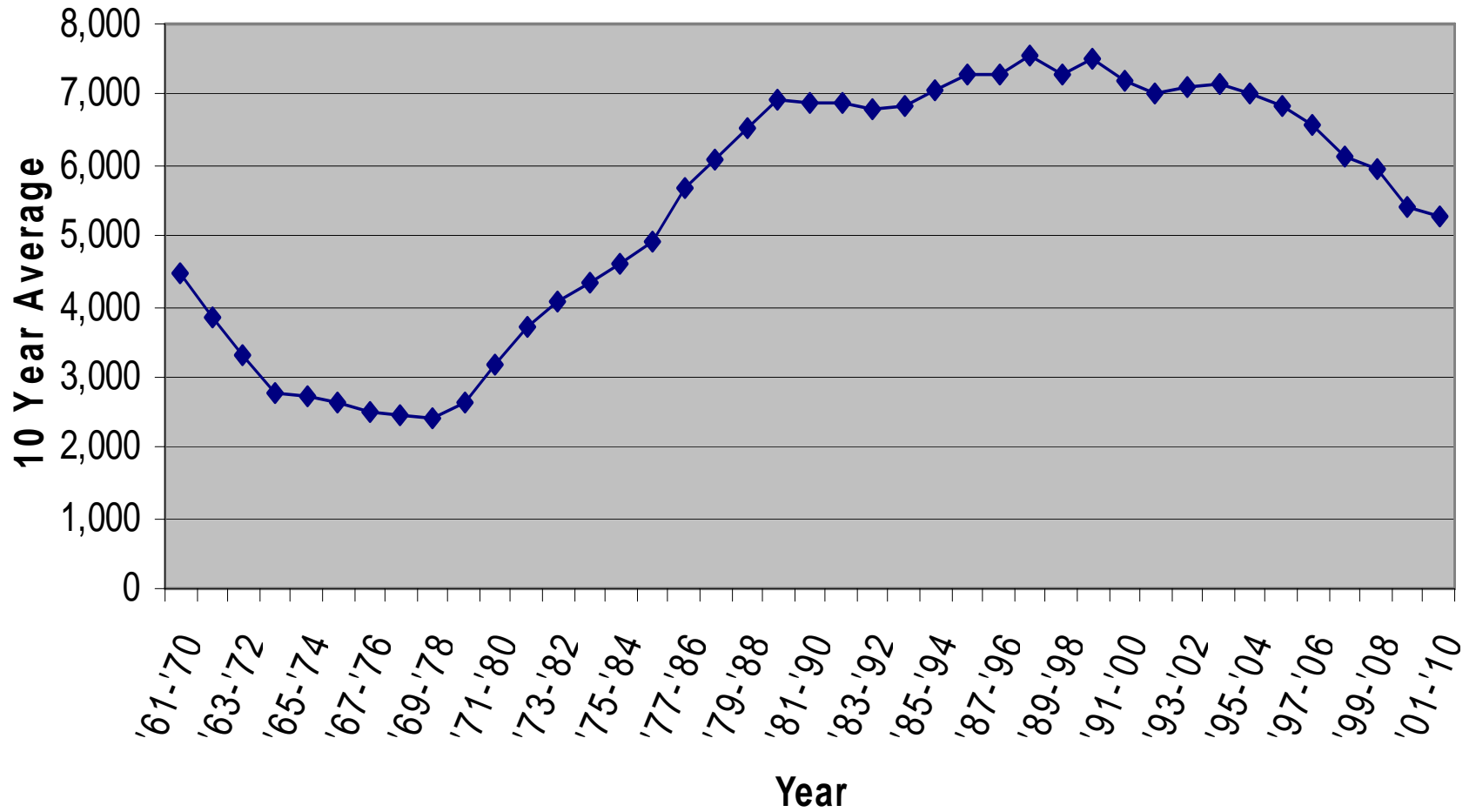


Harvests of Chinook salmon in the Canadian First Nation fishery on the Upper Yukon River, 1998-2011.





Mainstem Yukon River 10 Year Averages 1961-2010





Other management actions of note:

- Proposed to implement gillnet restrictions to 7.5 inch maximum in the commercial and domestic fisheries
- Public input was sought through pre-season processes and via inviting written input from licence holders
- Response received from YSSC and licence holders was mostly supportive
- DFO will move to implement restriction through conditions of licence beginning in 2012



Upper Yukon Chinook Stock Assessment





Yukon River Chinook in Canada 2011

- Eagle Sonar Estimate: 51,271
- Eagle Harvest preliminary estimate: 1,000
- Canadian First Nation Harvest: 4,000*
- *Canadian sport and com (inc.)*(40 + 4): 44

Spawning Escapement: **46,227**

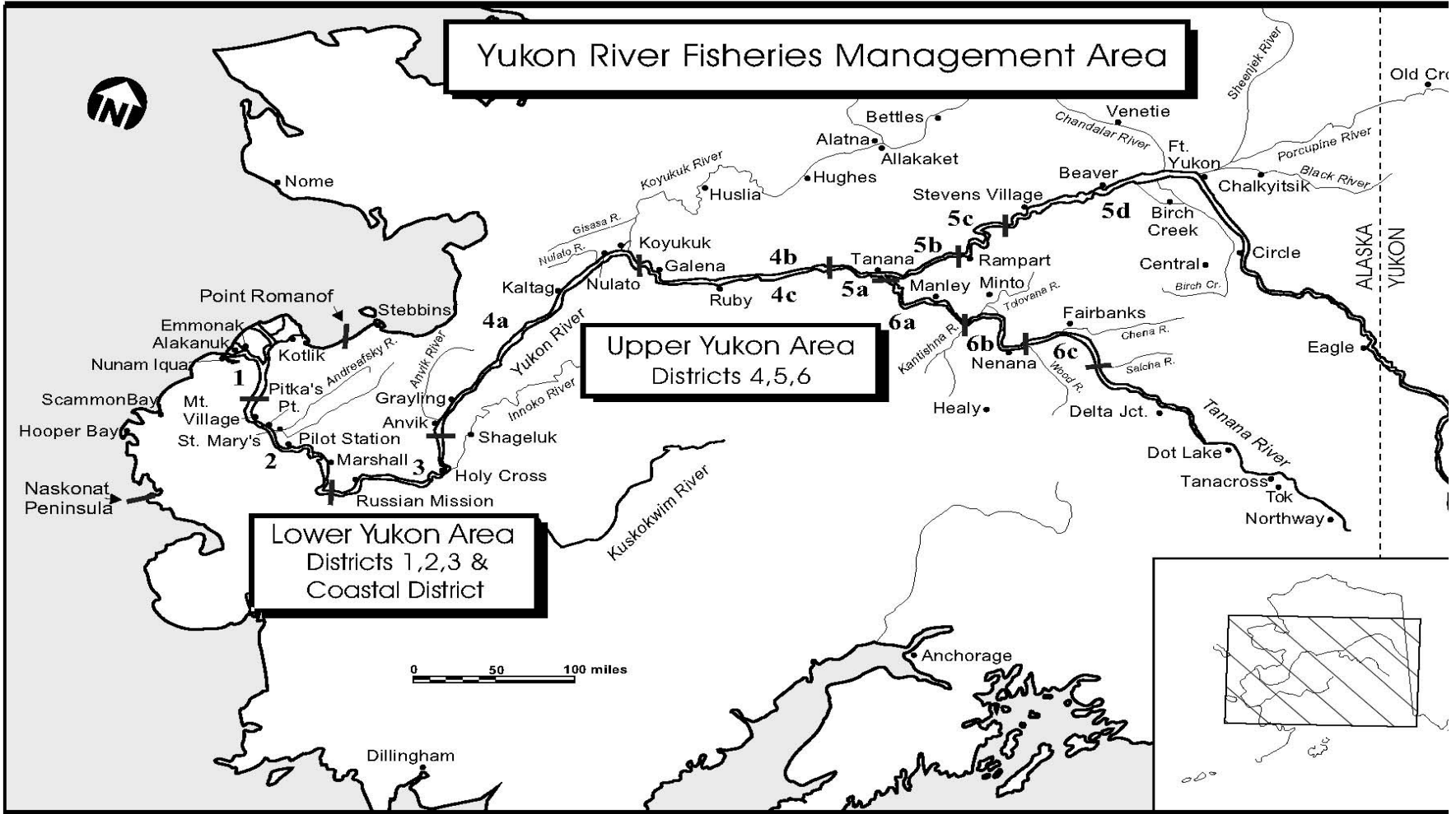
- Spawning Escapement Goal: 42,500-55,000

*preliminary estimate (reported to date=2879)



Upper Yukon Chinook Stock Assessment Early Indicators

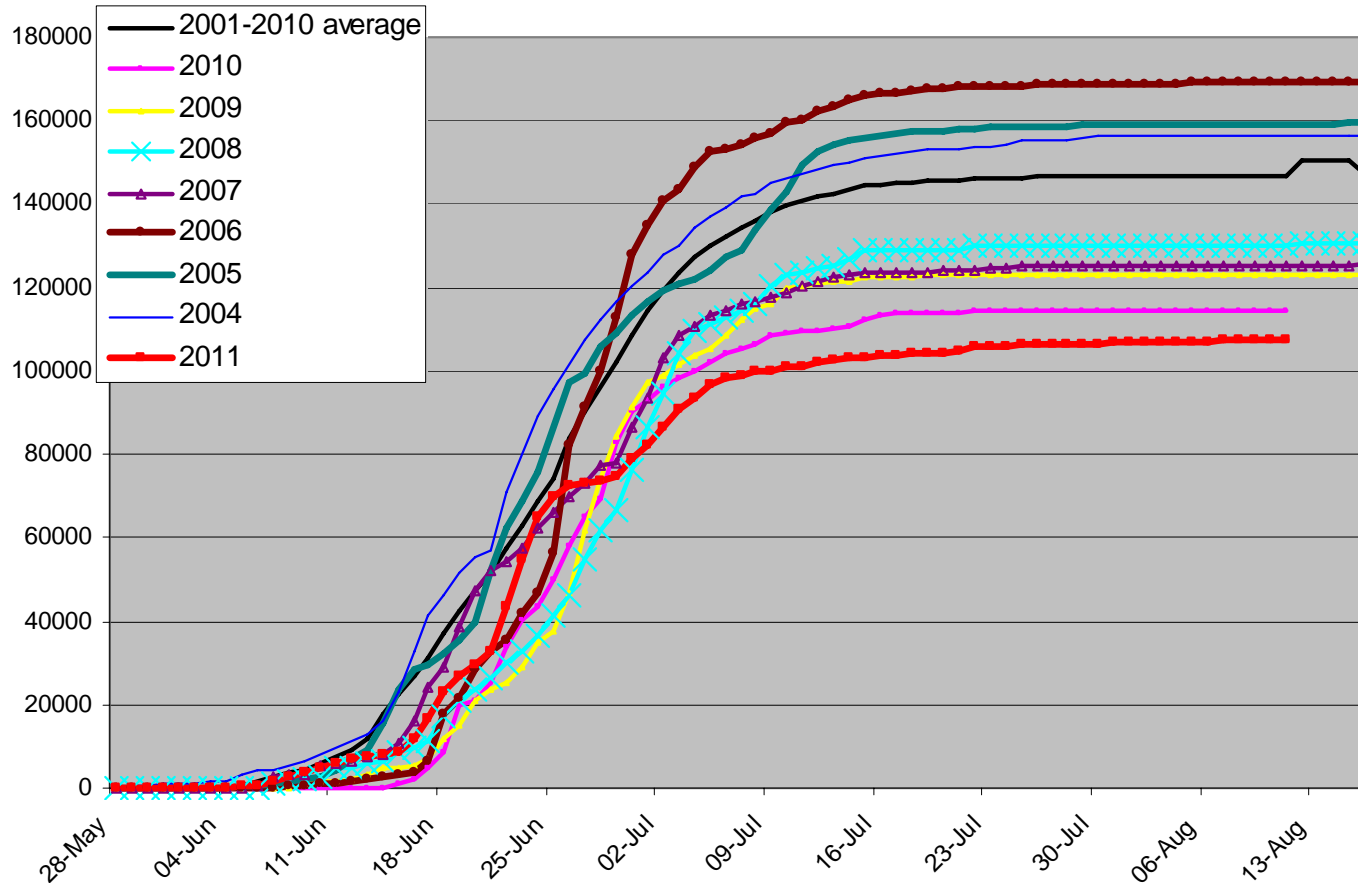
- Pilot Station & Historic Run Timing
- Rapids Video Test Wheel
- Lower Yukon Genetics: 53%-75% Canadian in the First Pulse. (39% to 44% in second pulse)





Pilot Station

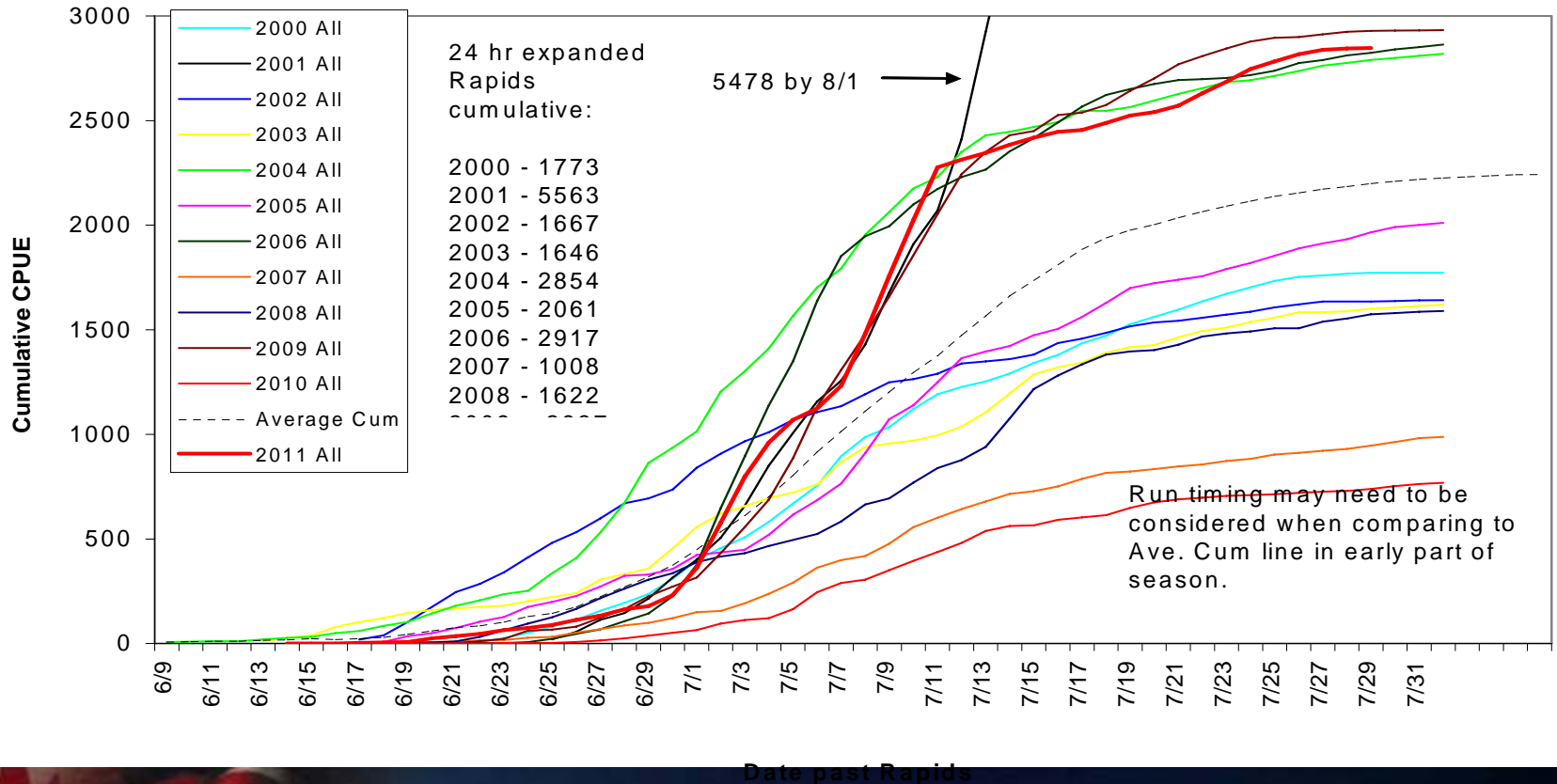
Cumulative estimates of Chinook salmon passing Pilot Station in 2011 compared with average and other years.





Rapids Video Test Wheel ~Stan Zuray

2000 to 2011 All Sizes of Chinook, Cumulative CPUE and Average Compared (Rapids Research Center)



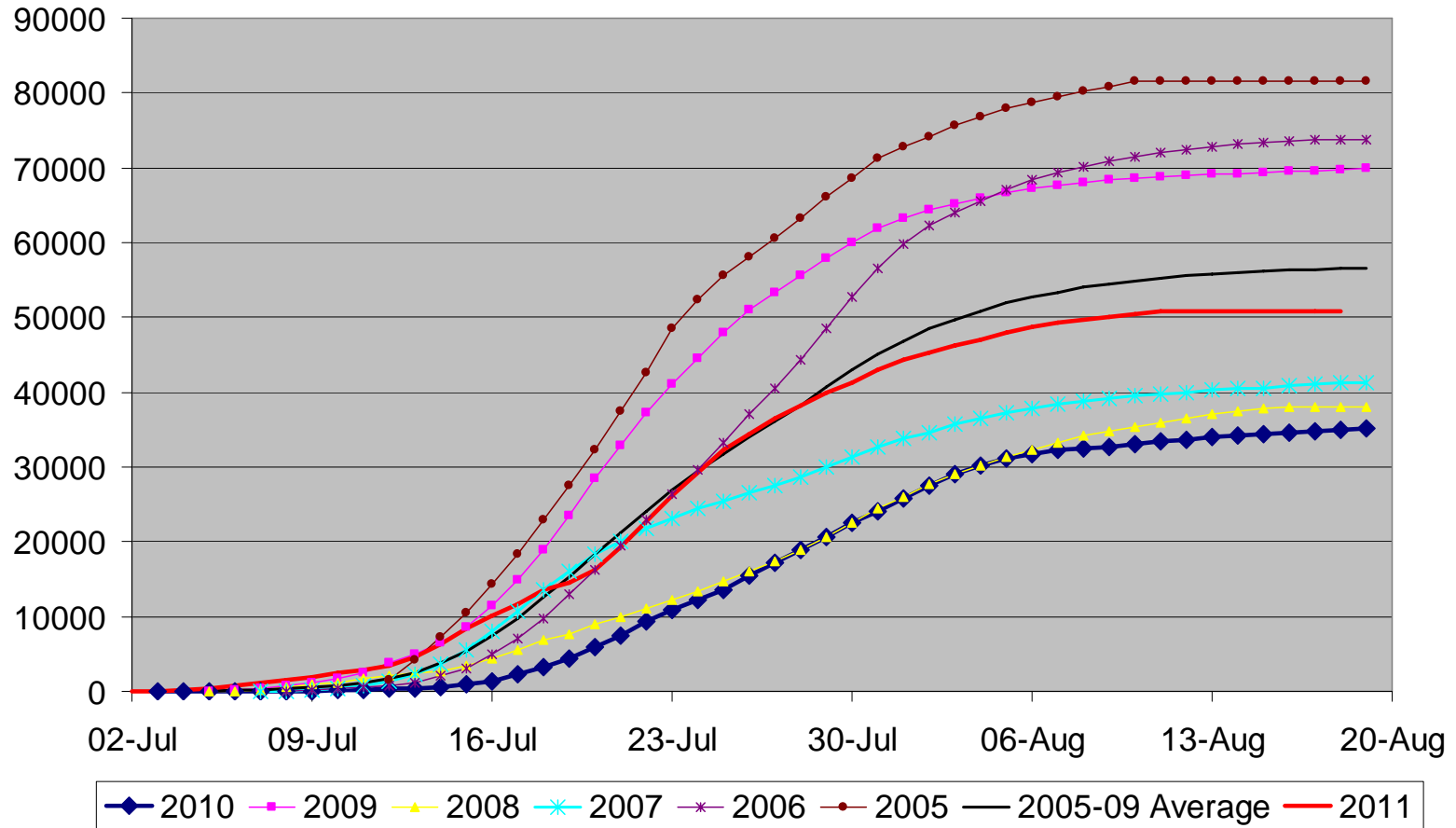


Eagle Sonar



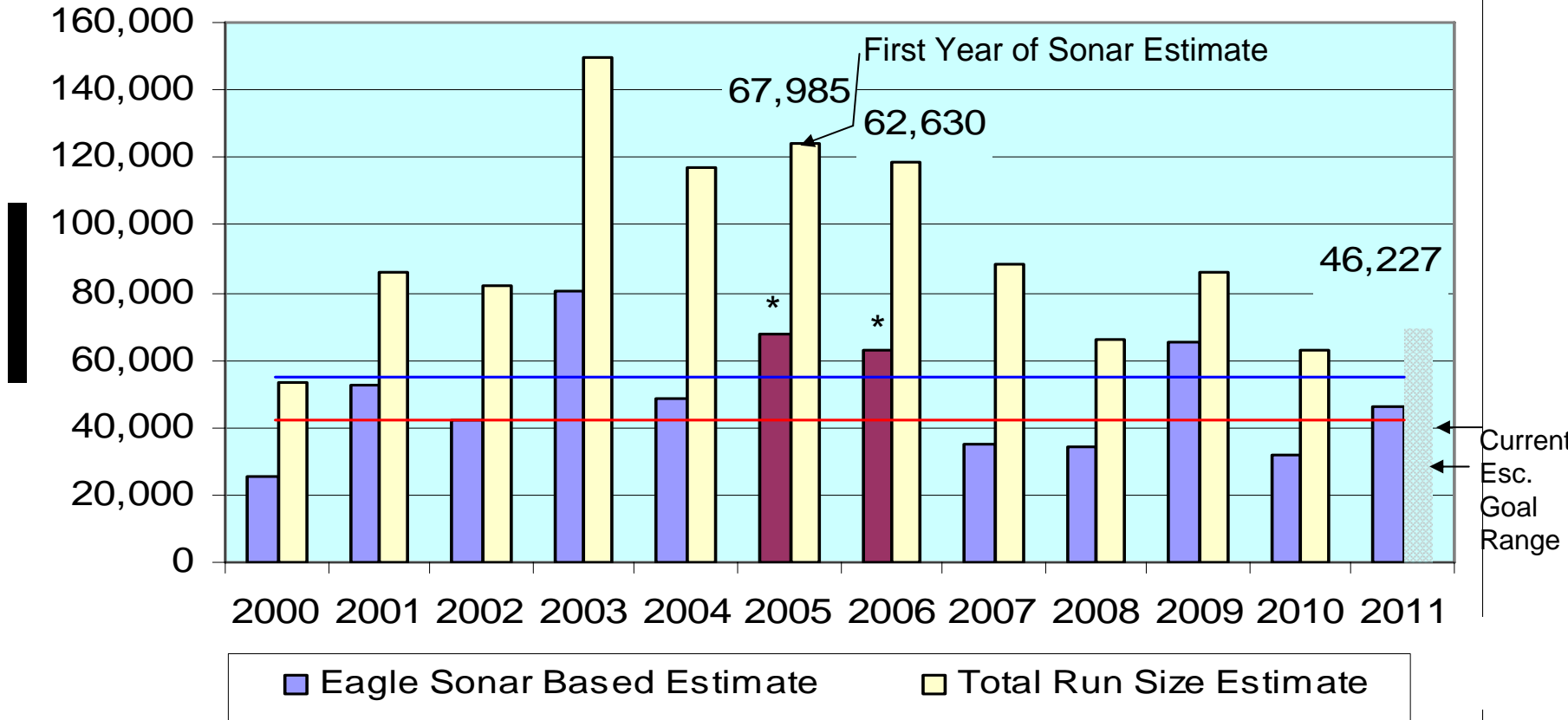


Cumulative Chinook estimates: Eagle sonar; 2005-2010.





Upper Yukon River Chinook Spawning Escapement & Total Run Size Estimates, 2000 to 2011



* Maroon bars =main brood years producing 2011 adults

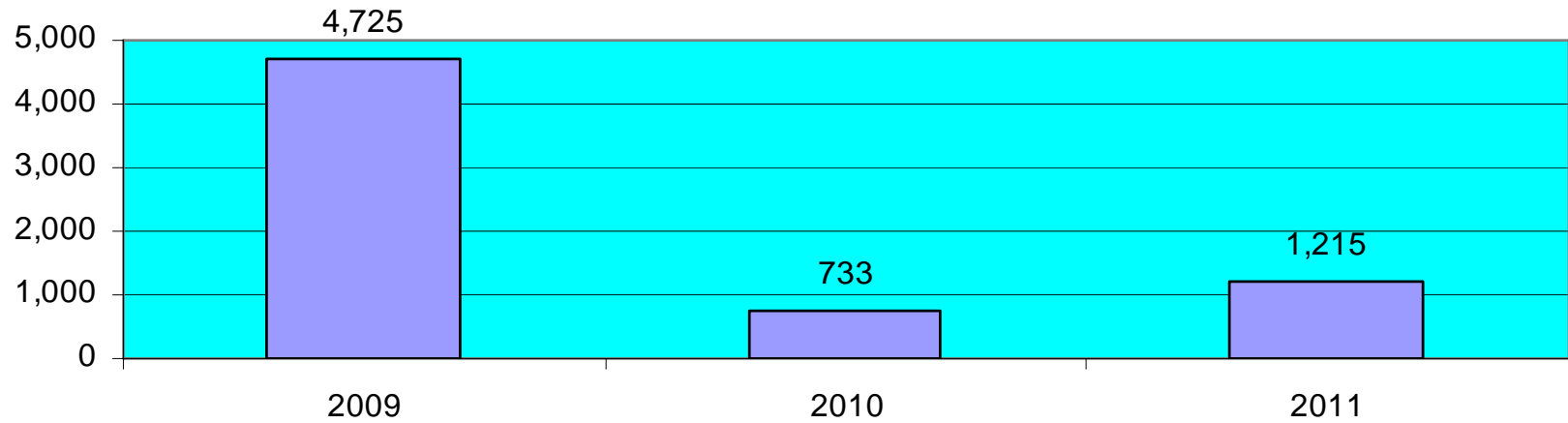


Klondike Sonar

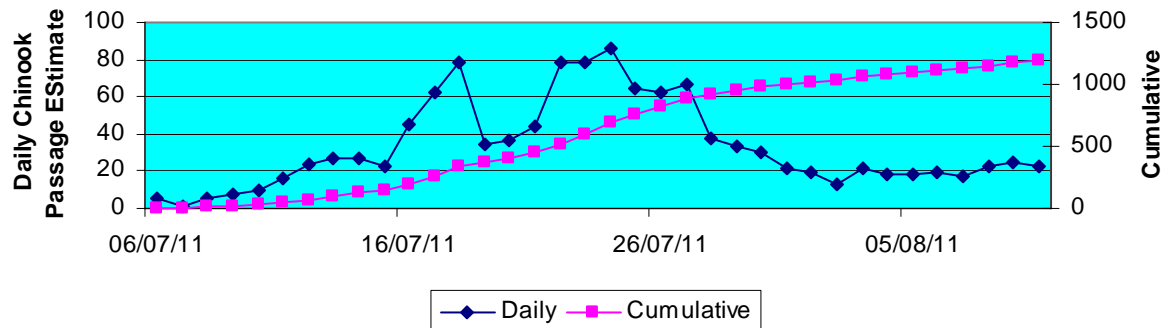




Klondike River Sonar Chinook Season Passage Estimates

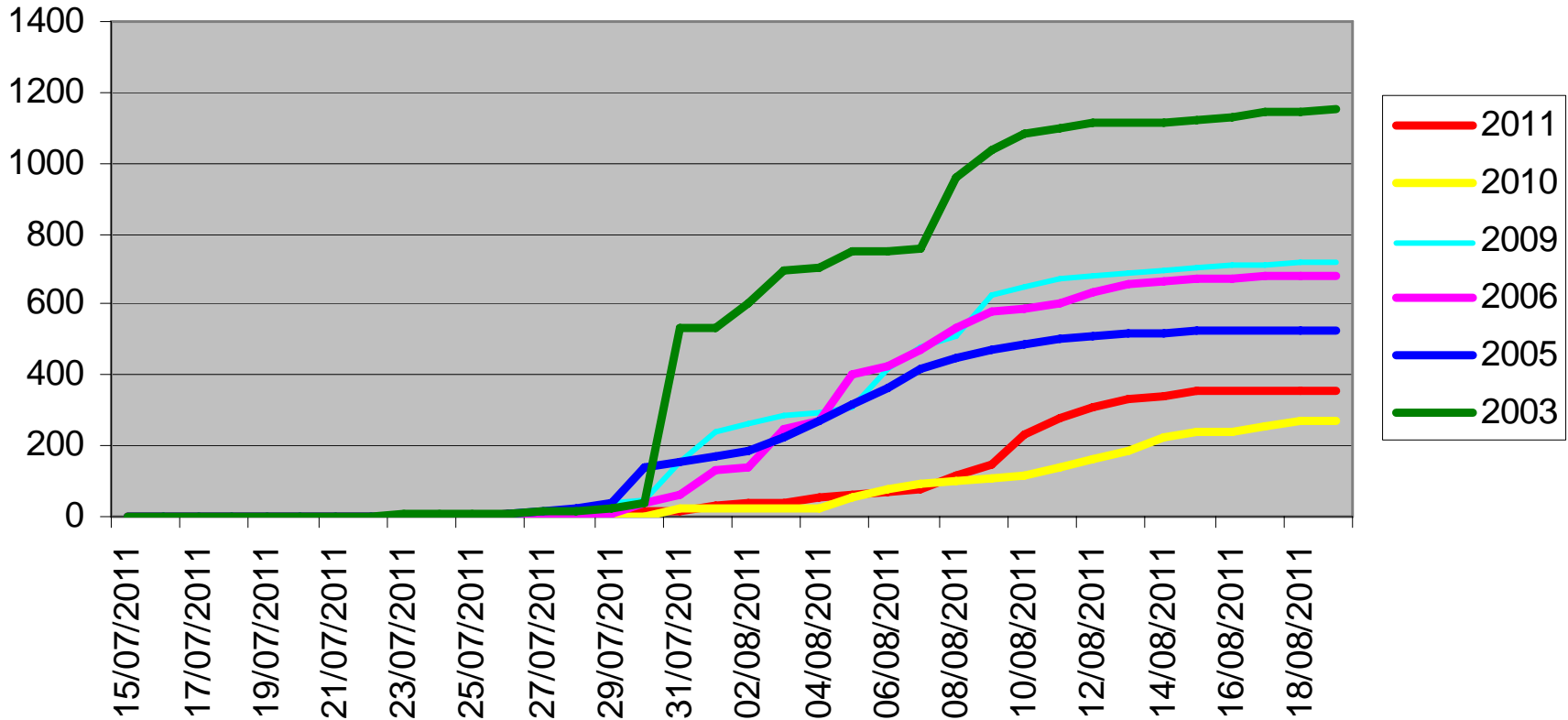


Klondike Sonar Chinook 2011



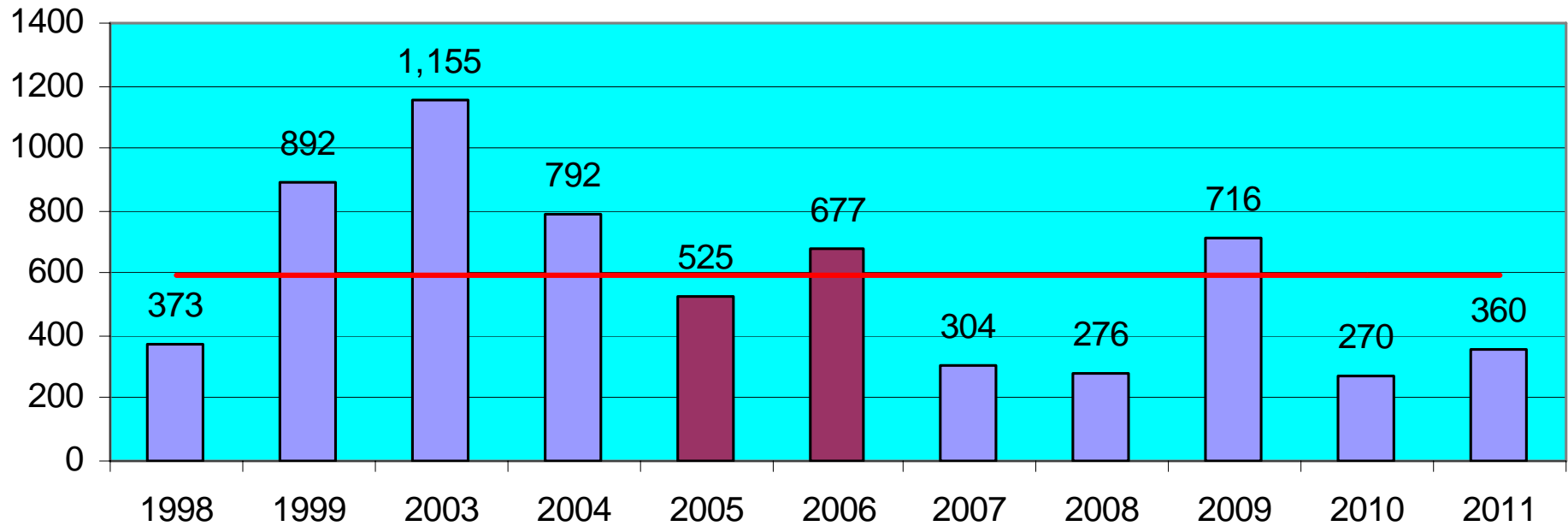


Blind Creek Weir Cumulative Counts



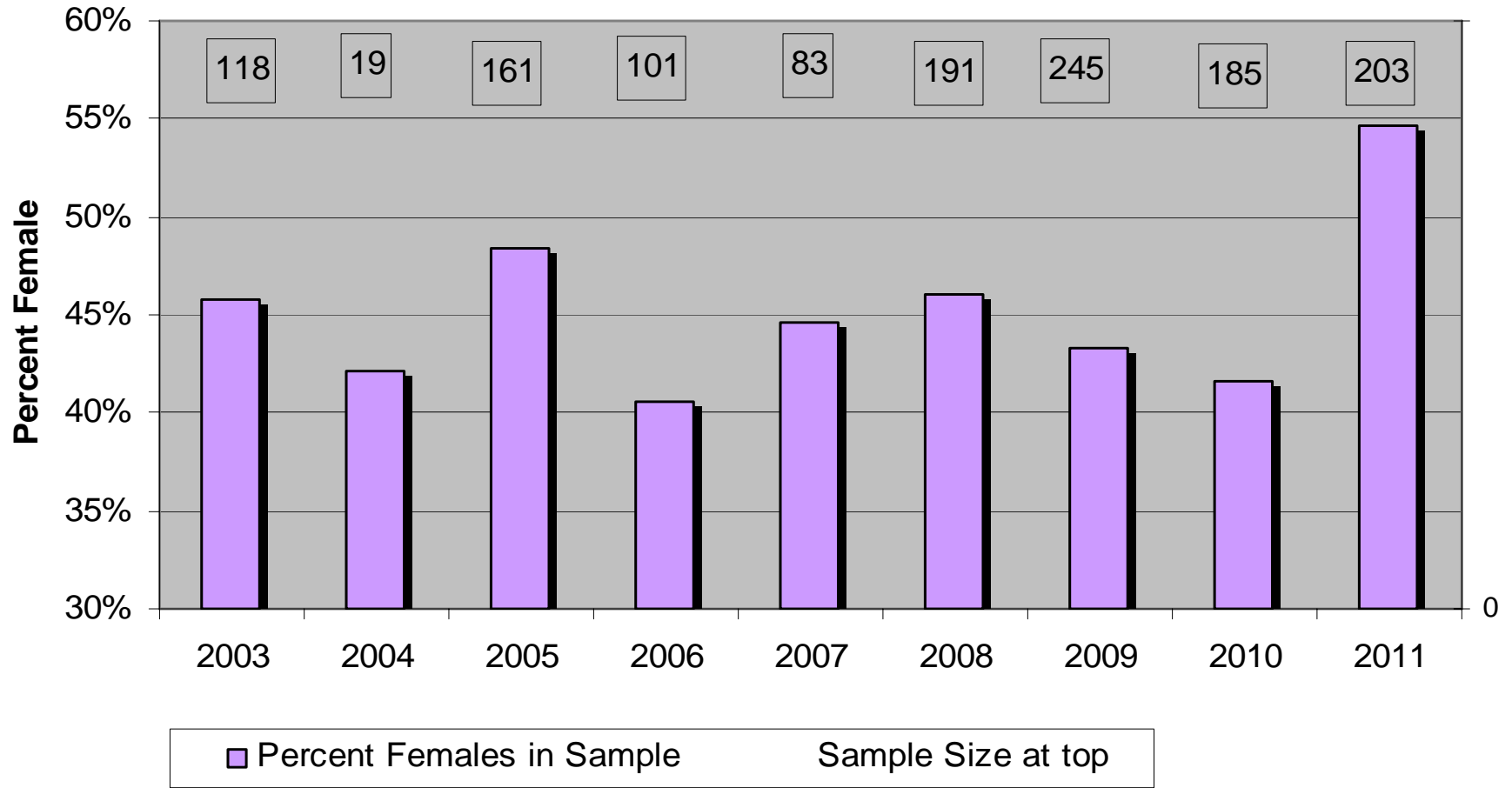


Blind Creek Weir Season Counts



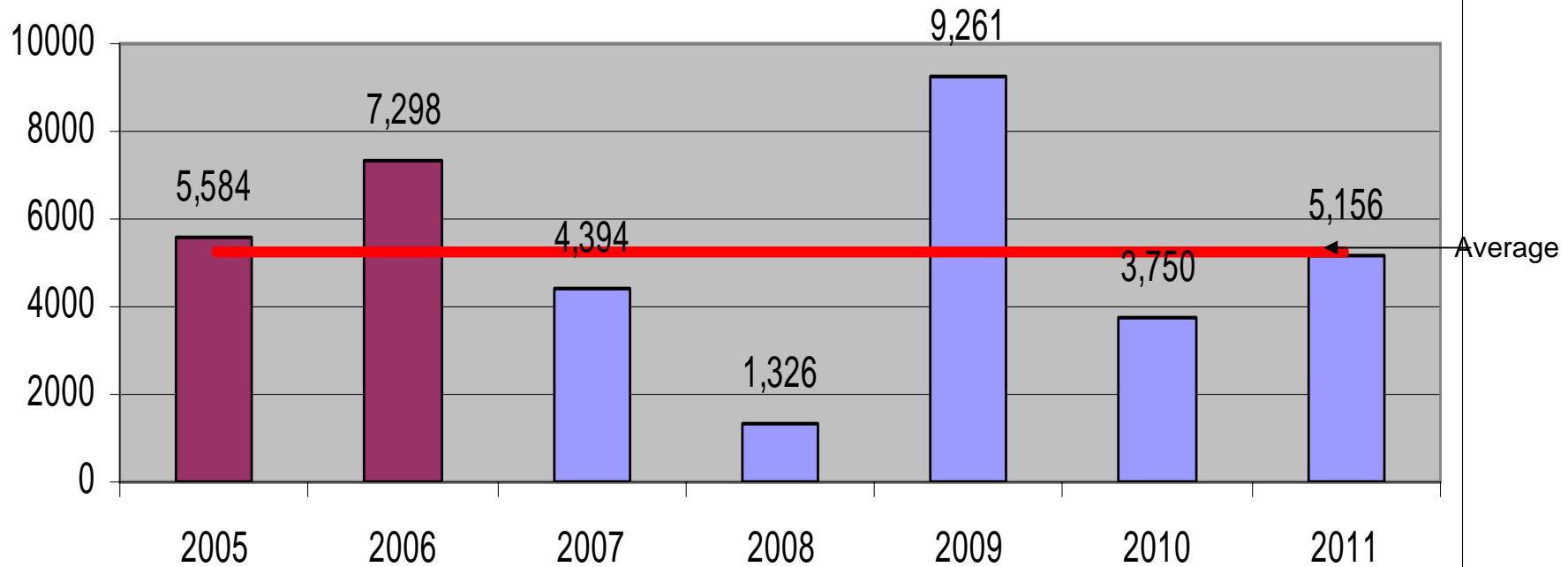


Blind Creek Weir Percent Female Chinook





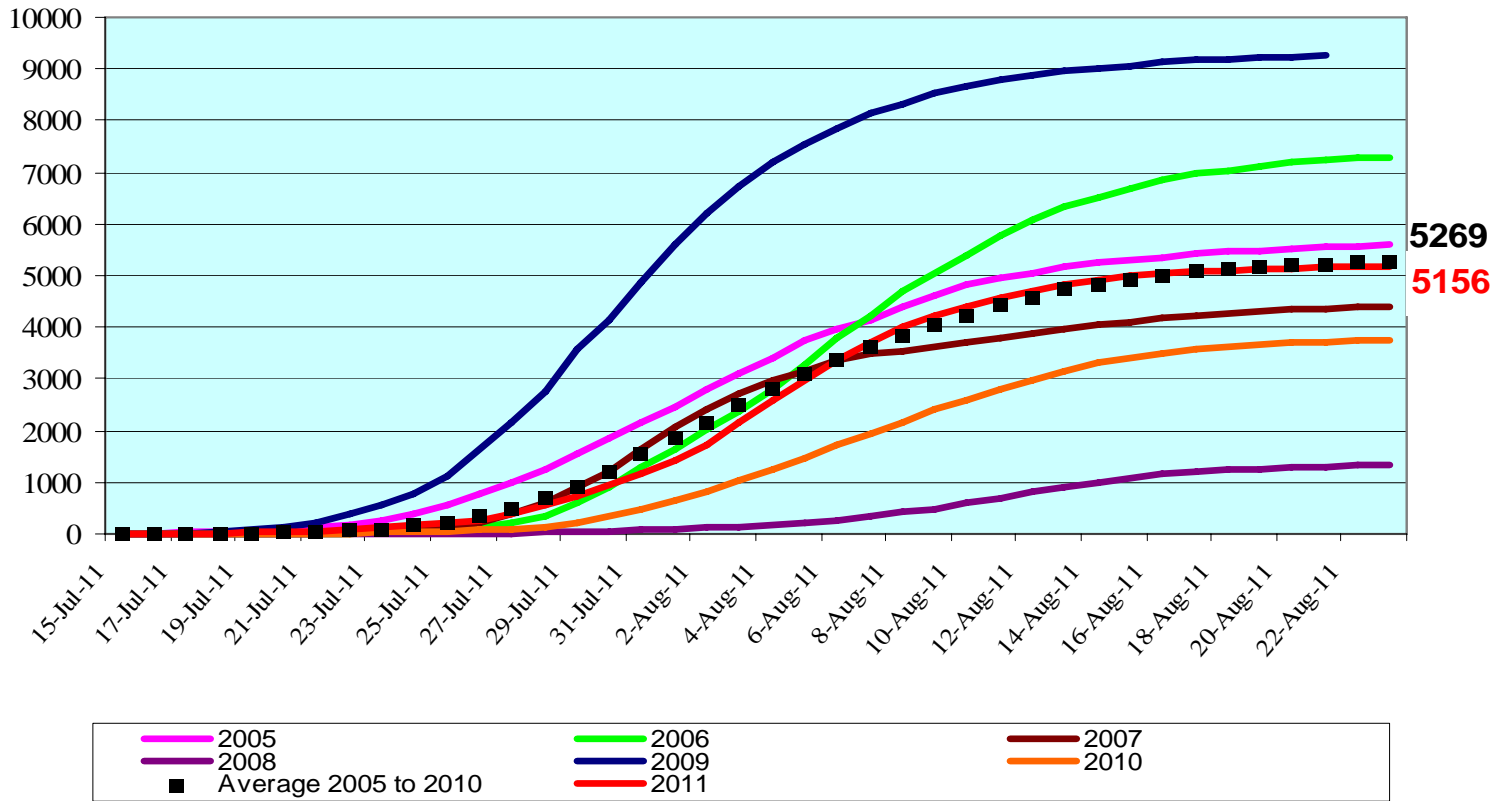
Big Salmon Sonar Chinook Season Passage Estimates





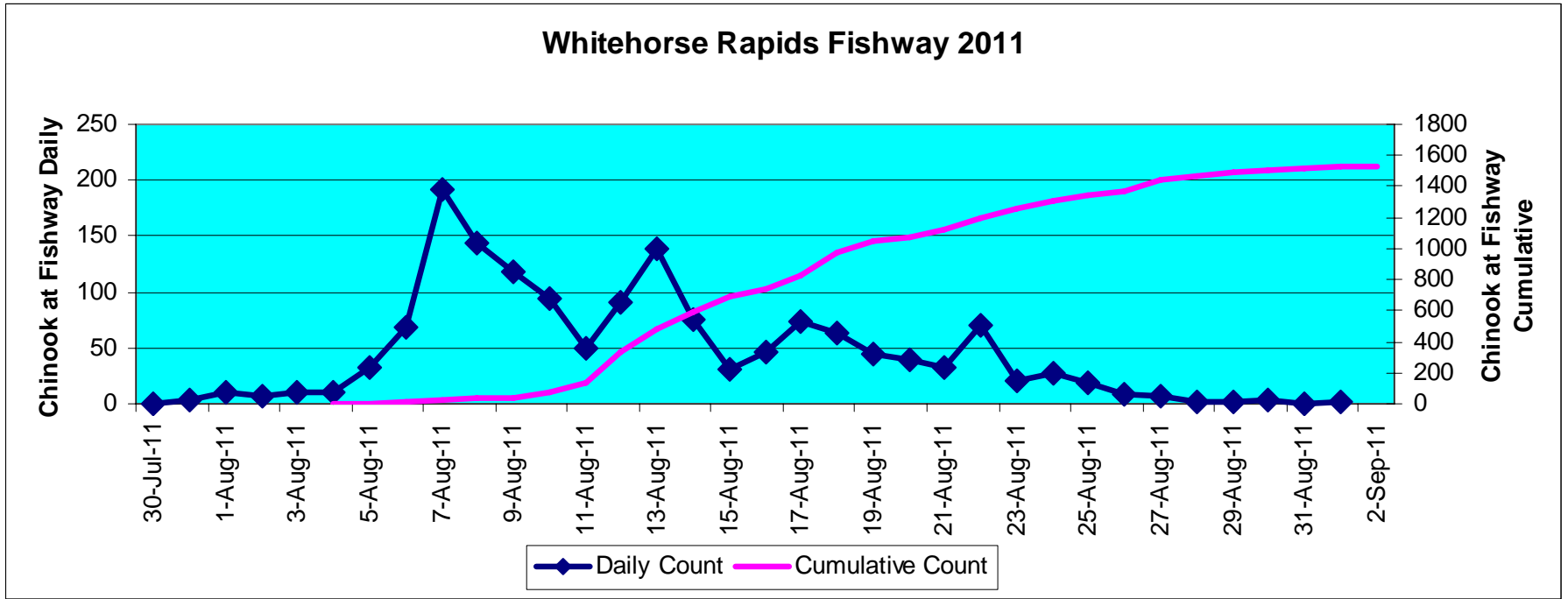
Big Salmon Sonar Chinook Passage Estimates, 2005 to 2011

Cumulative Chinook Sonar Passage Estimate





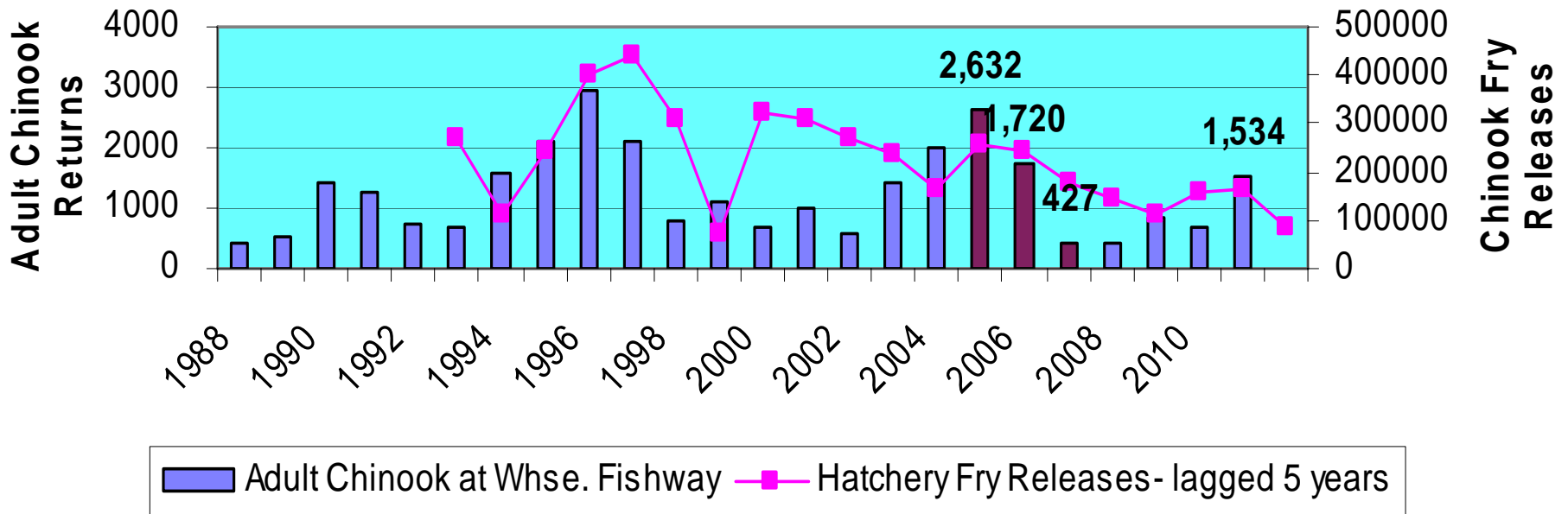
Whitehorse Rapids Fishway 2011





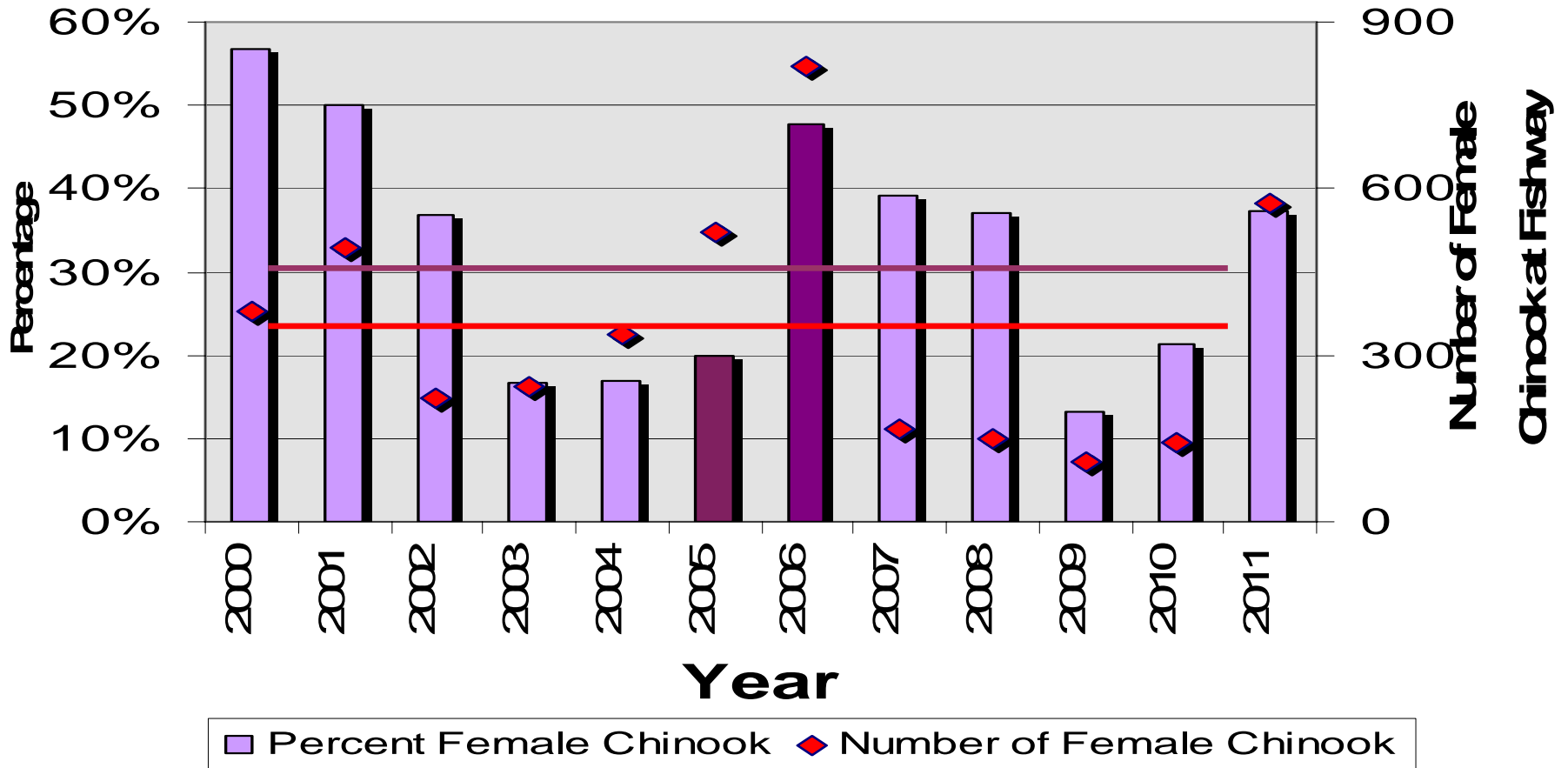
Whitehorse Fishway

Whitehorse Rapids Fishway Returns, and Hatchery Releases





Whitehorse Rapids Fishway Run Composition



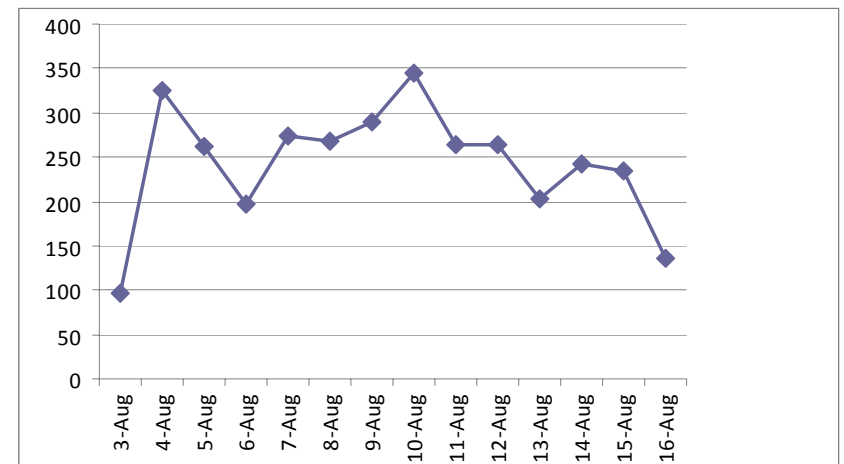


Aerial Surveys	Little Salmon	Big Salmon	Nisutlin	Wolf	Total
2006	1,381	1,140	601	114	3,236
2007	451	601	137	54	1,243
2008	93	303	No survey- excluded from avg.	22	418 incomplete- exclude from avg.
2009	821	1,827	497	134	3,279
2010	63	656	288	100	1,107
Average: 2002-2010	850	1,163	453	143	2,827
2011	38	405	No survey	81	524 incomplete
2011 as % of	4%	35%	NA	57%	NA



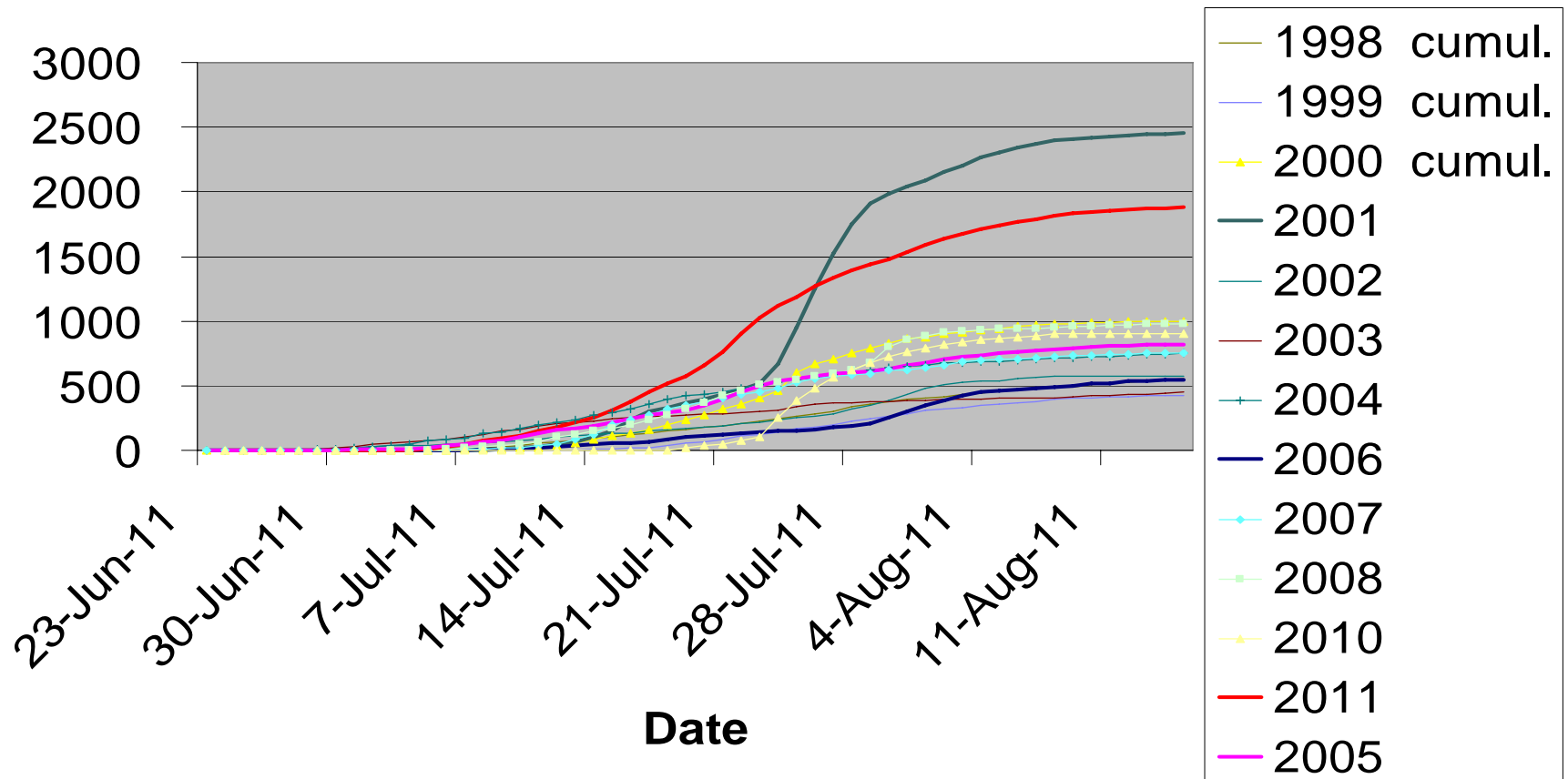
Teslin Sonar

- Aug 3 to Aug 16 pilot study
- ~3,400 Chinook (preliminary)



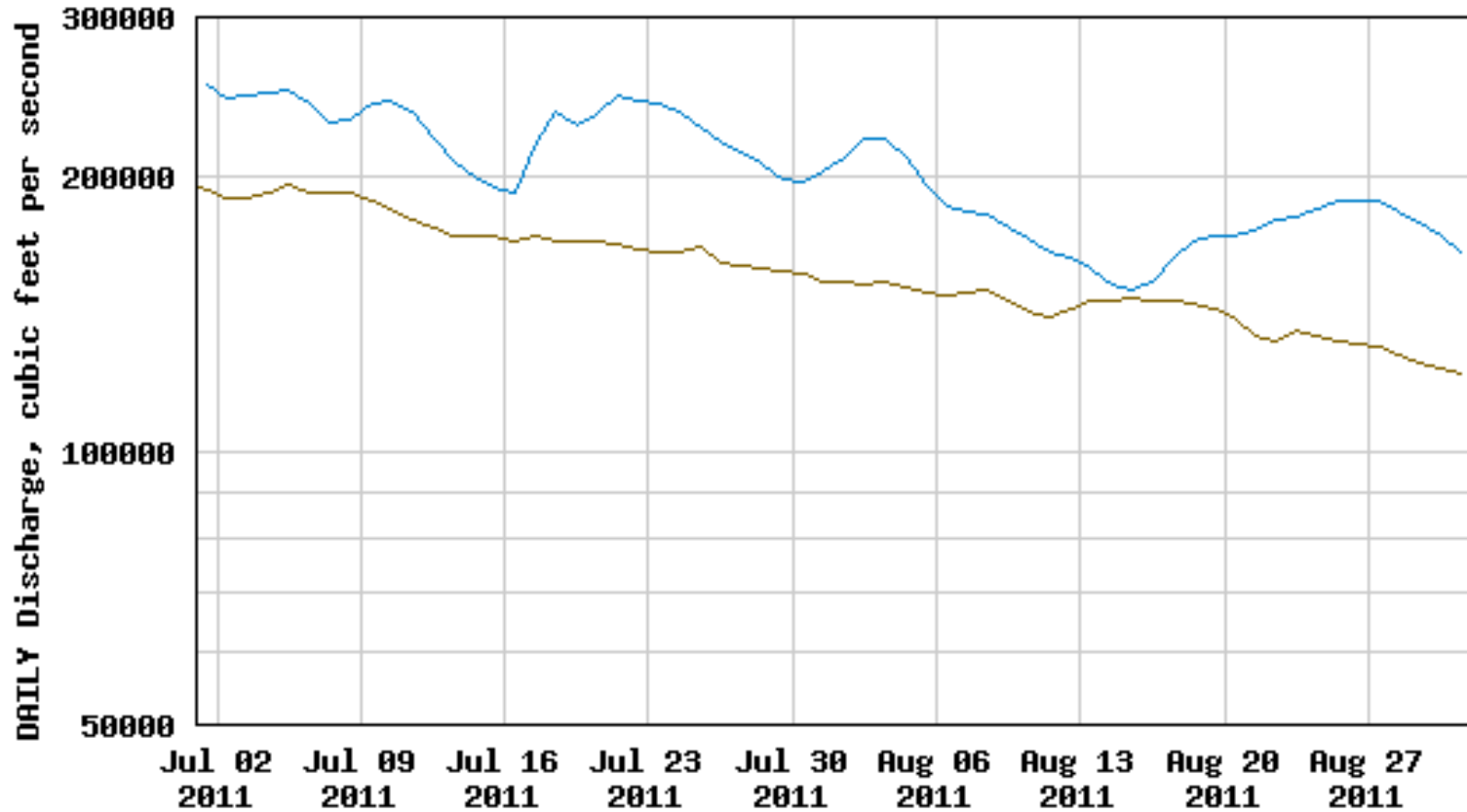


White Rock Fishwheel Cumulative Catch





USGS 15356000 YUKON R AT EAGLE AK



----- Provisional Data Subject to Revision -----

— Median daily statistic (61 years) — Daily mean discharge



Porcupine River Chinook

Miner River Aerial Surveys				
Date	Method	# Chinook	# Redds	Porcupine River Discharge m3/sec
August 8, 2001	Aircraft	unclear	102	298
August 10, 2002	Aircraft	1	42	463
August 1, 2003	Aircraft	No Data	8	663**
August 1, 2004	Aircraft	Numerous	Numerous	141
August 4, 2005	Boat	Numerous	Numerous	228
August 3, 2009	Helicopter	319	110	163
August 9, 2010	Helicopter	2***	No Data	1500
August 4, 2011	Helicopter	67	53	405

*** High Turbidity - very poor visibility



Chinook Scale Samples (ASL) 2011

Big Salmon	271	Big Salmon
Little Salmon River	160	Mid Yukon
Tatchun River	32	Mid Yukon
Klondike River	48	North Yukon
Big Kalzas River	20	Pelly River
Blind Creek	203	Pelly River
Miner River/Crow River	1	Porcupine River
Mayo River	10	Stewart River
McQuesten River DNA Baseline	49	Stewart River
Morley River	1	Teslin River
Teslin River	176	Teslin River
Michie Creek	7	Upper Yukon
Whitehorse Rapids Hatchery	190	Upper Yukon
White Rock Fish wheel	1891	Yukon River
	3059	



Yukon CHINOOK Baseline Genetic Samples 2011

32	Klondike	North Yukon
20	Big Kalzas	Pelly River
0	Fishing Branch	Porcupine River
1	Miner	Porcupine River
11	Mayo River	Stewart River
51	McQuesten River	Stewart River
1	Morley River	Teslin River
~53	Teslin Mainstem	Teslin River
0	Nisling	White River
61	Tincup	White River

230

