

Check out the Yukon River Salmon and Whitefish Runs by reading:

## *Rapids Daily Email Updates 2009*

**A Daily Log of the Projects and Fishing activity at Mile 731, Yukon River**

In season pictures and short comments on activity in the Tanana, Rapids and Rampart area, obtained through word of mouth and observation, are sent out daily with data worksheet updates. Combined these give an idea of the season at ground zero through the eyes of a non objective observer. Often with some sarcasm, always with an agenda, sometimes trying to be professional - - -

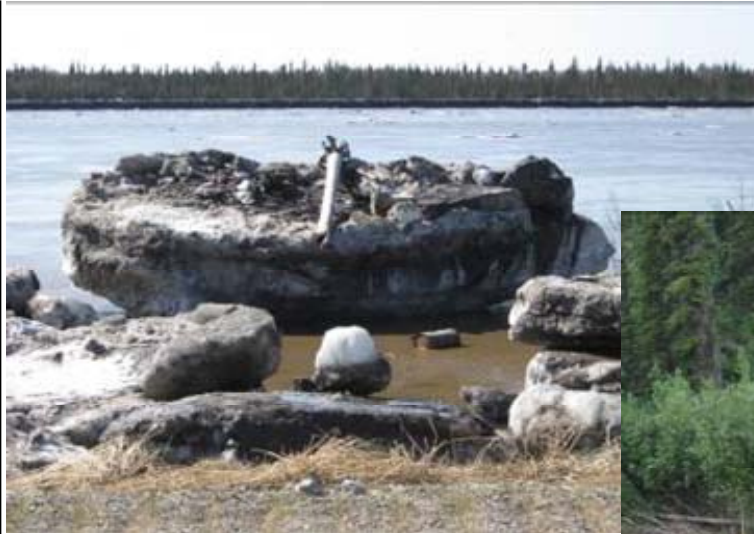
Inside are the 2009 season's daily updates:



6/10/09

- First of the new lower river numbers (**ChinLY09** and **ChinPilot09**) and some of last years data again for anyone interested till we get some new stuff going.

Pictures - 1. That's how thick some of the ice got this year. See drum, which is 3' long, in front. 2. First wheel getting pushed into Rapids from Tanana this year.



6/14/09

- No major king pulses have entered mouth as of most recent released ADF&G data (June 12th) (**ChinLY09**).
- Will have first of actual data on Monday. Have some bering cisco being caught so far but that's all.
- To those new to updates, I try to have this excel file open to the picture and subsistence info (**DailyInfo**) as that is what half the people tell me is the most important thing to them each day. All the tabs below open other worksheets such as the raw fish count numbers (**ShortSum**) or the graphs such as **ChinLY09**. We try to provide much of the info we use At Rapids to watch the runs move through the major projects on their way to Canada. Always happy to answer questions and ones that are popular I often answer here. Let the fishing begin.
- Water height (discharge really) and water temp graphs going.
- Will leave 2008 graphs for major projects (set nets and sonar) as they give an idea of what to expect in 2009.

Pictures - Kathleen Peters Zuray pointing to video project wheel today (Yukon River Panel funded). Turning for first time this year. Some nets in and other wheels ready to go but most fishermen waiting for first king to show - which most figure will be here about June 20th.





6/15/09

- Still no major king pulses at mouth as of 14th (**ChinLY09**). Little late but seen before.
- Got bugs worked out of wheel and should be running steady from now on
- Nothing running but a very small number of bering cisco. The subsistence nets in are getting sheefish and other larger whitefish but as they are not moving much out of their eddies (migrating) the wheels don't catch them - same each year at this time.
- Some big drift coming down once in a while so other wheels are not running till kings show.

Pictures - Last winter dog pictures. 1. The males got their protective coats on so must be 30 below or so. Some I raised and some that got weeded out of the fast sprint teams in Tanana. I use them for traveling, trapping, hauling wood and trying to kill myself.

2. These two had enough of each other.



6/16/09

- As of 15th seems the first king pulse may be building at rivers mouth (**ChinLY09**). A day or two will tell. If so this is the pulse that will be followed up river and fully protected by closures as one of the means of trying to insure we meet basic escapement into Canada this year.

- Seems to be a bering cisco pulse building at Rapids now also. Some years we miss the first one but this year we may record it all. These fish must start coming under the ice to be here now.

Pictures - Rapids fish camp and research center 2009. Most of the shacks are not visible but there are 5 of them and two tent frames. Red building is the smokehouse - to right a greenhouse. People have been in and out setting stuff up, but this summer expect a lot of time when no one will be here (except me and students taking data) because of closures etc. You can see how the heavy ice sheared the bank but because there were no ice jams close to Rapids this year the ice just went on by and didn't take out the smokehouse etc. It's been taken out twice in my 20 years at Rapids.

2. One of 24 bering cisco video captured today by test wheel. It's about to break the infrared beam and trigger a computer in a shack 1/4 mile away to take pictures of it. It's also a second from going back into river and freedom.



6/17/09

- Lots of interest on what's happening at mouth - king still increasing but need a couple more days to see if it's a real sized pulse. Probably the right thing to do though in declaring it the 1st pulse and allowing no fishing on it. Otherwise it might be over and got hit hard before we make up our mind. Not fun being a manager - but that's why they get payed the big bucks - kidding. Me on the other hand can just complain and have opinions.

- Cisco still increasing (57 per day) but comparatively low numbers really. The record was about 300 a few years back.

- Still quiet at Rapids and only a few camps open and all waiting for king as that is the only fish in quantity we'll see for people food till fall chum time. Summer chum here don't even get cut for dogs as most are white flesh and poor quality. The larger whitefish don't get numerous till later also.

Pictures of after the flood in Tanana - clockwise: 1. Front street - putting in an ice road - these houses floated and are now gutted of flooring and cabinets etc. 2. Moving one of the smaller blocks of ice on front street. 3. Right at crest this was one the high spot in town right in front of the Main store and post office 4. When jam broke it sucked away two wheels before we could stop them. Some crushed up ones in front (my spare).





6/18/09

- Kings have slowed at mouth - pulse did not get that big. Bad conditions for counting also with high water and drift ADF&G says. Last year during 2nd half of king season we had extreme high water. At this project that can make the wheel actually catch higher numbers which is not good as we are trying to compare year to year catches. This year water so far is right at average for this date so we should be okay here.
- Caught first humpback and broad whitefish - these will not show in significant numbers till fall.
- Water temp average also.

Pictures: Ann and Steve moving their lead fence into position today. These single piece leads are monsters and push up river as hard as two wheels. It will be moved over to wheel and then rocks put on upstream edge to sink it. Current then catches it and flips it upright in current. If your cable lengths that hold it to the wheel and shore are right, it will set just fine and if not you got a big mess and start all over. At Rapids king move through in pretty deep water right on edge of current or deeper so wheels need to be large to even get near them. A smaller wheel would catch almost none. In places like the Tanana River where kings are closer to their spawning grounds a tiny wheel will do just fine for king.



6/19/09

- Smaller numbers of king at mouth has caused ADF&G to close a second opening on the 1st pulse. This will extend the number of days closed to well over a week (see **ChinLY09**). Has to be done considering the alternative of not putting enough on the spawning grounds and guaranteeing a bad run 5 - 6 years from now. I am getting so many questions about all this and hope the additions to the graph helps and I got this right.

- Also please feel free to correct any mistakes you see - I do the graphs and text with no help each night and my lack of education can reveal itself sometimes.

- On a lighter subject the Cisco numbers have leveled off for now. They will have a number of migration runs this summer.

Pictures: I know it's fish season but I'm a dog musher and there's no fish.

1. Out on some open beautiful country this spring 35 miles north of Tanana. 2. The drag in front of sled is used almost everywhere I go in the back country to pack and level trail. Next day when trail hardens it's use will be well worth the dog effort. At days end when dogs are ready to drop I can just put it in sled. Made with UHMW plastic and metal grate.





6/20/09

**"Extra Extra Read All About It"**

- **First two king caught today** by subsistence wheel above test wheel. Have pics tomorrow. I figured they had to show by 20th - even though I could "feel" them days ago. Normally the first week or so the numbers are very low but the size is the largest of season with sometimes 0% jacks. This year the first pulse (which last year didn't make it to Rapids) should also show larger fish because it will be completely protected in the whole river. It will be very important to document this difference as for so many years so many people never thought fishing pressure could have that effect on a run.

Pictures: 1. Charlie and Robin Boulding and new baby making the final push through the Rapids today. One boat got it the forty miles from Tanana but two needed for last 5 miles through canyon. If the water below looks at a lower elevation it's cause it is. Called the Rampart Rapids in old literature because long ago hard to steer rafts and scows could end up on Rock Island crushed (island mid River in photo but just under water), it is really not an obstacle to fish which just swim upstream easily through this kind of current. This was the proposed site of the Rampart Dam project long ago. If it had happened it would have created a flooded reservoir out of the the Yukon Flats hundreds of miles up river. 2. Bering cisco whitefish for my dog pot.



6/21/09

- First testwheel king. From 2000 to 2008 the average cumulative number (CPUE) for king at this project is 113. We are at almost 2 now. Too early to judge.
- 6 king caught by all fishermen in area (3 wheels and 2 nets). Should be more gear going tomorrow but from what I've been hearing about half of regular camps will not be opening due to limited fishing time this summer.
- Fishermen **are** making adjustments to their regular fishing to get more fish to Canada - although I believe being shut down for so much this season will do that anyway. Has to be done and no real complaining heard, just disappointment and sadness for the lifestyle going.
- Student data techs started sampling king for weight, length, sex, girth and visible Ichthyophonous disease. Will have this year's worksheet below going any day (**KingData09**).

Pictures: 1. Tug pushing two barges came through Rapids today. They leave one below the fastest water and push them through one at a time as you see here. Surprisingly little waves for their size they do not hurt the wheels seen along shore behind front of barge. 2. First king with a little cisco buddy.



6/22/09

- Kings definitely here - all gear getting some, and fish size as every year early on is larger than rest of run.

- Got first numbers of Student Data Collection Project (see **KingData09**). Way to early to say much but have higher than normal average weight and female percentage.

for 14 king:

- 25.2 lbs,
- 50% female,
- 7% visible Ichthyophonus

- Don't know what's up as I heard fishwheels only catch small fish.

Pictures: 1. Cow moose just coming ashore from river swim above camp. 2. Dave Daum from USFWS Fairbanks Field Office came to Rapids Research today to work on video project and train techs to monitor Rapids area for colonization timing of juvenile age-0 Chinook salmon. They will be running trapping stations daily in the mainstem Yukon and Jordon Creek. Ezra and Cy have worked for the Data Collection Project since 2001 and will be moving on next season to college and other work.





6/23/09

- King numbers steady today - nets doing okay so far as fish size is large and they don't just go through the mesh. Seeing some smaller fish show up in wheels but size is still above average for this early part of run.

- Not many fish being taken overall due to low numbers of fishers in area. Most of the good net eddies are not being fished but that may change after first pulse closure.

Pictures: 1. Yukon out the window today - rain pouring. Dave Daum, USFWS, looking at ICH hyphae through new microscope purchased by Rapids Research. Microscope can be hooked up to a computer and records images and video. Pretty cool!! This year the Student Data Collection Project will be archiving a subsample of ICH infected tissue. 2. Two nice kings recorded while passing through the video chute today.



6/24/09

- King increased today. Cumulative to date is still real low, however the two highest seasons catches in 10 years of project running (2001, 2006) were both lower at this date - see: **AllChinCum**.

- Each year at this part of the run I comment on larger average size of king in the fishwheel sampling part of our data collection. Last year we were running about a 4 lb heavier average (or 16 lbs/king) and 22% female. Fishermen consider this each year to be quite noticeable. As time progresses each year average size and % female drops and levels off (to approx. 11 lbs). This year the average weight for the same period is 22.3 lbs and 48.1% female - this is something that has not been seen in a very long time - well before we started the data collection project.

- Water height right at average for this date.

Pictures: A fisherman brought this 40.5 lb male king by camp today to be weighed. Only see king in the 40 lb range every few years anymore. This one was not able to be sampled as we did not have access to the rest of the catch. No samples are allowed from catches if some fish are missing from a day's catch as in some were already processed (not random). Samples from different gear types are kept separate also.



6/25/09

- King numbers dropped alot today.
- Size of king and % females continues to drop and today was 13.7 lbs and 15.8% female. Overall average is still high but that will drop also if king that pass by continue to run small. The question is what causes the size to drop as fishing increases riverwide. Normally the most fishing takes place on the first pulse of the run and this is also the worse pulse for size in the upper river. This year the first pulse is suppose to be fully protected. It should shed alot of light on the answer to the size question if we see a significantly larger average size to that pulse in the upper river monitoring projects.

Pictures: 1. Skies finally cleared late today and had a bunch of black ducks take to the air as I went by in boat. 2. Occasionally we get a suckerfish in the wheels. The river is loaded with them. Minnow traps get lots of very small ones also.





6/26/09

- Have enough days of the king run to do a rough run timing adjustment - looks like about 41 - 43 miles a day to Rapids for these first fish - see **ChiLY09** and **ChinPilot09**. Run timing is pretty predictable but does slightly vary if current is strong or weak due to water height. Despite what I hear quite often, pulses making it to Rapids are also very tight. Most of the time a pulse that is 4 days long at the mouth will be 4 days long here - they do not spread out much. Once the fish go through the maze of the Yukon Flats upriver of here however it is another story. Each year runs that are full of the ups and down of individual pulses at the mouth and here are often more similar to just one rise and fall in the graph - see **ChinEagleAll**.

Pictures: Net fishing at 20 mile eddy. Don explaining how Rick didn't tie the anchor on securely and the net got balled up. Rick says Don did it. These guys are old hands however and they'll get some fish tonight.



6/27/09

- Out of 10 project years king cumulative is now better than three of those years - the two best and the one worse. As you can see it is hard to say what the run will be like. Even at the mouth with 18 more days of data than here, managers and fishers are still a ways away from a final determination of the run. Post season we're all experts on what it was and how it should have been managed.

- Cisco just a trickle now but will peak again for sure.

- Had a section of length data in KingData09 that was copied wrong - okay now. I know - who cares - it's the pictures you all like.

Pictures: My wonderful wife Kathleen cutting her strips. Tonight we're up late canning - trying to get everything done before complete 1st pulse closure coming soon. Dave Daum waiting for airplane to head back to USFWS Fairbanks Field Office. Without the help of that office and it's staff, Rapids Research and the video and student data projects would never have happened. So blame them.





6/28/09

- Pilot Sonar just recorded a very large pulse of kings last two days. Between that and the fair size of pulse 1 at Pilot things are looking little better **ChinPilot09**.

- Data Collection - to King sample number 133:

Average weight: 19.1 lbs

Average length: 82.5 cm

Percent of females: 33.8%

Percent of Ichthyophonus (all king): 5.1%

This is normal for ICH disease (at this point of run) but larger size and number of females than normal by a good bit.

Pictures: Data techs Esra, Alex and Cy

1. Taking weight, length, sex, girth, genetic fin clip, and checking for visible Ichthyophonus disease. Alex is new to Rapids data work but spent all his prior summers at fish camp above Rampart so he's a natural here. 2. Getting 160 formalin vials filled and marked for king ICH heart samples. These will be archived by the project for future work (in other words no funds yet).





**6/29/09**

- More wheel data in **KingData09** - up to 6/28:

196 samples - 2 weeks into run

Average weight: 17.9 lbs

Average length: 80.6 cm

Percent of females: 30.1%

Percent of Ichthyophonus (all king): 5.6%

- Ich % is normal but size and numbers of females is an easy record for this point of the run (2004-2009). We never would have started this data collection effort had average weights and female rates been this high. It was done in response to the complaints of upriver fishers about the low numbers of females and small size for last dozen years or more. Nobody is complaining so far in this area.

Pictures: Ken from KenAir in Fairbanks has flown to Rapids over the years. Very little current by the shore, it's not a problem landing or taking off. He's picking up Dave Daum whose through with his work here helping the project.



**6/30/09**

- First king pulse just a day or so away. No sign yet but when it hits, numbers and quality will increase. Size usually drops considerably in recent years. Last year we had day catches that averaged 7.5 lbs and 6.9 lbs and a female rates close to 0% during the first pulse. I'm hoping this year that doesn't happen. Between people recovering from flooding and restrictions and the first pulse closure there seems to be relatively little fishing pressure on this run. While terrible for people it may give an otherwise weak run a chance to achieve quality escapement cross the border.

Pictures: Some of the family - I told them smile for the "Rapids Update". Kathleen, Mike, Faith and their mom Helen came up tonight from Tanana to get fish for about 10 families and the Elders Home. Everyone has small requests this year, even the Elders, as people are trying to get fish to Canada. In our household this summer we are limiting ourselves to what we can eat, and fish for others like in this picture. I have a job at this project so it's easy for me to make those reductions - others have no other income and are faced with not working and going to fish camp and many are doing just that this year.



**7/1/09**

- If run timing is normal, tomorrow king numbers should start to climb and first pulse will be here. Good numbers are needed or cumulative will fall behind (**AllChinCum**).
- Couple more summer chum caught in area but that's all.
- First restricted period at 6pm tonight. Full 10 day (approx.) closure coming soon also and will be announced.
- Lots of new data/graphs (net data also) in **KingData09**.

Pictures: 1. Visible Ichthyophonous disease. This king heart is not as bad as they get but it's swollen and mushy. The white spots, which we use for ID of visible disease, are the fishes reaction to the foreign ICH in it's body - it tries to surround the spores or clusters of spores. When the fish dies the whiteness goes away after time passes, even though the ICH spores are still present. This has to be taken into account and fish samples assessed for storage conditions (coolness) and time dead. In controlled experiments with rainbow trout swimming stamina was reduced by approximately two-thirds and heart weight increased by 40% in ICH infected fish. Eventually the fish dies - but then we all got to go sometime.

2. Tiny grayling video captured. Video system easily detects moths and flies in chute also.





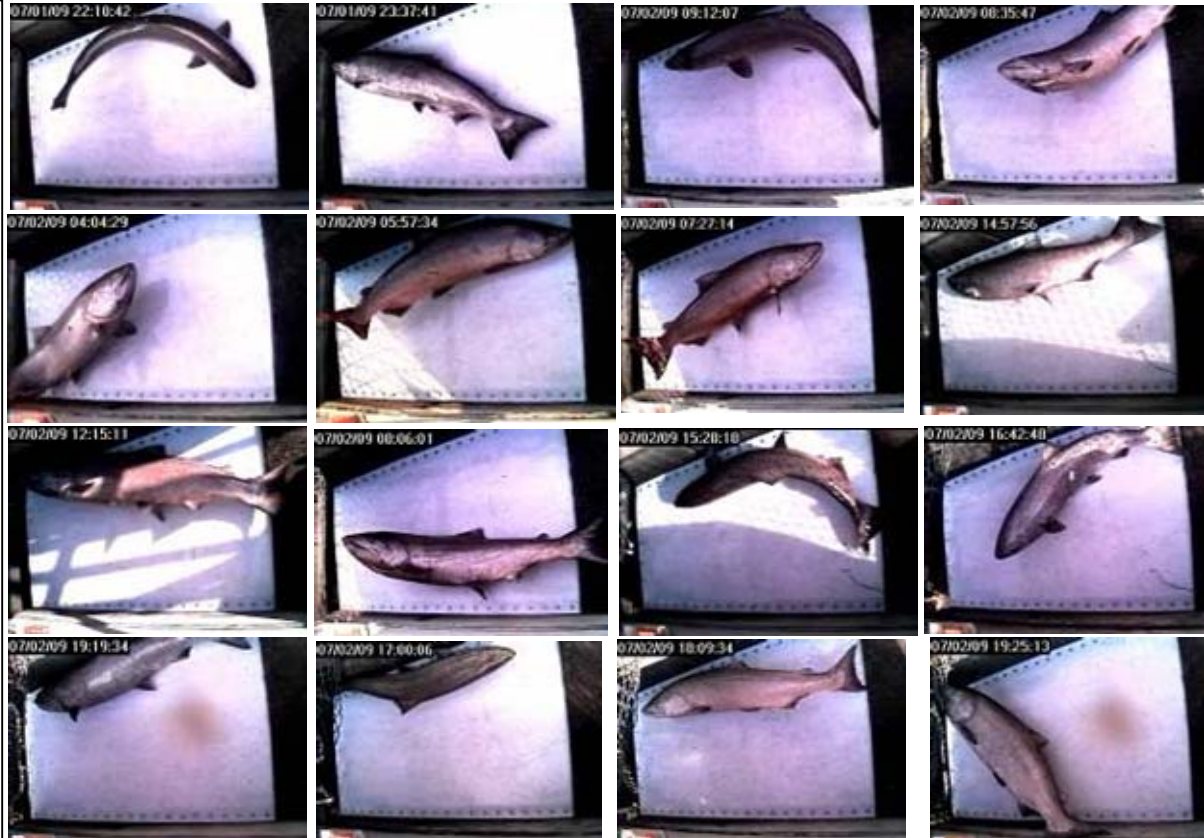
**7/2/09**

- Pulse 1 started to hit just before midnight last night (July 1st). Percent of big fish up and catch rates well more than doubled. Catch rates are still rising at end of today. To little data to give an average weight to pulse but have more tomorrow. King are also brighter with less red spawn color.

- First 3 chum caught today by test wheel although a few have been seen in days past in other gear.

- Water height right at mean level - water temp was cooler but now close to normal.

Pictures: Some of the large king of pulse 1. These made it here just like clockwork using the same run timing that we've seen for many years now. Be interesting to see if the fish keep running good size. The % of Pilot Sonar's estimate that I catch during the first pulse each year is relatively small, due I believe, to heavier fishing pressure on that pulse. So far that is not happening at all this year but a few more days will be needed to really say.



**7/3/09**

- King numbers up a little more - nice quality as front of pulses always are.

- Just 3 more chum in testwheel - fishers don't want to see these as most are of poor quality being so close to their spawning ground. To many and fishwheels and nets actually have to shut off and stop fishing for king. Even dog mushers who you would think could dry them for dog food don't want them as they dry to something resembling cardboard with no fat.

Pictures: Happy people - fish being cut - good start to fourth of July weekend. Last chance to get fish put up before 10 day closure.



**7/4/09**

- King numbers pretty much steady - All fishermen reporting the largest fish they have seen in many year during the first pulse. This is the talk of the river in this area. Have had many years in the past when 6 year olds predominate etc. but this is different everyone agrees.
- No chum today so that's good news here as I explained before.
- Water height right at mean or average level still for this date.

Pictures: 1. Fourth of July king salmon sampling. Adam and Andy work with the Alaska Dept. of Fish and Game. Here they are taking notes on proper sampling techniques from the Rapids Research Center student techs Esra, Alex and Cy, so some day they to may be able to work at Rapids Research.

2. Was not all work - had a nice dinner with about 20 people in evening. Nice to see people on the river as it's been kinda deserted up to now.





**7/5/09**

- King numbers up significantly again today. Cumulative total right at mean for years 2000 to 2008 (**AllChinCum**). Looks like it may end up above mean when one considers the even larger pulse due here on July 11th (**ChinPilot09**). That pulse may have considerable fishing pressure on it and may show a drop in the average size of king over this present protected pulse, but the numbers are so large at Pilot that it should translate into some good numbers here regardless.

- All gear shut off here (Dist. 5B) now for 10 days till July 14th - complete closure. Almost everyone accepts the closure as necessary.

Pictures: 1. Joey Zuray giving raceboat rides at Rapids. Doing about 65 mph here, these boats can do over 70. As my father before me I cringe when I watch him but say it's better than drugs or alcohol. At 17 he was the youngest boat captain to ever enter the Yukon 800.

2. Maybe a first - two king in chute caught on video.



**7/6/09**

- King up again. Video "catch" for today was 247 king. This is very high although in 2001 when they shut off commercial riverwide and had limited subsistence also, project recorded 513 one day and a yearly total about twice that of any other year from 2000 to 2009.

- Water height normal for date so fishwheel efficiency should not be an issue. Other gear in Rapids showed similar high numbers for their respective sites so we should be doing good at assessing run strength.

- Amidst all this large size and good numbers however is the lack of the older age classes. Our once common (early 1990's) 40 lb and less common but always present 50 lb king are gone. It seems that we have genetically modified the run in that way. Our escapement numbers are based on the healthy presence of females and large king having the larger numbers of eggs.

- This year we may be lucky and put some more and bigger king on the spawning grounds - lets not forget how we did it. It wasn't because the run is healthy and big again - it's cause we let a relatively weak run at Pilot get upriver by severe hardships to fishermen riverwide. Lack of taking smaller steps long ago has got us here. That's my opinion.

Pictures: 1. Experienced Rapids techs - most out of high school. 2. More big king and doubles in video chute.



**7/7/09**

- First pulse has past Rapids and king numbers down a bit (**ChinPilot09**).
- Second pulse should bring numbers up tomorrow or next day according to Pilot Sonar. Should be nice size and female rate for awhile as beginning part is in the protected closure period. The peak of the second pulse was large at Pilot and that period is 4, 5 and 6 days from now.
- Eagle Sonar project at Canadian Border has two days of king counts so added **ChinEag09** tab below. This will be a much watched project. Can proper management of a weak run at Pilot translate into a decent border passage. If it does maybe we can do it again and our kids can have a fishery some day.

Picture: Important to us here at Rapids Research is to see if a difference in size can be achieved by not overharvesting the king run with selective gear. The all season restrictions and closures of the first pulse river wide have created conditions that will allow for good data on that to finally be collected this year. A permit was obtained to weigh a small number of king each day during the 10 day closure. Here the techs are a second away from "hands off" and getting the weight. We declined requests for more data (scales etc) from others and no other data is collected as a way of minimizing time out of water and harm to the fish.





**7/8/09**

- Added king weights and measures up to end of first pulse in **KingData09**. Here's what we got:

465 king sampled:

Average weight: 14.8 lbs

Average length: 75.6 cm

Percent of females: 22.4% (406 samples)

Percent of Ichthyophonus (all king): 7.2% (405 samples)

- For first pulse this year with a comparison to last:

**2009 Pulse 1:**

Average weight - 14.5 lbs      Percent female - 29%

**2008 Pulse 1 :**

Average weight - 9.7 lbs      Percent female - 7%

- To put size in perspective we got the amount of king 25 lbs and over that we usually get in 2 to 3 years (2004 -2008) and we're less than half way through king coming this year, according to Pilot Sonar.

Picture: Double trouble on 4th of July - They're probably just dreaming up more proposals for the Board of Fisheries. Rapids Research manager Stan Zuray and Interior Fish Processors Virgil Umphenour (see his smoked fish products at his store in Fairbanks or online at <http://www.santassmokehouse.com/>



7/9/09

- More king weights and measures in **KingData09**. Still running above average weight.
- Chum slow at building numbers so maybe they will not hinder fishing when we open on July 14th.
- Water height still right at mean or normal but water temp. is highest for this date (from 2003 to 2009) at 68.4 F. We have seen it break 70 F in 2004
- For now king cumulative seems on a path similar to 2001 which ended up with the highest total catch for season here of 5,563 king. Next highest year was 2006 at 2,917 king total (**AllChinCum**).

Picture: 1. Moose and Yippie at Rapids. Could be the start of a new breed of race dogs. First we have to get old moose to figure out she's a dog then we'll work on the other problems.

2. This is a big male king - I'd guess 35 lbs. This year is going to wear out my fishwheel.



7/10/09

- **ChinEagAll** is active now with 2009 data being entered each day.
- Front side of Pulse 2 is showing it's strength and quality in the numbers and low jack %. If our high "% caught of Pilot's estimate" keeps up we may almost double our catch rates again. This is looking more like 2001 all the time.
- The question I'm getting from a number of emails is do I think it's real? - Everything here indicates it is - water height's normal, other wheels and nets showing it before closure, size and female rate high. Just watch **ChinEagAll** to see.

Picture: 1. Malaki Bradley - one of our more experienced techs here at Rapids Research. Only after extensive operations and safety training do we allow techs like Mal to drive the boats. Here he's coming back from overseeing proper data collection at the wheel. 2. First Dolly Varden caught in fish traps being run at multiple sites by the techs here. They are assisting in a USFWS study to determine the date of the first arrivals of out migrating juvenile king salmon at Rapids area. Hard to know what to believe sometimes.





**7/11/09**

- Total seasons 24 hr catch (cumulative) is approaching 2nd and 3rd best years and should surpass them at this rate (**AIChinCum**).

- Still right on track with 2001. 2001 was similar in many ways. Run was very weak at set net and Pilot Sonar projects. Commercial was shut down completely. Board of Fisheries true windows were instituted for the first (and only) time. King hit Rapids hard and went off the chart. Management said Rapids was over counting and typical unreliable fishwheel data. Near end of run a "small" surplus was alluded to. Then most escapement projects started reporting high counts and places like the Tozitna Weir and Whitehorse Dam, known for their small males and low % of females, had 41% and 50% females. Canadian Border escapement was 85% more than the 1991 to 2000 average. But lets just keep blaming the poor runs on the ocean conditions. How we manage in river couldn't be responsible. 2001 JTC report at (copy and paste):

<http://www.sf.adfg.state.ak.us/FedAidPDFs/RIR.3A.2001.35.pdf>

Picture: Three young ladies stopped by today - they said they heard about Rapids Research and wanted to see it. I told them everything.



7/12/09

- Due to requests I added last years Eagle/Rapids graph (**ChinEag08**) and adjusted scale so exactly the same as 2009. Know were getting a lot of 2008 graphs but also getting requests to keep them all on update this year. From the emails I get it seems there's the graph people and the picture people and a few look at both.

- Can feel pressure building among fishers to get ready for this next opening. People know it will be good fishing on 14th (24 hr opening) and pulse will drop by next opening 2 days later. By then the date puts us close to the time the higher % of Ichthyophonus disease kings start coming, and fishers start quitting cause of that. So you can see why this opening is important. A number of the people planning on this opening have not fished yet this summer due to many things like flood work and waiting till after closure.

Picture: Bill Carter and Chris Latty from USFWS Fairbanks just set up a field lab at Rapids Research. Chris is running a contaminates in king and chum sampling. It's a repeat of a similar one here in 2001 and important he says because of the warming climate and changes it may bring to salmon. Bill knows most of the fishers in the area and done a number of his own studies here over the years. It's people like him that give the USFWS a good reputation in the area



**7/13/09**

- The big part of king Pulse 2 is not materializing here the same as Pulse 1. As we move away from the protected part of the run in which Rapids was catching a very high percent of Pilot Sonar's estimate and into the second pulse which wasn't protected my % of Pilot caught is going down. Probably because of everyone fishing heavy after their 10 day closures. This was to be expected although was hoping it wouldn't.

- If trend continues it's just one more indication of the effects we can have on escapement when fishing weak runs. The flip side is, had we made small adjustments such as reducing mesh size or reducing our 100,000 king commercials by say 30,000 back when the run was healthy but starting to decline, we could have kept passing decent sized fish and female rates into the spawning grounds and avoided where we're at now. Now the runs are so small and size genetically altered that even just limited subsistence puts escapement in jeopardy. In emails I get, I'm taking some heat by saying these things each day but I know when we go before the Board of Fish this winter to try to pass the same proposals that fail each Board cycle, the same people will be giving the same reasons to do little to mean anything.

Picture: Nice fish camp a few miles above Rapids Canyon.





**7/14/09**

- For this date water temp pretty high at 68 F and water level slightly low.

- Very few summer chum still which people are happy about around here. Fishers go to net gear when they hit in numbers to avoid them due to their poor quality.

- Pulse 2 seems to be passing and declining in numbers. Looks like it traveled faster than normal, probably due to low water and less current. Relatively Pulse 1 traveled slower, probably due to the higher water then (see **ChinPilot09**).

- Anyway the fact that the pulse has passed when everyone turned on tonight after 10 day closure is a disappointment to fishers with no fish yet or fishing spots that are not so good. It's not a good year for many everywhere though.

Picture: After 10 days of no fishin it was just like commercial just opened - everyone on the river at same time. Even though they're all sick of me taking pictures of them and their boats and fish etc. I got them to smile for one second. Testwheel below being manned by USFWS contaminates study biologists.



**7/15/09**

- King number down to almost nothing. 24 hr opening was a bust for many. Fishers who owned good spots had barely enough for themselves and little to share. Our camp had a number of families wanting fish also and just had none to give. Not complaining - like I say there's people upriver who have a heck of a lot less than us.

- Bright news is Eagle Sonar counts continue to rise surprisingly fast (**ChinEag09**). Pulse 1 has not even hit there yet and counts are almost as high as highest days in 2008. Pulse 1 should hit in a day or two so keep eyes on it. If trend continues counts will hopefully double.

- Water temp still very high for any date (68.4 F). Water steady last 3 days but slightly low for date.

Picture: Tsood and Joey and their boat, taking a dive after moving a lot of heavy stuff in the heat. Two of the older techs at Rapids - they have been coming here since born. Couple of years back they bought a commercial net license together.



**7/16/09**

- Added data to **KingData09** up to 7/15.  
- For this date, king cumulative now the 2nd highest since project start in 2000. Significant is it did it with the highest average weight and % females recorded by data collection project. And thankfully (so far) a relatively low amount of visible Ichthyophonus disease. This is important as the disease clearly develops much more in the larger size classes of king (New paper by Dr. Richard Kocan on "ICH" - go to website at:)

[http://rapidsresearch.com/html/ichthyophonus\\_disease.html](http://rapidsresearch.com/html/ichthyophonus_disease.html)

- The Eagle is flying - see **ChinEag09**.

Picture: 1. Esra, Brittanee and Fayleen taking genetic fin clips, sex, length and stomach content info on bering cisco for a project run by Randy Brown with USFWS Fairbanks. AYK SSI is funding the data collection project for 2008 - 2010 on king and chum salmon. Each year a number of requests come in for the techs to collect samples or data outside of our project objectives and we try to do as many as possible. It's good for the techs and good for Rapids Research.

2. Strange looking sheefish but probably just the way it's fins are spread - not caught - on video only.





**7/17/09**

- Adjusted run time to Eagle at 15 days (**ChinEag09**) and added 2007 graph as asked (**ChinEag07**).
- As you can see Eagle Sonar graph line rides slightly high over Rapids blue bars in **07** and **08** and so far in **09**. If this trend continues this year Eagle will see higher numbers and then stay there for a number of days (like at least 9). Meeting border escapement number doesn't look like a done deal yet.
- Chum finally increasing - up to 31 in 24hr today.
- Bering cisco could be going to run again - increasing and up to 33 today
- Ichthyophonous disease increasing as it always does at end of run and fishers noticing it also. Will enter data as soon as I can but behind a bit.

Picture: Only picture I've ever got of two king in same basket. About a 17 lb and small jack in back. Chain link fencing used here is fine for subsistence fishing but is terrible for gill damage if fish are to be released as in test wheel counting. For fish friendly wheel construction go to:  
[http://rapidsresearch.com/html/fish\\_friendly.html](http://rapidsresearch.com/html/fish_friendly.html)



**7/18/09**

- That time of year wheel starting to catch more of a variety of fish. Less king, some chum, all three whitefish species. Still to come is the numbers of sheefish.

- Getting real hard to graph comparison between Pilot and Rapids as end of run nears because the miles per day for king this year varied quite a bit (**ChinPilot09**)

- the "early fish" before protected pulse 1 did about 40.5 miles per day. 1st pulse did 38 and 2nd pulse did maybe 43 miles/day. And there was both a switch over from faster current and colder water to slower current and very warm water between pulse 1 and 2. Didn't know this but the warmer water I'm told (20 C or 68 F) actually improves the stamina in salmon and so maybe speed. Pretty complicated and a bunch of theories to it all but king did however travel different rates, that much is clear.

- Eagle Sonar king still climbing - **ChinEag09** and **ChinEagAll**.

Picture: Swirling water right next to Rock Island in Rapids. While fish must go through relatively shallow water (20' - 30' deep) to get through Rapids, right under this swirl the water is 100' deep and has steep rock sides except at downstream end. Fish avoid this swirl we think.





**7/19/09**

- Eagle counts flying over top of Rapids numbers now. How high will the Eagle fly. Gee wiz, we should have done this long ago.

- Chum increasing steady now but still low numbers.

- Smoke fills the valley here from a fire not far away.

Picture: Fayleen hanging strips to air dry before going into smokehouse next day. King fishing is winding down although some smaller pulses continue to "pulse through" fishery. This will go on for a week of more but increasing presence of summer chum, ICH disease and worn out white flesh king make fishing hard physically and mentally.





**7/20/09**

- Behind on **KingData09** I know. Real busy lately.
- Most fishers going to fish tomorrow at open time (6 pm).
- Cisco numbers trending up (127 today) - looks like a run again.

Picture: Three of five Rapids area fishwheels that usually operate are on this bend. When I first came to Rapids 5 operated just in this view. Before my time I'm told by anyone of age, that ten was a normal number. Added to that was their presence all the way up to the Border and all the way down to Grayling/Anvik etc. Hundreds of fishwheels and it's a fact not a tale. Earlier I had someone come through Rapids from Canada and they said these wheels were the first ones they saw in water and it was mid king season. It's that way every year lately. Wheels are a function of large family or group fishing and fish camp life. Not necessarily needed for kings, as nets were (before kings shrunk) generally better, but essential for the big numbers of chum necessary for having dog teams. Riverwide, fishwheel use for king harvest has shifted to large mesh gillnets and in many areas driftnets. In my opinion refusing to take this enormous pressure shift on the larger sized king ("females" / "eggs") that are caught by nets into account is one of the factors that have destroyed our run.



**7/21/09**

- Looks like Eagle Sonar has picked up the large numbers at Rapids during pulse 1. Escapment is not a done deal yet however and will depend on whether it continues to climb and/or stay high.

- Chum stopped increasing (in all wheels here) but cisco almost doubling to 209 per day.

Picture: Had a long visit today from a group of state officials (6) from the Alaska Department of Fish and Game including the commissioner and the director of commercial fisheries. Also 2 News Miner reporters. All the area fishermen came by (15) and we had some good beans and coffee. It was a good meeting and I heard alot of ideas and history expressed by fishers who never get to go to meetings. ADF&G has also been in other sections of the river. They are trying to get a feel for how restrictions this year have affected people.



**7/22/09**

- Eagle to Rapids run time adjusted to 16 days now with latest data. Was 16 days by end of 2008 also.

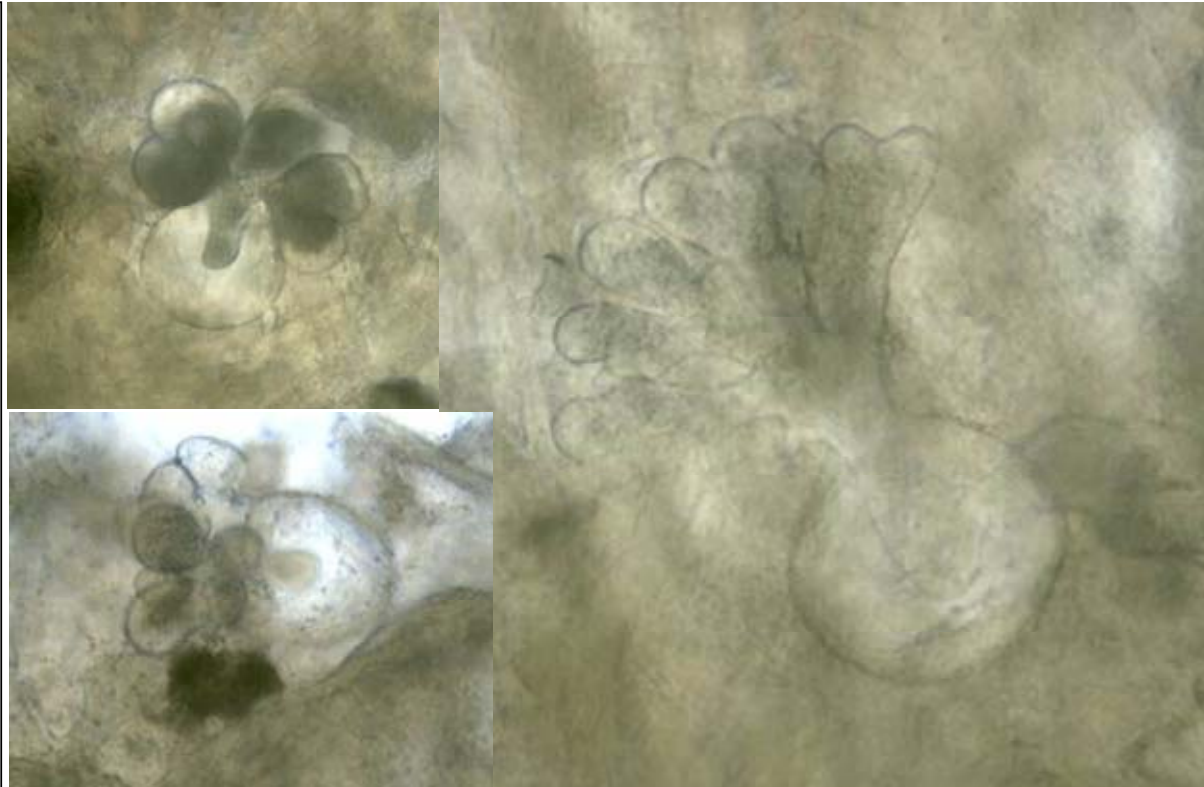
- 2nd pulse should hit Eagle in a couple of days. Rapids picked up a relatively low % of Pilot Sonar's passage in this part of the run. At Pilot however this part of the run dwarfed all the rest of the pulses (**ChinPilot09**). Hopefully Rapids is wrong, as a strong or weak pulse 2 at Eagle could make or break meeting escapement into Canada.

- Cisco run increasing

- Water height slightly low - water temp very high still.

- It's been a summer chum free summer so far. It'll be time for fall chum soon instead.

Picture: AYK 13 having little baby Ichthyophonuses at Rapids Research (**KingData09**). From king number 690 today, a 12.4 lb female which the techs identified as positive with 1000 white spots on heart. This is the time in the run for ICH (last week). This is why it's critical to do full season sampling if the objective is to watch the disease year to year.





**7/23/09**

- Very little fishing during last opening. One wheel went down river to Tanana for winter storage. Only two in Rapids will fish into fall chum season.

- Did get a fair amount of king from last little pulse. These are the king pulses many think go mostly up the Tanana River. Each year however we usually get more from these pulses (higher % of Pilot's estimated passage) than we do from the 1st pulse which is suppose to be mostly heading to Canada and therefore past Rapids (except this year).

Picture: Old Tanana picture - hunting spring geese at Fish Lake using snow blinds. Back when many of the people used dog teams to do things. Years back a survey done by members at a Tanana Dog Musers meeting counted 47 dog teams in the village of Tanana in 1977. About 10 now. These memories plus the update a few days back about the amount of fishwheels in the past are why I laugh when someone tries to say subsistence harvests are increasing and need to be controlled.



**7/24/09**

- Think we can safely say this was the second largest cumulative or seasons total for king since start of project in 2000 (**AllChinCum**).

- Eagle Sonar should be getting second pulse now or tomorrow. This should be huge according to Pilot Sonar (**ChinPilot09**). Some people thought that a much higher % of these pulse 2 king went up the Tanana River so I graphed the Nenana testwheel numbers next to Rapids and it's a mirror image almost (see **NenChin09**) using ADF&G run timing. If the Tanana River and Rapids didn't get the kings maybe Eagle will and that will really add to escapement.

Picture: This is the makeup of the catch tonight in a subsistence wheel soon after turning on. The summer chum probably have white oil poor flesh and the big king may also, looking at his outside. This is completely normal, and is this way each year but you can see why fishers stop fishing when only a week or two away may come fall chum with red flesh that will rival even some king salmon.



**7/25/09**

- Took a suggestion and rescaled **ChinLY09** to fit this year (then scaled **ChinLY08** the same). Now looking at 2009, the LY set nets seemed to follow the configuration of the run much better than Pilot (not the strength however ??).
- Eagle (**ChinEag09**) is not picking up the second pulse as huge either so far. Give it a couple more days. Some years the Set Net project is the best to follow and some years it's Pilot. I remember when I first got involved with the fishery the LY Set Nets were the stated main run assessment tool over Pilot.
- Summer chum still very low but that's the way it is some years at this date.
- Water temp finally coming down a bit from a long high.

Picture: We stopped king fishin a while back so even though fishing is open, playing with the grandkids is the order of the day. However if we were cutting fish they'd be no need for the smokehouse today. Fires on both sides of the river real close.





**7/26/09**

- 2 king today so that speaks for what part of the run we're at.
  - Chum still low numbers - 50 / day
  - Seems Eagle Sonar will not pick up much of the second Pilot pulse also - same at Nenana and Rapids ??.
- (ChinPilot09)**
- Up to approx. 48,000 king past Canadian Border now. **(ChinEagAll)**

Picture: 1. Last day at camp for a few of these kids so they're out having fun. Not much work left for them as king subsistence fishing is over. They do their sampling out of that fishery so when it ends they do. Some will stick around to continue our fall chum arrival project and run fish traps for juvenile king salmon (USFWS) and cisco genetics for USFWS.

2. Birthday cake today - Joe turned 19.



**7/27/09**

- Almost 51,000 at Border and could be about 10,000 more looking at **ChinEag09**.

- A few humpback whitefish showing up - they never get to numerous but have seen 40 to 70 for a number of days in years past.

Bering cisco steady and good numbers (170 today).

- Will start removing king graphs soon and watching for fall chum, but obvious from emails the eyes have been on Eagle and king.

Picture: 1. I call them History Pictures and that makes it okay to use an old one every now and then. Anyway it's untouched and real and happened one sunrise in the fog. It's so smokey out today I can't get any pictures anyway. 2. The kind of poor old king coming up river now. They better be close to their spawning creek cause these ones are dropping eggs now.



**7/28/09**

- Now that 2nd pulse is mostly passed Eagle, daily numbers should start to drop fast (**ChinEag09**). Pretty safe to say now that Eagle isn't going to pick up the large size of pulse 2 recorded by Pilot (**ChinPilot09**). Either it didn't really happen at Pilot, was cut down in size by concentrated fishing pressure after the 10 day closure, or Nenana, Rapids and Eagle projects all missed it.

- My guess is, as anticipated many updates ago - the same thing happened to it that happens to the 1st pulse each year lately. Because of the true low size of the runs lately any king pulses traveling during prime time fishing are diminished noticeably on their way up river. This happens now due to even low subsistence pressure which years ago would never have affected those healthier runs.

Picture: 1. Nice rock outcrops. Smoke cleared for 1st half of day so went upriver beyond Rapids canyon. Right now this is all barely visible as wind blowing smoke at us again from local fire.

2. BLM Fire map.





**7/29/09**

- Going to 24 hr counts starting tonight. During Chinook season, one reason we do half day counts is to not impact the Chinook any more than necessary.
  - Will get rest of the **KingData09** entered soon
- Up to fish sample number 715:
- Average weight: 14.4 lbs
  - Average length: 75.0 cm
  - Percent of females: 25.7% (579 samples)
  - Percent of visible Ichthyophonus (all king): 9% (578 samples).
- Out of 3104 sampled in past 4 years we got 29 king 30 lbs and over. In 2009 with just 713 sampled we got 23 king 30 lbs and over.
  - Same amount and same time period we got 109 king 25 lbs and over and in 2009 alone, we got 69 king 25 lbs and over.

Picture: The smoke's still here and putting a new lighting system on the wheel. Old one was a 180 watt setup. This one uses 50 watts and is a type of fluorescent. Been trying an LED setup which show promise and use 10 watts but is a little dim. Always trying something to cut energy (cheap). We're not only fish friendly were green too.



**7/30/09**

- Each year I take all these email update comments and pictures and put them together as a story/album about Rapids fishing.

**Daily Email Updates 2009** is finished through the king season (to 7/29) and the web link to it is in the upper right corner. Out of all the reports, etc on the website this is by far, the most downloaded.

- Can also be found by going to:

[http://www.zuray.com/Daily\\_Email\\_Updates\\_2009.pdf](http://www.zuray.com/Daily_Email_Updates_2009.pdf)

- Also added to **RapidsResearch.com** website (on home page), is the raw data for all past years of the Video Fishwheel and Student Data Collection projects.

- Almost 60,000 king into Canada now, so it appears the minimum escapement number and our share agreement with Canada will be met. This is a great start. Now we need to find out why all the small males we put past the border the last 10 years has not produced good returns and work on that problem. This is not over or going away and no one needs to pat their backs. Where has our commercial and subsistence fishery gone.

Picture: Last night's catch. The 2 king were surprisingly good and had no visible ICH disease. Chum were 11 pale flesh and 4 red flesh which is high ( 36% red) for "summer chum" but not near what the fall chum run will bring (60 to 90% red). Summers have been running high at about 20% red for awhile.







**8/1/09**

- Time to remove some 08 king graphs but will leave on this years.
- Water temp at highest for this date (2003-2008) and water height at lowest for this date (1977-2008) (see graphs).
- Only 15 chum in 24 hrs.
- Our local fire is spreading and has burned up to Yukon River about 12 miles upriver, but wind has smoke blowing away most of today.

Picture: Esra been working all summer and Bear just started today. Bear's family has a camp 20 miles downriver but they are all through fishing. Bear has one more year of school in Tanana. They are working here on the cisco whitefish genetic project. Still doing chum flesh sampling also, with today's chums being 12% red fleshed. The % red has been bouncing around between 10 and 30% for a while now which is a bit high.



**8/2/09**

- At end of **KingData09** there's the full stats results of the probability of different infection prevalence between:

1. Male vs. Female Ich prevalence for wheel caught fish - Conclusion: highly significant - more infected females than males (as usual)

2. Wheel males vs. Net males (no females available for nets) - Conclusion: No significant difference in infection prevalence between wheel and net caught males (same as 2008)

- Little over 63,000 past Eagle Sonar. Canadian fisheries don't use the word subsistence as they have classifications like domestic, First Nations, recreational and commercial which all have a different meaning than ours of the same word. However the fishery that I would be most close to in Canada, did I live there, is the domestic I believe. This will be the first time since 2006 I would have been allowed to catch a single king (because of the poor amounts that made it cross the border). How's that for perspective, all those who think they have suffered.

Picture: No matter what you're doing the smoke is always there. Here's a shot heading upriver to the wheel in late afternoon. Rock Island in center of picture - wheel sticking out from right (south) bank.



8/3/09

- First short pulse of fall chum has hit Pilot Sonar. From net project at mouth looks like it dropped off after second day. Nice to see (**ChumPilot09**).

- We could see some small numbers of fall chum before those chums make it here. Small bumps on the graph like Aug 6th and Aug 13 can translate here into enough to cut some "edible" (people food) chum. We just need some increase in quality over these summer chum before most fishers will start cutting.

Picture: 1. History Picture - One of my favorite dog pictures. Heading to Tanana and going over the crest of the hills to the north. Dogs dead tired - got 15 miles to go - side wind and drifting trail - **And the sun was incredible.**

2. This is the video chute when a 3' wave hits it from a barge that didn't slow down today. Normally they go real slow and make less wake than a large riverboat but this one screwed up and wheel took a bad hit. We were at wheel. The worse time was from the Yukon Queen years ago - it took my boat and rather large dock and threw it entirely out of the water onto dry shore. Not a single part of either was touching water after.





**8/4/09**

- Little over 65,000 past Eagle Sonar

(**ChinEagAll**).

- Chum pulse at Pilot short lived (**ChumPilot09**).

Not really worried about fall chum numbers as sometimes they are late but they better start showing soon. It's affecting the subsistence fishery however as some were counting on them this year. Some are figuring chum will be to late for them to be able to fish them now as they will not be on river.

- Water very low and Water temp been very high but dropping.

Picture: Ezra and Bear checking and rebaiting the minnow traps. Small amounts of juvenile age-0 Chinook salmon have been being caught each day since they first arrived from upriver on July 15th. Each white bucket on the beach marks a trap station. This is the mainstem location and it catches few Chinook. The side creek locations are where almost all are caught. The study (USFWS - Dave Daum) concerns Chinook but the traps also catch tiny burbot, grayling, suckers, pike, lake chub, sculpin, Dolly Varden, round whitefish, etc.



**8/5/09**

- Added **AllChumCum** which has all fall chum runs from 1996 to present. Fall chum have not officially arrived at Rapids (so 0 fall chum for this date), but on this day the average is 22,669 fall chum.

- A word on the look of many of the Rapids graphs. I appreciate suggestions on ways I should make them. Often I have people from around the area tell me which ones make best sense to them. Much of the data we collect is geared to concerns of fishers. They are the ones that ultimately gain or suffer from how the fish are managed and they are the most important people to have understand what is going on.

- In Tanana and other gear at Rapids, low chum numbers are the rule. While some chum flesh has red color most are pale and assumed to be summer chum.

Picture: Larsens Eddy rock above Rapids (before fires). Huge piece of bedrock sticking out into river. Must be incredible to watch breakup pile over it each year. The other side (downstream) forms a large deep eddy. It's 40' deep in medium water right off tip.



**8/6/09**

- The Rain came today and dampened fires much to everyone's relief. Now it's foggy smoke tonight but much better.

- Fall chum are the latest to show in 10 years of monitoring and they could be a while yet. See dates on **ChumPilot09**. Fisher's knowledge in the area remembers a date of Aug 15th as the latest ever, long ago. I and others remember Aug 8th in my 25 years here. At Rapids, the switch over from summer chum to fall chum is often very abrupt. The summer chum are usually not very numerous and along with the dramatic quality change to falls will often come an significant numbers increase. It's the difference between night and day here, but we have always been looked at with much skepticism over this very traditional event by non fishermen.

Picture: Some of the last remaining fishermen in Rapids getting ready to leave for season. This will leave 3 camps left and about 8 persons. Every year it seems it gets quieter on river. High gas prices and no economics to fishing are the biggest factors probably.





**8/7/09**

- 67,000 past Eagle Sonar and winding down there -  
**ChinEag09.**

- Just tiny numbers of fall chum coming in mouth still.  
May see a few around Aug 13th if that tiny bump was  
real but may not see any till Aug 21st or so - see  
**ChumPilot09.** Pale flesh color to chums last few days  
says still mostly summer chum here.

Picture: Today pushed a new lead fence up to the  
fishwheel site. Pulled it out as will not be used till next  
summer. As project starts so early I need to have things  
built the season before. These leads are slower to push  
than a fishwheel and you can see why in this picture. As  
with any part of the fishwheel that could influence catch  
rates the lead is built each time to specifications that we  
wrote up years ago and never allow to be changed.  
There are enough variables in the project that are hard to  
control without introducing them ourselves. An example  
is years ago when contracting with the USFWS fall chum  
tagging project we added an extra 5' to the length of our  
20' lead. Immediately our whitefish catches doubled.  
You can see how small adjustments made to projects  
can easily make year to year comparisons meaningless.



**8/8/09**

- Most chum in 10 days (23) but still a fraction of average for Aug 8. Lowest number on this date was in 1998 when only caught 33 chum (project years 1996-2008). 1998 was a disaster year however and most likely the falls are running late - everyone hopes.

- Average fall chum passage for this date is almost 33,000. For 2009 we have 522 for this date. See right side columns in **ShortSum** for this daily data.

- With this small increase came some nicer quality and flesh color which was right at 50% red. So today is **Official Fall Chum Start Day**. Usually this is a big deal but at these numbers it's hard to feel excited.

- Most of the gear in Rapids does catch higher numbers than the testwheel so fishers may start cutting people food now when they hear. Testwheel only gear fishing last couple of days in Rapids.

Picture: 22 chum cut for dog food. Half were graded red 1 or 2 and the other half were pale 3 or 4. Not rocket science but it gives us a day to start counting chum as fall chum. While genetics are the only true way to tell an individual summer from a fall I think both methods would show that today is Fall Chum Day at Rapids.



**8/9/09**

- Another chum pulse hitting test nets at mouth for last two days. Will it drop off as last one did or turn into a good size one. Tomorrow's report will tell alot.
- Today's chum were about 52% red flesh but very low in numbers (4 more than yesterday).
- There's two wheels left here now and they'll pretty much supply fish for all the camps and anyone in Tanana who comes for fish. Both wheels were running all day as fishers realize quality is up but not enough chum to cut as most will go to dog food.

Picture: 1. At 6 pm closure everyone meeting at fishwheel to figure how to divide up the few chum we got to feed 50 dogs and 3 camps of people. Just got enough to get to opening on Tuesday.

2. Open mouth king. Seen a number of these over the years mostly while doing the video counts. Everyone was trying to close the mouth and couldn't. You can see the deformity of the jaw - the fish travels with it's mouth wide open. No wonder it's so slow. This is not one of my jokes.





**8/10/09**

- Added **DriftNet09** graph below due to interest this year on late fall chum pulses coming in the mouth. These are the first projects to see the chum.
- Presently an incoming fall pulse is increasing in numbers at mouth to a good size. Pilot Sonar will accurately determine its magnitude in a couple of days (**ChumPilot09**). Overall counts are still low but hopefully this is the start of continuous pulses for a while.
- Been a few weeks of extremes with water temp near record high and water height near record low.

Picture: 1. This is my kind of boat - instant fish camp and all of everything including the kitchen sink. This went past camp and I believe it's a Tanana Chiefs survey boat. Can probably house a whole crew and no setting up camp each night at different sites.  
2. Powered by twin big Honda's



**8/11/09**

- Chum down to 16 fish today. Average fall chum cumulative CPUE for last 12 years is 4064. This year it's 84.

- Nice size pulse is hitting Pilot Sonar right now and those fish will be here about Sept 1st. Right now however fishers are hoping the small 1 day bump that passed Pilot on 7/24, and should be here in a few days, does not hit during our closure this weekend.

Picture: 1. Setnetters on Beach in Bristol Bay. Sent in by Deena Jallen who works for Fish and Game - she goes fishing there with her dad. They use to live in Tanana. Sure looks beautiful that day.

2. Nice shot of broad whitefish in video chute today. These will get more numerous as season goes on. Like sheefish and humpback whitefish they make 1000 mile spawning runs every few years from the mouth to the Ft Yukon area upriver from here. They travel back downstream in November. They go the entire journey without food - just the fat they build up prior to migration. Their belly meat is like butter.



**8/12/09**

- Almost 69,000 fish into Canada says Eagle Sonar. Basic and agreed upon escapement was met and both countries got to do some limited fishing. Some extra American and Canadian fish also got sent to spawning grounds to help out some more. And where would we be without good management.

- Water now below lowest in last 35 years.

- Chum running around 50% red flesh. No cutting yet as all fish going for bare needs of dogs and people eating.

Picture: Village of Rampart 35 miles upriver of Rapids. Taken from across river. Rampart is about 760 miles from mouth. Many people there are very involved with fishing. We use to dog race between Rampart and Tanana. The wind could blow all the snow away on the trail route and we figured some years up to 80% of the 75 miles of trail was glare ice. Dogs actually develop muscles to run on ice. At first they can only run for a short distance and the normal muscles give out. After doing it alot they can lope along on the stuff all day.





**8/13/09**

- Little bump at Pilot on 7/24 (**ChumPilot09**) should have been here today but neither wheel showed it at all so fishers disappointed. Maybe too small to materialize 600 miles up river to here or was summer chum.
- Water height below the 1977 to present average for date. Note how high the wheel axle is in the picture.

Picture: Fishers dividing up not enough chum to even feed the dogs in Rapids. Some are heading to Tanana tonight for a meeting with fishermen there on what they feel are unfair fishing conditions on the river: From the start of fall season to the last commercial opening in the lower river on Aug 5th, 23,613 fall chum were harvested commercially there. About 60,000 fall chum past Pilot during this same period. What fishers here want to know is why if subsistence takes priority over commercial do we find ourselves having to shut down 2 days a week when the districts that enjoyed that commercial harvest are also on 7 day a week subsistence and allowed to driftnet to boot. Basically it's the same issue that continues to repeat itself and that is: Why if there's enough fish for commercial harvests does grandma (or anybody) have to be shut down for subsistence in the upper river. How's that for a non river wide perspective.



**8/14/09**

- Added **RapChan09** which is Chandalar Sonar. This project can get 1/3 of all the fall chum moving into the upper river. In 2008 Chandalar saw over a month of 4000 to 7000 a day once fish started hitting good.

- Fall chum run not looking good - could still have pulse after pulse and fill the river up but coho coming and some other bad signs are making fishers and managers worry.

- Water temp has cooled off and is about normal for date - rain and clouds always does that. Water up slightly but still at minimum level for date

Picture: 1. Years supply of mostly fall chum dry dog fish a few years back.

2. Same camp (here) this year - got a ways to go but with chum pulse hopefully due here on Aug 22nd should start catching up. Most of the chum on this years racks are summer chum caught to watch for the approach of the fall chum with the oily red flesh. They will be saved for feeding next spring when dogs aren't working or trying to stay warm. Quality is so poor dogs couldn't survive on them without added fat etc.

3. Picture I use to show summer and fall chum difference here. Two chum cut and hung on same day, and dried 30 days.



**8/15/09**

- So now the river just waits for fall chum to come in the mouth. Much of the worry is not just this years low chum run but also what we don't need is the other main food source having trouble in general year after year (like the kings). As a dog musher I actually value the chum more. I figure I can always find some food to eat but where do you find a couple of thousand chum salmon or the equivalent calories to feed a dog team. Bad economy to switch to sno go.

Picture: Rock Island in the Rampart Rapids from upstream and midriver. Pretty rainy today. At this point all smart people go left or right. There's a channel on both sides and fish come up each of them. Probably in 30' of water here. Down below the channels comes together again about opposite where my testwheel is. At the lower end of the island is a unique king eddy as it catches very few chum. The eddy has no access to the chum running along the sides of the river but with a main channel splitting right below it (kings will travel in the channel) it catches kings okay. This makes it valuable on years the summer chum (not wanted) are numerous.





**8/16/09**

- Water temp went from highest to lowest for date in just one week. Water level still right around lowest for date.
- No chum at mouth for few days (**DriftNet09**).
- Only a few more days and we'll see a start of better numbers of chum here at Rapids. Should build up starting around 21st but with this low water and little current they may have migrated faster - we'll see (**ChumPilot09**).

Picture: Kathleen emptying out the live box just before closure tonight. Little bit of everything including two nice sheefish. The other wheel at Rapids also caught a few big sheefish today which start to build in numbers normally around now.



**8/17/09**

- Just had highest chum numbers of season (31). This is still tiny but a start and may be some frontrunners of the Aug 22nd pulse at mouth (**ChumPilot09**). Fish looked good in video (fishing closed). 5A testwheel reported getting better numbers also and figured Rapids would increase today.

- 5A testwheel is a video fishwheel similar to Rapids. It operates at mouth of Tanana River and collects abundance and run timing info on the part of the run that splits off and goes that way. The later fall chum pulses tend to have more Tanana River bound fish in them. Operated by Pat Moore of Tanana.

- Water height steady with chance it may rise with recent rainfall upriver.

- Fall chum restrictions are starting due to poor run so far in District 1 on Aug 18th. This will move up river with these fish and be effective in Rapids about Sept 7th given normal 20 to 21 day travel time to here.

- See disclaimer below - scroll down page.

Picture: Beautiful day today. Cloud over hill in center looked like smoke from one of the fires but not sure. Just a hint of yellow starting to show. Pretty cool at night lately also.



**8/18/09**

- 1st fall chum pulse is hitting Rapids late today (numbers still low). Pulse peak estimated to be about Aug 22nd (**ChumPilot09**) - but these are the fast travelers and whole pulse may be early due to extreme low water.

- Be very little fishing effort here as have two households leaving tomorrow which will leave only 2 camps, two fishwheels and four people in Rapids. For as much that goes on here in prime summer fishing time the late fall is getting pretty lean on people last few years.

- Adjusted Chandalar Sonar to 10 day timing from Rapids (**RapChan09**). ??

Picture: Fishing opened at 6 pm.

1. Here's what the fishermen have been waiting for. A couple of left over summer chum and the rest nice fall chum with red flesh. Dead box has live fish moving which means they're coming in numbers we haven't seen all season. A couple of days ago there would be more whitefish than chum in box.

2. Chum coming in. dripping can on tied on wheel basket splashes water on caught fish in dead box.





8/19/09

Picture: Esra's been the main tech all summer and only one left. Data collection is over and he's leaving for college in two days. Here he's helping me with dry dog food. They get put in buckets and carried to racks and hung. Guts go far out in river and bucket of eggs by table get put right off shore to feed our pet burbots. Decided not to cut people food as by the time I get some dog food put up the crib fish may have to be gotten if fall chum pulse two is going to be the last pulse (arrives on Sept 1st - **ChumPilot09**). It hopefully isn't the last but can not take that chance the way things are going. As I said before people can always find something to eat - dogs food is actually more critical.



8/20/09

- Good size pulse hit mouth (**DriftNet09**). Will see it's estimated size over next couple of days. Still not at all out of trouble but great news.
- Our cumulative at Rapids is finally starting to rise. Perspective: while alarmingly low it is about the same as 2007 at this date, which ended up 9th highest out of 13 years of monitoring here (**All ChumCum**).
- Note the higher percent of Pilot's estimate caught by Rapids as we move away from summer chum and into fall chum (**ChumPilot09**).
- Cold nights are continuing to lower river temp.

Picture: (upper right) In 2006 a lifelong resident of the Rapids left in his river boat for Nome by way of the ocean. More emails asking for info on his trip were received than any other type that season.

Frank says, "Crabbing is slow but we've started long lining for halibut. Can't do both on the same trip so we've been alternating checking crab pots and doing long line. Had a really good trip the first trip out for halibut a couple of weeks ago. Just got back from another one today and came in with a 7 footer! It's hard to get pictures when we're fishing---too busy, too slimy but here are a couple of pictures





**8/21/09**

- Yesterdays fall chum pulse at mouth slowing but was a decent size and helped (**DriftNet09**) - need a couple more and overall run numbers will be decent.

- Chum pulse 1 here at Rapids still increasing as of midnight and may peak tomorrow if normal run timing holds (20 days @ 30.5 miles/day). Beautiful fish as normal at this point of run.

- 2 camps and three people left at Rapids. Both will be putting up dog food and some edible dry chum. In Tanana 40 miles downriver the fishery will be coming alive with wheels being set up. They will run almost to the first ice. Fishers there are close to home so can do that and get the wheels out safely if ice comes fast or early.

Picture: As summer turns to fall remembering "prime time" and the king season (clockwise). 1. cutting kings on a perfect day. 2. Big get together and lunch between ADF&G officials and the local fishers. 3. Data technicians deciding to have a nice cookout for supper. 4. Techs weighing kings during the pulse 1 closure.





**8/22/09**

- About 200,000 fall chum past Pilot Sonar so far. Another pulse or two is badly needed, and still possible given the time of year. Our Fall Management Plan says between a run projection of 300,000 to 500,000 chum, subsistence restrictions are possible. We need 600,000 to have a commercial. Those numbers sure seem a ways off.

- Questions sent about this years low video project CPUE (daily 24 hr. catch numbers). Variable water height each year makes raw catch numbers very misleading as to run strength (especially this low water year). We try to make it as clear as possible each season why we don't use them for year to year comparisons. Any doubts about this should be settled by a look at the **ZRMC2** graph. This was a project objective for years and the basic idea was requested of the project by Yukon River managers around 2001. While I may mention we caught say, "150 fish today", all graphs and comparisons use the discharge adjusted "passage index" number (as does **ChumPilot09**). It is light years more accurate.

Picture: Rapids Research Center greenhouse - where we test fish fertilizer and count red tomatoes (kidding). Finally getting some red ones. Taken at night.



**8/23/09**

- Added **ChumPilot07** to show how late chum pulses can come in mouth. In 2007 main fall pulses were late enough that everyone was worried - same as this year. However by middle of August in 07, unlike this year, we were finally into some solid chum pulses and numbers. Also in 07, notice the large pulse that peaked at Rapids on Sept 22 that was not recorded at Pilot Sonar due to being so late.

- Another increase at mouth - check tomorrows data.
- Steady rain is not letting cut fish dry - if sun comes no problem - if not they start dropping and work goes for nothing as they go in dog pot to cook.

Picture: This low quality picture is from a video taken on the parent year (2005) to this years fall chum run. There are 6 chum in the basket and when the wheel first turned on, the first dip caught 10 chum. We estimated the catch rate at about 10,000 a day but of course wheel only ran short time. The test fishwheel right below this wheel did run 24/7 using video camera and it was doing about 4,000 per day during this part of the run. Rough estimated passage through the Rapids on this day was about 90,000. Lesser amounts passed day after day. "Where are all the children". To see video go to:  
[http://www.zuray.com/html/fishwheel\\_video.html](http://www.zuray.com/html/fishwheel_video.html)



**8/24/09**

- Chum increase at mouth did not materialize into anything significant. So we keep waiting and hoping. Saw an ADF&G graph today showing at this rate run projected to be under 300,000 - not good.

- Chum numbers up here and probably will not drop as it did at Pilot. This is normal as you can see from **ChumPilot08**. Possible numbers will continue to rise right into fall chum pulse 2. Big numbers of that pulse due in about 4-5 days.

- Water still low for date but small rise, and water temp about average for date.

- Rain stopped and cut fish able to dry some.

Picture: Charlie and Ruth cutting edible chum out of the red fleshed and dog food out of the paler chum today at Rapids. Charlie had some time waiting for the chum to come and made some "improvements" to his cutting table. I make fun of him and he just laughs back. I'm the opposite - so set in my ways I won't even allow a nail to hold the fish on my table. Getting colder in the canyon here lately but at least rain stopped.





8/25/09

- Chum numbers continue to rise. Usually as a large pulse is approaching the faster swimmers of that pulse will increase project catch rates well before average travel times would put them at Rapids. Looking at

**ChumPilot09** I'd say that's what's going on now. Will be nice to see some serious numbers even if only for a few days. Other wheel here is showing same increase.

- Water height continues to run low for date. Water temp at average for date.

- Cisco numbers stay steady but sheefish increasing as they always do around now.

Picture: 1. Monica and Katlyn traveling across the Tozitna Flats about 35 miles out of Tanana years ago.

2. Fish racks tonight after dark. They hang skin side out for a day to dry tail skin and then I turn them flesh out so flesh can dry. This batch has been slow to dry cause of weather so been 2 days like this. The tails are the critical part where they break if not dried soon. This is where someone who knows how to cut can make a real difference. Well cut tails can hang without dropping for a week in bad weather or just a few days if cut poorly. Leaving heads on increases the weight and makes them drop faster but saves much more of the fish. It's a real science.



**8/26/09**

- Chum numbers climbing sooner than I'd expect but it's possible next pulse may just be that much faster. We'll see soon enough where it peaks but as of midnight counts still rising. We saw pulses travel different speeds during king season between pulse 1 (slow) and pulse 2 (fast). Makes it hard to graph clearly with a project (Pilot) 600 miles downriver.

- Anyway other subsistence wheel here increasing again also. Both camps putting up fish.

- Word from mouth projects is still dismal. Need 80,000 more just to meet basic escapement. Still time for a last big pulse as in 2007 (**ChumPilot07**)

- Come on chum!

- Days getting colder - and it was a nice sunny day to. Soon my wheel goes into no sun for the rest of season. Canyon hills block lower sun of fall. Makes it bad for icing on those freezing nights.

Picture: My wife Kathleen. What could be better than sitting by the flower garden at fish camp. Muskrat guarding the camp from bears in back. Her man working hard all day (taking pictures).



**8/28/09**

- Chum took another jump up at Rapids (654 in 24 hrs.) (**ChumPilot09**). Some are wondering why numbers are so much higher on graph than other years compared to Pilot. One thing is there has been no commercial on this run. For instance in 2008 over 100,000 fall chum were take before run got to Rapids. The normal is to have commercial harvest below here so when you don't maybe it increases projects % caught of Pilots Estimate that much. Other than that if it starts dropping tomorrow it will just look like a fast traveling pulse and not that unusual next to Pilot. I could be catching high but unlikely in this low water. Also Tanana fishermen getting high catch rates.

- Tiny bump of fish into mouth (DriftNet09).

Picture: James Roberts at his new fish camp in Tanana today (flood took out old one). Him and Rick cutting fish in rain. Said today seemed more fish than yesterday so that may be what to expect here at Rapids tomorrow. James is one of the few young men running dogs and fishing which is great to see as so many are leaving the river lifestyle as of late. He to is worried about this fall fishing as the most important time happens about Sept 10th on and not many fish are expected at that time, plus time restrictions will be in place.





**8/29/09**

- Chum pulse 2 may be cresting - counts only little higher than yesterday.

- Chandalar Sonar may be out for season but will find out more. This is an extremely important project for determining upriver escapement and the post season run reconstruction number and it will be a loss especially this year.

- Correction/clarification: (Yesterdays comment about the lack of commercial being one of the possible reasons for a higher % caught of Pilot's estimate) This is probably not a factor as, "Most of the commercial fishery, about three quarters or more, is usually taken below Pilot so management uses Pilot to gauge what is getting past the fishery".

Picture: Lester Erhart's in town fish camp (has one at Rapids also) A lifetime subsistence dog musher and YRDFA and RAC board member Lester is well known and respected all over. He gave me my first real leader when I was new to Tanana. All you see here (on bank) was built up again after flood.



**8/30/09**

- Pulse two is cresting and numbers down a third over yesterday.
- Travel speed of these chum look at least two days faster than the first pulse or 17 days from mouth to Rapids (731 miles)
- Water at average temp for date and height at medium low for date.

Picture: 1. Mike and Andy (ADF&G) and Dave and Bill (USFWS) all at Rapids today. Bill brought down an ADF&G sign for the wheel that's bigger than the USFWS sign on it now, so Dave and Bill are jealous and going to go back to the office and get an even bigger USFWS sign. Mikes got the last of the king genetic samples we took for them and Dave picking up the king juvenile traps and equipment from that project that ended here this weekend. 2. First coho in testwheel at Rapids - note tail (less forked than chum) and color which is reddish when spawning. We see very few coho up here as most upriver ones turn and go up Tanana River 40 miles downstream from here.



**8/31/09**

- No data from nets at mouth for couple of days. Heard Chandalar Sonar is out for season due to problems. Chandalar can count up to half the upper river fall chum population so it will be missed this year. Will remove graph for now. Sheenjek and Eagle will be the ones to watch now (**RapShe09** and **RapEagle09**). Sheenjek is getting pulse 1 now.

- Chum counts up again today - wheel is doing fine, water basically steady ??? - Had 40 in one hour near end of today so tomorrow will be interesting.

Picture: Two of about 6 wheels running in Tanana area this fall. These are mostly put in late in the summer to take advantage of the whitefish and coho and fall chum salmon that can be put up for dogs in this cooler part of the year. They don't need to be really deep dippers as the chum run closer to the bank than king salmon and water is shallower there. Chum do hug the bottom more than king though and baskets that are set to turn almost touching the bottom catch the best. With king it's more important to have the wheel far enough away from shore and in deep enough water to get near where they run and spots to do that are far and few between. Okay chum spots are a dime a dozen next to king spots.





9/1/09

- Yukon Mouth Drift Net project ended on 8/28 so MT. Village project is now first indicator of Fall Chum moving into river (**DriftNet09**). Nothing happening.
- Fall chum cumulative is rising from the depths finally as most of the first pulse has past the video project (**AllChumCum**). It's run by this guy not associated with these updates.
- Larger whitefish continue to increase.

Picture: 1. The juvenile Chinook salmon student project was completed on Aug. 28. According to USFWS biologist, Dave Daum, the project was a huge success. The students at Rapids and Eagle performed exceptionally, having maintained trapping stations continuously for over two months. Data were accurately recorded and the results are of great interest to salmon biologists everywhere. The students documented and described the dispersal behavior of Canadian-origin, age-0 Chinook salmon as they moved downstream. The fish took about 30 days to move between the two sites, a distance of around 800 km. Data will be analyzed in the upcoming months and included in a final USFWS report. Dave thanks the students who participated in the project. Anyone interested in Dave's work contact at 907 456 0290 or david\_daum@fws.gov . 2. Humpback and broad whitefish and chum all in one basket on video.



9/2/09

- Chum steady and broads up to 43 today.
- Many questions/comments on chum numbers here so I'll try to explain something below:

Picture: History picture. Record low water year. By late fall the amount of water in Yukon (discharge) was half that of today's amount. Note two 4'x4' sheets of plywood for paddles and tarps on baskets to keep the wheel turning. There was hardly any current and river depth, and the chum had no reason to hug the shoreline as they do when there's more current. So they spread out, away from wheel and the wheel catches less of what's in river. That's bad for a project that's trying to assess run strength. So years before Rapids Video developed a formula using about 600 days of USFWS Rampart Rapids Fall Chum Tagging Project data (it provided a passage estimate), 2 years of velocity readings at the Rapids wheel and post season run reconstruction data from all the escapement projects upriver to adjust for the current factor. The result on this year (2004) was a Rapids Video fall chum passage estimate 9% lower than that years run reconstruction number (**ZRMC2**). The USFWS Tagging Project estimate was said to be good if it could come within 15% of the reconstruction number. So again we have lower water - Rapids wheel should be missing more fish than normal and were adjusting for it. Hopefully it's working. Without a doubt it's more accurate than looking at the daily counts (CPUE).



**9/3/09**

- Chum finally may be trending down from crest of pulse 2. Be interesting to see when we start picking up pulse 3 and how high it gets. Pulse 3 was recorded as a small pulse at Pilot but did register higher at the test nets at mouth. If Rapids testwheel picks up a lot of Pilot's passage like it did on the last one that would continue a good rise in the total or cumulative.

- Eagle sonar should be picking up 1st pulse and numbers there did rise a little

**(RapEagle09).**

- Water height running below average for date but not real low like 2 weeks ago.

- Water temp around average for date.

Picture: Rapids 2009 fish rack of drying fall chum salmon. This is a lot of work. Use to be camps each year all up and down this river putting up fish like this and commercial fishing.





9/4/09

- To date Rapids Video showing four years lower and 9 years higher (**AllChumCum**). The rest of the run coming is estimated to not add much to the cumulative and so we may end season in a lower position.

- Broad whitefish coming in excellent numbers. Sheefish are good but have gotten twice as many a day on some years. Humpbacks numbers good also. Whitefish may get higher as season moves on.

- Added 2008 Sheejek and Eagle sonar graphs so you can see how Rapids tracked last year (**RapShe08, RapEagle08**). This is what I watch now. If this project did it's job we should see similar run strengths at those locations. As Sheenjek is a small stream sonar and Yukon River at Eagle is much narrower, those projects are relatively more accurate than lower mainstream ones that rely on CPUE numbers to produce their assessments, such as the mouth test nets, Pilot Sonar and this project.

Picture: 1. Test wheel and rivers width from above today. Leaves changing to yellow. 2. All the main migrating species except for king and cisco whitefish. From top: broad whitefish, sheefish, coho (silver), chum (dog), humpback whitefish (older pic).



**9/5/09**

- On Sept. 2 we went on a restricted subsistence schedule to conserve chum. Two 32 hr periods a week. 2 Wheels here not fishing much lately as we are finishing up on the last of our dry dog food. It is very labor intensive and can only do so many in a day. With this project and by myself I'm lucky to get 100 cut and hung each day.

- Chum catch (CPUE) up but as water is rising kinda fast the discharge formula converts it to another slight drop still in Rapids chum passage (**ChumPilot09**)

- Water is slightly higher than average for date. Water temp rising due to these sunny days. Daily temp ups and downs are driven alot by the sunny days (**WaterHeight09, WaterTemp09**).

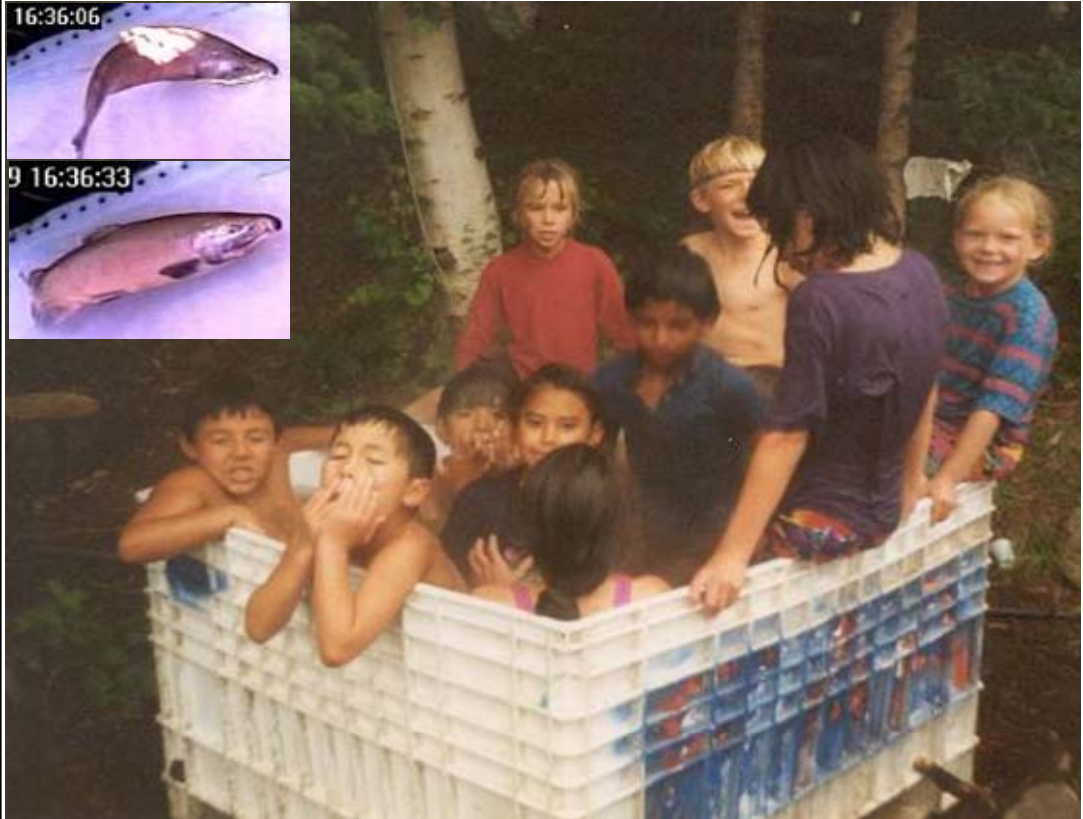
Picture: 1. Moon coming up at sunset tonight. Nights colder and wheel hardly sees any sun anymore due to hills. 2. Today's catch. Chum are getting more spawning colors to them and inside flesh on more of them getting paler and less oil. This will continue till the end of September and beyond when the quality of fall chum will be no better than the worse summer chum. Soon we'll be putting up the bulk of the winters dog food (crib fish) on those chum and unlike the earlier, rich, red fleshed chum they deserve the name dog salmon.



9/6/09

- 899 chum today and water still rising. Sheefish up.
- Run timing on Sheenjok from Rapids looks like about same as last year - 14 days (**RapShe09**). With water rising above average lately the fast travel times of earlier fish is over. Eagle sonar still not into the meat of pulse 1 (or should I say "fish").
- 7 day a week subsistence started in lower river on Sept 3 and today, Sept 6, there is a commercial opening to sell coho and chum. Future openings will depend on ratio of coho to chum.
- Cumulative passage to date has already beat out 1998 and 2000 seasons total. Not sure what's going on but a number of serious fishermen doing some real fishing in the Tanana area are saying this is not looking like the worse run on record either ?? . Lack of fishing downriver - Rapids project over count - Pilot sonar undercount?? Sure wish Chandalar sonar was operational this year.

Picture: 1. How about an old pre digital picture of fish camp kids taking a hot tub at this camp. All these kids are working or in college now - they'll kill me for this. 2. Video 900 chum and 3 coho today. Two of the coho are 1 basket apart. Almost seems like they're traveling together. They got a story to talk about now.





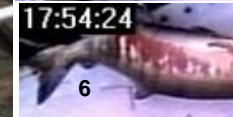
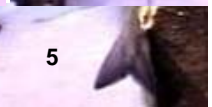
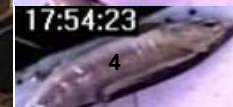
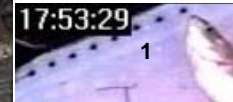
9/7/09

- Had 6 hours today over 60 chum an hour and one was 75 per hr. Testwheel turns about one revolution in 1 minute so that's 1 chum every other basket. Rapids passage number up, Pulse 3 maybe here (**ChumPilot09**)

- So we were recording a high passage in low water (relative to Pilot) and now a high passage in slightly over average water.

- Perspective: From start of pulse 2 to 15 days later (Aug 5-Aug 18) Pilot Sonar estimated 124,258 chum. Pulse 2 genetics estimate 68% are upper Yukon stocks or going by Rapids. So now we got 84,496 Pilot chums suppose to come by here. I have physically caught (video) 9,499 chums in that 15 day run period (Aug 24-Sept 7), alot of the time in low water which makes the wheel very inefficient. So the question is: is it reasonable that one wheel can catch over 11% of the entire run past Rapids when the wheel above me when it turns on will do a minimum of 3x my rate and some of the wheels in Tanana have been doing 2x or more this season. And there's a whole other side of the river proven to have as much fish on it as this side.

Picture: 1. One chum in video chute today and another coming.  
2. Didn't see this but noticed it on video when counting: Chum 1 in one basket - 30 seconds later chum 2 through 6 get caught in next basket and 30 seconds later next basket gets chum 7. Pretty active at wheel lately.



**9/8/09**

- Water height steady and drift slowing down - thankfully. Water temp was low 2 weeks ago now is high.
- And the fish keep coming - 1500 actually caught and passage index up also. Definitely pulse 3 is here. Hourly rate high at end of day and be more tomorrow looks like.
- Other Rapids wheel ran for few hours early in day and got 170 chum per hour or 3x testwheel. The best chum spot in Rapids is on other side of river, above the island, and you use a small wheel to fish it - no good for king though.

Picture: Charlie and Ruth bringing half their winters dog food to Tanana to be put in a crib to sour. They like myself use their dogs for traveling so like their fish fully "cooked" by rotting. Distance mushers are away from the dog yard often and have no time to prepare food during the day so when the dogs get home they get thrown a "crib" fish. It's fully digestible as opposed to a fresh salmon that dogs would throw up and if done enough would kill them. Mushers who use dogs for racing will use fish cooked in with lots of high power store bought food and need their fish fresh frozen or less soured so they get it later in season - around Sept 20th is ideal but have to watch the pulses and sometimes get it when you can. Basically to compete in outside the village races dogs are taken off fish almost entirely and fed high meat diets - it's a must if you want to race and do good.



**9/9/09**

- Chum pulse 3 has crested and going down. As at Pilot it was a short pulse - however :

- Using **ChumPilot09** - Compare the estimate at Pilot for the three peak days there (8/20 to 8/22) and then the actual catch (on video) at Rapids testwheel for the same run period on 9/7 to 9/9. Pilot estimated 22,495 chum and Rapids caught 4,024 or 18% of Pilot's estimate. Considering that the wheel above here has been doing 3x the testwheel during this pulse and we have 2 wheels in Rapids catching 72% of the entire sonar passage and doing it on one side of the river. Do a six day period on pulse 3 and you get 84%.

- Both Sheenjek and Eagle seem a little slow to pick up Rapids estimated strength of pulse 1. Next few days will be interesting. Rapids testwheel (run by this guy I don't know) may be wrong (that's a joke - not about being wrong however).

Picture: John Erhart, Jenny Joseph and Lester Erhart cutting fish in Tanana today. "Split fish" for dogs and "edibles" for people. Lester never quits - he's amazing. Said his wheel is 6 feet off bottom and fish still pouring in. Pat Moore said his was the same.





9/10/09

- Removed 07 and 08 **ChumPilot** graphs, and **DriftNet09** graph as Pilot and Mouth nets are done for season and Mt Village be done in a day or so. Guess it's safe now to say no more significant late pulses of chum are coming.

- So added 2007 graphs for Sheenjek and Eagle to give more perspective (and confuse everyone more). As I said before without the Chandalar Sonar operational and monitoring the large percent of the run that goes there each year it is going to be very hard to make any firm conclusions on run strength this year. Hopefully we can meet chum border escapement (83,000 minimum) and Eagle will show that however.

- Lots of fast new graph work and no one to double check me so if you see mistakes sorry and please let me know.

Picture: 1. Stopping for a last chat on their way to Yukon Bridge (120 miles). These guys have a camp 20 miles down and are finished for season. Bear (by door) was one of our data techs this season. 2. Coho with some extreme spawning colors and nose. 3. Two chum frolicking in video chute. As you can see they are so happy to be caught by the fish friendly wheel.



9/11/09

- Sheenjok Sonar starting to show some numbers (**RapShe09**) but still early to tell much.
- Rapids testwheel cumulative passage is greater than 5 of 13 years of monitoring and looks like it'll surpass two more if it keeps getting fish from "nowhere". This is a problem and could be for this project if fish don't materialize upriver. While not a good run by any means it's a mystery how we are continuing to get all these numbers here and in all the Tanana wheels and nets vs. downriver estimates.
- Water temp very high after being very low weeks ago and water height heading back to normal for date after being slightly high. See **WaterHeight/Temp09**.

Picture: After not fishing for awhile it's crib fish time at Rapids. Both camps here fish hard for 1 or two days (this year just 1 due to good numbers) and get the bulk of the years dog food to Tanana for storage. This is start of my crib and got 300 in here. After 1300 it sits with cold creek water hose flowing into it till I can float it to town. Raft is part of winters firewood. A way of saving gas, and anyway running project I can't be making daily trips in boat to Tanana. Had two days of big wind and lots of leaves off trees now. Rain today - perfect cribbing weather.



**9/12/09**

- Small chum passage increase (**ChumPilot09**) - saw 6 chum in one basket last night. Water dropping.
- Sheenjek just recorded more fish than biggest day of last year (**RapShe09**). Not saying much though - look at **07** graph.
- Rapids is through fishing except for a dog pot every few days. Got 1400 fish in 15 hours for crib last night.

Picture: Right now they're bear protection in Tanana and at this camp. In winter I got sno go for around village and packing trail after a snow but when I go on trapline or far out in back country these are the pistons of the motor. When younger I'd think nothing of bigger teams but lately as my years go up my dog team numbers are lower at 13 or 14. Some are from pups I raised but most are from quality sprint teams and some have raced in many of the big Alaska races and have some trait that caused them to be weeded out and given to me. Two for instance were never short on speed but being over 60 lbs were simply too much liability if they ever had to be hauled in sled basket in a race. When they work hard they can eat a dry or frozen 10 lb fish or equivalent, night after night. I get nervous being far out with my sno go but these will always get you there - if the jerks don't run off on you.





**9/13/09**

- Chum seem on a steady decline now (714 today). Still a fair number of sheefish but other whitefish are low.

- Bering cisco are pretty much stopped migrating through here and that is probably it for season. Later around Oct 1 the least cisco will migrate in good numbers into the upper river. We have been seeing a very small number through here last couple of weeks. Quality of video capture does not allow for accurate ID of least cisco and those few get labeled as bering cisco.

- 2 camps still going at Rapids but both are breaking things apart and preparing for move to Tanana. Video project counts till "declining days of last major pulse" or icing gets to much (about Sept 20). If I make the last boat load out of here before Oct 1st I consider that good.

Picture: Fall chum "edibles" hanging outside to take advantage of a sunny day. Put up for people food. These have already been in smokehouse but because of bad weather they need some fresh air on outside rack. They are often considered harder to make than strips but alot has to do with the poorer drying weather found in fall season.



**9/14/09**

- Cumulative continues to surpass more past years (**AllChumCum**) but should end at below average.
  - With each passing day numbers of chum at testwheel project and in fishers gear make less sense compared to downriver estimates. Not counting all the high catch rates in Tanana fishwheels and harvest downriver of there, the two Rapids wheels alone are able to catch 52% of the last 29 days of the fall chum run estimated to run past Rapids. And doing it on one side of the river ?? . This is not using the passage index but the actual catch rates or CPUE.
- RapShe09** getting more numbers.

Picture: Remember the 10 day pulse 1 king closure this summer. This is how the AYK SSI Data Collection Project at Rapids got those important weights during that period. Had a similar picture earlier in season with a different tech. 134 king were sampled this way right off the wheel baskets with no holding time and then released (**KingData09**). Without doing this a whole block of the run would not have been sampled. In all my years at Rapids this was the first time a pulse of king was ever allowed to travel into the upper river and Canada with no harvest on it. One of these techs is in high school in California and other two in college now (Fairbanks and Hawaii)



**9/15/09**

- Water height right at average for date. Temp has surpassed highest for date (only 7 years of data).
- Sheenjek numbers starting to mirror height of Rapids numbers during second pulse (**RapShe09**). Eagle numbers climbing but need a few more days to see how pulse 2 might hit there (**RapEagle09**).
- Sheefish continue good numbers - 51 today.
- Have about 25,000 chum still coming from lower river from a long tiny "pulse" around end of August down there. It'll start hitting here in a day or three. Be interesting to see how it affects our declining chum counts when it starts. A higher percent is probably Tanana River bound as late run chum often are, so we may not see many.

Picture: Heading over Ray Mountains north of Tanana many years ago for a dip in Kilo Hot Springs (about 70 miles out). In spring the snow in the high country is often packed enough dogs can easily go anywhere. It can be a dog mushers dream after a winter of fighting soft trails. Kids dream to - all three of us.





**9/16/09**

- Chum counts continue down and looks like the end is finally coming - only 336 in testwheel today.

- Breaking apart fish racks, hauling all non essentials up bank and made some trips to Tanana with supplies. Weather could turn bad any day. Icing is the worse and makes working and walking on the wheel miserable.

- Water continues to drop a fair amount but check out water temp graph (**WaterTemp09**). Days and night just been warm lately and so driving temp way up.

Picture: 1. Right at the narrow part of the Rapids we'll often get fog being generated on fall mornings as you see here. It doesn't come from above Rapids it just gets made there and flows downriver then disappears. Not the best time to go check wheel, which is right in it. 2. If you're hungry you'll like this picture. Red fleshed fall chum smoked for two days with skin off. Just making some special treats lately for winter. Not much quantity just different stuff. Made some honey dipped fish also.



**9/17/09**

- Chum counts up slightly. Maybe starting to get some of that last tiny pulse of the season

(**ChumPilot09**).

- Sheenjek chum counts have reached similar (relative to past years) peak strength as we saw at Rapids but now we'll see how long it lasts

(**RapShe09**). Eagle Sonar looking like it's not picking up same at moment but more time will tell (**EagleRap09**).

- Guess yesterdays picture was a winner due to lots of comments. That and Lester Erhart's cutting fish one back awhile.

Picture: 1. How would you like to buy a brand new motor, drive all the way from Wasilla to Yukon Bridge to go hunting on Koyukuk River and find out at Rapids the charging system on the motor probably never worked. I charged their batteries, put them up for night and they headed back to Yukon Bridge. Nice guys - they took it in stride. Kenton, on dock, works for ADF&G as a computer programmer. Don and Jon in boat.



**9/18/09**

- Lots of questions over fall run and just how good it is. The **AllChumCum** graph needs understanding (like a little kid). Anyway it contains a number of very poor years from 1998 - 2000 (some real run failures due to the ocean conditions), so this year showing itself better than those is not saying much. The other thing to consider is the record high years like 2005 which throw the average line real high. Just need to keep watching the escapement projects - although at moment they are giving mixed signals also. As I said before this is a very bad year to have lost the Chandalar Sonar.

Picture: John and Russ getting ready to head up to Yukon Bridge today. Russ is fixing up his fish camp close to here. He use to have dogs and fish here in the 70's - 80's but has been running the Fairbanks National Guard since and just retired. John is a outdoorsman/writer and retired Marine officer from Fairbanks and he's got some nice burbot to take back home. Hardly ever see people running small open boats like this anymore - it's a 16' powered by a 25hp. I remember the day in the mid 70's when Russ bought an identical 16' boat and everyone was looking at it like a big boat. These guys are tough old school.





**9/19/09**

- Safe to say now as chum run ending - out of 13 years of chum counting 6 were higher and 6 were lower (**AllChumCum**)
- Humpback whitefish running strong at 63 today - that's alot for humpbacks.
- And who knows what's going on upriver. Sheenjek counts just jumped high yet Eagle gets a fraction of a similar run strength. My guess at run timing could be way off also I was thinking due to high water earlier ??

"Remember the king run also" picture: 2009 - this picture taken only four days into run (June 24th) long before first pulse of king arrived. Rapids Data Collection techs had an average weight of almost 20 lbs for this day of sampling the areas subsistence catch. And these fishwheel caught fish here probably average close to that. It was quite a run of king as far as more females and bigger size than seen in years. Interesting will be the return in 5 and 6 years from now. Also interesting will be the returns from years like 2007 and 2008 when very few larger and female king made it upriver. Fishing is so full of surprises though.

2. Burbot - numerous this time of year.



9/20/09

- Chum down more. Lots of whitefish still migrating. They will do that even as ice comes down. A small late coho run will happen also and will be going strong as the eddies are freezing and you have to break ice to check your nets. Supposedly they go up the Porcupine River.

- Sheenjek adjusted yesterdays numbers but second pulse is cresting there. Dept. says minimum escapement is expected there.

- Plan is to stop wheel after noon tomorrow and raise it up for the first time in two months. It'll take over a week to make about 5 trips to Tanana - just in time as I blew the main camp generator today. No big deal - I got a whole storage shack full of used up ones from the project.

- Plan to continue updates of Sheejek and Eagle and pictures of Tanana subsistence and Rapids breakdown.

Picture: 1. Charlie and Ruth bringing fishwheel to Tanana where it will be pulled out by bulldozer for winter. Boat is loaded with dogs and supplies and they got a good downstream wind to help them. They idle the motor all the way and go just slightly faster than the current for the 40 mile trip. Their last trip - the Rapids is all mine now. Only a few leaves on trees now. 2. Mink was in video chute trying to catch the fish as they went by. It's having a heck of a time on the slippery plastic chute.



9/21/09

- Fishwheel video shut down at noon. Chum up slightly to 160 per day. Numbers may be up and down now as it responds to Pilot ups and downs in final days there (**ChumPilot09**).

- Bottom line on chum assessment here is a poor run (Rapids passage index 299,000) that should not have been fished commercially (as mostly it wasn't) but a run well above the disaster originally recorded. I believe this is similar to the latest ADF&G assessment (but don't speak for them on that).

- Eagle graph showing the Canadian stocks may be a weak spot (**RapEagle09**). Time will tell. Sheenjek tracking Rapids so far (**RapShe09**). The big thing here is will it drop fast or keep the higher numbers as at Rapids.

Picture: Woke up early and it looked like fog and thought great - that means sun above and it will burn off and be nice. Well that isn't fog on the windshield going up to shut off wheel today. Snow sticking in high hills but melting at camp now. Rapidly deteriorating at Rapids. By the way the mink was fishin at the wheel again today - had a sheefish - ate his head off. Almost had picture - I'll get him.





**9/27/09**

- About 63,000 fish past Eagle Sonar as of Sept 25. Counts may be dropping but should be some numbers still to come. Rapids and Sheenjok projects have not tracked Eagle well so far (**RapEagle09**). Eagle still seems like a weaker spot in the run next to Sheenjok.

- This is not highly unusual and differences like this have been seen in past.

- Fishermen in Tanana are wishing they cribbed fish earlier when the numbers were up as the whitefish and salmon really dropped off. Many are thinking they will not get the fish they need. It's not really a gamble to put off fishing till now as it's unusual to drop like this. That's fishing for you though.

Picture: 1. Tanana fishwheel today on north side (same as village). Facing south here and looking at mouth of Tanana River by arrow. This wheel is catching mostly upper Yukon bound fish - numbers are down lately and it takes days to get enough to even bother checking wheel the owner said. 2. Rapids as I left it a day ago with a boat load bound for Tanana - got less than a week of camp breaking left I hope.



**10/1/09**

- 81,000 fall chum past Eagle Sonar as of Sept 30. If Eagle runs till Oct 6 they may get about 16,000 more or just under 100,000.

- The spawning escapement goal for Canadian upper Yukon fall chum salmon is >80,000. So the 100,000 will just make the minimum amount figuring about 15,000 going to harvest past sonar. Just like with the king salmon the minimum fall chum was reached - or should be.

Picture: 1. Pat Moore and family cooking, hauling fish by truck and getting fish out of wheel that was slowly building up with ice last few days but is melting off today. Wheels on the south side of river that are in shade are getting shut down due to ice formation. This year every fish counts so plan is to let north wheels turn till they can't turn no more. This means taking a chance on destroying wheel due to breaking axle and etc from ice weight. This will keep a family busy each day and is repeated in a number of Tanana households this time of year.

2. Rapids camp was closed yesterday and dogs and master all brought home - or should I say master slave and dogs.



**10/7/09**

- 95,462 fall chum past Eagle Sonar as of Oct 6 which has been normally the shut down date there. Not sure if more counting will go on (**RapEagle09**). Average at Eagle for 2006 - 2008 is 214,700.

- Because this years chum numbers are running just at the edge of not enough for official Border escapement, Canadian management has been proceeding with closures in the commercial, domestic and recreational fisheries and restrictions in the First Nations' fishery;

- 4 wheels and 1 net still operating out of Tanana. Weather has warmed to above freezing so ice has fallen off wheels. Fish catches are down to numbers like 10 chum and 50 whitefish in a day now. Fishermen still below numbers needed so it's fish till the ice comes.

Picture: Tanana fish camp with racks full of chum and whitefish. This family is still operating a wheel trying to get crib or whole frozen fish for dogs. Foggy and wet, but it's turning the temperature warm which is great.





**10/11/09**

- (DFO info): Eagle sonar shut down - final estimate to Oct 6 is 95,462 fall chum salmon. Estimates for 2006-2008 to this date ranged from 171,347 in 2008, to 236,386 in 2006. Because of improved late season run strength, the seasons run size at Eagle will total about 102,000 chum salmon. Figuring in subsistence harvests at least 87,000 chum salmon will migrate into the Canadian section of the upper Yukon River and the spawning escapement goal of >80,000 will be achieved. With these improvements First Nations and other restricted Canadian fisheries were notified that restrictions would be removed. (So not a good run but basic escapement met)

- Tanana fishwheels still turning when able and catches small for whitefish and salmon. Fishers are planning a wheel pull soon to save wheels before ice grabs hold of them during next cold snap. Pretty late for wheels.

Picture: Musers starting to run dogs in Tanana. With no snow they use trucks or 4 wheelers and are seen each day on the streets of town. By November hopefully there's enough snow to go to sleds and the dogs have a sense that musers are in control (somewhat false) from using the trucks. There's only so many miles the dogs can train like this as their foot pads wear down to nothing on the gravel eventually. Some is good however to toughen them.



**10/19/09**

- Fishing is over in Tanana with last wheels stopped yesterday. Cold weather is settling in and ice was coming down Tanana River this morning.

- This is final update and all the graphs used during the season are back in under the tabs below.

- Full season's picture and comment album is done and available by clicking link at upper right corner (**Daily Email Updates 2009**) or online at RapidsResearch.com homepage.

- Thanks you to all who contributed information, corrections and criticism. Till I send out the first email update next fish season - goodbye and Have a good winter.

Picture: Pulling out the last of the fishwheels in Tanana. Some of the bigger ones are so water soaked and heavy the Cat tracks spin out. The City of Tanana supports fishing by giving all the fishermen a good deal on the fishwheel pull.



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