

# Yukon River Chinook Salmon Outlook 2009



Yukon River Panel meeting, March 2009

# 2009 Canadian-origin Upper Yukon Chinook Salmon

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- Preseason outlooks are based on a revised database
- The weighted (by age) brood escapement that will contribute to the 2009 run is ~67,700 fish
- Primary BY escapements exceeded the Interim Management Escapement Goal (IMEG) of >45,000 established for 2008
  - 2002- 42,400 (age-7)
  - 2003- 80,600 (age-6)
  - 2004- 48,500 (age-5)
  - 2005- 68,600 (age-4)

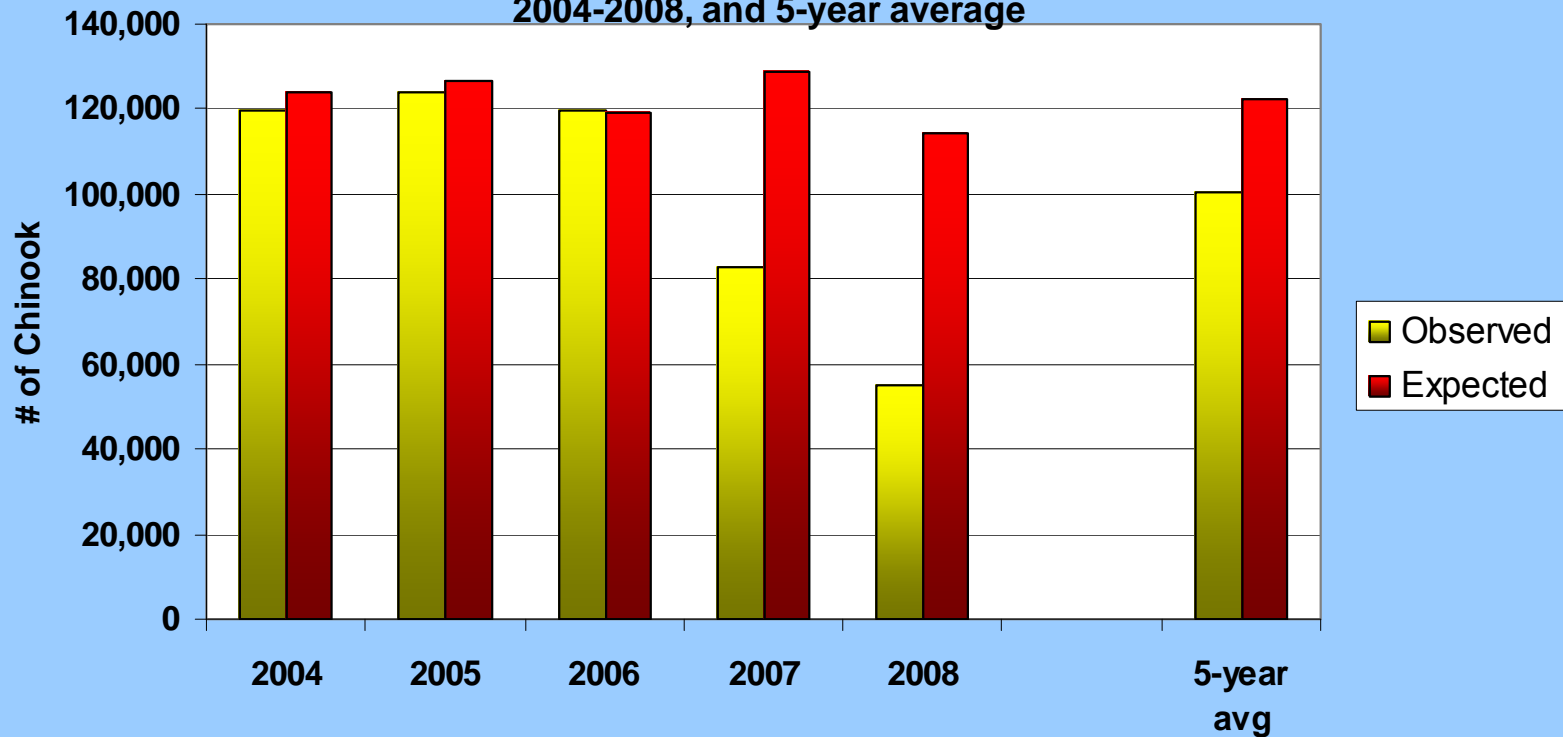
## 2009 Outlook: below average to poor return

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- Based on sibling and stock/recruitment (S/R) relationships, a run of 90,000-100,000 is expected in 2009
- However, the precautionary outlook range is 61,000 to 72,000
  - lower range is based on recent experience where runs have returned much lower than preseason outlooks
  - For example, the 2007 and 2008 runs were poor and Canadian spawning escapement objective was not achieved
    - Border escapement not achieved

**Yukon River Canadian-Origin Chinook Salmon  
Observed vs Expected Runs Based on Avg. of S/R and Sibling  
Relationships,  
2004-2008, and 5-year average**



# 2009 IMEG

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- The JTC recommends continuing the IMEG of >45,000 Chinook salmon for 2009
- Goal will be re-assessed next year using
  - 2 more years of sonar data
  - Habitat capacity component

# Eagle Sonar Program

## Left bank (split beam) and right bank (DIDSON)



# Potential factors influencing the 2009 run:

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2007 and 2008 runs were poor, much lower than preseason outlooks

- High seas Chinook salmon bycatch?
  - Marine and freshwater environmental factors?
  - Ocean productivity?
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Is what we are observing the early stages of a long-term trend?

# Chinook salmon catch in the aboriginal fishery

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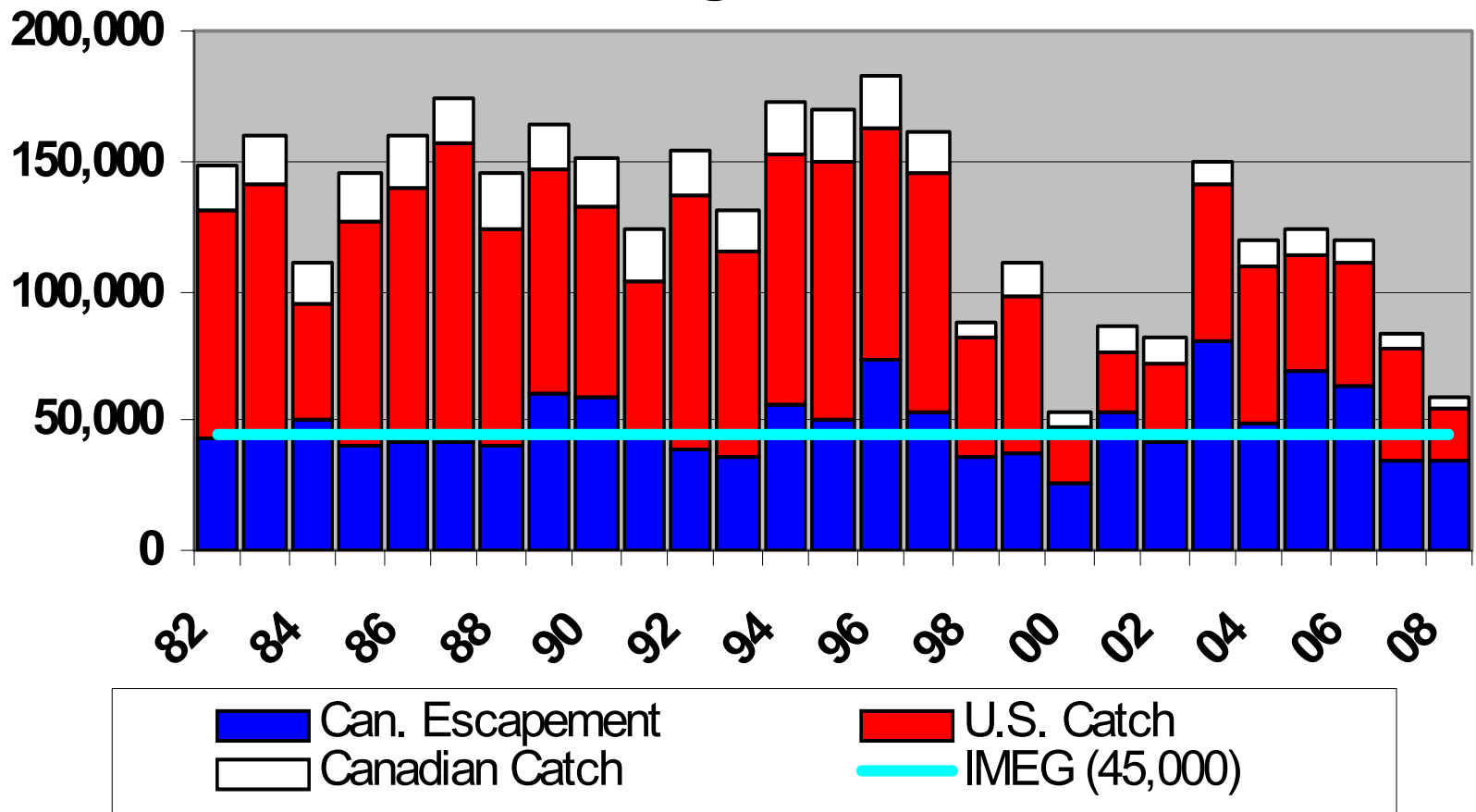


## Potential 2009 run sizes

Expected Run Size	Esc. Target	TAC	CDN Share (23%)	U.S. Share (CDN stock)	Est. Total U.S. Harvest	Border Passage Target	Allow. U.S Harvest Rate
61,000 Low- SR	45,000	16,000	3,700	12,300	24,600	48,700	20%
72,000- Low- Sib	45,000	27,000	6,200	20,800	41,600	51,200	29%
90,000 Sibling	45,000	45,000	10,400	34,600	69,200	55,400	38%
100,000 SR	45,000	55,000	12,700	42,300	84,300	57,700	42%

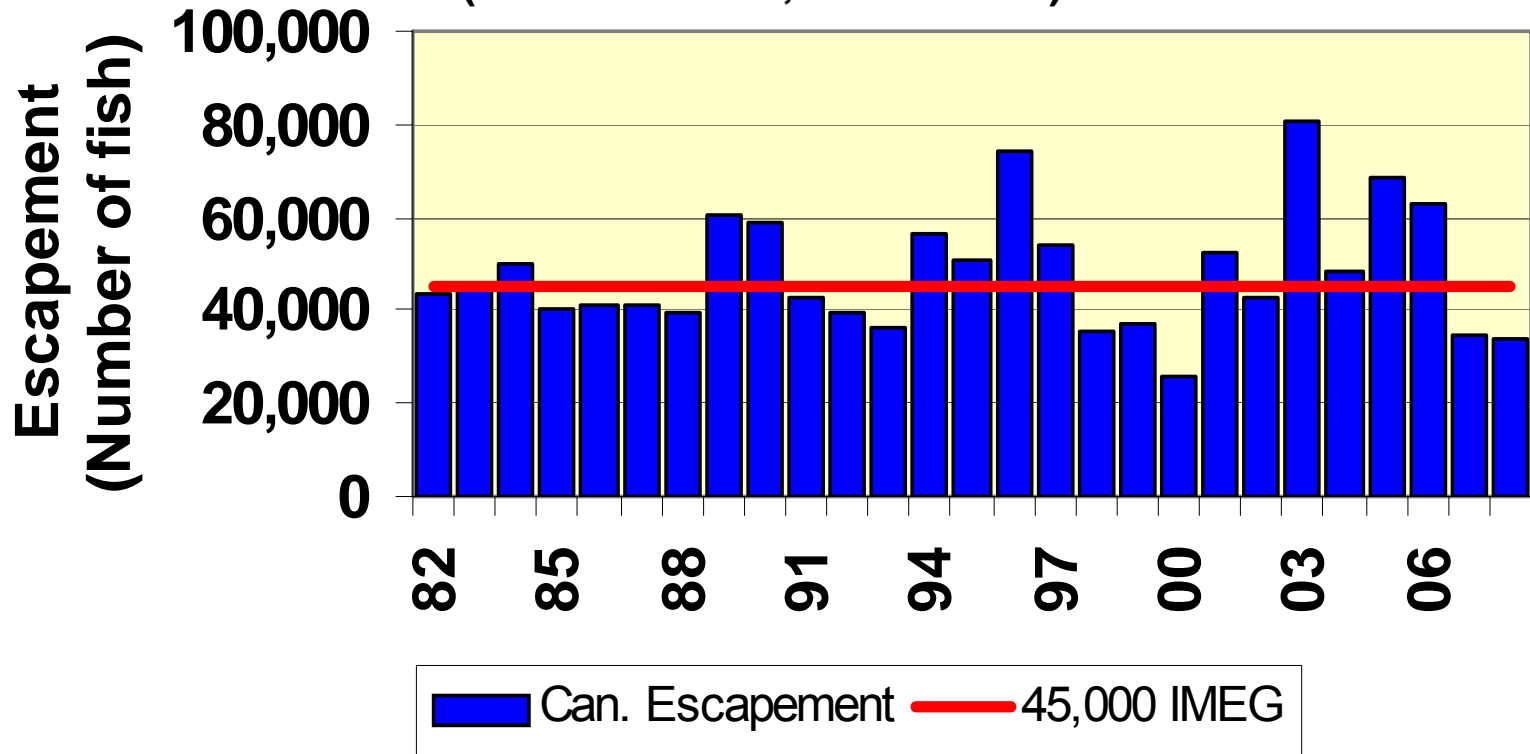
\* uncertainty results in wide range of expected run sizes and potential U.S. and Canadian harvests

## Canadian-origin Upper Yukon Chinook Salmon Run Size Using Revised Database



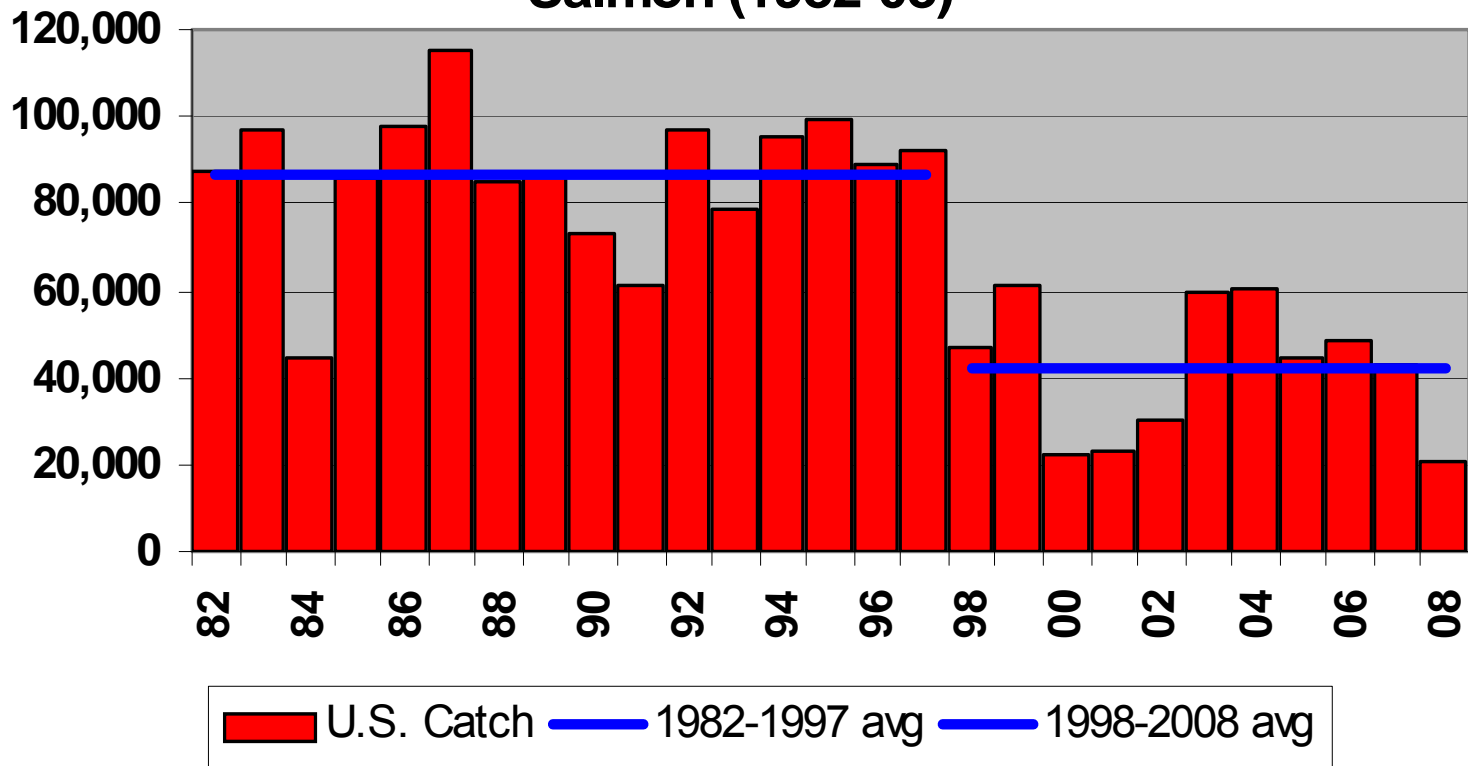
Note: Canadian-origin Upper Yukon does not include Porcupine drainage

# Revised Canadian-origin Upper Yukon Chinook Salmon Escapements (2008 IMEG of 45,000 is shown)

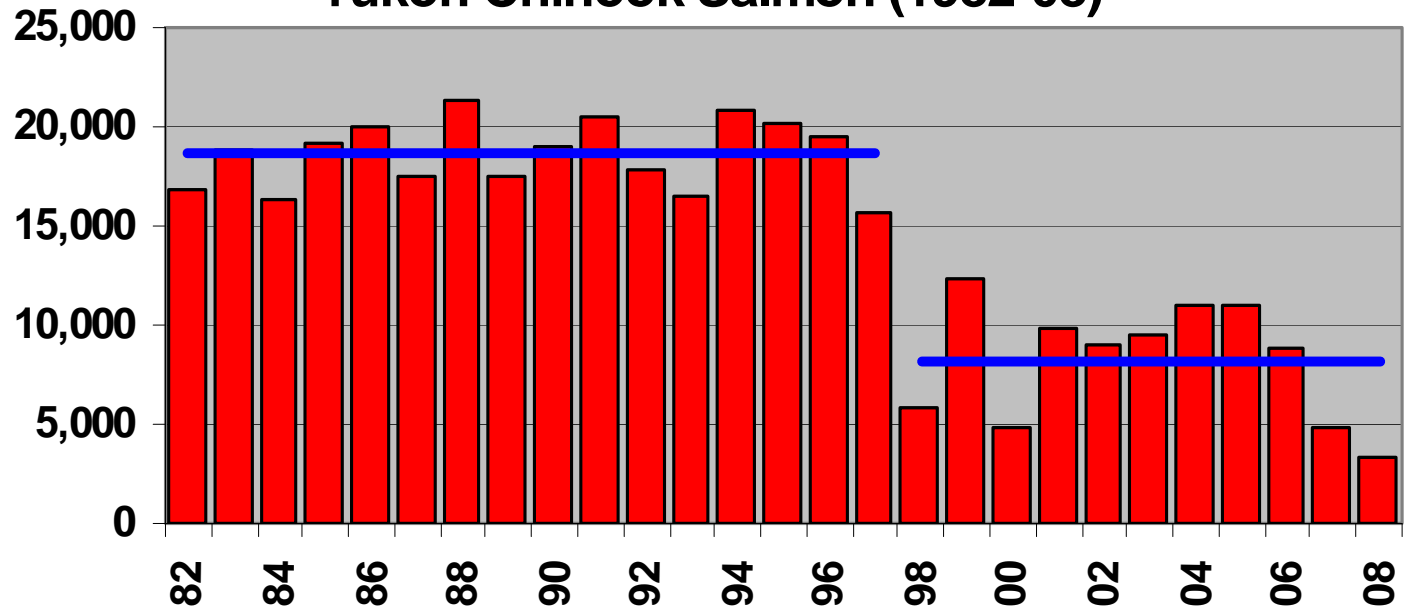


Note: IMEG involves Canadian-origin Upper Yukon and excludes Porcupine

## U.S. Catches of Canadian-origin Chinook Salmon (1982-08)



## Canadian Catches of Canadian-origin Upper Yukon Chinook Salmon (1982-08)



■ Canadian Upper Yukon Catches — 1982-2007 Avg — 1998-2008 avg

# Precautionary Fisheries Management

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- 2009 Chinook salmon outlook is for a below average to poor return
- We should enter the 2009 season with the expectation that conservation measures will likely be required

# Canadian Chinook Salmon Fisheries Management

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- Eagle sonar will be used for 2<sup>nd</sup> year to determine escapement into Canada
  - previous management was based on data from tagging estimates
- Canadian commercial, domestic and recreational fisheries will likely be closed for the third year
- Conservation measures may be required in aboriginal fisheries similar to 2008
  - In 2008, FN fisheries reduced to <50% of average

# Chinook Discussion Items

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- As we move towards a long-term escapement goal there are other related issues
  - fish size
  - % female
  
- Management options include
  - reduced mesh size and alternate gear
  - reduced exploitation rates
  - move to a multiple of  $S_{msy}$  or away from  $S_{msy}$

# 2009 Alaska Preseason Outlook

## Chinook

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- Outlook based on:
  - Canadian-origin outlook for 2009
  - Recent proportions of Canadian fish in the total Yukon run (36.5%)
- Expected run size = 166,000
  - Could be as low as 149,000
  - Uncertainty in estimate
  - Alaska origin run = 105,000
- Below average to poor run

# 2009 Alaska Preseason Management

## Chinook

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- Subsistence conservation measures will likely be required
- Seeking input from user groups on management options
- Directed commercial fishery unlikely in the mainstem
- Possible directed commercial fishery in Tanana River  $\leq 1000$

# 2009 Alaska Preseason Outlook

## Summer Chum

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- Difficult to forecast based on low number of age-3 fish in 2008
- Average run expected
- 500,000-900,000 surplus available for commercial harvest
  - Commercial harvest levels dependent on potentially poor Chinook run

# Challenges on the Horizon

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- How can escapement to both Alaska and Canada be ensured?
- How can conservation measures be applied equitably?
- How can these issues be communicated to the user groups?
- How can the harvestable surplus of summer chum be maximized while conserving Chinook?

# Potential New Assessment Projects

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- Hooper Bay / Dall Point Offshore Salmon Test Fish Feasibility Study
- Lower Yukon Summer Chum Drift Test Fishing Project
- Inseason Genetic Stock ID



## Board of Fish 01/10

- Stock Status & Action Plan
- Chinook Management Plan
- Review of escapement goals
- Mesh Size Study
- Joint Fed/State analysis of Chinook size issue



# The End

