North Pacific Fishery Management Council –

Update on Bering Sea salmon bycatch

What is the current status of salmon bycatch and management in the pollock fishery?

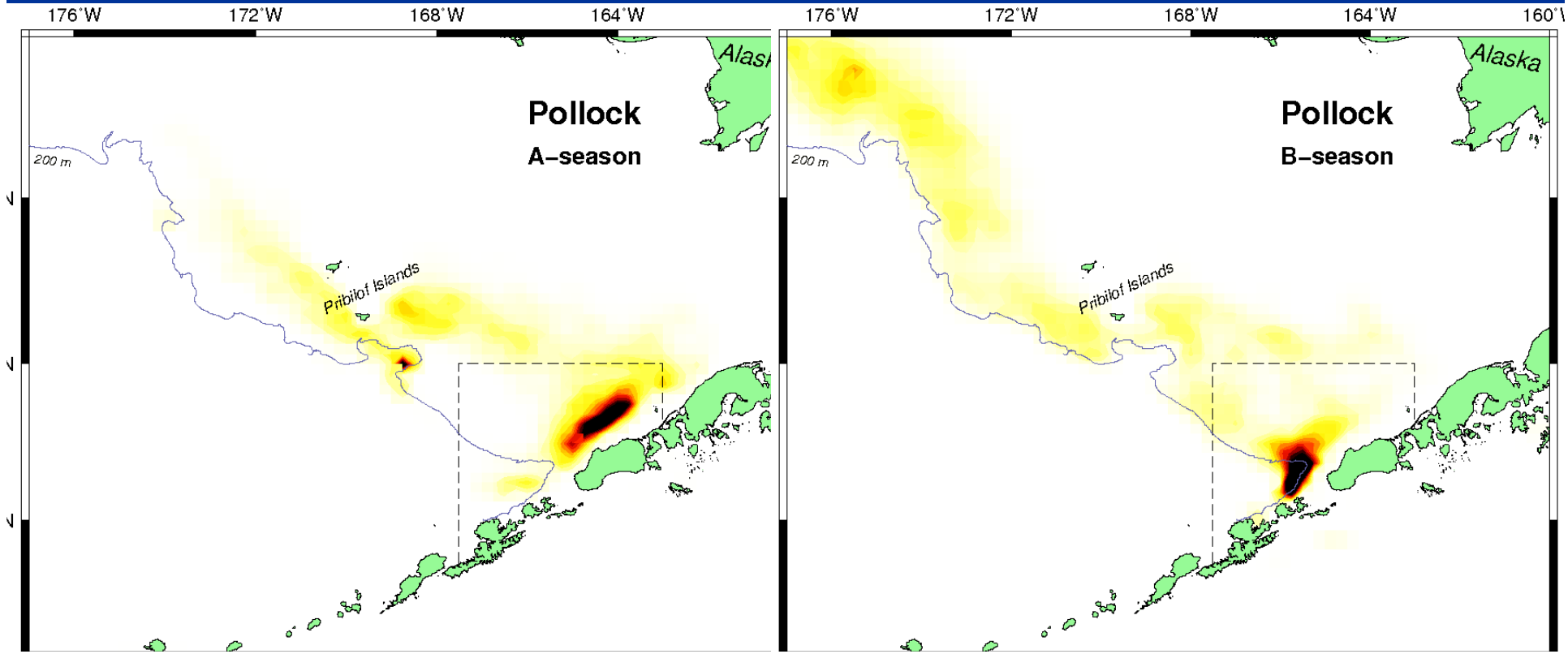
Salmon bycatch

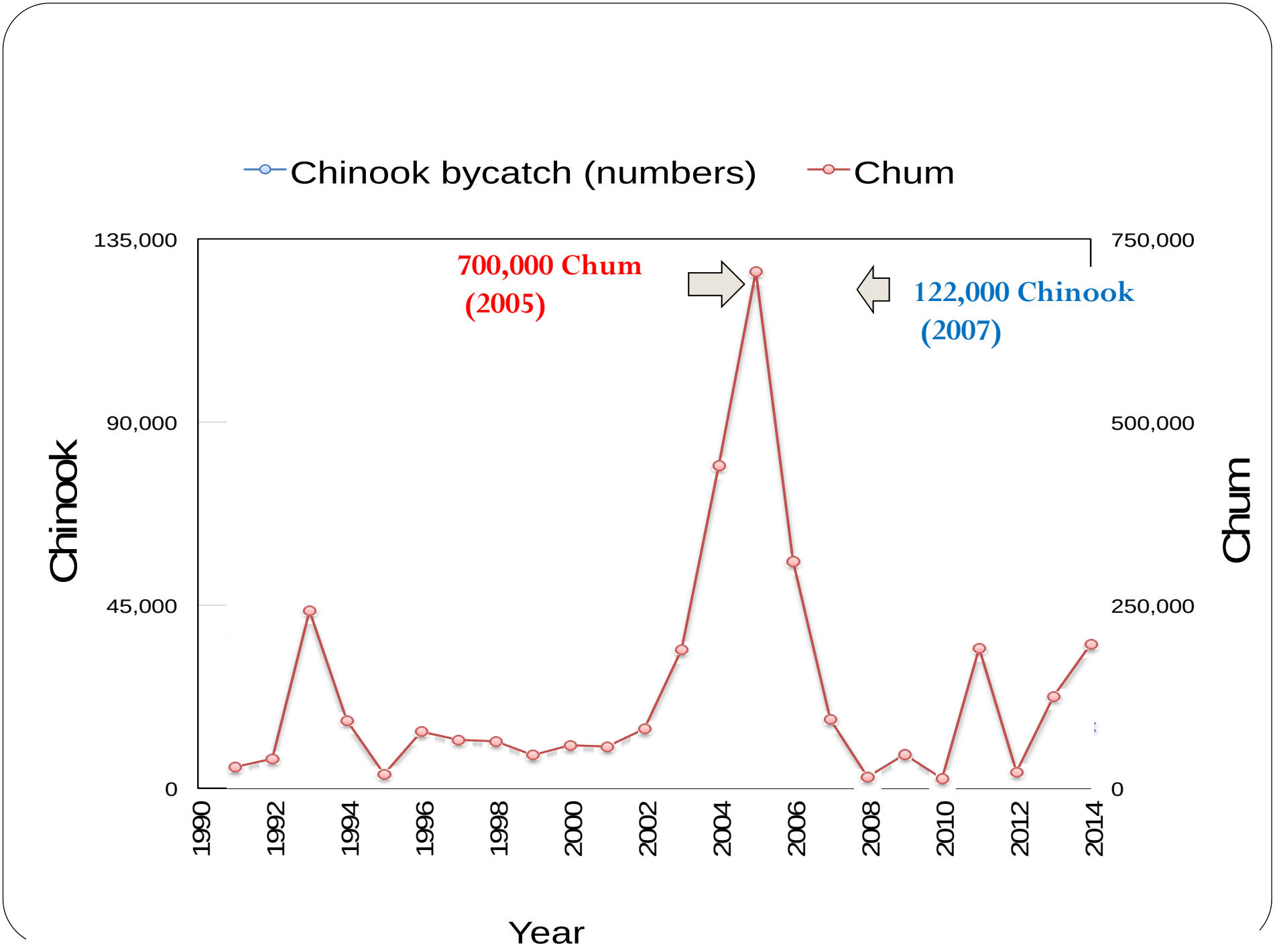
- Bering Sea pollock (midwater trawl) fishery catches Chinook and chum salmon as bycatch in federal waters
- Bycatch, by law, is counted but cannot be retained or sold
  - Some salmon is donated to food banks
- The Council managed salmon bycatch using time-area closures since the mid-1990s
- Time-area closures fixed in regulation are not responsive to changing conditions
- The Council started evaluating and implementing different management measures in 2005

Bering Sea Pollock fishery

Winter season: late Jan to mid-April

Summer season: June – Nov 1




Chinook bycatch (numbers)
Chum
135,000
90,000
45,000
0
750,000
500,000
250,000
0
Chinook
Chum
700,000 Chum
(2005)
122,000 Chinook
(2007)
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
Year

Am. 91 BS Chinook bycatch program

2011: First hard caps on bycatch + industry incentive program

- Fishery closes if upper cap is reached (60,000)

- **Fishery is managed at lower cap level (~47,000) under incentive programs (vessel level closures)**
  - If lower cap is exceeded more than 2 of 7 years, the upper cap is removed and only lower cap applies

- At current bycatch levels (11,000 - 15,000) the incentive programs are critical to further bycatch reduction

Additional provisions of Chinook Management Program

- 100% observer coverage
- Complete census of all salmon species by observers
- Increased genetic sampling for stock of origin (both BSAI and GOA)
- Annual reports to Council on genetic stock of origin results from fishery
- Annual reports to Council on the effectiveness of the incentive programs (and third party audit)

New action: 2015

- Continuing low WAK Chinook returns, Council looking at ways to reduce bycatch further.
- Focus on strengthening incentive programs to keep bycatch low under all conditions of salmon and pollock abundance
- Combine bycatch reduction for Chinook and chum

What is the process to change current management?

Council authority

Under the Magnuson Stevens Act, the North Pacific Fishery Management Council (Council) and National Marine Fisheries Service (NMFS):

- Together manage U.S. Federal fisheries off Alaska (3-200 miles)
- Management is coordinated (and in some cases jointly managed) with the State of Alaska
- Council makes recommendations to Secretary of Commerce

Who is on the Council?

15 total members: mandated by MSA

- 11 voting
  - 4 designated seats (heads of NMFS and state depts of AK, WA, OR)
  - 7 seats appointed by respective Governors (5 Alaska & 2 Washington)
- 4 non-voting
  - USCG, Pacific States, Dept of State, US Fish & Wildlife

Magnuson Stevens Act

National Standards – Council and NMFS must consider and balance all of them, including:

- Minimize (salmon) bycatch to extent practicable
- Prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery (e.g., the Bering Sea pollock fishery)

Process for making changes to fishery management plans

- Environmental and economic impact analysis required by various federal laws
- Typically takes several reviews at different meetings before making a final decision (public comment at all meetings)
- Final Council decision is then submitted to the Secretary of Commerce (NMFS)
- NMFS writes the implementing regulations (public comment period during proposed rule)

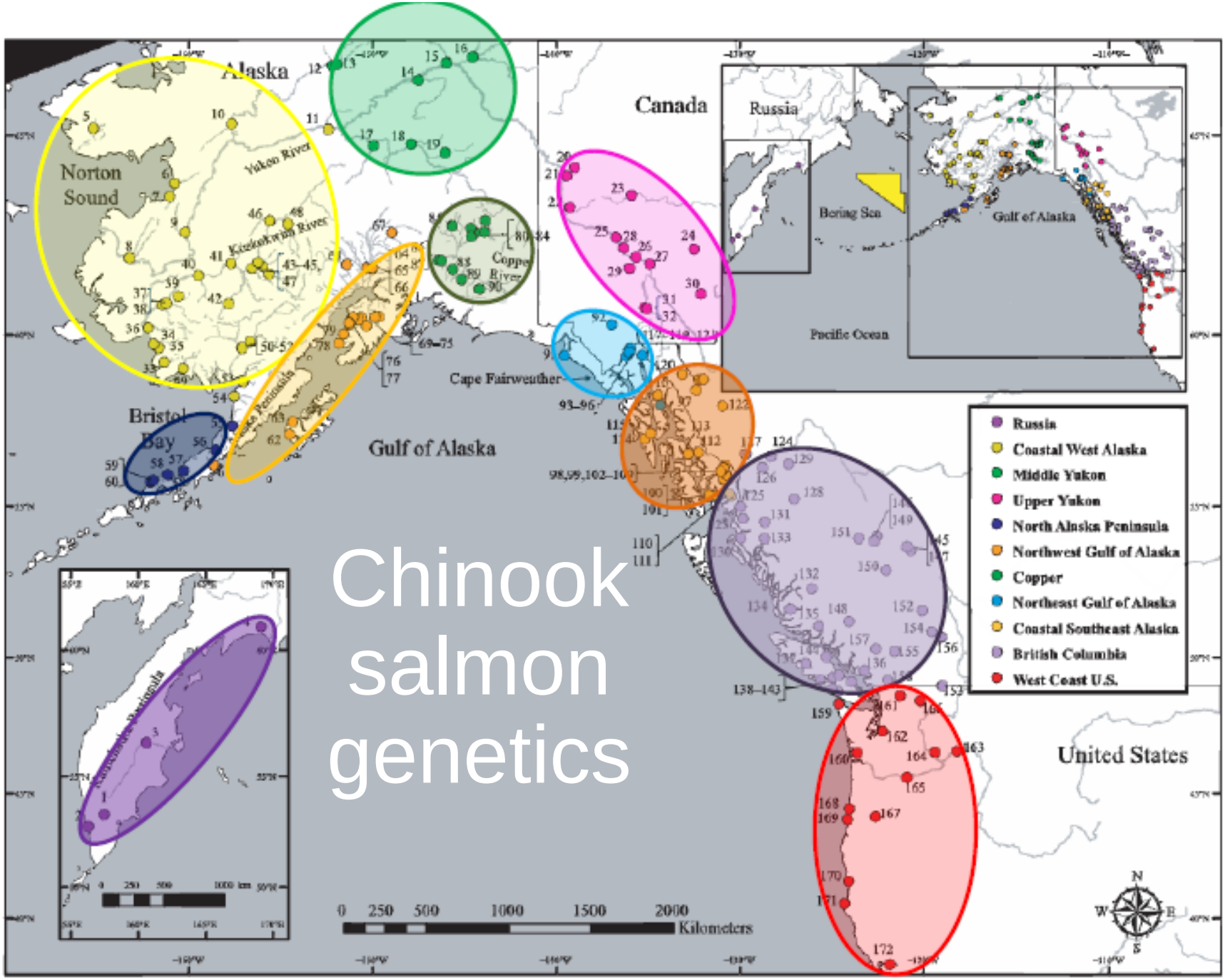
What information is used to inform decisions on how to change management?

Which factors affect salmon bycatch?

- Fleet behavior
- Temperature
- Inter-annual variability
- Seasonal patterns
- Spatial location of the fishery
- Vessel specific differences

Analyses requested by Council 2014

- Evaluation of WAK Chinook bycatch rates
- Updated impact analysis on WAK stocks
- Impact analysis if bycatch reached cap levels
- Consideration of vessel behavioral changes
- Means to evaluate effectiveness of program in low abundance years



Templin et al., 201

2012 Chinook genetics

Stock distribution (annual):

- Coastal Western Alaska stocks (63%)
- North Alaska Peninsula (11%)
- British Columbia (10%)
- West Coast US (7%)
- Upper Yukon (<3%)

- Seasonal differences in summer vs winter proportions
  - > contribution from Upper Yukon, CWAK and N AK peninsula in winter

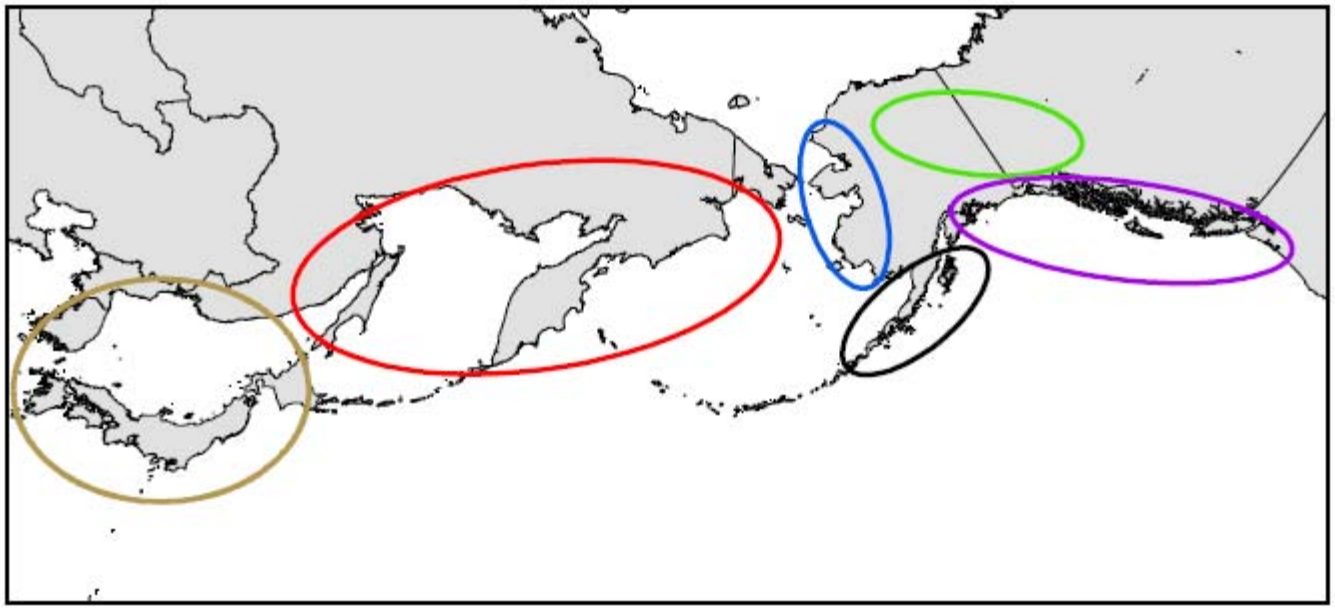


Figure 6. -- Six regional groupings of baseline chum salmon populations used in this report were: East Asia (brown), North Asia (red), Western Alaska (blue), Upper/Middle Yukon (green), Southwest Alaska (black), and the Eastern Gulf of Alaska/Pacific Northwest (purple).

From Vulstek et al, 2012

- Chum (2012)
  - Asian-origin: 60%
  - Western Alaskan: 14%
  - Middle/Upper Yukon: 7%

Impact Rate analysis: AEQ/total run

- Account for age of fish in bycatch
- Account for estimated maturity by age for returning fish
- Use genetic information for stock composition
- Can do impact rate estimate only where total run information is available
- Focus on CWAK and Upper Yukon

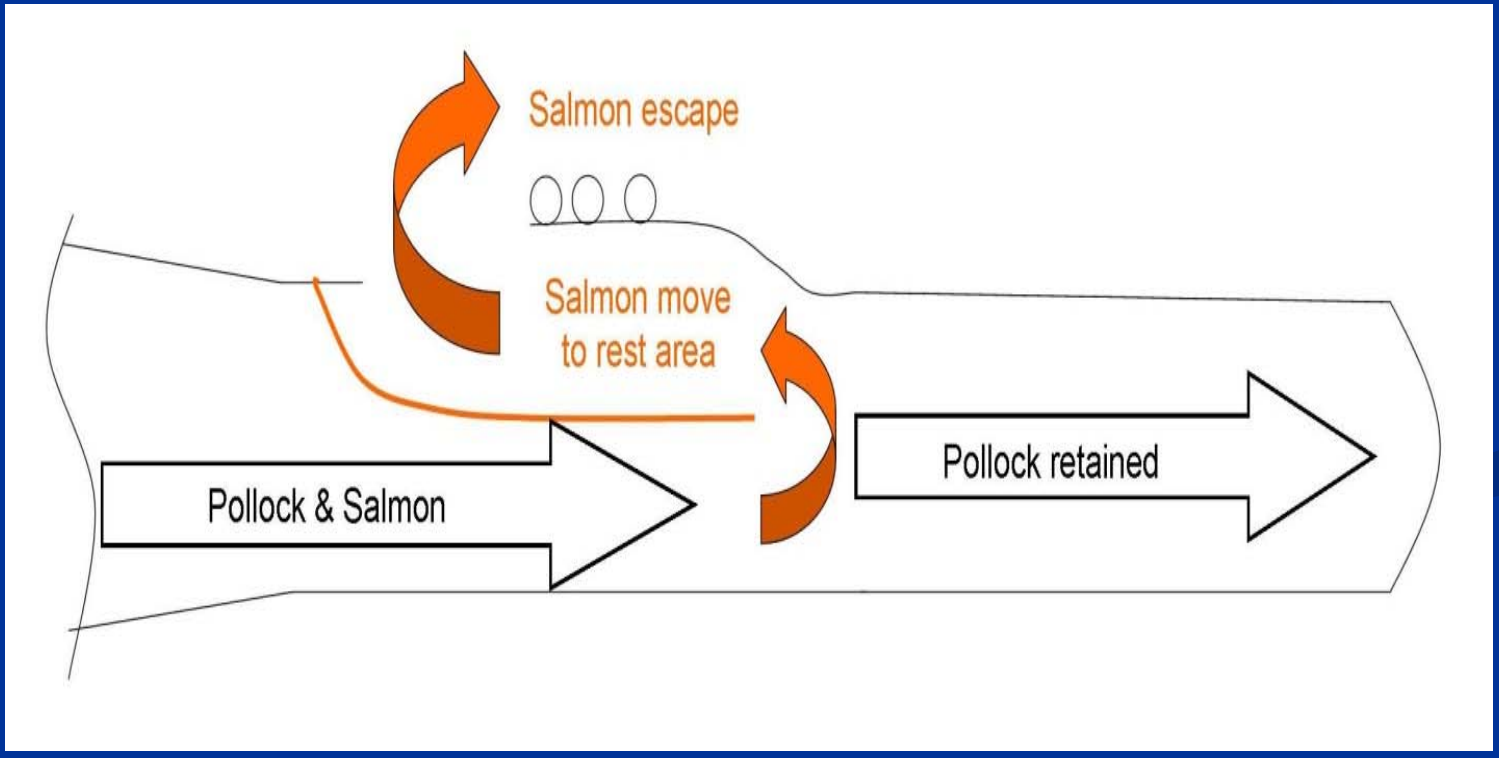
Impact rates: % of total run return by year

- Chinook impact rates 2003-2012
  - Coastal WAK: 1.6% (2011) – 7.7% (2008)
  - Upper Yukon: 1.3% (2003) – 3.7% (2010)
- Impact rates during Am 91 years: 1.4% - 2% both Coastal WAK and Upper Yukon
  - Impact rate if bycatch had reached cap levels (for 2011-2012):
    - Coastal WAK: 2.2% - 6.2%
    - Upper Yukon: 1.8% - 4.6%
- Chum impact rates 2005-2009
  - Coastal WAK: 0.09 % (2008) – 1.23% (2005)
  - Upper Yukon: 0.23% (2009) – 2.63% (2006)

Results of analyses

- Chinook bycatch levels lower than recent years for all sectors and overall since 2011
  - Indications that incremental improvements could be made at vessel level
  - Especially at vessel-level during the B-season
- Annual closures within sectors in place
  - Evidence of vessels moving away from high bycatch
- Most vessels using salmon excluder devices, some sectors mandating usage

Salmon excluders



Additional management issues: timing of Chinook and chum bycatch

Also concerned with managing chum bycatch:

- Chinook bycatch in both winter and summer
- Chum bycatch in summer fishery only
- Chinook bycatch higher later in summer season
- Chinook and chum bycatch measures should be complementary

What alternatives are being considered by the Council?

Alternatives under consideration in 2015

Based on results of analyses and continuing concerns with low WAK Chinook abundance, Council considering modifications to bycatch management.

Three broad measures:

1. Combined chum and Chinook program
2. Changes to incentive plan requirements
3. Lower bycatch caps in years of low Chinook abundance

Alternatives considered: Changes to Incentive plans

Alt 2: Incorporate chum bycatch management into existing plans

Alt 3:

- Mandate use of salmon excluders
- Closures if weekly bycatch rates exceed a specified threshold
- Penalties/restrictions on vessels with highest bycatch rates

Alternatives considered: Change pollock fishery seasons (Alt 4)

- Move start date to June 1 (encourage fishing earlier in summer)
- Shorten B-season to avoid highest Chinook bycatch periods (mid-September to October)
- Modify the proportion of pollock that can be caught by season
  - Move 5-10% of quota to winter season

Alternatives considered: Lower bycatch caps in times of low Chinook abundance (Alt 5)

- Cap level by year tied to an index of Chinook runs in 3 indicator systems the previous year
- Low abundance threshold = ≤250,000 Chinook salmon in Unalakleet, Upper Yukon, and Kuskokwim (combined post-season in river runs)
  - For example: if in a given year, the combined run size of the index systems is ≤ 250,000 Chinook, the bycatch caps are reduced by (options: 25% to 60%).
  - Threshold intended to represent very historically low run sizes.

Overview of analysis (Dec 20140

- Alternative 2 → greater flexibility in managing Chum and Chinook bycatch comprehensively: potentially greater AK chum savings without increased Chinook
- Limited but incremental impact of Chinook savings under Alternative 3 (IPA revisions)
- Higher potential Chinook savings under Alternative 4 (close season early, start season earlier)
- Alternative 5 provides explicit mechanism to adjust performance standard in years of low Chinook abundance. Actual impacts will be dependent upon how IPAs respond to lower caps

New options added in December:

- Provision to move more pollock quota to winter season may provide substantial Chinook savings
  - Actual impacts depend on fishing behavior changes
- Reducing overall cap (options 25% - 60%) in years of low Chinook abundance
  - As with lowering performance standard alone actual impacts contingent on how industry responds to lower caps

How to provide input to the Council on preferred alternative for changes to current management approach

Council action and timeline

- Analysis available to Council and public mid-March 2015
- Council final action week of April 6, 2015 at Hilton Hotel Anchorage
- Council will select a preferred alternative from the range analyzed
  - Can mix and match measures across alternatives
- Written comments received through April 1
  - Public testimony taken at Advisory Panel and Council

Outreach meetings

Staff will summarize comments from all outreach meetings and present an outreach report to the Council prior to final action:

- January 22: Nome, Kawerak
- January 29: Statewide teleconference
- February 24: Bristol Bay RAC, Naknek
- February 25/26: Yukon Kuskokwim RAC, Bethel
- March 4: Eastern and Western Interior RACs

How to provide comments

- Testify in person at a Council meeting
- Provide written, faxed or emailed comments by April 1 to:

North Pacific Fishery Management Council
605 West 4th, Suite 306
Anchorage, Alaska 99501-2252
Phone: (907) 271-2809
Fax: (907) 271-2817
npfmc.comments@noaa.gov

Links for more information

For more information the following document are posted at:

http://www.npfmc.org/salmon-bycatch-overview/

- December initial review draft of analysis (Public review draft available Mid-March)
- December Council motion

For published analyses of Chinook bycatch impact rates and efficacy of management measures go to: http://www.npfmc.org/scientific-papers/

- Ianelli, J.N, and Stram, D. L. 2014. Estimating Impacts of the Pollock Fishery Bycatch on Western Alaska Chinook Salmon. ICES Journal of Marine Science; doi:10.1093/icesjms/fsu173.
- Stram, D. L. and Ianelli, J.N. 2014. Evaluating the Efficacy of Salmon Bycatch Measures Using Fishery-Dependent Data. ICES Journal of Marine Science; doi:10.1093/icesjms/fsu168.

Genetic analyses:

- Chinook bycatch from the 2013 BSAI pollock fishery: http://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-290.pdf
- Chinook bycatch from the 2013 GOA Rockfish and Arrowtooth fisheries: http://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-289.pdf
- 2012 genetic reports available at: www.npfmc.org/salmon-bycatch-overview/
- 2013 genetic reports for BSAI chum and GOA Chinook (available mid-March).

Thank You!

- For more information please contact:
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