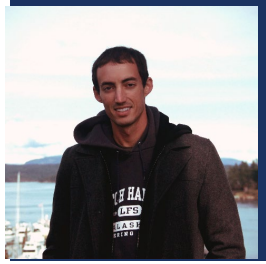
CP CHINOOK AND CHUM SALMON BYCATCH REDUCTION INCENTIVE PLAN AGREEMENT

ANNUAL REPORT 2022

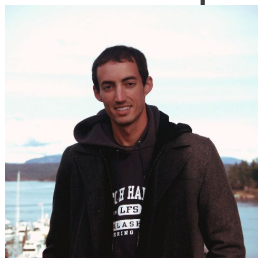
April 2023
NPFMC



Presenters: Austin Estabrooks

PRIMARY IPA COMPONENTS

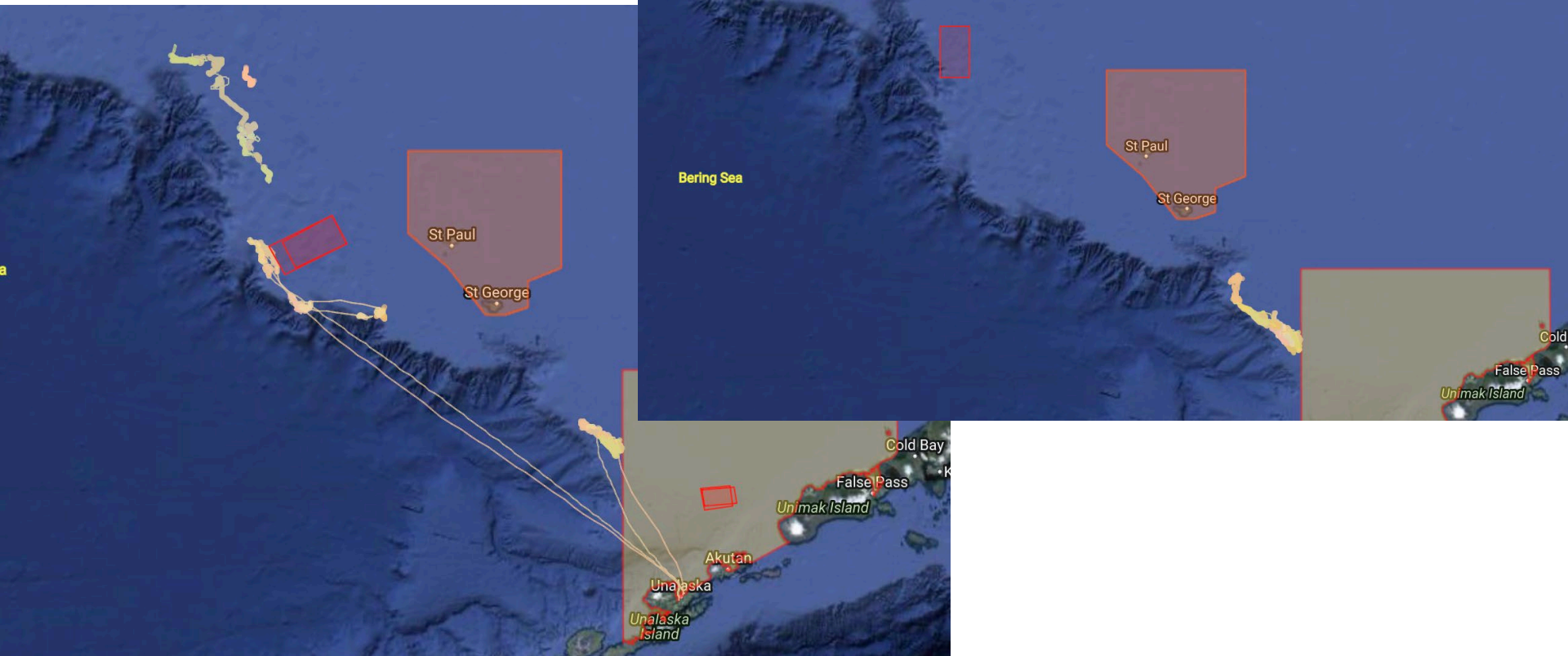
- Data gathering, monitoring, reporting, information sharing.
- Identification of bycatch avoidance areas (Rolling Hot Spot Closures).
- Fishing area prohibitions for vessels with poor bycatch performance.
- Fixed Closures: A-season closed area & conditional B-season closed areas.
- Performance criteria to ensure Chinook PSC rates in October are not significantly higher than prior months
- Penalties for vessels with consistently higher Chinook salmon bycatch rates relative to the fleet.
- Requires the use of Salmon Excluder Devices



THE ROLLING HOT SPOT PROGRAM DEMONSTRATED B-SEASON CHUM

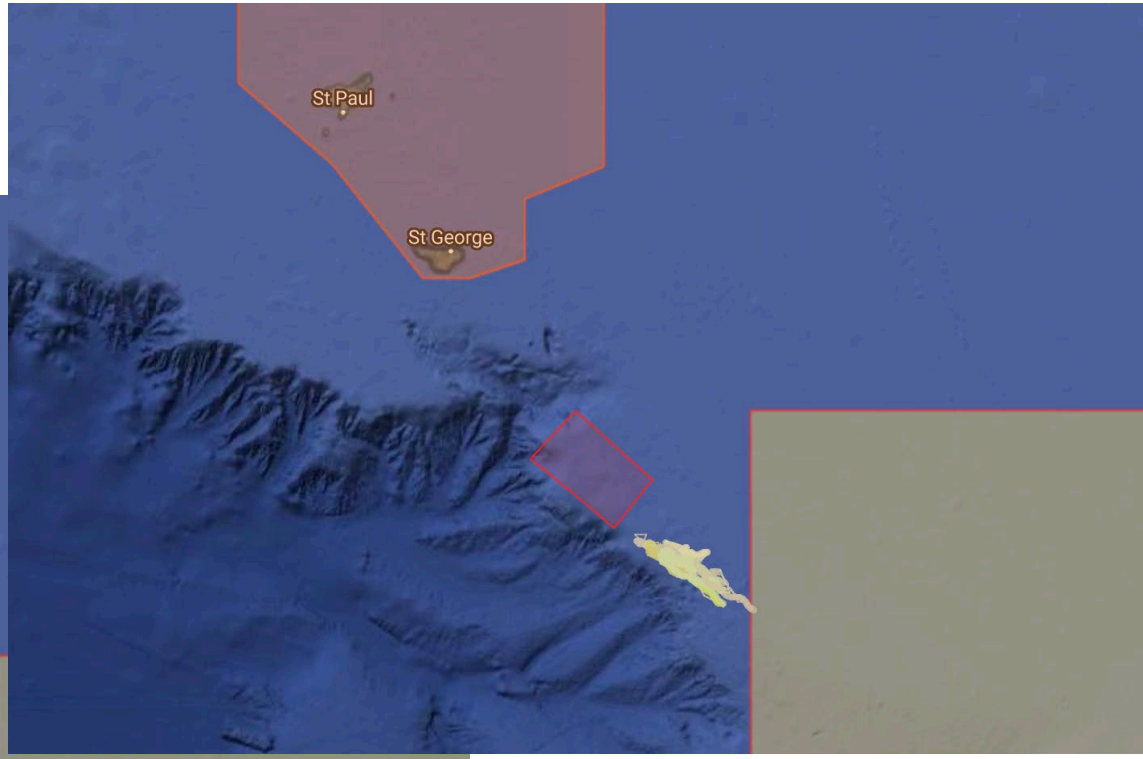
AFA CP EFFORT 8/26/22-8/30/22,
Closure 8/26-9/2

AFA CP EFFORT 8/22/22-8/26/22,
Closure 8/19-8/26, enlarged 8/23



THE ROLLING HOT SPOT PROGRAM DEMONSTRATED B-SEASON CHUM

AFA CP EFFORT 9/2/22-9/9/22,
Closure 9/2-9/9

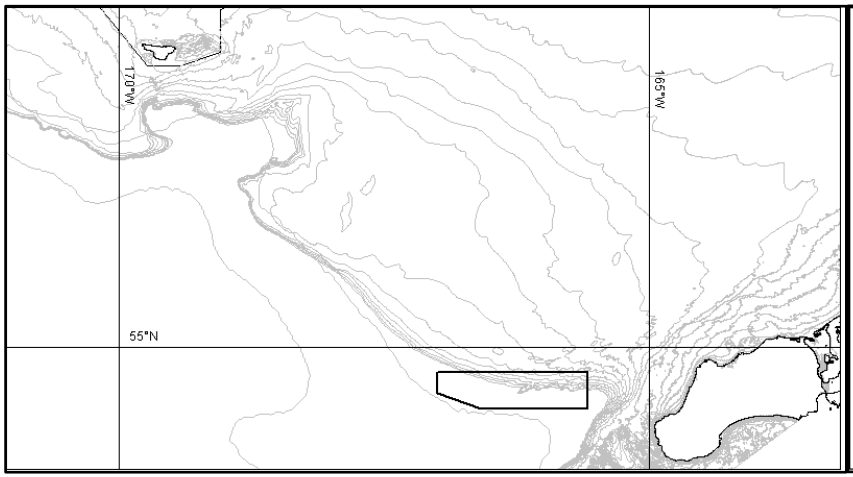


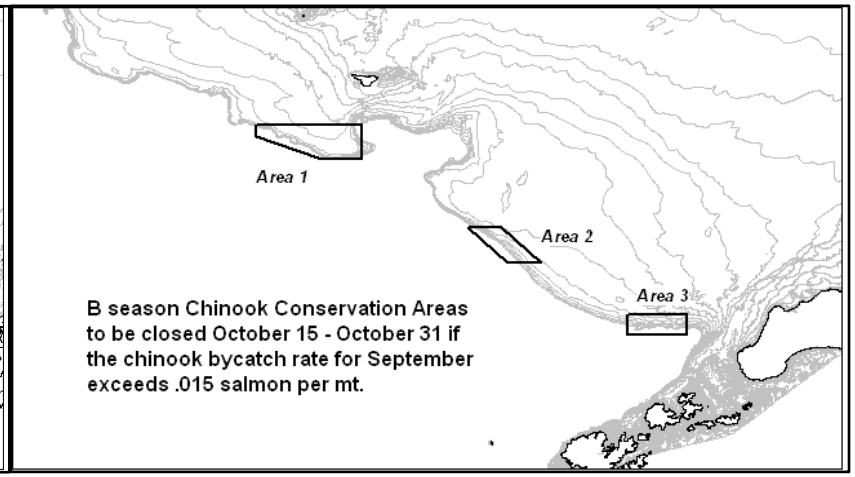
AFA CP EFFORT 8/30/22-9/2/22,
Closure 8/26-9/2

CHINOOK CONSERVATION AREAS

735 square mile area closed to all pollock fishing 100% of the time during A- season

Areas totaling 1,295 square miles closed to CP pollock fishing Oct 15-Oct 31 if the Chinook bycatch rate for September exceeds 1.5 Chinook per 100 tons pollock.





CHINOOK PROHIBITED SPECIES CATCH LIMITS

Pollock Sector	Performance Standard limit (Low Abundance)	Absolute Limit (Low Abundance)
CDQ	2,732	3,690
CP	9,462	12,780
Totals	12,194	16,470
Average Vessel Limit (with buffers)	903	1,267
Chinook rate (Number/mt pollock)*	0.018	0.026

* Based on 2022 pollock harvest levels

CHINOOK & CHUM PSC AND POLLOCK CATCH

A season

Pollock (mt)	Chinook (n)	Chum (n)
220,265	1,911	16
Rate (n/mt)	0.009	0.00007

B season

Pollock (mt)	Chinook (n)	Chum (n)
270,857	291	78,147
Rate (n/mt)	0.001	0.289

Catch totals include all IPA participants (PCC, HSCC, OP, CDQ)

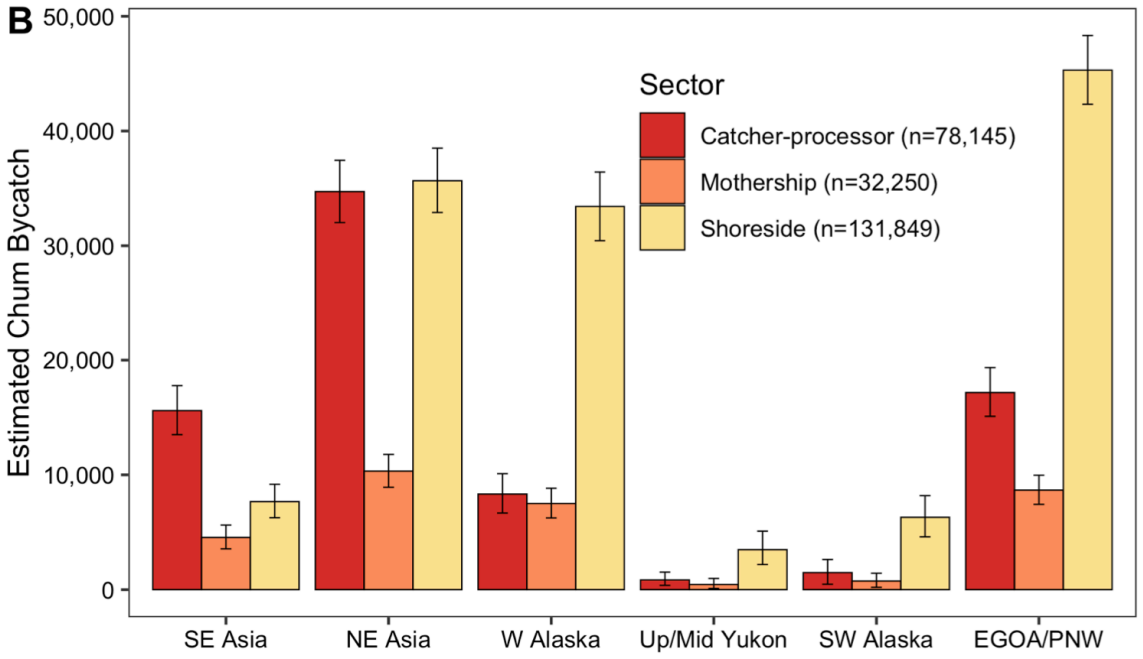
WESTERN ALASKA CHINOOK & CHUM PSC

Chinook

Total Chinook (n)	WAK + Up/Mid Yukon (n)
2,202	887

Chum

Total Chum (n)	WAK + Up/Mid Yukon (n)
78,147	~10,000



CHINOOK & CHUM PSC RATES TRANSLATED

CHINOOK

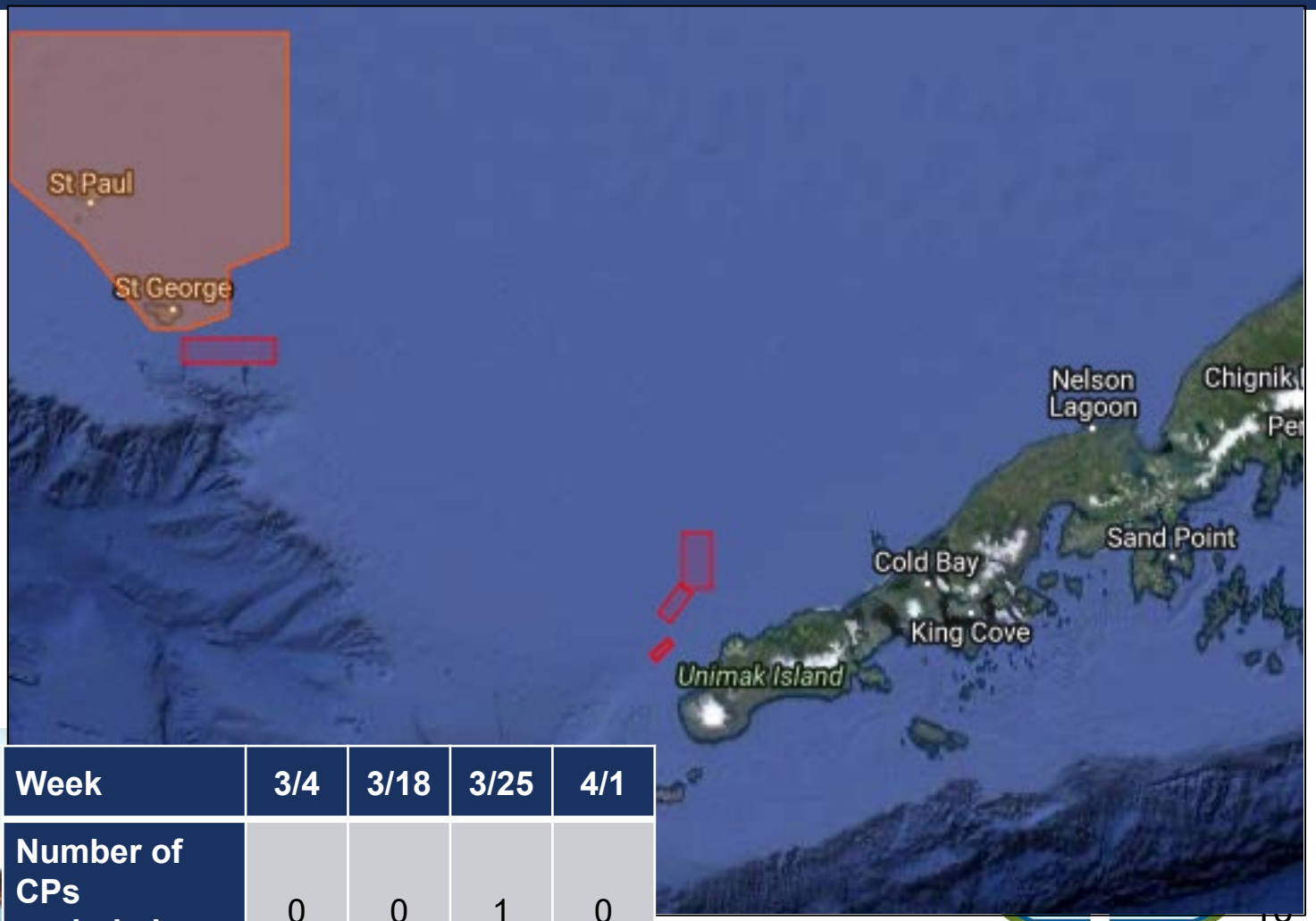
- In 2022 the AFA CP fleet landed 223 tons of pollock, equivalent to nearly **175,000 pounds of frozen product** for every **one Chinook salmon** encountered.
- This equates to **706,069* meals produced per Chinook salmon** assuming an average 35.9% product recovery rate and 4-ounce meal serving portions.

CHUM

- In 2022 the AFA CP fleet landed 49 tons of pollock, equivalent to nearly **38,789 pounds of frozen product** for every **one Western Alaska chum salmon** encountered.
- This equates to **155,155* meals produced per Western Alaska chum salmon** assuming an average 35.9% product recovery rate and 4-ounce meal serving portions.

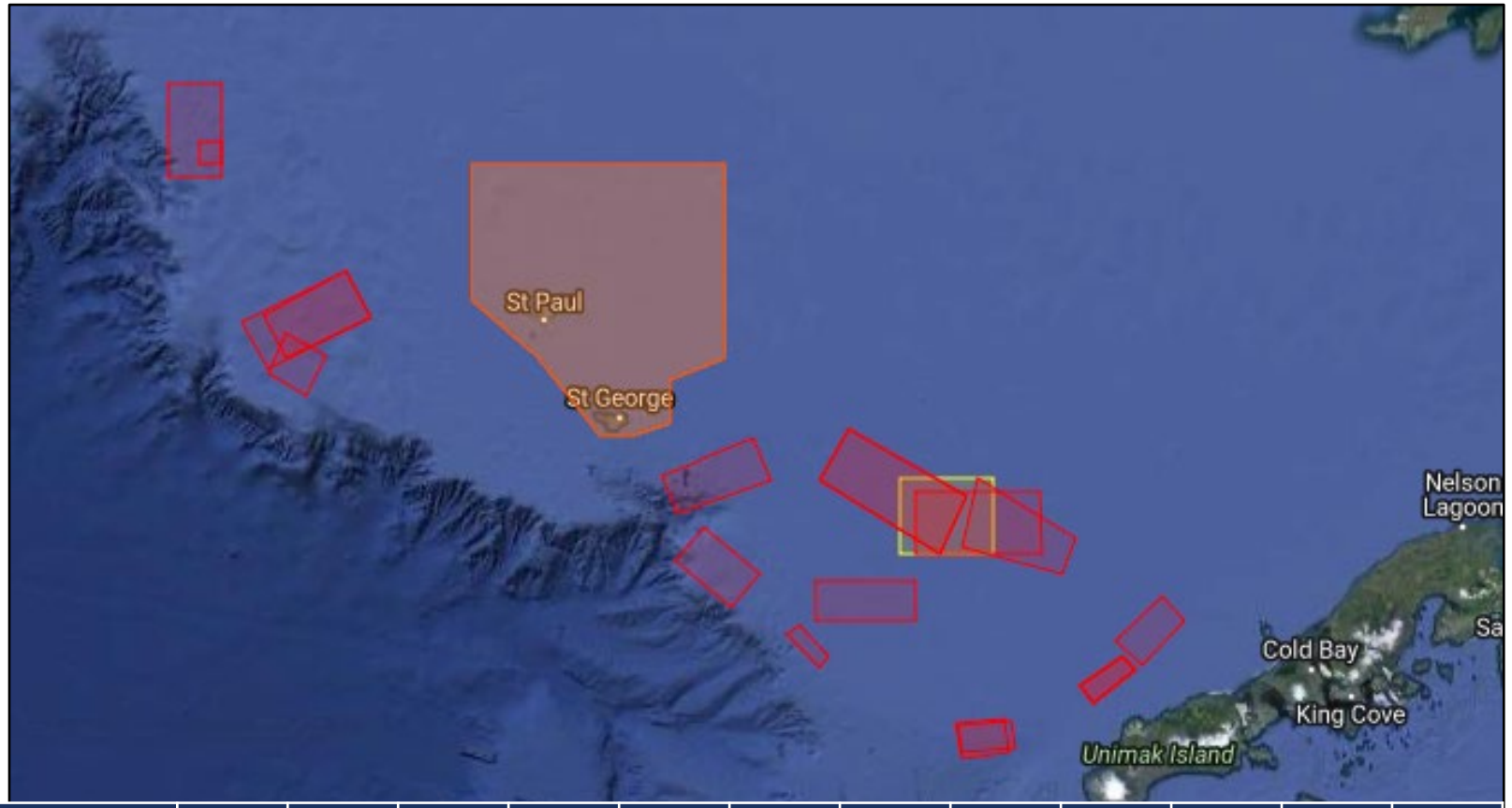
*Assumes 35.9% product Recovery rate and 4-ounce meal portions

CHINOOK BYCATCH AVOIDANCE AREAS, CP SECTOR 2022



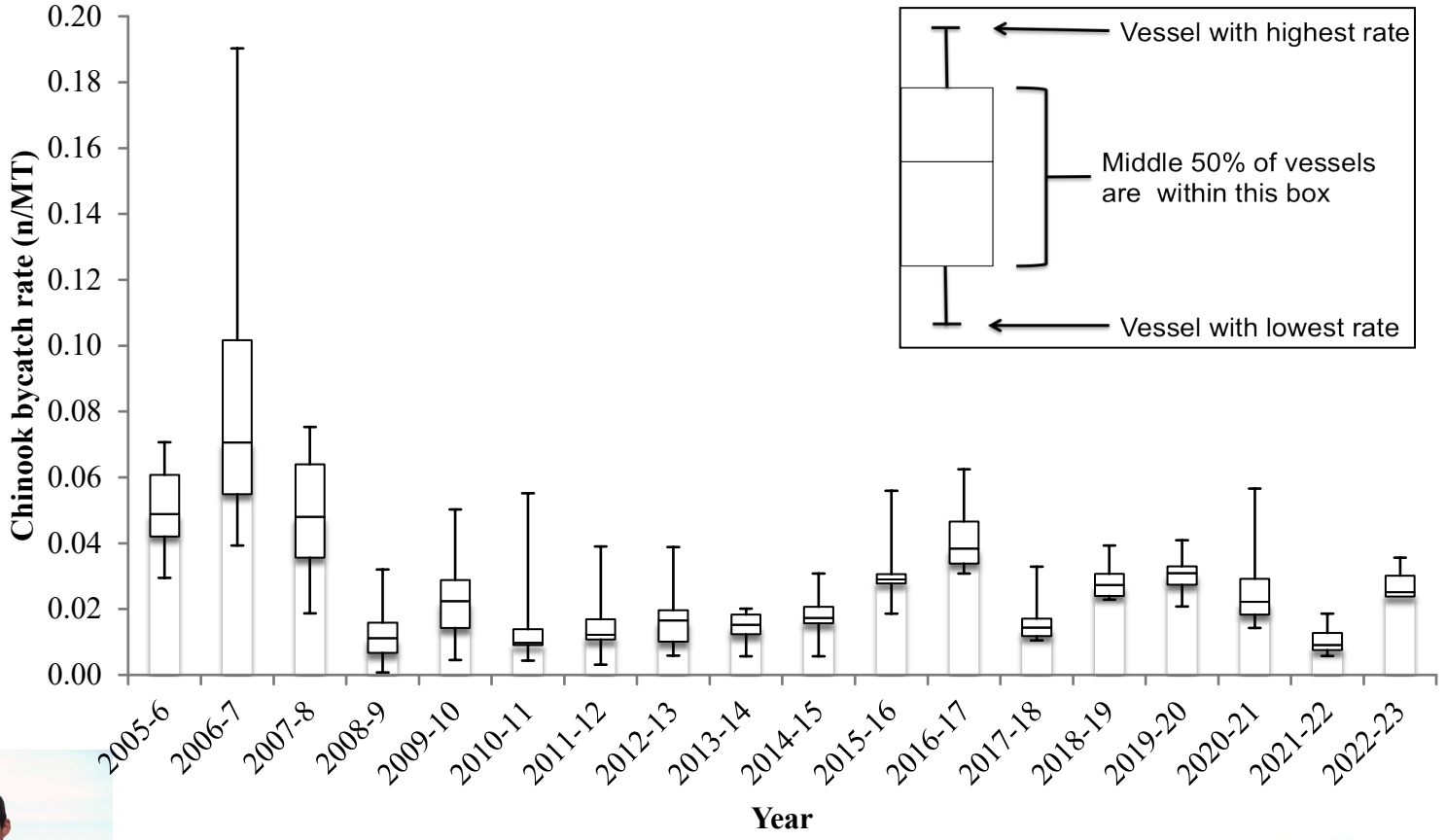
Week	3/4	3/18	3/25	4/1
Number of CPs excluded from BAAs	0	0	1	0

CHUM BYCATCH AVOIDANCE AREAS, CP SECTOR 2022



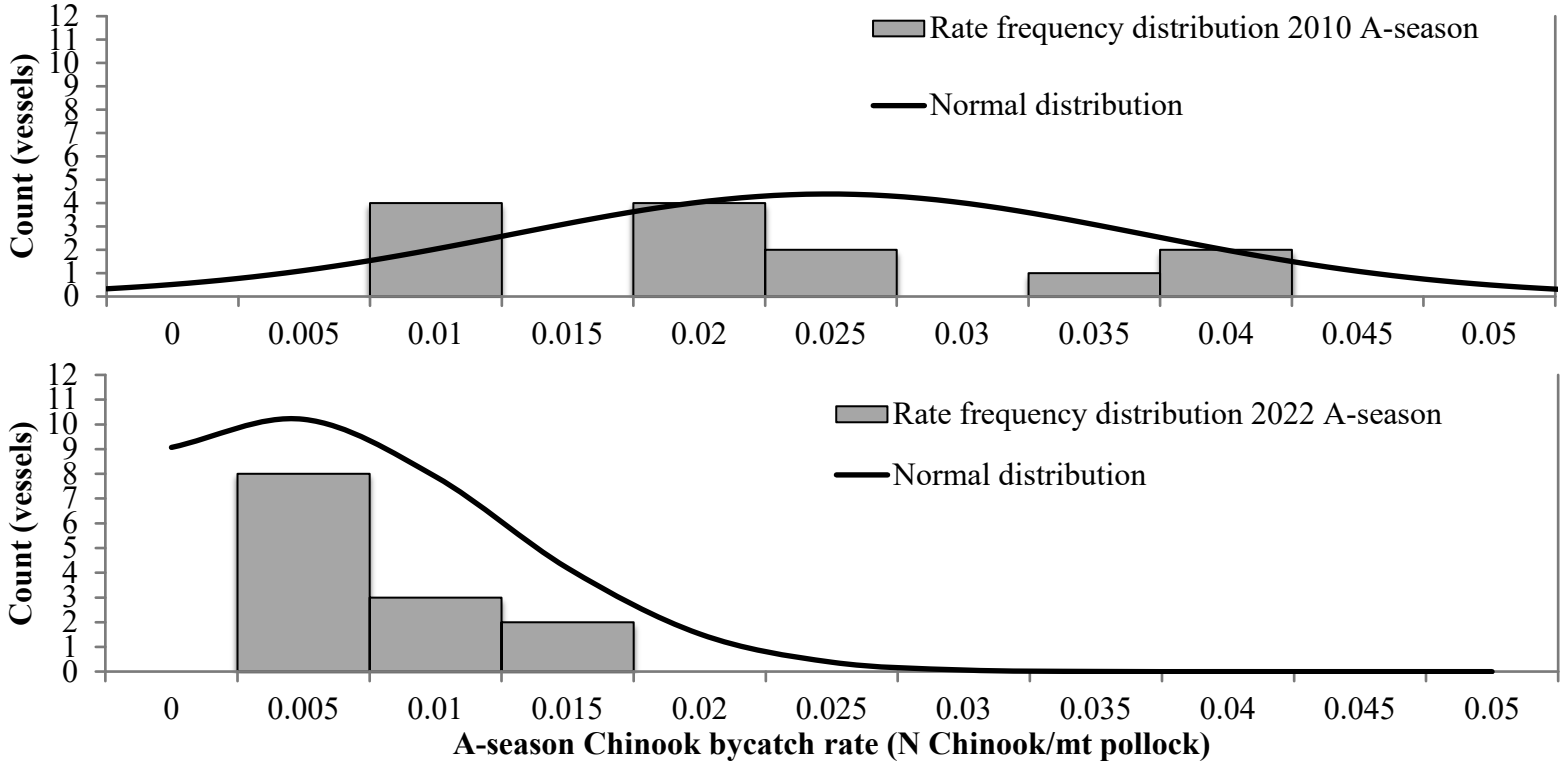
Week	7/15	7/19	7/22	7/26	7/29	8/2	8/16	8/19	8/23	8/26	8/30	9/2
Number of CPs excluded from BAAs	2	2	4	4	2	2	1	2	4	4	6	5

EFFECTS OF INCENTIVE PLAN AGREEMENT



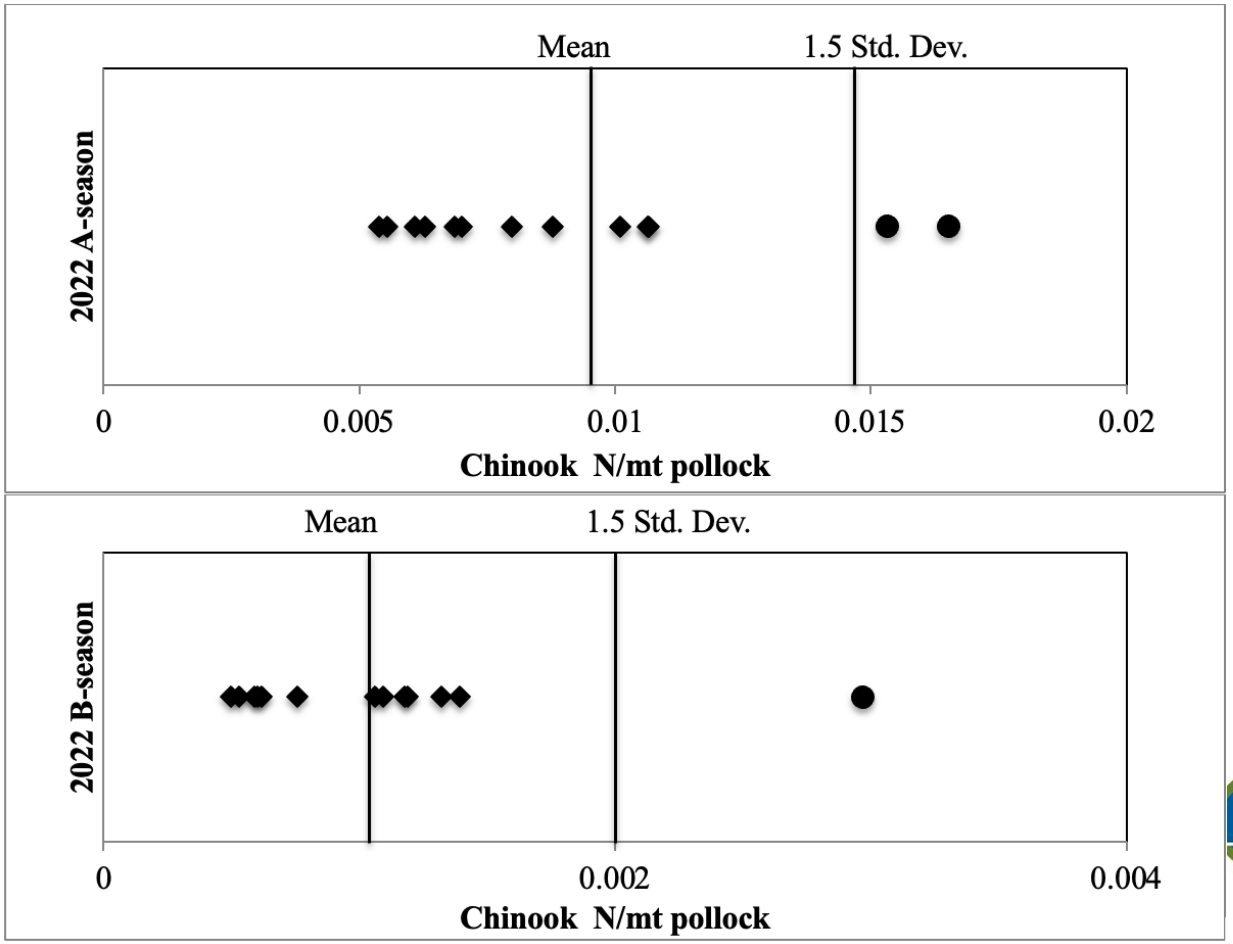
CP Vessel Chinook bycatch rate distribution by year for 1 Sept-1 March.

EFFECTS OF INCENTIVE PLAN AGREEMENT



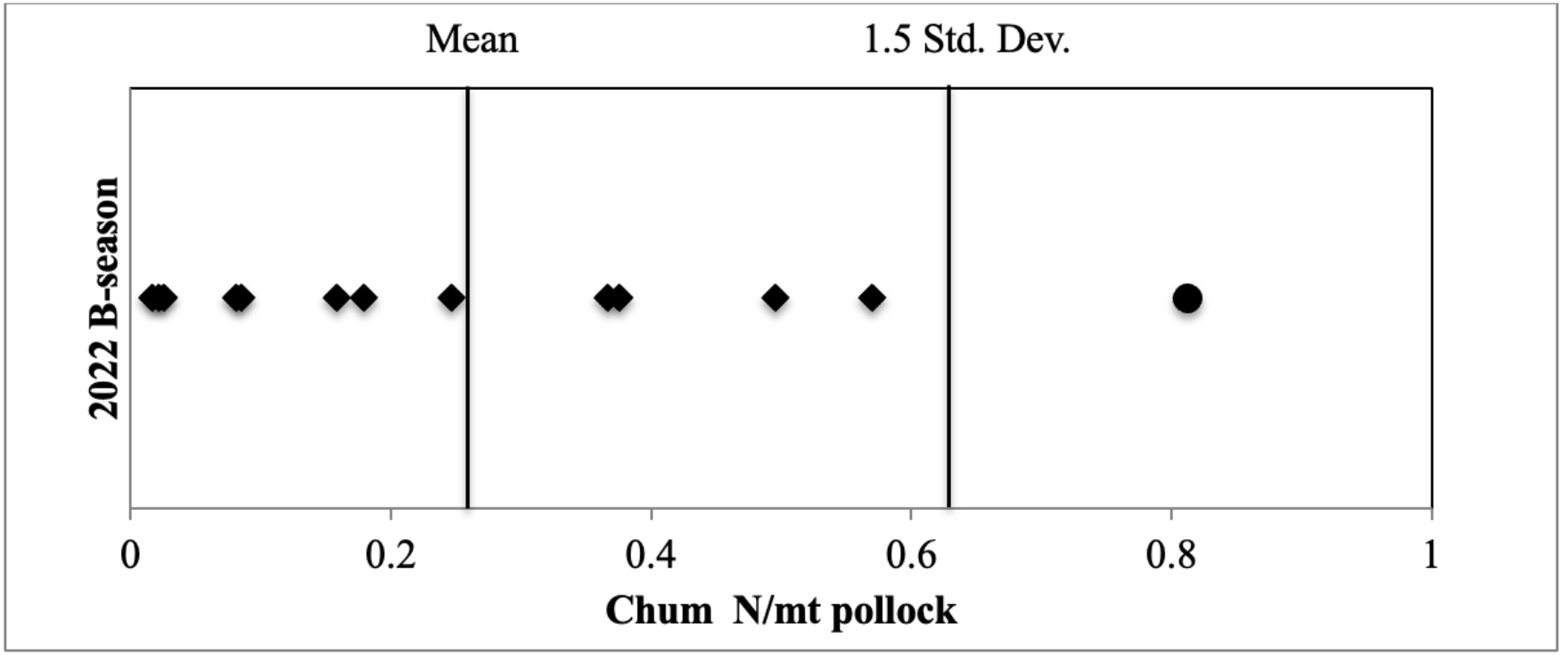
Upper panel: A-Season CP Vessel Chinook Bycatch Rate Frequency Distribution for 2010 with a variance pre-Amendment 91 of 0.0014 and Lower panel: Distribution for 2022 with variance equal to 0.00001.

EFFECTS OF INCENTIVE PLAN AGREEMENT



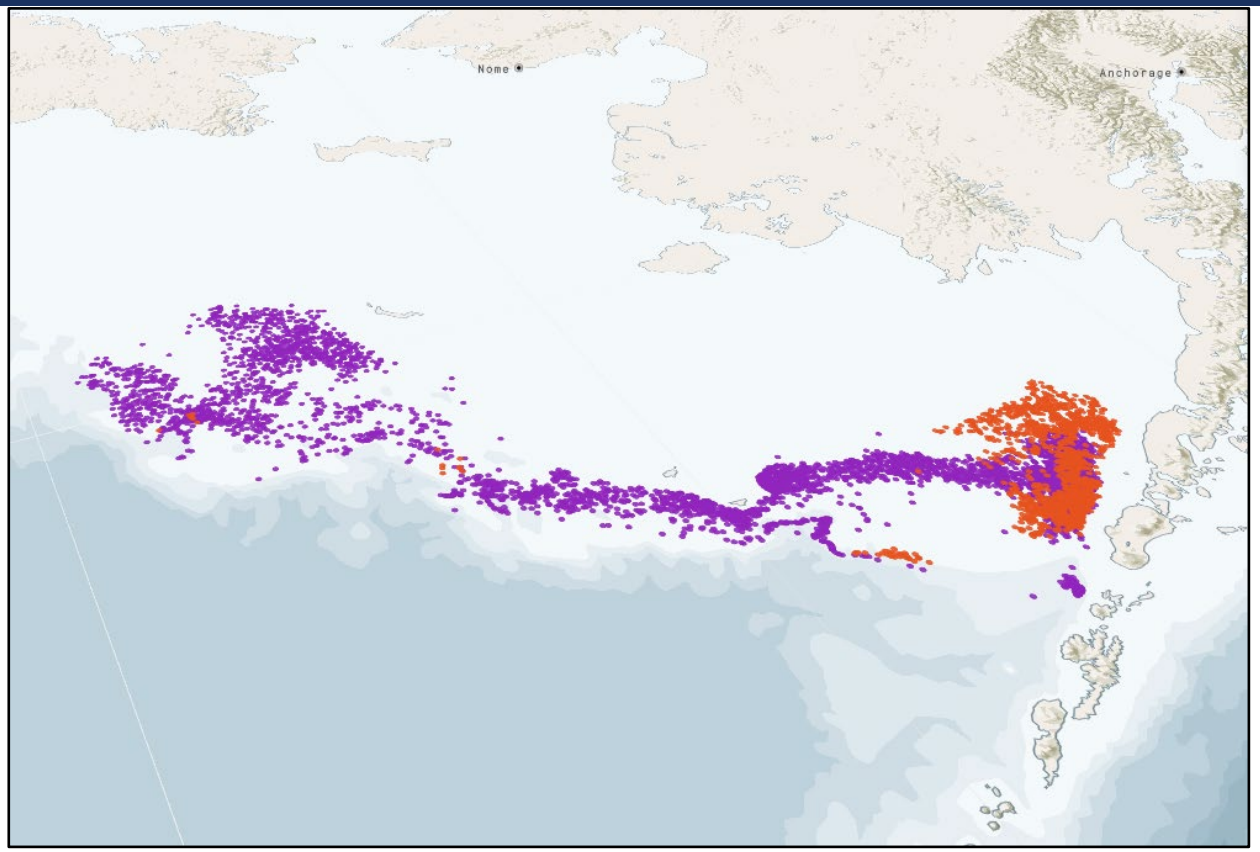
Fleetwide Chinook bycatch ratio distribution for 2022 fishing seasons. Circles denote outlier vessels.

EFFECTS OF INCENTIVE PLAN AGREEMENT



Fleetwide chum bycatch ratio distribution for the 2022 B season. Circle denotes outlier vessel.

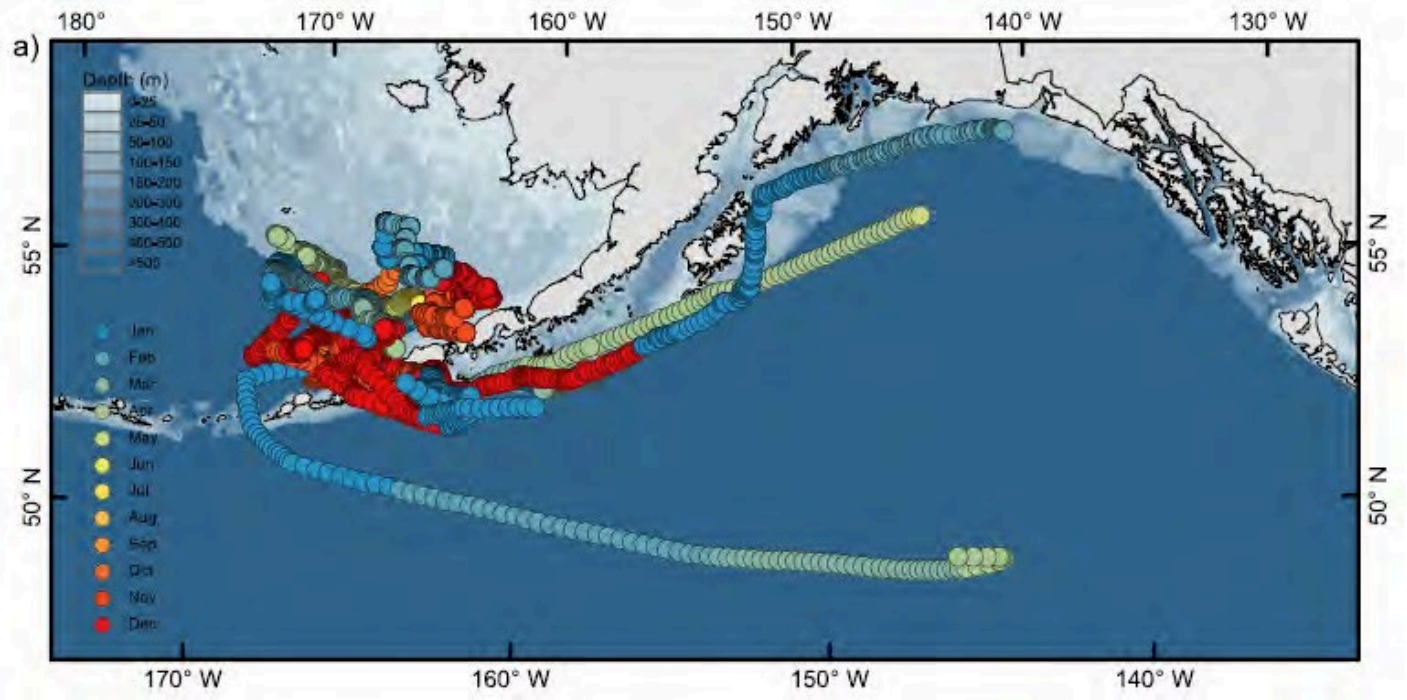
EFFECTS OF INCENTIVE PLAN AGREEMENT



Pollock CP trawl locations between September 1st and February 28th for the years 2008-2010 (blue), 2022-2023 (orange).

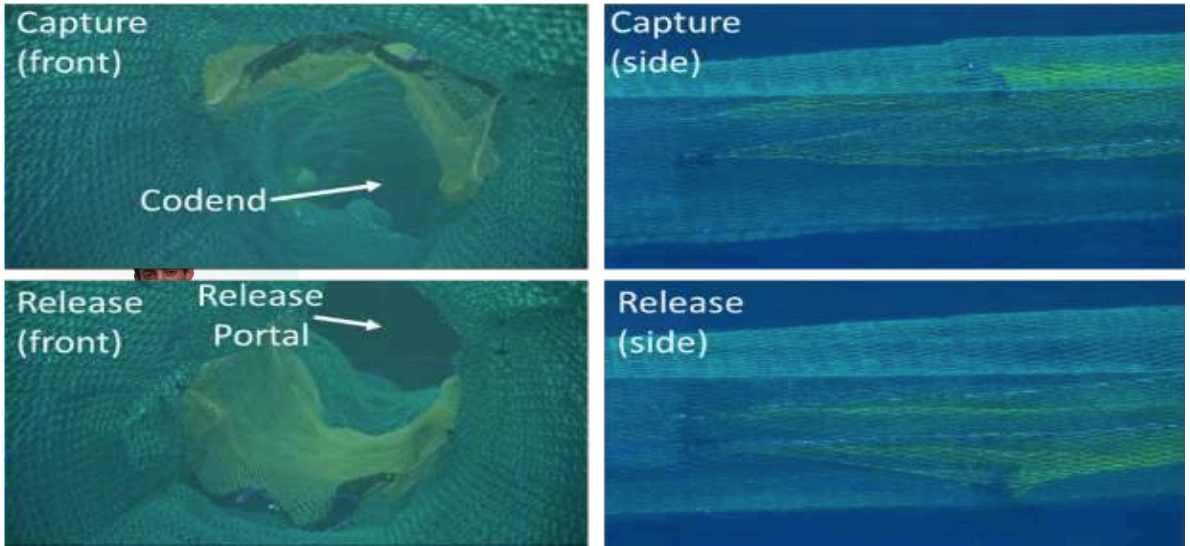
POLLOCK CONSERVATION COOPERATIVE RESEARCH CENTER-SALMON RESEARCH

- Shipside Salmon Stock Identification-Mitchondrial DNA sequencing
- Chum Species Distribution Models- AYK-SSI Proposal
- Spatiotemporal dynamics of Chum Salmon Bycatch in the Bering Sea
  https://pdbarry.shinyapps.io/GSI_Salmon_LandingPage
- Getting ahead of bycatch spikes: using species distribution models to predict Chinook salmon and walleye pollock fleet overlap



GEAR RESEARCH AND DEVELOPMENT

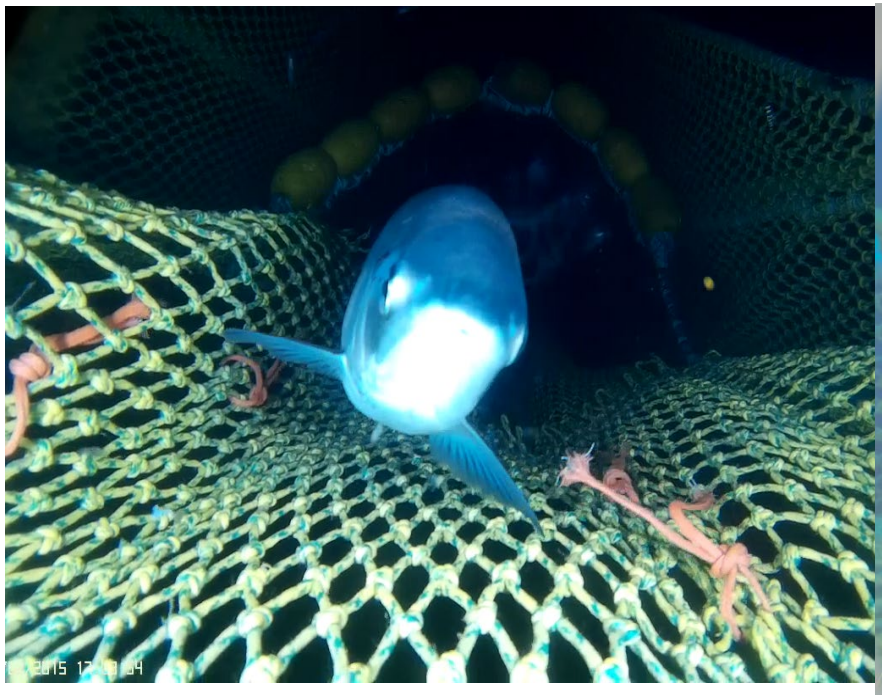
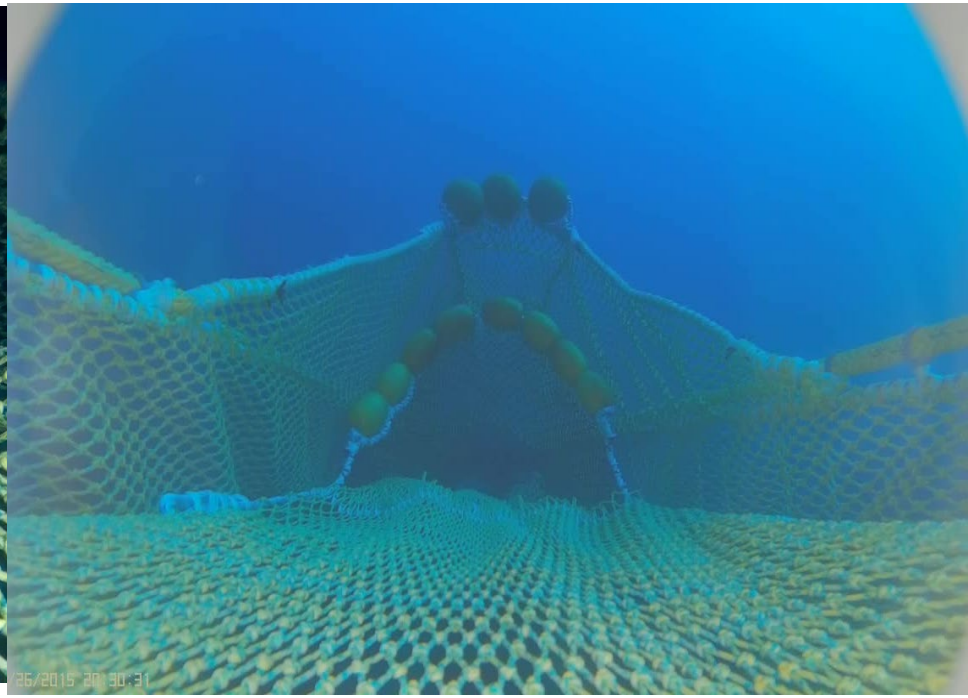
- All vessels continue to utilize a salmon excluder device in accordance with Amendment 110 regulations
- Currently testing is underway at the flume tank in St. John's Newfoundland to further refine the Active Selection device
- Most CP vessels operate with a live-feed camera system allowing them to view catch composition in real time helping mitigate lightning strike events



NEW 2022 CP IPA AMENDMENTS

- New chum salmon Bycatch Avoidance Areas may be implemented on Monday for a Tuesday to Friday closure
  - There were a total of **5 new closures implemented on Monday** following new data from the weekend and one advisory closure area. The new closures **excluded 17 vessels** from fishing in areas of known high bycatch
  - The IPA was significantly more responsive to new data and curtailed chum bycatch spikes sooner.
- Restrictions for all vessels from fishing in known areas of “extremely” high chum bycatch (defined as 5 chum/mt pollock).
  - Chum bycatch rates in the 2022 B-season were relatively low across all weeks except for the last 2 weeks in August
  - There was only one stat area week with a chum bycatch rate greater 5 chum/metric ton pollock, however this area is located within the CVOA where no CP vessels were fishing and thus was not closed.
- Include chum salmon to the “outlier provision” to create incentives for chronic poor chum bycatch performers to improve bycatch rates.
  - There was one vessel outlier during the 2022 B-season, this vessel had a series of mechanical issues that caused it fish much later in the B-season

NEXT STEPS

1. Utilize more refined spatio-temporal genetics information to effectively move the fleet more quickly and farther from WAK chum bycatch hot spots
2. Utilize new chum salmon species distribution models to better predict when and where WAK chum are most likely to occur so that bycatch avoidance becomes proactive instead of reactive
3. Continue development of active salmon excluder devices and continue to expand the use of live feed camera systems across the pollock fleet.

QUESTIONS