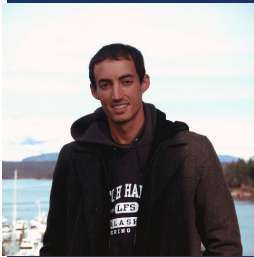


CP CHINOOK AND CHUM SALMON BYCATCH REDUCTION INCENTIVE PLAN AGREEMENT

ANNUAL REPORT 2021

June 2022
NPFMC

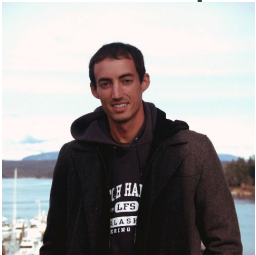


Presenters: Stephanie Madsen
Austin Estabrooks



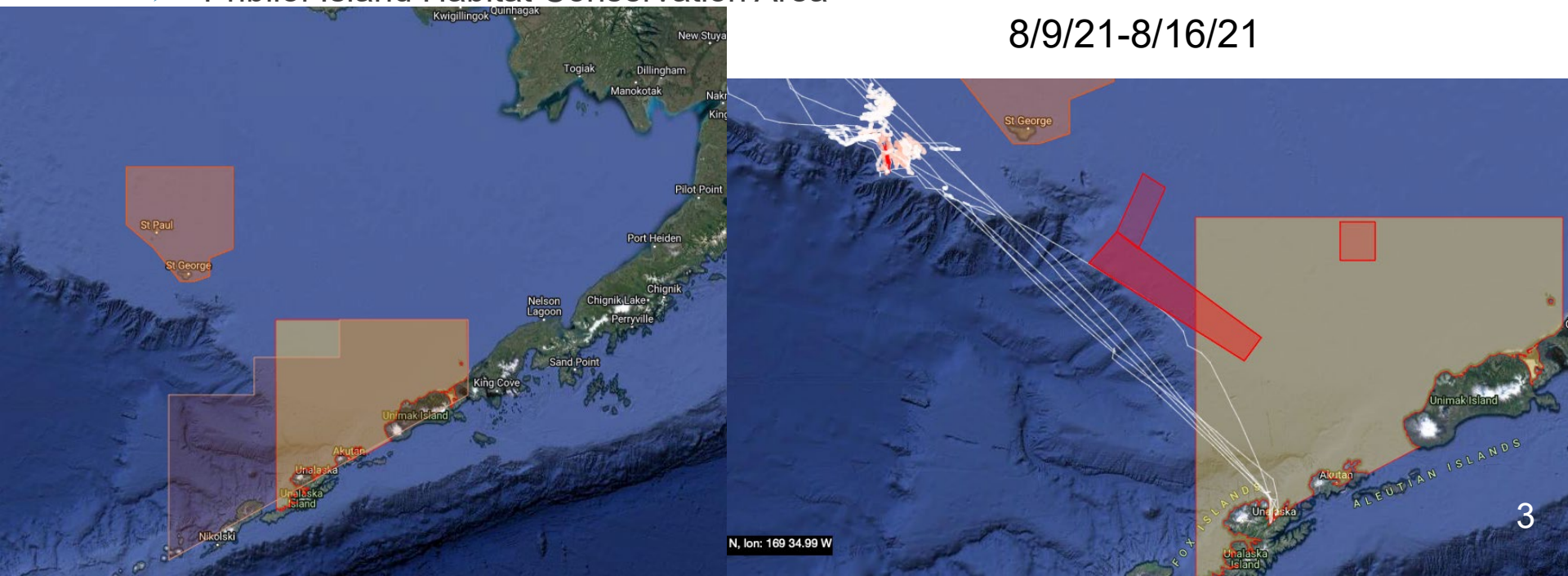
PRIMARY IPA COMPONENTS

- 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



DATA GATHERING, MONITORING, REPORTING, INFORMATION SHARING

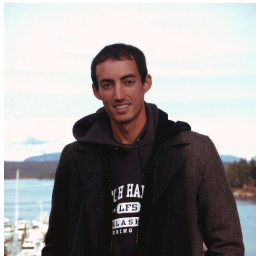
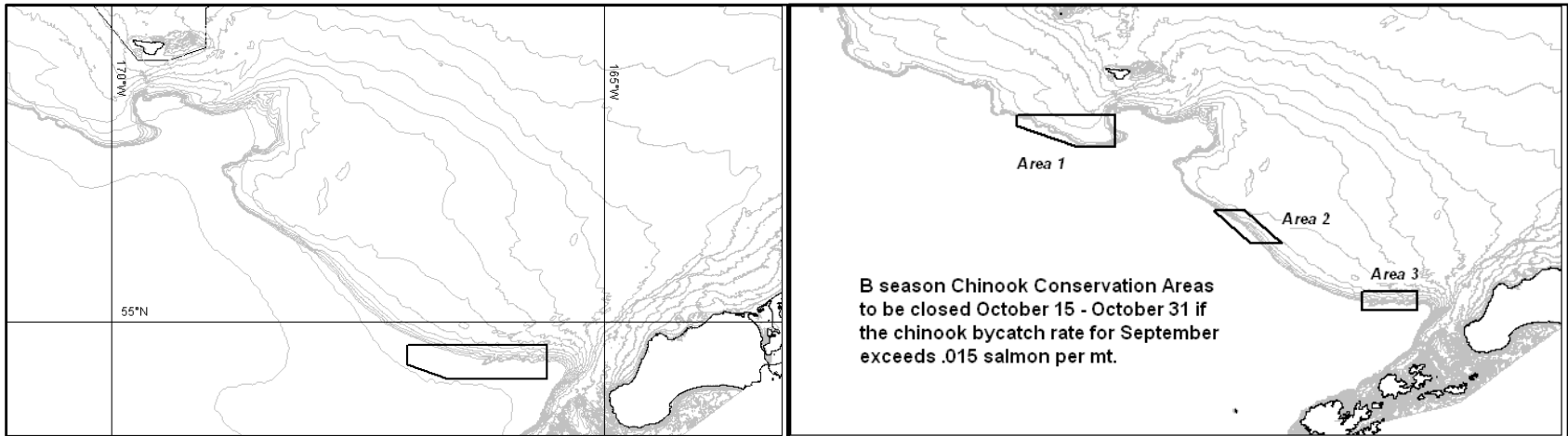
- Bi-weekly and Weekly Bycatch Reports
- Other Regulatory Constraints
 - Steller Sea Lion Conservation Area
 - Catcher Vessel Operational Area
 - Pribilof Island Habitat Conservation Area



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) | Performance Standard limit | Absolute Limit |
|-------------------------------------|--|--------------------------------|----------------------------|----------------|
| CDQ | 2,732 | 3,690 | 3,883 | 4,896 |
| CP | 9,462 | 12,780 | 13,516 | 17,040 |
| Totals | 12,194 | 16,470 | 17,399 | 21,936 |
| Average Vessel Limit (with buffers) | 903 | 1,267 | 1,304 | 1,687 |
| Chinook rate (Number/mt pollock)* | 0.019 | 0.027 | 0.028 | 0.036 |



* Based on 2021 pollock harvest levels



CHINOOK & CHUM PSC AND POLLOCK CATCH

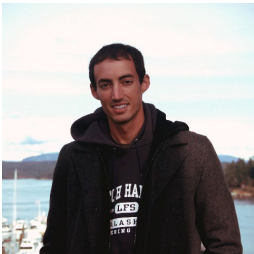
A season

| Pollock (mt) | Chinook (n) | Chum (n) |
|--------------|-------------|----------|
| 277,829 | 4,368 | 54 |
| Rate (n/mt) | 0.015 | 0.00019 |

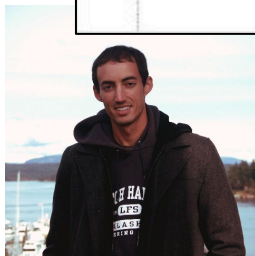
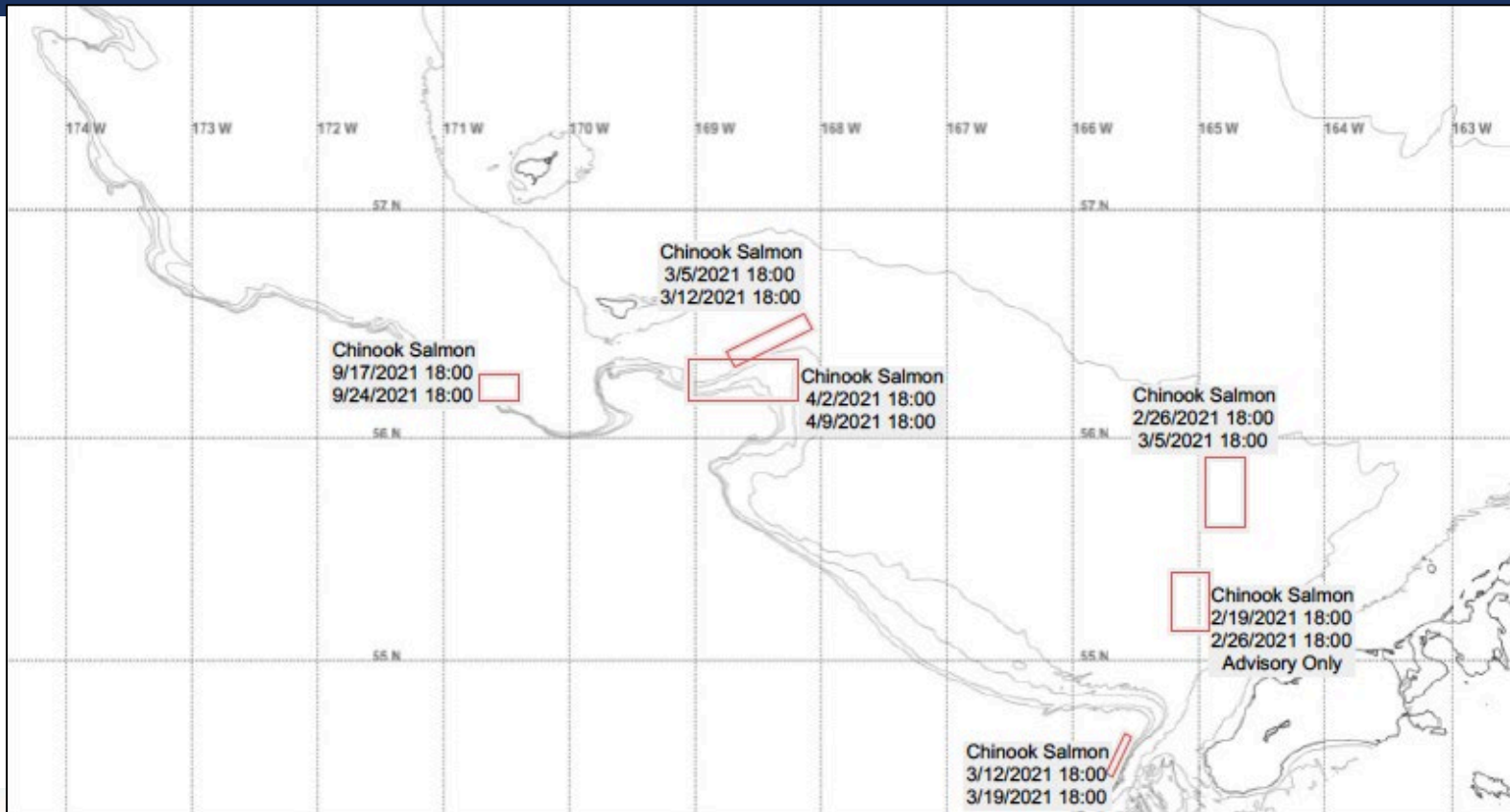
B season

| Pollock (mt) | Chinook (n) | Chum (n) |
|--------------|-------------|----------|
| 341,679 | 1,516 | 153,545 |
| Rate (n/mt) | 0.0044 | 0.449 |

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



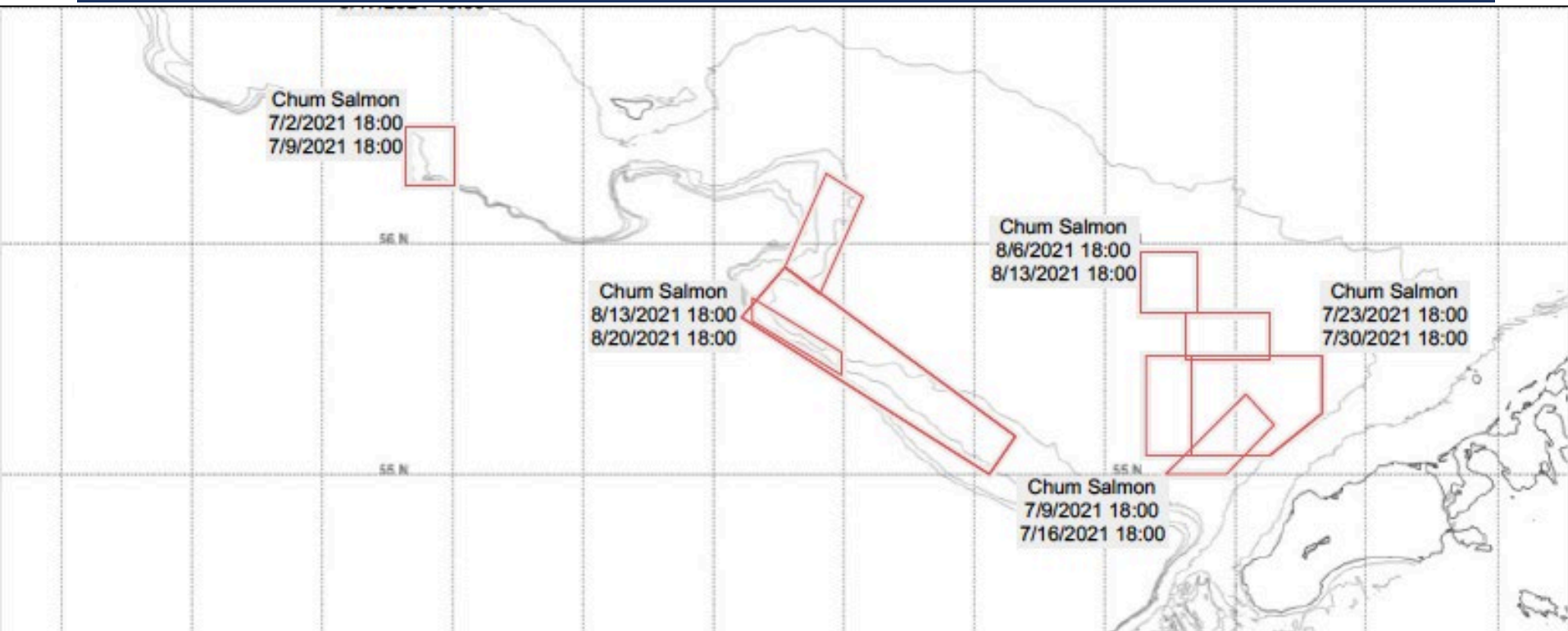
CHINOOK BYCATCH AVOIDANCE AREAS, CP SECTOR 2021



| Week | 2/19 | 2/26 | 3/5 | 3/12 | 3/19 | 4/2 | 9/17 |
|----------------------------------|------|------|-----|------|------|-----|------|
| Number of CPs excluded from BAAs | 0 | 0 | 0 | 0 | 0 | 1 | 0 |



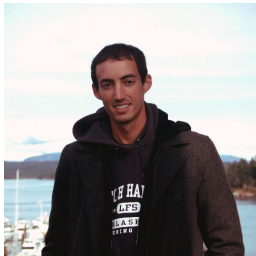
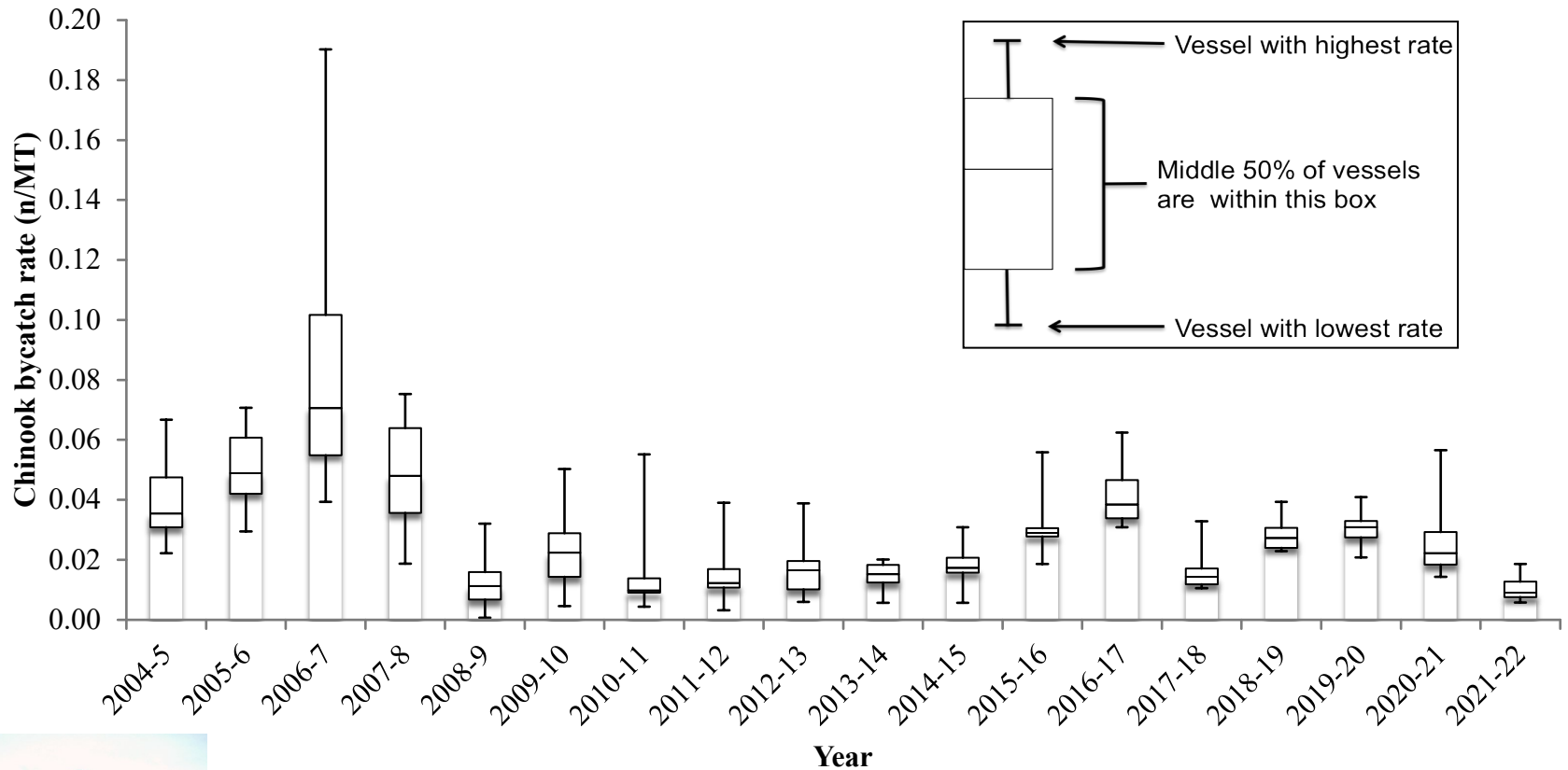
CHUM BYCATCH AVOIDANCE AREAS, CP SECTOR 2021



| Week | 7/2 | 7/9 | 7/16 | 7/23 | 7/30 | 8/6 | 8/13 | 8/27 | 9/10 |
|----------------------------------|-----|-----|------|------|------|-----|------|------|------|
| Number of CPs excluded from BAAs | 2 | 2 | 6 | 7 | 6 | 4 | 2 | 4 | 2 |



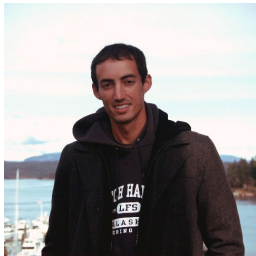
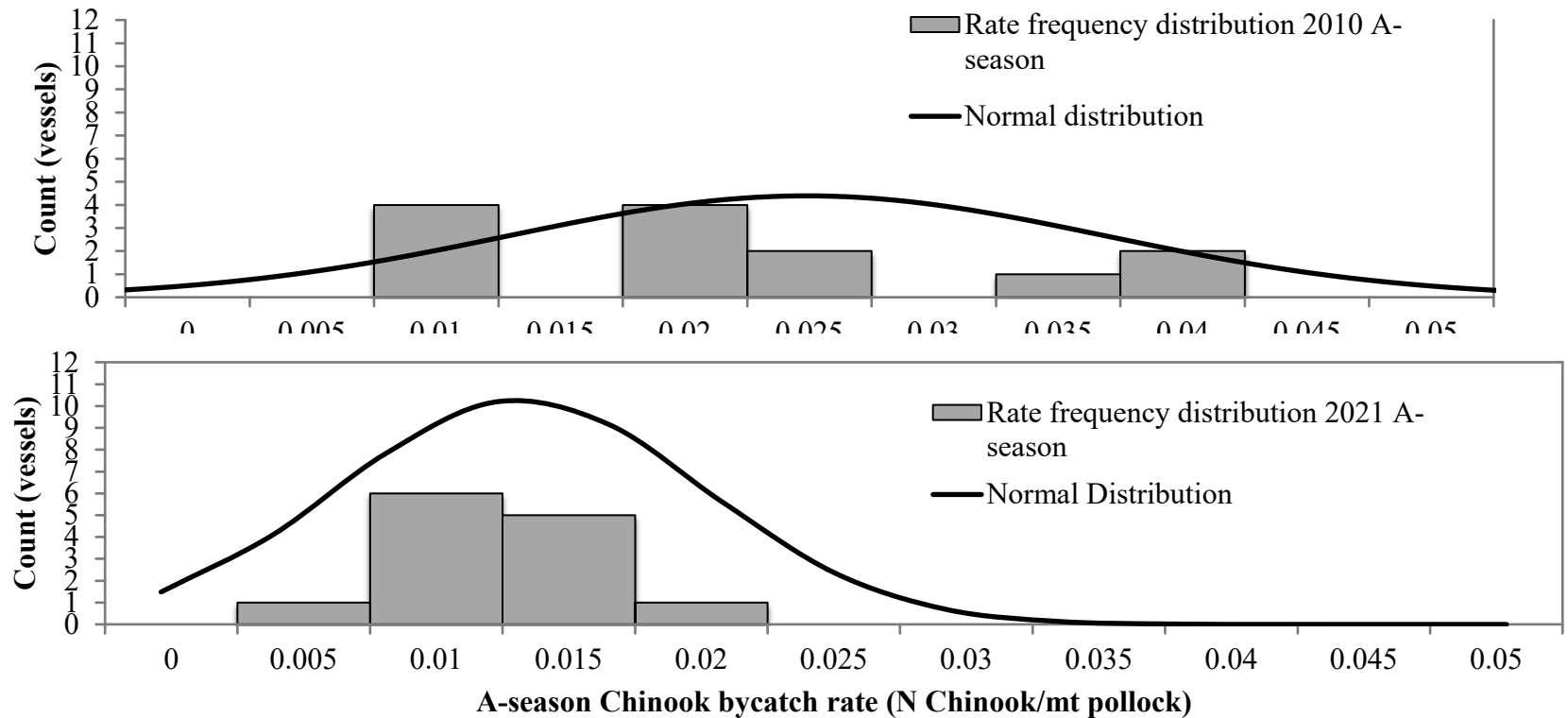
EFFECTS OF INCENTIVE PLAN AGREEMENT



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



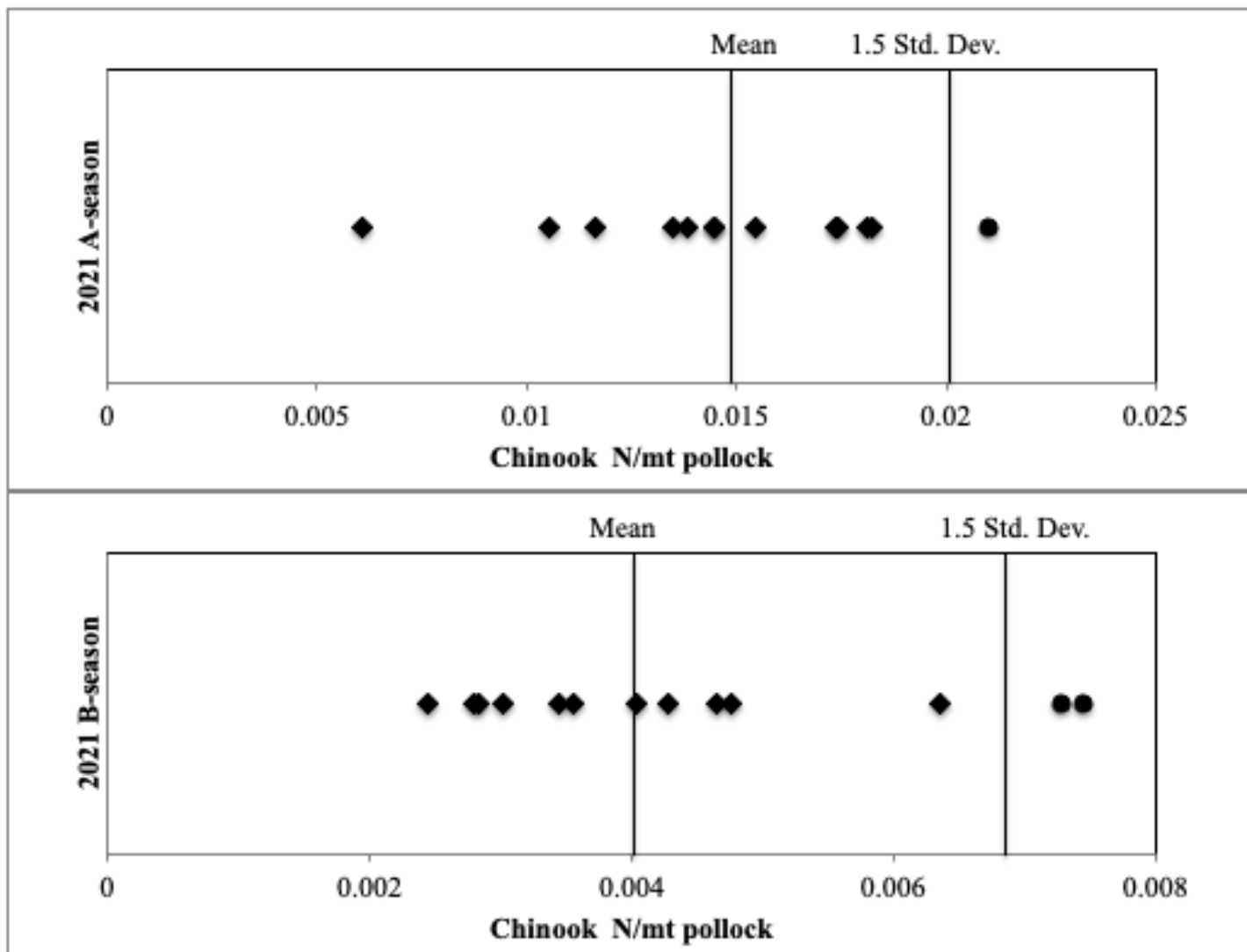
EFFECTS OF INCENTIVE PLAN AGREEMENT



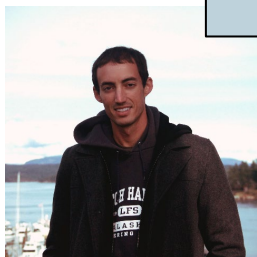
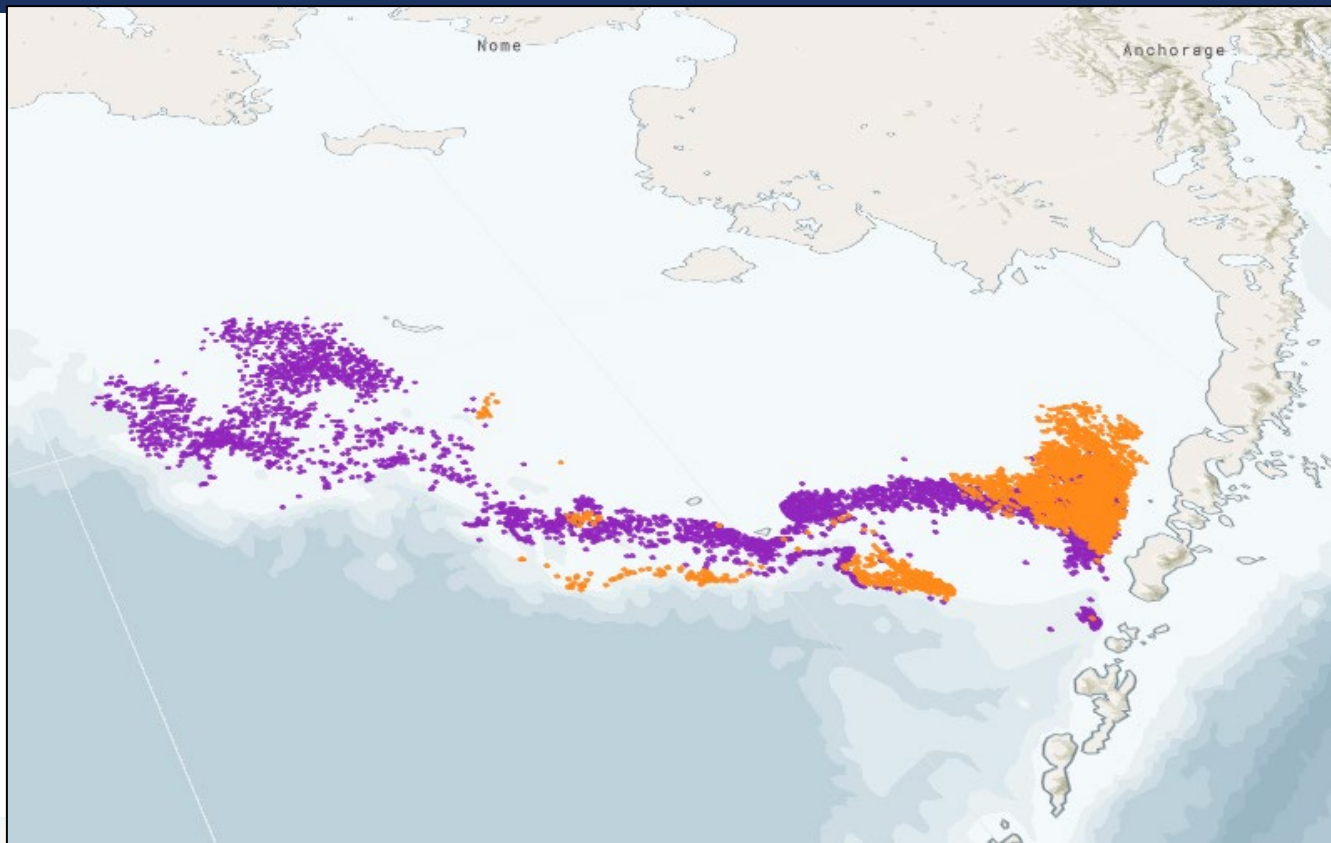
Upper panel: A-Season CP Vessel Chinook Bycatch Rate Frequency Distribution for 2010 with a variance pre-Amendment 91 of 0.0014 and Lower panel: Distribution for 2021 with variance equal to 0.00018.



EFFECTS OF INCENTIVE PLAN AGREEMENT



EFFECTS OF INCENTIVE PLAN AGREEMENT



Pollock CP trawl locations between September 1st and February 28th for the years 2008-2010 (blue), 2021-2022 (orange).

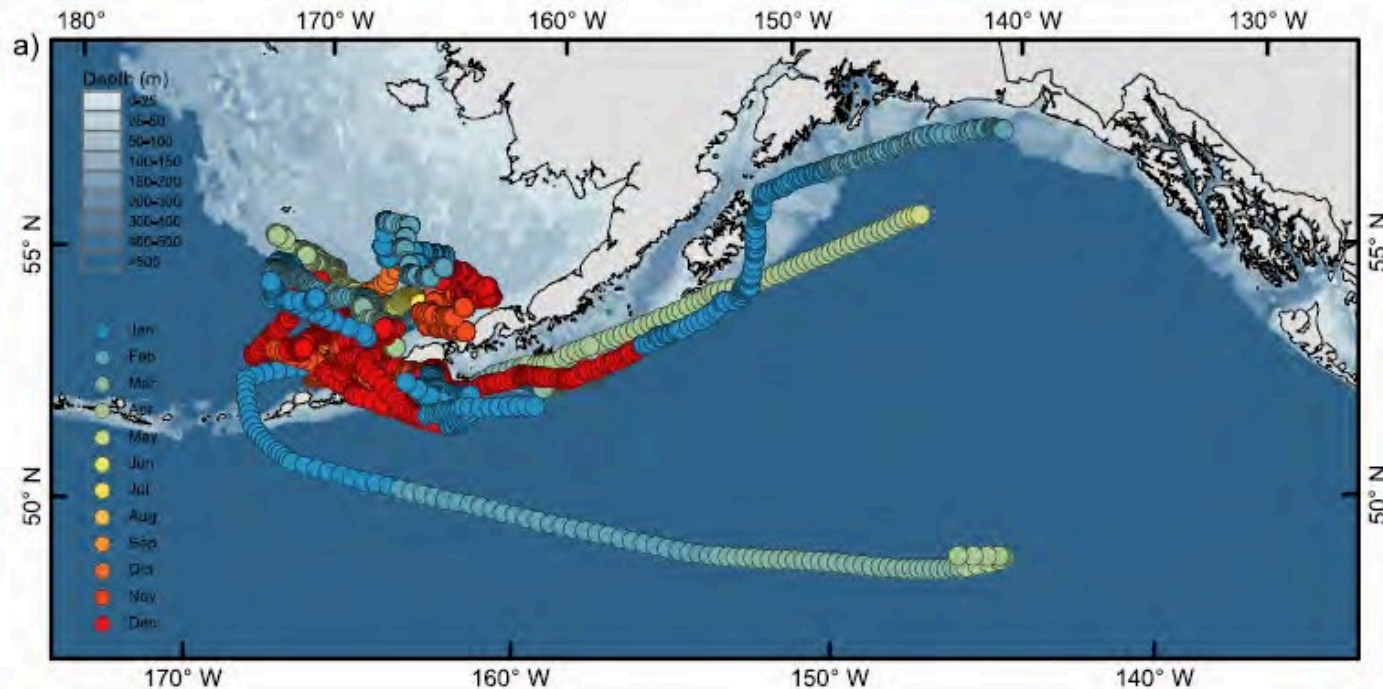


POLLOCK CONSERVATION COOPERATIVE RESEARCH CENTER-SALMON RESEARCH

- Shiptside 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

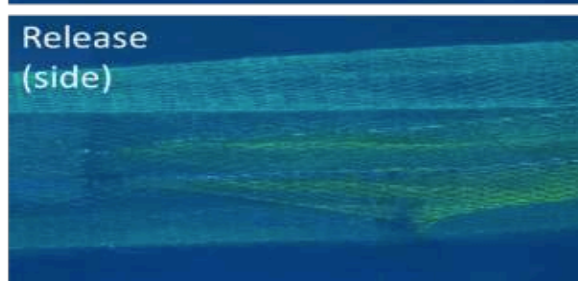
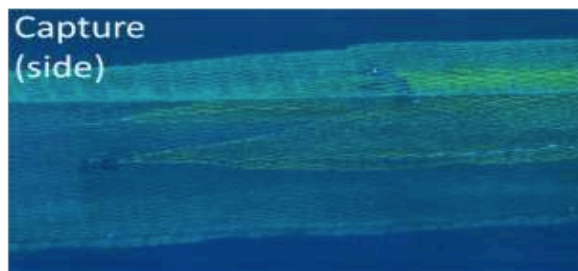
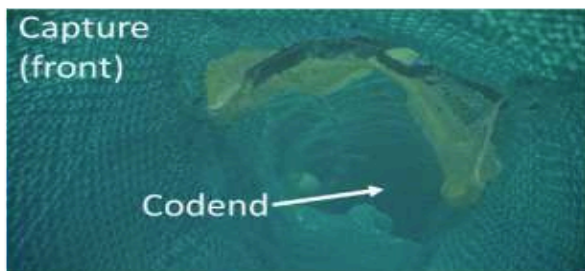


MHIQX



GEAR RESEARCH AND DEVELOPMENT

- All vessels continue to utilize a salmon excluder device in accordance with Amendment 110 regulations
- New BREP Proposal for continued funding of ActSel device testing on our CP vessels
- Most CP vessels continue to operate with a live-feed camera system allowing them to view catch composition in real time helping mitigate lightning strike events



NEW CP IPA AMENDMENTS

- New chum salmon Bycatch Avoidance Areas may be implemented on Monday for a Tuesday to Friday closure
 - Allows for a more reactive approach, as chum salmon is known to be more dynamic than Chinook, with large pulses of chum showing up on the fishing grounds in a matter of days.
- Restrictions for all vessels from fishing in known areas of “extremely” high chum bycatch (defined as 5 chum/mt pollock).
 - Periodic spikes in chum salmon bycatch will be reduced and lightning strike tows of chum salmon by multiple vessels in known high bycatch areas will be minimized.
- Include chum salmon to the “outlier provision” to create incentives for chronic poor chum bycatch performers to improve bycatch rates.
 - Increases accountability for all vessels and provides further incentives to reduce chum salmon bycatch



QUESTIONS

