Final Committee Reports to the Alaska Bycatch Review Task Force

Science, Technology, and Innovation Committee

Members: Tommy Sheridan (Chair), Ragnar Alstrom, Linda Kozak, Stephanie Madsen, Senator Peter Micciche.

Meeting Information: This Committee met five (5) times and public participation ranged from 20-40 individuals, with public comment provided at each meeting.

The following provides information specific to each Committee meeting:

April	The Committee did not meet in April due to scheduling conflicts.
May 27	The Committee convened an organizational meeting.
June	The Committee did not meet in June due to committee members' attendance of the North Pacific Fishery Management Council meeting covering salmon bycatch.
July 7	The Committee received a presentation on the Basin-Scale Events to Coastal Impacts (BECI) Project titled "An Ocean Intelligence System for a Changing World."
July 28	The Committee received a presentation on the University of Alaska Fairbanks (UAF) Alaska Blue Economy Center (ABEC).
August 5	The Committee received presentations on the University of Alaska Fairbanks (UAF) Pollock Conservation Cooperative Research Center (PCCRC) and the Alaska Ocean Cluster (AOC). * The Committee did not meet again in August due to scheduling conflicts, thereby concluding the committee's "information gathering and review" phase.
September 1	The Committee received, and reviewed, research recommendations provided by the ABRT Western Alaska Salmon Committee, ABRT Bering Sea and Gulf of Alaska Crab Committee, and Gulf of Alaska Halibut and Salmon Committee. * The Committee has since been engaged with receipt and collation of Committee and Task Force materials for presentation to the public, and inclusion in the ABRT's final Report.

Presentations:

Basin-Scale Events to Coastal Impacts (BECI) Project, presented by Mark Saunders, International Year of the Salmon (IYS) Director

Mark Saunders with International Year of the Salmon (IYS) presented on "Basin-Scale Events to Coastal Impacts: An Ocean Intelligence System for a Changing World." Mr. Saunders provided results from IYS research on the high seas. Research objectives for IYS were to close the gap of understanding regarding what happens to salmon in the open ocean, develop collaborations across agencies and nations, and create large scale models to understand the whole ecosystem and help get the information needed for management. Results provided are from a collaborative study among the members of North Pacific Anadromous Fish Commission (NPAFC), which includes representation by Canada, United States, Russia, Japan, and South Korea. BECI is a project proposed by NPAFC and the North Pacific Marine Science Organization (PICES) to continue and grow IYS efforts into the future, which was endorsed by the United Nations Decade of Ocean Science and Sustainable Development (UNDOS) in 2021. Through BECI, the NPAFC and PICES are convening a consortium of intergovernmental organizations, NGOs, academics, Indigenous, and private sector partners to design, test, and implement BECI. This ocean intelligence system will help inform decisions on fisheries management, fisheries compliance, food security, and much more. More information on BECI can be found at its website: https://beci.info/

A copy of Mr. Saunders' presentation may be accessed at Basin-Scale Events to Coastal Impacts: An Ocean Intelligence System for a Changing World

University of Alaska Fairbanks (UAF) Alaska Blue Economy Center (ABEC), presented by Justin Sternberg, ABEC Director

ABEC was founded in 2019 at the Direction of University of Alaska Fairbanks (UAF) Chancellor Daniel M. White and was established by four founding units of the University, including the UAF College of Fisheries and Ocean Sciences (CFOS) and Alaska Center for Energy and Power (ACEP). The mission of ABEC is to be a resource to the State of Alaska for training and funding in marine and coastal industries. ABEC is working with internal and external partners to further engage researchers and students with industry and innovative technology, and to support experiential learning for students to promote entrepreneurship and innovation. ABEC is proposing an innovation fund established by the State of Alaska to work with stakeholders and industry to identify priorities in desirable research and development, such as bycatch reduction implementation. Director Sternberg discussed the successful model provided by UAF's partnership with the Bureau of Ocean Energy Management (BOEM) through the Coastal Marine Institute, and noted that recent funding increases for ACEP and CFOS has coincided with an increased desire for further research into fisheries. More information on ABEC can be found at its website: https://uaf.edu/cfos/research/alaska-blue-economy-ctr/index.php

A copy of Mr. Sternberg's presentation may be accessed at Alaska Blue Economy Center presentation.

UAF Pollock Conservation Cooperative Research Center (PCCRC), presented by Dr. Keith Criddle, PCCRC Director

The Committee received a presentation from PCCRC Director Dr. Keith Criddle, who also serves as the Ted Stevens distinguished Professor of Marine Policy at UAF's Juneau Center for Fisheries and Ocean Science. The PCCRC was established in February 2000 to improve knowledge about the North Pacific Ocean and Bering Sea through research and education, focusing on the commercial fisheries of the Bering Sea and Aleutian Islands. Dr. Criddle provided an overview of how research grants, primarily through graduate student support, contributed to closing critical information gaps in these areas of interest. PCCRC research priorities are informed through collaboration with the North Pacific Fishery Management Council (NPFMC), North Pacific Research Board (NPRB), and wherever relevant information gaps exist. A wide scope of research was discussed, including: pollock biology and resource utilization, industry research designed to mitigate bycatch and prohibited species catch (PSC) through gear modification, herring genetics stock structure and management, and evaluation current and alternative management strategies for western Alaska salmon. More information regarding PCCRC can be found at its website: https://www.pccrc.org/

A copy of Dr. Criddle's presentation may be accessed at PCCRC–A Model of University-Industry Cooperative Research.

Alaska Ocean Cluster, presented by Garrett Evridge, AOC Managing Director

The Committee received a presentation on The Alaska Ocean Cluster (AOC), which is a startup accelerator focused on technological innovations that benefit Alaska's maritime industries, coastal communities, and ocean ecosystems. The presentation provided an overview of projects and future goals. According to Mr. Evridge, there is a large focus on startups and utilizing new ocean and fisheries technologies. The AOC is currently working with twelve startups with emphasis on ocean sustainability and profitability. Mr. Evridge provided three examples of current project collaboration: bycatch lights to improve salmon excluder nets and reduce PSC in trawl nets; ice forecasting to improve accuracy of predicting ice edge formation; and, use of drones to scout for pollock in the Bering Sea. More information regarding AOC can be found at its website: https://www.alaskaoceancluster.com/

A copy of Mr. Evridge's presentation may be accessed at Alaska Ocean Cluster Presentation.

Committee Recommendations: The Alaska Bycatch Review Task Force's Science, Technology, and Innovation Committee was not charged with making specific recommendations (research, state engagement, management) to the Task Force. Instead, this Committee has been and will be involved with receiving, collating, and editing (as necessary) the ABRT species committees' and Task Force's recommendations for inclusion in the Task Force's final Report.

Western Alaska Salmon Committee

Members: George Guy (Co-chair), Stephanie Madsen (Co-chair), Karma Ulvi, Ragnar Alstrom, Representative Bryce Edgmon

The committee wants to first acknowledge the dire crisis of salmon returns in Western Alaska and the devastating impacts that has on residents of the Kuskokwim and Yukon rivers.

Meeting Information: The committee met ten times and public participation ranged from 20-30 individuals, with public comment provided at each meeting.

The following provides information specific to each Committee meeting:

April 14	Organizational Meeting and ADF&G presentation on Western Alaska Chinook and Chum Salmon Stock Status
April 29	NOAA Fisheries Alaska Region Presentation on Regulatory Structure Overview of Salmon Bycatch measures for the Bering Sea Pollock Fishery
May 12	Incentive Plan Agreements (IPA) presentation by Catcher/Processor fleet, Inshore and Mothership Catcher Vessels
May 26	Presentation on Salmon excluder research by Alaska Fisheries Science Center (AFSC) and the North Pacific Fisheries Research Foundation
June	Committee did not meet in June due to subsistence fishing activities and the North Pacific Fishery Management Council June meeting covering salmon bycatch.
July 8	Presentation by the North Pacific Fishery Management Council staff which covered all salmon reports received and NPFMC action.
July 29	Presentation by ADF&G Salmon and Ocean Ecology Program (SOEP) and AFSC on Western Alaska salmon research being conducted and future plans.
August 12	Discussion of draft research recommendations
August 26	Revised and finalized research recommendations
September 16	Discussion of draft State engagement and management recommendations
September 19	Revise and finalized State engagement and management recommendations

Presentations:

Agencies/Organizations:

Western Alaska Chinook and Chum Salmon Stock Status, presented by Dr. Katie Howard ADF&G Salmon Ocean Ecology Program

Chronic poor abundance statewide for Chinook salmon for more than a decade. 2021 was a record low abundance for Western Alaska chum salmon. In 2020 and 2021 there was widespread poor chum salmon abundance in Alaska with the exception of the South Alaska Peninsula

which had high run abundance. Salmon are returning smaller and younger throughout Alaska; in the Kuskokwim Chinook salmon were historically age 5&6 and now are predominantly age 4&5,

Norton Sound chum and coho salmon and Yukon River chum salmon are at a record low size. Salmon Ocean Ecology Group is focused on marine surveys with the goal of long-term monitoring, identification of survival bottlenecks that affect future run sizes to improve our ability to forecast into the future. Survival of Yukon River Chinook salmon and fall chum salmon starting in 2016 was driven by poor early life survival likely due to the marine heat waves. In the Bering Sea this has resulted in more southern-origin salmon stocks moving north into the Bering Sea, food availability has changed, more fish with empty stomachs, and increases in the number of salmon returning as 'jacks'.

Western Alaska Chinook and Chum Salmon Stock Status

Overview of the Salmon Bycatch measures for the BSAI Alaska Pollock Fleet, presented by Alicia Miller, Catch Share Branch Chief, NMFS AK Region.

NMFS provided an overview of the regulatory structure currently in place for the pollock fleet in the Bering Sea for both Chinook and chum salmon. A history of NPFMC actions was also provided. Actions to minimize Chinook salmon started in 1995, were modified in 2000, 2005 and 2008. Chum was also addressed in 2008. The current program has been in place since 2011which established a hard cap, performance standard and required the industry develop

incentive plans (IPA) to minimize Chinook salmon. In 2017, chum salmon was added to required incentive plans and a low Chinook abundance was identified by a three-river index threshold and added to the program. Regulations were designed to support data collection efforts ie: genetics and verifying compliance. Salmon are required to be retained and counted by Federal observers to establish a "chain of custody" of the salmon. Cameras, dedicated holding bins are just some of the examples. All pollock fisheries are observed: catcher vessels- 100% coverage; catcher processors- 200% coverage and shoreplants are also at 100% coverage. Quality of data collection in this program is high. More information on regulatory amendments can be found in the Council's summary publication: https://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIGFAmActionSumm.pdf

Regulatory Structure Overview of Salmon Bycatch measures for the Bering Sea Pollock Fishery

Salmon Excluder Research in Alaska Pollock Fisheries, presented by Noelle Yocum, Engineering and Conservation Division, NMFS

Ms. Yocum leads the NOAA Alaska Fisheries Science Center Conservation Engineering Group. Part of this group's work is to develop bycatch reduction devices. Ms. Yocum spoke to how the excluders work in the pollock fisheries. Noted that the various excluders have been developed over the last couple of decades and fine-tuned with testing, use and input from industry. Additional information was provided on the current design being tested. The group is also working to assess salmon vision to understand possible benefit of using lights to help promote escapement. Salmon did not respond to light in the way the researcher hoped but they did partially respond to some light. Noelle noted that light is not a silver bullet but more research could make it a useful tool in excluder use.

Salmon Excluder Research in Alaska Pollock Fisheries

Overview Presentation of NPFMC Salmon reports-June 2022 meeting, presented by Dr. Diana Stram, NPFMC Senior scientist

Dr. Stram provided an overview of the all the salmon reports received by the NPFMC at the June meeting. Presentations given to the council where listed, and the topics briefly discussed. She provided a quick recap of genetic trends in bycatch and how the industry and council use that to determine rolling hot spot closures to try to specifically avoid Western Alaska salmon. Trends in both time and space have been indeterminate and difficult to use to make management decisions. Amendment 91 was put in place in 2011, bycatch limits have never been close to being reached. An overview was given of the impact on Chinook bycatch to the salmon population by stock.. A historical review of regulatory actions regarding bycatch was provided. The action/motion the NPFMC took in June was discussed

Link to NPFMC site for additional materials https://meetings.npfmc.org/Meeting/Details/2934

NPFMC Salmon Reports from June 2022 Council meeting

Salmon Research Highlights in the Northern Bering Sea, presented by Dr. Jim Murphy, Alaska Fisheries Science Center

Research on the influence of temperature on the energy density of chum salmon shows that both colder and warmer temperatures have a negative impact on the energy density, but warm temperatures have a bigger negative impact. The energy density of juvenile chum salmon measured in 2021 was the highest of the time series, so conditions appear to be improving.

The work is well coordinated with ADF&G SOEP program.

Salmon Research Highlights in the Northern Bering Sea

Industry/Public:

Inshore Salmon Savings Incentive Plan (SSIP) Inshore Cooperatives, presented by John Gruver, United Catcher Boats

Mr. Gruver presented the SSIP and described how the Chinook Salmon are distributed to individual vessels so that each vessel starts with a salmon limit, at the performance standard level, that is proportional to the amount of their pollock allocation. Salmon credits that can be used in future years are earned by good performance below the vessel's salmon allocation. Fleet also participates in a salmon hotspot reporting program (rolling hotspots) which are updated weekly. Few chum salmon are caught during the A season, so avoidance is focused on Chinook salmon. In the B season rolling hotspots apply to both Chinook and chum salmon with a priority to avoid Chinook salmon. Chinook bycatch increases late in the B season (October), so most vessels try to catch all their pollock before the end of September.

Inshore Pollock Sector Incentive Plan Agreement

Mothership Salmon Savings Incentive Plan (MSSIP), presented by James Mize, Mothership Fleet Cooperative

Mr. Mize presented on the MSSIP. Mothership operations are characterized by catcher vessels organized in fleets that deliver their catch, still in the nets, to mothership processing vessels which have 100% observer coverage and video monitoring of all catch. Real-time salmon bycatch information is shared amongst the fleet and group decisions are made on fishing locations, allowing the entire fleet to be highly responsive to salmon avoidance. In addition to other incentives and penalties, a set of Best Management Practices – including mandatory use of salmon excluders, rapid communication protocols, and adjustment of fishing operations in response to on-the-grounds conditions – comprise the core components of the plan to reduce bycatch in all levels of abundance of both pollock and salmon.

Catcher Processor Chinook and Chum Salmon Bycatch Reduction Incentive Plan Agreement (CPIPA), presented by Austin Estabrooks, At-sea Processors Association

Mr. Estabrooks explained that Incentive Plan Agreements create rewards for avoiding salmon and penalties for failure to avoid salmon at the vessel level under all conditions of pollock and Chinook abundance in all years. The primary mechanism for avoiding bycatch is through a rolling hot spot closure of areas with known high bycatch. Catcher Processor vessels have strong incentives to avoid being closed out of areas because factories require a constant flow of fish and moving fishing grounds is costly. IPAs must be approved by NMFS and must include incentives that cause operators to change the behavior of fishing vessels to prioritize Chinook avoidance. A preview of the most recent 2021 chum salmon genetics was provided. It was noted that lower proportions of WAK chum salmon than the long term average were present in the bycatch from 2019-2021. Efforts towards real-time genetic sampling – shipside salmon stock identification using mitochondrial DNA sequencing are underway through PCCRC funded research. Species distribution modeling for Chinook is also underway through another Pollock Conservation Cooperative Research Center project. Similar species distribution modeling efforts are underway for chum salmon through an AYK-SSI grant proposal.

Catcher/Processor Chinook and Chum Salmon Bycatch Reduction Incentive Plan and Agreement

North Pacific Fisheries Research Foundation, presented by Brent Paine, President of United Catcher Boats

Mr. Paine presented an overview of the industry efforts to develop and test salmon excluder devices including a video produced by the Nature Conservancy that spoke to how the pollock fishery impacts salmon bycatch and the work done to avoid or exclude salmon from gear. Brent noted that the salmon excluder was developed using Experimental Fishing Permits (EFP) over twelve years with the goal to make this device the most effective as possible. The Foundation was also involved in developing camera systems to monitor the excluder to adjust and assess the use and placement. Mr. Paine noted the Incentive Plan Agreements (see presentation above) contain provision requiring vessels to use excluders

Reducing Salmon Bycatch in the Pollock Fishery

Committee Recommendations: All recommendations were achieved by consensus.

STATE ENGAGEMENT

- State of Alaska should establish a method to communicate bycatch information (numbers and fisheries) in both State and Federal fisheries for easy access to the public. This could be a page on the ADF&G website with links to NMFS Alaska Region and NPFMC or other communication tools.
- State should provide the public assistance in understanding the BOF and NPFMC process with flyers or training so public can effectively participate. It was noted that the NPFMC has held training and has materials that could be modeled.
- State of Alaska Federal Fisheries staff should continue to offer the public an opportunity to provide input on NPFMC issues before each NPFMC meeting. Consideration should be given to additional methods to seek input from stakeholders, tribal entities and communities on bycatch issues. Suggestions from committee include: Advisory Councils or Federal Regional Advisory Councils.
- State should support legislative action to remove sunset of the Education Tax Credit Program and consider expanding program to specifically allow gear modification or technology improvements that would help reduce bycatch.
- State should work with other entities, including the State Department, to request that the State Department, through bilateral and multilateral diplomatic channels with Russia, request information on the bycatch of Chinook salmon and chum salmon taken in Russian domestic fisheries (specifically, the number of salmon caught in their groundfish and salmon fisheries, and the genetic origin of these salmon).
- State should establish a permanent bycatch advisory body using the ABRTF as a template.

Rationale: The first three bullets address the need for increase communication to and participation from all stakeholders. They suggest different approaches that reflect the specific comments received from the public during our meetings.

The third bullet addressed the need to explore all possible funding sources to conduct research to reduce bycatch. The Education Tax Credit Program is an established program that if extended and slightly modified, could help with industry efforts to use technology and gear research to reduce bycatch.

The fourth bullet is needed to continue expressing the importance of understanding the other mortality sources of Western Alaska salmon.

The final bullet is addressing the long term need to keep up the work the ABRTF has started. It is important to provide a platform for the public to stay abreast of latest information and action on bycatch reduction efforts.

MANAGEMENT

- The State should work to achieve real time genetic reporting that provides the composition of Western Alaska salmon in the bycatch. This can then be used in management of the pollock fishery to avoid areas and times when Western Alaska salmon are on the grounds in the Bering Sea.
- The State should work to establish a scientific-based chum salmon cap to reduce bycatch of Western Alaska salmon in the pollock fishery in the Bering Sea.

Rationale: The two specific management recommendations reinforce the role science has to help inform management actions.

The committee received a thorough report on the presentations and action the North Pacific Fishery Management Council took in June. The NPFMC is the regulatory body responsible for managing the groundfish fisheries. It is our understanding that the Council has requested and will be reviewing the chum data to determine if a chum cap could be a tool that would provide incentives to reduce chum bycatch. Additionally, they continue to monitor the genetics of the Western Alaska salmon composition in the bycatch that would indicate the need for further requirements in the Incentive Plan Agreements required by the pollock fishery. The Council's call for the formation of a Salmon Bycatch Committee will provide the public additional opportunities to directly address their work.

The committee did not develop additional management measures since work is underway that includes most of the comments received from the public comment.

It is important to note that Western Alaska and communities along the Yukon River believe that if there is no fishing on the Yukon or Kuskokwim Rivers there should be no pollock fishing in the Bering Sea…one public member called for a moratorium on trawling for an unspecified time. The committee did not forward these recommendations due to the lack of analysis identifying impacts of the suggested measures but **encourage the State to retain focus on salmon bycatch in the pollock fishery and make it the number one priority to monitor to determine when action is necessary.**

Bering Sea and Gulf of Alaska Crab Committee

Members: Linda Kozak (Chair), Kevin Delaney, Stephanie Madsen, Erik Velsko

Meeting Information: The committee met eight times and public participation ranged from 20-30 individuals, with public comment provided at each meeting.

The following provides information specific to each Committee meeting:

April 4	Gulf of Alaska Tanner crab presentations from ADF&G and industry
April 26	Presentation on trawl gear modification research and requests for additional Tanner crab bycatch information.
May 31	ADF&G presentation on Tanner crab bycatch and groundfish catch in the Central Gulf of Alaska, along with Gulf of Alaska trawl and fixed gear recommendations.
June 17	Comprehensive overview by ADF&G of the Bering crab fishery and Bering Sea fixed gear recommendations, along with summary discussion of Gulf of Alaska Tanner crab recommendations.
July 26	North Pacific Fishery Management Council overview, with presentation on fishing effects model. Trawl and fixed gear sector recommendations.
August 9	Finalize Gulf of Alaska and Bering Sea crab research recommendations.
August 30	Address Gulf of Alaska management recommendations.
September 6	Finalize Gulf of Alaska Tanner and Bering Sea crab management recommendations, as well as state engagement proposals.

Presentations:

Agencies/Organizations:

ADF&G Gulf of Alaska Tanner Crab Update, presented by Nat Nichols and Mark Stichert, ADF&G

Area, fishery, and survey overview, with recent stock trends and spatial overlap with other fisheries in the Kodiak area.

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/adfg_tanner_update_stockstatus.pdf

Effects of Raised Trawl Sweeps on Unobserved Crab Mortality and Pelagic Trawl Seafloor Contact, presented by Dr. Craig Rose, FishNext Research

Presentation included a description of raised trawl sweeps to reduce seafloor effects of trawling, estimations of effects on unobserved crab mortality, with extension to the Gulf of Alaska, and pelagic trawl seafloor contact estimates.

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/impact_of_trawl_sweep_on_crab_bycatch.pdf

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/reduce_effects_trawling_rose.pdf

Tanner Crab Bycatch and Groundfish Catch in Central Gulf of Alaska, presented by Karla Bush, ADF&G

Information on Gulf of Alaska Tanner crab bycatch in statistical areas 525630 and 525702, with trawl and pot cod groundfish catch in the Gulf of Alaska.

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/053122_abrt_crab_tanner_bycatch_groundfish_catch.pdf

Comprehensive Bering Sea Crab Overview, presented by Benjamin Daly and Mark Stichert, ADF&G

Review of directed crab fishery and habitat, management framework, bottom trawl survey, assessment process, current status of stocks, BSAI crab observer program, assumed discard mortality rates, and Bering Sea bycatch research priorities.

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/061722_adfg_comp_bsai_crab_overview.pdf

Seascape-scale modeling of Benthic Habitat Disturbance from Commercial Fishing Activities (Fishing Effects Model), presented by Dr. Brad Harris, T. Scott Smeltz, Felipe Restrepo, John Olson and Suresh Sethi

Overview of the work to model habitat disturbance with a study of minimal/temporary and cumulative impacts as part of the North Pacific Fisheries Management Council Essential Fish Habitat five-year review.

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/072622_abrt_crab_seascape_modelling.pdf

North Pacific Fishery Management Council Review, presented by Dr. Diana Stram and Sam Cunningham, NPFMC

A review of the closed areas of the Bering Sea and prohibited species caps for crab in the Bering Sea, along with recent North Pacific Council measures to address crab discard mortality by the directed and non-directed groundfish fisheries. Information on snow crab rebuilding plans was also presented.

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/072622_abrt_crab_npfmc_review.pdf

Industry/Public:

Gulf of Alaska Tanner Crab Trawl Recommendations on Presentations/Information – Chris Woodley

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/040422__abrt_public_comment_chris_woodley.pdf

Gulf of Alaska Tanner Crab Fixed Gear Recommendations on Presentations/Information – Alaska Marine Conservation Council

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/040422__abrt_public_comment_theresa_peterson.pdf

Gulf of Alaska Tanner Crab Trawl Gear Recommendations

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/053122_goa_trawl_perspectives.pdf

Gulf of Alaska Fixed Gear Recommendations

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/053122_goa_fixedgear_perspectives.pdf

Bering Sea Crab Fixed Gear Recommendations

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/061722_bering_crab_priorities_recommendations.pdf

Bering Sea Crab Trawl Sector Recommendations

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/072622_abrt_crab_flatfishtrawl_rec.pdf

Committee Recommendations: The recommendations that were achieved by consensus are shown below, along with those issues that were not agreed upon. Following the listing of the issues is rationale for the unanimous recommendations and pro and con statements on those issues where agreement was not reached by the committee.

STATE ENGAGEMENT

Recommendation for State Bycatch Engagement:

- Establish a way to better communicate bycatch information to the public, including website development, outreach and possible forums

Rationale: The committee discussed the need for a process to help Alaskans have easy and understandable access to bycatch information regarding research, pending actions, links available to other resources or agencies addressing bycatch, and a mechanism to provide input on bycatch policies.

State Engagement Issues for Full Task Force Review:

- Create a bycatch policy advisor position in the governor's office or as a part of ADF&G
- Use the Task Force as a template to create a permanent bycatch advisory body
- Develop a State of Alaska bycatch policy

MANAGEMENT

Recommendations for GOA Tanner Crab Bycatch Management:

1. Consider Gulf of Alaska trawl rationalization as a tool to manage bycatch

Rationale: Trawl rationalization has been considered for many years and one of the objectives is to provide a way to better manage bycatch. By slowing the fishery and eliminating the race for fish, harvesters would be able to stop fishing in an area where crab are being taken incidentally, as well as relay information to others in their cooperative or fleet. Gear modification research to avoid/reduce bycatch and associated mortality could also be better achieved with the fleet working together, rather than a strictly competitive process.

2. Following gear modification research, consider regulations for the directed crab fishery and pot cod fishery to reduce incidental take and discard mortality.

Rationale: While individual harvesters will experiment with various gear modifications, such as large mesh gear and tunnel configuration, others do not and may continue to have higher levels of bycatch and mortality. If a gear is proven to be effective in reducing crab bycatch, regulatory action should be considered for the fleet.

3. Address lack of monitoring in the directed Tanner crab and state waters pot cod fisheries.

Rationale: It is a challenge to place observers on small vessels in the GOA directed Tanner crab fishery and state waters pot cod fisheries, but the committee supports efforts to look for ways to monitor these fleets in order to determine accurate bycatch amounts.

4. Review and consider revising open and closed areas for bottom trawl in the Gulf of Alaska.

Rationale: The efficacy of open and closed areas to bottom trawl fishing may warrant increased scrutiny as the bycatch discussion continues. There are currently areas closed to bottom trawling that do not have high abundances of crab (Marmot Bay closure area), and there are areas open to bottom trawling (stat areas 525702 and 525630) that have historic and current high levels of abundance of tanner crab. It is suggested that a review of these areas is warranted.

5. Require 100% observer coverage on all Gulf of Alaska non-pelagic trawl catcher vessels.

Rationale: There are no prohibited species caps for Tanner crab in the Gulf of Alaska. Since the GOA trawl fleet historically has fished both non-pelagic and pelagic trawl during the same trip it is very difficult to determine coverage rates based on midwater or bottom trawl activity. The committee is inclined to recommend 100% coverage in order to gather some baseline data, and also to ensure that the "observer effect" is not impacting data. Requiring 100% coverage would also help establish catch rates/quantities and bycatch rates/quantities especially if a GOA trawl rationalization package is considered in the future.

Recommendations for Bering Sea Crab Bycatch Management

1. Recommend a rationalization program for the > 60' pot cod vessels as a way to manage bycatch and examine prohibited species caps as part of a rationalization program.

Rationale: A rationalization program would slow the pace of the fishery and allow for harvesters to avoid impacts to marine mammals and reduce bycatch. Advantages would be the ability to move gear from areas with high bycatch without lost opportunity, allow for stand-downs due to condition of crab (molting), test gear innovations aimed at reducing bycatch, and share information to coordinate efforts to avoid known areas with high bycatch.

2. Evaluate observer coverage and monitoring for the directed crab and pot cod fisheries.

Rationale: Observer coverage/monitoring, particularly in the state water's pot cod fishery has raised questions about the levels of interaction and bycatch of crab in the Bering Sea. An evaluation of the coverage for this fishery, as well as the directed crab fishery may be warranted.

3. Review effectiveness of fixed open and closed areas for trawling and continue to examine methods to develop flexible spatial management.

Rationale: This recommendation is similar to the Gulf of Alaska recommendation #4. There may be a need to consider the efficacy of open/closed areas and adjust closure areas to coincide with survey data, stock assessments, and seasonal movement of crab. Flexible spatial management may provide benefits for reducing crab bycatch in the non-pelagic trawl fisheries, as well as pelagic gear, due to the fact that pelagic gear is not restricted in the amount of time bottom contact occurs.

4. Examine impacts of counting prohibited species caps for the entire Bering Sea area.

Rationale: As the Council wrestles with open/closed areas for fishing activity it would only make sense to not restrict PSC accrual to static boxes. All crab caught over the entire range of the stock should be counted toward the PSC caps, or at the very least a comparison of how much crab is caught inside and outside these static boxes. Changing oceans conditions may have shifted fish and shellfish stocks in recent years, and there is potential that PSC accounting may not be accurately depicting the impacts to crab stocks.

5. Evaluate possible seasonal closures in hot spot areas to pot gear both inside and outside of state managed waters.

Rationale: This committee recommendation suggests that movement of crab during ecosystem changes should be evaluated and if areas are determined to have high cab abundance, seasonal closures in specific areas may be warranted.

<u>Bering Sea Crab Management Issues Without Consensus:</u>

1. Consider revising the pelagic gear definition to limit bottom contact.

Rationale for: Open and Closed areas to trawl fishing are utilized to reduce bycatch and limit bottom contact. There are many areas closed to non-pelagic (bottom) trawl gear but open to pelagic (midwater) trawl gear in the BSAI. The distinctions in trawl gear types were primarily predicated on the idea or assumption that pelagic trawl gear was in fact floated in the midwater column and not in contact with the bottom. Previous Council work through EFH studies has highlighted that the pelagic trawl fleet in the Bering Sea is in contact with the bottom with their gear a significant portion of the time. A revision of the pelagic trawl gear definition may need to be entertained since the pelagic gear definition no longer fits the reality of how the

fishery is executed on the grounds. Furthermore, bottom trawl gear is required to employ the use of raised sweeps and other bottom-contact limiting devices while pelagic trawl does not require any of these features. There is concern that a pelagic net could in fact, be more detrimental when on the bottom because it doesn't have the same restrictions as non-pelagic trawl gear.

Rationale against: There are extensive closures throughout the BSAI to protect critical habitat (EFH) for a wide variety of species including crab and groundfish. The Council regularly undertakes an exhaustive look at the potential impact of all gear, including pelagic trawl gear on its impact on EFH. The Council is currently in the process of undertaking an EFH review now and the preliminary results continue to show that fishing gear, including pelagic trawl gear, has a temporary and minimal impact on habitat. The EFH review process is the best venue for examining the fishery interactions on fish and crab populations and habitat.

Revising gear definitions should be informed by strong scientific information. Changing gear definitions without that information could result in changes in fishing operations that increase bycatch for other species, increase fishing time, or have other unknown effects on EFH. Vessels using pelagic gear are currently reviewing the types of pelagic trawl gear that is being used. Different vessel and gear configurations can have different fishing effects. That information is a critical first step in understanding the potential impact of pelagic trawl gear and should be completed before initiating a regulatory process.

2. Examine the impact of retaining all legal crab and counting toward IFQ.

*<u>Rationale for</u>**:** High grading is the sorting of legal-sized crab for the most valuable (typically the largest and / or cleanest crab) and discarding the remaining legal crab to ensure that only the highest - priced portion of the catch is landed and counted against the IFQ. While this practice maximizes revenue, it is wasteful and potentially harmful to crab stocks. This is inconsistent with intent of rationalization program and assumption that individual catch allowances and removal of race for fish would have positive effects in terms of reduction of bycatch/wastage and sustainability of fisheries has not panned out. In some cases it has increased dramatically in the last 10 years (especially in the snow crab fishery). Furthermore, approximately 95% of snow crab discards are legal sized males according to the NPFMC and ADF&G.*

Counting all crab toward IFQ will increase incentives for captains to minimize bycatch of females and sub - legal males and will create incentives for captains to retain all legal crab.

<u>Rationale against</u>: Some legal crab are not retained due to market/processor requirements. Size and shell condition are two areas which are market-driven. Crab released by the directed crab fishery is assumed to have a mortality rate of 20%, but it is an established fact this number is used as an ultra-conservative estimate of mortality based on studies conducted in the 1990's. A research priority recommended for the directed crab fishery is to conduct studies on actual handling mortality under a variety of conditions for each of the crab species. Efforts are also being made to create market opportunities for smaller crab, as well as crab with poor shell condition. No other rationalized fishery is required to retain all product and it would be unrealistic to expect the directed crab fishery to retain crab that cannot be sold into the market.

Gulf of Alaska Halibut and Salmon Committee

Members: Brian Gabriel (Chair), Kevin Delaney, Mike Flores, Duncan Fields, Linda Kozak, Raymond May

Meeting Information: The committee met eight times and public participation ranged from 15-25 individuals, with public comment provided at each meeting.

The following provides information specific to each Committee meeting:

April 14	Focus was on Gulf of Alaska Chinook salmon bycatch. ADF&G presentations were received on GOA Chinook salmon status and trends, along with GOA Chinook salmon bycatch in the groundfish trawl fisheries.
May 3	Focus of meeting was on halibut. Presentations were from the Dr. Ian Stewart of the International Pacific Halibut Commission and John Gauvin with Jennifer Ferdinand on deck sorting on trawlers.
May 24	A presentation was made by Julie Bonney with Alaska Groundfish Data Bank with an overview of the Gulf of Alaska trawl fleet and a history of trawl rationalization efforts.
July 28	Dr. Ian Stewart and Allan Hicks presented information on sources of discard mortality estimates in the directed and recreational halibut fisheries, as well as a discussion on the research being conducted on size limit retention regulations for the commercial fishery.
August 10	Recommendations for research and management measures were presented by the Alaska Charter Association, Alaska Groundfish Data Bank, Alaska Whitefish Trawlers Association, Groundfish Forum, and Fishing Vessel Owners Association.
August 23	Research recommendations were discussed and approved by committee.
August 31	Committee approved research recommendations and discussed management recommendations for Gulf of Alaska Chinook salmon and halibut.
September	Following a presentation by Oceana, the committee finalized management recommendations for Gulf of Alaska salmon and halibut, as well as state engagement issues.

Presentations and Information:

Information on Gulf of Alaska Chinook Salmon Status and Trends, presented by ADF&G

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/041422_goa_salmonhalibut_chinookinfo.pdf

GOA Chinook Salmon Bycatch in Groundfish Trawl Fisheries, presented by Karla Bush, ADF&G

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/041422_goa_salmonhalibut_chinookbycatch.pdf

Pacific Halibut Bycatch Update Flyer April 20, 2020 – North Pacific Fishery Management Council

https://www.npfmc.org/wp-content/PDFdocuments/bycatch/bycatchflyer420.pdf

Summary of the 2021 Data and Stock Assessment Results, presented by Dr. Ian Stewart and Dr. Allan Hicks – International Pacific Halibut Commission

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/iphc_2021_summary_data_stockassess.pdf

Halibut Deck Sorting: A Tool for Amendment 80 to Reduce Halibut Mortality in Bering Sea and Gulf of Alaska flatfish fisheries, presented by John Gauvin (Alaska Seafood Cooperative) and Jennifer Ferdinand (Alaska Fisheries Science Center)

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/050322_halibut_deck_sorting.pdf

Gulf of Alaska Shoreside Trawl Fleet and History of Trawl Fishery Rationalization Efforts, presented by Julie Bonney, Alaska Groundfish Data Bank

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/gos_trawl_rationalization_bonney.pdf

Discard Mortality in the Directed Pacific Halibut Fisheries, presented by Dr. Ian Stewart, International Pacific Halibut Commission staff

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/072822_goa_salmonhalibut_discard_mortality.pdf

Management Recommendations – Alaska Charter Association

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/081022_goa_aca_presentation.pdf

Management Recommendations – Alaska Groundfish Data Bank, Alaska Whitefish Trawlers and Groundfish Form

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/081022_goa_groundfish_data_bank.pdf

Management Recommendations – Fishing Vessel Owners Association

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/081022_goa_fvoa_recommendations.pdf

Gulf of Alaska Trawl Vessel Discards - Oceana

https://www.adfg.alaska.gov/static/fishing/PDFs/bycatchtaskforce/090722_goa_salmonhalibut_oceana_comments.pdf

Committee Recommendations: The committee addressed the issues of state engagement and management. Some motions were approved unanimously, while others were not agreed upon.

STATE ENGAGEMENT

Two motions were approved unanimously:

- Recommend the State of Alaska create a process for providing bycatch-related information and resources for Alaskan in a way (or format) that is understandable and easily accessible.
- Request the State of Alaska establish a permanent advisory committee.

The following motion failed with two members absent:

- Appoint a bycatch policy advisor to the governor. Failed with two members absent

Rationale for state engagement issues: The committee agrees with other Task Force committees that the State of Alaska can and should create ways to give Alaskans a way to access bycatch information and establishing a permanent website, along with outreach would help to provide accurate and unbiased information about bycatch research and management.

It is also important to allow for more Alaskans to have a voice in bycatch management and by establishing a permanent bycatch advisory committee, it will help provide a conduit for the public to engage. As new issues and information are identified, this body could provide an important bridge between Alaskans and the state. The advisory committee could work with ADF&G, the governor's office or through the Alaska Board of Fisheries process in ensuring that all regions of the state can engage directly with the state in setting bycatch policy. The lack of a state process for the public to participate was raised as an issue of concern by members of the public.

The issue of a bycatch policy advisor was not agreed upon by the committee. Some felt that a fisheries advisor could fill this role, while others felt the bycatch advisory committee idea made more sense.

MANAGEMENT

Four motions were approved unanimously:

1. Recommendation of consideration of rationalization-type management tools as a means of possibly reducing and managing salmon and halibut bycatch.

Rationale: While the idea of rationalization is not agreed upon by the various fishing industry groups in Alaska, it is agreed that this can be a tool to slow down a fishery and with a cooperative-style management, bycatch can be managed more effectively. A rationalization program may also provide the trawl fleet the ability to better address ways to reduce bycatch, such as adjusting trawl speeds and gear modifications.

2. Committee recommends a regulatory requirement that the Gulf of Alaska pelagic trawl fleet, including any tenders of pelagic trawl caught fish, have 100% electronic monitoring. The committee further recommends that the State of Alaska work with National Marine Fisheries Service, our federal delegation and others to work to acquire funding to install electronic monitoring equipment on all GOA catchers and tenders.

Rationale: While a following motion was made for the non-pelagic trawl observer coverage, Chinook bycatch may best be quantified by requiring 100% electronic monitoring (EM) on pelagic trawl catcher vessels, as well as tenders that receive fish from pelagic trawl vessels. The information obtained from this would help to provide more accurate data on Chinook bycatch for the development of a trawl catcher vessel rationalization program. The motion also speaks to the need to acquire funding for installation of EM equipment on trawl catcher vessels in the Gulf of Alaska.

3. For a period of three years, the committee recommends 100% observer coverage be required on non-pelagic trawl vessels in the Gulf of Alaska. (The intent is for this to apply to catcher vessels as catcher/processors are already 100-200% observed)

Rationale: The Bering Sea and Gulf of Alaska Crab Committee also made the recommendation for 100% observer coverage for the non-pelagic (bottom) trawl catcher vessel fleet in the Gulf of Alaska. Baseline data is needed, particularly when a rationalization program is being considered. Historically, this fleet has only been partially observed and issues with the "observer effect" impacting data have been raised in the federal regulatory process many times. The suggestion for a period of three years is to provide a complete accurate accounting of bycatch for halibut and salmon in the Gulf of Alaska.

4. Recommend the State of Alaska consider support of the development of an abundance-based management program for halibut bycatch in the Gulf of Alaska.

Rationale: Abundance based management addresses halibut prohibited species caps, which are adjusted up or down based on status of stocks and assessments. This management measure was recently passed for the Bering Sea trawl fleet after years of extensive analysis and discussion. It appears to be an effective way to address halibut bycatch and a recommendation is to model that management tool for the Gulf of Alaska.

The following motion was tabled and sent to the full Task Force for discussion:

- Committee recommends that the state review spatial trawl patterns and halibut bycatch intensity as a basis to consider areas that should be considered to spatially reduce halibut bycatch.