National Marine Fisheries Service

Pacific Bluefin Stakeholder Meeting Summary

May 4, 2022 Webinar (9:00 AM - 2:00 PM)

Introduction and Meeting Purpose

On May 4, 2022, the National Oceanographic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) convened its third Pacific bluefin tuna (PBF) stakeholder meeting. The meeting took place by webinar. Its stated objectives were to:

- Share updates on the new rule for 2022-2024.
- Discuss long-term harvest strategy and what the U.S. is doing to implement both domestically and internationally.
- Discuss possible approaches to improve management of the domestic PBF commercial fishery.
- Discuss recreational fishing concerns.

Around 45 people participated in the webinar meeting, representing the following agencies and constituencies: NOAA Fisheries, the Pacific Fishery Management Council (PFMC), the California Department of Fish and Wildlife (CDFW), fishermen and the fishing industry, the conservation community, researchers and academics, and the interested public. Presentations were made by Celia Barroso, Daniel Studt, and Valerie Post of NOAA Fisheries, and Michelle Horeczko of CDFW. A roster of anticipated participants who RSVP'd to the meeting is shown in Appendix A. The agenda for the meeting is available in Appendix B.

Ryan Wulff, NOAA Fisheries West Coast Region Assistant Regional Administrator for Sustainable Fisheries, opened the meeting by welcoming the participants and clarifying that the meeting is primarily focused on domestic management of PBF. He noted that last year, new catch increases were adopted through 2024, and the hope is for larger catch increases for the U.S. going forward.

This meeting summary is organized into the following main sections below:

- Updates since the 2020 PBF Stakeholder Meeting
- Discussion of Domestic PBF Management
- Discussion of International Long-Term Harvest Strategy
- Next Steps

This summary document captures key discussions and stakeholder input from the meeting; it is not intended to be a transcript of everything said. The meeting was facilitated by Eric Poncelet of Kearns & West. Karter Harmon (NOAA Fisheries) took notes, and John Shaw (NOAA Fisheries) managed the webinar. A copy of the PowerPoint presented at the meeting is available in Appendix C. Kearns & West prepared this meeting summary.

Updates Since the 2020 PBF Stakeholder Meeting

Celia Barroso, Fishery Policy Analyst within the NOAA Fisheries West Coast Region (WCR), Daniel Studt, Recreational Fisheries Coordinator in NOAA Fisheries-WCR, and Michelle Horeczko, Senior Environmental Scientist Supervisor for the Coastal Pelagic and Highly Migratory Species Data Project at CDFW provided several updates at the meeting. These included general updates, commercial fishing updates, recreational fishing updates, and updates on the international long-term harvest strategy. After each presentation, meeting participants were provided with an opportunity to ask clarifying questions. Highlights of the presentations, key clarifying questions asked, and the corresponding responses are captured below.

General and Commercial Fishing Updates

Ms. Barroso presented on the history of PBF stakeholder meetings, including the meetings convened in 2019 and 2020. She also provided a high-level management overview of the PBF fishery to help orient the meeting participants. She presented an update on the 2020 stock assessment, in which PBF was characterized as overfished and subject to overfishing, but also likely to have met initial rebuilding targets. She presented a review of recent Inter-American Tropical Tuna Commission (IATTC) resolutions (C-21-01 and C21-05) and corresponding NOAA Fisheries regulations (2022-2024 commercial fishing rule). She then provided an overview of commercial PBF fishery performance. Ms. Horeczko of CDFW completed the presentations by providing a brief update of CDFW PBF commercial fishery monitoring activities.

Participants did not pose any clarifying questions.

Recreational Fishing Updates

Mr. Studt provided an overview of PBF recreational fishing regulatory history and updates, as well as recreational fisher performance. Ms. Horeczko then presented on CDFW recreational PBF fishery monitoring activities.

Participants posed several clarifying questions, and NOAA Fisheries and/or CDFW provided the following responses:

- Question (Q): Given that sports catch is measured in numbers of fish while commercial is in weights, how do you estimate the percentage of sport/recreational and commercial as shares of the total?
    - Response (R): Recreational monitoring collects length/weight information and uses a standard of length/weight relationship converting to metric tons (mt). Regarding recreational tonnage calculations, it's based on a conversion of total aggregated catch data (length/weight) per month to tonnage. There is a 2015 paper by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) that provides a calculation for estimating tonnage based on size of individual fish.

- Q: Regarding the slide showing the size of bluefin caught, is anyone looking into the correlation between increased size of PBF caught and stock recruitment or health?
    - R: Celia Barroso did not have the answer but will follow up with the questioner.

- Q: In the presentation, it appears that 2-year catch limits for the U.S. went up substantially for 2023-2024. Does this have to do with recreational catch?
  - R: Catch limits apply solely to commercial catch. The overall percentage increase for the North Pacific was divided between the U.S. and Mexico.

- Q: Of the total tons of PBF caught in the U.S., how much is commercial and how much is recreational?
  - R: Referencing slide 37 from the presentation, the average recreational catch is around 60% of the total catch in recent years. Looking at 2020 based on the current ISC catch table, the total U.S. catch was 884 mt, and recreational accounted for 651 mt of that.

International Long-term Harvest Strategy Updates

Ms. Barroso presented a timeline of international long-term harvest strategy discussions, including of the Joint IATTC-Western and Central Pacific Fisheries Commission (WCPFC) Northern Committee Working Group on Pacific Bluefin Tuna (JWG). She also provided an overview of proportional fishery impact of the eastern and western Pacific Oceans.

Stakeholder participants posed several clarifying questions, and NOAA Fisheries staff provided the following responses:

- Q: Is the long-term harvest strategy only for commercial fishing?
  - R: We have not yet had those discussions at the JWG.

- Q: What is the current estimate of total biomass of northern PBF? If the eastern Pacific Ocean (EPO) represents 20% of the total, there seems to be overwhelming evidence from commercial, recreational, spotter pilots, etc. that the total biomass is much higher than the current estimate. Is the model still assuming the Eastern Pacific Ocean (EPO) consists of mostly juvenile tuna? How accurate is this assumption, based on the average size classes being caught in recent years?
  - R: The most current assessment that has gone through the plenary at the ISC can be found here: https://isc.fra.go.jp/reports/stock_assessments.html. A more current 2022 assessment will be reviewed by the ISC in July 2022 and posted thereafter. The assessment assumes maturity is by age and ramps up in maturity from age 3-5. To the extent that fish in the EPO are in those ages, model accounting will consider some fraction of those fish to be mature.

Discussion of Domestic PBF Management

The stakeholder discussion of the future of domestic PBF management (post 2024) was organized into two sections. The first focused on the commercial PBF fishery, and the second focused on the recreational fishery. Each section involved a brief presentation followed by stakeholder discussion focused on specific discussion questions.

Future of Commercial PBF Fishery (post-2024)

Celia Barroso provided background information on the commercial PBF fishery, including a recap of key issues raised during the first stakeholder meeting in 2019 and the November 2021 PFMC

meeting. These issues include catch limits, ranching, individual vessel quotas (IVQs), allocations by gear type, and changing purse seine practices to increase quality.

Diane Windham, NOAA Fisheries West Coast Regional Aquaculture Coordinator for California, provided additional contextual information about tuna ranching and associated regulatory processes. Ms. Windham noted that NOAA Fisheries does not have permitting authority for aquaculture, including tuna ranching; rather, this lies with the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA). The USACE has authority under Section 10 of the Rivers and Harbors Act (RHA), which regulates structures in waters of the U.S.; EPA issues National Pollution Discharge Elimination System (NPDES) permits. Finfish aquaculture requires a USACE Section 10 RHA permit and a NPDES permit. Finfish aquaculture is prohibited in state waters. Ms. Windham added that, with regard to the Coastal Zone Management Act (CZMA), the California Coastal Commission (CCC), who has an approved Coastal Act and Program, has delegated Office for Coastal Management (OCM) authority in federal waters. Other state and federal agencies—e.g., the U.S. Fish and Wildlife Service (USFWS), the U.S. Coast Guard (USCG), and CDFW—will comment and make recommendations. The USACE also must consult with NOAA Fisheries under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), and potentially the Marine Mammal Protection Act (MMPA). The level of information required to navigate the entire permitting process goes beyond the USACE permit application information requirements. The USACE needs to provide sufficient information to inform NOAA Fisheries' specific consultation needs; the USACE will ask for that information from the applicant, supplemental to the permit application. The USACE will likely also request a robust marine engineering analysis of proposed aquaculture gear/PBF ranching gear proposed to be used, as well as including a United States Coast Guard (USCG)-required Navigation Hazard Risk Assessment. Ms. Windham noted that one of the biggest challenges is locating geographic areas that meet the applicants' needs while minimizing conflict with other ocean uses, including military, offshore wind, oil and gas, shipping and navigation, recreational and commercial fishing, pleasure vessels, and biological habitat/species interactions. NOAA Fisheries and National Ocean Service (NOS) National Coastal Center for Ocean Science (NCCOS) coordinate closely with Department of Defense (DoD) on marine spatial siting analyses to attain DoD clearance of areas in support of the permitting process. Ms. Windham referred the meeting participants to the NOAA publication *An Aquaculture Opportunity Area Atlas for the Southern California Bight* (https://coastalscience.noaa.gov/data_reports/an-aquaculture-opportunity-area-atlas-for-the-southern-california-bight/), which is the most robust spatial analysis of the Southern California Bight to date, to learn more about the geographic areas that minimize conflict while meeting the needs to support offshore aquaculture farms. NOAA Fisheries and NCCOS have specialized expertise and tools that support and inform the regulatory permitting process.

Following these presentations, Mr. Poncelet asked the meeting participants to weigh in on the following two questions: *1) what would be a better way to manage the fishery? And 2) how can we improve upon this?*

Participants responded with the following questions and comments:

- Q: Is PBF ranching something that could be incorporated under NOAA's Aquaculture Opportunity Areas (AOAs), even if not within the 10 discrete areas identified in the Atlas?
    - R: Once a Southern California AOA is identified, potential aquaculture applicants could apply for permits within the AOA. That could include a proposed PBF ranching project.

There is no regulatory requirement to site a farm within an AOA, but the AOA would provide additional environmental impact analysis information to inform the process. An applicant is free to seek permits in or outside of a (future) AOA. However, the benefit within an AOA is that once the Programmatic Environmental Impact Statement (EIS) is finalized, that analysis will help inform review of individual project effects proposed within an AOA. A Notice of Intent (NOI) to prepare the Programmatic EIS is expected to publish at the end of May, kicking off a 60-day public comment period. Potential applicants should utilize these resources, look at spatial data, and identify constraints.

- Comment (C): One of the biggest opportunities is to find a way to increase the quality or value of the purse seine fishery.
  - R: NOAA Fisheries is interested in whether this is something fisheries should pursue?
- C: As an industry we have always tried to achieve a high-quality product. There is a stigma attached to seine caught tuna vs. line caught, which is largely a marketing issue.
  - C: The way a fish dies affects quality; lactic acid builds up when a fish dies under stress, which reduces quality. It would be good to find methods to improve quality and value of purse seine caught tuna.
  - C: Practices have improved in the past five years, especially with regards to how quickly the fish are removed from the ocean, killed, and put into storage.
  - C: I agree with the previous comments. Proper handling makes a huge difference. The current value of line-caught or farmed tuna is much (perhaps five times) greater than the value of purse seine-caught tuna. We need to focus on quality, but there are certain limitations.
  - C: I agree on comments regarding purse seine bluefin quality. Some improvements are still to be made. Sometimes, very productive sets can result in so much PBF that the market cannot absorb it all.

Ms. Barroso posed a follow-up question: *Following on previous comments, would it be appropriate for purse seiners to coordinate with buyers regarding specific methods and quality?* She expressed curiosity about other methods to optimize quality and value in the purse seine fleet. Ensuing comments and discussion included the following:

- C: There are lots of possibilities. For example, boats could capture but not kill fish and tow them around to stagger landings and avoid flooding the market. Tuna is graded in the market, and it's possible for purse seiners to deliver tunas that are graded as high as line-caught tuna. But it is difficult in situations when schools and catch are large to sell large volumes of fish all at once.
- C: The concept of catching fish, transferring them into a cage, and harvesting as needed is a good one. It could be an expensive but potentially viable method to avoid flooding the market.
- Note: Other stakeholder participants also expressed interest in this concept.

Ms. Barroso asked the group: *Would this practice would qualify as aquaculture?* Meeting participants shared the following thoughts:

- C (NOAA Fisheries staff): A potential future pilot project for kelp aquaculture for biofuel is proposing an underwater drone system to tow the kelp growing structures. It's possible that

the USCG may have concerns regarding navigation risk with these kinds of activities. Coordination facilitation can be provided by the Regional Aquaculture Coordinator (in CA, Diane Windham), but it would also be important to have a well-planned project description that includes location (and a siting analysis), as well as a detailed description of how the project would be operated, gear description, marine engineering analysis of the structures in varying storm events, as well as potential interactions with other uses and resources in that geographic space. It might be perceived as a new form of aquaculture to the regulatory community, so outreach and education not only with the federal and state regulatory agencies but also with the affected communities would be important.

- C: This practice seems very different from aquaculture. Fish are not being bred or grown; they are still wild caught. Only the harvest is being controlled.
- C (NOAA Fisheries staff): It is possible that the regulatory process related to permitting would raise precautionary principles related to aquaculture and could fall under the purview of the USACE. "Untethered structures" are an important distinction. It is not clear whether the USACE has authority to permit in federal waters something that is untethered under the Rivers and Harbors Act. This is something that NOAA Fisheries will explore.
- C: Regulating this activity under aquaculture might be stifling to a commercial fishery.
- C (NOAA Fisheries staff): From a regulatory perspective, it is unclear whether the structures involved would fall under aquaculture. There might be exempted fishing permits or other regulatory tools that could avoid it qualifying as aquaculture. It will be important to check with the USACE to see if towed structures are under their authority.
- C: It would be great if NOAA Fisheries' Sustainable Fisheries Division could look more into this opportunity and get it on the PFMC's agenda.
- C: This method is going to be very expensive and would likely not be undertaken by small scale operations.
- C: We are not talking about aquaculture of these tuna, just fishermen holding their product in their nets or cages so they can harvest and sell their tuna for more money. There was one recent situation where a purse seiner put together a cage and towed bigeye in it to harvest little by little.
- C: Tugboats and drag boats tow other boats and fishing nets all the time. Realistically similar activities to towing these types of cages are already being done.

Mr. Poncelet posed one last question: *Would it be preferable for catch increases to occur all at once or over time to allow fisheries to develop?* Stakeholder comments and responses included the following:

- C: Any time science says more fish can safely be caught, we need increases as soon as possible. We need to catch up with our lack of quota compared to other countries that are using the same resource. It is a risk to business to have rod and reel fishermen catching more than commercial gear.
- C: The increases should be as soon as possible. The lack of production by the purse seine fleet in recent years is the fault of management. Trip limits have badly shackled the ability of purse seine boats to fish, especially when schools are large (i.e., there is no way to only catch a small piece of big schools with restrictive trip limits).

Future of Recreational PBF Fishery (post-2024)

To kick off the discussion of the future of the recreational PBF fishery, Ms. Barroso reminded participants that, according to IATTC Resolution C-21-05, recreational PBF catches should be

reduced in a manner commensurate with reductions in commercial catches. She also reviewed recreational PBF catches from 1990-2020.

Mr. Poncelet asked the meeting participants to weigh in on the following discussion question: *What steps, if any, do you envision being taken by NOAA Fisheries for management of the recreational fishery?*

Participants responded with the following comments and questions, with responses being provided by NOAA Fisheries staff:

- Q: Do we have an idea of where we are relative to where we need to be according to the IATTC resolutions in terms of the proportion of commercial vs. recreational catch?
    - R: There is no need to take management measures now, but we do need to use the next biennial evaluation of whether we are complying with Resolution C-21-05 to determine the ratio and if any reductions are called for.
    - C: It seems like recreational effort has risen considerably in recent years. Understanding trends over time will be important in terms of understanding which management strategies would work or would be appropriate and whether they should be effort based.
- C: When comparing recreational to commercial catch, it is important to understand that much of the recreational catch is taking place in Mexico (where commercial vessels are not allowed). More work is required to get a better understanding of the nuances here and how it affects biomass.
    - R: Recreational catch in Mexico's water by U.S. vessels are attributed to the U.S. catch.
- C: Thinking about the recreational catch, it is important to look at the contribution that recreational fishing has culturally and economically in California. It is important for NOAA Fisheries to work to maintain recreational opportunities so long as the stock can support them.
- Q: It would be good to know more about the Atlantic bluefin tuna (BFT) gear allocation. Could NOAA Fisheries provide more information about that?
    - R: There may be four or five main gear types, a couple of which are under an IVQ system. Some of the gear types target and some have incidental catch of BFT. It is our understanding that in some cases if some of the quota by one gear is unused, it may be provided to other gear-types in the event that grouping needs more available catch limit. Celia Barroso will place the questioner in contact with people who have been managing this program.[1]

Mr. Studt (NOAA Fisheries) posed the follow-up question: *How has angler satisfaction been with the two fish bag limit?* Responses included:

- C: There has been no real dissatisfaction with the two fish bag limit, or at least less than expected. Filet at sea requirements have been more burdensome.
- C: It seems like the commercial passenger fishing vessel (CPFV) fleet is fine with the two fish limit. As far as the effort issue goes, fishermen are going for PBF because they are readily available.

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[1] A compliance guide to the Atlantic Highly Migratory Species commercial fisheries that provides information on how BFT is managed may be found at the following link: https://media.fisheries.noaa.gov/2021-11/HMS%20Commercial%20Compliance%20Guide_11-16-21_final_for%20web_3_1.pdf

- C: I have not heard any complaints from fishermen. During previous PFMC discussions, there was concern that the two fish bag limit would disincentivize people, but the recent increase in fish sizes may have offset this.
- C: It seems like it is working out way better than expected for recreational fishermen.
- Q: There was some fear in 2015 when the bag limit was reduced that smaller private recreational vessels would convert to commercial vessels to avoid the limit. Did NOAA Fisheries or CDFW notice a spike in Highly Migratory Species (HMS) permit applications along these lines?
    - R: I'm not sure on the permitting question, but there has been an increase in hook and line effort and landings by the commercial fleet. Celia Barroso will reach out to the permits and monitoring branch to learn more.

Discussion of International Long-Term Harvest Strategy

Update on Outcomes of April 1, 2022 Stakeholder Meeting on International Long-term Harvest Strategy

The purpose of this agenda item was to solicit stakeholder input on the development of a long-term harvest strategy, including operational management objectives and performance indicators to be used when developing the long-term harvest strategy. To help kick off the discussion, Valerie Post, NOAA Fisheries Pacific Islands Regional Office (PIRO), provided an update on outcomes of a recent April 1, 2022, stakeholder meeting on the same topic. She presented specific feedback received from stakeholders at the April 1 meeting with regard to: 1) operational management objectives, 2) performance indicators, and 3) various other subjects involving data collection and use, consideration of harvest control rules, and approaches to changes to overall limits.

Discussion

Stakeholder participants provided responses to the three main discussion questions listed below.

Discussion Question 1: *Do you support the suggested categories and operational management objectives? Are there any changes or refinements you would like to suggest?*

- C: I support the management objectives of the long-term harvest strategy. I suggest using a management strategy evaluation (MSE) when analyzing management objectives, as has been done in the Atlantic by the International Commission for the Conservation of Atlantic Tunas (ICCAT).
- Q: In terms of the current rebuilding plan, is the second rebuilding target considered a target, or a threshold where if the target reaches that threshold, some higher level of biomass would become the rebuilding target?
    - R: It has not yet been determined whether that target is a "target" or a threshold, but NOAA Fisheries would like to see the stock rebuild to 20%.
- C: The second objective references SSBmsy (the spawning stock biomass that corresponds to maximum sustainable yield), so NOAA Fisheries should be cognizant that that could be an overfished limit.
- C: If the biomass limit (B_{lim}) is conservative, we may not need to keep the probability so low. It would be good to choose a higher limit reference point for stocks that are not as reproductive as other stocks. It is important to maintain stock above SSBmsy. 7.7% unfished SSB was too low.

- C: The more conservative the limit reference point is, the more generous we can be with the probability of crossing reference points. With regards to the "yield" management objective, it is unclear what "smallest fish" refers to. Is it size class 0-1?
- Q: Are these management objectives in line with the IATTC's first and second rebuilding plans, or are they different?
    - R: The age of "smallest fish" is not defined in the objectives but likely refers to babies (size class 0-1). These management objectives are consistent with the rebuilding plans.
- C: It would be helpful to know what spawning stock biomass has been over time (i.e., over the past 50 years) to know what is realistic in terms of setting limit and target reference points. It is important to develop incentives for fishermen to reduce take of smallest fish.
    - R: This information should be available in the ISC's 2020 stock assessment, and a new 2022 stock assessment is coming out this year.
- C: Table 5-2 in the 2020 stock assessment has time series for total biomass and spawning biomass from 1952.
- Q: Can you provide clarity the status of the stock with respect to the rebuilding targets from the 2020 stock assessment?
    - R: The report showed when the first rebuilding target was met (2021) and predicted when the second target would be met (2027 or 2028). We expect to see similar trends—i.e., reports will show the stock is recovering and the second target will be reached in less than ten years from when the first target was met.
- C: We need to be mindful is that the time series of SSB starts in 1952, and the highest catches were earlier (1930s). A lot of the stock depletion occurred before the assessments began. Regarding the second rebuilding target, although we are likely to meet it earlier than expected, recruitment has been lower than estimated more years than not.

Discussion Question 2: *Do you support the suggested performance indicators? Are there any changes or refinements you would like to suggest?*

- C: Under the "safety" objectives, it is not clear how the first performance indicator is different from the second. Both are in regard to lowest depletion.
    - R: The first performance indicator is more pointed, as it uses a specific reference year for the historical lowest level of SSB.
    - C: I suggest deleting those two performance indicators because they are so low. They are not an appropriate (spawning stock biomass limit) SSB_{lim}.
- Q: The second item under "yield" objective refers to proportional fishery impact. Are we not trying to narrow the gap between the Eastern Pacific Ocean (EPO) and the Western and Central Pacific Ocean (WCPO) from 25%-75% to 33%-66%?
    - R: The current gap is closer to 20%-80%, so 25%-75% would still be an improvement. It also depends on whether you're looking at tonnage or relative or proportional fishery impact.
    - C: This makes sense as removing a baby fish has a different impact than removing an adult.

Discussion Question 3: *What other suggestions do you have on the development of a long-term harvest strategy for Pacific bluefin tuna?*

- Q: Are there limits and reference points and SSBs that help improve the recreational fishery? For example, if 20% SSB helps achieve commercial fishery goals, is that also a good target for maintaining recreational opportunities? Or is there something else we could be looking at?

    - R: That is a hard question to answer, but we have taken note and would be happy to explore it further with the NOAA Fisheries Southwest Fisheries Science Center (SWFSC).
- C: Inshore fisheries sometimes require different management measures.
- C: It is important to use MSEs, as other regional fishery management organizations (RFMOs) have undertaken them, to answer similar questions.
- Q: What will be the process for moving forward with these performance indicators?
    - R: The next stage in the process is to combine these performance indicators with management strategies and proposals. NOAA Fisheries is putting together a white paper for the JWG to narrow down some of the feedback we have heard. It is not certain when distinct numbers beyond those proposed already will be available, but this process could take place in the following year. As we work in Permanent Advisory Committee (PAC), Scientific Advisory Subcommittee (SAS), and General Advisory Committee (GAC) meetings, we will be able to provide similar input and reach out to counterparts in other countries to gauge support for these performance indicators and hopefully make progress. If something seems unstructured, working with the U.S. delegation to the IATTC is a good way to move proposals forward.
- Q: Is NOAA Fisheries receptive to proposals from stakeholders regarding values for limit reference points and target reference points?
    - R: NOAA Fisheries is not at the stage of entertaining discussion on specific target and limit reference points yet, but as they pertain to management objectives and performance indicators, some proposals could be fair game.

Next Steps

Recap of Process Moving Forward and Upcoming Meetings

Mr. Poncelet informed participants that a summary of the May 4, 2022, stakeholder meeting would be available to participants as part of the briefing book for the June PFMC meeting.

Ms. Barroso mentioned the following opportunities for additional stakeholder input into PBF management. On the topic of the long-term harvest strategy, additional stakeholder feedback will be solicited at the following meetings:

- Pacific Fishery Management Council - June 2022
- Permanent Advisory Committee (PAC) to the U.S. Section to the WCPFC Meeting - June 8, 2022
- General Advisory Committee (GAC) to the U.S. Section to the IATTC Meeting - Aug 4-5, 2022 (subject to change)
- Potentially submit a proposal/white paper to JWG

Mr. Poncelet and Ms. Barroso closed the meeting by thanking participants for their contributions.

Appendix A

Anticipated Participants
Pacific Bluefin Tuna Stakeholder Meeting
May 4, 2022; 9:00 AM – 2:00 PM

Name		Affiliation/Interest
1.	Amber Rhodes	NOAA Fisheries, West Coast Region
2.	Amy Lubrano	NOAA General Counsel
3.	Andre Boustany	Monterey Bay Aquarium
4.	Benito Javier Sarmiento Pérez	Baja Aqua-Farms (Mexico)
5.	Bill Fox	U.S. Commissioner to IATTC
6.	Brett Wiedoff	Pacific Fishery Management Council
7.	Carl Sbarounis	Fishspotter
8.	Carolyn Gruber	Department of State, Office of Marine Conservation
9.	Celia Barroso	NOAA Fisheries, West Coast Region
10.	Christian Antonio Alcaraz Ortez	Baja Aqua-Farms (Mexico)
11.	Clay Tam	Western Pacific Fisheries Council
12.	Corbin Hanson	Fisherman
13.	Daniel Studt	NOAA Fisheries, West Coast Region
14.	Dave Rudie	HMSAS
15.	David Haworth	Fisherman
16.	Diane Windham	NOAA Fisheries, West Coast Region
17.	Dorothy Lowman	Fishery consultant
18.	Gary Burke	Commercial Fishermen of Santa Barbara
19.	Gene DePuy	Monterey Bay Aquarium/California Sea Grant
20.	Harrison Huang	California Department of Fish and Wildlife
21.	Heather Fitch	NOAA Fisheries, West Coast Region
22.	Heidi Dewar	NOAA Fisheries, Southwest Fisheries Science Center
23.	John Hall	California Pelagic Fisheries Association
24.	Josh Lindsay	NOAA Fisheries, West Coast Region
25.	Josh Madeira	Monterey Bay Aquarium
26.	Karter Harmon	NOAA Fisheries, West Coast Region
27.	Kevin Piner	NOAA Fisheries, Southwest Fisheries Science Center

28.	Kit Dahl	Pacific Fishery Management Council
29.	Larry Phillips	American Sportfishing Association
30.	Liliana Davila	Baja Aqua-Farms
31.	Liz Hellmers	California Department of Fish and Wildlife
32.	Louie Zimm	Sportfishing Association of California
33.	Lyle Enriquez	NOAA Fisheries, West Coast Region
34.	Matt Owens	Tri Marine
35.	Michelle Horeczko	California Department of Fish and Wildlife
36.	Mike Conroy	West Coast Fisheries Consultants
37.	Mike Thompson	Alternate U.S. Commissioner IATTC; PFMC HMSAS
38.	Nick Jurlin	Fisherman
39.	Peter Ciaramitaro	Fisherman, F/V Triton
40.	Rachael Wadsworth	NOAA Fisheries, West Coast Region
41.	Rex Ito	Prime Time Seafood, Inc.
42.	Rodrigo Armada Tapia	Baja Aqua-Farms
43.	Ryan Wulff	NOAA Fisheries, West Coast Region; Alternate U.S. Commissioner IATTC
44.	Sara Pipernos	The Ocean Foundation
45.	Stephen Stohs	NOAA Fisheries, Southwest Fisheries Science Center
46.	Tanner Saraspe	Saraspe Seafoods, Local Fish, Seafood Distributor
47.	Taylor Debevec	NOAA Fisheries, West Coast Region
48.	Theresa Labriola	Wild Oceans
49.	Tyler Loughran	NOAA Fisheries
50.	Valerie Post	NOAA Fisheries, Pacific Islands Regional Office
51.	Wes Boyle	California Department of Fish and Wildlife
52.	William Stahnke	NOAA Fisheries, West Coast Region
53.	Yuhong Gu	NOAA Fisheries, Southwest Fisheries Science Center

Appendix B

Pacific Bluefin Tuna Stakeholder Meeting

Agenda

May 4, 2022 | 9:00 AM – 2:00 PM

Webinar information
https://noaanmfs-meets.webex.com/noaanmfs-meets/j.php?MTID=m3009b331dfdfa0d0f014db72f9be981e
Meeting number: 2762 426 3110; Password: 5038779876
Join by phone (for use only if not able to join by webinar): +1-415-527-5035 US Toll; Access code: 276 242 63110; Phone Password: 50387798
(Note: please do not join using both the computer audio and the phone)

Meeting Objectives

- Share updates on the new rule for 2022-2024.
- Discuss long-term harvest strategy and what the U.S. is doing to implement both domestically and internationally.
- Discuss possible approaches to improve management of the domestic Pacific Bluefin Tuna (PBF) commercial fishery.
- Discuss recreational fishing concerns.

Agenda

Item #	Time	Topic
	8:45 AM	*Arrivals*
1.	9:00 AM	Welcome and introductions • Review webinar procedures and ground rules • Introductions • Meeting objectives and agenda review
2.	9:15 AM	Updates since 2020 PBF Stakeholder Meeting *(75 min)* • General and Commercial Fishing Updates *(25 min present + 10 Q&A)* ○ PBF stock status overview (Celia Barroso, NOAA) ○ IATTC Resolutions C-21-01 and C-21-05 (Celia Barroso) ○ 2022-2024 commercial fishing rule (Celia Barroso) ○ Commercial fishery performance overview (Celia Barroso) ○ Monitoring and sampling (Michelle Horeczko, CDFW) ○ Clarifying questions *(10 min)* • Recreational Fishing Updates *(15 min present + 10 Q&A)* ○ Recreational fishing regulations overview (Daniel Studt, NOAA) ○ Recreational fishery performance overview (Daniel Studt) ○ Monitoring and sampling (Michelle Horeczko) ○ Clarifying questions *(10 min)* • International long-term harvest strategy *(10 min present + 5 Q&A)* ○ Joint Working Group/IATTC/Northern Committee organization and agreements; Northern Committee workplan (Celia Barroso) ○ Clarifying questions *(5 min)*

Item #	Time	Topic
	10:30 AM	*Break (15 min)*

3.	10:45 AM	Discuss Domestic PBF Management *(90 min)*
		• Future of commercial PBF fishery (post 2024) *(10 min present, 50 min discuss)*
		  ○ Review issues raised during November 2021 PFMC meeting (Celia Barroso)
		  ○ Discussion: What would be a better way to manage the fishery? How can we improve upon this?
		• Future of recreational PBF fishery (post 2024) *(30 min present + discuss)*
		  ○ Discussion: What steps do you envision NMFS taking regarding management of recreational fishing for PBF?

	12:15 PM	*Lunch (on own, 45 min)*
4.	1:00 PM	Discuss International long-term harvest strategy *(45 min)* • Update: Outcomes of the April 1 stakeholder meeting on International Long-term Harvest Strategy, and next steps (Valerie Post and Celia Barroso) *(15 min present)* • Discussion *(30 min*) ○ What suggestions do you have on the development of a long-term harvest strategy, including operational management objectives and performance indicators to be used when developing the long-term harvest strategy?
5.	1:45 PM	Next Steps • Meeting summary • Process moving forward
	2:00 PM	*Adjourn*

Appendix C

PowerPoint Presentation

3rd Pacific bluefin tuna U.S. Stakeholder meeting

May 4, 2022
Virtual

If you have technical questions, contact John Shaw via chat at WCR IT Support or email at john.shaw@noaa.gov

Meeting overview

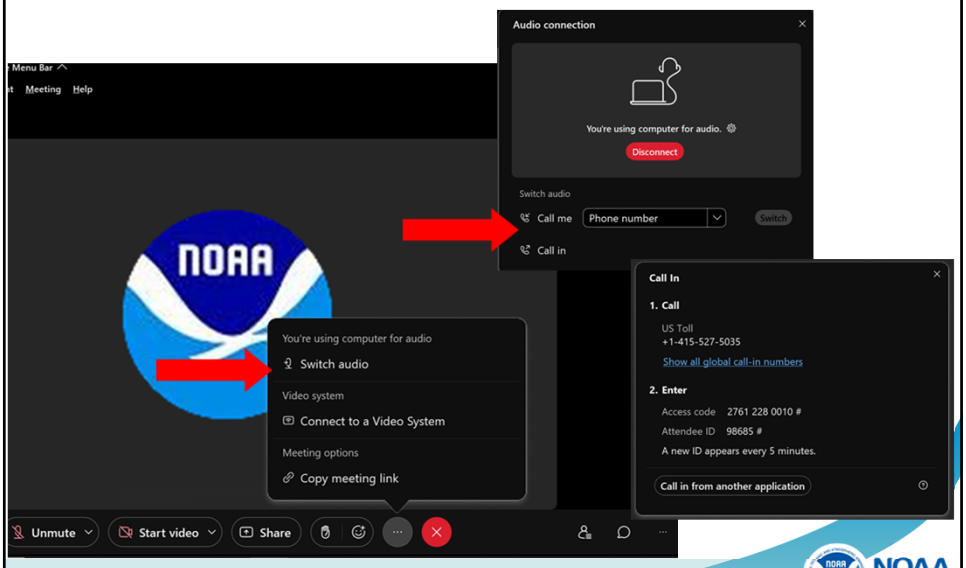
- Webinar
- Meeting structure
  - 5-hour meeting
  - 15-minute mid-morning break and 45-minute lunch break
  - Each agenda item includes a presentation followed by opportunity for Q&A or stakeholder input
- Available following meeting: meeting summary, PowerPoint presentation

Process Guidelines

- "Honor" the agenda
- Participate actively and respectfully
- Focus comments and speak concisely
- Speak in order; facilitator will mind the queue
- Emphasis is on oral engagement; can use chat for questions/comments if needed
- To support phone participants, provide your name and affiliation when you speak
- Participants will be muted during presentations
- Please mute your audio during discussion items when not speaking; unmute yourself to ask questions or comment during discussions

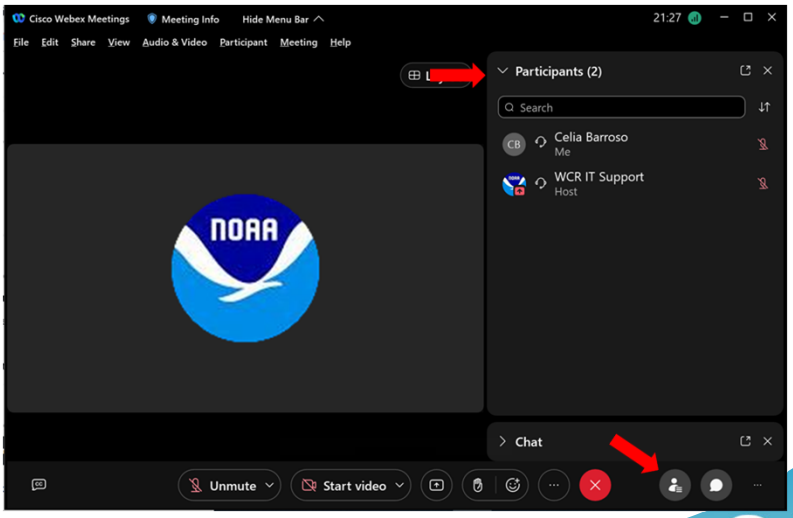
NOAA FISHERIES

Webinar participation guidelines



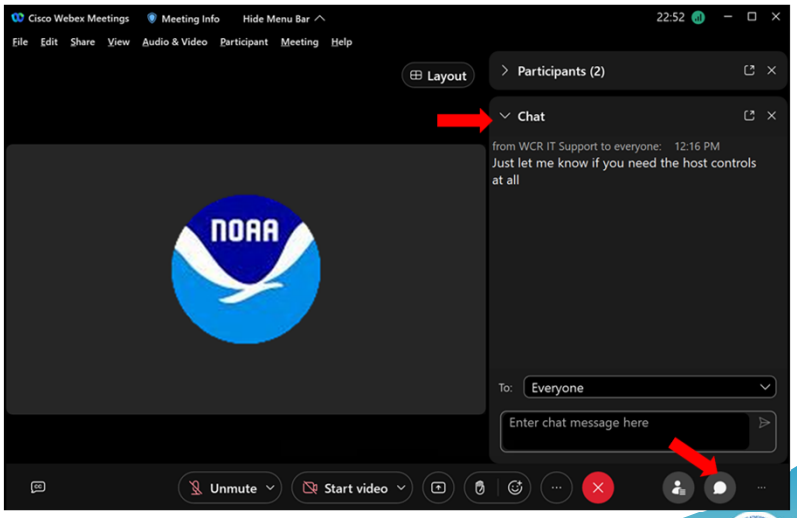
NOAA FISHERIES

Webinar participation guidelines



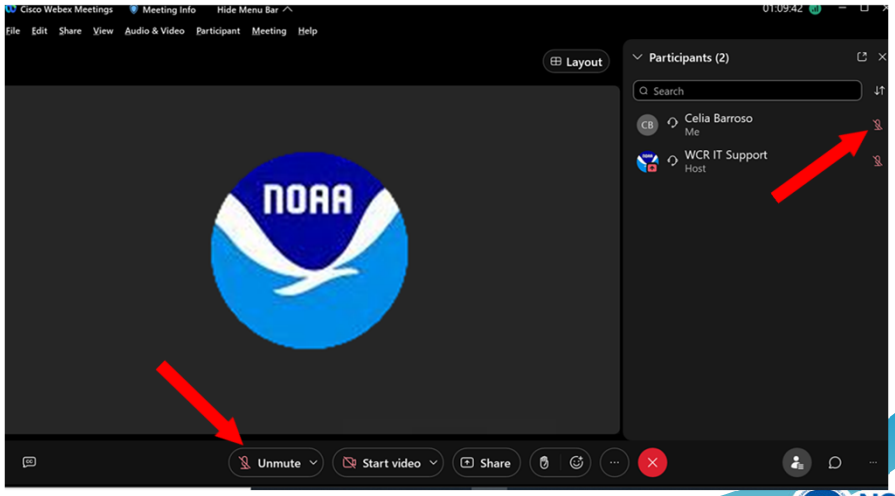
NOAA FISHERIES

Webinar participation guidelines



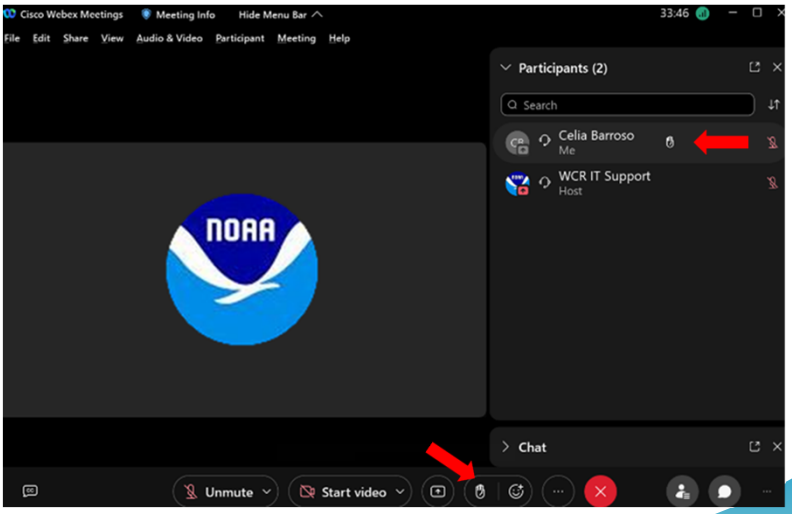
NOAA FISHERIES

Webinar participation guidelines



NOAA FISHERIES

Webinar participation guidelines



NOAA FISHERIES

Introductions and Objectives

Organizations/Affiliations

- NOAA Fisheries
- Pacific Fishery Management Council (PFMC) representatives
- California Department of Fish & Wildlife
- Fishermen and fishing industry
- Conservation interests
- Researchers and academics
- Interested public

See roster for list of registered participants.

Meeting Objectives

- Share updates on the new rule for 2022-2024.
- Discuss long-term harvest strategy and what the U.S. is doing to implement both domestically and internationally.
- Discuss possible approaches to improve management of the domestic Pacific Bluefin Tuna (PBF) commercial fishery.
- Discuss recreational fishing concerns.

NOAA FISHERIES

Agenda

Item	Time	Topic
1.	9:00am	Welcome, Introductions, and Agenda Review
2.	9:15	Updates since 2020 PBF Stakeholder Meeting • Commercial fishing • Recreational fishing • International long-term harvest strategy
	10:30	*Break*
3.	10:45	Discuss Domestic PBF Management • Future of commercial PBF fishery (post 2024) • Future of recreational PBF fishery (post 2024)
	12:15	*Lunch*
4.	1:00	Discuss International Long-Term Harvest Strategy • Update: Outcomes of April 1, 2022 stakeholder meeting on Long-Term Harvest Strategy • Discussion
5.	1:45	Next steps – process moving forward
	2:00	*Adjourn*

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2. Updates Since 2020 PBF Stakeholder Meeting

- General & Commercial Fishing
- Recreational Fishing
- International Long-Term Harvest Strategy

Conversation History

PFMC (September 2018): "directed the HMSMT and HMS Advisory Subpanel to begin developing a long-term management strategy for Pacific bluefin tuna, recognizing that the stock is rebuilding and there is an opportunity for U.S. catch limits to increase in future years."

Meetings in 2019 and 2020, and now.

Pacific International Management (RFMOs)

Inter-American Tropical Tuna Commission (IATTC) &
the Western and Central Pacific Fisheries Commission (WCPFC)

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Joint IATTC-WCPFC Northern Committee Working Group on PBF

Western and Central Pacific Fisheries Commission

CIAT IATTC

- Since 2016, coordinating a Pacific-wide approach
- Recommendations forwarded to IATTC and WCPFC
  - Rebuilding plan
    - Initial target: $SSB_{med,1952\text{-}2014}$ (~6% unfished SSB)
    - Second target: 20% unfished SSB
    - Decision rules to decrease or consider increasing catch
- Development of long-term harvest strategy (more later)

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Pacific bluefin tuna Stock Status (2020)

By Brück & Sohn Kunstverlag Meißen - Own work, CC0, https://commons.wikimedia.org/w/index.php?curid=52538636

- Overfished and subject to overfishing
- Likely to have met initial rebuilding target

IATTC Resolutions: C-21-01

Long-term goals/objectives

Rebuilding plan

Over-harvest and under-harvest rules

- Over-harvest must be deducted during the next management cycle
- Under-harvest in previous cycle may be added to the next; not to exceed 5% of the limit in the previous cycle.

IATTC Resolutions: C-21-05

- 1st limit increase since 2015 (since Resolution C-14-06)

	Mexico	United States
2021-2022 biennial limit	6,556 mt	739 mt
One-year maximum for 2021-2022	3,824 mt	523 mt
2023-2024 biennial limit	6,973 mt	1,017 mt
One-year maximum for 2023-2024	4,068 mt	720 mt

- Para 3: "Each CPC shall continue to ensure that catches of Pacific bluefin tuna by sportfishing vessels operating under its jurisdiction are reduced in a manner commensurate with reductions in commercial catches." (more later)

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Implementation of C-21-05 (rulemaking)

Proposed rule: comment period closed April 4

- Increased initial trip limit from previous years to 20-30 mt
- Like 2021, trip limits reduce throughout year as cumulative catch thresholds are met
- e-Tix within 24 hours
- Inseason action procedures proposed:
  - Website posting, following by USCG Broadcast Notice to Mariners and Federal Register publication, as soon as practicable
  - Intended to improve speed by which NMFS can take inseason action to be more responsive to fleet

NOAA FISHERIES

Implementation of C-21-05 (rulemaking)

Potential Final rule

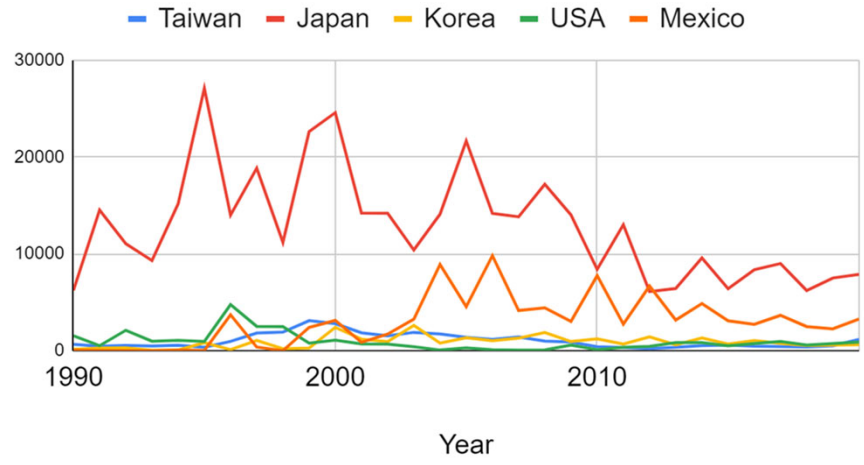
- Change to inseason action procedure
- USCG is not providing BNM
- Inseason action by website posting AND Federal Register Notice
- Explain intention to…

Potential Proposed/final rule to conduct inseason action by:

- website posting, email, and followed by Federal Register notice as soon as practicable

NOAA FISHERIES

Commercial Fishery Performance Overview: PBF Catch by Country (mt; 1990-2020)



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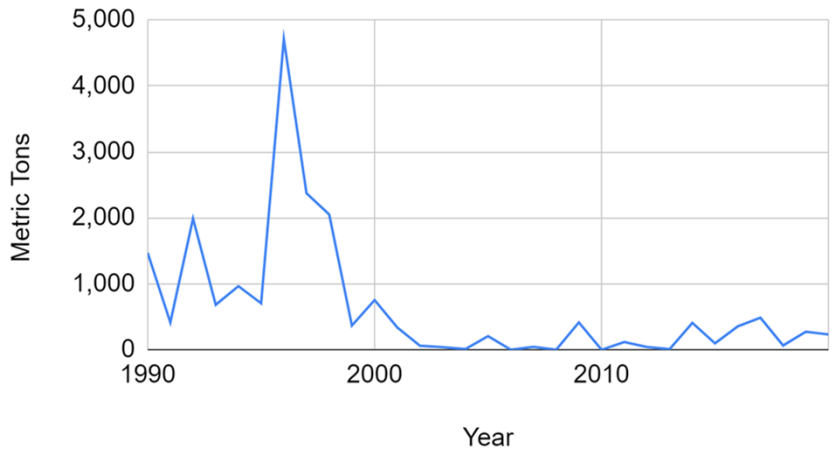
Commercial Fishery Performance Overview:
U.S. Annual landings by all gear-types 1990-2021



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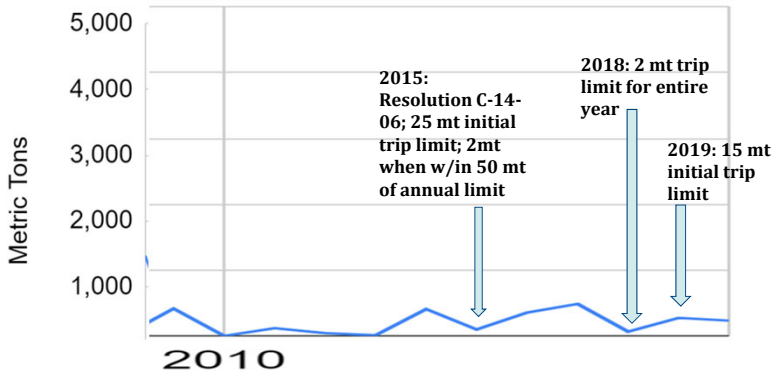
Notable events



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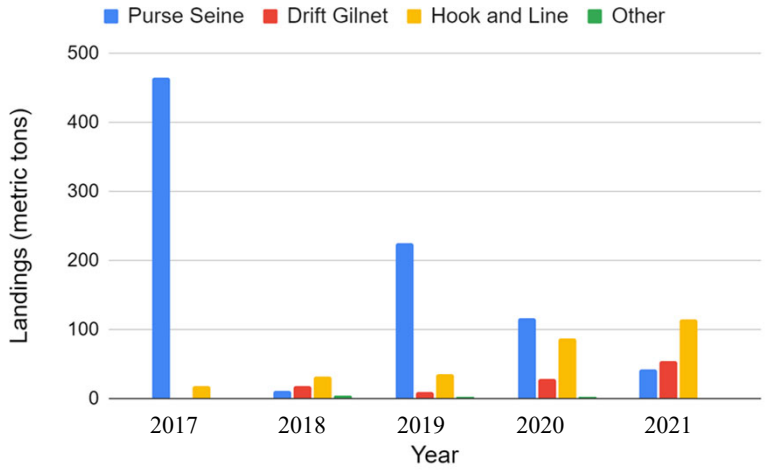
U.S. Commercial Catch by Gear-type: 2017-2021



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Pacific Bluefin Tuna Monitoring

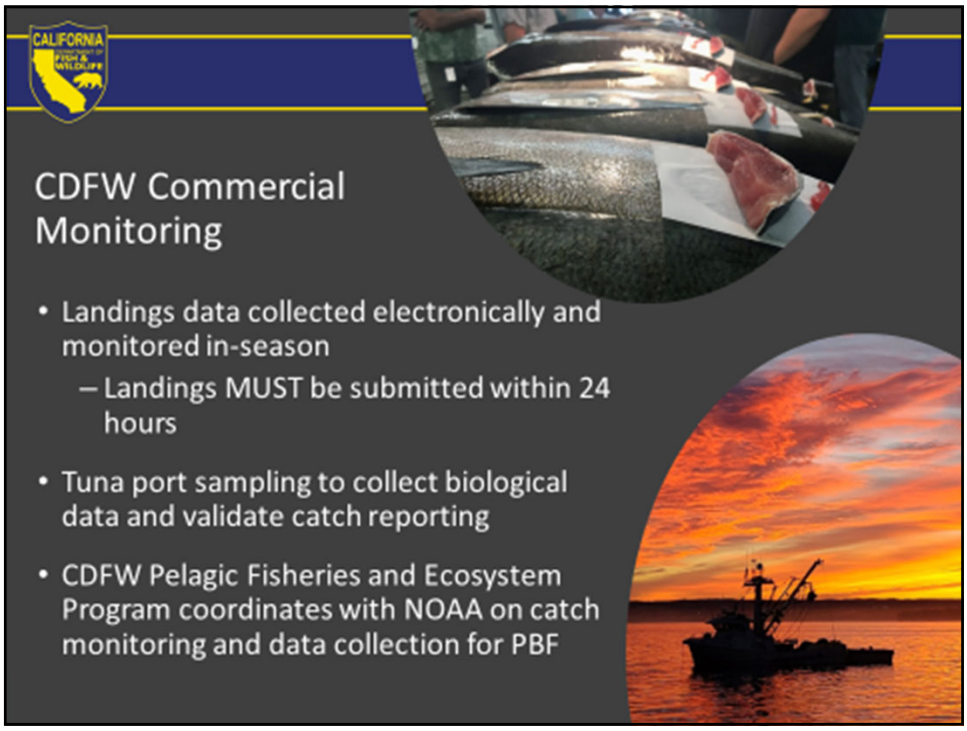
PBF Stakeholder Workshop

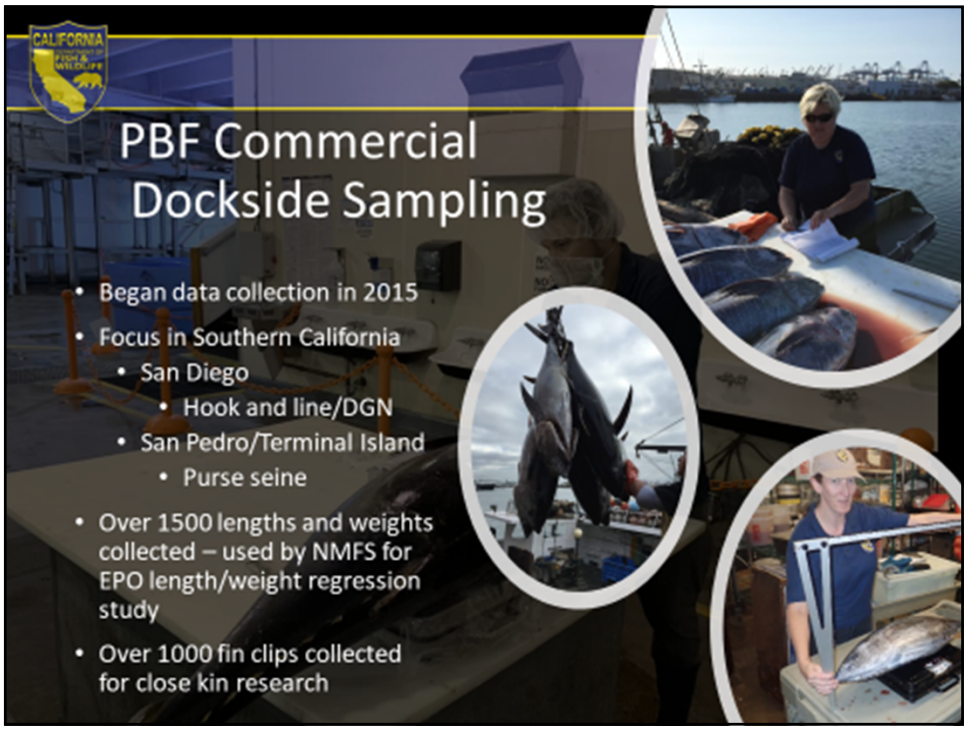
May 4th, 2022

Michelle Horeczko
Senior Environmental Scientist Supervisor
Coastal Pelagic and Highly Migratory Species Data Project
Pelagic Fisheries and Ecosystem Program (PFEP)

Role of the CPS and HMS Data Project:

- Commercial dockside monitoring for tunas, market squid, and CPS
- Collect and process biological samples to support stock assessments
- Collaborate with partners to conduct fishery surveys


CALIFORNIA
FISH & WILDLIFE
CDFW Commercial Monitoring
• Landings data collected electronically and monitored in-season
– Landings MUST be submitted within 24 hours
• Tuna port sampling to collect biological data and validate catch reporting
• CDFW Pelagic Fisheries and Ecosystem Program coordinates with NOAA on catch monitoring and data collection for PBF


CALIFORNIA
FISH & WILDLIFE
PBF Commercial Dockside Sampling
• Began data collection in 2015
• Focus in Southern California
• San Diego
• Hook and line/DGN
• San Pedro/Terminal Island
• Purse seine
• Over 1500 lengths and weights collected – used by NMFS for EPO length/weight regression study
• Over 1000 fin clips collected for close kin research

Commercial Sample Data

PBF Commercial Sampling Summary

Year	Landings Sampled	Number of Fish	Length (mm) Min	Length (mm) Max
2015	3	240	755	1225
2016	7	168	635	989
2017	8	121	640	1060
2018	29	634	579	1750
2019	43	221	745	1798
2020	32	123	678	1957
2021	10	57	797	1764

Clarifying questions?

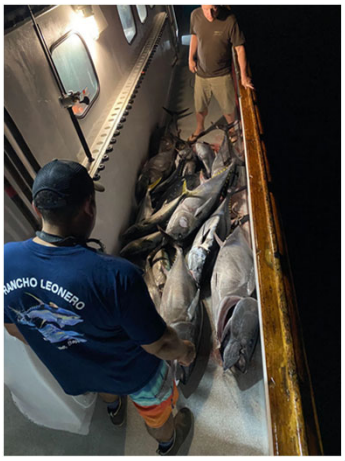
Pacific bluefin tuna and West Coast recreational fisheries

Daniel Studt
Recreational Fisheries Coordinator
NOAA Fisheries West Coast Region

Regulatory History

2007 -

- ***Bluefin Tuna Daily Bag Limit*** – 10 bluefin tuna in the U.S. EEZ off the coast of California.
- ***Possession Limits*** – Allowed aggregated daily trip limits on multi-day trips permitted/landed in California.
- ***Boat limits*** – Off California, anglers can continue to fish until the combined daily limit of all licensed and juvenile anglers aboard has been obtained.



Regulatory history

2015 -

- ***Modified Daily Bag Limit*** – Reduced from 10 to 2; multi-day possession limit of 6 fish
- Why 2 fish?
  - 2012 ISC stock assessment and NMFS stock status determination of overfished/subject to overfishing
- ***Fillet requirements*** – Established new requirements for filleting tuna at-sea south of Pt. Conception

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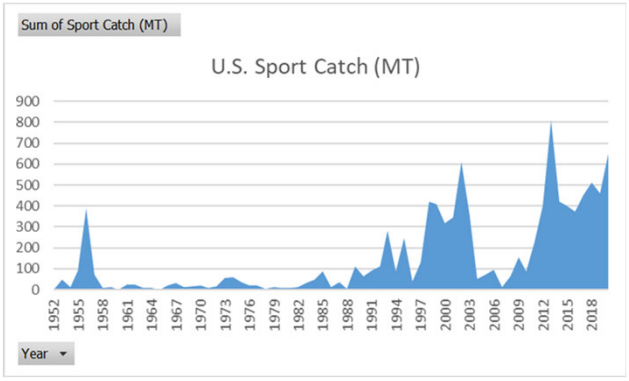
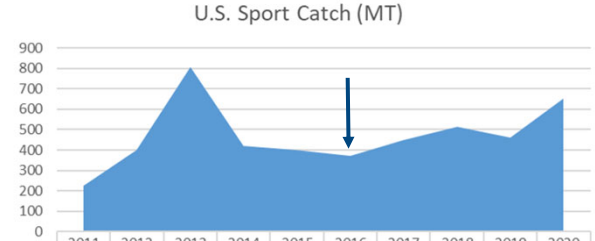
Catch history



NOAA FISHERIES

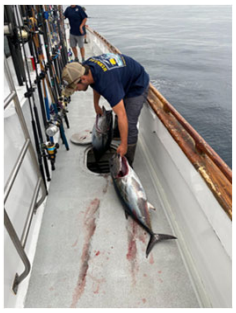
Catch history

Sum of Sport Catch (MT)

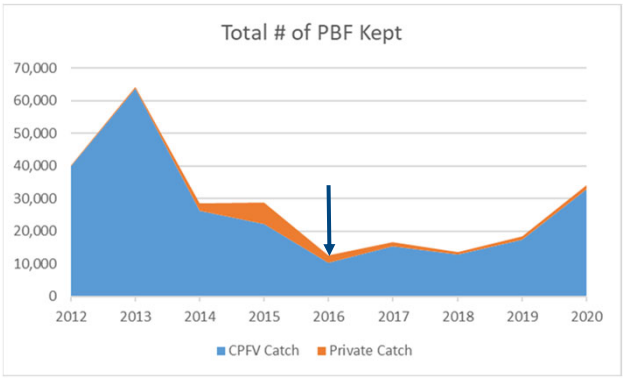


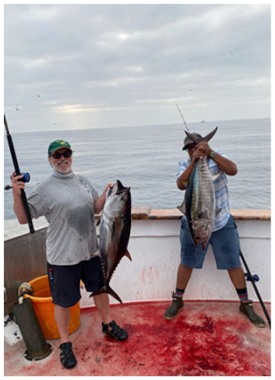
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	225	400	809	420.2	400.3	371.7	450.8	513.2	461.5	650.7

Year

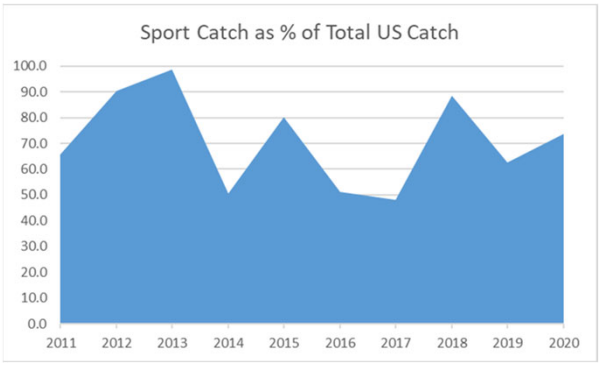


Catch history

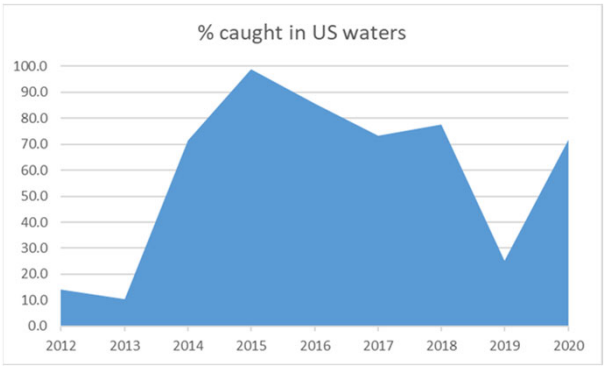


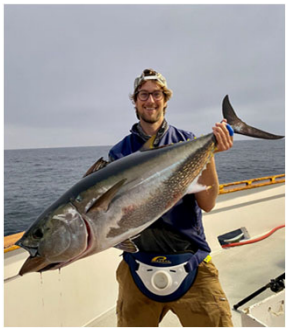


Catch history

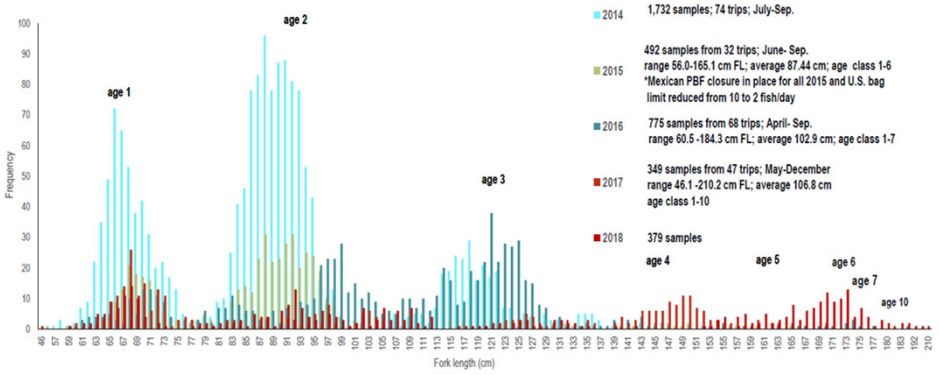


Catch history





Bluefin Recreational Catch Size Sampling



Seasonality of catch

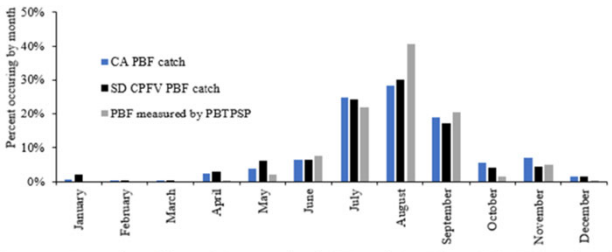


Figure 10. Proportion of the total CA recreational PBF catch, San Diego CPFV PBF catch, and PBF measured by the NOAA Pacific Bluefin Tuna Port Sampling Program occurring by month, between July 2014 and December 2019.

Sportfishing Assoc. of California Sampling Program - Length-Weight data

RecFIN APEX Report SD001 Biological Data (filtered by SAC)

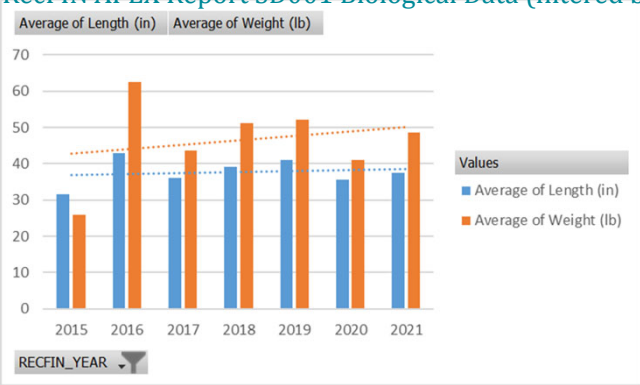


Table 2. Pacific bluefin tuna age-length relation as used in the ISC stock assessment (Table 2-1 in ISC, 2020).

Age (years)	Fork length (cm)
0	19.1
1	58.6
2	91.4
3	118.6
4	141.1
5	159.7
6	175.2
7	188.0
8	198.6
9	207.4
10	214.7

Maturity of U.S. fish?

PBF Biological Sampling

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Number	75	78	54	189	294	171	156	120	276	421	493	2327

- 2018: Fish collected from 14 - 364 lbs
- No sign of spawning or gonadal development in larger fish

Sampling

- SWFSC PBF Port Sampling Program
- Sportfishing Association of California's Fisheries Sampling Program
- SWFSC Sample Collection Program

Photo: SWFSC

Photo: SAC

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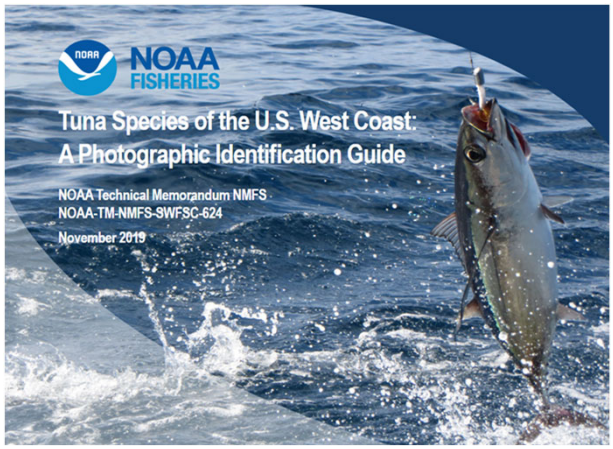
Other Rec Fish initiatives



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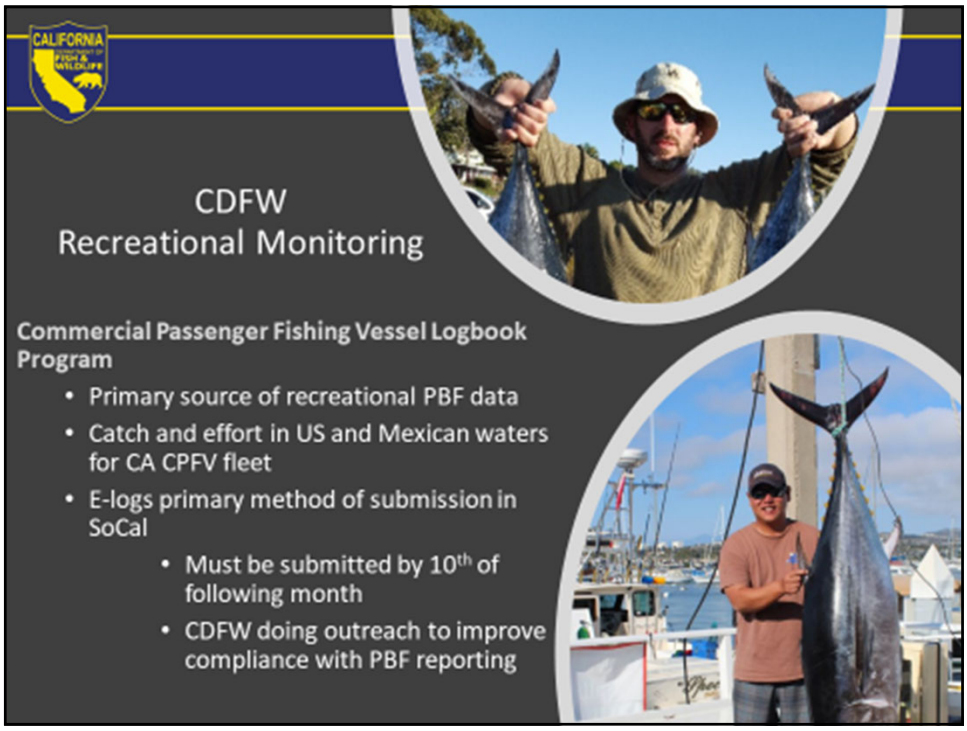
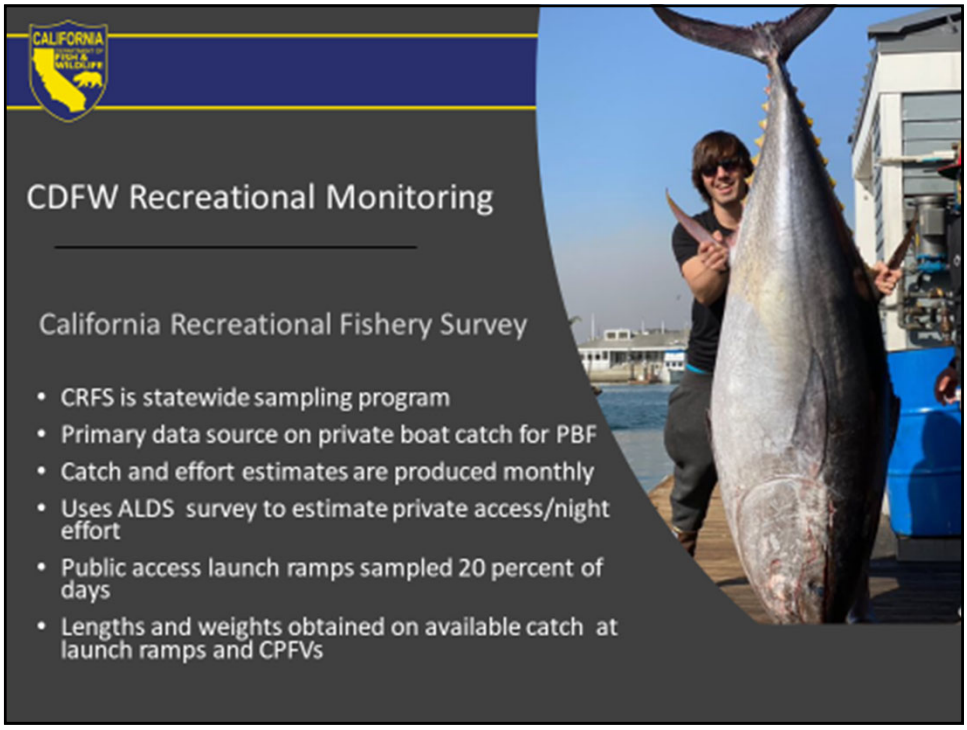

CALIFORNIA
FISH & WILDLIFE
CDFW
Recreational Monitoring
Commercial Passenger Fishing Vessel Logbook Program
• Primary source of recreational PBF data
• Catch and effort in US and Mexican waters for CA CPFV fleet
• E-logs primary method of submission in SoCal
• Must be submitted by 10th of following month
• CDFW doing outreach to improve compliance with PBF reporting


CALIFORNIA
FISH & WILDLIFE
CDFW Recreational Monitoring
California Recreational Fishery Survey
• CRFS is statewide sampling program
• Primary data source on private boat catch for PBF
• Catch and effort estimates are produced monthly
• Uses ALDS survey to estimate private access/night effort
• Public access launch ramps sampled 20 percent of days
• Lengths and weights obtained on available catch at launch ramps and CPFVs

CRFS Sample Data

CRFS PBF Sampled Fish Numbers, 2015-2021

	Private Boat Mode			Party/Charter Mode		
Year	Observed	Length	Weighed	Observed	Length	Weighed
2015	279	238	181	16	16	15
2016	98	71	14	8	7	1
2017	36	21	10	3	3	0
2018	31	26	15	0	0	0
2019	38	10	3	5	5	5
2020	9	0	0	8	0	0
2021	133	59	16	8	2	1

CFRS data extracted 4/12/2022

Clarifying Questions?

International Long-term Harvest Strategy Introduction

Timeline of Harvest Strategy Discussions

2016: IATTC Resolution C-16-03 to establish informal Joint IATTC-WCPFC NC Working Group to develop long-term harvest strategy and more

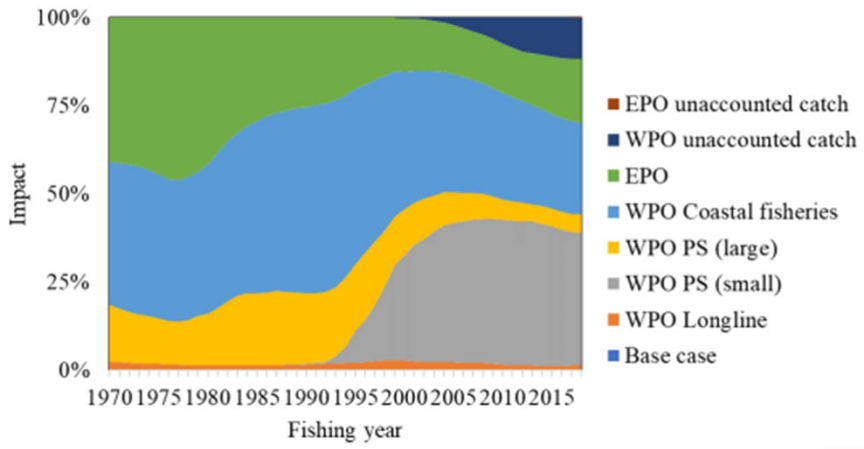
Since 2017: WCPFC Harvest Strategy and IATTC long-term resolution focused on rebuilding

2019: Joint WG identified candidate reference points and harvest control rules

2021: ISC recommended JWG develop operational management objectives and performance indicators &

JWG suggested members solicit input from their stakeholders on the long-term harvest strategy

Proportional Fishery Impact (ISC, 2020)



Clarifying Questions?

Break

Return at 10:30 AM PT

3. Discuss Domestic PBF Management

- Future of Commercial PBF Fishery
- Future of Recreational PBF Fishery

Domestic PBF Management
Future of Commercial PBF Fishery

1. Prior stakeholder meeting topics
2. November 2021 PFMC Meeting discussion overview
3. Deeper look into a couple of topics
   - Ranching
   - IVQs/Gear allocations

Bonus Discussion Question to consider:

Do you want increases all at once or over time to allow fisheries to develop?

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Future of Commercial Fishery:
Prior discussions

1st Stakeholder Meeting

- Ranching
- Allocations by gear-type
- Consider IVQs possibly to apply only to purse seine vessels, caution for consolidation effects

Nov. 21 PFMC Meeting

- Automated system when agree to international catch limit
- Gear allocations
- Change PS practices to increase quality
- When catch limits are high enough, should we go to an annual limit scheme both domestically (could split biennial limits) and internationally?

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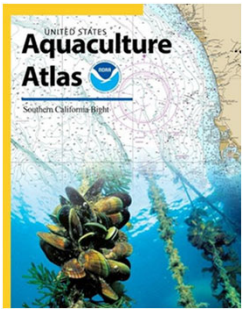
Ranching

- Industry perspective:
  - Appetite for ranching exists, room in the market
  - Higher U.S. Quota: >1000mt
  - Need guidance with and seek streamlining of permitting process
  - Feed scenarios to be worked out
  - High quality, high yield product

Ranching

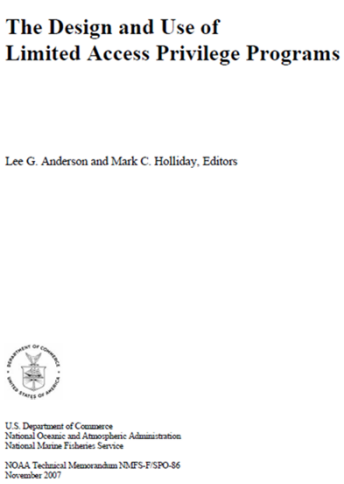


- NMFS perspective:
  - Communicate with NOAA Aquaculture Coordinator before applying
  - Conduct robust siting and constraints analysis to identify potential sites
  - Utilize and build on existing information, including https://coastalscience.noaa.gov/data_reports/an-aquaculture-opportunity-area-atlas-for-the-southern-california-bight/
  - Know your area
  - Account for upscaling

Gear allocations/IVQs: Limited Access Privilege Program (LAPP)

"...an individual fisherman, community, or other entity is granted the privilege of to catch a specified portion of the total allowable catch."

"...assigned to individuals (ITQs, IFQs, individual gear quotas)..."


The Design and Use of
Limited Access Privilege Programs

Lee G. Anderson and Mark C. Holliday, Editors

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

NOAA Technical Memorandum NMFS-F/SPO-86
November 2007

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LAPPs

- Developed with Councils following "Operational Guidelines for the Development and Implementation of Fishery Management Plans" (NMFS 1997) and consider the following:
  - Current status description (fishery description)
  - Set objectives
  - Specify Management Alternatives
  - Analyze alternatives
  - Select and Implement the Best Option
  - Monitor and Adjust

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Gear-type allocations

- Could be an automatic allocation and less discussion after each resolution
- Need to consider changing portfolios now and the in future
- Atlantic BFT quota is under gear allocation scheme (if need a model)

IVQ for Purse Seine

- Consider overlap with the purse seine active register (IATTC rules)

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Discussion Questions

What would be a better way to manage the fishery? How can we improve upon this?

- Do you want increases all at once or over time to allow fisheries to develop?

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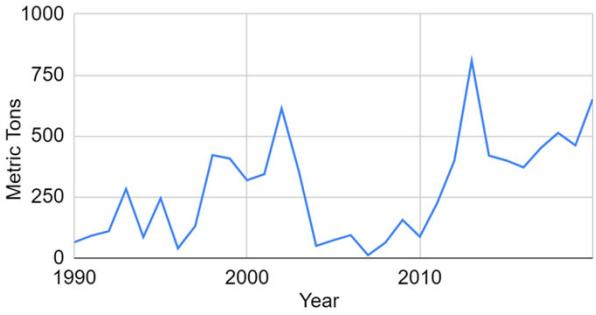
Domestic PBF Management
Future of Recreational PBF Fishery

Recall Resolution C-21-05: *Each CPC shall continue to ensure that catches of Pacific bluefin tuna by sportfishing vessels operating under its jurisdiction are reduced in a manner commensurate with reductions in commercial catches.*

Recreational Catches 1990-2020 (ISC, 2020)



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Discussion Questions

What steps, if any, do you envision being taken by NMFS for management of the recreational fishery?

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Lunch

The meeting will resume at 1:00 pm PT.

4. Discuss International Long-Term Harvest Strategy

- Update: Outcomes of the April 1 stakeholder meeting on International Long-term Harvest Strategy, and next steps
- Discussion questions

Valerie Post
Fishery Policy Analyst
Pacific Islands Regional Office
NOAA Fisheries

Definitions

Management Objective:

- Goals and objectives of the fishery

Operational Management Objective:

- Stated in a way that is specific and measurable

Performance indicator:

- The quantitative definition of a management objective; the metrics used to determine whether a management objective is met.

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WCPFC PBF HS Management Objectives

The management objectives are, first, to support thriving Pacific bluefin tuna fisheries across the Pacific Ocean while recognizing that the management objectives of the WCPFC are to maintain or restore the stock at levels capable of producing maximum sustainable yield, second, to maintain an equitable balance of fishing privileges among CCMs and, third, to seek cooperation with IATTC to find an equitable balance between the fisheries in the western and central Pacific Ocean (WCPO) and those in the eastern Pacific Ocean (EPO).

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Developing Operational Management Objectives - Examples from ICCAT and IOTC

General subject/topics for objectives:

1. Status - Probability of not overfished/overfishing
2. Safety - Risk of breaching limit
3. Yield - How much catch
4. Stability - Amount of change in catch between management periods
5. Abundance - Catch rates

Feedback on Management Objectives

Category	Operational Management Objective
Safety	There should be a less than [10%] probability of the stock falling below SSB_{LIM}
Status	To maintain the stock above SSB_{MSY} and to maintain fishing mortality below F_{MSY} with at least 75% probability
	If SSB has been assessed by the ISC as below SSB_{MSY}, to rebuild SSB to or above SSB_{MSY} with at least a 75% probability and within as short time as possible, but not longer than 1.5 generations
Stability	To limit changes in overall catch limits between management periods to no more than 15% downwards, unless the ISC has assessed that there is a greater than 50% chance the stock is below [B_{LIM}]
Yield	To maximize the productivity of the stock by minimizing the catch of the smallest fish
	To maximize yield over the medium (5-10 years) and long (10-30 years) terms, as well as average annual catch from the fishery
	Maintain a proportional fishery impact between the WCPO and EPO Maintain a proportional fishery impact of 25% EPO and 75% WCPO

Discussion Questions

Do you support the suggested categories and operational management objectives? Are there any changes or refinements you would like to suggest?

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Feedback on Performance Indicators

Category	Operational Management Objective
Safety	There should be a less than [10%] probability of the stock falling below SSB_{LIM}

Performance Indicators

-Probability that SSB< SSB_{LIM} in any given year of the projection period

-Probability that SSB falls below the historical lowest level (2010) in any given gear of the projection period

-Lowest level of depletion (i.e., SSB relative to $SSB_{F=0}$) over the projection period

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Feedback on Performance Indicators

Category	Operational Management Objective
Status	To maintain the stock above SSB_{MSY} and to maintain fishing mortality below F_{MSY} with at least 75% probability

Performance Indicators

-Probability that SSB>SSB_{MSY} and F<F_{MSY} in any given year of the projection period

-Probability that average SSB is at or above SSB_{MSY} throughout the simulation period

-Probability that SSB>SSB_{MSY} in any given year of the projection period

-Probability that F<F_{MSY} in any given year of the projection period.

-Probability that B>B_{Target} Target in any given year of the projection period

-Probability that F<F_{Target} in any given year of the projection period

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Feedback on Performance Indicators

Category	Operational Management Objective
Status	If SSB has been assessed by the ISC as below SSB_{MSY}, to rebuild SSB to or above SSB_{MSY} with at least a 75% probability and within as short time as possible, but not longer than 1.5 generations

Performance Indicators

-If SSB<SSB_{MSY}, probability that SSB>SSB_{MSY} after 15 years further into the projection period

-If SSB<20%$SSB_{F=0}$, time expected to achieve 20%$SSB_{F=0}$

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Feedback on Performance Indicators

Category	Operational Management Objective
Stability	-To limit changes in overall catch limits between management periods to no more than 15% downwards, unless the ISC has assessed that there is a greater than 50% chance the stock is below [B_{LIM}]

Performance Indicators

-Percent variation in catches between management periods

Feedback on Performance Indicators

Category	Operational Management Objective
Yield	-To maximize the productivity of the stock by minimizing the catch of the smallest fish

Performance Indicators

-Average catch of juveniles (<30 kg) compared to [reference period] in any given year of the projection period

-Expected annual fishing effort in any given year of the projection period by PBF directed fishery

Feedback on Performance Indicators

Category	Operational Management Objective
Yield	-To maximize yield over the medium (5-10 years) and long (10-30 years) terms, as well as average annual catch from the fishery

Performance Indicators

-Expected annual catch in any given year of the projection period by fishery

-Expected annual yield over years 10-30 [or 5-10] of the projection period, by fishery

Feedback on Performance Indicators

Category	Operational Management Objective
Yield	Maintain a proportional fishery impact between the WCPO and EPO Maintain a proportional fishery impact of 25% EPO and 75% WCPO

Performance Indicators

-Expected proportional fishery impact (in %) on SSB in any given year of the projection period by fishery and by WCPO fisheries and EPO fisheries

-The probability that the EPO proportional fishery impact is at least 25% in any given year

Discussion Questions

Do you support the suggested performance indicators? Are there any changes or refinements you would like to suggest?

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Additional Input Received on April 1

- Collection and use of fishery independent data
- Development of a metric based on close-kin genetic analysis
- Consideration of harvest control rules related to size/age
- Use of a threshold reference point within a harvest control rule
- Any changes to the overall limit as a result of a new harvest strategy be considered either Pacific-wide or split between the regions and not by individual countries as country allocations should be discussed separately.

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Discussion Questions

What other suggestions do you have on the development of a long-term harvest strategy for Pacific bluefin tuna?

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Next Steps

- Meeting summary
- Process moving forward

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Next Steps

Meeting Summary (early June)

- Consider any actionable items moving forward

On Long-term HS, solicit feedback from:

- Pacific Fishery Management Council - June 2022
- PAC Meeting - June 8, 2022
- GAC Meeting - Aug 4-5, 2022 (subject to change)
- Potentially submit a proposal/white paper to JWG

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Thank you

Steering Committee (Michael Conroy, Dave Rudie, Mike Thompson, Michelle Horeczko)

Karter Harmon (NOAA, note-taking)

John Shaw (NOAA, tech support)

Will Stahnke (NOAA, meeting preparation support)

Diane Windham (NOAA, aquaculture expertise)

Presenters:

- Valerie Post (NOAA)
- Daniel Studt (NOAA)
- Michelle Horeczko (CDFW)

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Adjourn