REPORT ON THE AGEING AND DATA PREPARATION COORDINATION MEETING TO SUPPORT 2021 GROUNDFISH STOCK ASSESSMENTS

The Pacific Fishery Management Council (Council) convened a meeting on August 10, 2020 to coordinate ageing efforts and discuss data sources to be used in the 2021 stock assessments. The participants included the Scientific and Statistical Committee (SSC) Groundfish Subcommittee (SSCGS), Stock Assessment Team (STAT) members, and staff from agencies involved in surveys, ageing and catch estimation. The meeting was chaired by Dr. John Budrick Chair of the SSCGS. A complete list of participants and their affiliations is provided in Appendix B. This was the first Ageing and Data Preparation Coordination Meeting held following from changes to the Terms of Reference for Stock Assessments (pg. 21) adopted in 2020. At the June 2020 meeting, the Council identified groundfish stocks slated for assessment in 2021 to begin the stock assessment process for which a schedule, assessment duties and deadlines are provided in Table 1. They also identified priority stocks for the 2023 assessments to provide time to collect data to fill data gaps for these stocks in advance of the assessments.

The primary goals of this meeting were to facilitate utilization of available age structures, prioritization of their processing, and coordination of ageing cross validation for stocks subject to assessment in 2021. In addition, catch estimates are sometimes subject to changes that retrospectively affect assumed removals in stock assessments and this meeting provided a forum to make stock assessors aware of such changes. Having identified candidate stocks for assessment in 2023, this meeting also provided the opportunity to discuss where sampling or data collection priorities might be augmented to fill data gaps. Notes for each agenda item provided below were collected by assigned rapporteurs to inform interested parties of the proceedings, findings and considerations identified as they pertain to assessment planning. The dates, deadlines and participation on stock assessment teams and review panels is captured in Table 1.

Ageing Prioritization

Purpose: This agenda item was intended to broach developments affecting assessment planning and the candidate species identified for assessment in 2021 and 2023. We discussed the available data sources providing age structures for each species that should be considered for use in the 2021 assessments to prioritize ageing efforts. Availability of ageing structures and efforts to collect needed samples for stocks prioritized for assessment in 2023 were discussed in passing.

Notes: The available age data and structures for species subject to each type of assessment were discussed and the resulting resources and considerations identified.

1. Impact Analyses Methodology Review – Preliminary Topic Selection

The current ageing capacity of each laboratory was discussed. While length-based data-moderate stock assessments demand less age data, they still require sufficient data to estimate growth or growth rates from prior studies. The Northwest Fishery Science Center (NWFSC) reported that they are currently down to 5 (previously 6) age readers, and although age determination work is continuing, agers have very limited access to laboratory facilities to conduct the necessary

preparation work to age lingcod (fin rays need additional laboratory preparation). The Southwest Fishery Science Center (SWFSC) reported limited age determination capacity, following the retirement of their primary age reader last year. Currently, two staff are conducting age determinations part time (as their primary obligations are with other projects), with a focus on aging vermilion/sunset rockfish from central California. The age data coming from Fourier transform near-infrared spectroscopy (FT-NIRS) efforts are unlikely to inform assessments this year, as issues with laboratory access has slowed progress in implementing those methods.

The Washington Department of Fish and Wildlife (WDFW) reported that some age readers were teleworking prior to COVID-19, so the response to wide-scale teleworking was smooth, and they have a limited capacity to prepare lingcod samples despite reduced lab space (300 fin rays per year per fishery may be feasible within the constraints of current capacity). For the Oregon Department of Fish and Wildlife (ODFW), only one person is currently aging, focusing on copper rockfish, and has completed about 2600. The ODFW has ~4000 vermilion rockfish otoliths, so prioritizing those relative to copper rockfish is important. The California Department of Fish and Wildlife (CDFW) does not have an aging lab, but does have some historical and contemporary collections, and will be processing a limited number of lingcod fin rays to supplement those available from the cooperative survey. The CDFW also recently found data associated with historical samples and will try to evaluate whether these data will enable use of historical otolith collections. It was noted that timelines for the assessment data deadline has changed from 11 weeks to 12 prior to the stock assessment review (STAR) panel including age data.

2. Stocks Identified for Assessment

Full "Benchmark" Stock Assessments: The vermilion and sunset rockfish complex assessment was discussed, these assessments will most likely have SWFSC STAT leads (Dick and Monk, respectively) for Southern and Central/Northern CA models, and NWFSC lead (Cope) for OR/WA model or models. Dr. Budrick noted that age structures exist from 84 samples genotyped to compare sunset/vermilion species north of Point Conception collected as part of his PhD research with an additional ~600 additional genotyped samples from the SWFSC La Jolla collections that may have otoliths collected as well if cross referenced to their remaining collections. The CDFW has 313 samples with sex data available from fish purchases from the commercial fishery in 2019, and 105 from dockside sampling of commercial passenger fishing vessels (CPFVs), most of which lack sex data. The NWFSC hook and line survey has ~20000 age structures, a small number of which have been genotyped to the species level, and with approximately 1500 sampled for maturity (all of those are south of Pt. Conception). The NWFSC bottom trawl survey has about 3700 structures total, several hundred of which are from north of ~35° N lat. to inform the central California model. Very few are available from that survey north of 39° N lat. The ODFW reported that they have about 3900 structures that could be aged, roughly split between commercial and recreational fisheries, with the majority from the south coast. There is also a growth and maturity report on vermilion rockfish from Oregon published in 2012 (based on 500 ages). The WDFW has just over 800 vermilion rockfish age structures.

For Dover sole, the STAT will include Chantel Wetzel and Aaron Berger. Prior to the lab closures, the plan for Dover sole was to extend aging of west coast groundfish bottom trawl (WCGBT) survey samples beyond what was done for the last assessment through 2019, and this remains the most likely plan. The NWFSC is not currently planning to read more structures from the fishery.

The STAT for the lingcod assessment is expected to be led by Ian Taylor and Kelli Johnson (for northern and southern models, respectively), with Melissa Haltuch providing a supporting role and Melissa Monk aiding in the exploration of recreational catch-per-unit-effort (CPUE) indices. With respect to aging efforts, the NWFSC had two staff working on preparing age structures for several months before age reading began, but there has been no lab access for these preparations due to COVID 19. There are substantial delays in getting samples ready. The NWFSC Hook and Line survey started collecting fin rays in 2017, and currently has about 185. The NWFSC aged 4000 fin rays for the last assessment, but not likely to complete as many this time due to lab closures and other constraints. It was suggested that swapping out the June (lingcod) and July (vermilion/sunset) STAR Panels could provide more time for lingcod age determination work. The NWFSC has about 1100-1200 maturity samples to look at, noting that a priority may be samples in the region of apparent population structure (central CA). The ODFW is working to correct the age determination work from the last assessment cycle by addressing non-random length samples, as well as starting to process recreational and additional commercial samples. The WDFW has samples from 2017-onward and plans to complete 300 structures each year (and fishery) for about 1800 structures total. They report that age and length distributions by sex were consistent until about 2010, and they are investigating the possibility that female and male codes were reversed for a subset of samples. The CDFW has 111 fin rays from fish purchased from the commercial fishery with associated sex data from Cape Mendocino to Point Conception and 344 from carcass collections from party boats statewide, most of which lack sex data. Approximately 200 fin rays were collected by the California Cooperative Groundfish Survey (CCGS), predominantly in Northern California waters.

Update Assessments: The sablefish update will be led by the NWFSC (Owen Hamel, Melissa Haltuch and Vlada Gertseva), the NWFSC reports that the model will not have much new data, as only half the typical survey effort was completed in 2019, and there is no survey in 2020.

Data-moderate: The data-moderate assessment of spiny dogfish will be led by Vlada Gertseva (NWFSC), with contributions by Ian Taylor. Currently, there is not an expectation that there will be new age data for this assessment, which will effectively be akin to a length-based data-moderate model. It was noted that there was some discussion in last assessment about wearing of spines and effect on the age assignment. It is not clear that this issue will be resolved, however it was noted that there are structures that could be aged (ODFW has ~2400 samples over past 18 years).

Length-based data-limited assessments will be conducted for copper, squarespot and quillback rockfish by Chantel Wetzel (NWFSC), Brian Langsworth (NWFSC) and John Budrick (CDFW) with contributions from Jason Cope (NWFSC) and Alison Whitman (ODFW). As some age data are necessary to develop growth curves, it was noted that for copper rockfish the NWFSC has over 1000 structures, few of which have been aged. The California Cooperative Survey program has 50-100 structures from recent collections, and CDFW has ~30 from recent commercial fish purchases and another 35 from carcass sampling from party boats. The ODFW has aged all of their recreational copper rockfish samples (about 2300) currently available in the Recreational Fisheries Information Network (RecFIN) database. They have an addition ~350 ages from the commercial fishery as well, with as many as 1000 more commercial structures that could be aged (an age and length at maturity report for copper rockfish by ODFW is also available). The WDFW has about 1900 age structures that have not been aged yet. The SWFSC has several thousand from earlier (1970s-80s) collections but hard to match to data, several hundred from recent research

surveys. For quillback rockfish, the NWFSC WCGBT survey has several hundred structures, most are from north of Cape Mendocino. The SWFSC has about 90 from various collections between the 1970s and 2010s. The CDFW has about 35 from purchased fish and carcass collections. The WDFW has over 2500 structures that could be aged, and ODFW has about 1150 commercial samples, 3200 recreational samples (about 170 commercial and 780 recreational ages available; also, a maturity report on quillback and china rockfish). For squarespot rockfish, data are available from Love (1990) for approximately 600 aged fish, mostly females, an additional 1000 age structures may exist from the hook and line survey.

2023 Assessments: Relatively little was discussed with respect to 2023 stock assessments for this call given further discussion under the sampling consideration agenda item below. The SWFSC noted that they are conducting some data and modeling updates to the historical shortbelly rockfish stock assessment.

Documentation of Available Age Structures

Purpose: At present there is no single repository or location to easily find all the available otolith collections from differing studies, surveys, and historical collections. In the absence of a unified database, each of the data stewards can provide tables of the number of ageing structures from each data source available for each species. In addition, assessment authors have requested a description of the surveys providing data for the assessments to allow incorporation in the assessment by reference, thus saving valuable time. The table should be compiled and posted on the FTP site by sending it to John DeVore before or after the meeting by August 31, while the meta-data and a brief description of the study can be provided by October 31. A consistent format with the species in the vertical axis and study/survey on the horizontal axis with counts of individuals was requested for the table.

Notes: This agenda item was kept brief since the intent was to consider the need for future actions to improve data availability and awareness of data availability for assessment. In the future, tables of available otoliths by species, region of interest and year for each data source should be made available in the lead up to the meeting or a more systematic approach of a single custom repository, use of the Committee of Age Reading Experts (CARE) database updated appropriately, the Pacific Fisheries Information Network (PacFIN) or RecFIN databases may be options for platforms to house a comprehensive accounting for available aging structures. For this cycle, the preceding discussion of available otoliths by source provides a record of the structures available for ageing. Future efforts may be more systematic, but the meeting itself spurred accounting within agencies responsible for each source of otoliths and sharing of their availability with assessment authors. For 2021 assessments, those in charge of otolith archives will contact the assessment authors directly with available otoliths and the accounting of availability a provided in the preceding section serves as a record of available data sources for further consideration.

Discussion regarding compiling descriptions and meta-data on the geographic and depth distribution of sampling and other considerations pertinent to fishery dependent and independent surveys frequently used in assessments resulted in agreement that such summaries would be useful in providing a boilerplate source verbiage to draw upon. A deadline of October 31 was set to provide descriptions, though some may already be available from current assessments and with the authors permission, the existing language may be used for some data sources rather than

duplicating efforts. Compilation of these descriptions in the accepted practices document or another readily available source would facilitate accessibility.

Cross Validation of Ageing

Purpose: Ideally, within and between laboratory ageing error estimates would be available for each stock but require coordination between laboratories and additional effort for limited staff. The intent of this agenda item was to establish minimum data necessary and initiate arrangement of cross-reads where appropriate. The CARE manual and documentation for the program developed to address error estimation is included on the FTP site. We briefly discussed archiving of the number of read and unread samples on the CARE website or the Council FTP site to facilitate future coordination.

Notes: The following questions were addressed and considerations identified during discussion.

1. What minimum sample size do we need to account for uncertainty due to ageing error?
   Currently, laboratories have been aging 100-200 samples at minimum, though 300-500 is preferred, though the optimal number of samples will depend on multiple factors such as the age structure, longevity, etc. The number of ages and complexity of model (straight line or curvature of ageing bias, constant or varying coefficient of variation) are also factors in determining the acceptable sample sizes for cross-reads. Optimally, the laboratories will analyze as many age-reading experiments as possible in a single analysis. Design of age-reading experiment is a factor and ageing the same otolith six times may provide more information than having three otoliths aged twice each.

2. Which laboratories have capacity and time to cross-validate between labs or within labs?
   Nearly every lab will do some double reads, whether within reader or between readers or both. Hopefully many labs will be able to do cross-reads. Lingcod had cross reads between the Cooperative Ageing Project (CAP) lab and WDFW as well as with Laurel Lam last time and new data can be added. The WDFW is would prefer as many cross reads as feasible to understand ageing error. The ODFW is also willing to participate but has limited capacity. Vermilion/sunset rockfish and lingcod are the two assessments with the most concern because Dover has many cross reads. There are 40 lingcod from Alaska tagged at an assumed age of 0 or 1 based on length that have been recovered for validation. The Alaska Department of Fish and Game, CAP, Department of Fisheries and Oceans Canada cross read. Oldest was 21, but mostly younger than 10 with relatively low error compared to older rockfish. Ageing protocols should refer to the CARE manual to provide consistent criteria or another document developed internally should be shared with other laboratories to all facilitate comparable reads.

3. Should we be maintaining an online catalog of available ageing structures (both processed and unprocessed structures available from the CARE website) for consistency on the Council FTP or CARE website?
   There is some question about information currently on the CARE website being up to date and complete, as not all otoliths are entered in the system in concerted fashion. For example, Dover sole number is current through 2014, but uncertainty about whether this number is the total available or total aged and needs to be updated. Info on ageing method and validations, etc. exists. Research projects may not dovetail well with the current CARE website. Future discussion should consider whether this should be here or there should be a Council database

that covers everything in the pertinent collections. Alternatively, RecFIN and PacFIN, etc. might be viable platforms where otoliths can be cataloged, but they may not be appropriate for all data sources.

Sampling Considerations in 2020 and Beyond for Priority Stocks

Purpose: The goal of this agenda item was to focus attention on data needs for assessments by identifying barriers, opportunities, and goals for sampling the species identified as priority stocks for 2023. The COVID-19 pandemic has impacted sampling efforts that might affect data availability for future assessments. Conversely, in-season regulatory changes for 2021-2022 may result in sampling opportunities that should be safely capitalized on if possible.

Notes: Assigned representatives were asked to briefly discuss the implications of current events for their surveys, any potential issues for data availability in the future, and remaining opportunities to sample the identified priority stocks. Notes from the resulting discussion are provided below.

1. Recreational

    a. California Recreational Fisheries Survey (CRFS): Mike Brown (Statewide Coordination Representative) stated that it is a very unusual year because of COVID-19. At the very beginning in March they started getting advisories that meetings/gatherings were banned and that ended up having to stop doing any onboard sampling. This data source is not going to be available from March 10 through until when they can resume onboard sampling which might not happen until next year. Fortunately, March estimates were produced, though with data from only the first part of the month. No data/estimates for April through the end of June. Sampling was resumed in July and was streamlined to be compliant with guidance's about safe working environment to prevent COVID-19. Samplers are not observing as many fish to determine species composition and no measurements are being taken. Fish size and weight are going to be based on the pooling rules borrowing data from 2018 or further back where necessary. Rockfish are notoriously hard for the general public to identify, and estimates are going to be a little higher, which reduces the estimate for species that can't be identified down to the species level. Sampling will continue through the remainder of this year.

    There are some liberalizations that allow access to deeper depths in 2021. The San Francisco Management Area, Mendocino Management Area and Southern California is going deeper area are all subject to deeper depth restrictions. The dockside collection efforts that are taking place may obtain more yellowtail or other shelf rockfish stocks. Deeper stocks that are slated for 2023 just to get more information for assessment. This might present the need for time blocking as well, with additional data from deeper depths for those stocks and areas.

    b. ODFW: Alison Whitman indicated that recreational sampling in Oregon has been impacted by COVID 19. At sea sampling of party boats, was suspended after only a few trips in late March and they have been unable to resume those trips despite vessels operating again. ODFW is unsure when they are going to be able to start again, but they are trying to do so as soon as it is will possible to do so safely since those data are primarily collected March

and September. Regarding the dockside sampling the Oregon Recreational Boat Survey (ORBS), they are short staffed, and sampling has been suspended at several ports, since it's difficult to hire seasonal samplers for reasons related to COVID-19, and there was often delay or reduced capacity to sample remaining sites due to delays in hiring.

COVID 19 will have the largest impact on data availability in 2020, affecting 2021 as well as future assessments. Collection of length and weight data was suspended in late April and sampling protocols have changed dramatically. Samplers have the option of not sampling specific vessels if unsafe, but this has not changed or impacted the numbers of boats sampled. It is difficult to sample charter operations at dockside safely and at some locations, no data has been collected in this fishing mode. A lot of the public access points were closed in late March to early May during the lockdown. The south coast never really shutdown and only the northern and central coast were closed for some time. Almost all have reopened, along with many public fish cleaning stations. Since the public launch ramps have reopened, effort has been quite high as members of the public look for relatively safe outdoor recreation. All these impacts will be considered and probably some kind of averaging/borrowing used to fill gaps at ports with no sampling this year. The length and weight data are nearly absent in 2020 and the number of sampled trips has undoubtedly decreased. This can impact the sample sizes for indices of abundance, in particular the ORBS dockside index, which is used for nearshore stocks.

c. WDFW: Dr. Theresa Tsou reported that on the Northside of Washington coast, the tribal reservation closed public access to their lands. Some ports in Washington like Neah Bay were closed to public even though their regulations for commercial and recreational fisheries may not be officially closed, since access points were closed. Robert Davis reported that recreational samplers were able to collect biological information in other ports, but geographic coverage is reduced since they usually cover the entire coast. They are still getting the same amount of age structures, just from a smaller portion of the catch.

2. Commercial

a. Dockside
   i. CCGS: Brenda Erwin of Pacific States Marine Fisheries Commission is the supervisor for the California sampling program and reported that no samples were collected for the last three weeks of March. Sampling resumed in July, and they are addressing issues in the field as well as trying to make up for the winter-spring. They are trying to get some samples for the Southern California Bight. There are more landings in San Diego right now than L.A. and they are building cooperation down there. Traci Larinto, Senior Marine Biologist Specialist for CDFW reported that the position is a short term nine-month trial.

   Changes to fishing opportunities for collecting fish, since rebuilding of overfished stocks is increasing opportunities allowing some resumed access to the shelf. We may be getting samples from species we have not been able to for some time, for use in the next assessment cycle. There are some liberalizations that allow access to deeper depths in 2021 and trip limits for shelf rockfish species have increased substantially. The San Francisco Management Area, Mendocino Management Area and Southern

California are subject to deeper depth restrictions. CCGS dockside collection efforts may obtain more yellowtail or other shelf rockfish stocks as a result of the changes. This might present the need for time blocking of time periods before and after these changes, given the additional data from deeper depths for those stocks and areas.

ii. ODFW: Alison Whitman (ODFW Marine Fisheries Analyst) reported that staffing levels for the commercial sector have not been affected by COVID-19 in terms of commercial program. An overall decrease in landings has occurred, so the intensity of sampling was decreased as well. The raw numbers of samples and the number of fish that they have sampled, those are substantially lower than at the same time in previous years. Biologists and samplers believe the data they are collecting are still representative of the fishery that is occurring, but more borrowing is likely to occur to fill in gaps and strata. Sampling protocols have changed dramatically because of safety concerns, i.e. they are not sampling at all of the fish plants, because samplers need to stay outside in order to maintain a safe distance, though some fish plants that are able to bring out fish to sample. There are a couple of general concerns related to hake bycatch estimation since only two of the four fish plants on the north coast are being sampled, but bias is not expected because the vessels are fishing the same locations. With the opening of the RCAs this year, a change in the offshore species composition is expected, adding some new species to sample.

iii. WDFW: Dr. Theresa Tsou (WDFW Scientist/SSC Member) reported that landings have decreased since the beginning of the COVID-19 epidemic. The samplers had complications with travel across counties to different ports and have missed a few landings. For onboard sampling, the impact was minimal, however, greater impact was experienced on the tribal side. As mentioned earlier, tribal reservation was closed to the general public, if was needed tribal for that made a landing, they might miss those landing opportunities to sample the species composition or biological data.

b. West Coast Groundfish Observer Program (WCGOP): Dr. Jason Jannot (NOAA-NWFSC Research Fish Biologist) reported that the observer program had operational challenges this year and the discard data for 2020 will be impacted. In April, there was a two-week waiver exemption for observer coverage on all the fleets, including the catch shares fleet, which normally has 100 percent observer coverage. The program continues to issue waivers on a case by case basis due to the complications from the pandemic and the availability of observers. Coverage and sampling will be down across most, if not all the fleets. Observers were asked to self-isolate between trips and try to have a single observer assigned to a given vessel to minimize that transfer between vessels. This poses challenges to attaining the desired coverage rates. Data that they do collect will be available on the same timeline as usual.

3. Research Surveys
   a. Young-of-year (YOY) Rockfish Survey: Dr. John Field (SWFSC NOAA Program Lead) reported that the survey only ran for two weeks, with a total of fifteen hauls completed. The limited data indicated a poor Rockfish recruitment year, but further inferences were difficult given the biases of having completed mostly nearshore, rather than offshore sites

and only in the core area of the survey. None of the upcoming assessments use the juvenile indices, so the implications are limited.

b. NWFSC Bottom Trawl Survey: Dr. Jim Hastie (NWFSC NOAA Population Ecology Program Manager) stated that there was no bottom trawl survey. Dr. Hastie also highlighted that missing index and the composition data in this most recent year is going to increase the uncertainty in assessments, but it is unclear whether this will cause it to be greater than otherwise given the magnitude of other sources of uncertainty in the assessments.

c. WDFW: Dr. Theresa Tsou (WDFW Scientist/SSC Member) started this item with a short description of the history of the coastal survey and the data available provided in a power point presentation included on the FTP site for the meeting. The fishery independent research survey couldn't go out this spring and is still waiting to see if sampling will be possible in September. They just implemented a new survey design, and this would be the second year of the long-term monitoring survey. They are missing the spring cruise data for 2020 but hope to complete it next year. Additional information is provided in the PowerPoint presentation on the FTP site.

d. ODFW: Dr. Leif Rasmuson (ODFW Marine Fisheries Research Project Leader) reported that the first Black Rockfish Hydroacoustic video survey and the associated hook and line sampling was scheduled for fall, but because of COVID-19 it has been postponed to the next spring. The survey is mostly focused on species scheduled for assessment in 2023, so there is limited effect to ongoing assessments. There is also ongoing sampling to collect small fish on an opportunistic basis from recreational and commercial fisheries, when they see very small fish, in the interest of informing growth curves, though sample sizes have been lower due to reduced sampling resulting from COVID-19.

   Alison Whitman emphasized that ODFW has more fishery-independent data available for this assessment cycle than before. The ODFW Marine Reserves Program Hook and Line Survey is being evaluated for use in several assessments, although they were unable to sample this year because of COVID-19. There is also a new video lander dataset being compiled, that includes data from the last decade. The remotely operated vehicle (ROV) methodology review was successful, and they plan to apply it to a couple of our nearshore stocks in this assessment cycle. They also fixed the logbook data available in PacFIN, and are working with individual assessors to evaluate this data source, as index of abundance for lingcod, Dover sole and maybe spiny dogfish, as well as sablefish when it is taken up as a full stock assessment in the future.

e. NWFSC Hook and Line Survey: Dr. Jim Hastie (NWFSC NOAA Population Ecology Program Manager) reported that they were not expecting to have a Hook and Line survey in the Southern California Bight this year.

Changes to Estimation Methods of Importance to Stock Assessment

Purpose: Prior to this meeting there was no established forum for discussion of changes to catch estimation methods with implications for stock assessments. This meeting offers the opportunity for survey representatives to speak to any changes in estimation methods that the stock assessment

authors should be aware of and provide any documentation they see fit on the FTP site. This meeting is not a methodology review and is intended to be an informational exchange to make all STAT members and others aware of changes since the last assessment cycle that might affect past or future catch estimates implemented by the data deadline for 2021 assessments.

Notes: Though methods for weighting expansion of sampled length composition data in the recreational and commercial fishery were broached and research is ongoing by National Marine Fisheries Service (NMFS), only the commercial species composition in Washington was discussed in detail. The other two topics regarding weighting of composition in expansions using systematic sampling of recreational and commercial sampling may be the topics of separate reviews in the future and should be addressed in the accepted practices document.

The WDFW commercial species composition: Dr. Theresa Tsou provided a power point presentation on how commercial species compositions have been calculated historically; by quarter, port, gear type; taking three buckets per sample. Recently fish processors have changed practices for providing fish for sampling, previously these types of landings were not sampled but now WDFW is adapting to how samples are provided by processors. A new landing sampling scheme is now being applied, and will likely be applied historically, which will lead to changes in Washington historical catches. This sampling scheme addresses the two ways in which fish are provided to port samplers, shown as the combined column in the presentation. Discussion focused on whether these kinds of changes need to be reviewed and by whom. The PacFIN data committee could discuss these changes and provide feedback before the application to the historical catches.

Table 1. Dates, deadlines and participation in the proposed stock assessment reviews for 2020.

	Workshop/Meeting	Dates	STAT Team Leads and Support	Sponsor/ Tentative Location	Data Deadline	SSC Reps.	Additional Reviewers	AB Reps.	Council Staff
1	Groundfish STAR 1 Dover Sole and Spiny Dogfish	May 3-7, 2021	Dover: Chantel Wetzel, Aaron Burger Dogfish: Vlada Gertseva	Council/TBD	February 5, 2021	TBD	2 CIE	GMT GAP	DeVore
2	SSC Groundfish Subcommittee Sablefish Update/ Copper, Squarespot and Quillback Rockfish Length-based Data Moderate	June 21, 2021	Sablefish: Owen Hamel, Melissa Haltuch, Vlada Gertseva Length-based: Chantel Wetzel, Brian Langseth, John Budrick, Jason Cope, Ali Whitman	Council/ Vancouver, WA	April 26, 2021	Groundfish Subcommittee Members	NA	GMT GAP	DeVore
3	Groundfish STAR 2 Lingcod	July 12-16, 2021	Northern: Ian Taylor Southern: Kelli Johnson, Melissa Monk	Council/TBD	May 16, 2021	TBD	2 CIE	GMT GAP	DeVore
4	Groundfish STAR 3 Vermilion/ Sunset Rockfish Complex	July 26-30, 2021	Southern CA: E.J. Dick, Xi He Northern CA: Melissa Monk, Xi He OR/WA: Jason Cope	Council/TBD	May 30, 2021	TBD	2 CIE	GMT GAP	DeVore
5	Groundfish mop-up STAR Panel, if needed	September 27 - October 1	TBD if any	Council/TBD	NA	TBD	2 CIE	GMT GAP	DeVore

Appendix A.

PROPOSED AGENDA

Ageing and Data Preparation Coordination Meeting to Support 2021 Groundfish Stock Assessments
Pacific Fishery Management Council
Via Webinar
August 10, 2020

This meeting is open to the public and there will be opportunity for public comment. This agenda is subject to change once the meeting begins. Committee member work assignments are noted in parentheses at the end of each agenda item. The first name listed is the discussion leader and the second, the rapporteur.

A meeting notice with the webinar connection information and how to access available meeting materials will be posted on the Council's website at pcouncil.org.

Monday August 10, 2020 – 1:00 PM

A. Introduction

1. Welcome and Introductions — John Budrick
2. Clarification of the Goals of the Webinar
3. Review and Approve Agenda
   (1 p.m.)

B. Ageing Prioritization

1. Impact Analyses Methodology Review – Preliminary Topic Selection
   a. Ageing capacity of each laboratory
   b. Timelines for the assessment data deadline has changed from 11 weeks to 12 prior to the STAR panel
   c. Length-based data-moderate stock assessments still require growth information
   d. Consideration of availability of length data for length-based assessments
   e. FT-NIRS candidates

2. Stocks Identified for Assessment
   a. 2021 Assessments
      i. Full: Vermilion and sunset rockfishes, Dover sole, lingcod
      ii. Update: Sablefish
      iii. Data-moderate: spiny dogfish (spine wear/ageing/growth issues), copper rockfish, quillback rockfish, and squarespot rockfish
      iv. Which ageing laboratories will take responsibility for production ageing of each stock?

b. Tentative 2023 Assessments (stocks in **bold** are stronger candidates)
    i. Full: **black rockfish**, **petrale sole**, **rougheye rockfish**, **sablefish**, redbanded rockfish, and shortbelly rockfish
    ii. Full or update: yellowtail rockfish N of 40°10’ N lat.
    ii. Full or data-moderate: **greenspotted rockfish**, **yellowtail rockfish S of 40°10’ N lat.**, and flathead sole
    iii. Update: **yelloweye rockfish**
    iv. Data-moderate: **bank rockfish**, **brown rockfish**, **treefish**, English sole, longspine thornyhead, olive rockfish, rex sole, shortspine thornyhead, speckled rockfish, and squarespot rockfish

(1:15 p.m.; Budrick, Field)

C. Documentation of Available Age Structures

Purpose: Identify and document the available collections from ongoing and historical sampling programs and special projects not otherwise available from PacFIN and RecFIN.

1. NMFS — Jim Hastie
2. California — John Budrick
3. Oregon — Ali Whitman
4. Washington — Theresa Tsou
5. Council FTP accessibility for documentation and databases for collections and methods — John DeVore

(2:15 p.m.; Budrick, Schaffler)

BREAK (2:45-3:00 p.m.)

D. Cross Validation of Ageing

1. What minimum sample size do we need to account for uncertainty due to ageing error?
2. Which laboratories have capacity and time to cross validate between labs or within labs?
3. Reference to the Committee of Age-Reading Experts (CARE) manual for consistent criteria
4. Existing protocols for species of interest
5. Maintaining an online catalog of available ageing structures (both processed and unprocessed structures available from the CARE website) for consistency on the Council FTP or CARE website

(3:00 p.m.; Field, Hamel)

E. Sampling Considerations in 2020 and Beyond for Priority Stocks: COVID-19, Assessment Priorities and Changes to Regulations from Inseason and 2021-22 Harvest Specifications and Management Measures

Purpose: To focus attention on data needs for assessments and identify barriers, opportunities, and goals for sampling the species identified.

1. Recreational
   a. CRFS — John Budrick
   b. ODFW — Ali Whitman
   c. WDFW — Theresa Tsou
2. Commercial
   a. Dockside
      i. California Cooperative Groundfish Survey — Traci Larinto and Brenda Erwin
      ii. ODFW — Ali Whitman
      iii. WDFW — Theresa Tsou
   b. WCGOP — Jason Jannot
3. Research Surveys
   a. YOY Rockfish Survey — John Field
   b. NWFSC Bottom Trawl Survey — Owen Hamel
   c. WDFW — Theresa Tsou
   d. ODFW — Mark Terwilliger
   e. NWFSC Hook and Line Survey — John Harms

   (3:30 p.m.; Budrick, Caltabellotta)

F. Changes to Estimation Methods of Importance to Stock Assessment

1. WDFW commercial species composition — Theresa Tsou
2. Recreational composition weighting
3. Commercial composition weighting

   (4:00 p.m.; Budrick, Haltuch)

Appendix B.

Participants at the August 10, 2020 Ageing and Data Preparation Coordination Meeting to Support 2021 Groundfish Stock Assessments

John Budrick, California Department of Fish and Wildlife, SSC, Meeting Chair
Justin Ainsworth, Oregon Department of Fish and Wildlife
Mike Brown, California Department of Fish and Wildlife
Ted Calavan, Oregon Department of Fish and Wildlife
Fabio Caltabellotta, Oregon State University
Andrew Claiborne, Washington Department of Fish and Wildlife
Jason Cope, National Marine Fisheries Service Northwest Fisheries Science Center
Rob Davis, Washington Department of Fish and Wildlife
John DeVore, Pacific Fishery Management Council
Donna Downs, Washington Department of Fish and Wildlife
Brenda Erwin, Pacific States Marine Fisheries Commission
John Field, National Marine Fisheries Service Southwest Fisheries Science Center, SSC
Mark Freeman, Oregon Department of Fish and Wildlife
Mike Fukushima, Pacific States Marine Fisheries Commission
Vladlena Gertseva, National Marine Fisheries Service Northwest Fisheries Science Center
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Kristen Hinton, Washington Department of Fish and Wildlife
Jason Jannot, National Marine Fisheries Service Northwest Fisheries Science Center
Traci Larinto, California Department of Fish and Wildlife
Mel Mandrup, California Department of Fish and Wildlife, GMT
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Lynn Mattes, Oregon Department of Fish and Wildlife, GMT
Patrick McDonald, Pacific States Marine Fisheries Commission
Melissa Monk, National Marine Fisheries Service Southwest Fisheries Science Center
Todd Phillips, Pacific Fishery Management Council
Leif Rasmuson, Oregon Department of Fish and Wildlife
Jason Schaffler, Muckelshoot Tribe, SSC
Ian Taylor, National Marine Fisheries Service Northwest Fisheries Science Center
Mark Terwilliger, Oregon Department of Fish and Wildlife
Theresa Tsou, Washington Department of Fish and Wildlife, SSC
Ali Whitman, Oregon Department of Fish and Wildlife