OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON 2023-2024 GROUNDFISH MANAGEMENT MEASURES: TARGETED SHORTBELLY ROCKFISH FISHING PROHIBITION

The Oregon Department of Fish and Wildlife (ODFW) offers the following perspective regarding prohibition of targeted fishing for shortbelly rockfish in waters off the U.S. west coast. The primary decision point at the November 2021 meeting of the Pacific Fishery Management Council (Council) is whether this topic is included in the 2023-2024 groundfish harvest specifications and management measures package. In short, we recommend a separate pathway, due to the significant workload associated with items necessarily included in that package, the potential complexity of this issue and need for full stakeholder engagement, and the lack of urgent conservation need related to shortbelly rockfish.

The remainder of this report provides additional detail, rationale, and information that may be useful in future consideration of this topic. It is our hope that this may help streamline discussion of groundfish harvest specifications at the November 2021 Council meeting. Information in Appendix A of this report is not necessary for decisions at this meeting; we offer it at this time to simply to facilitate consideration by interested parties over the winter or at another appropriate point in the future.

Background

The Council recently designated shortbelly rockfish an Ecosystem Component species within the West Coast Groundfish Fishery Management Plan (FMP), recognizing its importance as forage in the California Current Ecosystem and absence of targeted fishing. Ecosystem Component (EC) species are not targeted or generally retained for sale or personal use and are neither currently subject to overfishing, overfished, or approaching overfished status, nor likely to become so in the absence of conservation and management measures. Shortbelly rockfish have never been targeted, and harvesters and processors have testified to the Council that there is no reasonably foreseeable future market for this species. While the stock has not been assessed since 2007[1], multiple indicators point to unusually high recruitment and abundance in recent years[2].

In designating shortbelly rockfish an EC species, the Council's June 2019 motion specified that:

> "The ecosystem component designation would still allow the Council and NMFS to monitor and manage the species and, in a timely manner, determine whether federal management is needed per the NS1 guidelines. If catches exceed 2,000 metric tons in a calendar year the Council will investigate changes in catches, stock abundance, fishing behavior, marketability, or other factors and reconsider EC

[1] Field et al., 2007. NOAA-TM-NMFS-SWFSC-405. https://www.pcouncil.org/documents/2007/04/stock-assessment-model-for-the-shortbelly-rockfish-sebastes-jordani-in-the-california-current.pdf/

[2] Agenda Item H.4.a Supplemental GMT Report 1 November 2019. https://www.pcouncil.org/documents/2019/11/agenda-item-h-4-a-supplemental-gmt-report-1-2.pdf/

species designation. The Council may also recommend other management measures for shortbelly rockfish that meet the Council's ecosystem objectives in the FEP (Fishery Ecosystem Plan)."

Shortbelly rockfish are caught incidentally in groundfish trawl fisheries, although vessels avoid them as much as possible because the small, spiny fish become entangled in trawl nets and disrupt efficient fishing and processing operations. With 100 percent at-sea and shoreside monitoring in groundfish trawl fisheries, all bycatch is documented and mortality estimates are available on the public PacFIN website under Groundfish Reports (GMT), GMT007 - Scorecard of Groundfish Stock Species and Complexes. Since 2011, total annual mortality of shortbelly rockfish in West Coast fisheries has ranged from 7 to 667 metric tons (mt) (Figure 1). On October 23, 2021 the GMT Scorecard report showed 415.5 mt total mortality for 2021. The timing of recent increases in bycatch levels corresponds with indications of high recent shortbelly rockfish recruitment and abundance.

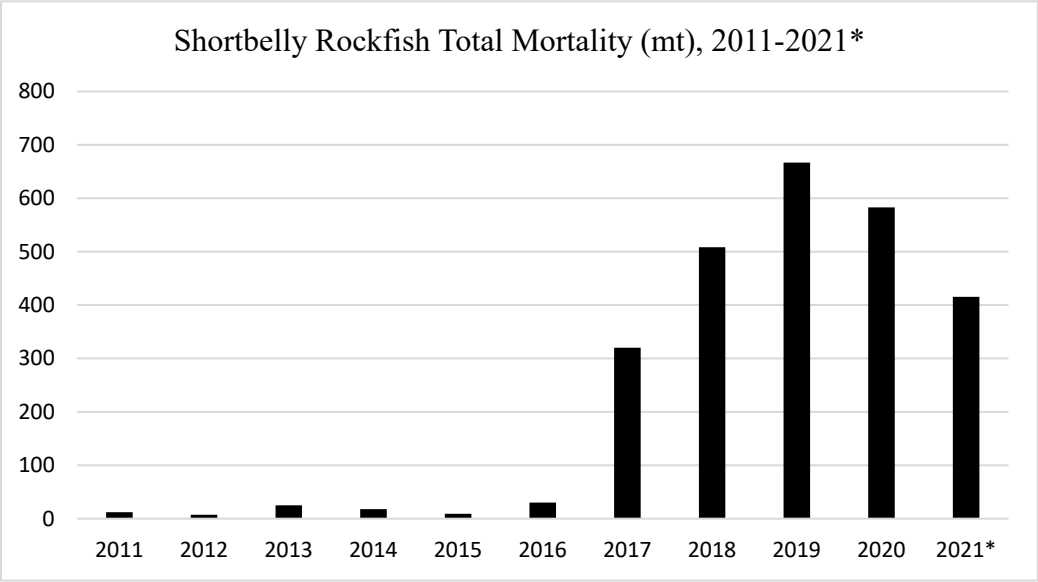

Figure 1. Total mortality of shortbelly rockfish in U.S. west coast groundfish fisheries.
2011-2020 data from the Groundfish Expanded Mortality Multi-year (GEMM) Data Product[3], NWFSC.
*2021 partial year value represents data available in PacFIN GMT007 on 10/21/2021.

Current Concerns

Although the Council has been explicit in its recognition of the forage value of shortbelly rockfish, there has been no indication of interest in targeting, and existing monitoring provides full accounting and accountability, concerns have been raised about the possibility of future interest in targeting. In particular, concerns have referenced potential interest in a reduction fishery in light of growth in global demand for fish oil or fishmeal for agricultural or other purposes. The Council has acknowledged these concerns and expressed a priority for the forage contribution of shortbelly

[3] NOAA Northwest Fisheries Science Center, Groundfish Expanded Mortality Multi-year (GEMM) Data Product, https://www.fisheries.noaa.gov/west-coast/fisheries-observers/west-coast-fishery-observer-bycatch-and-mortality-reports

rockfish in the CCE and a desire that no targeted shortbelly rockfish fishery develop, at least without thorough analysis first.

Biological and fishery information considered by the Council in 2019-2020[4] indicated that stock abundance is high and the impact of mortality in existing fisheries is low. Infrastructure that would be needed to support a reduction fishery is either nonexistent or dedicated to significantly higher-value products such as whiting. ODFW concurs that there is no current conservation concern. However, proactively forestalling future interest in shortbelly rockfish fishing is preferable to reacting after the fact if interest in targeting this species were ever to arise, and we support further consideration of this issue with appropriate prioritization and timing relative to other Council actions.

Process

Three possible pathways to develop, analyze, and implement a prohibition on targeted shortbelly rockfish fishing were identified by the Groundfish Management Team in C.8.a GMT Report 1 September 2021:

1) Inclusion in the 2023-2024 groundfish harvest specifications and management measures analysis and FMP amendment,
2) A stand-alone groundfish FMP amendment, and
3) Addition to the list of Shared Ecosystem Component (EC) species under Comprehensive Ecosystem Based Amendment-1, which would require amending all of the Council's FMPs.

The GMT provided information and questions for further consideration regarding each of these paths..

ODFW recommends against inclusion in the 2023-2024 groundfish harvest specifications and management measures. There is no current interest in targeted shortbelly rockfish fishing, no existing infrastructure to support such a fishery, and no urgent conservation concern. In contrast, the 2023-2024 groundfish harvest specifications package includes items of immediate conservation concern and explicit deadlines. Workload related to developing and analyzing groundfish management measures required to meet harvest specifications in 2023-2024 will be high through at least mid-2022 and is likely to fully occupy the capacity of the GMT, states, NMFS, and Council staff. We believe that ensuring that no new fishery targeting the species develops absent full analysis and approval can be achieved on a slower timeline that allows for the dedication of resources to higher priority/more immediate groundfish management needs in the short term.

We also recommend against adding shortbelly rockfish to the list of Shared EC species. Because shortbelly rockfish are already in the Groundfish FMP, there is no need to amend other FMPs to accomplish a prohibition on targeted shortbelly rockfish fishing. If action is desired and necessary,

[4] Agenda Item H.4.a Supplemental GMT Report 1 November 2019 and Agenda Item I.7.a Supplemental GMT Report 1 June 2019

the groundfish FMP is the most appropriate and efficient vehicle. The approach used to determine values specified as daily and annual limits for shared EC species under the Comprehensive Ecosystem Based Amendment 1 (CEBA-1) may be one of several approaches that merit further consideration relative to shortbelly rockfish; more discussion is offered in Appendix A.

ODFW recommends consideration of a stand-alone pathway dedicated solely to a targeted shortbelly rockfish fishing prohibition. This would provide for focused attention on this issue and better support thorough exploration of whether a change in policy and/or regulation is needed to prevent development of a targeted fishery without unnecessarily constraining existing groundfish fisheries.

Timing

ODFW suggests the Council consider when to schedule one or more steps in such a stand-alone process as part of its discussion of the Groundfish Workload and New Management Measures agenda item in March 2022. This will allow holistic consideration of the relative priority, workload, and other relevant factors related to this and other groundfish management items that have been identified but not yet scheduled.

We recognize that pursuing a separate stand-alone pathway rather than the 2023-2024 groundfish harvest specifications package will likely mean that any resulting action would occur later than January 1, 2023. While there may be a range of perspectives on how *important* developing a prohibition on targeted shortbelly rockfish fishing is, we believe there is substantial evidence that it is not an *urgent* issue requiring immediate attention. As noted above, there is currently no conservation concern associated with shortbelly rockfish catch under status quo policy and regulations. Neither interest in nor infrastructure for a new targeted fishery exists or appears imminent. Many items take multiple years to move through the Council process, requiring time for sufficient analysis and a meaningful and transparent public process. We believe that methodical progress can be made on evaluating a shortbelly rockfish targeted fishing prohibition, while focusing the limited resources of the Council and its partners on urgent issues.

To support future discussion of prioritizing and scheduling action on this item, we provide a non-exhaustive list of relevant factors and questions in Appendix A. We hope that informal consideration of this and other information by interested Council members and stakeholders over the winter might aid in developing a sense of how much analytical and other workload could be required if the Council wishes to pursue development a directed fishery prohibition. **It is not necessary to review Appendix A prior to the November 2021 Council meeting.**

APPENDIX A: ADDITIONAL INFORMATION FOR FUTURE CONSIDERATION OF A SHORTBELLY ROCKFISH DIRECTED FISHERY PROHIBITION

ODFW provides the following information and questions which be of interest in future consideration of a targeted shortbelly rockfish fishery prohibition. Readers are also encouraged to review prior GMT reports related to shortbelly rockfish for additional information, including but not limited to:

- Agenda Item C.8.a GMT Report 1 September 2021 (relevant factors for analysis and potential pathway for a prohibition on directed shortbelly rockfish fishing)
- Agenda Item F.1.a Supplemental GMT Report 3 June 2020 (discussion of policy considerations for preventing a directed fishery from occurring, reducing bycatch, not constraining or closing fisheries, and managing to annual catch limits)
- Agenda Item H.4.a Supplemental GMT Report 1 November 2019 (examination of shortbelly rockfish status and distribution based on data from the Rockfish Recruitment and Ecosystem Analysis Survey (RREAS) and the California Cooperative Oceanic Fisheries Investigations (CalCOFI) survey)

Is existing policy and regulation sufficient?

We believe that the first step in considering a potential prohibition on targeted shortbelly rockfish fishing should be additional analysis of current policy and regulations to determine whether any change is needed to prevent a targeted fishery from developing without full evaluation of ecosystem and fishery impacts and Council approval. A significant difference between shortbelly rockfish and the Shared Ecosystem species protected via CEBA-1 is that shortbelly rockfish are currently covered in a Council FMP, and bycatch is monitored and regularly reported to the Council and the public. Preliminary analysis of the need for a shortbelly rockfish prohibition should contemplate the risk that a fishery could develop before adequate analysis of the relevant science and potential impacts could be conducted.

Information on select reduction fisheries in the U.S.

An understanding of the history and current practices of reduction fisheries in other regions may aid in evaluating whether a similar type of fishery would be viable on the west coast. A historic and current example are introduced here:

Northern Anchovy, California

The Coastal Pelagic Species Stock Assessment and Fishery Evaluation (SAFE) 2020 reports that

> "For many years, northern anchovy were harvested for reduction by a fleet of approximately forty small purse seine vessels known collectively as the "wetfish" fleet. The fleet also fished for Pacific mackerel, jack mackerel, Pacific, Pacific bluefin tuna, market squid and Pacific sardine. Reduction landings…ranged from 73,400 mt per year to 141,586 mt per year during 1973-1977. In response to decreases in fish meal prices, landings declined to an annual average of 46,500 mt during 1979-1982. Landings intended for processing into fish meal and oil have been extremely low since 1983, largely due to low ex-vessel prices, rather than low anchovy abundance (Thomson et al. 1989). … The

fishery is far different now from historic times. Today there is virtually no reduction capacity in CA, which is one reason why landings have averaged less than 10,000 mt a year since the mid-1980s"

Atlantic Menhaden, U.S. east coast

According to the Interstate Fishery Management Plan for Atlantic Menhaden, the Atlantic States Marine Fisheries Commission, and the Virginia Institute of Marine Science, menhaden have supported one of the United States' largest fisheries since colonial times. The reduction fishery first began in New England during the early 1800s and spread south after the Civil War. The reduction fishery grew with the advent of purse seines in the mid-1800s and reached peak landings in 1956 at 712,100 mt. Reduction landings averaged 371,980 metric tons (mt) from 1940-1980, and 246,804 mt from 1980-2016. Since 1980, this fishery has accounted for almost 40% of total annual Atlantic Coast landings by weight. Most of the catch is made by purse seine. Commercial landings in 2019, including reduction, bait, bycatch, and episodic event landings, were 208,837 mt, or 96% of the TAC. The number of reduction plants on the Atlantic coast has dwindled from a high of 25 from Maine to Florida in the peak years between 1955-62 to three in the mid-1990's and one today (Reedsville, VA); some closures were due to odor abatement regulations and some due to periods of low menhaden abundance/availability (menhaden recruitment and abundance appears to fluctuate widely, similar to Pacific coastal pelagic species). There has been no at-sea processing since 1993. Seven vessels participated in 2013, the most recent year for which a count was readily available.

Gear

The anchovy, menhaden, and similar fisheries primarily use seine gear. Seine gear is not a legal gear type for shortbelly rockfish and other groundfish species.

Purpose and need for prohibiting targeted shortbelly rockfish fishing

If a statement of purpose and need is to be drafted, a starting point could be the one developed for Comprehensive Ecosystem Based Amendment 1 (CEBA-1), as they appear to have similar overarching goals. That statement, modified to refer to shortbelly rockfish rather than EC species, would be:

> "The purpose of this action is to prohibit new directed commercial fishing in Federal waters for shortbelly rockfish until the Council has had an adequate opportunity to both assess the scientific information relating to any proposed directed fishery and consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem. This action is needed to proactively protect shortbelly rockfish in recognition of the importance of these forage fish within the CCE."

The CEBA-1 Purpose and Need also included a concluding sentence clarifying that the action was not intended to supersede tribal and state management, which could be addressed/incorporated here if desired.

Definition of directed commercial fishing

Following the CEBA-1 approach would presumably require the definition of "directed commercial fishing" for shortbelly rockfish. In CEBA-1, commercial fishing for Shared EC species was defined as landing those species without other species, or landing them in combination with other species in amounts greater than thresholds that were calculated to account for 99% of daily vessel landings (1 mt) and 97% of annual vessel landings (30 mt). At-sea processing was prohibited, with a limited exception to addresses the potential for incidental catch of Shared EC Species within the at-sea whiting sectors.

The amounts and patterns of shortbelly rockfish may be different than those for Shared EC species, and careful consideration of the specific patterns of shortbelly rockfish bycatch should occur prior to determining whether the approach of specifying daily and annual vessel landing and/or processing thresholds to define commercial fishing would be appropriate, effective, and not penalize existing fisheries for shortbelly rockfish bycatch.

Shortbelly rockfish bycatch in existing groundfish fisheries

If the development of additional management measures is undertaken, we suggest that avoiding negative impacts on existing groundfish fisheries be an explicit objective. In Agenda Item F.1.a Supplemental GMT Report 3 June 2020, the GMT concluded that "The amount and type of catch that occurs in Federal waters is…not expected to be a significant contributing factor to the stock's status." Existing fisheries are neither causing nor contributing to a potential future targeted shortbelly rockfish fishery.

Bycatch patterns

The following information is a general overview of shortbelly rockfish bycatch patterns; further work by appropriate analysts would be required to inform development of quantitative management measures or evaluation of potential impacts.

With recent high recruitment and northward expansion of shortbelly rockfish, encounters in whiting and non-whiting groundfish trawl fisheries have become more frequent. A review of confidential data available to authorized PacFIN users show that most bycatch events are extremely small (several pounds or less); however, very rare large bycatch events do occur (100,000 pounds or more). Since 2011, over 60,000 at-sea whiting hauls and shoreside groundfish trawl landings (combined) have occurred, approximately 5% of which included any shortbelly rockfish. Roughly 70% of those with any shortbelly rockfish had less than 10 pounds. The range within the 99th percentile (99th percentile index value to the highest record of shortbelly rockfish weight per haul or fish ticket) is over 100,000 pounds. All of the shortbelly rockfish bycatch events in the 99th percentile have occurred since 2016.

As the need for any action considered by the Council under this topic would be to prevent development of a new, targeted fishery for shortbelly rockfish, and not to penalize fishery participants for "lightning strikes" or the accumulation of catch from frequent small events, any new or revised regulations must be carefully designed to meet that need.

Modifications or alternatives to the CEBA-1 approach

Basing thresholds or limits on an aggregate metric using the proportion of shortbelly rockfish landed or processed, rather than absolute shortbelly rockfish weight, may be worth further examination. A threshold/limit could be specified as more than a certain number of landings per year with a shortbelly-to-total catch ratio over a specified amount. (For example, more than 5 landings per year in which shortbelly rockfish are more than 50% of the total landing weight, or similar.) This approach would set quantifiable and enforceable metrics at the individual vessel level, but in using shortbelly ratio and temporal aggregation, it may better accommodate the pattern of shortbelly rockfish bycatch and avoid unnecessary constraints or enforcement action. Feedback from fishery participants and enforcement representatives should be considered (as with any option developed).

Alternatively, directed fishing might be viewed as defined by catch events aggregated over a *sector* and time. Exceeding a sector threshold would require a different management response, such as triggering Council review of shortbelly rockfish management within a specified timeframe, rather than enforcement action related to a single vessel. This is the type of response that would currently result if shortbelly rockfish mortality exceeds 2,000 mt in a year per the Council's June 2019 motion.

Retention/discarding

Whether shortbelly rockfish bycatch is retained or discarded is currently determined by a combination of regulatory factors (e.g., maximized retention requirement in the whiting electronic monitoring program) and operational considerations (catch handling, deck/facility configuration, crew capacity, product quality considerations, etc.). These should be among the items considered in any exploration of new measures that could require or incentivize discarding.

Processing and sale of shortbelly rockfish

Shortbelly rockfish catch that is not discarded may be sold, although it appears only rarely and in small amounts with a price on fish tickets. Retained bycatch may be put into a reduction processing stream, along with other non-marketable species and unusable portions of target species (heads/guts, etc.). In some cases it may not be reasonably feasible to discard shortbelly and reduction processing may be the only option. For shoreside processors, the only alternative to reduction processing may be a landfill. Although the low sale price of fish meal, fish oil, or other reduction products does not incentivize fishing for this purpose, it does represent sale of shortbelly rockfish if they are included as an input. (See Agenda Item F.1.a Supplemental GMT Report 3 June 2020, page 3 for a discussion of price, costs, and the economic likelihood of a shortbelly rockfish reduction fishery). Restricting the processing and or sale of shortbelly rockfish in order to prevent development of a targeted fishery may be worth further exploration but is not a straightforward means of achieving that goal without unintended consequences, and will require thoughtful consideration.

Importance of including fishing, processing, and monitoring expertise early in developing potential new management measures

We suggest that it will be imperative to include individuals with firsthand knowledge of various types of fishing and processing operations as well as expertise in observing/electronic monitoring and enforcement from the beginning as approaches are conceived, developed, and analyzed. The Council's advisory bodies are one avenue for such engagement, and additional informal outreach and consultation should be conducted if necessary to ensure an efficient process that results in feasible alternatives most likely to achieve the purpose and need.

Changing ocean conditions, flexibility, and "variations"

In Agenda Item I.7.a Supplemental GMT Report 1 June 2019, the GMT pointed out the emergence of shortbelly rockfish well north of its historic distribution center, and the interaction of shortbelly rockfish with an existing fishery, is the exact type of scenario that has been discussed by the Ecosystem Working Group as they consider how to manage [fisheries in] the CCE under climate change. The Council may wish to consider the need for or benefit of future flexibility, and whether it would be appropriate to allow any targeted shortbelly rockfish fishing at high stock abundance levels. That could potentially provide a fishery opportunity and perhaps relieve pressure on other species of lesser abundance, without allowing shortbelly removals at a level that would impair the stock's contribution to the CCE forage base. We are not suggesting that this is necessarily the case, rather, suggesting that such flexibility be considered per National Standard 6 – Variations and Contingencies, which recognizes that "Changes in fishing practices, such as the introduction of new gear, rapid increases or decreases in harvest effort, new fishing strategies, and the effects of new management techniques, may…create uncertainties" and "Every effort should be made to develop FMPs that discuss and take into account these vicissitudes. To the extent practicable, FMPs should provide a suitable buffer in favor of conservation." The 2,000 mt annual mortality threshold already established by the Council, which would trigger an evaluation of fishery and ecosystem conditions and whether the EC species designation should be reconsidered, is one such mechanism to monitor for and address variations.