REVIEW DRAFT

Regulatory Impact Review/Initial Regulatory Flexibility Analysis for a Proposed Regulatory Amendment under the Pacific Coast Groundfish Fishery Management Plan

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Abstract: The proposed actions are to 1) eliminate the 2020 annual catch target (ACT) for cowcod (*Sebastes levis*) south of 40°10' N lat. with a potential adjustment to the set-aside or off-the-top deduction from the ACL, and 2) increase the 2020 annual catch limit (ACL) of shortbelly rockfish (*S. jordani*) to avoid negative socioeconomic impacts to the West Coast groundfish fishery.

Cowcod south of 40°10' N lat. is one of two West Coast groundfish stocks currently managed under a rebuilding plan. Cowcod is also a quota species in the West Coast trawl catch share program with very small individual fishing quotas (IFQs) allocated to quota shareholders based on the sector's allocation of the 2020 ACT of 6 metric ton (mt). As such, cowcod is a constraining species to California trawlers south of 40°10' N lat. According to the 2019 stock assessment adopted by the Pacific Fishery Management Council (Council) at their September 2019 meeting, cowcod has now attained a healthy and rebuilt status. As the stock has increased in abundance, incidental bycatch of cowcod has been increasingly difficult to avoid. Some LE groundfish trawlers south of 40°10' N lat. are prematurely approaching their vessel limits of cowcod threatening their ability to prosecute their fishery. The Council is interested in providing some economic relief by raising or eliminating the ACT, with a possible reduction to the yield set-aside. These actions would increase the annual cowcod vessel limit for affected LE trawl fishery participants south of 40°10' N lat.

Shortbelly rockfish is one of the most abundant rockfish species in the California Current and is not targeted in any West Coast fishery (Field et al. 2008). While shortbelly rockfish are most abundant along the continental shelf break between the northern end of Monterey Bay and Point Reyes, California and around the Channel Islands in the Southern California Bight (Love et al. 2002; Moser et al. 2000; Pearson et al. 1991a; Phillips 1964), they have increasingly been encountered and incidentally caught in midwater trawl fisheries in waters north of 40°10' N lat. as far north as northern Washington. The observed magnitude of encounters of shortbelly rockfish north of 40°10' N lat. in recent years is unprecedented and may be the result of a climate change-driven distributional shift and/or the effect of large recruitments. It appears both explanations are contributing factors given evidence of continued high recruitment and abundance in the core habitats off southern and central California (see Section 3.7). The shortbelly ACL of 500 mt was exceeded in 2018 and has been exceeded this year according to catches to date. The Council is interested in specifying a higher shortbelly ACL in 2020 than the 500 mt ACL in regulations to avoid premature closure of groundfish fisheries that incidentally take shortbelly rockfish.

List of Acronyms and Abbreviations

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measure
B_0	unfished equilibrium spawning stock biomass or spawning output
B_{MSY}	The biomass estimated to result in maximum sustainable yield of a stock and the prescribed biomass target for West Coast groundfish stocks
CA	California
CalCOFI	California Cooperative Oceanic Fisheries Investigations
CCA	Cowcod Conservation Area
CP	catcher-processor
Council	Pacific Fishery Management Council
E.O.	Executive Order
EA	Environmental Assessment
EC species	Ecosystem Component species
EEZ	Exclusive Economic Zone
EFP	exempted fishing permit
F	instantaneous harvest rate
FG	fixed gear
FMP	fishery management plan
FR	*Federal Register*
GAP	Groundfish Advisory Subpanel
GMT	Groundfish Management Team
HCR	harvest control rule
HG	harvest guideline
IFQ	individual fishing quota
IO-PAC	Input-Output Model for Pacific Coast Fisheries
IRFA	Initial Regulatory Flexibility Analysis
LE	limited entry (sectors of the West Coast groundfish fishery)
m	meter or meters
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MHW	marine heatwave
mt	metric ton or tonne
MS	Mothership
MW	midwater
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OA	open access (sector of the West Coast groundfish fishery)
OFL	overfishing limit
OR	Oregon
OY	optimum yield
P*	overfishing probability (the Council's risk tolerance for potential overfishing due to the scientific uncertainty in estimating the OFL)
PCGFMP	Pacific Coast Groundfish Fishery Management Plan
PPA	preliminary preferred alternative
PacFIN	Pacific Fisheries Information Network
QP	quota pounds
RCA	Rockfish Conservation Area
RecFIN	Recreational Fisheries Information Network
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
RREAS	Rockfish Recruitment and Ecosystem Analysis Survey
SBA	Small Business Act
SCB	Southern California Bight
SPR	spawning potential ratio
SSC	Scientific and Statistical Committee
WA	Washington
WCGOP	West Coast Groundfish Observer Program

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Executive Summary

The proposed actions are to increase the 2020 ACL for shortbelly rockfish and to increase or eliminate the 2020 ACT for cowcod south of 40°10' N lat. specified in Federal regulations. Both stocks are managed under the Pacific Coast Groundfish Fishery Management Plan.

Purpose and Need

Purpose and Need for the Cowcod Action

The purpose of this action is to revise or remove the annual catch target for cowcod in 2020 south of 40°10' N lat., given the improved state of the cowcod stock, and to reduce the yield set-aside for cowcod mortality in research activities, based on anticipated research impacts in 2020.

Action is needed to reduce the risk that vessels fishing south of 40°10' N lat. in the groundfish trawl individual fishing quota (IFQ) program will reach their annual vessel limit for cowcod in 2020 and have to cease fishing in the trawl IFQ program for the remainder of the year, which would result in severe adverse economic impacts on those vessels and fishing communities in the area.

Purpose and Need for the Shortbelly Rockfish Action

The purpose of this action is to review and adjust the annual catch limit for shortbelly rockfish in 2020 to a level that will accommodate incidental bycatch of this stock given recent high bycatch in groundfish trawl fisheries, while continuing to minimize bycatch and discourage development of a targeted fishery for shortbelly rockfish.

Action is needed to reduce the risk of closures or constraints in groundfish trawl fisheries due to the possibility of high bycatch of shortbelly rockfish in 2020, and avoid the adverse economic impacts to West Coast fishing communities that would result from such closures or constraints, while continuing to protect the availability of shortbelly rockfish as important forage in the California Current Ecosystem.

Alternatives

Cowcod Alternatives

Alternatives for the cowcod action are:

No Action: Maintain the 6 mt cowcod ACT for 2020. Cowcod annual vessel limit is 858 lbs.

Alternative 1 (Preferred): Eliminate the 6 mt cowcod ACT for 2020 and manage fisheries to stay within the 10 mt ACL. Reduce the research set-aside to 1 mt. The cowcod annual vessel limit under this alternative is 1,264 lbs.

Shortbelly Rockfish Alternatives

Alternatives for the shortbelly rockfish action are:

No Action: Maintain the 500 mt shortbelly rockfish ACL for 2020.

Alternative 1 (Preferred): Increase the 2020 shortbelly rockfish ACL to 3,000 mt.

Alternative 2: Increase the 2020 shortbelly rockfish ACL to equal the 2021 acceptable biological catch (ABC) of 4,184 mt.

Regulatory Impact Review

The preferred cowcod Alternative 1 would potentially mitigate the constraint imposed by the low cowcod vessel limit in the 2020 IFQ trawl fishery south of 40°10' N lat. by eliminating the ACT and increasing the vessel limit by basing the annual vessel limit solely on the trawl allocation of the fishery harvest guideline (HG) of the ACL. The conservation objectives of the cowcod rebuilding plan would not be compromised by this action since all rebuilding alternatives are predicated on staying within the prescribed ACLs and associated harvest control rule (HCR), which are not proposed to change in 2020. Further, the 2019 cowcod stock assessment indicates rebuilding objectives are already attained since the stock is now estimated to be above its biomass management target (B_{MSY}). The Council adopted the 2019 assessment and has recommended to the National Marine Fisheries Service (NMFS) the stock be declared rebuilt.

Shortbelly rockfish Alternatives 1 and 2 would mitigate the potential constraint imposed by the low 2020 ACL if incidental bycatch once again exceeds the ACL. The proposed action to increase the 2020 ACL should not increase impacts on the stock since the stock is not targeted in any fishery. The current ACL of 500 mt was also set at less than 9 percent of the ABC despite the indication in the 2007 assessment the stock was healthy and the conclusion that environmental determinants of shortbelly recruitment rather than fishing mortality affect future biomass and status of the stock (Field et al. 2008). The 500 mt ACL was set at this low level to ensure most of the harvestable surplus was made available as forage in the California Current ecosystem.

Increasing the 2020 ACL should not induce targeting since shortbelly rockfish are small and not marketable. As such, a longer-term solution may be a reconsideration of an Ecosystem Component (EC) species designation with a continued monitoring requirement. An EC species designation for 2020 is not considered as part of this proposed action.

Comparison of Alternatives for Decision-making

Table 3 through Table 5 summarize the features and effects under each alternative and the impacts of implementing them.

1 Introduction

This document analyzes proposed management measures that would apply to cowcod south of 40°10' N lat. in the trawl fishery and coastwide shortbelly rockfish, both managed in the Pacific Coast Groundfish Fishery Management Plan. The measures under consideration include: 1) to increase or eliminate the 2020 ACT for cowcod south of 40°10' N lat. and 2) to increase the 2020 ACL for shortbelly rockfish.

This document is a Regulatory Impact Review/Initial Regulatory Flexibility Analysis (RIF/IRFA). An RIR/IRFA provides an assessment of the benefits and costs of the alternatives, the distribution of impacts (RIR) and the identification of the small entities that may be affected by the alternatives (IRFA). This RIR/IRFA addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act, Presidential Executive Order 12866, and some of the requirements of the Regulatory Flexibility Act. A RIR/IRFA is a standard document produced by the Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) West Coast Region to provide the analytical background for decision-making.

Cowcod South of 40°10' N lat.

The National Marine Fisheries Service (NMFS) declared cowcod south of 40°10' N lat. overfished in January 2000, after Butler et al. (1999) estimated the 1998 spawning biomass to be at 7 percent of B_0, well below the 25 percent minimum stock size threshold. Cowcod has been managed with *de minimus* harvest specifications (optimum yields [OYs]/ACLs of 2.4 - 10 mt) under a rebuilding plan since that time.

Overfished species, such as cowcod, were designated as a quota species under FMP Amendment 20 which established the West Coast trawl catch share program. This was done as an expedient measure to control the incidental bycatch of overfished species in the trawl fishery through IFQ management. Vessel limits for LE trawl participants in the catch share program control the amount of quota pounds (QP) of a quota species registered to a vessel with the intent to prevent excessive control of quota by a participant. Vessel limits are determined based on the trawl participant's apportionment of the trawl sector's allocation of a quota species' ACL or ACT if one is specified.

The 2020 ACL and ACT for cowcod south of 40°10' N lat. are 10 mt and 6 mt, respectively. The 2020 vessel limits for cowcod are based on an apportionment (17.7 percent) of the 6 mt ACT. Public comment at the Council's June 2019 meeting by participants in the trawl fishery south of 40°10' N lat. urged the Council and NMFS to increase or eliminate the ACT to effect a higher cowcod vessel limit. While no entity has exceeded the annual cowcod vessel limit through 2018, the comments received indicated that some trawl participants might exceed their vessel limit this year despite efforts to avoid incidental cowcod bycatch. Once the annual vessel limit is attained, the vessel needs to cease fishing for the rest of the year. This poses a significant economic cost to affected participants since they cannot fish their remaining quota of healthy target species. While there is no regulatory mechanism to avoid such impacts this year, the GMT recommended increasing or eliminating the 2020 cowcod ACT to potentially avoid such impacts next year. They also posed the option of reducing the yield set-aside or off-the top deduction of yield from the ACL to account for research activities, limits for exempted fishing permits (EFPs), and incidental bycatch in non-groundfish fisheries.

It has been anticipated that cowcod would be increasingly difficult to avoid in groundfish fisheries south of 40°10' N lat. given the prediction cowcod would be rebuilt at the start of 2019. This prediction is confirmed based on the results of the 2019 cowcod stock assessment adopted at the September 2019 Council meeting, which estimates the spawning stock is at 57 percent of B_0 at the start of 2019 (Dick and He 2019). The Council recommended to NMFS the stock be declared rebuilt. New harvest specifications will be considered for 2021 and beyond based on the results of the new assessment. The action the Council is considering here is eliminating the 2020 ACT to avoid impacts to affected trawl fishery participants in the interim before new harvest specifications are implemented in 2021.

The Council adopted the range of alternatives described in Section 2.1 and the preliminary preferred alternative (PPA) for this proposed action at its September 2019 meeting in Boise, Idaho. Final Council action is scheduled at its November 2019 meeting in Costa Mesa, California.

Shortbelly Rockfish

The expectation of eventual development of a domestic commercial fishery (Kato 1981) led to past efforts to estimate stock abundance and productivity (Lenarz 1980, Pearson et al. 1989, Pearson et al. 1991) as well as evaluations of commercial potential. The first ABC for shortbelly rockfish was set by the Council at 10,000 mt for 1983 through 1989. A stock assessment by Pearson et al. (Pearson et al. 1991b) estimated that allowable catches for shortbelly might range from 13,900 to 47,000 mt per year, based on life history data and hydroacoustic survey estimates of abundance. Subsequently, the Council established an ABC of 23,500 mt, which was reduced to 13,900 mt in 2001 based on observations of poor recruitment throughout the 1990s and the continued lack of a targeted fishery. Yet despite several attempts to develop a commercial fishery for shortbelly in the 1990s, domestic fishery landings had never exceeded 80 mt per year along the West Coast.

A shortbelly rockfish assessment was completed as a research stock assessment in 2007 to understand the potential environmental determinants of fluctuations in the recruitment and abundance of an unexploited rockfish population in the California Current ecosystem (Field et al. 2008). The assessment showed that substantive population variability has occurred over the study period for an (effectively) unexploited species in the California Current. The results of the assessment indicated the shortbelly stock was healthy and above B_{MSY} with an estimated spawning stock biomass of 67 percent of its unfished biomass in 2005.

Shortbelly rockfish were initially considered for an EC species designation under FMP Amendment 23. Rather than classifying shortbelly rockfish as an EC species, the Council chose to recommend a very restrictive ACL of 50 mt, which was below recent catch levels, for the 2011-2012 and the 2013-2014 management cycles. The ACL was increased to 500 mt beginning in 2015 to prevent unavoidable bycatch from prematurely shutting down emerging midwater trawl fisheries targeting yellowtail and widow rockfish. The 500 mt ACL is less than 9 percent of the ABC and is a level of harvest meant to accommodate unavoidable incidental bycatch of shortbelly rockfish while allowing most of the harvestable surplus of the stock to be available as forage for species in the California Current ecosystem. Despite that, the apparent distribution shift to northern waters has resulted in a large bycatch of shortbelly rockfish in midwater fisheries targeting Pacific whiting. The 500 mt shortbelly rockfish ACL was exceeded by 8 mt (102 percent

of the ACL) in 2018 and the 2019 incidental bycatch to date (October 16, 2019) has also exceeded the 500 mt ACL with an estimated total mortality of 556 mt.

The Council is therefore considering an increase in the 2020 shortbelly rockfish ACL to avoid the potential of early fishery closures next year if the ACL is again exceeded. The Council adopted the range of alternatives described in Section 2.2 and a PPA for this proposed action at its September 2019 meeting in Boise, Idaho. Final Council action is scheduled at its November 2019 meeting in Costa Mesa, California.

1.1 Purpose and Need

Purpose and Need for the Cowcod Action

The purpose of this action is to remove the annual catch target for cowcod in 2020 south of 40°10' N lat., given the improved state of the cowcod stock, and to reduce the yield set-aside for cowcod mortality in research activities, based on anticipated research impacts in 2020.

Action is needed to reduce the risk that vessels fishing south of 40°10' N lat. in the groundfish trawl individual fishing quota (IFQ) program will reach their annual vessel limit for cowcod in 2020 and have to cease fishing in the trawl IFQ program for the remainder of the year, which would result in severe adverse economic impacts on those vessels and fishing communities in the area.

Purpose and Need for the Shortbelly Rockfish Action

The purpose of this action is to review and adjust the annual catch limit for shortbelly rockfish in 2020 to a level that will accommodate incidental bycatch of this stock given recent high bycatch in groundfish trawl fisheries, while continuing to minimize bycatch and discourage development of a targeted fishery for shortbelly rockfish.

Action is needed to reduce the risk of closures or constraints in groundfish trawl fisheries due to the possibility of high bycatch of shortbelly rockfish in 2020, and avoid the adverse economic impacts to West Coast fishing communities that would result from such closures or constraints, while continuing to protect the availability of shortbelly rockfish as important forage in the California Current Ecosystem.

1.2 History of this Action

Cowcod South of 40°10' N lat.

Cowcod south of 40°10' N lat. have been managed conservatively under a rebuilding plan since the stock was declared overfished in 2000. In 2001 cowcod became a prohibited species (i.e., no allowable retention) and most of their habitat in the Southern California Bight (SCB) south of Pt. Conception at 34°27' N lat. was closed to bottom fishing. Two Cowcod Conservation Areas (CCAs), in the SCB, were selected due to their high density of cowcod. The larger of the two areas (CCA West) is a 4,200 square mile area west of Santa Catalina and San Clemente Islands. A smaller area (CCA East) is about 40 miles offshore of San Diego, and covers about 100 square miles. Bottom fishing is prohibited deeper than 40 fathom (fm) within the CCAs.

The current cowcod rebuilding plan specifies a spawning potential ratio (SPR) harvest rate of 82.7%, which translates into an instantaneous harvest rate (F) of 0.007 for setting the Conception are ACL. A high ACT of 6 mt (deducted from the 10 mt ACL) was specified to accommodate a higher research take anticipated in the CCAs when the NMFS Hook and Line survey was allowed to fish sites within these areas. The GMT has since recommended reducing or eliminating the ACT since cowcod catch is projected to be well within the ACL even with a greater research take. The management measures for 2020 groundfish fisheries that might take cowcod are still anticipated to be within the No Action fishery HG since it will remain a prohibited species and there are no new management measures contemplated that would increase cowcod fishery impacts. The annual vessel limits for cowcod and other trawl quota species are in place to minimize hoarding of quota for any one species, especially a constraining stock such as cowcod south of 40°10' N lat.

These management measures have resulted in a successful rebuilding of cowcod. Dick and He (2019) estimate the stock has attained a depletion of 57 percent of B_0 (above the B_{MSY} management target of 40 percent) at the start of 2019. The Council recommended to NMFS to declare the stock rebuilt.

The default HCR for a stock transitioning from a rebuilding to a healthy status is to set the ACL equal to the ABC under the current overfishing probability (P*) in regulations. However, such a dramatic change in cowcod harvest specifications is not considered under this action which seeks to revise the 2020 ACT already in regulations. The harvest specifications projected in the 2019 assessment will be considered by the Council and NMFS in a separate process for managing the West Coast groundfish fishery in 2021 and beyond.

The Council received public comment in June 2019 from affected trawl fishery participants south of 40°10' N lat. requesting relief from the very small annual vessel limits for cowcod. They commented that cowcod have been increasingly hard to avoid in the last two years and some trawl fishermen are approaching their annual vessel limit prematurely, which threatens their ability to target healthy stocks such as chilipepper rockfish, thornyheads, and sablefish. The recent increase in total mortalities of cowcod absent significant changes to management measures that would affect cowcod bycatch bolsters the claim of cowcod being increasingly difficult to avoid (Table 1 and Figure 1). The GMT has recommended the action to increase or eliminate the 2020 cowcod ACT, with a possible adjustment to the 2020 cowcod set-aside, as a means to provide relief to affected trawl fishery participants. This proposed action does not change the 2020 ACL for cowcod; however, it does recommend eliminating the 2020 ACT and reducing the yield set-aside to 1 mt or 50% of the set-aside under the No Action alternative.

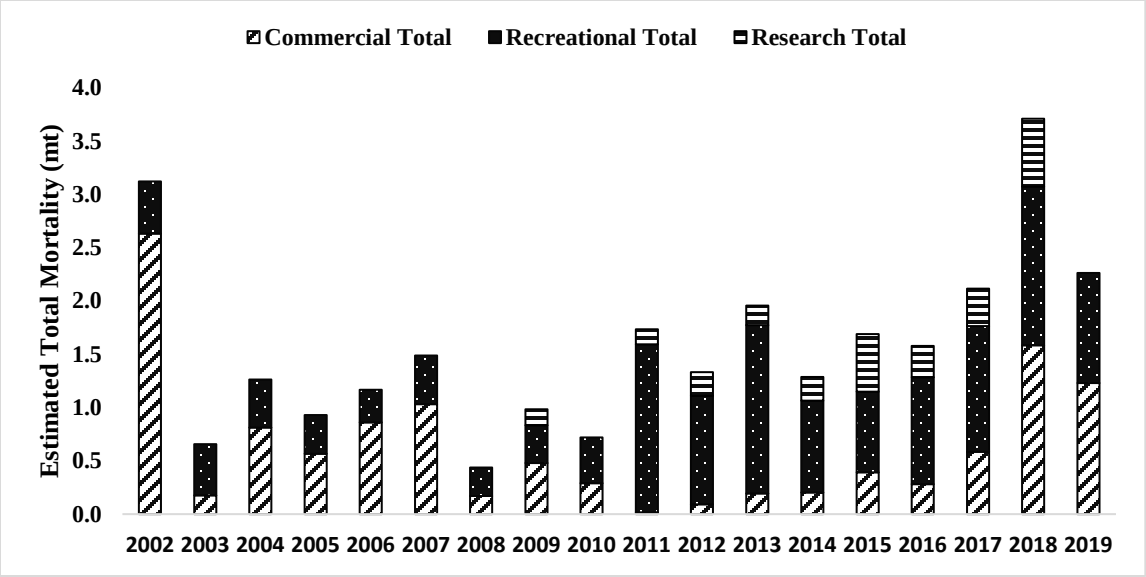

Figure 1. Estimated total mortality of cowcod south of 40°10' N lat. by commercial and recreational sectors and through research activities. 2019 total mortality is uncertain and incomplete with commercial catches estimated through October 16, 2019 and recreational catches through July 2019.

Shortbelly Rockfish

Shortbelly rockfish have never been targeted and are recognized as an important forage species in the California Current ecosystem with the center of its population distribution historically on the shelf/slope break off central California (Field et al. 2008). The Council originally considered designating shortbelly rockfish an EC species when FMP Amendment 23 was being considered but ultimately decided to specify a low 50 mt ACL to accommodate unavoidable incidental bycatch beginning in 2011. This ACL was considered a safe level of harvest that would not disrupt groundfish fisheries while allowing most of the harvestable surplus of the stock to be available as forage. This low level of bycatch was considered safe given the observed mortalities at that time; the 2002-2009 average coastwide annual total mortality was 14.4 mt (Table 2).

The ACL was raised to 500 mt in 2015 in anticipation of the re-emergence of the midwater trawl rockfish fishery after widow and canary rockfish were declared rebuilt. Incidental bycatch remained low until 2017 when it abruptly increased by an order of magnitude and has been increasing since (Table 2; Figure 2). Most of this bycatch occurred in the Pacific whiting midwater trawl fisheries north of 40°10' N lat. Total mortalities in 2018 groundfish fisheries have just been reconciled by the West Coast Groundfish Observer Program (WCGOP). The 500 mt ACL was exceeded by 8 mt in 2018 and catches to date (catch data extracted on October 16, 2019) account for about 556 mt of shortbelly rockfish taken so far this year.

The Council received public comment at their June 2019 meeting from representatives of the at-sea whiting fishery asking for inseason relief given the high bycatch of shortbelly rockfish and an increase in the 2020 shortbelly ACL to avoid exceeding the ACL again. The at-sea whiting fleets employ a fishery monitoring company, Sea State, Inc., to monitor each catcher vessel's bycatch in near real time. When there is a large bycatch event (aka a "lightning strike") for a non-target species of concern, Sea State notifies the entire fleet of the location and magnitude of the bycatch

event and advises vessels to move from these bycatch "hot spots". There were a number of shortbelly rockfish lightning strikes during the 2019 whiting fishery. While the fleets were not necessarily monitoring shortbelly rockfish bycatch as a noted species of concern (shortbelly were rarely encountered north of 40°10' N lat. and the fleet does not operate in the south), these lightning strikes in such a short period compelled the fleet to investigate and self-reported these bycatches to NMFS. They also immediately implemented the Sea State protocol to move from these bycatch areas and actively avoid shortbelly rockfish. NMFS responded with a public notice to all fishery participants, including shoreside trawl vessels that do not employ Sea State, to avoid shortbelly rockfish and the areas where the at-sea fleets experienced high bycatch. While the ACL had not been exceeded at the time of the June 2019 Council meeting, it was clear this would happen given the season was ongoing and sector whiting allocations were not close to being attained. NMFS advised the Council and industry they would not automatically close the 2019 fishery upon attainment of the shortbelly ACL and urged avoidance to minimize shortbelly bycatch. (It is notable the incidental shortbelly rockfish catch rate has decreased since the fleets began actively avoiding them.) The GMT and Groundfish Advisory Subpanel (GAP, the groundfish industry advisory body for the Council) recommended increasing the 2020 shortbelly ACL to avoid a disruption of coastwide fisheries, especially midwater trawl fisheries targeting Pacific whiting and healthy semi-pelagic rockfish species north of 40°10' N lat. (Table 2 and Figure 2), should the ACL again be exceeded.

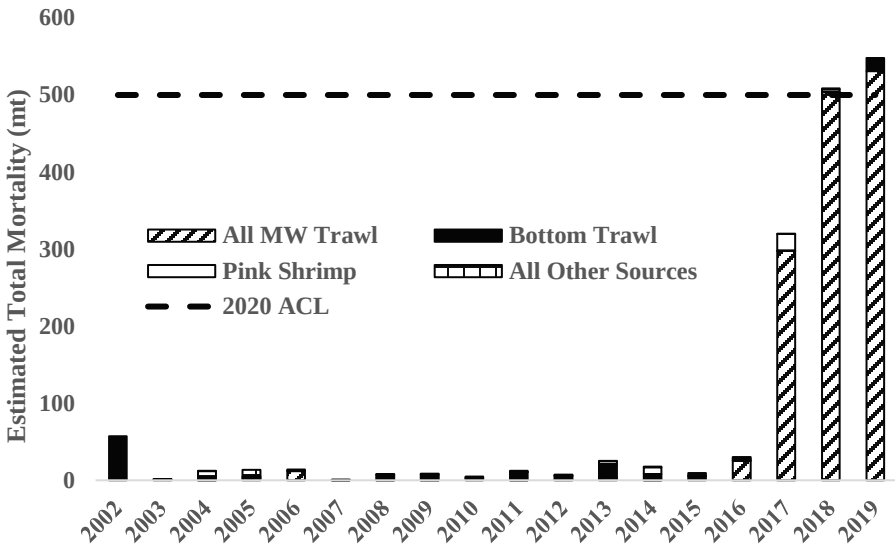

Figure 2. Total fishing-related mortality of shortbelly rockfish on the West Coast, 2002-2019. Mortalities in 2019 are estimated through October 16, 2019. The dotted horizontal line is the 2020 ACL in regulations.

Table 1. Estimated total fishing-related mortality (in mts) by sector of cowcod south of 40°10' N lat. on the U.S. West Coast, 2002-2019.

Year	Commercial Fisheries									CA Rec.	Res.	Est. Fishing Mort.
	IFQ/Co-op Management		Non-IFQ									
	Bottom Trawl	Fixed Gear	CA Halibut	Sea Cucumber	Pink Shrimp	Ridgeback Prawn	Non-NS Fixed Gear	NS Fixed Gear	Inc. Fisheries			
2002	2.61	--	--	--	--	--	0.02	--	--	0.49	--	3.12
2003	0.18	--	--	--	--	--	--	--	0.00	0.48	--	0.66
2004	0.72	--	0.00	--	0.01	--	0.05	--	0.03	0.45	--	1.26
2005	0.57	--	--	--	--	--	0.00	0.00	--	0.36	--	0.93
2006	0.86	--	--	--	--	--	--	--	--	0.31	--	1.17
2007	1.00	--	0.02	--	--	--	0.01	--	--	0.46	--	1.49
2008	0.17	--	--	--	--	--	--	--	--	0.27	--	0.44
2009	0.42	--	--	--	--	--	0.06	--	--	0.35	0.15	0.98
2010	0.26	--	--	--	--	--	--	--	0.03	0.43	--	0.72
2011	0.02	--	--	--	--	--	--	--	--	1.58	0.14	1.73
2012	0.09	--	--	--	--	--	--	--	--	1.02	0.22	1.33
2013	0.19	--	--	--	--	--	--	--	--	1.58	0.18	1.96
2014	0.18	0.01	--	0.00	--	--	0.01	0.00	--	0.86	0.22	1.29
2015	0.39	--	--	--	--	--	--	--	--	0.76	0.54	1.69
2016	0.28	--	--	--	0.00	--	--	--	--	1.00	0.29	1.58
2017	0.42	--	--	--	0.09	0.07	--	--	0.01	1.18	0.35	2.12
2018	0.42	--	--	--	0.08	0.10	0.99	--	--	1.49	0.63	3.71
2019 a/	0.67		0.56							1.03	NA	2.26

a/ Catches to date (10/16/2019) are incomplete. All commercial catches are combined and were downloaded from the GMT scorecard available on the PacFIN web site on October 16, 2019. The CA recreational catch is estimated through July 2019 and was downloaded from the RecFIN database on October 16, 2019.

Table 2. Estimated total fishing-related mortality (in mts) by sector of shortbelly rockfish on the U.S. West Coast, 2002-2019.

Year	Commercial Fisheries													WA Tribal Shoreside	Res.	Est. Fishing Mort.
	IFQ/Co-op Management						Non-IFQ									
	Bottom Trawl	Fixed Gear	MW Rockfish	Shoreside MW Hake	At-sea MW CP	At-sea MW MSCV	CA Halibut	Sea Cucumber	Pink Shrimp	Ridgeback Prawn	Non-NS Fixed Gear	NS Fixed Gear	Inc. Fisheries			
2002	56.61	--	--	0.07	0.48	0.10	0.00	--	--	--	--	--	--	--	--	57.26
2003	0.47	--	--	0.04	0.49	0.02	--	--	--	--	--	--	0.01	--	--	1.03
2004	5.29	--	--	0.01	0.00	0.02	0.05	--	6.42	--	--	0.00	0.04	--	--	11.82
2005	0.84	--	--	--	0.01	2.69	--	--	1.91	--	--	--	--	--	8.21	13.65
2006	0.84	--	--	0.28	0.31	11.24	--	--	--	--	--	--	--	--	1.10	13.77
2007	0.24	--	--	--	0.00	0.01	--	--	0.06	--	0.02	--	--	0.03	0.33	0.69
2008	7.03	--	--	0.00	--	--	--	--	--	--	0.02	--	--	--	1.21	8.26
2009	7.42	--	--	0.05	--	--	--	--	--	--	--	0.00	--	--	1.09	8.57
2010	2.47	--	--	0.33	--	0.00	--	--	0.24	--	--	--	0.00	--	1.77	4.80
2011	10.55	--	--	0.00	--	--	--	--	0.21	--	--	--	--	--	1.45	12.21
2012	5.46	--	--	0.09	0.02	0.27	--	--	0.38	--	--	--	--	--	1.22	7.44
2013	18.22	0.00	0.02	2.12	0.00	0.73	--	--	3.49	--	--	--	--	0.02	0.50	25.10
2014	8.02	0.00	--	0.01	0.01	0.00	--	--	8.92	--	--	--	0.00	--	0.74	17.69
2015	4.49	--	0.01	0.73	0.02	0.01	--	--	0.93	--	--	--	--	--	3.09	9.28
2016	0.60	--	0.00	22.88	0.24	1.91	--	--	2.23	--	--	--	--	--	2.16	30.03
2017	0.58	--	3.64	125.31	140.81	27.73	--	0.00	21.54	0.04	--	--	--	0.01	0.57	320.21
2018	0.69	--	31.75	243.65	85.89	142.16	--	--	3.02	0.67	0.03	--	--	0.00	0.48	508.35
2019 a/	16.93	--	--	159.97	30.79	340.35	--	--	--	--	--	--	--			555.74

a/ Catches to date (10/16/2019) are incomplete. Commercial catches were downloaded from the PacFIN web site on October 16, 2019.

1.3 Description of Management Area and Affected Fisheries

The management area for this action is the Exclusive Economic Zone (EEZ)—defined as 3–200 nautical miles from state baselines along the coasts of Washington, Oregon, and California—and communities that engage in fishing in waters off these states. The Pacific Coast Groundfish Fishery management Plan (PCGFMP) Figure 3-1 depicts this management area and is incorporated by reference.

2 Description of Alternatives

The alternatives in this chapter were designed to accomplish the stated purpose and need for the action.

This section is based on the range of alternatives and the PPA adopted by the Council in September 2019.

2.1 Alternatives for Cowcod South of 40°10' N lat.

2.1.1 No Action

No regulatory amendment would be considered to revise the 2020 ACT for cowcod south of 40°10' N lat. Annual vessel limits for cowcod would be 858 mt based on an apportionment of the trawl allocation of the 2020 ACT of 6 mt.

2.1.2 Alternative 1 (Preferred): Eliminate the 2020 ACT for Cowcod South of 40°10' N lat.

Federal regulations would be amended to eliminate the 2020 ACT of 6 mt for cowcod south of 40°10' N lat. under Cowcod Alternative 2. The annual vessel limit for cowcod would be based on an apportionment of the trawl allocation of the 2020 ACL of 10 mt. The effect of adjusting the set-aside to account for research activities, exempted fishing permit activities, and incidental bycatch in non-groundfish is explored by analyzing the following options.

Reduce the 2020 research set-aside by:

- Option 1: No adjustment: set-aside remains 2 mt. Cowcod annual vessel limit is 1,124 lbs.
- Option 2 (Preferred): 50%: set aside is 1 mt. Cowcod annual vessel limit is 1,264 lbs.
- Option 3: 75%: set aside is 0.5 mt. Cowcod annual vessel limit is 1,335 lbs.

2.2 Alternatives for Shortbelly Rockfish

No Action

No regulatory amendment would be considered to revise the 2020 ACL of 500 mt for shortbelly rockfish.

2.2.1 Alternative 1 (Preferred): Specify a 2020 ACL of 3,000 mt for Shortbelly Rockfish

Federal regulations would be amended to implement a 2020 ACL of 3,000 mt for shortbelly rockfish under Shortbelly Alternative 1.

2.2.2 Alternative 2: Specify a 2020 ACL for Shortbelly Rockfish of 4,184 mt

Federal regulations would be amended to implement a 2020 ACL of 4,184 mt for shortbelly rockfish under Shortbelly Alternative 2. Under this alternative the 2020 ACL would be equal to

the 2021 ABC, which is a common harvest control rule for healthy West Coast groundfish stocks with an estimated depletion above B_{MSY}.

2.3 Comparison of Alternatives

The tables below summarize the features and relative impacts under each alternative.

Table 3. Summary of the features of the alternatives for cowcod south of 40°10' N lat.

Feature	No Action (mt, lbs)		Alt. 1 (mt, lbs)					
			No Adj. to Set-aside		1/2 Set-aside (Pref.)		1/4 Set-aside	
ACL	10	22,046	10	22,046	10	22,046	10	22,046
Set-aside	2	4,409	2	4,409	1	2,205	0.5	1,102
Fishery HG	8	17,637	8	17,637	9	19,842	9.5	20,944
ACT	6	13,228	NA	NA	NA	NA	NA	NA
Non-trawl Allocation (64%)	3.8	8,466	5.1	11,288	5.8	12,699	6.1	13,404
Trawl Allocation (36%)	2.2	4,850	2.9	6,349	3.2	7,143	3.4	7,540
Annual Vessel limit (17.7%)	0.4	858	0.5	1,124	0.6	1,264	0.6	1,335
Increase in vessel limit (lbs)		0		265		406		476
Increase in vessel limit (%)		0%		31%		47%		55%

Table 4. Summary of the effects of the alternatives for cowcod south of 40°10' N lat.

Effect	No Action	Alternative 1	Alternative 2
Risk of Early 2020 Fishery Closure to Affected Trawl Participants	Highest risk of early fishery closure for LE trawl participants approaching the annual vessel limit	Moderate risk of early fishery closure for LE trawl participants approaching the annual vessel limit	Lowest risk of early fishery closure for LE trawl participants approaching the annual vessel limit. Risk is lessened the more the set-aside is reduced.
Economic Impacts to Fishing Communities in central CA (Pt. Conception to 40°10' N lat.)	Highest negative impact to trawl ports	Moderate negative impact to trawl ports	Lowest negative impact to trawl ports
Potential Attainment of LE Trawl Allocations and Quotas of Target Species	Lowest – attainment of healthy target species would likely be lowest due to vessels being constrained by cowcod annual vessel limits	Moderate – attainment of healthy, target species would likely be moderate due to vessels constrained by cowcod annual vessel limits	Highest – attainment of healthy, target species be highest as the constraints caused by cowcod annual vessel limits would be reduced/eliminated.

Table 5. Summary of the features and effects of the alternatives for shortbelly rockfish.

Feature/Effect	No Action	Alternative 1	Alternative 2
2020 ACL (mt)	500	3,000	4,184
Risk of Early 2020 Fishery Closure of Fisheries that Take Shortbelly Rockfish (primarily LE MW trawl fisheries)	Highest risk of early fishery closure with income impacts on the higher end of the range shown in Table 12	Moderate risk of early fishery closure	Lowest risk of early fishery closure with little or no income impacts
Economic Impacts to Fishing Communities (primarily trawl ports north of 40°10' N lat.)	Highest negative impact with income impact as high as $429 million if all fisheries close in June ($175.2 million if midwater trawl fisheries close in June) (Table 12)	Moderate negative impact	Positive impact – most likely to avoid early fishery closures and foregoing income as shown in Table 11 and Table 12
Potential Attainment of Sector (primarily LE trawl) Allocations and Quotas for Pacific Whiting and Other Target Species	Lowest	Moderate	Highest

2.4 Rationale for the Council's Preferred Alternative

This section will be completed after the Council's final decisions are made at their November 2019 meeting.

2.5 Alternatives Considered but not Analyzed Further

The Council initially considered an alternative that increased the 2020 cowcod ACT at their September 2019 meeting. Such an alternative was rejected since the change in the cowcod annual vessel limit was only marginally increased and such a minor increase did not meet the need of affected trawl IFQ participants in the Council's judgement.

In the Council's initial consideration of addressing the trawl bycatch of shortbelly rockfish in their workload planning discussions in June, the idea of designating shortbelly rockfish as an Ecosystem Component species in 2020 was rejected since the analysis and rulemaking was judged to be too complex for an expeditious rulemaking.

The Council considered a shortbelly rockfish alternative that would set the 2020 ACL equal to the 2020 ABC of 5,789 mt. However, this alternative was rejected since the new ABC considered for 2021 and beyond was lower due to the Scientific and Statistical Committee's recommendation to specify a higher sigma value and a category 3 designation for shortbelly rockfish resulting in a lower ABC. Therefore, the Council specified a high ACL alternative of 4,184 mt under Shortbelly Rockfish Alternative 2 for analysis that is consistent with the lower ABC for 2021 and beyond.

3 Regulatory Impact Review

This Regulatory Impact Review (RIR)[1] examines the benefits and costs of two proposed regulatory amendments: 1) to increase or eliminate the 2020 ACT for cowcod south of 40°10' N lat. and 2) to increase the 2020 ACL for shortbelly rockfish.

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735, October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and Benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one that is likely to:

- Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

3.1 Statutory Authority

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801, *et seq*.), the United States has exclusive fishery management authority over all marine fishery resources found within the Exclusive Economic Zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional

[1] The proposed action has no potential to affect the human environment, individually or cumulatively. The only effects of the action are economic, as analyzed in this RIR/IRFA. As such, it is categorically excluded from the need to prepare an Environmental Assessment.

fishery management councils. In the West Coast Region, the Council has the responsibility for preparing FMPs and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine and anadromous fish.

The commercial groundfish fishery in the EEZ off Washington, Oregon, and California is managed under the PCGFMP. The proposed action under consideration would amend Federal regulations at 50 CFR 660. Actions taken to amend FMPs or implement other regulations governing these fisheries must meet the requirements of Federal law and regulations.

The proposed actions are compliant with the PCGFMP. Mid-cycle changes to harvest specifications are allowed under special circumstances and considerations. Changes to the shortbelly ACL can be made as allowed in Section 5.5.1 of the PCGFMP. The 2018 WCGOP data and estimates of bycatch were not available when setting the 2019 and 2020 harvest specifications and this new information compels this consideration. Changes to the cowcod ACT can be made mid-cycle according to Section 5.5.2 using considerations allowed under the socio-economic framework in Section 6.2.3 of the PCGFMP.

3.2 Purpose and Need for Action

The purpose and need for the proposed action is described in Section 1.1.

3.3 Alternatives

The range of alternatives is described in Chapter 2.

3.4 Methodology for Analysis of Impacts

The evaluation of impacts in this analysis is designed to meet the requirement of E.O. 12866, which dictates that an RIR evaluate the costs and benefits of the alternatives, to include both quantifiable and qualitative considerations. Additionally, the analysis should provide information for decision-makers "to maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach." The costs and benefits of this action with respect to these attributes are described in the sections that follow, comparing the No Action Alternative 1 with the action alternatives. The analyst then provides a qualitative assessment of the net benefit to the Nation of each alternative, compared to no action.

This analysis was prepared using data from the Pacific Fisheries Information Network (PacFIN), the Recreational Fisheries Information Network (RecFIN), and the NMFS West Coast Groundfish Observer Program (WCGOP). These sources provide the best available data on fishery participation and vessel characteristics. The analysis provided in this draft RIR/IRFA was provided by members of the GMT and Council staff.

3.5 Description of the West Coast Groundfish Limited Entry Trawl Fishery

3.5.1 Management Pursuant to the Pacific Coast Groundfish FMP

The Magnuson-Stevens Act and the PCGFMP are founded on two principle mandates: 1) the need to conserve fish stocks, marine resources, and marine ecosystems; and 2) the need to provide net economic benefits to the nation through sustainable management of fisheries. The conservation mandate is addressed in the PCGFMP through its harvest management framework, among other elements of the FMP. Overfishing is prevented by establishing an overfishing limit (OFL) based on the best scientific information available with mechanisms established to prevent total mortality from exceeding the OFL. Harvest limits are buffered by accounting for scientific uncertainty in estimating the OFL by specifying an ABC lower than the OFL with increasingly larger buffers when scientific uncertainty is higher. The Council will often decide a more precautionary harvest limit by specifying an ACL lower than the ABC in cases when there is greater management uncertainty and/or a greater conservation concern. The default HCR for a stock below its biomass management target is a formulaic reduction of the ACL relative to the ABC that is progressively greater when estimated depletion is lower (i.e., the 40-10 and 25-5 rules). Rebuilding plans tend to have even greater ACL buffers to accomplish rebuilding objectives. A further buffer is considered when management and catch monitoring uncertainty are particularly high, as in the case of cowcod south of 40°10' N lat., by specifying an ACT lower than the ACL. Management measures are designed to stay within an ACT when one is specified.

The economic mandate is addressed by managing for optimum yield (OY, the harvest level that provides the greatest long-term economic benefits to the nation) and is operationally implemented by deciding management measures that are estimated to attain but not exceed ACLs. Further objectives in the PCGFMP that address the economic mandate are deciding management measures and allocations that are fair and equitable to all fishery participants and fishing-reliant communities on the U.S. West Coast.

3.5.2 Number of Vessels Affected by the Proposed Action

Cowcod South of 40°10' N lat.

There are a limited number of vessels in the LE trawl sector affected by the proposed action. Most of the coastwide trawl fleets operate north of 40°10' N lat. and only vessels actively fishing bottom trawl gear south of 40°10' N lat. approaching the annual cowcod vessel limit are directly affected. Increasing or eliminating the 2020 cowcod ACT will not impact vessels fishing non-trawl gear. Only the bottom trawl fishery between 34°27' N lat. and 40°10' N lat. (bottom trawl gear is not deployed in the high relief habitats south of Pt. Conception) and the recreational fishery south of 34°27' N lat. tend to incidentally catch cowcod (Table 1). Raising or eliminating the 2020 ACT will increase all sector allocations. The direct effect contemplated by the proposed action increases the annual vessel limit in the LE trawl fishery by 17.7 percent of whatever increase in the trawl sector's allocation (36 percent) of the ACT or ACL under Alternative 1.

The Council recently completed a formal review of the trawl catch share program (the West Coast Groundfish Trawl Catch Share Program Five-year Review document is available here). It was acknowledged the consequence of exceeding an annual vessel limit for a low quota stock like

cowcod south of 40°10' N lat. "may force that vessel out of the groundfish fishery for many years". In the five-year review of the trawl catch share program, it was estimated there were six vessels cumulatively (some vessels may have attained or exceeded 90% of the annual vessel limit in more than one year during that period) that attained or exceeded the annual vessel limit for cowcod south of 40°10' N lat. through the first five years of the program (Table 6). Given the increased incidental bycatch in the LE trawl fishery in recent years (Table 1 and Figure 1), the number of vessels with high attainment of the annual cowcod vessel limit has likely increased.

As of September 1, 2019, two of the vessels in the California Groundfish Collective (CGC) have already caught half or more of the vessel cap for 2019 (Figure 3). The vessels would likely be much closer to their vessel caps if not for precautionary behavior in response to the cumulative cowcod catch earlier in the year. If they exceed their vessel caps, they would be completely unable to fish for at least the rest of the year. Given these severe consequences, even getting within half of their vessel caps creates the potential for extreme hardship.

Solutions to this problem, including the potential for an exempted fishing permit (EFP), removing the ACT, and/or reviewing set aside amounts, were forwarded by the Council for more analysis to address the constraining vessel caps while remaining below the overall ACL. The National Marine Fisheries Service expects to issue the CGC an EFP for 2019-2020 that would allow their vessels to pool their cowcod vessel caps. This EFP would provide expeditious relief for the CGC vessels only, whereas the action being considered to remove the cowcod ACT and modify the set-aside amount could benefit all IFQ vessels operating south of 40°10' N lat.

Table 6. The number of LE trawl vessels that attained or exceeded 90 percent of the annual vessel limit of cowcod south of 40°10' N lat., 2011-2015 from Table 7 in the West Coast Groundfish Trawl Catch Share Program Five-year Review document.

2011	2012	2013	2014	2015
1	2	0	1	2

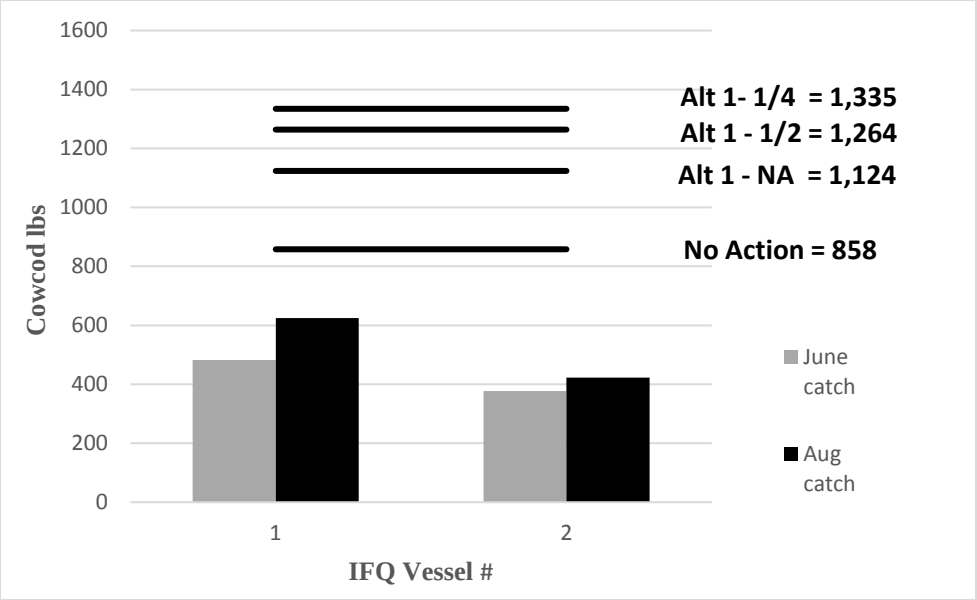

Figure 3. Total 2019 catches through the end of June and the end of August for two of the California Groundfish Collective boats with high cowcod catch in relation to annual vessel limit alternatives (horizontal lines). Permission was given from the CGC to show the catch of the two boats with the highest cowcod catch, which are listed as numbers as to not identify the names of the boats.

An update from the Northwest Fisheries Science Center staff that the end of year projection for the 2019 hook and line and bottom trawl surveys is estimated to be 0.57-0.69 mt, noting the surveys are currently underway. The 2019 research projection is above the 0.5 mt associated with "Alternative 1: ¼ set-aside" yet expected to be below the 1.0 mt set-aside associated with "Alternative 1: ½ set-aside", so this option is preferred. If research exceeds the 1.0 mt set-aside, research studies would not be canceled and the overage would be unlikely to cause a risk to the 10 mt ACL, as total mortality has been ~1-3 mt per year since 2011. Higher impacts could occur due to the stock rebuilding, but, at the same time, the stock has been gradually rebuilding, which means a sudden large increase in removals for 2020 compared to the last few years is not anticipated. This option would better reflect the increasing trend in research take, which is presumably related to increased cowcod abundance, while still allowing for an increased vessel cap and fishery flexibility.

Shortbelly Rockfish

The proposed action will primarily affect LE trawl vessels, especially midwater trawl vessels targeting Pacific whiting and semi-pelagic rockfish (i.e., non-whiting) north of 40°10' N lat. given the sectors and gear experiencing the highest bycatch of shortbelly rockfish in recent years (Table 2 and Figure 2). The Council recently completed a formal review of the trawl catch share program (the West Coast Groundfish Trawl Catch Share Program Five-year Review document is available here). There were 26-31 catcher vessels targeting whiting annually and 71-82 catcher vessels targeting non-whiting groundfish species annually during 2011-2015 (Table 7).

Table 7. The number of participating commercial whiting and non-whiting sector vessels by sector and fishery in 2017 (from Somers et al. 2019).

Sector	Fishery	Number of Vessels
Whiting	Mothership	4
	MS Catcher Vessels	15
	Catcher-Processor	9
	Shoreside	25
Non-whiting	Midwater Trawl	17
	Open Access Hook and Line	605
	Limited Entry Hook and Line	3
	Open Access Pot gear	151
	Limited Entry Pot Gear	15
	Bottom Trawl	61

3.5.3 Fishery Participation and Revenue

Revenue by sector and port group from recent groundfish landings are provided in Table 8.

Table 8. Nominal revenue ($1,000s) from groundfish landings, 2013–17, by IOPAC port and fishery sector. Confidential data is excluded as indicated by "Conf." Totals and averages for those rows are for non-confidential data only as indicated by shading.

Port Group	Shoreside IFQ (Non-whiting)[a/]	Shoreside IFQ Trawl (Whiting)	Non Nearshore Fixed Gear	Nearshore Fixed Gear	Other	Grand Total	Annual Average
Puget Sound	Conf.		$7,142		$143	**$11,984**	$2,396.79
North WA coast					$39	**$3,066**	$613
South and central WA coast	$5,827	Conf.	$5,652		$204	**$11,682**	$2,336
Astoria	$55,874	$35,431	$3,199	$5	$2,376	**$96,885**	$19,377
Tillamook			$269	$867	$12	**$1,148**	$230
Newport	$23,463	$37,713	$11,284	$286	$1,777	**$74,523**	$14,905
Coos Bay	Conf.		$5,869	$385	$282	**$6,536**	$1,307
Brookings	$11,096		$4,054	$4,715	$116	**$19,981**	$3,996
Crescent City	Conf.		$1,194	$1,464	$9	**$2,667**	$533
Eureka	$19,025		$2,321	$133	$44	**$21,523**	$4,305
Fort Bragg	$11,526		$5,738	$969	$91	**$18,324**	$3,665
Bodega Bay			$2,836	$79	$32	**$2,947**	$589
San Francisco	$3,125		$2,493	$757	$344	**$6,719**	$1,344
Monterey	$1,892		$3,225	$1,380	$111	**$6,607**	$1,321
Morro Bay	$5,761		$5,866	$6,123	$359	**$18,109**	$3,622
Santa Barbara	Conf.		$10,397	$1,302	$510	**$12,210**	$2,442
Los Angeles			$2,520	$276	$117	**$2,914**	$583
San Diego			$3,423	$67	$90	**$3,580**	$716

a/ Includes non-trawl.

3.5.4 Vessel Engagement and Dependency

Data for determining vessel engagement and dependence on groundfish resources was downloaded from PacFIN on October 29, 2019. Engagement and dependence of vessels and associated fishing communities, as indexed by total inflation-adjusted revenues by port group in 2016-2018, is provided in Table 9. Vessel engagement and dependence on groundfish resources relative to all fishery resources by West Coast port group is provided in Table 10.

Table 9. Engagement and dependence on groundfish and non-groundfish resources by port group in West Coast fisheries using total inflation-adjusted revenue, 2016-2018.

Port Group	Groundfish	Non-groundfish	Grand Total
Puget Sound	$10,674,742	$22,340,251	$33,014,993
N. WA	$12,285,370	$13,947,446	$26,232,816
S. / Cen. WA	$28,533,088	$209,368,628	$237,901,716
Astoria	$66,158,707	$59,187,275	$125,345,982
Tillamook	$755,745	$12,940,965	$13,696,710
Newport	$51,707,967	$115,823,660	$167,531,627
Coos Bay	$12,818,125	$90,403,242	$103,221,367
Brookings	$12,460,762	$41,609,630	$54,070,392
Crescent City	$2,751,524	$57,064,480	$59,816,004
Eureka	$16,045,650	$37,625,294	$53,670,944
Fort Bragg	$10,451,612	$17,484,426	$27,936,038
Bodega Bay	$1,847,254	$33,730,120	$35,577,374
San Francisco	$3,981,757	$85,066,187	$89,047,944
Monterey	$3,514,220	$44,102,552	$47,616,772
Morro Bay	$8,758,090	$15,293,348	$24,051,438
Santa Barbara	$10,617,210	$133,822,698	$144,439,908
Los Angeles	$1,575,465	$66,435,273	$68,010,738
San Diego	$1,886,933	$20,780,895	$22,667,828
Unknown	$550,435	$43,978,568	$44,529,003
Coastwide	**$257,374,656**	**$1,121,004,938**	**$1,378,379,594**

Table 10. Groundfish engagement (ex-vessel revenue in port as percent of ex-vessel coastwide revenue) and dependence (ex-vessel revenue in port as percent of total ex-vessel revenue in port), using current (inflation-adjusted) dollars for 2018.

Port Group	Engagement	Dependence
Puget Sound	4%	32%
N. WA	5%	47%
S. / Cen. WA	11%	12%
Washington	**20%**	**15%**
Astoria	25%	53%
Tillamook	0%	6%
Newport	21%	31%
Coos Bay	5%	12%
Brookings	5%	24%
Oregon	**56%**	**31%**
Crescent City	1%	5%
Eureka	6%	30%
Fort Bragg	4%	39%
Bodega Bay	1%	5%
San Francisco	2%	4%
Monterey	1%	7%
Morro Bay	3%	36%
Santa Barbara	4%	7%
Los Angeles	1%	2%
San Diego	1%	8%
California	**24%**	**11%**
Coastwide		**19%**

3.5.5 Communities

The communities most affected by the proposed action to eliminate the 2020 ACT for cowcod south of 40°10' N lat. in order to raise the vessel limit in the LE trawl catch shares or IFQ program are the main trawl ports south of Cape Mendocino. These communities in order of highest to lowest recent year trawl revenues from the LE trawl IFQ fishery are Fort Bragg, Morro Bay, San Francisco, and Monterey (PFMC 2018).

Those communities most affected by the proposed shortbelly rockfish action to increase the 2020 ACL to 3,000 mt are the main trawl ports in Oregon and Washington, especially those ports with a significant revenue from the whiting fishery. These communities in order of highest to lowest recent year trawl revenues from the LE trawl IFQ fishery are Astoria, Newport, Westport, and Seattle (PFMC 2018).

3.6 Impacts of Alternatives on Cowcod South of 40°10' N lat.

Impacts of the cowcod alternatives are assessed by analyzing the economic effects of revising the annual vessel limit specified for LE bottom trawl participants south of 40°10' N lat.

The features and effects of the alternatives for cowcod south of 40°10' N lat. are summarized in Table 3 and Table 4, respectively.

3.6.1 Impacts of the No Action Alternative

Under No Action regulations, the 2020 ACT for cowcod south of 40°10' N lat. remains unchanged at 6 mt. The total pounds of cowcod allocated to the 2020 Shorebased IFQ program would be 4,850 pounds, of which 17.7 percent or 858 pounds would be the annual cowcod vessel limit. More trawl fishery participants south of 40°10' N lat. would be at risk of early attainment of their cowcod annual vessel limit under the No Action Alternative. Early attainment of the cowcod vessel limit results in participants needing to cease fishing for the remainder of the year. Negative economic impacts are dependent on the amount of quota for target stocks left in the vessel account when the affected participant ceases fishing. Some mitigation of these impacts can occur by leasing this otherwise stranded quota; however, those positive impacts rely on demand for that quota. Negative economic impacts would therefore be greater under the No Action Alternative than under the Preferred Alternative 1.

3.6.2 Impacts of Cowcod Alternative 1

Under Alternative 1 for cowcod south of 40°10' N lat., the trawl allocation of cowcod is based on the specified trawl allocation (36 percent) applied to a revised fishery HG calculated by deducting the yield set-aside from the ACL. If the yield set-aside is not adjusted, the annual cowcod vessel limit increases to 1,124 lbs (a 33 percent increase from No Action). If the yield set-aside is reduced from 2 mt to 0.5 mt, the annual cowcod vessel limit increases to 1,335 lbs (a 58 percent increase from No Action) (Table 3). The preferred alternative eliminates the cowcod ACT and reduces the set-aside amount by 50% to 1 mt resulting in an annual vessel limit of 1,264 lbs, which is 47% higher than the vessel limit under the No Action Alternative (Table 3).

Non-trawl sectors may also be positively affected under the Preferred Alternative 1 since these sector HGs will increase as well. However, the non-trawl commercial sectors and the California recreational sector have been and are anticipated to continue, fishing without impacts even under the No Action Alternative since total fishing mortalities in these sectors have been well below specified HGs.

3.7 Impacts of Alternatives on Shortbelly Rockfish

Any prediction of future incidental bycatch of shortbelly rockfish in trawl fisheries north of 40°10' N lat. is highly uncertain given the unprecedented amount of bycatch observed since 2017. Whether the magnitude of recent bycatch is the "new normal", whether one can expect an increasing trend in bycatch rates, or whether bycatch will return to pre-2017 levels is a matter of speculation. This will make it very difficult to decide the risk of exceeding any of the alternative 2020 shortbelly ACLs.

Regardless of the ACL decided within the 500-4,184 mt ACL range, there is no anticipation a higher level of allowable harvest will induce targeting of shortbelly given the lack of a market. Industry has indicated that shortbelly rockfish is not currently marketable and does not expect it to become so in the near future. The low ex-vessel price of $0.01-$0.03 per pound in recent years supports industry reports that the fish is primarily used as fishmeal or discarded at sea. The median West Coast limited entry trawl permitted vessel has variable operating costs of $0.46 per pound, according to the most recent Economic Data Collection Report, and is unlikely to pursue a targeting strategy for such a low value species, as the revenues would be less than typical operating costs.

Additionally, it is not anticipated that an increase in fishing mortality of shortbelly would negatively affect its role as forage in the ecosystem given the scientific assessment that environmental drivers rather than fishing mortality will influence future shortbelly recruitment and abundance (Field et al. 2008). Further, the higher ACL under the action alternatives are well below the shortbelly rockfish OFL of 6,950 mt, with the impacts under the Preferred Alternative 1 well below the specified 2020 ABC of 5,789 mt or the 2021 ABC of 4,184 mt. The only anticipated effects of the proposed action to increase the 2020 shortbelly ACL are economic. The objective is to avoid negative economic impacts from early fishery closure to 2020 midwater trawl fisheries targeting Pacific whiting and semi-pelagic rockfish north of 40°10' N lat.

It is posited the order of magnitude increase in shortbelly bycatch since 2017 was due to a climate change-driven northerly distributional shift potentially accompanied by exceptionally large recruitment. It is interesting the pink shrimp trawl bycatch of shortbelly rockfish in 2017 increased by nearly an order of magnitude relative to the average bycatch in the previous 15 years before returning to an average level in 2018 (Table 2 and Figure 2). Incidental rockfish caught in recent year pink shrimp fisheries tend to be very small young-of-the-year (YOY) fish given the fish excluder grates mandated in pink shrimp trawls. The 2017 spike in shortbelly bycatch in the pink shrimp fishery could be indicative of a large recruitment.

To determine if the shortbelly bycatch could have appreciable harmed the overall population, it is important to address two questions. First, what is the overall status of the stock (e.g., is it relatively robust or depleted)? Second, has the distribution of the entire population shifted north or has the northern limit of its range expanded north while remaining in its historic range?

The last stock assessment of shortbelly was conducted in 2006 (Field et al., 2007b). Given that the population size is known to be highly dynamic (Moser et al., 2000; Field et al., 2007a), it is possible that the population size and distribution changed in the ensuing 13 years. Two data sets with information on shortbelly, the Rockfish Recruitment and Ecosystem Analysis Survey (RREAS) and the California Cooperative Oceanic Fisheries Investigations (CalCOFI) survey sets were examined to provide some insight into overall population size and distribution, respectively.

The RREAS uses midwater (30 m) trawls to capture young of the year rockfishes and provides an index of annual rockfish recruitment (Dick and MacCall, 2014; Dick et al., 2017). The "Core" RREAS sample locations are between Monterey Bay and Bodega Bay, California and have been sampled annually since 1990 (Figure 4). The survey expanded to include North-Central, South-Central, and Southern parts of California in 2004 and far North California in 2013 (Figure 4). The RREAS provides information on the relative number of rockfish that survive to become pelagic

juveniles. Because mortality for pelagic juveniles is much lower than for larvae, the number of pelagic juveniles correlates positively with the number of one year olds the following year and the number of adults in subsequent years. Thus, if the number of pelagic juveniles is high (i.e., recruitment is high), then it is likely that there will be high numbers of adults in the future. Because 50% of 2-year old shortbelly are sexually mature (Love et al., 2002), a high recruitment class is likely to augment the spawning stock biomass after just two years.

The California Current Ecosystem (CCE) experienced a Marine Heatwave (MHW) from 2014-2016, resulting in the warmest 3-year period on record (Jacox et al., 2017). The unusual oceanographic conditions during the MHW were highly conducive for shortbelly recruitment (Figure 2). All RREAS regions recorded historically high Shortbelly recruitment between 2013 and 2016, and recruitment in the Core region was more than an order of magnitude higher than previous values dating back to 1990 (Figure 5). Recruitment remained high in 2017 throughout California, and recruitment was 2nd highest in 2017 since 2013 in the North (Figure 5). The extraordinarily high recruitment events between 2013 and 2017 suggest that overall adult shortbelly population size was very high in 2018 and 2019.

CalCOFI has systematically collected plankton samples off California since 1951. The patterns of mean shortbelly larvae abundance collected by oblique net tows (McClatchie 2014) during winter, which is the peak shortbelly spawning season (Moser et al., 2000; Moser et al., 2001) were examined. Larval abundance correlates with adult biomass (Hsieh et al., 2005), and larval abundances is used as an index of spawning stock biomass (Dick and MacCall, 2014). If larval abundance is low in southern California, then it is likely that adult population size is also low.

Shortbelly larval abundance was slightly below average in 2018 in southern California. Larval abundance in 2018 was the 26th highest out of 48 sample years. It thus appears that while shortbelly are not booming in southern California, they are present at levels consistent with the long-term average.

Taken together, RREAS and CalCOFI surveys suggest that the overall shortbelly population was very high in 2018-2019, and that the population size in southern California is at close to average level. The presence of shortbelly in southern California does not necessarily preclude the possibility that the bulk of the population moved from central or northern California into Oregon and Washington, but it does show that this species has not abandoned the southern portion of its range within California.

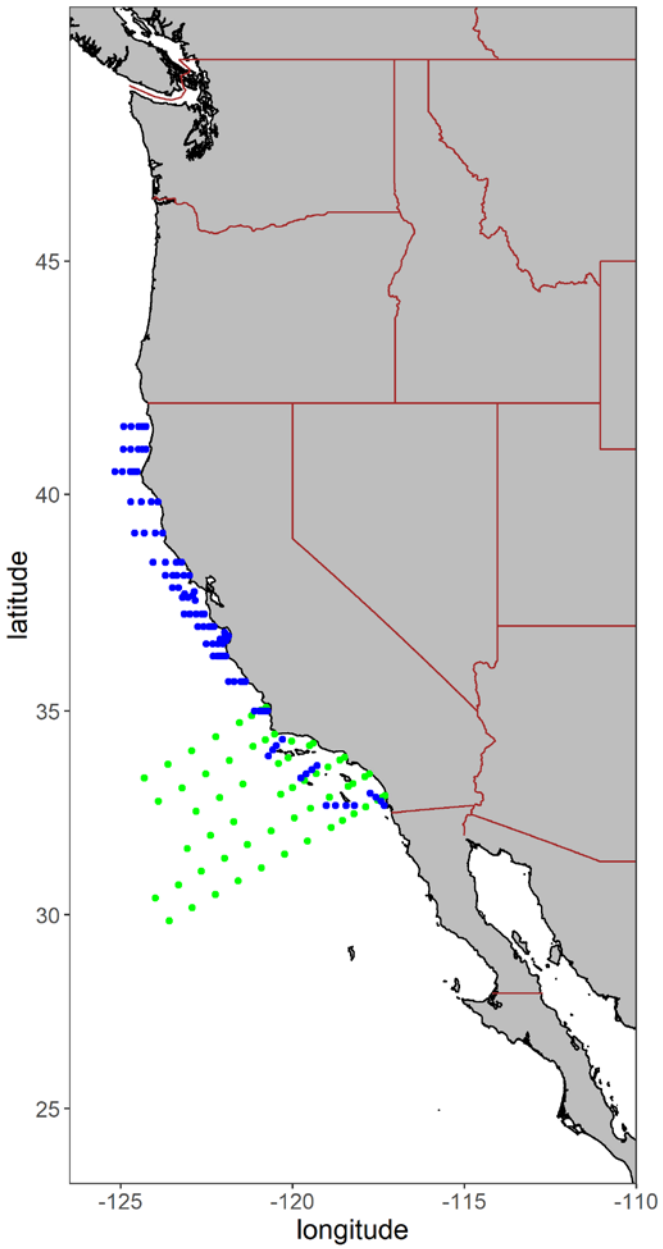

Figure 4. Locations of RREAS and CalCOFI sampling. RREAS locations are subdivided among North, North-Central, Core, North-Southern and Southern regions. The CalCOFI stations depict the 66 core stations that have been sampled regularly since 1951.

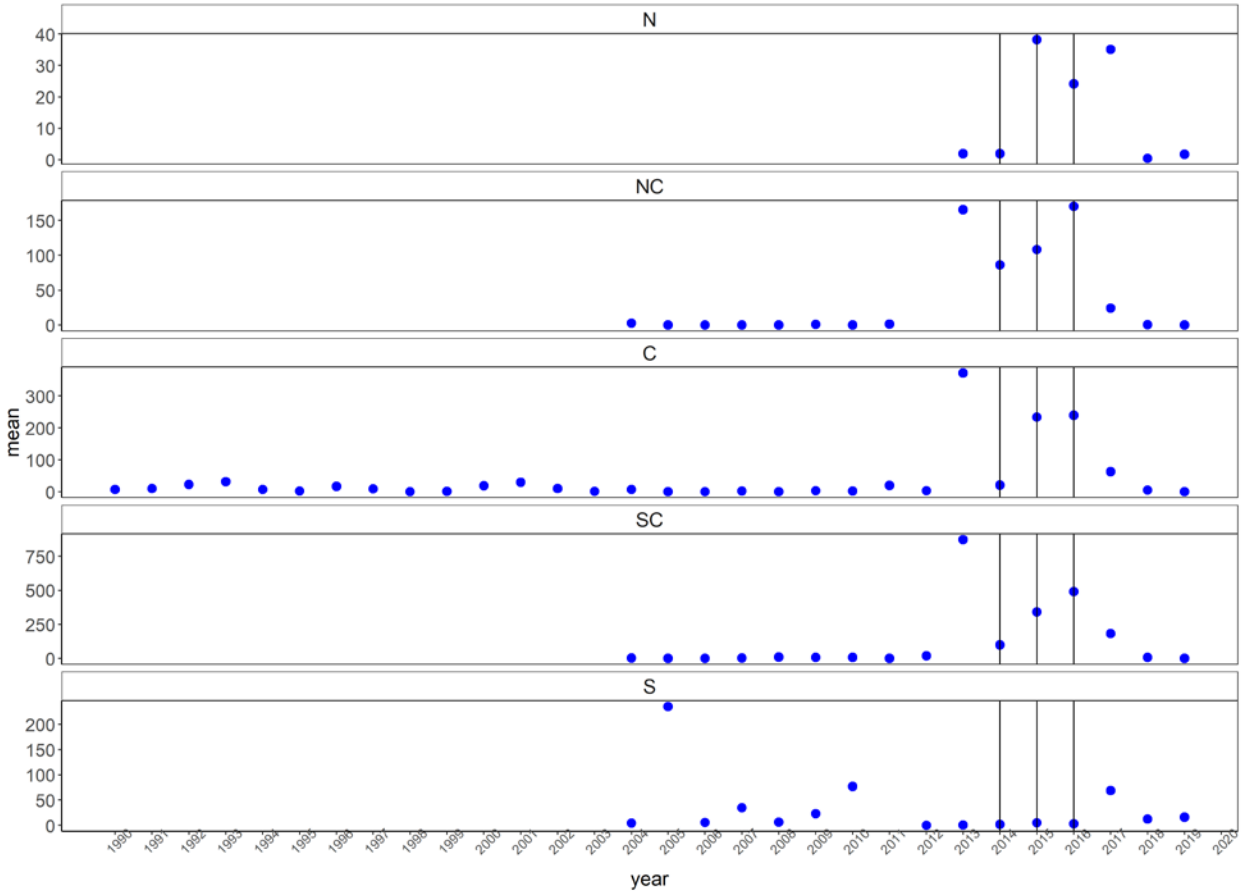

Figure 5. Mean abundance of young of the year shortbelly rockfishes from North (N), North-Central (NC), Core (C), South-Central (SC) and South (S) regions of the RREAS.

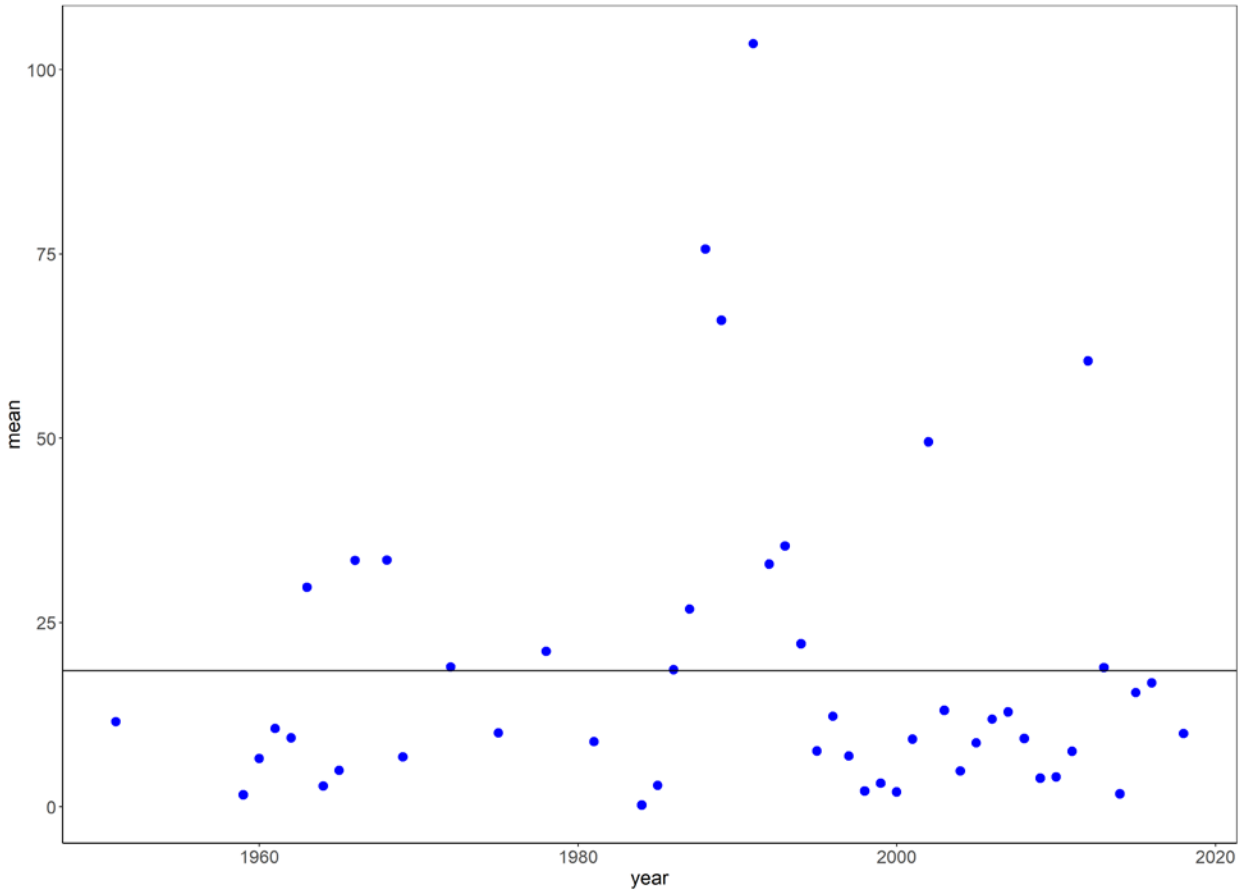

Figure 6. Mean winter larval shortbelly abundances from core CalCOFI stations from 1951-2018. Identification of 2017 are not yet complete and 2017 data was excluded from the plot.

Encounters of shortbelly rockfish in the NMFS West Coast Bottom Trawl Survey were also explored to ascertain whether there was a recent distribution shift of shortbelly rockfish northward or whether the increased bycatch in trawl fisheries north of 40°10' N lat. may have been the result of increased coastwide recruitment. While the bottom trawl survey does not deploy gear selective to a pelagic rockfish such as shortbelly, the relative encounter rate of shortbelly north and south in the survey over time shows there have been increased encounters of shortbelly in the survey off Oregon and Washington since 2013 and a significantly increased encounter rate in the north since 2017 without a coincident decrease in the shortbelly encounter rate off California (Figure 7). This supports the conclusion that the shortbelly population did not simply shift to northern waters and the relative abundance of shortbelly in waters off California has not decreased in recent years. Increased encounters of shortbelly in northern midwater trawl fisheries is more likely the result of increased recruitment and biomass coastwide coupled with an expansion of its geographic range on the West Coast. It is still unclear whether this pattern of abundance and distribution will persist in the near future.

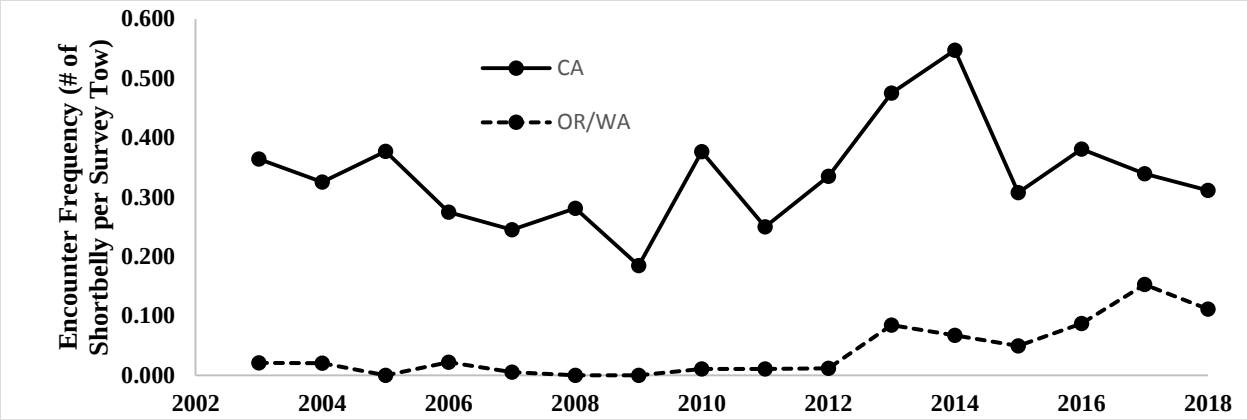

Figure 7. Encounter frequency (number of fish per tow) of shortbelly rockfish in the NMFS West Coast Bottom Trawl Survey, 2003-2018.

The features and effects of the shortbelly rockfish ACL alternatives are summarized in Table 5. The degree of socioeconomic impact are dependent on how much quota for target species in midwater trawl fisheries is left stranded when the fisheries close due to exceeding an ACL. Some of these impacts may be mitigated by leasing target species quota (primarily pelagic rockfish) to participants in the non-whiting trawl IFQ fishery using bottom trawls, assuming this fishery is not closed as well. However, any Pacific whiting quota would probably remain stranded and not leased since only the large scale midwater shoreside and at-sea whiting fisheries could use this quota and they are the likely sectors to first close if the shortbelly ACL is exceeded. The processors and ports where Pacific whiting and pelagic rockfish are delivered in the shoreside whiting fishery (e.g., Astoria, Newport, and Westport) and the at-sea fisheries (primarily Seattle) would also be adversely affected with an early fishery closure.

The magnitude of economic losses due to early fishery closure from attaining the shortbelly ACL is difficult to project and is dependent on which fisheries would close and when they would close. Table 11 shows the projected income impacts by month and sector in the West Coast groundfish fishery using the Input-Output model for Pacific Coast Fisheries (IO-PAC). Table 12 projects the cumulative impacts of fishery closures based on the IO-PAC model results depicted in Table 11. Impacts range from about $429 million of foregone income for the worst case scenario of all groundfish fisheries closing coastwide in June to $4.6 million of foregone income due to a closure of whiting and midwater trawl fisheries in December (Table 12). Given that midwater trawl fisheries targeting whiting and pelagic rockfish are the most likely to incur a large bycatch of shortbelly and therefore be subject to an early closure if the shortbelly ACL is attained, the range of predicted impacts in terms of foregone income is $4.6 million to $175.2 million depending on whether there is a late season closure in December or an earlier closure in June (Table 12).

Table 11. Projected loss in income in millions of $USD associated with fishery closures by month. Source Appendix C from 2019-2020 harvest specifications and management measures document.

Month	Whiting Sectors				Non-Whiting Sectors				
	Catcher-Processor	Mothership	Shoreside	Treaty	Midwater	Bottom Trawl	LEFG & OA	IFQ FG	Rec.
Jan	---	---	---	0.2	1.5	3.9	1.7	0	5.4
Feb	---	---	---	0.2	1.6	5.2	1.4	0.1	5.8
Mar	---	---	---	0.6	2.4	6.2	1.7	0.3	15.6
Apr	---	---	---	1.5	0.9	5.4	3.3	0.4	17.8
May	29.4	5.9	1	1.4	1.6	4.8	5.1	0.2	25.1
Jun	9.9	5	6.7	1.4	1.8	4.2	4.8	0.5	35.2
Jul	0	0.9	13.2	2.8	1.2	4.2	4.9	0.9	41.9
Aug	1.8	0.8	16.3	3.4	1.2	4.6	5.3	0.9	35.3
Sep	20.7	4.5	11.7	4.2	1.1	4.2	6.4	2.8	23.4
Oct	22.9	8.9	8.3	2.6	1	4.9	5.4	2.9	17.8
Nov	11.8	2.2	2.5	0.5	1.3	4.5	2.3	1.3	15.1
Dec	2	0.1	0.1	0.3	2.1	5.3	1.8	0.7	12.3

Table 12. Scenarios with projected loss in income in millions of $USD associated with early fishery closures. Source Appendix C from 2019-2020 harvest specifications and management measures document.

Scenario	Month of Closure	Foregone Income
Whiting and Midwater Fisheries Close Early	Jun	175.2
	Jul	150.4
	Aug	132.3
	Sep	108.8
	Oct	66.6
	Nov	22.9
	Dec	4.6
Whiting, Midwater, and Bottom Trawl Fisheries Close Early	Jun	207.1
	Jul	178.1
	Aug	155.8
	Sep	127.7
	Oct	81.3
	Nov	32.7
	Dec	9.9
All Fisheries Close Early	Jun	429
	Jul	359.5
	Aug	289.5
	Sep	219.9
	Oct	140.9
	Nov	66.2
	Dec	24.7

3.7.1 Impacts of the No Action Alternative

Under No Action regulations the 2020 ACL remains unchanged at 500 mt. If the ACL is again exceeded, there could be early closures of coastwide fisheries, especially midwater trawl fisheries that take shortbelly rockfish. The relative risk of an early fishery closure is greatest under the No Action Alternative since the shortbelly ACL is lower than those considered under the action alternatives.

3.7.2 Impacts of Shortbelly Alternative 1

The risk of an early closure of midwater trawl fisheries due to exceeding the preferred 3,000 mt shortbelly ACL is much less than under the No Action alternative. The highest annual shortbelly bycatch observed in all coastwide fisheries is the 556 mt caught so far this year. This bycatch is likely to be higher by the end of the year; however, the bycatch rate has dropped dramatically since the whiting fleets have been actively avoiding shortbelly.

3.7.3 Impacts of Shortbelly Alternative 2

The 2020 ACL for shortbelly rockfish is increased to the 2021 ABC or 4,184 mt under Alternative 2. This level of harvest provides the lowest risk of early fishery closures possible given the best scientific information currently available for shortbelly rockfish. It is anticipated the higher ACL will not induce targeting of shortbelly given the lack of a market.

3.8 Management and Enforcement Considerations

There are no major management or enforcement considerations associated with the proposed actions. There is an extra rulemaking that will need to be done should the Council select an action alternative. However, there should be less industry demand for inseason adjustments or emergency actions next year to provide relief from unavoidable bycatch of cowcod south of 40°10' N lat. or for shortbelly rockfish coastwide with the proposed action.

3.9 Summation of the Alternatives with Respect to Net Benefit to the Nation

Early closure of midwater trawl fisheries in 2020 would represent a significant negative impact to West Coast trawl fishery participants and communities reliant on those fisheries. The midwater trawl fisheries targeting Pacific whiting are the most valuable groundfish fisheries on the West Coast with an average income impacts of $205.7 million during 2011-2017. The higher the 2020 ACL, the less the risk of fishery closures due to exceedance of the shortbelly rockfish ACL. The negative economic impacts are associated with unused quota of target species due to early fishery closure. The earlier a fishery closure and the more quota left unharvested due to an early closure, the greater the negative economic impact.

4 Initial Regulatory Flexibility Analysis

4.1 Introduction

This Initial Regulatory Flexibility Analysis (IRFA) addresses the statutory requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 601-612). This IRFA evaluates the potential adverse economic impacts on small entities directly regulated by the proposed action.

The RFA, first enacted in 1980, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a Federal regulation. Major goals of the RFA are 1) to increase agency awareness and understanding of the impact of their regulations on small business, 2) to require that agencies communicate and explain their findings to the public, and 3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse economic impacts on small entities as a group distinct from other entities, and on the consideration of alternatives that may minimize adverse economic impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either 'certify' that the action will not have a significant adverse economic impact on a substantial number of small entities, and support that certification with the 'factual basis' upon which the decision is based; or it must prepare and make available for public review an IRFA. When an agency publishes a final rule, it must prepare a Final Regulatory Flexibility Analysis, unless, based on public comment, it chooses to certify the action.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, NMFS generally includes only those entities that are directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the industry (e.g., user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis.

4.2 IRFA Requirements

Until the Council makes a final decision on a preferred alternative, a definitive assessment of the proposed management alternatives cannot be conducted. In order to allow the agency to make a certification decision, or to satisfy the requirements of an IRFA of the preferred alternative, this section addresses the requirements for an IRFA. Under 5 U.S.C., section 603(b) of the RFA, each IRFA is required to contain:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);

- A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule;
- A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the proposed action, consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:

    1. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
    2. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
    3. The use of performance rather than design standards;
    4. An exemption from coverage of the rule, or any part thereof, for such small entities.

In preparing an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed action (and alternatives to the proposed action), or more general descriptive statements, if quantification is not practicable or reliable.

4.3 Definition of a Small Entity

The RFA recognizes and defines three kinds of small entities: 1) small businesses, 2) small non-profit organizations, and 3) small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a 'small business' as having the same meaning as 'small business concern', which is defined under section 3 of the Small Business Act (SBA). 'Small business' or 'small business concern' includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a "small business concern" as one "organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor…A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the firm is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture."

Section 601(3) of the RFA provides that an agency, after consultation with SBA's Office of Advocacy and after an opportunity for public comment, may establish one or more definitions of ''small business'' which are appropriate to the activities of the agency. In accordance with this provision, NMFS has established a small business size standard for all businesses in the commercial fishing industry, for the purpose of compliance with the Regulatory Flexibility Act only. A business is considered to be a small business if it is independently owned and operated

and not dominant in its field of operation (including its affiliates) and if it has combined annual gross receipts not in excess of $11.0 million for all its affiliated operations worldwide. The $11.0 million standard applies to all businesses classified under the North American Industry Classification System (NAICS) code 11411 for commercial fishing, including all businesses classified as commercial finfish fishing (NAICS 114111), commercial shellfish fishing (NAICS 114112), and other commercial marine fishing (NAICS 114119) businesses.

For fish processing businesses, the agency relies on the SBA size criteria. A seafood processor (NAICS 311710) is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 750 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business that both harvests and processes fish (i.e., a catcher/processor) is a small business if it meets the criteria for the applicable fish harvesting operation (i.e., the $11.0 million standard described above). A wholesale business servicing the fishing industry is a small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established "principles of affiliation" to determine whether a business concern is "independently owned and operated." In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern's size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when 1) a person is an affiliate of a concern if the person owns or controls, or has the power to control 50 percent or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock; or 2) if two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners, controls the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such

relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations. The RFA defines "small organizations" as any not-for-profit enterprise that is independently owned and operated, and is not dominant in its field.

Small governmental jurisdictions. The RFA defines "small governmental jurisdictions" as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

4.4 Reason for Considering the Proposed Action

The reason for the propose action is described in Section 1.1, Purpose and Need.

4.5 Objectives of Proposed Action and its Legal Basis

Under the authority of the Magnuson-Stevens Act, the Secretary of Commerce (NMFS West Coast Regional Office) and the Council have the responsibility to prepare fishery management plans and associated regulations for the marine resources found to require conservation and management. NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine fish, including the publication of Federal regulations. The West Coast Regional Office of NMFS, and Northwest Fisheries Science Center, research, draft, and support the groundfish management actions recommended by the Council. Commercial groundfish long fisheries are managed under the PCGFMP. The proposed action represents an amendment, as required, to the fishery management plan, as well as amendments to associated Federal regulations.

The principal objective of the proposed action for cowcod is to reduce the risk of an early fishery closure for LE trawl participants south of 40°10' N lat. that might exceed their annual vessel limit. The principal objective of the proposed action for shortbelly rockfish is to reduce risk of early fishery closures for participants of the West Coast groundfish fishery, especially midwater trawl fishery participants north of 40°10' N lat., due to exceeding the 2020 shortbelly ACL.

4.6 Number and Description of Directly Regulated Small Entities

The preferred Cowcod Alternative 1 will provide relief to all LE trawl participants south of 40°10' N lat. Also those communities and processors south of 40°10' N lat. where trawl catch is landed (primarily Fort Bragg, San Francisco, Monterey, and Morro Bay) will be at less risk of trawl participants ceasing their fishing operations early due to attaining or exceeding their cowcod vessel limit and suffering negative economic impacts. The number of vessels and processors in the trawl catch fishery by state through 2015 was provided in the West Coast Groundfish Trawl Catch Share Program Five-year Review document (Figure 8).

Based on public comment from the California Groundfish Collective received at the April and June 2019 Council meetings, (Agenda Item B.1.c, April 2019; Agenda Item B.1.b, June 2019), the current cowcod vessel cap of 858 pounds for the 2019-2020 biennium is likely to constrain their vessels. As of September 1, 2019, two of the vessels in the CGC have already caught half or more of the vessel cap for 2019 (Figure 3). The vessels would likely be much closer to their vessel caps

if not for precautionary behavior in response to the cumulative cowcod catch earlier in the year. If they exceed their vessel caps, they would be completely unable to fish for at least the rest of the year. Given these severe consequences, even getting within half of their vessel caps creates the potential for extreme hardship.

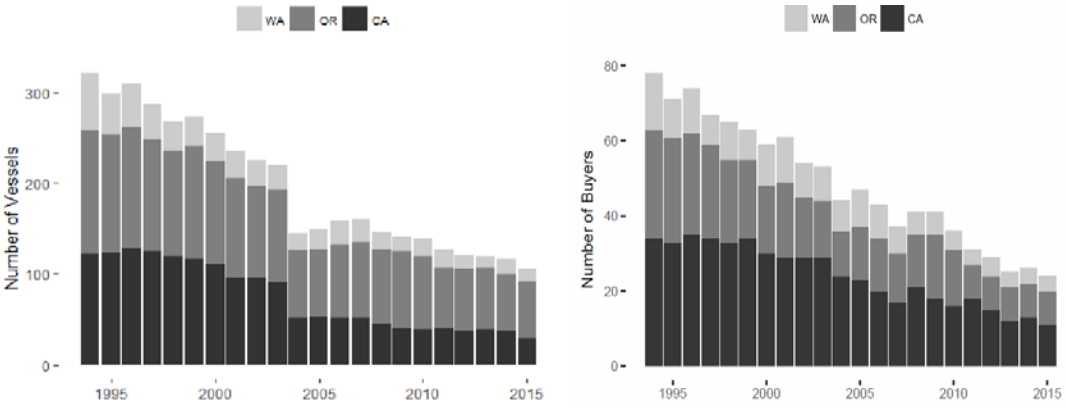

Figure 8. Number of groundfish trawl vessels by state of delivery location (left) and number of buyers by state (right), 1994-2015. Source: Fish tickets.

4.7 Recordkeeping, Reporting, and Other Compliance Requirements

No additional reporting or recordkeeping is required of the regulated entities under the proposed actions.

4.8 Federal Rules that may Duplicate, Overlap, or Conflict with Proposed Action

An IRFA is required to identify whether relevant Federal rules have been identified that would duplicate or overlap with the proposed action. There are no Federal rules that duplicate the proposed regulations under this action.

4.9 Description of Significant Alternatives to the Proposed Action that Minimize Economic Impacts on Small Entities

An IRFA also requires a description of any significant alternatives to the proposed action(s) that accomplish the stated objectives, are consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities.

To be completed after the Council decides a range of alternatives including a preliminary preferred alternative at their September 2019 meeting.

5 Magnuson-Stevens Act

5.1 Magnuson-Stevens Act National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Act, and a brief discussion of how each alternative is consistent with the National Standards, where applicable. In recommending a preferred alternative, the Council must consider how to balance the national standards.

National Standard 1 — Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

The PCGFMP determines how overfishing and OY are determined for all Pacific Coast groundfish stocks and provides measures by which the fisheries are managed in order to prevent overfishing and achieve OY. The proposed actions do not increase the risk of overfishing cowcod south of 40°10' N lat., shortbelly rockfish, nor any other actively-managed stock or stock complex. The fundamental objective of the proposed actions is to remove regulatory barriers to better achieve OY of target species while continuing to minimize bycatch of incidental species.

National Standard 2 — Conservation and management measures shall be based upon the best scientific information available.

The proposed actions analyzed in this document utilizes the best scientific information available on stock assessments of cowcod south of 40°10' N lat. (Dick and MacCall., 2014) and shortbelly rockfish (Field et al. 2008), as well as recent fishery-independent survey data and fishery operation off the West Coast.

The 2020 harvest specifications (OFL, ABC, and ACL) for cowcod are based on the 2013 stock assessment (Dick and MacCall, 2014) that was available when setting harvest specifications for the 2019-2020 biennial management cycle. While a new benchmark assessment was completed during the summer of 2019 and adopted at the September 2019 Council meeting, it was adopted after this action was initiated and it would be out of the scope of this action to change the 2020 OFL and ACL amounts for cowcod based on this new assessment. This new assessment indicates the cowcod stock is rebuilt at 57 percent of its unfished level and supports the determination that there are no conservation concerns by changing the 2020 ACT for cowcod. The new cowcod stock assessment will be used to set harvest specifications and management measures for the 2021-2022 management cycle.

The shortbelly rockfish ACL under Alternative 2 uses the new sigma value and stock category designation to determine the ABC as recommended by the SSC for 2021 and beyond. Initially, that alternative was informed by the old sigma and category designation used through 2020 and has been updated using the new science.

National Standard 3 — To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The PCGFMP manages stocks as a unit and utilizes stock complex designations and measures in order to manage interrelated stocks of fish as a unit. The proposed actions do not affect the management of the stocks of PCGFMP management unit species.

National Standard 4 — Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be; (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The proposed actions would apply to any commercial groundfish vessel authorized to fish in the West Coast EEZ. The proposed actions would not allocate or assign fishing privileges.

National Standard 5 — Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

This proposed actions would provide relief and increase efficient resource utilization by reducing the risk of an early fishery closure to affected fishery participants vulnerable to the bycatch of cowcod south of 40°10’ N lat. or shortbelly rockfish coastwide.

National Standard 6 — Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The proposed actions adapt to two emerging issues affecting the 2020 West Coast groundfish fishery: 1) increased encounters with cowcod south of 40°10’ N lat. as they rebuild, and 2) the apparent northerly distribution shift of shortbelly rockfish that has increased the incidental bycatch of shortbelly in large midwater trawl fisheries north of 40°10’ N lat.

National Standard 7 — Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The proposed actions do not create unnecessary duplication.

National Standard 8 — Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of National Standard 2, in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

The proposed action to revise the 2020 ACT for cowcod south of 40°10’ N lat. does not contemplate a change to the ACL, which implements the rebuilding strategy specified in the rebuilding plan. The proposed action is intended to make the LE trawl fishery south of 40°10’ N lat. more efficient by increasing the annual vessel limit of cowcod on LE trawl vessels approaching the status quo vessel limit. This action should allow the fishery to be more economically efficient at attaining their allocated quotas of target species. Increased trawl landings and revenue in ports

south of 40°10’ N lat. will benefit those communities that depend on those landings. Premature closure of fishery participants will harm those communities where those participants land their catch and where that catch is processed.

The proposed action to revise the 2020 ACL for shortbelly rockfish will not induce targeting. The stock will still be managed conservatively as a forage species in the California Current ecosystem. The action is proposed to reduce the risk of shutting down 2020 fisheries due to exceeding the shortbelly ACL should they again aggregate in northern waters where midwater trawl fisheries are conducted. The considerations for this action are solely economic given the importance of the high value midwater trawl fisheries to dependent communities north of 40°10’ N lat. Increased midwater trawl landings and revenue in ports north of 40°10’ N lat. will benefit those communities that depend on those landings. Premature closure of these fisheries will harm those communities where Pacific whiting and pelagic rockfish targeted by midwater trawls land their catch and where that catch is processed.

National Standard 9 — Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The proposed action to revise the 2020 ACT for cowcod south of 40°10’ N lat. does not contemplate a change to the ACL. The objective is provide a higher annual vessel limit to participants in the LE trawl fishery south of 40°10’ N lat. approaching their vessel limit. This only changes the limit of cowcod QP a vessel can use in 2020 to allow continued fishing opportunity to attain their quota of target species. While the proposed action will allow for an increase in the amount of bycatch of cowcod needed to access other healthy and co-occurring target species, the total mortality is expected to remain well below the ACL.

Increasing the 2020 shortbelly rockfish ACL is not expected to induce targeting of the species. Bycatch of shortbelly will likely depend on unpredictable environmental conditions that influence their distribution. To the extent shortbelly continue to aggregate in waters north of 40°10’ N lat. and are incidentally caught in midwater trawl fisheries, the at-sea whiting fleets have demonstrated the ability to minimize bycatch by self-reporting of high bycatch events and moving from areas of aggregation. While this proposed action allows for an increase in the amount of bycatch of shortbelly needed to continue midwater trawl fishery operations targeting species such as Pacific whiting and pelagic rockfish, the total mortality is expected to remain below the ABC and allow for continued surplus production to support its role as a forage species in the California Current Ecosystem.

National Standard 10 — Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The proposed actions will not affect the safety of human life at sea.

6 Preparers and Persons Consulted

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Members of the Pacific Council's Groundfish Management Team provided some of the discussion and economic analysis.

Dr. Andrew Thompson, Southwest Fisheries Science Center and GMT, provided the CalCOFI analysis of shortbelly rockfish larval abundance in Section 3.7.

Dr. Chantel Wetzel, Northwest Fisheries Science Center and GMT, provided the analysis of shortbelly encounters in the West Coast Bottom Trawl Survey in Section 3.7.

7 References

Butler, J. L., L. D. Jacobson, J. T. Barnes, H. G. Moser, and R. Collins. 1999. Stock assessment of cowcod. Appendix to Status of the Pacific Coast groundfish fishery through 1998 and recommended acceptable biological catches for 1999 (SAFE Report). Pacific Fishery Management Council, Portland, OR.

Dick, E.J., MacCall, A.D., 2014. Status and productivity of cowcod, *Sebastes levis*, in the Southern California Bight, 2013, Pacific Fishery Management Council, Portland OR.

Dick, E. J., and X. He. 2019. Status of Cowcod (*Sebastes levis*) in 2019. Pacific Fishery Management Council, Portland, OR.

Field, J.C., Dick, E.J., Key, M., Lowry, M., Lucero, Y., MacCall, A.D., Pearson, D., Ralston, S., Sydeman, W.J., Thayer, J., 2007a. Population dynamics of an unexploited rockfish, *Sebastes jordani*, in the California Current, in: Heifetz, J., Dicosimo, J., Gharrett, A.J., Love, M.S., O'Connel, V.M., Stanley, R.D. (Eds.), Proceedings of the 2005 Lowell Wakefield Symposium – Biology, Assessment, and Management of North Pacific Rockfishes, Alaska Sea Grant College Program AK-SG-07-01. , University of Alaska, Fairbanks, pp. 451-472.

Field, J.C., Dick, E.J., MacCall, A.D., 2007b. Stock assessment model for the shortbelly rockfish, *Sebastes jordani*, in the California Current. NOAA Technical Memorandum NMFS NOAA-TM-NMFS-SWFSC-405.

Hsieh, C., Reiss, C., Watson, W., Allen, M.J., Hunter, J.R., Lea, R.N., Rosenblatt, R.H., Smith, P.E., Sugihara, G., 2005. A comparison of long-term trends and variability in populations of larvae of exploited and unexploited fishes in the Southern California region: A community approach. Progress in Oceanography 67, 160-185.

Jacox, M.G., Alexander, M.A., Mantua, N.J., Scott, J.D., Hervieux, G., Webb, R.S., Werner, F.E., 2017. Forcing of multiyear extreme ocean temperatures that impacted california current living marine resources in 2016. Bulletin of the American Meteorological Society 99, S27-S33.

Love, M. S., M. Yoklavich, and L. Thorsteinson. 2002. The rockfishes of the northeast Pacific. University of California Press, Berkeley, California.

McClatchie, S., 2014. Regional fisheries oceanography of the California Current System and the CalCOFI program. Springer.

Moser, H.G., Charter, R.L., Smith, P.E., Ambrose, D.A., Watson, W., Charter, S.R., Sandknop, E.M., 2001. Distributional atlas of fish larvae and eggs in the Southern California Bight region: 1951-1998. CalCOFI Atlas No. 34.

Moser, H. G., and coauthors. 2000. Abundance and distribution of rockfish (*Sebastes*) larvae in the Southern California Bight in relation to environmental conditions and fishery exploitation. CalCOFI Rep. 41:132-147.

Pearson, D. E., J. E. Hightower, and J. T. H. Chan. 1991a. Age, growth, and potential yield for shortbelly rockfish *Sebastes jordani*. Fishery Bulletin 89:403-409.

Pearson, D. E., J. E. Hightower, and J. T. H. Chan. 1991b. Appendix D: Age, growth, year class strength, and potential yield for shortbelly rockfish. Status of the Pacific coast groundfish fishery through 1989 and recommended acceptable biological catches for 1990. Pacific Fishery Management Council, Portland, OR.

Phillips, J. B. 1964. Life history studies on ten species of rockfishes (genus Sebastodes). Calif.Dep.Fish and Game, Fish Bull. 126:70.