GROUNDFISH MANAGEMENT TEAM REPORT ON SCOPING OF ROCKFISH SPECIES SORTING REQUIREMENT NEW MANAGEMENT MEASURE

Contents

Background

In November 2023, the Washington Department of Fish and Wildlife provided a report to the Pacific Fishery Management Council (Council) scoping the potential for a new management measure that would require species-specific sorting of rockfish in federal regulations (Agenda Item E.7.a, Supplemental WDFW Report 1, November 2023). At that meeting, the Council added this new management measure to the 2025-26 biennial management measures package for analysis. The following report outlines the Groundfish Management Team's (GMT) preliminary analysis and findings in preparation for a Preliminary Preferred Alternative (PPA) at the April Council meeting. Based on this report, the Council may want to consider narrowing the scope of this action or removing this new management measure from the 2025-26 biennial management measures package altogether. During our overwinter analysis, the GMT identified components of this new management measure that may warrant deeper discussions within and amongst state sampling programs as well as more opportunity to solicit input from buyers and processors than is afforded in the biennial management measures process.

Purpose and Need

This measure proposes to revise federal regulations to require species-specific sorting of rockfishes caught in non-tribal commercial fisheries, with the goal of achieving better catch accounting and improving dockside sampling efficiencies.

Species composition sampling is meant to provide accurate estimates of species-specific landings without needing to burden buyers with or rely on them for species identification. Many rockfish species are difficult to differentiate, and rockfish can be landed in large volumes. However, it now appears that an increasing number of buyers in some ports are sorting rockfish to species level on their own accord. Depending on the rockfish complex and the volume of landings, working with buyers to accurately sort to species may not involve more effort than it has taken to maintain valid

market category[1] sorting. There may be some current rockfish complex sorting requirements for which species composition sampling is unnecessary and burdensome for dockside samplers, either because buyers already sort to species for that market category or because the rockfish complex is currently landed as a very small number of species in small volumes and can easily be sorted to species if required. In the case of the latter, dockside sampling staff and resources may be better applied elsewhere.

Potential Scope

Current federal regulations specify sorting requirements by directed groundfish sector, with separate area-specific requirements for each sector:

- Trawl (50 CFR 660.130(d))
- Limited entry fixed gear (LEFG; 50 CFR 660.230(c))
- Open access (OA; 50 CFR 660.330(c)(2))

The Council could revise sorting requirements for one, two, or all three of the directed groundfish sectors. In addition to the sector-specific sorting requirements, any species or species group for which there is a trip limit, size limit, quota, harvest guideline, Annual Catch Target (ACT), Annual Catch Limit (ACL), or Optimum Yield (OY) is required to be sorted to that species or species group level if the vessel fished or landed in an area during a time when such limit applied (50 CFR 660.12(a)(8)). For species or species groups for which sorting is required, buyers must sort to that species or species group immediately after offloading and prior to weighing or completing any sales of the landing.

The Council's November 2023 motion was specific to rockfish only, and therefore, the GMT's understanding of the Council's intent is that this action would not apply to the "Other fish" or "Other flatfish" complexes. There are three rockfish complexes for which federal regulations do not currently require sorting to species, with some exceptions. Those three complexes are the minor nearshore rockfish, minor slope rockfish, and minor shelf rockfish complexes, and all three are managed separately north and south of 40° 10′ N. lat. The Council could require federal species-specific sorting of one, two, or all three of these rockfish complexes. The Council could also require certain species in any of the three complexes be sorted to species while maintaining the complex-level sorting of the remaining species. The species in each rockfish management complex are shown in Table 1 with italics to indicate species in the complex that are already required to be sorted to species. Three nearshore species and three slope species are currently required to be sorted to species north of 40° 10′ N. lat. Four nearshore species, four slope species, and two shelf species are currently required to be sorted to species south of 40° 10′ N. lat. Rougheye/blackspotted rockfish are required to be sorted together as a species group because they are considered "cryptic" species, which means they are too difficult to distinguish from each other to require species-level sorting.

[1] "Market category" refers to the separate groups of species to which buyers are required to sort landings. Market categories can be individual species (e.g., Pacific ocean perch), or they can be a group of species. Market categories are often aligned with management complexes but with some exceptions (e.g., rougheye/blackspotted rockfish).

Table 1. Species in the minor nearshore, minor slope, and minor shelf rockfish complexes north and south of 40° 10′ N. lat as defined at 50 CFR 660.11 "Groundfish". Italicized species are currently required to be sorted to species or species group (e.g., rougheye/blackspotted rockfish) below the complex for at least one directed groundfish sector.

North of 40° 10′ N. lat.		
Minor Nearshore Rockfish	**Minor Slope Rockfish**	**Minor Shelf Rockfish**
Black and yellow rockfish	Aurora rockfish	Bronzespotted rockfish
Blue rockfish	Bank rockfish	Bocaccio
Brown rockfish	Blackgill rockfish	Chameleon rockfish
Calico rockfish	*Blackspotted rockfish*	Chilipepper
China rockfish	Redbanded rockfish	Cowcod
Copper rockfish a/	*Rougheye rockfish*	Dusky rockfish
Deacon rockfish	Sharpchin rockfish	Dwarf-red rockfish
Gopher rockfish	*Shortraker rockfish*	Flag rockfish
Grass rockfish	Splitnose rockfish	Freckled rockfish
Kelp rockfish	Yellowmouth rockfish	Greenblotched rockfish
Olive rockfish		Greenspotted rockfish
Quillback rockfish b/		Greenstriped rockfish
Treefish		Halfbanded rockfish
		Harlequin rockfish
		Honeycomb rockfish
		Mexican rockfish
		Pink rockfish
		Pinkrose rockfish
		Pygmy rockfish
		Redstripe rockfish
		Rosethorn rockfish
		Rosy rockfish
		Silvergray rockfish
		Speckled rockfish
		Squarespot rockfish
		Starry rockfish
		Stripetail rockfish
		Sunset rockfish
		Swordspine rockfish
		Tiger rockfish
		Vermilion rockfish
South of 40° 10′ N. lat.		
Minor Nearshore Rockfish	**Minor Slope Rockfish**	**Minor Shelf Rockfish**
Shallow nearshore:	Aurora rockfish	*Bronzespotted rockfish*
Black and yellow rockfish	Bank rockfish	Chameleon rockfish
China rockfish	*Blackgill rockfish*	Dusky rockfish
Gopher rockfish	*Blackspotted rockfish*	Dwarf-red rockfish
Grass rockfish	Pacific ocean perch	Flag rockfish
Kelp rockfish	Redbanded rockfish	Freckled rockfish
	Rougheye rockfish	Greenblotched rockfish
Deeper nearshore:	Sharpchin rockfish	Greenspotted rockfish
Black rockfish	*Shortraker rockfish*	Greenstriped rockfish
Blue rockfish	Yellowmouth rockfish	Halfbanded rockfish

Brown rockfish Calico rockfish *Copper rockfish* Deacon rockfish Olive rockfish *Quillback rockfish* Treefish		Harlequin rockfish Honeycomb rockfish Mexican rockfish Pink rockfish Pinkrose rockfish Pygmy rockfish Redstripe rockfish Rosethorn rockfish Rosy rockfish Silvergray rockfish Speckled rockfish Squarespot rockfish Starry rockfish Stripetail rockfish Sunset rockfish Swordspine rockfish Tiger rockfish *Vermilion rockfish* Yellowtail rockfish

a/ only copper rockfish off California is required to be sorted to species in the LEFG and OA sectors.
b/ only quillback rockfish off California is required to be sorted to species in the LEFG and OA sectors.

Minor Nearshore Rockfish Complex

The states of Oregon and California currently require that all nearshore rockfish species be sorted to the species level through state rules. Washington does not, but only a total of 0.02 mt of commercial nearshore rockfish have been landed into Washington ports since 2016, and all 0.02 mt were quillback rockfish. Therefore, the GMT expects minimal impacts to buying operations and state sampling programs if the Council were to revise federal regulations to require that the nearshore rockfish complex be sorted to species in all three states.

Minor Slope Rockfish Complex

The following analysis uses PacFIN landings data and excludes species within the slope rockfish complex that are currently required to be sorted to species. The largest volume of slope rockfish is landed into Oregon ports, followed by California and Washington (Table 2). The vast majority of slope rockfish landings into Oregon and California are made by the trawl sector, followed by LEFG and OA. In Washington, the trawl sector lands the majority in some years, but in other years, the LEFG sector may land more slope rockfish. Between 2019 and 2022, no more than 1.5 mt of slope rockfish were landed by OA vessels into any one state annually. In 2023, 5.6 mt of slope rockfish were landed into California ports by OA vessels where the majority of OA activity tends to occur.

The trawl sector also lands the most diverse suite of slope rockfish species into all three states (Figure 1), compared to the LEFG and OA sectors. Oregon appears to receive the most diverse trawl landings of the three states, likely because Oregon also receives the largest volumes. In California, bank rockfish make up the largest proportion of total slope rockfish landings by both the trawl and OA sectors, but prior to 2020 the largest proportion of California landings in the OA sector was redbanded rockfish (Figure 3). In Washington, trawl landings of slope rockfish are largely composed of aurora rockfish and splitnose rockfish, but the proportion of those two species

varies widely from year to year (Figure 1). In the LEFG and OA sectors, redbanded rockfish make up nearly all slope rockfish landings into Washington as well as the vast majority of landings into Oregon, along with up to ~40 percent yellowmouth rockfish landed by LEFG vessels into Oregon (Figure 2).

Table 2. Minor slope rockfish landings by state and directed commercial groundfish sector, 2019-2023. Data Source: PacFIN Comprehensive Fish Ticket Table

	Slope rockfish landings (mt) a/		
	California	**Oregon**	**Washington**
2019 Total	**49.8**	**161.5**	**46.4**
Trawl	46.4	155.3	39.0
LEFG	2.6	5.5	6.4
OA	0.8	0.7	1.0
2020 Total	**55.2**	**131.3**	**10**
Trawl	51.1	127.0	4.0
LEFG	2.6	3.4	5.0
OA	1.5	0.9	1.0
2021 Total	**52.5**	**175.2**	**16.2**
Trawl	47.3	167.8	11.9
LEFG	4.0	6.8	4.1
OA	1.2	0.6	0.2
2022 Total	**46.8**	**118.1**	**6.5**
Trawl	42.6	112.9	2.2
LEFG	3.4	5.2	4.0
OA	0.8	*	0.3
2023 Total	**21.5**	**87.9**	**14.2**
Trawl	12.2	77.0	8.0
LEFG	3.7	9.8	5.6
OA	5.6	1.1	0.6

a/ Rougheye, blackspotted, shortraker, and blackgill (CA only) rockfishes were removed because they are currently required to be sorted to species.

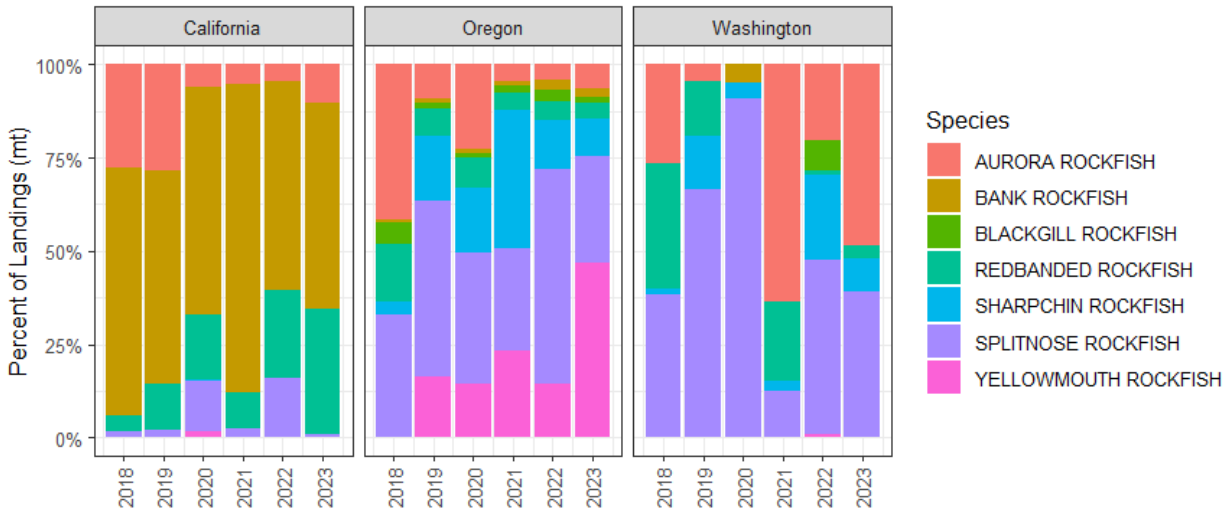

Figure 1. Trawl - Species proportions of slope rockfish landings in the trawl sector by state, 2018-2023. Rougheye, blackspotted, shortraker, and blackgill (CA only) rockfishes were removed because they are currently required to be sorted to species. Annual landings of a species where fewer than 3 vessels made landings in that year were also removed from the data before determining proportions. Data Source: PacFIN Comprehensive Fish Ticket Table

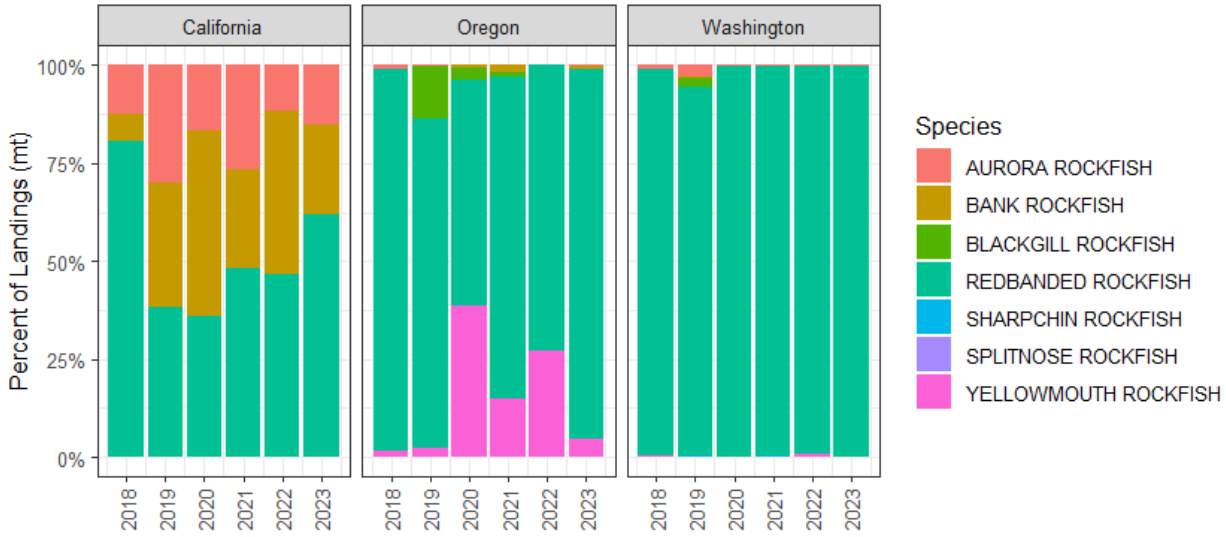

Figure 2. LEFG - Species proportions of slope rockfish landings in the LEFG sector by state, 2018-2023. Rougheye, blackspotted, shortraker, and blackgill (CA only) rockfishes were removed because they are currently required to be sorted to species. Annual landings of a species where fewer than 3 vessels made landings in that year were also removed from the data before determining proportions. Data Source: PacFIN Comprehensive Fish Ticket Table

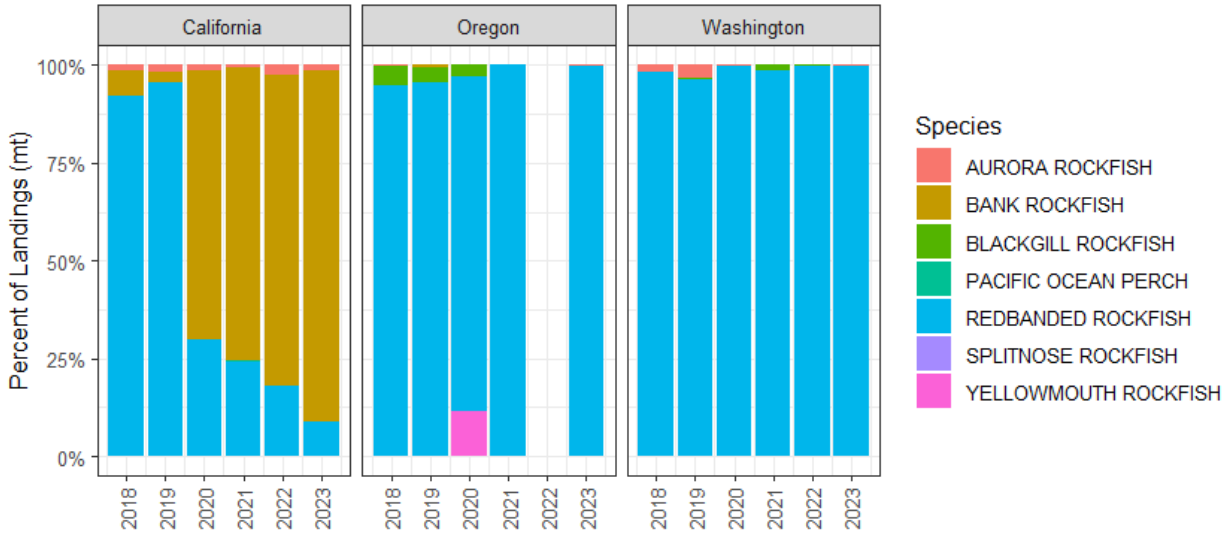

Figure 3. OA - Species proportions of slope rockfish landings in the OA sector by state, 2018-2023. Rougheye, blackspotted, shortraker, and blackgill (CA only) rockfishes were removed because they are currently required to be sorted to species. Annual landings of a species where fewer than 3 vessels made landings in that year were also removed from the data before determining proportions. Data Source: PacFIN Comprehensive Fish Ticket Table

Minor Shelf Rockfish Complex

Similar to the slope rockfish analysis, the following analysis of the shelf rockfish complex is conducted using PacFIN landings data and excludes species for which species-level sorting is already required. Compared to slope rockfish, landings of shelf rockfish tend to be relatively more diverse in species makeup across all three sectors and states, with the exception of trawl landings into California and OA landings into Washington. It is worth noting, however, that no more than 0.04 mt of OA shelf rockfish have been landed in Washington (Table 3). Table 3 also indicates that trawl landings of shelf rockfish in California have been declining since at least 2019, possibly due to infrastructure losses, while OA landings increased from 2019-2021. With anticipated management measure changes in 2025-26 related to quillback rockfish off California, it is possible that OA shelf rockfish landings in California will continue to increase along with LEFG. Trawl landings of shelf rockfish have decreased in Washington, from 127 mt in 2019 down to 10 mt in 2023. The decrease in Washington trawl landings was most precipitous in 2020, possibly due to the COVID-19 pandemic.

In terms of species diversity, Oregon trawl landings of shelf rockfish appear to be the most diverse while California trawl landings appear to be the least diverse, with more than 85 percent of trawl shelf rockfish landings in California composed of bocaccio and chilipepper rockfish north of 40° 10′ N (Figure 4). In most years since 2018, OA shelf rockfish landings in California are made up of more than 50 percent yellowtail rockfish south of 40° 10′ N. lat, followed by greenspotted rockfish (Figure 6). Yellowtail rockfish south of 40° 10′ N. lat. also made up 84 percent of California LEFG landings in 2020, or 9.4 mt of the 11.2 mt landed that year. Yellowtail rockfish is currently on the Council's preliminary preferred list of species to assess in 2025, and if assessed, a stock definition for yellowtail rockfish will need to be determined (Agenda Item F.3.a, Supplemental GMT Report 1, March 2024). Depending on the outcome of the stock definition and

assessment process, it is possible that yellowtail rockfish could no longer be managed in the shelf rockfish complex south of 40° 10′ N. lat., because the population north of 40° 10′ N. lat. is not.

Since 2021, roughly 75 percent of total trawl shelf rockfish landings in Washington were made up of bocaccio (Figure 4). Prior to 2021, trawl shelf rockfish landings in Washington were predominantly silvergray and rosethorn rockfishes. The dominant shelf rockfish species from LEFG landings in Oregon has varied year-to-year, with up to 75 percent bocaccio in 2021 and 75 percent silvergray rockfish in 2023 (Figure 5). In Washington, the dominant LEFG species are relatively more consistent year-to-year, with the largest proportions of greenstriped and silvergray rockfishes since 2020.

Table 3. Minor shelf rockfish landings by state and directed commercial groundfish sector, 2019-2023. Data Source: PacFIN Comprehensive Fish Ticket Table; *confidential data

	Shelf rockfish landings (mt) a/		
	California	**Oregon**	**Washington**
2019 Total	**256.9**	**127.4**	**127.04**
Trawl	247.3	126.8	126.7
LEFG	3.3	0.3	0.3
OA	6.3	0.3	0.04
2020 Total	**223.1**	**251.1**	**27.3**
Trawl	193.3	250.0	26.9
LEFG	11.2	0.2	0.4
OA	18.6	0.9	*
2021 Total	**154.3**	**187.4**	**18.23**
Trawl	125.7	185.4	18.0
LEFG	3.5	1.3	0.2
OA	25.1	0.7	0.03
2022 Total	**152.3**	**115.2**	**18.21**
Trawl	126.4	113.2	17.8
LEFG	3.9	1.8	0.4
OA	22.0	0.2	0.01
2023 Total	**123.3**	**133.2**	**10.53**
Trawl	93.8	128.1	10.1
LEFG	6.2	3.7	0.4
OA	23.3	1.4	0.03

a/ For the trawl sector, bronzespotted rockfish south of 40° 10′ N. lat. was removed because they are already required to be sorted to species. For the LEFG and OA sectors, bronzespotted and vermilion rockfishes south of 40° 10′ N. lat. were removed for the same reason.

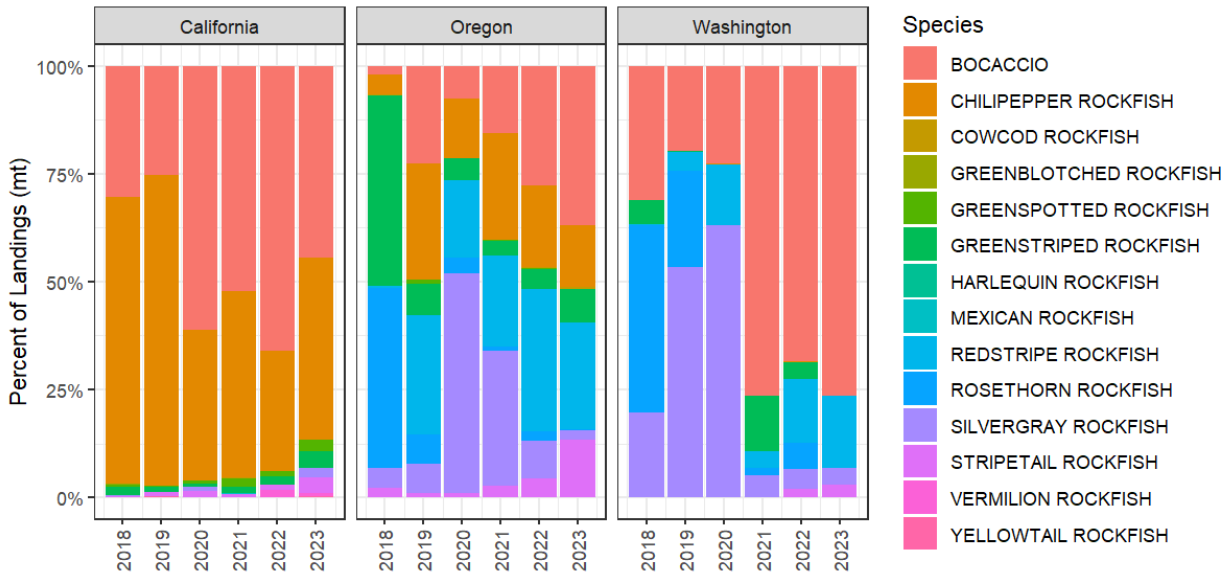

Figure 4. Trawl - Species proportions of shelf rockfish landings in the trawl sector by state, 2018-2023. Bronzespotted rockfish south of 40° 10′ N. lat. were removed because they are currently required to be sorted to species. Yellowtail rockfish included are only south of 40° 10′ N. lat., and bocaccio, chilipepper, and cowcod rockfishes included are only north of 40° 10′ N. lat. Annual landings of a species where fewer than 3 vessels made landings in that year were also removed from the data before determining proportions. Data Source: PacFIN Comprehensive Fish Ticket Table

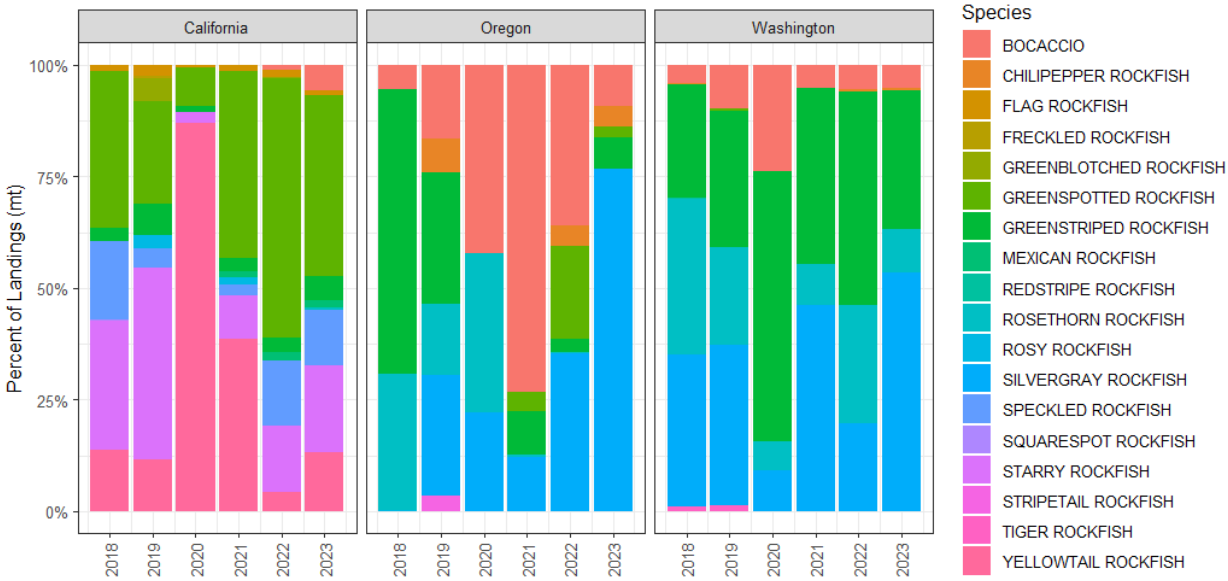

Figure 5. LEFG - Species proportions of shelf rockfish landings in the LEFG sector by state, 2018-2023. Bronzespotted and vermilion rockfishes south of 40° 10′ N. lat. were removed because they are currently required to be sorted to species. Yellowtail rockfish included are only south of 40° 10′ N. lat., and bocaccio, chilipepper, and cowcod rockfishes included are only north of 40° 10′ N. lat. Annual landings of a species where fewer than 3 vessels made landings in that year were also removed from the data before determining proportions. Data Source: PacFIN Comprehensive Fish Ticket Table

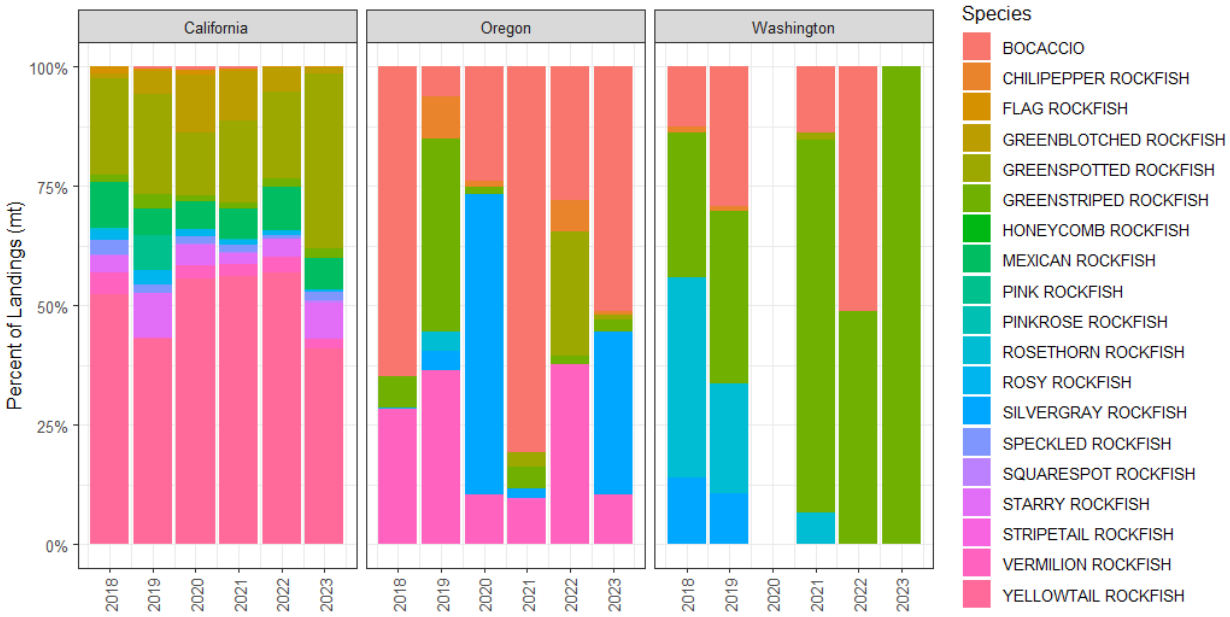

Figure 6. OA - Species proportions of shelf rockfish landings in the OA sector by state, 2018-2023. Bronzespotted and vermilion rockfishes south of 40° 10′ N. lat. were removed because they are currently required to be sorted to species. Yellowtail rockfish included are only south of 40° 10′ N. lat., and bocaccio, chilipepper, and cowcod rockfishes included are only north of 40° 10′ N. lat. Annual landings of a species where fewer than 3 vessels made landings in that year were also removed from the data before determining proportions. Data Source: PacFIN Comprehensive Fish Ticket Table

Preliminary Impact Findings

Currently, there are minimal differences in sorting requirements between the three directed groundfish sectors, and introducing a large amount of inconsistencies across areas (north and south of 40° 10′ N. lat.) or sectors could create confusion among fishing industry participants, especially for those that participate in multiple sectors (e.g., gear switchers). Impacts from a federal requirement to sort rockfish to species in any of the three rockfish complexes will likely trend with landing volumes and species diversity. Higher volumes of more species will require more labor, totes, and space to sort to species. Low volume, low diversity landings will require less of all three. Because of this, impacts would vary across ports, and even across individual buyers in the same port. Additionally, the number and scale of buyer operations in a state would likely determine the amount of resources state sampling programs need to utilize in response to new sorting requirements. Compared to Washington and Oregon, California has a large number of small-scale buyers, which may require additional effort from California port samplers to educate buyers on new species sorting requirements and species identification.

As shown above, generally the greatest volume and diversity of landings comes from trawl landings of both slope and shelf rockfish complexes into Oregon. Unlike Washington and Oregon, trawl landings in California are almost entirely made up of two species. Shelf rockfish landings generally tend to be more diverse than slope rockfish landings for all three states, because there are simply a greater number of species in the shelf complex. LEFG and OA landings of slope rockfish tend to be the least diverse across all sector/complex groupings and are relatively low in volume for all three states. The degree of species diversity in these rockfish market categories may also change as a result of re-assessing stock complexes in Phase 2 of defining stocks in the Pacific

Coast Groundfish Fishery Management Plan. Some species may be removed from their current stock complexes as part of that process.

Commercial groundfish fishery landings are monitored by state sampling programs. The primary objectives of these programs are to provide estimates of the species compositions of landings (in weight of fish) and to provide information on biological characteristics, such as age, sex ratios, maturity stages, and length frequency. In addition, federally deployed catch monitors observe offloads in the individual fishing quota (IFQ) fishery to verify that landings match fish ticket records. Changes to current species sorting requirements will impact state sampling programs to varying degrees depending on the scope of the action and each state's particular program processes. The GMT consulted with Pacific States Marine Fisheries Commission regarding impacts to the federal IFQ catch monitoring program and learned that impacts would likely be minimal and easily addressed. However, minimizing impacts to the IFQ catch monitoring program hinges on state sampling programs making concerted efforts to educate buyers on species identification to ensure that buyers do not rely on catch monitors to do so, which is not their intended purpose.

Impacts to state sampling programs affect both data management and sampling procedures. States may need to create new species-specific codes where only complex codes have been defined. Otherwise, procedures do exist to sample and report single species market categories. Thus, state sampling programs would monitor species composition under species-specific sorting requirements to validate species identification, as is done for existing single species market categories. The impact to sampling workloads depends on the size of landing and/or the diversity of the catch. Landings where the catch is highly diverse may not be comparatively more difficult to sample if the numbers of fish comprising each species is low. In contrast, higher volume landings where catch is moderately or highly diverse would likely require more work to sample according to existing procedures. Additionally, port samplers may have a higher workload to educate buyers on species identification for whom the majority of their landings are from non-groundfish vessels (e.g., tuna, Dungeness crab), with minor amounts of groundfish landings, relative to buyers that regularly receive large amounts of groundfish. Increasing the workload associated with conducting species compositions could negatively impact the number of landings observed and/or collection of biological data. Sampling programs may also experience other logistical impacts depending on factors such as staffing levels and experience.

Similarly, buyers will be impacted to different degrees depending on the scope of the action, the fisheries they primarily receive deliveries from, current operational approaches, the experience of employees, the nature of their markets, and infrastructure. Like the sampling programs, buyer workloads could be impacted if extra labor is required to separate offloads by species. Buyers may also need to purchase or acquire more totes to accommodate the increased number of species. Further, some buyers may face space constraints.

Some buyers already sort to species in the slope or shelf rockfish complexes. Reasons vary for sorting beyond the legal requirement for rockfish market categories, i.e., "oversorting." A few larger, long-established buyers have structured their operations around consistently sorting to species across fisheries fairly accurately. More typically, because rockfish can be particularly difficult to identify, the expectation is that fish species or species groups would not be cleanly sorted. Dock crew turnover and the corresponding lack of species identification skills commonly influences the quality of sorting. Yet, dock crews have been observed to inadvertently sort to

species simply because they can recognize differences among the species but are unable to identify the species and therefore do not understand which market category they belong to. Buyers are also increasingly sorting to species due to market factors, such as emerging direct to consumer markets for which certain species are easier to sell to consumers than others in the same market category. For example, smaller shelf rockfishes such as greenstriped and rosethorn rockfishes are known to be more palatable to consumers when sold as the whole fish.

Oversorting also is not necessarily a consistent practice, and circumstances may affect oversorting behavior. Where infrastructure is less protective, sorting beyond the legal requirement may be less likely in unfavorable weather conditions. Similarly, dealers may shift at times from oversorting to sorting to the market category to meet market delivery deadlines. In contrast, under-sorting is more likely by buyers who purchase small volumes of fish, e.g., retail seafood businesses, by newer buying operations, and is more likely at those times of high dock crew turnover. Sorting quality may also suffer on high volume landing days.

PFMC
03/27/24