

GROUND FISH MANAGEMENT TEAM REPORT ON PRELIMINARY EXEMPTED FISHING PERMIT APPROVAL FOR 2021-2022

The Groundfish Management Team (GMT) reviewed the applications for exempted fishing permits (EFPs) contained in the November 2019 briefing book, was briefed by Dr. Jim Seger of Pacific Fishery Management Council (Council) staff on the November 5, 2019 GMT webinar, and had additional discussion with some of the applicants. An overview of the eight applications is presented in Table 1.

At this meeting, the Council will need to adopt preliminary off-the-top amounts for estimated EFP catch, which will be deducted from annual catch limits (ACLs) and are described in Table 2. A summary of these amounts will be included under Agenda Item H.8.a, Supplemental GMT Report 1) to facilitate the biennial management measure discussion and analyses. The GMT reviewed the technical merits of the applications contained in the advanced briefing book relative to Council Operating Procedure (COP) 19 for EFPs and offers the following comments, with recommendations for Council in bold and suggestions for applicants in italics.

Year-Round Coastwide Midwater Rockfish EFP – West Coast Seafood Processors Association; Oregon Trawl Commission; Midwater Trawlers Cooperative; Environmental Defense Fund (Attachment 2)

The purpose of this EFP ([Agenda Item H.5, Attachment 2](#)) is to collect information on salmon bycatch for vessels using midwater trawl gear to target midwater rockfish species year-round and coastwide. This EFP would also collect information on impacts of bottom trawl vessels fishing between 40° 10' and 42° N. lat., shoreward of the Rockfish Conservation Area (RCA) boundary, using small footrope trawl gear. This EFP helps fulfill the requirements of the Incidental Take Statement (ITS) for salmon in Pacific coast groundfish fisheries. No set-asides are needed for this EFP, as all catch is accounted for using participants' quota.

The GMT suggests that this proposal should change the salmon sampling protocol to match current Terms and Conditions, which state that any salmon sampled by an observer at sea be discarded rather than retained. This will ensure that individual salmon are not double-counted as bycatch and not duplicated in analyses. The GMT also suggests that this proposal clarify how catch data from this effort will be reported and analyzed; the proposal currently states that these data are reported in annual West Coast Groundfish Observer Program (WCGOP) Groundfish Mortality reports. Although mortality from this EFP is included in the report, the data are not reported separately, which results in an inability to analyze the success of the EFP. The current application also proposes that bycatch limits for Chinook salmon be gear-based. At the September 2018 meeting, the Council recommended that Chinook salmon bycatch limits be set for north and south of the 42° N. lat. management line, rather than by gear type (see September 2018 [Decision Summary](#)). The GMT thus suggests the application be updated to reflect this guidance.

The GMT sees technical merit in the application and suggests that the application be moved forward for public review.

Recreational Cowcod Sampling in California - California Department of Fish and Wildlife (Attachment 3)

The purpose of this EFP is to provide an exemption to allow for retention of cowcod for biological data collection for use in future stock assessments ([Agenda Item H.5, Attachment 3](#)).

This EFP is intended to opportunistically collect biological samples for cowcod, with the expectation that this alteration will have limited impacts on current fishery operations. The California Department of Fish and Wildlife (CDFW) will solicit commercial passenger fishing vessels (CPFVs) to participate. Participants will need to abide by reporting and fish handling practices until CDFW staff can collect the specimens. CDFW will also coordinate and conduct the sampling protocols with the National Marine Fisheries Service (NMFS) to ensure that data collected fall within age and growth parameters that meet stock assessment standards. CDFW did not specify a set-aside amount, and the GMT discussed that any changes to cowcod mortality would be minor and could be considered as standard catch estimates under the appropriate fishery harvest limit. The application indicates that CPFVs selected to participate will use legal gears, fish within legal depths, and continue with business practices as usual. The GMT understands that CDFW does not intend to consider allowing retention in the recreational fishery as part of the 2021-2022 specification process, so the overall cowcod mortality is not expected to significantly increase due to this EFP. The expected 2021-2022 cowcod harvest limits, which will be higher than 2019-2020 levels, will be more than sufficient to cover potential additional mortality associated with the EFP. The application does not include any observer coverage, because the vessels participating will not be allowed to keep for personal use any portion of cowcod taken as part of the EFP. Additionally, this EFP is not requesting to fish inside the RCA or closed areas or otherwise alter fishing behavior.

*The GMT suggests that CDFW consider a maximum annual count or weight of total cowcod to collect under this EFP. Once this limit is reached, retention should cease for the year. Given that this EFP would fill a data gap for a sensitive and constraining species, **the GMT finds technical merit in the application and recommends moving it forward for public review.***

Recreational Cowcod Retention in California – Coastal Conservation Association of California and Okuma Fishing Tackle Corp. (Attachment 4)

The purpose of this EFP is to gather information on cowcod catch rates, gear selectivity, and age and growth information to inform appropriate bag limit and season structures. This EFP requests access to otherwise restricted areas inside the Cowcod Conservation Area (CCA), up to 100 fms, in an effort to retain cowcod. Using CPFVs, up to 20 trips annually that carry a maximum of 25 anglers would use legal gear (two hooks per line) with a limit of up to two cowcod per angler ([Agenda Item H.5, Attachment 4](#)). The applicant will provide 100 percent observer coverage and, once the maximum daily cowcod caps per angler are reached, all fishing under the EFP would cease. *The GMT suggests the applicant clarify if the WCGOP or other observer program or provider has been contacted to assess the feasibility of coverage.*

As proposed, the GMT is concerned that the data proposed to be collected will not be as useful to inform management decisions as the applicants have intended. *The GMT suggests clarifying whether the intent is to target cowcod or change normal fishing behavior based on the project design and recommends further describing both retention rules and sampling protocols.* The CDFW EFP is similarly structured to accomplish the biological sampling goal outlined in this

EFP. There could be some efficiencies if the applicants work with CDFW to provide vessel support for their proposed EFP, rather than developing a separate EFP. The GMT sees technical merit in the biological sampling goals of this EFP, but not for the other currently outlined purposes and goals. **Therefore, the GMT sees potential for the EFP moving forward for public review and recommend the applicant work with Council staff to address GMT concerns.**

Midwater Jig Fishing in California - San Francisco Community Fishing Association and Dan Platt (Attachment 5)

The purpose of this EFP is to target yellowtail and chilipepper rockfish using commercial midwater jig gear inside the RCA off California while avoiding yelloweye rockfish ([Agenda Item H.5, Attachment 5](#)). This EFP was initially approved for the 2013-2014 biennium and has been renewed every management cycle since, with various requirement changes to the observer coverage, southern range limit, and number of participating vessels.

The applicants have provided an interim report covering 2013-2019 activity that shows catch has stayed well below their set-aside amounts for target species and yelloweye rockfish. The applicants indicated that the request for less than 100 percent observer coverage was an oversight from the previous application, at which time the Council ultimately indicated that 100 percent observer coverage was required. *The GMT suggests the application be amended to reflect the necessary 100 percent observer coverage rate.* The EFP applicants have notified the WCGOP of their need for observer coverage for 2021-2022, which will be provided at no cost if an observer is available. If a WCGOP observer is not available, the participants understand that they must contract and pay for an observer to meet the Terms and Conditions of this EFP.

This EFP is currently scheduled for Council discussion for June 2020 on the Year-at-a-Glance, but moving this application forward at this time will provide continuity, add to an existing dataset, and address potential delays in translating this EFP into regulations. **The GMT finds technical merit in the application and recommends moving it forward for public review.**

Midwater Jig Fishing in Oregon – Captain David Kosta (Attachment 6)

The purpose of this EFP is to test commercial vertical hook and line gear in the RCA off Oregon ([Agenda Item H.5, Attachment 6](#)), similar to the gear used in the Emely/Platt EFP. Determining the appropriate set-asides for this EFP has been difficult. The GMT suggested the initial requests were too high and advised the applicant to use the same set-asides as the 2019-2020 Cook EFP, which explored similar questions in the same proposed area. The applicant assumed that the Cook EFP's set-asides were based on the current number of participants (two at present, but estimated given that five available permits) and was concerned that this EFP's potential for up to six vessels would require additional set-asides to be economically viable. The applicant estimated that the Cook EFP set-asides could be "scaled up" and requested that the set-asides for this EFP be estimated as those for the Cook EFP, but scaled proportionally based on the number of vessels that the Council approves. If the EFP is approved for two vessels, then the set-aside request would be the same as the Cook EFP. If the EFP is approved for six vessels, then the set-aside request would be three times the amount of the Cook EFP. Both of these options (a two vessel and a six vessel EFP) are provided in Table 2 as Options 1 and 2, respectively, and reflect the values provided in revised applications. *The GMT does note, however, that this application did not include a value for the "other fish" category and also included the same value for Oregon black/blue/deacon rockfish under both options; if this is*

incorrect, the applicant should update these values before the June Council meeting. The GMT notes that the applicant has asked for higher set-asides than other applicants in Option 2. If the Council moves this EFP forward, **the GMT recommends Option 1 as being sufficient for the activities outlined in the EFP.**

The proposal also initially requested 20 percent observer coverage. The Council has not previously approved an EFP that proposed changes to fishing gear, area, and/or season but did not also require 100 percent at-sea monitoring. If the Council moves this EFP forward for further consideration, **the GMT recommends that 100 percent observer coverage be required, as it is important for recording information related to new gears, areas, and/or season.** *The GMT also recommends that the applicant provide a plan for ensuring this coverage using WCGOP non-catch shares observers, if available, or contracted catch shares observers.* The applicant indicated on the GMT webinar that a requirement for 100 percent coverage would likely decrease participation.

Increasing non-trawl access for low attainment and healthy mid-water rockfish stocks is a priority for both the GMT and the Council. This EFP would not go into effect until 2021, at which time portions of the non-trawl RCA could be re-opened via the stand-alone agenda item tentatively slated for Council discussion in March 2020. These new areas could be fished using the gear type proposed for this EFP once the non-trawl RCA regulations are adopted, with considerably lowers NMFS workload. Additionally, the applicant would be burdened with less administrative work, including needing to manage EFP participants, arranging for and potentially paying for observer coverage, and analyzing and reporting catch.

The Oregon recreational longleader EFP and the Emely/Platt EFP use similar gear to that proposed here. Thus, although the proposed Kosta gear type would likely be effective for selectively targeting healthy mid-water rockfish stocks in the non-trawl RCA, little new information would be provided. Therefore, **the GMT sees minimal technical merit in this EFP and does not recommend that it be further considered at this time.**

Midwater Hook and Line Rockfish Fishing in Oregon - Scott Cook (Attachment 7)

The purpose of this EFP is to test commercial midwater hook and line gear in the RCA off Oregon ([Agenda Item H.5, Attachment 7](#)). This EFP was initially approved for the 2019-2020 cycle and is not currently requesting any substantive changes to the operations, protocols, or set-aside amounts. The goal is to target mid-water shelf rockfish species, while avoiding the overfished yelloweye rockfish, and also to test electronic monitoring (EM) devices for vessels that are typically too small to carry an onboard observer. A progress report was provided on October 9, 2019, addressing the lack of participation thus far. The first trip was scheduled for the following week (October 14, 2019), dependent on weather. The applicant has indicated reasons for limited participation include the expense, lack of available fishing days in the EFP, and difficulty in safely bringing an observer onboard.

Projected impacts have been provided for low and high estimates of potential fishing effort (20 or 30 fishing days, respectively). The GMT discussed the low and high effort estimates and the proposed rule for the Oregon long-leader sport fishery that prohibits the retention of lingcod, to minimize yelloweye rockfish impacts. Since this EFP would have 100 percent observer coverage, rather than prohibiting retention of lingcod, the GMT believes the low proposed

lingcod set-aside of 0.1 mt should be sufficient to dissuade targeting of lingcod and minimizing co-occurring yelloweye rockfish bycatch (Table 2).

This EFP will provide new information to better understand the selectivity and potential impacts of this new gear type, so **the GMT sees technical merit in this application and recommends the Council forward it for public review.**

Recreational Yelloweye Sampling in Washington - Washington Department of Fish and Wildlife (Attachment 8)

The purpose of this EFP is to allow retention of yelloweye rockfish from a select group of charter and private fishing vessels during the recreational Pacific halibut fishery in Washington ([Agenda Item H.5, Attachment 8](#)). The goal is to better describe the biological characteristics of yelloweye rockfish bycatch in Washington's recreational fisheries and potentially benefit future yelloweye rockfish assessments. Currently, little information on this species is available, because retention has been prohibited for over a decade. This EFP could also provide insight on catch rates in a limited retention fishery that may aid in evaluating future management measures.

A set-aside is not needed to execute this EFP, as catch will be accounted for in the Washington recreational share of the yelloweye rockfish harvest guideline. The retained yelloweye rockfish will be recorded as released fish and assigned a 100 percent discard mortality. Given that the intent of this EFP is only to retain yelloweye rockfish that would otherwise be released, the additional mortality would only arise from retained fish that would have been discarded with a descending device and estimated to survive being descended.

Washington Department of Fish and Wildlife (WDFW) will select the vessels that participate in this EFP based on their historical cooperation with WDFW sampling and research programs, as well as set criteria including identification skills, historical participation in Pacific halibut and bottomfish fisheries, willingness to participate in prescribed study protocols, lack of violations while fishing for Pacific halibut or groundfish, and intention of future participation of halibut and/or groundfish fisheries during 2021-2022 seasons. All participating vessels will be subject to applicable season, gear, and bag limits. The nature of this EFP is somewhat different than other, more traditional EFPs, because participants will not be allowed to fish outside normal fishery regulations other than retaining yelloweye rockfish (which will be turned over to WDFW staff). For this reason, observer coverage is not proposed.

The GMT sees technical merit and recommends the Council move this application forward for public review.

Monterey Bay Regional Chilipepper Rockfish - Real Good Fish (Public Comment)

The purpose of this EFP is to assess the feasibility of a midwater gear type to primarily target chilipepper rockfish, followed by bocaccio and yellowtail rockfish in the non-trawl RCA off central California. Utilizing not more than 10 vessels, shrimp fly gear powered by salmon gurdies would be deployed 50 feet off the bottom to avoid yelloweye rockfish. Each vessel would be held to a daily cap of yelloweye rockfish to ensure set-aside amounts would not be exceeded. Using this gear type combined with slow trolling speeds, the applicants do not expect

to encounter salmon but demonstrated willingness to work with NMFS and state agencies on a bycatch cap, best handling practices and biological samples if identified as a priority.

This application is a renewal of a 2019-2020 EFP that was not submitted before the briefing book deadline and is available as a public comment ([Agenda Item H.5.b, Public Comment](#)). While COP 19 stipulates a deadline for application submissions, the only significant change for this EFP is to request a continuation of an in-season change to exempt vessels from the vessel monitoring system (VMS) requirement. Although missing a deadline could result in lack of consideration for approval, the late submission of this renewal does not seriously impact the timing of Council action to consider approving for public review, nor does it require a discussion or action outside of the normal on-cycle process.

A progress report was submitted that indicated only three trips by two vessels have been taken as of October 2019. The applicant attributed the lack of participation to equipment costs, potential lack of revenue compared to other fishing opportunities, and concern about catching sensitive species and shutting down the EFP.

The applicants worked with WCGOP to provide 100 percent observer coverage and intend to use EM technology (optional for each vessel) concurrently on some trips to compare results between them. The GMT supports this effort to further explore the potential for EM to monitor fishing vessels. The EFP is requesting a VMS exemption that was not part of the initial 2019-2020 application, although the permit was recently amended for the remainder of 2019 and 2020 to allow it. *In an effort to be consistent in the application of federal VMS regulations among all EFP applicants, the GMT does not recommend allowing the VMS exemption for the 2021-2022 cycle. The GMT sees technical merit in this application and recommends it be moved forward for public review.*

Summary

The GMT provides a summary for all eight submitted EFPs in Table 1 and proposed set-asides in Table 2 as well as our recommendations below. Based on Council action under this agenda item, the GMT will include the final set-asides for EFPs forwarded for public review as off-the-top deductions to the ACL under our H.8 Report 1.

Finally, the GMT also notes that estimated at Chinook salmon catch for non-trawl EFPs will be very low. **The GMT recommends a total allowance of 100 Chinook salmon for all the non-trawl EFPs considered in this biennium be included in the salmon scorecard and counted against the non-whiting salmon guideline, as defined in the salmon ITS.**

GMT Recommendations:

1. **The GMT sees technical merit in and recommends the following applications be forwarded for public review:**
 - **Year-Round Coastwide Midwater Rockfish EFP**
 - **Recreational Cowcod Sampling in California (CDFW)**
 - **Recreational Cowcod Retention in California (CCACal)**
 - **Midwater Jig Fishing in California**
 - **Midwater Hook and Line Rockfish Fishing in Oregon**

- **Recreational Yelloweye Sampling in Washington**
 - **Monterey Bay Regional Chilipepper Rockfish**
2. **The GMT does not see technical merit in and does not recommend the following applications be forwarded for public review:**
 - **Midwater Jig Fishing in Oregon. If this application is moved forward, the GMT recommends that 100 percent observer coverage be required.**
 3. **The GMT recommends a preliminary total allowance of 100 Chinook salmon for all the non-trawl EFPs considered in this biennium be included in the salmon scorecard and counted against the non-whiting salmon guideline, as defined in the salmon ITS.**

Table 1. Summary of EFP applications.

Attachment Number	2	3	4	5	6	7	8	N/A - Public Comment
Brief Description/Title	Year-Round Coastwide Midwater Rockfish EFP in the Shoreside IFQ Fishery	Recreational Cowcod Sampling in California	Recreational Cowcod Retention in California	Midwater Jig Fishing in California	Midwater Jig Fishing in Oregon	Midwater Hook & Line Rockfish Fishing in Oregon	Recreational Yelloweye Sampling in Washington	Monterey Bay Regional Chilipepper Rockfish EFP
GENERAL INFORMATION								
Name of Applicant	West Coast Seafood Processor Association, Oregon Trawl Commission, Midwater Trawlers Cooperative, and Environmental Defense Fund	CDFW Groundfish project	Coastal Conservation Association California and Okuma Fishing Tackle Corp.	San Francisco Community Fishing Association and Dan Platt	Captain David Kosta	Scott Cook	WDFW	Real Good Fish and Environmental Defense Fund
Proposed geographic area for EFP	Coastwide for midwater trawl. For bottom trawl, coastwide AND between 40 10 and 42 shoreward of RCA, where currently only SFFT fishing is allowed.	South of 40 10 N. lat	South of 32 27 N. lat.	Between Pt. conception 34 27 N. lat. and the OR/CA border 42 N. lat. fishing to occur between 35 and 150 fm. New southern extension to Pt. conception	35 to 150 fm depth off of Oregon.	OR coast, 30 to 100 fm	Washington coast	Central CA at depths of 40-150 fm- within the non-trawl RCA
Proposed number of participants	Will be defined by enrollment process, as in past.	Up to 20 vessels	No indication of # of vessels, but listed as up to 20 trips, avg of 25 anglers	7 vessels total	6 vessels	3-5 vessels from as many OR ports as possible	approximately 10 recreational (charter/private) vessels	Up to 10 but no less than 5 vessels
Gear Type	Midwater trawl	Legal hook and line gear - not to exceed 2 hooks	legal hook and line gear - not to exceed 2 hooks	up to 4 lines; each line has tuna cord mainline, float at least 3.5 in in diameter, 25-50 hooks, total of no more than 100 hooks, spaced 1-3 feet apart; vertical gear, with	Hook and line	trolled longline gear. 1 or 2 steel salmon troll wires attached to the vessel's gurdies; breakaway, salmon troll cannon ball (35 lbs minimum); at least 40 feet between cannon	recreational hook and line	Gear operates in the mid-water column, with salmon gurdies on both sides of the vessel with stops ~every 3 fathoms. Fly line with a maximum of 500-750 hooks per set attached to wire. gear lowered no

Attachment Number	2	3	4	5	6	7	8	N/A - Public Comment
				minimum of 30 feet between weight and lowest hook or jig		ball and mainline; 1 or 2 monofilament mainlines, with 25-125 gangions/leaders and hooks; float attached to terminal end of mainline		closer than 1 fm off the bottom. three or four sets per trip. Mainline consists of shrimp flies attached to gangions with swivels. hooks are spaced approx. 18-30" apart. floats are spaced throughout the mainline to reduce sagging. Vertical test lines will be deployed prior to setting the longline gear.
Proposed target species	Chilipepper rockfish, yellowtail rockfish, and widow rockfish	Cowcod	Cowcod and all other legal groundfish species	Yellowtail RF, minor shelf rockfish south (which includes YT), chilipepper rockfish, and widow rockfish. Participants will be discouraged from targeting vermilion rockfish.	Yellowtail rockfish	yellowtail, widow, canary RF	Yelloweye rockfish	Chilipepper rockfish
Proposed time frame	2 years: 2021-2022	2 years: 2021-2022	2 years: 2021-2022	2 years: 2021-2022	2 years: 2021-2022	2 years: 2021-2022	When recreational halibut fishing is open, 2 years: 2021-2022	2 years: 2021-2022
Summary of proposal/notes	This is a continuation of the 2019-2020 EFP which will target midwater rockfish year-round in the RCA off of northern California. No changes have been proposed from the	Exemption from both the cowcod prohibition, and general angler/vessel bag and possession limit for the purpose of biological data needed to	Scope of purpose is very large ranging from biological collection, to gear selectivity, bag limit and season length, and closed area access	This is a continuation of an EFP that has been approved 3 times previously, trying to gather "enough data" to start the rulemaking process.	The proposal for this EFP states that the goal is to prove that a stock is healthy and present in an area and that targeted catch can occur with limited bycatch. The proposal and	Continuation of 19-20 EFP, which was previously approved, with revisions made to set aside amounts. No fishing occurred in 19-20	Describe the biological characteristics of yelloweye rockfish bycatch in WA's recreational fisheries. Currently there is a shortage of	100% observer coverage. Vessels must be willing to install EM and VMS devices and maintain a catch log. Data will be collected by fishermen. Harvest caps could be established by NMFS or PFMC.

Attachment Number	2	3	4	5	6	7	8	N/A - Public Comment
	previously approved EFP.	fill data gaps identified for future stock assessment use. Vessels selected based on wide geographic spread and EC buyoff to coordinate with CDFW staff for processing, storage and NMFS hand off	including deeper depth and CCA.		revisions include multiple potential set-asides are provided for a number of different vessels, with the potential for an increase in participants in the second year. The proposal requests 20% observer coverage, which has never been approved for an EFP without 100% monitoring.		information since retention has been prohibited for over a decade. Secondly, test a limited retention fishery to inform future management decisions.	

Table 2. Applicant-requested set-aside amounts (mt), EFP's in attachments 2 to 6.

	Attachment	2	3	4	5	6	6	7	8	N/A - Public Comment		
Species	Area	Midwater Trawlers	CDFW	CCA	Platt/Emley	Kosta, Option 1	Kosta, Option 2	Cook	WDFW	Real Good Fish	EFP Total using Kosta Option 1	EFP Total using Kosta Option 2
Arrowtooth flounder	Coastwide					0.10	0.30	0.10			0.20	0.40
Big skate	Coastwide					0.10	0.30	0.10			0.20	0.40
Black (WA)	Washington										0.00	0.00
Black (CA)	California										0.00	0.00
Bocaccio	S of 40°10' N. lat.				10.00					30.00	40.00	40.00
Cabazon (CA)	S of 42° N. lat.				1.00						1.00	1.00
California scorpionfish	S of 34°27' N. lat.										0.00	0.00
Canary rockfish	Coastwide				2.00	5.00	15.00	5.00		1.00	13.00	23.00
Chilipepper	S of 40°10' N. lat.				30.00					40.00	70.00	70.00
COWCOD	S of 40°10' N. lat.			7	0.15			0.00		0.02	7.17	7.17
Darkblotched rockfish	Coastwide				0.10	0.10	0.30	0.10		0.40	0.70	0.90
Dover sole	Coastwide					0.10	0.30	0.10			0.20	0.40
English sole	Coastwide					0.10	0.30	0.10			0.20	0.40
Lingcod	N of 40°10' N. lat.					0.10	0.30	0.10			0.20	0.40
Lingcod	S of 40°10' N. lat.				1.50						1.50	1.50
Longnose skate	Coastwide					0.10	0.30	0.10			0.20	0.40
Longspine thornyhead	N of 34°27' N. lat.										0.00	0.00
Longspine thornyhead	S of 34°27' N. lat.										0.00	0.00
Pacific cod	Coastwide					0.10	0.30	0.10			0.20	0.40
Pacific whiting	Coastwide				1.00	0.10	0.30	0.10			1.20	1.40
Petrable sole	Coastwide					0.10	0.30	0.10			0.20	0.40

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Species	Area	Midwater Trawlers	CDFW	CCA	Platt/Emley	Kosta, Option 1	Kosta, Option 2	Cook	WDFW	Real Good Fish	EFP Total using Kosta Option 1	EFP Total using Kosta Option 2
Pacific ocean perch	N of 40°10' N. lat.					0.10	0.30	0.10			0.20	0.40
Sablefish	N of 36° N. lat.				1.00	0.10	0.30	0.10			1.20	1.40
Sablefish	S of 36° N. lat.										0.00	0.00
Shortbelly rockfish	Coastwide					0.10	0.30	0.10			0.20	0.40
Shortspine thornyhead	N of 34°27' N. lat.					0.10	0.30	0.10			0.20	0.40
Shortspine thornyhead	S of 34°27' N. lat.										0.00	0.00
Spiny dogfish	Coastwide				1.00	0.10	0.30	0.10			1.20	1.40
Splitnose rockfish	S of 40°10' N. lat.				1.50						1.50	1.50
Starry flounder	Coastwide					0.10	0.30	0.10			0.20	0.40
Widow rockfish	Coastwide				9.00	10.00	30.00	10.00		9.00	38.00	58.00
YELLOWEYE ROCKFISH	Coastwide				0.06	0.12	0.36	0.12		0.06	0.36	0.60
Yellowtail rockfish	N of 40°10' N. lat.				10.00	10.00	30.00	10.00		20.00	50.00	70.00
Stock Complexes												
Nearshore rockfish north	N of 40°10' N. lat.					0.10	0.30	0.50			0.60	0.80
Nearshore rockfish south	S of 40°10' N. lat.										0.00	0.00
Shelf rockfish north	N of 40°10' N. lat.				3.00	1.50	4.50	1.50			6.00	9.00
Shelf rockfish south	S of 40°10' N. lat.				30.00						30.00	30.00
Slope rockfish north	N of 40°10' N. lat.				1.00	0.50	1.50	0.50			2.00	3.00
Slope rockfish south	S of 40°10' N. lat.				1.00						1.00	1.00
Other fish	Coastwide							0.10			0.10	0.10
Other flatfish	Coastwide					0.10	0.30	0.10			0.20	0.40

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Species	Area	Midwater Trawlers	CDFW	CCA	Platt/Emley	Kosta, Option 1	Kosta, Option 2	Cook	WDFW	Real Good Fish	EFP Total using Kosta Option 1	EFP Total using Kosta Option 2
Oregon black/blue/deacon	Oregon					0.90	0.90	0.50			1.40	1.40
Oregon cabezon/kelp greenling	Oregon					0.20	0.60	0.10			0.30	0.70
Washington cabezon/kelp greenling	Washington										0.00	0.00