Issuance of an Exempted Fishing Permit for Limited Entry Groundfish Bottom Trawl and Non-Whiting Midwater Trawl Vessels in the Shorebased Individual Quota Program: Trawl Gear EFP

An Environmental Assessment
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ACRONYMS

ACL	annual catch limit
B	biomass
BMSY	biomass at maximum sustainable yield
APA	Administrative Procedure Act
CCE	California current ecosystem
CDFG	California Department of Fish and Game
CEA	cumulative effects analysis
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CPS	coastal pelagic species
COP	Council Operating Procedure
CCA	Cowcod Conservation Area
CPUE	catch per unit effort
CZMA	Coastal Zone Management Act
DBCA	Darkblotched conservation area
DPS	distinct population segment
DTS	Dover sole, Thornyhead, and Sablefish fishery
EA	environmental assessment
EDC	Economic Data Collection Program
EEZ	exclusive economic zone
EFH	essential fish habitat
EFHCA	Essential fish habitat conservation area
EFHRC	Essential Fish Habitat Review Committee
EFP	exempted fishing permit
EIS, DEIS, FEIS	environmental impact statement, draft EIS, final EIS
EM	electronic monitoring
ENSO	El Nino Southern Oscillation
EO	Executive order
ESA	Endangered Species Act
ESU	evolutionary significant unit
FEP	Fishery Ecosystem Plan
fm	fathom
FMP	fishery management plan
FONSI	Finding of No Significant Impact
FR	Federal Register
ft	feet
FWS	U.S. Fish and Wildlife Service
GCA	Groundfish conservation area
GIS	global information system
GMT	Groundfish Management Team
HAPC	habitat area of particular concern
HMS	highly migratory species

IBQ	individual bycatch quota
IFQ	Individual fishing quota
IPHC	International Pacific Halibut Commission
lb	pound
m	meter
MBTA	Migratory Birds Treaty Act
MHHW	mean higher high water level
MMPA	Marine Mammal Protected Act
MSA	Magnuson-Stevens Fishery Conservation and Management Reauthorization Act
mt	metric ton
NOA	NOAA Administrative Order
NEPA	National Environmental Policy Act
nm	nautical mile
NMFS	National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NOAA	National Oceanic and Atmospheric Administration
NorPac	North Pacific Database Program
NPGO	North Pacific Gyre Oscillation
NRC	National Research Council
NWFSC	Northwest Fisheries Science Center
OLE	Office of Law Enforcement
OMB	Office of Management and Budget
OY	optimum yield
PacFIN	Pacific Fisheries Information Network
PDO	Pacific Decadal Oscillation
PFMC	Pacific Fishery Management Council
POP	pacific ocean perch
ppt	parts per thousand
PRA	Paperwork Reduction Act
PSMFC	Pacific States Marine Fisheries Commission
QP	quota pound
QS	quota share
QSM	Quota Species Monitoring Database
RCA	rockfish conservation areas
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SAFE	stock assessment and fishery evaluation
sp	species
STAR	Stock Assessment Review
STAT	Stock Assessment Review Team
TAC	total allowable catch
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
VMP	vessel monitoring plan

WCGOP	West Coast Groundfish Observer Program
W. long.	West longitude
lb	pound
m	meter
MHHW	mean higher high water level
MMPA	Marine Mammal Protected Act
MSA	Magnuson-Stevens Fishery Conservation and Management Reauthorization Act
mt	metric ton
NEPA	National Environmental Policy Act
nm	nautical mile
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STAT	Stock Assessment Review Team
TAC	total allowable catch
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
VEC	valued ecosystem component
VMP	vessel monitoring plan
WCGOP	West Coast Groundfish Observer Program

CHAPTER 1—INTRODUCTION

The Pacific Coast groundfish fishery occurs in the Exclusive Economic Zone (EEZ) in offshore waters, between 3 and 200 nautical miles (nm), off the west coast of the United States (U.S.) and includes a range of vessels that use midwater trawl gear, bottom trawl gear, fish pots, and hook-and-line to target demersal and pelagic species managed under the Pacific Coast Groundfish Fishery Management Plan (FMP). The Pacific Coast Groundfish FMP was prepared by the Pacific Fishery Management Council (Council) and has been in effect since 1982.

This Environmental Assessment (EA) provides an assessment of the effects of implementing the proposed action compared to the no action alternative (i.e. status quo). This EA is an integrated document that also addresses the statutory requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and other applicable laws. Section 10 of the Companion Manual for the National Oceanic and Atmospheric Administration′s (NOAA) Administrative Order (NAO) 216-6A recommends that the National Environmental Policy Act (NEPA) documents be combined with other analyses to support fishery management actions to produce one combined document (NOAA, 2017).

The analysis in this EA references and incorporates, where appropriate, the broader information and analysis contained in the Trawl Rationalization, Individual Fishing Quota (IFQs), and Co-ops Final Environmental Impact Statement (FEIS) for Amendment 20 to the Pacific Coast Groundfish FMP (Amendment 20 FEIS) that created the catch share program under which the proposed action is being taken. The Amendment 20 FEIS analyzed fishery-wide measures to achieve mortality targets, target healthy stocks, and mitigate the economic impacts. This EA also includes references to and incorporates the 2017–18 Harvest Specifications and Management Measures and Amendment 27 Environmental Assessment (2017–18 Harvest Specifications EA) that analyzed the impacts of harvest levels in the fishery for 2017 and 2018, and the 2015–16 Harvest Specifications and Management Measures FEIS (2015–16 Harvest Specifications FEIS), which provides much of the supporting documentation for the 2017–18 Harvest Specifications EA. Copies of the Amendment 20 FEIS, 2015–16 Harvest Specifications FEIS, and the 2017–18 Harvest Specifications EA, along with the Pacific Coast Groundfish FMP, are available on the Council′s website.[1]

1.1 Proposed Action

The proposed action considers an exempted fishing permit (EFP) for the Pacific Coast groundfish limited entry trawl fishery to collect information regarding if and how the modification of certain gear, time, and area restrictions for the Shorebased IFQ Program would impact the nature and extent of bycatch. The Council's Operating Procedure (COP) 19 defines EFPs as federal permits that authorize a vessel to engage in an activity that is otherwise prohibited by the MSA or other fishery regulations.

The National Marine Fisheries Service (NMFS) anticipates that information collected under the EFP will be used to support analyses for potential new, and modifications to existing, regulations. With many of the current gear and area regulations having been in place for more than ten years, it is difficult for NMFS, the Council, and industry to predict the impacts of modifying these regulations.

[1] http://www.pcouncil.org

This EFP could help demonstrate how modifying these regulations could influence how and where the fleet harvests their catch and what potential impacts today′s fleet could have if, and when, some of the current gear, area, or season date regulations are modified or eliminated. The proposed EFP is similar to the 2017 Trawl Gear Modification EFP (*See* Agenda Item F.5. Attachment 1, November 2016, for the application for the 2017 Trawl Gear Modification EFP), and expands upon the exemptions provided in that EFP. Where appropriate and available, this EA includes preliminary information collected through the 2017 Trawl Gear Modifications EFP.

Under the Council's usual process for considering and recommending groundfish EFPs (COP-19), EFPs are considered on a biennial cycle that is synchronized with the decision-making process for the groundfish harvest specifications and management measures. Approved EFP activities through this process are usually approved for one or both years of the biennial management cycle. This EFP is considered an "out of cycle" EFP, meaning the Council considered it outside of the biennial management cycle and, therefore, the impacts analysis regarding implementation of the proposed action is found in this document.

Although this EA analyzes the proposed EFP for the 2018 fishing year, NMFS does not intend to limit the applicable time period for this EA. NMFS anticipates that it may issue additional, similar, one-year EFPs that cover a portion or all of the components discussed in this EA based on the analysis in this EA as long as there are not substantial changes in the affected environment (e.g., status of the stock), components of the EFP (i.e., gear, area, and time restrictions), or unanticipated effects on the environment from permitting fishing activities that were not discussed in this analysis. If the Council considers additional, similar EFPs in subsequent years, the Council and NMFS will still consider what additional analysis would be necessary, if any, to address the requirements of NEPA and MSA. Any new information that results from these EFPs, even if preliminary, could be used to further inform potential impacts and should also be considered at that time if appropriate.

1.2 Purpose and Need of Proposed Action

The purpose of this action is to collect information to inform the potential effects of modifying certain gear, area, and time restrictions for the Shorebased IFQ Program and how these changes may impact the nature and extent of prohibited species bycatch, particularly salmon and eulachon.

Previously the Council and NMFS have considered requests from industry to eliminate or modify the specific regulations for which the applicants have applied for exemptions under this EFP. However, in most cases, the Council, Council's Advisory Bodies (i.e., the Groundfish Management Team, GMT), and NMFS did not believe the best available information, which was often 10 to 20 years old, supported some of those changes. Therefore, this action is needed to provide the Council and NMFS with information to evaluate several of the Council's proposed modifications to trawl gear restrictions, and obtain information on the potential impacts associated with a year-round, coastwide, non-whiting midwater trawl fishery. Implementation of the EFP early in the calendar year is needed to enable collection of bycatch data during this period, a time period for which NMFS has little data on bycatch for the re-emerging pelagic rockfish fishery.

1. 3 Development of this Proposed Action

Prior to implementation of the catch share program[2] in 2011 (75 Federal Register [FR] 78344, December 15, 2019), the Pacific Coast groundfish fishery was managed primarily by using per-vessel trip and cumulative landing limits (Pikitch et al. 1988; PFMC 1996; PFMC 2002) and area closures (PFMC and NMFS 2009). During this period of August 2001 through 2010, human observer coverage aboard shoreside trawl vessels was either nonexistent (Pikitch et al 1988) or limited to less than 25 percent of all trawl landings (Somers et al. 2016a).

Various gear, area, and time restrictions were implemented during the 1990's and 2000's to reduce bycatch and discarding of groundfish (e.g., juvenile fish) and non-groundfish (e.g., salmon), as well as limit access to overfished species and their rocky habitats (PFMC 2016), including:

- Increasing minimum mesh sizes
- Eliminating multi-walled codends
- Increasing chafing gear restrictions (57 FR 12212, April 9, 1992; PFMC 1994; PFMC 1996; PFMC 2000; 68 FR 11182, March 7 2003; PFMC 2016)
- Implementing Rockfish Conservation Areas (RCAs) for certain gear types (PFMC 2016)
- Requiring the use of selective flatfish trawl north 40°10̂′ North latitude (N. lat.) and shoreward of the trawl RCA (PFMC 2016)
- Prohibiting fishing outside the Pacific whiting primary season dates for midwater vessels
- Creating the ocean salmon conservation zone
- Creating the Klamath and Columbia rivers salmon conservation zones

However, discarding continued until implementation of a catch share program in 2011[3] that replaced the use of trip limits with IFQ and required 100 percent monitoring of all vessels, to encourage individual accountability for catch of target and non-target species, reduce catch of overfished, incidentally caught species, and increase economic efficiency. These controls were successful in reducing bycatch in the trawl fishery and since that time several rockfish species that were previously overfished have been declared rebuilt.

In light of the increased accountability of the catch share program and the increased abundance of previously overfished stocks, the Council has undertaken several actions to reestablish target fisheries for these stocks and to determine whether existing effort controls are still necessary. This includes a review, and possible modification, of the trawl RCA (*See* draft Amendment 28), proposed changes to gear restrictions (*See* Agenda Item G.8, Attachment 1: Preliminary Gear EIS), and a reallocation of widow rockfish quota shares to reflect target fishing history (82 FR 55775, November 24, 2017).

In 2016, the Council took final action on proposed changes to gear restrictions at its March (*See* Agenda Item G.8, Situation Summary) and June (*See* Agenda Item G.9, Situation Summary) meetings. Among the changes in its preferred action alternative, the Council recommended eliminating the selective flatfish trawl requirement, the minimum mesh sizes for bottom trawl and midwater trawl nets, restrictions on the use of chafing gear and codends, restrictions on fishing across management lines, and restrictions on the use of multiple trawl gears (bottom and midwater trawl) on the same trip to increase flexibility in gear configurations used to target now healthy groundfish stocks. This proposed action was originally scheduled to be implemented January 1, 2017, but NMFS

[2] More information on catch share programs can be found at http://www.nmfs.noaa.gov/sfa/management/catch_shares
[3] The 2011 catch share program is also known as the Trawl Rationalization Program.

has not yet completed its review of the Council's recommendations.

1.3.1 2017 Trawl Gear Modification EFP

In late 2016, industry members proposed a trawl gear EFP for 2017 to grant exemptions to the minimum mesh size requirement and exemptions to the requirement to use selective flatfish trawl shoreward of the trawl RCA north of 42° N. lat.—two of the eight original elements of the trawl gear modifications rulemaking package approved by the Council—for groundfish bottom trawl vessels in the Shorebased IFQ program.

NMFS supported the use of an EFP to collect information about the likely effects of the Council's proposed changes to gear regulations. As NMFS recognized in the draft EIS for the proposed regulatory changes to gear regulations, there is uncertainty about the effects of the gear configurations that may be used when these restrictions are lifted and therefore it is difficult to predict the resulting impacts on the environment, particularly with respect to catch of non-target and protected species (NMFS 2016). Through the EFP, NMFS would collect important information on gear configurations used and the nature and extent of bycatch to use in evaluating the Council's recommended changes to gear regulations.

Following initial discussion, the West Coast Seafood Processors Association, Environmental Defense Fund, Pacific Seafood, and the Oregon Trawl Commission, developed and submitted an EFP application for review by the Council at its November 2016 meeting. The Council reviewed the application and recommended it to NMFS for approval, with modifications intended to limit bycatch of non-target and protected species (*See* the Council's November 2016 Decision Document).

After NMFS's review, EFPs were issued to 32 vessels in March of 2017 to be fished through December 31, 2017, unless closed earlier at the discretion of the NMFS West Coast Regional Administrator. Only limited entry groundfish bottom trawl vessels received gear exemptions. Participating vessels were permitted to fish shoreward of the trawl RCA and north of 42° N. lat.[4] with any gear that meets the definition in regulation of small footrope gear. Large footrope gear is still prohibited shoreward of the western boundary of the trawl RCA. Small footrope includes selective flatfish trawl gear.

As of December 4, 2017, 11 vessels have made 56 EFP trips. These EFP vessels have landed over 2.5 million pounds of groundfish for just under $1.5 million in revenue, which factors out to an average of $0.53 per pound of Groundfish (Table 1). These same vessels only took 4 Chinook salmon, and no Coho salmon, green sturgeon, or eulachon. Non-EFP vessels fishing midwater, non-whiting under the current regulations began fishing in May during the Primary whiting season. These 16 vessels took 132 non-EFP trips, caught 20 Chinook salmon, over 10 million pounds of Groundfish, and generated just under $3 million in revenue. This factors out to on average $0.23 per pound of groundfish.

[4] Applicants had originally asked for the lower boundary of the EFP to extend to 40°10' N. lat., however, NMFS and the Council were concerned with the impacts on Klamath River fall Chinook salmon and the impacts that opening the area between 42° N. lat. and 40°10' N. lat. Subsequently, the applicants removed their request for this area to be included in the action area for the 2017 Trawl Gear Modification EFP.

Table 1. Catch by 2017 Trawl Gear Modification EFP vessels and non-whiting midwater non-EFP vessels as of December 4, 2017. Counts include number of vessels, trips, landings of groundfish, groundfish revenue, and landings of select protected and prohibited species.

Year	Group	Vessels	Trips	# of Chinook	# of Unidentified Salmon	# of Coho	# of Green Sturgeon	# of Eulachon	Groundfish landed (lb)	Groundfish Revenue ($)
2017	EFP	11	56	4	0	0	0	0	2571875	$1,374,806.62
2017	Midwater Non-Whiting	16	132	20	0	0	0	0	10437464	$2,965,767.07

1.3.2 Trawl Gear EFP in 2018

The applicants have requested a trawl gear EFP in 2018 that expands upon the exemptions granted in the 2017 EFP to continue collecting information on gear configurations and impacts to salmon and eulachon that may arise from the Council's proposed changes to gear regulations, as well as the potential removal of certain time and area regulations. Discussions of the 2018 EFP began in June 2017. In September 2017, the Council received an application for the trawl gear EFP from the West Coast Seafood Processors Association, Environmental Defense Fund, Oregon Trawl Commission, and Midwater Trawlers Cooperative.[5] An opportunity for public testimony was provided during the Council meeting, after which the Council recommended the EFP with several changes. Specifically, the Council narrowed the number of exemptions they recommended to include in the EFP (*See* the Council's September 2017 Decision Document and Agenda Item E.4.b, Supplemental Staff Report, September 2017). After the Council meeting, the applicants updated their application based on the Council's recommendations and resubmitted a final version of the application to NMFS on October 4, 2017. A copy of the final version of the application is included in Appendix A.

After NMFS received the final version of the application, NMFS published a notice of receipt of the EFP in the Federal Register on November 15, 2017 (82 FR 52882), to collect additional public comments on the EFP application and the Council's recommendation. Public comments were collected through November 30, 2017; however, none were received. NMFS reviewed the application, the Council's recommendation, and the public comments received during public testimony at the June and September 2017 Council meetings, and developed a proposed action for the EFP that is based on the recommendation, consideration of the comments, and the agency's perspective on reducing bycatch while still collecting valuable information on impacts. This document assesses the potential effects of the proposed action when compared to the no action alternative.

[5] The Midwater Trawlers Cooperative were not applicants on the 2017 Trawl Gear Modifications EFP.

1.4 Action Area

The Pacific Coast groundfish fishery action area includes the U.S. West Coast EEZ and state waters of the Pacific Ocean. Although state-managed fisheries are neither interrelated to, nor interdependent upon, the proposed action, vessels participating in the federally managed fisheries transit through state waters and land fish within states. Thus, some effects of federally managed groundfish fishery occur within state waters and their associated communities. The geographic area of the EEZ specific to where the proposed action would occur includes all areas north of 40°10′ N. lat., and within the trawl RCA south of 40°10′ N. lat. and seaward of the eastern (shoreward) boundary of the trawl RCA.

Figure 1 shows the areas where fishing occurs, as well the current regulations for those areas as they relate to some of the exemptions in the proposed action, specifically those exemptions that are area dependent (selective flatfish trawl gear, coastwide and year-round non-whiting midwater trawling inside the RCA). Figure 2 shows the areas where fishing may occur under the EFP and how the exemptions provided to participating vessels for those areas may change from Figure 1. Additional exemptions, such as multiple gears onboard and fishing before all previous catch is stowed would apply to all participating vessels in all areas. For more information on each of the exemptions, see Section 2.2 of this document.

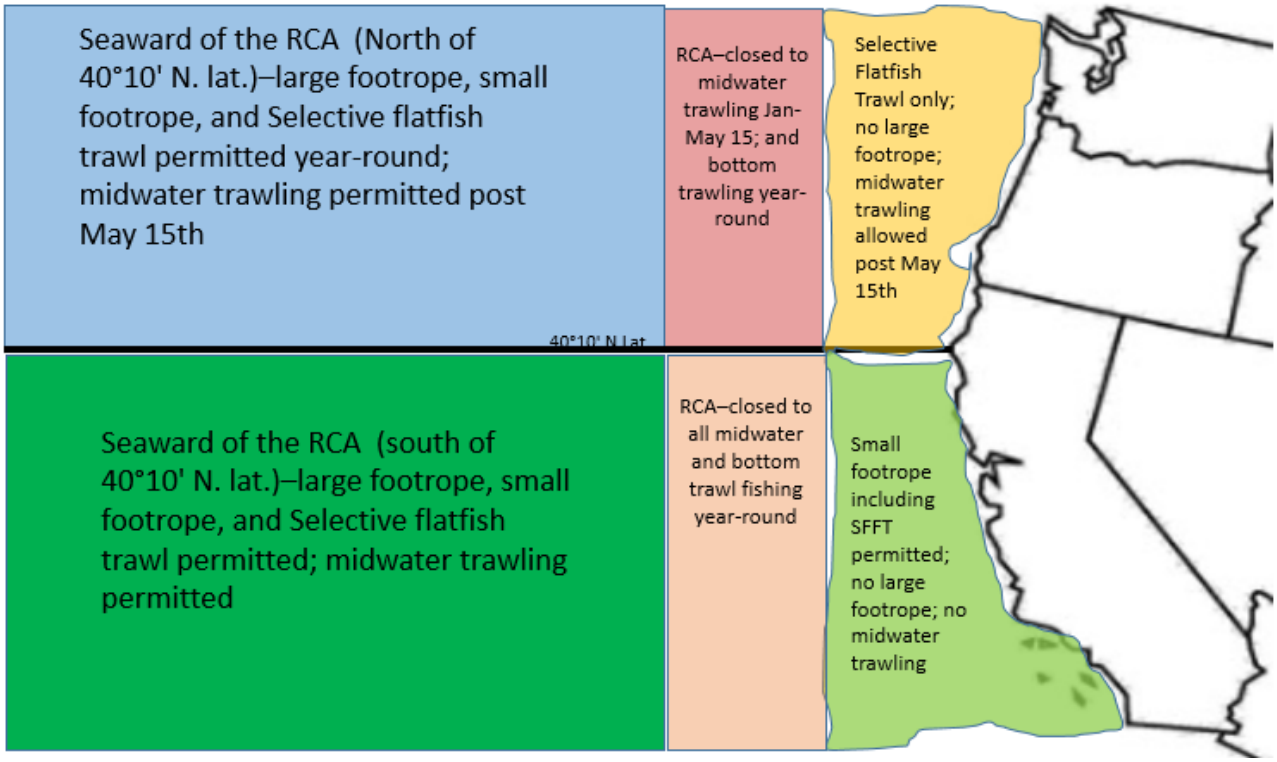

Figure 1. West Coast of the United States and current federal regulations regarding the use of selective flatfish trawl gear and where groundfish bottom trawl and midwater trawl gear are currently allowed to be used.

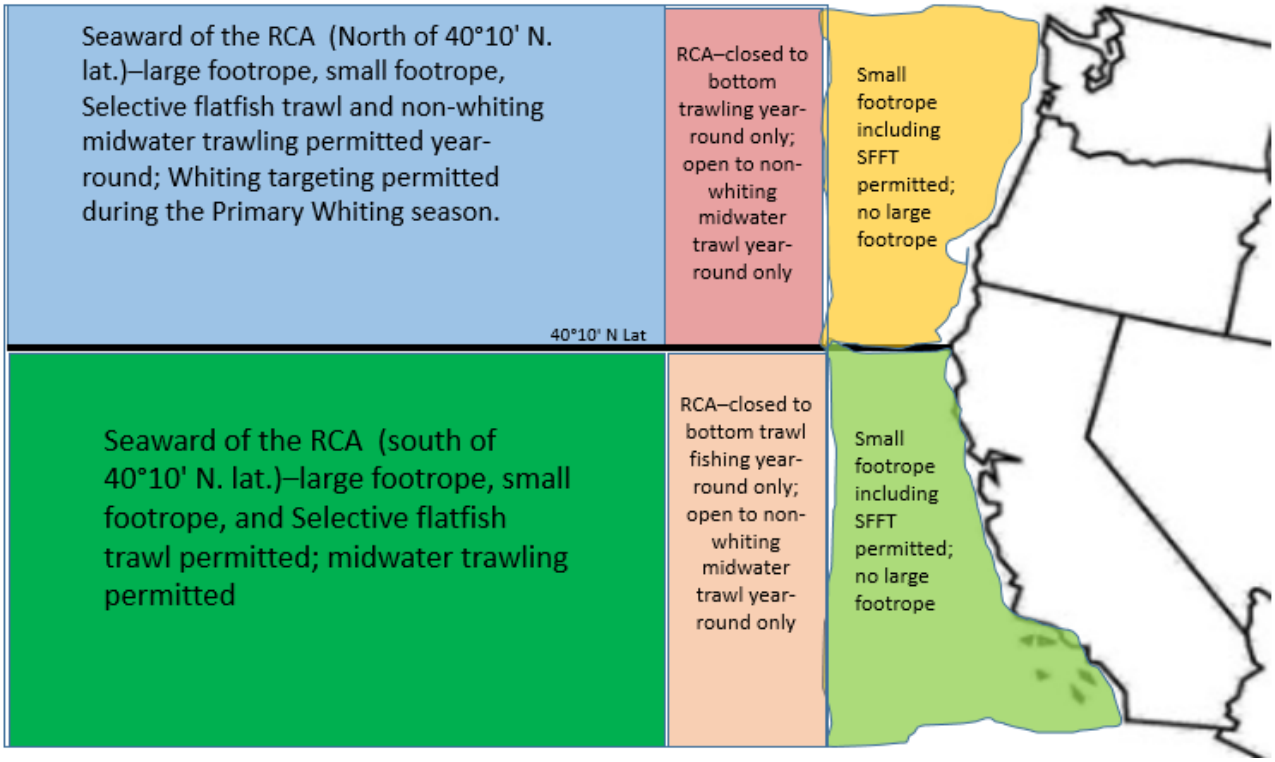

Figure 2. West Coast of the U.S. and proposed exemptions under this EFP regarding the use of selective flatfish trawl and where groundfish bottom trawl and midwater trawl gear could be used.

CHAPTER 2—DESCRIPTION OF ALTERNATIVES

This chapter describes the proposed action alternative and the no action alternative analyzed in this document.

2.1 Alternative 1—No Action

Under the no action alternative, NMFS would not issue an EFP to test the removal of certain trawl gear, area, and time restrictions and would not collect information about resulting bycatch. Bottom trawl vessels would be required to continue to comply with existing regulations to use a selective flatfish trawl gear when fishing shoreward of the trawl RCA north of 40°10′ N. lat. (§ 660.130(b)(3)(ii)(A)) and to comply with the minimum mesh size of 4.5 inches (§ 660.130(b)(2)).

Midwater trawl vessels would continue to comply with the regulations at § 660.130(e)(4)(i) that limit fishing seaward, inside, and shoreward of the trawl RCA in the area north of 40°10′ N. lat. to the Pacific whiting primary season only (§§ 660.112(b)(x) and 660.130(c)(3)). Midwater trawl vessels would continue to be prohibited from fishing south of 40°10′ N. lat. inside and shoreward of the trawl RCA, but would be allowed seaward of the trawl RCA year-round (§ 660.130(e)(4)). Additionally, midwater trawl vessels would be required to comply with the minimum mesh size of 3 inches (§ 660.130(b)(2)).

Both groundfish bottom trawl vessels and midwater trawl vessels would continue to comply with regulations at §§ 660.130(c)(4)(i)(A) and 660.130(c)(4)(ii)(A) that prohibit the carrying and use of both midwater and bottom trawl gear on the same trip and the prohibition on bringing a haul onboard before a previous haul is stowed (§§ 660.660.112(b)(xi) and 660.140(h)(2)(viii)(I)). Vessels would still be required to make all declarations from port and offload all catch before beginning a new fishing strategy. All regulations related to discarding, handling, and retaining of catch, including prohibited and protected species, would stay as are currently required in regulation.

2.2 Alternative 2—Exempted Fishing Permit (*Preferred Alternative*)

Under the action alternative, NMFS would permit up to 60[6] vessels to receive exemptions to several prohibitions and requirements for limited entry groundfish bottom trawl and non-whiting midwater trawl vessels in the shorebased IFQ fishery. Participating vessels would not be exempt from any other regulations, including other area and gear restrictions, cumulative trip limits for non-IFQ species, and the requirement to have IFQ to cover all catch of IFQ species. Table 2 provides a summary of the current regulations and the proposed action exemptions, including the gear type for which the exemption applies, as well as the regulation citation and the section of this document that further describes the exemptions.

[6] Sixty vessels refers to the total number of vessels that may be permitted under this EFP in 2018. When applying for an EFP permit, vessels were also asked if they planned to fish north or south of 42° N. lat. Of the 60 vessels, up to 10 would be permitted to fish south of 42° N. lat. in 2018.

Table 2. No action alternative and the proposed action alternative with regulation citations and section numbers.

	Requirement in Current Regulations (No Action)	Proposed Action Exemption (Preferred Alternative)	Trawl Gear Type
Mesh Size (Section 2.2.1)	Retain minimum mesh size requirements of 4.5 inches for bottom trawl vessels (§ 660.130(b)(2)) and 3 inches for midwater trawl vessels (§ 660.130(b)(4)	No minimum mesh size for bottom or midwater trawl groundfish nets	All
Mesh Size (Section 2.2.1)	Mesh size means the opening between opposing knots (§ 660.11)	Mesh size means the opening between opposing knots or *corners in knotless webbing*	All
Mesh Size (Section 2.2.1)	Minimum mesh size means the smallest distance allowed between the inside of one knot to the inside of the opposing knot, regardless of twine size (§ 660.11)	Minimum mesh size would mean the smallest distance allowed between the inside of one knot *or corner* to the inside of the opposing net *or corner*, regardless of twine size	All
Selective Flatfish Trawl (Section 2.2.2)	Maintain definition of selective flatfish trawl at § 660.130(b) as …a two-seamed net with no more than two riblines, excluding the codend…	Revise the definition of selective flatfish trawl to read as…allow a two-seamed *or four-seamed* net with no more than *four*-riblines, excluding the codend…	Bottom Trawl
Selective Flatfish Trawl (Section 2.2.2)	Require the use of selective flatfish trawl gear shoreward of the trawl RCA north of 40°10′ N. lat. (§ 660.130(c)(2)(i)	Require small footrope trawl but all the use of selective flatfish trawl gear seaward and shoreward of the trawl RCA both north and south of 40°10′ N. lat.	Bottom Trawl
Selective Flatfish Trawl (Section 2.2.2)	Prohibits, north of 40°10′ N. lat., the use of small footrope trawl gear (except selective flatfish trawl gear) to fish for groundfish or have small footrope trawl gear (except selective flatfish trawl gear) onboard while fishing shoreward of the trawl RCA (§ 660.130(c)(2))		
Spatial Closure (Section 2.2.3)	Prohibits groundfish bottom trawl vessels from fishing inside the boundaries of the trawl RCA (§660.130(e)(4) and midwater trawl vessels from fishing inside the boundaries of the trawl RCA south of 40°10′ N. lat.	Midwater trawl vessels on an EFP trip would be allowed to fish inside the trawl RCA coastwide during the effective dates of this EFP. Midwater trawl vessels are still prohibited from fishing shoreward of the trawl RCA south of 40°10′ N. lat. Bottom trawl vessels are still prohibited from fishing inside the trawl RCA coastwide.	Midwater Trawl
Temporal Closure (Section 2.2.4)	Prohibits the use of midwater groundfish trawl gear outside the Pacific whiting primary season dates for the Pacific whiting IFQ fishery (§§ 660.112(b)(x) and 660.130(c)(3)).	Vessels fishing on an EFP trip using midwater groundfish trawl gear would be permitted to fish north of 40°10′ N. lat. in all areas for the effective dates of the EFP.	Midwater Trawl
Multiple Gears On Board (Section 2.2.5)	Maintain requirement that vessels using trawl gear may only declare one of the trawl gear types listed in paragraph (d)(5)(iv)(A) of this section on any trip as prohibited by regulations at § 660.13(d).	Both groundfish bottom trawl and midwater trawl gear may be declared on the same EFP trip.	All

	Requirement in Current Regulations (No Action)	Proposed Action Exemption (Preferred Alternative)	Trawl Gear Type
Multiple Gears On Board (Section 2.2.5)	Maintain prohibition for north or south of 40°10′ N. lat., vessels may not have both bottom groundfish trawl gear and midwater groundfish trawl gear onboard simultaneously (§ 660.13(d)).	Vessels may have and fish with both groundfish bottom trawl gear and midwater trawl gear during the same EFP trip.	All
Multiple Gears On Board (Section 2.2.5)	Maintain prohibition for north of 40°10′ N. lat., a vessel may have more than one type of midwater groundfish trawl gear on board, either simultaneously or successively, during a cumulative limit period (§ 660.13(c)(4)).	North and south, a vessel may have on board and fish more than one type of groundfish trawl gear during the same trip.	All
Multiple Gears On Board (Section 2.2.5)	Maintain prohibition for south of 40°10′ N. lat., a vessel may not have small footrope trawl gear and any other type of bottom trawl gear on board simultaneously (§ 660.130(c)(4)).		
Multiple Gears On Board (Section 2.2.5)	If a vessel fishes in the trawl RCA, it may not participate in any fishing on that trip that is prohibited within the trawl RCA. (§ 160(e)(4)(iv)).	If a vessel fishes in the trawl RCA, it may also fish outside the trawl RCA with groundfish trawl gear on that same trip that is prohibited within the trawl RCA	All
Fishing Before Previous Catch is Stowed (Section 2.2.6)	Continue to prohibit a vessel from bringing a haul on board before all catch from a previous haul has been stowed (§ 600.112(b)(1)(xi)).	Prohibition removed.	All
Fishing Before Previous Catch is Stowed (Section 2.2.6)	Continue to require vessels to …(I) stow all catch from a haul before the next haul is brought aboard as is required under the regulations for the Observer Program at § 660.140(h).	Vessels would not be required to stow all catch from a haul before the next haul is brought aboard. However, they must still abide with all other requirements at § 660.140(h).	All
Protected and prohibited species retention (Section 2.2.7)	Vessels fishing in the Shorebased IFQ program must have 100 percent observer coverage and may discard all protected and prohibited species once the observer has had the opportunity to take samples.	Vessels would be required to maintain 100 percent observer coverage, but may do so through human observers or electronic monitoring. Vessels using human observers would not receive an exemption regarding the retention and discarding of prohibited and protected species. However, vessels fishing with electronic monitoring, must retain all salmon and eulachon and must store it separately and land it separately by haul.	All
Declaration Reporting (Section 2.2.8)	The operator of a registered limited entry vessel must provide a declaration report to NMFS OLE prior to leaving port (§ 660.13(d)).	Vessels would be required to declare to NMFS OLE each time they switch trawl gear types while on an EFP trip and would not be required to return to port to do so.	All
Declaration Reporting (Section 2.2.8)	Maintain prohibition on declaring more than one gear type on for vessels using trawl gear in the Shorebased IFQ program on any trip (§ 660.13(d)(5)(iv)).	Vessels would be required to declare to NMFS OLE each time they switch trawl gear types while on an EFP trip.	All

2.2.1 Mesh size

In the late 1980s, concerns about bycatch of the least productive groundfish species lead to a multi-phase research study conducted by Pitkitch et al. in 1990 to examine codend mesh size and to assess the potential implications of changes in the mesh size regulations. Codend mesh size was the focus of the study because it may have a large impact on species and size selectivity (i.e., which fish are caught and which fish escape the net). When the current mesh size regulations were first implemented in the 1990s, mesh size restrictions were used to increase mean retention length and to reduce fishing mortality for smaller fish, thus increasing survival to maturity. Increasing the size selectivity was also expected to reduce bycatch of non-target groundfish species.

The current groundfish regulations at § 660.130(b)(2) define minimum mesh size requirements that apply throughout the net. Minimum mesh size, defined at § 660.11, is the smallest distance allowed from the inside of one knot to the inside of the opposing knot, regardless of twine size. The minimum mesh size for groundfish bottom trawl is 4.5 inches throughout the trawl; for midwater trawl, the minimum mesh size is 3.0 inches. Midwater trawl has additional mesh size restrictions at § 660.130(b)(4).[7] These added restrictions affect the first 20 feet immediately behind the footrope or headrope where bare ropes or mesh of 16-inch minimum mesh size must completely encircle the net.

Vessels fishing on an EFP trip would be exempt from the minimum mesh requirements for groundfish bottom trawl gear of 4.5 inches and midwater trawl gear of 3 inches (§ 660.130(b)(2)). Midwater trawl vessels fishing on an EFP trip would still be required to comply with the additional mesh size restrictions. Eliminating the minimum mesh size requirements would provide fishermen with the flexibility to configure their gear to enable efficient catch of target species, including strategic use of smaller mesh sizes to facilitate the use or construction of excluder devices (e.g., flexible grates). For example, small meshes may be needed to effect herding or guiding fish, as well as to reinforce the net where the excluder or guiding panels are attached to reduce wear on the net meshes.

Vessels fishing under the EFP would also be subject to a revised definition of mesh size to include measurements of knotless webbing. This revision would improve clarity and enforceability of the regulations relative to either knotted or knotless trawl webbing.

2.2.2. Selective Flatfish Trawl Gear

Selective flatfish trawl is a type of small footrope trawl developed over several years through research trials and fishery-scale testing. The gear was developed to maintain a nearshore flatfish trawl fishery while reducing the non-target catch of canary rockfish and other species that were overfished at the time (PFMC 2004).[8]

Originally tested through an EFP in 2003, the selective flatfish trawl features a headrope set back from a flattened net body to capture low-swimming flatfish while allowing rockfish, particularly canary rockfish, to escape over the upper edge of the trawl net. Since 2005, the groundfish regulations at §§ 660.130(c)(2) and 660.130(c)(2)(i) have required the use of selective flatfish trawl gear

[7] The additional restrictions for midwater trawl were implemented in the mid-1990s, along with other measures, to better ensure that midwater trawl would not come in contact with the seafloor by making the gear impractical or ineffective for fishing on the bottom.
[8] See Figure 1 to Part 660, Subpart D for a diagram of a selective flatfish trawl net.

shoreward of the trawl RCA north of 40°10′ N. lat. The selective flatfish trawl gear has been allowed, but not required, shoreward of the trawl RCA south of 40°10′ N. lat. The use of selective flatfish trawl gear has been allowed seaward of the trawl RCA coastwide, but it is not required in these deeper waters. Regulations at § 660.130(c)(2) further prohibit vessels fishing north of 40°10′ N. lat. from having small footrope trawl gear on board, other than selective flatfish trawl gear, while fishing shoreward of the trawl RCA.

For vessels fishing on an EFP trip, the selective flatfish trawl gear definition would be modified to allow either a two-seam or a four-seam net with up to four riblines. Vessels fishing on an EFP trip would be exempt from this area restriction north of 40°10′ N. lat. The selective flatfish trawl gear would not be required shoreward of the trawl RCA north of 40°10′ N. lat. This area restriction would be replaced with a small footrope requirement (like the requirement south of 40°10′ N. lat.). Requirements shoreward of the trawl RCA south of 40°10′ N. lat. and seaward of the trawl RCA coastwide would remain. These exemptions to the selective flatfish trawl gear requirements would allow fishermen to configure the gear in a way that is the most efficient to catch their target rockfish species and avoid those species they are not seeking.

2.2.3 Spatial Closure

As described in Section 3.1.1.2 below, RCAs were first introduced in 2002 and were intended to reduce bycatch of overfished species. Previously, midwater trawl was used primarily to target Pacific whiting, but was also used to target other groundfish species, and was permitted to do so inside the boundaries of the trawl RCA coastwide during the Pacific whiting season only. Since implementation of the catch share program in 2011, midwater trawl gear has been increasingly used to target non-whiting groundfish north of 40°10′ N. lat. Additionally, when the catch share program was implemented, many of the pre-IFQ management measures relating to time and area management were retained in regulations causing some confusion and inconsistencies in management restrictions relating to midwater trawl gear. In 2015, NMFS published a final rule (80 FR 77267, December 14, 2015) to clarify these regulations as they related to midwater trawling, non-whiting and whiting.

Current regulations permit fishing using midwater trawl gear inside the trawl RCA north of 40°10′ N. lat. during the Primary whiting season only. Groundfish bottom trawl vessels are prohibited from entering the trawl RCA except for continuous transit. Vessels fishing on an EFP trip would be exempt from the trawl RCA closures at § 660.130(e)(4)(i) only when targeting non-whiting stocks with midwater groundfish trawl gear. Vessels fishing on an EFP trip may use midwater groundfish trawl gear within the trawl RCA both north and south of 40°10′ N. lat. during the effective dates of the EFP.[9] Boundaries for the trawl RCA north and south of 40′10°N. lat. applicable to groundfish trawl vessels throughout the year are provided in the header to Tables 1 (North and South) of subpart D and may be modified by NMFS inseason pursuant to §660.60(c), subpart C. Vessels fishing on an EFP trip with groundfish bottom trawl gear would still be prohibited from fishing inside the trawl RCA in accordance with regulations at § 660.130(e)(4).

2.2.4 Temporal Closure

Season start date management effectively began in 1991 when the Pacific whiting fishery converted

[9] As discussed more in the effects section throughout Chapter 3, to mitigate against impacts to Chinook salmon and eulachon, the number of participants permitted to fish south of 42° N. lat. is limited less than 10 vessels in 2018.

from a foreign ship processing fishery to a domestic fishery, including at-sea and shorebased sectors. January 1 was the effective opening date for the domestic whiting fishery, but fish availability kept it dormant until April through June (PFMC 1991). In 1992, the opening date was set at April 15, which was the approximate start of the actual fishing seasons (PFMC 1995). In 1997, the Council adopted, and NMFS approved, a preferred alternative that changed the opening date for the northern shorebased fishery to June 15, and moved the start date for the central fishery to April 1. Additionally, the 1997 Council action established a framework for modifying the season opening dates for the Primary whiting fishery on an annual basis. With implementation of the catch share program, vessels fishing north of 40°10′ N. lat. with midwater trawl gear were provided the opportunity to fish within the trawl RCAs whenever the whiting season was open and year-round seaward of the trawl RCA south of 40°10′ N. lat.

Vessels fishing on an EFP trip using midwater trawl gear to target non-whiting species would be exempt from regulations at § 660.112(b)(x) and § 660.130(c)(3), which currently prohibit the use of midwater groundfish trawl gear outside of the Pacific whiting primary season dates for the Pacific whiting IFQ Fishery. Vessels fishing on an EFP trip using midwater groundfish trawl gear to target non-whiting species would be permitted to fish in all areas north of 40°10′ N. lat. and within, and seaward, of the trawl RCA south of 40°10′ N. lat. for the effective start date of this EFP until it is closed in accordance with Section C.2 of the EFP terms and conditions (Appendix B).

2.2.5. Multiple Gears Onboard

Current trawl regulations define the following trawl gear types: large footrope trawl, small footrope trawl, selective flatfish trawl, and midwater trawl. Restrictions on the use and simultaneous possession of each gear type vary, depending on whether a vessel is fishing north or south of 40˚10′ N. lat., as well as shoreward of, seaward of, or inside the trawl RCA.

Limited entry trawl vessels were allowed to fish with multiple trawl gears during the same trip prior to the development of RCAs (i.e., midwater and bottom trawls). For example, the 2002 groundfish trawl regulations showed the following: “If a vessel has both small footrope trawl and midwater trawl gear on board, the landing is attributed to the most restrictive gear-specific limit, regardless of which gear type was used” (67 FR 1555, January 11, 2002).

NMFS took emergency action on September 3, 2002, to define new depth-based management measures that created a darkblotched rockfish conservation area (DBCA) (67 FR 57973, September 3, 2002). The Council subsequently sought a new management strategy, beginning in 2003, to establish large-scale, depth-related closures (i.e. RCAs) to prohibit both commercial and recreational fishing across much of the continental shelf. To ensure that bottom trawl gear was not used within the trawl RCA, a new regulation was published in 2003 to allow no more than one type of trawl gear on board during a single fishing trip (68 FR 908, January 7, 2003). Regulations requiring vessel monitoring systems (VMS) (Agenda Item G.3.b, Supplemental NMFS Report, November 2002), paired with vessel declarations, became effective on January 1, 2004, to ensure adequate monitoring and to enforce these new gear-specific area restrictions (68 FR 62374, November 4, 2003).

Under the current regulations, north of 40°10′ N. lat. a vessel may not have both groundfish trawl gear and non-groundfish trawl gear on board simultaneously, and a vessel may not have both bottom trawl gear and midwater trawl gear on board simultaneously. A vessel may, however, have more than

one type of limited entry bottom trawl gear on board, either simultaneously or successively, during a cumulative limit period, with one exception. Only a selective flatfish trawl is allowed onboard when fishing shoreward of the trawl RCA (§ 660.130(c)(2)). Finally, a vessel may have more than one type of midwater groundfish trawl gear on board, either simultaneously or successively, during a cumulative period.

South of 40°10′ N. lat., a vessel may not have both groundfish trawl gear and non-groundfish trawl gear on board simultaneously, may not have both bottom trawl gear and midwater trawl gear on board simultaneously, and may not have small footrope trawl gear and any other type of bottom trawl gear on board simultaneously. South of 40°10′ N. lat., selective flatfish trawl gear is permitted, but not required, shoreward of the trawl RCA. The use of selective flatfish trawl gear is also permitted seaward of the trawl RCA.

Vessels fishing on an EFP trip would be exempt from the prohibition on having both groundfish bottom trawl gear and midwater trawl gear onboard simultaneously north of 40°10′ N. lat. as defined at § 660.130(c)(4)(i)(A), or south of 40°10′ N. lat. as defined in paragraph § 660.130(c)(4)(ii)(A). Additionally, vessels fishing shoreward of the RCA and north of 40°10′ N. lat. would be exempt from the prohibition on having bottom trawl gear, other than selective flatfish trawl gear, on board (§ 660.130(c)(2)). Vessels fishing on an EFP would be allowed to have any type of bottom trawl (small/large footrope or selective flatfish trawl) and midwater trawl gear on board simultaneously and would be allowed to fish any of these trawl gears during a single EFP trip as long as the appropriate declaration is made when gears are changed. For species managed with trip limits, crossover provisions, and gear-specific trip limits, all current regulations would remain in effect. Vessels fishing on an EFP using multiple gears would be required to separate catch by gear type, keep catch separate until landing, and report catch on separate electronic fishing tickets by gear type.

2.2.6 Fishing Before Previous Catch is Stowed

Under current regulations, vessels are prohibited from bringing a new haul on board the deck until all catch from the previous haul has been stowed. This requirement was added to the regulations when the catch share program was implemented in 2011 to aid observers in carrying out their duties (75 FR 78344, December 15, 2010).

Vessels fishing on an EFP trip would be exempt from this prohibition, as well as the requirement under vessel responsibilities relative to observers. However, catch from separate hauls would have to stay separate on deck until the observer could complete the haul-specific collection of catch for sampling. Otherwise, it could reduce the accuracy of fishery data used for stock assessments and protected species management. For vessels fishing with electronic monitoring, catch from different hauls must be kept separate on deck until fully documented according to protocols established in the specific vessel's monitoring plan. All vessels would still be required to land any catch that was caught using different gears separated by gear type, as is required in Section 2.2.5 of this document. Removing this restriction is expected to allow for greater vessel efficiency.

2.2.7 Protected and Prohibited Species

Prohibited species are defined in regulation at § 660.11 as those species and species groups whose retention is prohibited unless authorized by regulations or other applicable law and include any

species of salmonid, Pacific halibut, Dungeness crab caught seaward of Washington or Oregon, and groundfish species or species groups under the Pacific Coast Groundfish FMP for which quotas have been achieved and/or the fishery closed. Protected species, also defined at § 660.11, mean those species, other than prohibited species, that are protected under federal law, including species listed under the Endangered Species Act (ESA), marine mammals protected under the Marine Mammal Protection Act (MMPA), and bird species protected under the Migratory Bird Treaty Act (MBTA).

Under the current federal regulations (§§ 660.112(a)(2) and 660.140(g)), all vessels in the Shorebased IFQ program are required to maintain 100-percent monitoring on all trawl IFQ trips. Additionally, these vessels, with the exception of vessels on Pacific whiting IFQ trips engaged in maximized retention, are prohibited from retaining protected and prohibited species catch. All protected and prohibited species catch on these vessels must be discarded at sea after an observer has had the opportunity to take the required biological data and samples as is required at § 660.140(h)(2)(viii).

Under the EFP, participating vessels would still be required to maintain 100-percent monitoring using either human observers or electronic monitoring. Vessels using human observers would still be required to follow all procedures and protocols for the Shorebased IFQ program, regarding the retention and discarding of protected and prohibited species, as laid out by the West Coast Groundfish Observer Program (WCGOP). Vessels fishing on an EFP trip that are using electronic monitoring would be required to retain all salmon and eulachon. Salmon and eulachon must be sorted and stored by haul according to the specific vessel's monitoring plan. The disposition of salmon and eulachon landed at first receivers (i.e. fish buyers) must be consistent with the regulations at § 660.140(g)(3)(i) (a) through (d). The purpose of retaining all salmon and eulachon on electronic monitoring trips is to ensure all biological data and samples that would be taken at sea by observers are taken on shore and all salmon catch is attributed to a haul.

2.2.8 Declarations

Current regulations at § 660.70 define depth-based management measures, known as groundfish conservation areas (GCAs). The GCAs are large-scale, depth-based management areas used to prohibit or restrict commercial groundfish fishing. These areas were specifically designed to reduce the catch of overfished species while allowing healthy fisheries to continue in areas and with gears where little incidental catch of overfished species is likely to occur. GCAs are defined by points of latitude and longitude. The RCAs are a sub-group of GCAs that are defined by points that approximate fathom curves for depth ranges where overfished rockfish species are commonly found. See section 3.1.2.2 on closed areas for a full description of the trawl RCA.

To ensure the integrity of the GCAs and RCAs, a pilot VMS program was implemented on January 1, 2004. The pilot program required vessels registered to Pacific Coast groundfish fishery limited entry permits to carry and use VMS transceiver units while fishing off the coasts of Washington, Oregon and California. The VMS program was expanded on January 1, 2007, to include all open access groundfish fisheries in addition to the limited entry fisheries.

To support the VMS monitoring system, declaration reports must be submitted to NMFS Office of Law Enforcement (OLE). According to current regulations at §§ 660.13(d) and 660.14, declaration reports are submitted to NMFS OLE by telephone and are valid until revised by the vessel operator.

Vessel operators making declaration reports receive a confirmation number that verifies that the reporting requirements were satisfied. After a vessel has made a declaration report to NMFS and has been confirmed for a specific gear category, it cannot fish with any gear other or in any other fishery than the gear type and fishery that has been declared for the vessel. If a vessel operator intends to use the vessel to fish in a different fishing category, a new declaration report must be submitted to revise the old declaration report.

Vessels fishing on an EFP trip are still required to make the appropriate declarations as required in regulation. However, because vessels fishing under this EFP would be exempt from the regulations that prevent them from carrying two different types of trawl gear onboard (e.g., groundfish bottom trawl and midwater trawl gear) and would be able to carry and fish both gears on the same EFP trip, vessels using multiple gears would also be required to make a declaration any time they change gears, and they would be exempt from the requirement at § 660.130(d)(5) to make the declarations from port and from the prohibition on declaring more than one type of trawl gear listed in paragraph (d)(5)(iv)(A) of the same section on any trip. Vessels would still be required to make a declaration in accordance with Section J.1 of the terms and conditions of this EFP (Appendix B). This prohibition is expected to increase efficiency and possibly safety of the vessel.

2.2.9 Proposed Action Mitigation Measures

In addition to the above exemptions (Sections 2.2.1 through 2.2.8) that would be provided to vessels fishing under this EFP, there are also salmon and eulachon bycatch mitigation measures that were included in the application and are now part of the proposed action. These measures have two purposes: (1) to limit the impacts on salmon and eulachon stocks from the EFP, and (2) to space out the fishing so that information is being collected throughout most of the year, and particularly the first part of the year (pre-May 15) for which NMFS has little information. These mitigation measures build on those already included in the 2017 Trawl Gear Modification EFP.

2.2.9.1 Closed Areas

All vessels fishing on an EFP trip would be prohibited from fishing inside the Columbia River Salmon Conservation Zone and the Klamath River Salmon Conservation Zone. Both of these zones, defined in regulation at § 660.131(c), make up a combined 44,000 hectares (170 square miles). The Columbia River Salmon Conservation Zone is defined as the ocean area surrounding the Columbia River mouth bounded by a line extending for 6 nm due west from North Head along 46°18′ N. lat. to 124°13.30′ West longitude (W. long.), then southerly along a line of 167 True to 46°11.10′ N. lat. and 124°11′ W. long. (Columbia River Buoy), then northeast along Red Buoy Line to the tip of the south jetty. The Klamath River Salmon Conservation Zone is defined in the same section of the regulations as the ocean area surrounding the Klamath River mouth bounded on the north by 41°38.80′ N. lat. (approximately 6 nm north of the Klamath River mouth), on the west by 124°23′ W. long. (approximately 12 nm from shore), and on the south by 41°26.80′ N. lat. (approximately 6 nm south of the Klamath River mouth).

The purpose of maintaining these closures is to prevent vessels fishing under this EFP from fishing in areas where there has been known high levels of salmon bycatch in the past. Additionally, according to Chapter 3 of the Amendment 19 FEIS for essential fish habitat (EFH), the two rivers associated with these closures, the Columbia River and the Klamath River, support some of the

largest runs of returning salmon annually. As discussed further in the effects section at 3.2.3.1, the Columbia River mouth is a known aggregation area for green sturgeon and an area of known migration for eulachon. Closing these areas will also help mitigate against impacts to these protected species.

2.2.9.2 Bycatch Harvest Guidelines

In addition to the closed areas described above, vessels fishing under this EFP would be subject to a bycatch harvest guideline and two sub-harvest guidelines meant to mitigate against potential impacts to Chinook salmon, as well as spread fishing across the calendar year for the purposes of data collection.

In the 2017 Trawl Gear Modification EFP, participating vessels were subject to two different bycatch limits. The first limited the total number of Chinook salmon caught for the EFP, as well as the non-EFP, non-whiting midwater fishery. This limit was determined to be 3,547 Chinook salmon based off an analysis completed by the GMT at the Council's November 2016 meeting (Agenda Item F.5.a, Supplemental GMT Report, November 2016) and informed by both WCGOP haul level data from 2011–15 for midwater trawls, and observed haul level data from bottom trawls targeting rockfish prior to implementation of the selective flatfish trawl gear requirement in 2005.

In addition to the harvest guideline, the Council recommended the EFP in 2017 included a sub-harvest guideline to apply to only a portion of the year. This sub-harvest guideline of 800 Chinook salmon, or two-twelfths of the total harvest guideline was allowed to be taken prior to May 15, 2017.[10] The sub-harvest guideline was meant to ensure that the EFP did not have disproportionate impacts on Chinook salmon present in the ocean earlier in the year. At the time the sub-harvest guideline was created there was insufficient information about expected effort for NMFS and the GMT to generate a bycatch estimate for the earlier part of the year (i.e., pre-May 15). In addition, there are no observed midwater trawl (or non-selective flatfish trawl) bycatch rates for this part of the year with which to generate a bycatch estimate because midwater trawling has not been allowed during this time of the year since the inception of the observer program (2002). Therefore, the 2017 Trawl Gear Modification EFP included two harvest guidelines.

Under the proposed action, participating vessels would be subject to both the harvest guideline of 3,547 Chinook salmon, the sub-harvest guideline of 800 Chinook salmon from the effective date of the EFP to May 15, and a new sub-harvest guideline of 80 Chinook salmon to apply to only those catches that occur south of 42° N. lat. but for the full effective dates of the EFP. Meaning that if a participating vessels wants to participate in fishing south of 42° N. lat. at any point during the effective dates of the EFP, they would be subject to the 80 Chinook salmon sub-harvest guideline for that area. If vessels fishing south of 42° N. lat. begin to approach the 80 Chinook salmon sub-harvest guideline or breach it, the EFP could be closed in that area and would remain closed for the remainder of the year; fishing in the north would remain open as long as catch of salmon remained within those harvest and sub-harvest guidelines. These harvest and sub-harvest guidelines are meant to reduce potential impacts on Chinook salmon and are discussed further in Chapter 3.

[10] The 2017 Trawl Gear Modifications EFP also had a clause that if the sub-harvest guideline of 800 Chinook salmon was hit prior to May 15, the EFP would close until May 15. At which time, the EFP would once again reopen under the total harvest guideline of 3,547 salmon minus whatever was taken pre-May 15. This clause is also included in the Trawl Gear EFP that is the subject of this analysis.

2.3 Alternatives Considered and Rejected From Further Consideration

The following alternatives were proposed for inclusion in this EFP by the applicants but were ultimately rejected from further consideration.

2.3.1 Elimination of Codend Restrictions

The Council considered including an exemption regarding the codend regulations. Only single-walled codends may be used under the current regulations, and double-walled codends are prohibited. In addition, chafing gear may not be used to create a double-walled codend. These regulations were initially intended to prevent fishermen from reducing effective mesh size of the net and to provide smaller fish with an increased opportunity to escape from the trawl net, reducing the likelihood that those fish would be caught and then discarded.

The Council rejected inclusion of this alternative because the EFP already includes an exemption to the minimum mesh size and the Council and NMFS were concerned about the cumulative effects of providing additional exemptions. Additionally, by changing so many variables related to mesh size at the same time, it could be difficult to parse out which change had which effect.

2.3.2 Elimination of the Chafing Gear Restrictions

The Council considered including an exemption regarding chafing gear restrictions. Chafing gear is the webbing or other material attached to the codend to protect it from wear (*See* § 660.11). Chafing gear restrictions are defined separately for midwater (*See* § 660.130(b)(4)(i) and (ii)) and bottom trawl (*See* § 660.130(b)(3)(iii)). Originally, these regulations were intended to allow for the escapement of small fish through the mesh openings. Similar to the codend restrictions described in Section 2.3.1, chafing gear restrictions are related to mesh size, and the Council rejected inclusion of this alternative because the EFP already includes the exemption to the minimum mesh size requirement and the Council and NMFS were concerned about the cumulative effects of these exemptions, as well as the usefulness of the data in determining which exemptions have which effects.

2.3.3. Allow Non-Whiting Midwater Targeting Shoreward of the trawl RCA South of 40º 10′ N. lat.

The Council considered including an exemption for non-whiting midwater targeting south of 40°10′ N. lat. for all areas. Currently, south of 40°10′ N. lat. midwater trawl gear is allowed year-round seaward of the boundaries of the trawl RCA. The Council did include an exemption to allow midwater trawling south of 40°10′ N. lat. inside the boundaries of the trawl RCA, but they rejected inclusion of the area south of 40°10′ N. lat. and shoreward of the trawl RCA due to possible conflicts with state regulations from California, as well as concerns with Klamath River salmon, as the age-3 ocean abundance forecast for Klamath River Fall Chinook (KRFC) salmon was forecast in the March 2017 Preseason Report 1 (Agenda Item E.2. Preseason Report 1, March 2017) as the second lowest on record.

2.3.4. Maximized Retention for All Vessels

The Council considered but rejected an exemption that would have allowed for maximized retention for all vessels fishing on an EFP trip. Maximized retention encourages retention of all catch but does allow some minor discarding events to occur. Participants requested this ability to put all catch into a hold without having to sort out any species. Currently, vessels that target Pacific whiting are allowed to operate under maximized retention. The Council did recommend to NMFS that vessels fishing on an EFP trip that are also using electronic monitoring in place of observers should be required to retain all salmon and eulachon, to ensure all biological information on salmon and eulachon is available to take at the dock, because there would be no observers on the vessels to take those samples. However, neither the Council nor NMFS thought that it was necessary for vessels that would carry observers to operate under maximized retention, because observers are available on those vessels to take biological data and samples. Additionally, because the Council is not considering allowing for maximized retention for all vessels going forward it did not seem appropriate to provide for an exemption that has the potential to be out of line with future regulations.

CHAPTER 3—IMPACTS ON THE AFFECTED ENVIRONMENT

This chapter describes the environment that would be affected by the proposed action along with the potential impacts of that action. The descriptions of the affected environment below reflect conditions as they exist, currently, before the proposed action would be implemented and provides a baseline for considering the potential impacts. Because this section focuses specifically on those elements of the environment that are potentially affected by the proposed action it does not include additional information on other parts of the environment that are unaffected (e.g., California Current Ecosystem, Habitat Areas of Particular Concern [HAPC], and cultural resources). In addition, as some of the exemptions under this EFP do not have impacts on all aspects of the affected environment, they are not repeated in each section here either. For example, fishing before previous catch is stowed will have no impact on any resources within the physical environment. Therefore, it is only discussed under the biological and socioeconomic environment headings. For more detailed information on the Pacific Coast Groundfish Fishery or topics not covered in this EA, see Chapters 3 of the 2015-16 Harvest Specifications FEIS, 2017-18 Harvest Specifications EA, and the EA for the Chafing Gear Trawl Rationalization Trailing Action (PFMC 2014). Additionally, Chapter 7 in the Pacific Coast Groundfish FMP describes groundfish EFH (Section 7.2) and HAPCs (Section 7.3).

3.1 Physical Environment

The physical environment elements of this action area that may be impacted by the proposed action are discussed below. Potential impacts of the action alternative compared to the no action alternative are also discussed at the end of this section.

3.1.1 Groundfish Conservation Areas (GCAs)

GCAs, a type of closed area, are geographic areas defined in coordinates expressed in degrees of latitude and longitude. GCAs may be open to certain gear types and closed to others. The Council and NMFS have implemented GCAs to prevent commercial and, in some cases, recreational vessels from targeting groundfish in areas where catch of overfished groundfish species is likely to be high. These areas not considered marine protected areas and don′t protect from all gear types. However, as an ancillary effect, they do mitigate the adverse effects on EFH by prohibiting fishing with certain gears within their boundaries. Limited entry groundfish trawl vessels are subject to several GCAs, two of which are pertinent to this action and described below: EFH Conservation Areas (EFHCA) and the trawl RCA.

3.1.1.1 Essential Fish Habitat Conservation Areas

As part of Amendment 19 to the Pacific Coast Groundfish FMP, the Council identified discrete areas that are closed to fishing with specified gear types, or are only open to fishing with specified gear types. These ecologically important habitat closed areas are known as EFHCAs (Figure 3). EFHCAs are defined by coordinates expressed in degrees of latitude and longitude at §§ 660.75 through 660.79, subpart C. EFHCAs are intended to mitigate the adverse effects of fishing on groundfish EFH. The closures included: 34 areas were closed to bottom trawl gear, and 16 areas were closed to bottom contact commercial fishing gear other than demersal seine gear. Midwater trawling is allowed within EFHCAs when midwater trawl fishing is allowed in adjacent waters by the groundfish regulations (50 CFR 660 Parts C-G). In addition, some EFHCAs are found within the boundaries of

GCAs, specifically the trawl RCA (Figure 4).

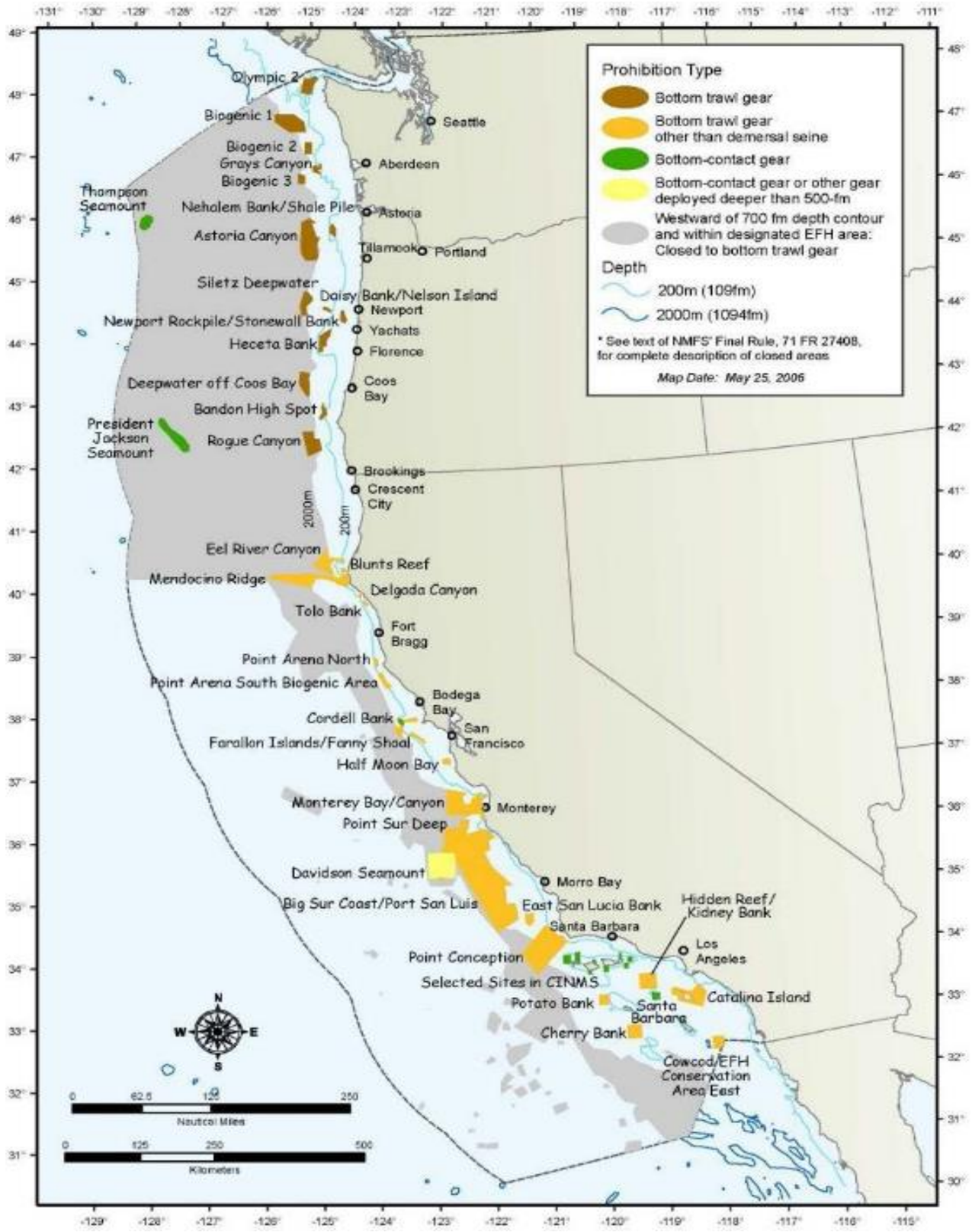

Figure 3. EFH and EFH closed areas of the West Coast.

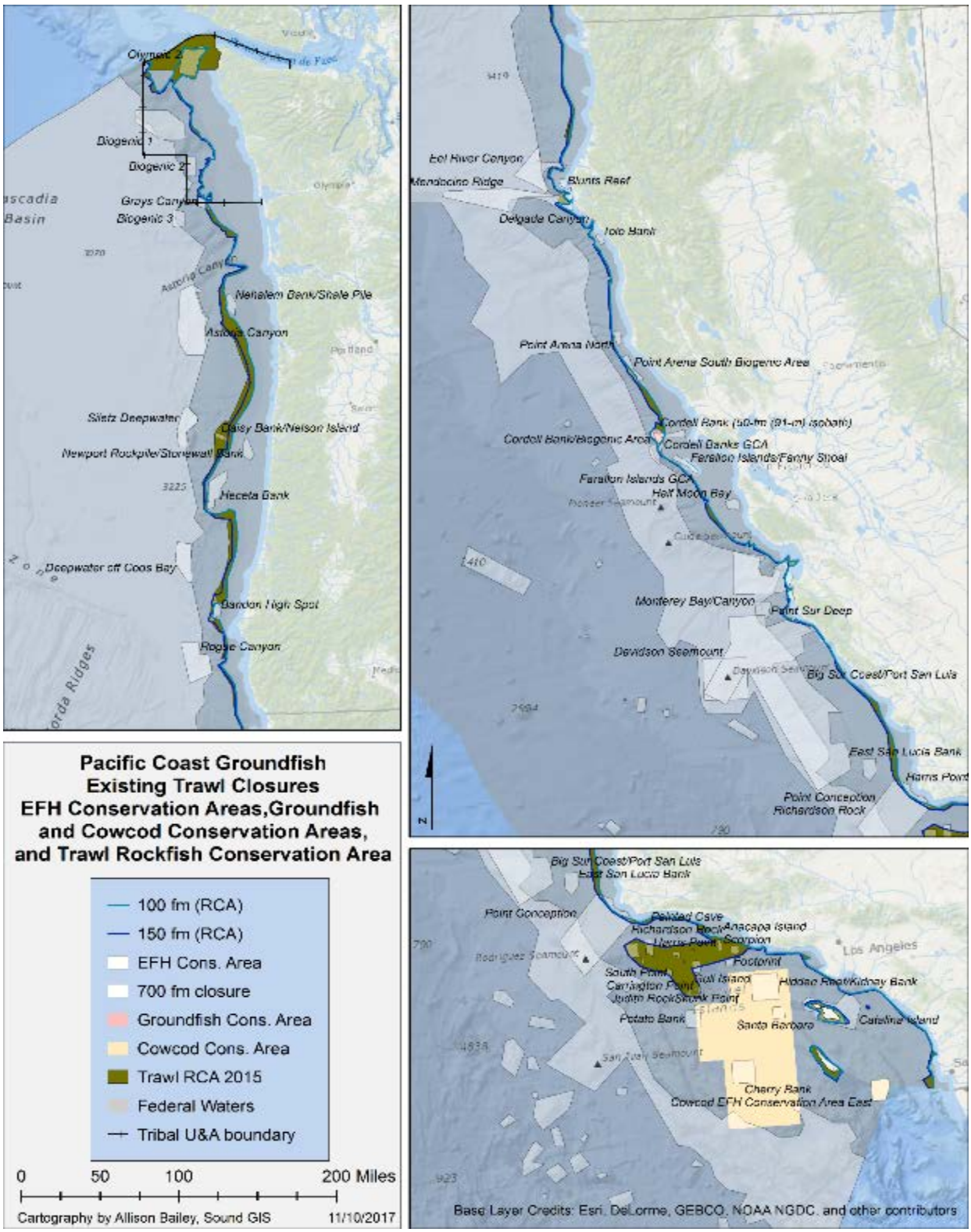

Figure 4. Current EFHCAs, CCAs, and the trawl RCA off the West Coast of the U.S. (Cartography by Allison Bailey of Sound GIS)

3.1.1.2 Rockfish Conservation Area (RCA)

The Council introduced RCAs in 2002. RCAs are large-scale closed areas that extend along the entire length of the U.S. Pacific Coast (Figure 4). RCA boundaries are lines that connect a series of latitude/longitude coordinates intended to approximate particular depth contours. RCA boundaries for particular gear types may differ between the northern and southern areas of the coast and can change at different times of the year through inseason actions. The locations of the trawl RCA boundaries are set in order to minimize opportunities for vessels to incidentally take overfished rockfish by eliminating fishing in areas where, and times when, those overfished species are most likely to co-occur with more healthy stocks of groundfish. These areas do not have EFH mitigation as an objective. However, as an ancillary effect, they do mitigate the adverse effects on EFH by prohibiting some types of fishing (e.g., bottom contact gear) within their boundaries.

From 2002 to 2011, midwater trawl gear used to target Pacific whiting was exempt from RCA restrictions in the area north of 40°10′ N. latitude during the Primary whiting season. From 2005 to 2011, midwater trawling has been allowed in the area south of 40°10′ N. latitude for (1) all groundfish species when fishing seaward of the trawl RCA and (2) within the trawl RCA by vessels targeting Pacific whiting during the Primary whiting season. Beginning in 2011, the groundfish non-whiting midwater trawl fishery has expanded under the catch share program, and now includes targeting of previously overfished, now rebuilt, pelagic rockfish species. Also beginning in 2011, vessels using midwater trawl gear have been allowed to target pelagic rockfish within the trawl RCAs north of 40°10′ N. lat. during the Primary whiting season only and seaward of the western trawl RCA boundary south of 40°10′ N. lat. year-round.

3.1.3 Impacts of the Actions on the Physical Environment

Under the no action alternative, the EFP would not be implemented, and instead a combination of gear restrictions, effort reduction, and closed areas would continue to be used to protect a broad range of habitats. Vessels would continue to be required to comply with all gear, time, and area regulations including the use of selective flatfish trawl gear for groundfish bottom trawl vessels shoreward of the trawl RCA and north of 40°10′ N. lat. and the required 3 inch mesh size. Midwater trawl vessels would continue to be restricted to the Primary whiting season dates, 4.5 inch mesh size, and would be prohibited from fishing inside the RCA south of 40°10′ N. lat. The impacts of fishing operations under the no action alternative were already analyzed in Chapter 4 of the 2015-–16 Harvest Specifications FEIS and Chapter 4 as part of the 2017–18 Harvest Specifications EA. Both of those documents concluded that the continued function of the Pacific coast groundfish fishery wouldn't have any additional adverse impacts on the physical environment beyond what took place historically unless there was a significant shift of fishing activity with bottom contact gear into areas where there is no fishing. Therefore, the no action alternative would result in no change to fishing activity or behavior, and would have a neutral impact that is not significant.

Under the preferred alternative, participating vessels using groundfish bottom trawl gear would be exempt from the minimum mesh size requirement and the requirement to use selective flatfish trawl and permitted to use any type of small footrope bottom trawl gear, including selective flatfish trawl gear, shoreward of the trawl RCA and north of 40°10′ N. lat. while fishing on an EFP trip. Generally these changes would not be expected to have any effects on the time or location of fishing for groundfish bottom trawl vessels or additional impacts on the physical environment beyond what has

been previously analyzed. If the added flexibility in gear configurations were to result in a redistribution of effort by groundfish bottom trawl vessels fishing on an EFP trip, with increased effort in more vulnerable high relief areas preferred by these species, then there could be impacts beyond the no action alternative. However, because EFP vessels using groundfish bottom trawl gear would still be required to comply with existing RCAs and EFHCAs that prevent groundfish bottom trawling in more vulnerable habitats, it is unlikely these impacts would occur. In addition, any such redistribution effect of these exemptions for groundfish bottom trawl would likely be further limited by continued limits on chafing gear (protective pieces of synthetic rope attached to the codend to protect it from abrasion) and footrope diameter. Chafing gear is now restricted if fishing with a small footrope configuration to reduce incentives for fishing over high relief areas and this EFP would not provide an exemption to that regulation. Additionally, in November 1999, the Council adopted limits on footrope size (the maximum size of the components of footropes—rubber disks or bobbins) inshore of the RCA north of 40°10′ N. lat. to discourage trawlers from capturing canary rockfish, bocaccio, cowcod, and lingcod that are found in high relief rocky areas.[11] Though only preliminary research has been done, it is widely believed that this gear restriction has been effective in limiting effort in high relief habitat (PFMC 2005). Under this EFP the footrope size restriction would remain in place, thus limiting the effects of this exemption.

Therefore, compared to the no action alternative, there should be no significant impact to the physical environment from the preferred alternative as it relates to the use of groundfish bottom trawl gear, and there would be no additional impacts to EFHCAs or RCAs because groundfish bottom trawl gear is prohibited from fishing in these areas.

Under the preferred alternative, vessels targeting non-whiting species on an EFP trip with midwater trawl gear would be permitted to do so earlier in the year than they had previously. These vessels would be permitted to fish north of 40°10′ N. lat. in all areas for the effective dates of the EFP. The preferred alternative would also allow participating vessels using midwater trawl gear south of 40°10′ N. lat. to fish inside the boundaries of the trawl RCA. Currently, vessels targeting non-whiting stocks are permitted to fish in these areas north of 40°10′ N. lat. during the Primary whiting season for the Shorebased IFQ Program only (May 15 through December 31). Midwater trawl gear is only allowed seaward of the trawl RCA south of 40°10′ N. lat.

The preferred alternative could result in changes in the distribution of fishing effort by non-whiting midwater trawl vessels as they are allowed to fish earlier in the year and coastwide in the trawl RCA. Some impacts to the physical environment could be expected if the redistribution of fishing effort results in an increase (or introduction) in effort (either time or vessels) inside the boundaries of EFHCAs or the trawl RCA and that effort results in additional gear interactions with the bottom. However, because midwater trawl gear is not considered to be a bottom-contact gear and is currently allowed within the EFHCAs when the area surrounding the EFHCA is open to midwater trawling and in the trawl RCA from May 15 through December 31 annually impacts would likely be similar to the no action alternative. And while midwater trawl gear does make occasional contact with bottom habitats, the modest increase in those occasions is likely to result in a negligible increase in impacts to EFHCAs and habitat within the trawl RCA when compared what occurs under current regulations. Additionally, the total amount of effort (i.e. the number of vessels fishing) and allocations are not

[11] Limits on footrope size were adopted through Amendment 19 to the Pacific Coast Groundfish FMP. Amendment 19 made permanent a prohibition on the use of bottom trawl gear with footropes larger than 8 inches in diameter shoreward of a line approximating the 100-fathom depth contour (i.e. the eastern boundary of the trawl RCA).

expected to change and the previous analyses assumed full retention of all allocations when determining impacts. If the rate of effort changes (i.e. how quickly vessels can obtain their catch), there could be potential impacts from heavier nets potentially interacting with the bottom. However, vessels operators are unlikely to risk damage to their nets by dragging them on the bottom, particularly midwater trawl nets that are designed to not come in contact with the bottom (i.e. they do not have the same protections as bottom contact gear).

A shift in the timing of harvest, as well as the geographic location of the harvest by vessels targeting non-whiting stocks with midwater trawl gear, could also result in some negligible impacts to the physical environment if target species are in different locations at different times of year. However, because pelagic rockfish tend to remain in one area for most of their lives and are not as mobile as other species (e.g., Pacific whiting) there is not likely to be much of a shift in effort geographically, and it would be expected that most effort would continue to occur where it has historically for the pelagic rockfish fishery. Therefore, while there is potential for the rate of effort to increase and a slight shift in the timing of effort for vessels using midwater trawl gear under the preferred alternative, the total impacts for midwater trawl vessels targeting non-whiting are negligible when compared to the impacts under the no action alternative and are not expected to be significant. And, since vessels using midwater trawl gear are already allowed, under current regulations, to fish insider the RCA and inside the boundaries of EFHCAs, the impacts would likely be the same as no action.

3.2 Biological Environment

The following sections describe the target, non-target, non-groundfish, prohibited, and protected species as they relate to the alternatives.

The information in the following sub-sections is summarized from the 2014 and 2016 Stock Assessment and Fishery Evaluation (SAFE) documents. These SAFE documents, as well as more detailed information about the distribution, life history, and population trends are available in stock assessments, stock assessment review (STAR) Panel Reports, stock assessment team (STAT) Reports on the Council's website on stock assessments.

3.2.1. Target Species

The primary target species for this action are widow rockfish, yellowtail rockfish, and chilipepper rockfish. Historically, (pre-2002) the pelagic rockfish complex species were more commonly targeted with midwater and bottom trawl gear. Since 2011, and more recently with the rebuilding of several overfished species, interest in targeting widow and yellowtail rockfish has increased.

Widow Rockfish
Widow rockfish (*Sebastes entomelas*) occur over hard bottoms along the continental shelf (NOAA 1990) and prefer rocky banks, seamounts, ridges near canyons, headlands, and muddy bottoms near rocks. All life stages are pelagic, but older juveniles and adults are often associated with the bottom (NOAA 1990). All life stages are also fairly common from Washington to California (NOAA 1990). Pelagic larvae and juveniles co-occur with yellowtail rockfish, chilipepper, shortbelly rockfish, and bocaccio larvae and juveniles off Central California (Reilly, et al. 1992). Widow rockfish was declared rebuilt in 2012. A full assessment for widow rockfish completed in 2014indicated the stock was at 75.1 percent depletion at the start of 2015.

Widow rockfish is an important commercial groundfish species belonging to the scorpionfish family (*Scorpaenidae*). Peak abundance is off northern Oregon and southern Washington, with significant aggregations occurring south to central California. Widow rockfish form midwater schools at night over bottom features such as ridges or large mounds near the shelf break (Tagart 1987).

In the late 1970s, a midwater trawl fishery developed for widow rockfish and catches increased rapidly with the discovery of those large aggregations that form at night. These aggregations produced high catch rates during the fall and spring, which are the mating and spawning seasons for these species. Species most commonly caught incidentally with widow rockfish include Pacific whiting and yellowtail rockfish. Pacific ocean perch (POP), as well as boccaccio, canary, and sharpchin rockfish may also be landed with widow rockfish.

Total domestic landings of widow peaked in the early 1980s, increasing from approximately 1,000 metric tons (mt) in 1978 to landings exceeding 25,000 mt in 1981. These large landings were curtailed with trip limits beginning in 1982, which resulted in a decline in landings throughout the 1980s and 1990s following sequential reductions in the trip limits. From 2000 to 2003, landings of widow rockfish dropped from over 4,000 mt to about 40 mt and have been slowly increasing since, with a more rapid relative increase in 2013 and 2014 to above 700 mt. Bottom trawl and midwater trawl gears in groundfish and Pacific whiting fisheries make up the majority of the catch.

More detailed information on life history, historical catch, and management information for widow rockfish can be found in Section 1.1.4.25 of the 2016 SAFE document; the information has not substantially changed since the 2015-16 Specifications EIS.

Yellowtail Rockfish

Yellowtail rockfish are most abundant from Oregon to British Columbia. The species is wide-ranging and occurs from the surface to 549 m (1,800 feet or 300 fathoms [fm]). Yellowtail rockfish form large schools, either alone or in association with other rockfish, including widow rockfish, canary rockfish, redstripe rockfish, and silvergray rockfish. They are primarily distributed over deep reefs on the continental shelf, especially near the shelf break. A 2013 yellowtail rockfish stock assessment was conducted for the portion of the population north of 40°10′ N. lat. The estimated stock depletion was 69 percent of its unfished biomass in 2013.

Until late 2002, yellowtail rockfish were harvested as part of a directed midwater trawl fishery. Yellowtail rockfish are common in both commercial and recreational fisheries throughout its range, and commonly occur with canary and widow rockfishes (Cope and Haltuch 2012). Despite its popularity in commercial and recreational fisheries, its association with those highly regulated species has greatly decreased removals over the last decade. From the end of 2002 through 2010, implementation of the trawl RCAs and small landings limits designed to only accommodate incidental bycatch eliminated many of the directed mid-water fishing opportunities for yellowtail rockfish in non-tribal trawl fisheries. A limited opportunity to target yellowtail rockfish in the trawl fishery has been available since 2011 under the catch share program, yet low quotas for widow rockfish, canary rockfish, and for other constraining stocks has continued to limit mid-water targeting of yellowtail rockfish.

Yellowtail rockfish are currently managed with stock-specific harvest specifications north of 40°10′

N. latitude and within the southern Shelf Rockfish complex south of 40°10′ N. latitude. Projections of harvest specifications for yellowtail rockfish north of 40° 10′ N. latitude for 2017 and beyond using the base model in the 2013 data-moderate assessment were provided in 2015 (Agenda Item I.4, Supplemental Attachment 8, November 2015) since long term projections were inadvertently omitted from the 2013 assessment. There has never been an assessment of the southern stock.

Chilipepper Rockfish

Chilipepper rockfish is primarily found between Point Conception and Cape Mendocino, California (Field 2007). Adults are found on deep rocky reefs, as well as on sand and mud bottoms, from 150 feet (46 meters [m] or 25 fm) to 1,400 feet (427 m or 233 fm). They are occasionally found over flat, hard substrates (Love, et al. 1990). Chilipepper are found with widow rockfish, greenspotted rockfish, and swordspine rockfish (Love, et al. 2002). Juvenile chilipepper compete for food with bocaccio, yellowtail rockfish, and shortbelly rockfish (Reilly, et al. 1992).

Chilipepper school by sex just prior to spawning (MBC 1987). In California, fertilization of eggs begins in October and spawning occurs from September to April (Oda 1992) with the peak occurring during December to January (Love, et al. 2002). The 2007 stock assessment indicated the stock was in good condition. The spawning biomass in 2006 was estimated to be approximately 70 percent of the unfished spawning biomass (Field 2007).

Chilipepper rockfish have been one of the most important commercial target species in California waters since the 1880s and were historically an important recreational target in Southern California waters. The chilipepper rockfish catch in the bottom trawl fishery has been managed under an IFQ system since 2011.

Chilipepper rockfish are currently managed with stock-specific harvest specifications south of 40°10′ N. lat. and within the Shelf Rockfish complex north of 40°10′ N. latitude. A full chilipepper assessment was conducted in 2007 (Field 2008). An update of the 2007 assessment of chilipepper rockfish south of 40° 10′ N. lat. was conducted in 2015 (Field, et al. 2015), which indicated the stock was at 64 percent of its unfished biomass at the start of 2015. The assessment for chilipepper rockfish north of 40° 10′ N. lat. only covers the areas between 40° 10′ N. lat. to Cape Blanco, OR at 43° N. lat.

3.2.1.1 Impacts of the Actions on Target Species

As the targeting of widow, chilipepper, and yellowtail in the Shorebased IFQ program is increasing, little information is available to determine impacts of that emerging fishery. As the fishery develops, additional target species may emerge, as much of our current understanding of target species is based on historical landings under a trip limit structure that focused mostly on widow, chilipepper, and yellowtail rockfishes.

Under the no action alternatives, impacts to the target species would be the same as they were when analyzed in the 2017-18 Harvest Specifications EA because the harvest specifications analysis assumes the full annual catch limits (ACLs) are attained (*See* Table 3 for the annual trawl allocations for target stocks in the non-whiting midwater trawl fisheries between 2012 and 2018). ACLs are developed based on Council- and NMFS-sponsored stock assessments and implemented in regulation as part of the biennial specifications process. The ACLs are then allocated in the form of quota pounds

(QP) to eligible entities on an annual basis. The amount of QP available to harvest each year is fixed. Under the no action alternative, the EFP would not be issued and vessels would continue to fish in the area and at the time of year currently required in regulation. The impacts of fishing operations at 2017 and 2018 allocation levels were analyzed under the 2015–16 Harvest Specifications FEIS and 2017-2018 Harvest Specifications EA and were found not to be significant. The no action alternative would not be expected to change the level of effort relative to these baseline conditions. Therefore, the no action alternative would be expected to have negligible impacts to target species relative to baseline conditions.

Table 3. Annual trawl allocations (mt) of target rockfish species by non-whiting midwater trawl fisheries.

	Year						
Species	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Bocaccio	261	75	79	82	85	302	283
Canary	35	53	54	57	59	1,061	1,061
Widow	491	1,284	1,284	1,711	1,711	12,094	11,318
Chilipepper	1,331	1,100	1,067	4,893	4,677	1,921	1,846
Yellowtail	3,407	3,235	3,239	1,203	1,196	4,546	4,375

Under the preferred alternative, participating vessels would receive the various exemptions described in Table 2. The main impact of these exemptions to target species could be a change in the size of fish caught, as well as the timing and the location of harvest. Overall harvest would be expected to increase as vessels are able to attain more of their allocation, but as all catch must be accounted for with IFQ and impacts from full attainment of all IFQ was considered in the 2017–18 Harvest Specifications EA, the increase in catch is not likely to pose a threat to exceeding the ACL. This action also does not change the ACLs that were analyzed in the 2017–18 Harvest Specifications EA.

If, under the preferred alternative, vessels catch more juvenile, small fish, particularly because of the removal of the minimum mesh size requirement, there could be some low negative impacts on those stocks from removing these fish from the spawning stock biomass, which drives the long-term health and abundance of a stock. The impact would be low negative, because vessels have an incentive not to catch small, unmarketable fish that would still be counted against their IFQ. Therefore we do not expect them to reduce the mesh size to an extent that they would catch these juvenile fish. As stated by industry, the intent of removing the minimum mesh size was to reduce the amount of marketable fish that are "gilled" in the net (caught by gills in the net) and, as a result, are subsequently unmarketable. A slightly smaller mesh size than currently required would allow these fish to instead be retained whole, increasing the marketability and reducing waste of the catch. Additionally, industry has stated that they may be able to use different mesh sizes to herd fish through the net or need smaller mesh to be able to attach excluder devices for other species (i.e., salmon excluders).

Vessels fishing under the EFP with midwater trawl gear would be permitted to fish in all areas north of 40°10′ N. lat. and within the boundaries of the trawl RCA south of 40°10′ N. lat. for the effective dates of the EFP. This change has the potential to put vessels on the water up to four months prior to when vessels using midwater trawl gear to target non-whiting are allowed to fish under the current regulations; and in areas not currently open to midwater trawling. These time and spatial openings in conjunction with the removal of the minimum mesh size could have some low negatives impacts on

target species when spawning if interactions increase due to opening the fishery earlier in the year. Chilipepper rockfish's peak spawning period tends to be around December and January. Widow rockfish spawn off California between December and February and between February and March off Oregon. Yellowtail rockfish tend to give birth in February and March with young-of-the-year juveniles appearing beginning in April.

The remaining exemptions (multiple gears onboard, fishing before previous catch is stowed, retention of salmon and eulachon, or declaration reporting) are likely to have negligible direct impacts on target species when compared to the no action alternatives. However, there is a possibility of an indirect effect on target species through the use of multiple gears and fishing before previous catch is stowed. This effect has to do with catch reporting and the use of this data for stocks assessments. If vessels mingle their catch from different gears or different hauls before observers are able to take samples or prior to landing, it could impact the accuracy reporting which serves the basis for stock assessments and inseason management. However, the indirect impacts on target stocks would likely be small as any issues with monitoring or reporting should be identified and dealt with swiftly due to 100 percent monitoring and almost real-time reporting. Additional direct impacts on catch accounting from these exemptions is discussed further in the socio-economic environment section (3.3) of this document. None of the exemptions, under the preferred alternative, are expected to result in significant impacts on the three pelagic rockfish target species.

3.2.2. Non-Target Species

Non-target species with similar habitat preferences co-occur with the target groundfish species. These species may include other groundfish, including overfished groundfish species, non-groundfish, protected species, and prohibited species. This section discusses the first three types of species, while protected and prohibited species are discussed in the following sections.

Groundfish

Non-whiting groundfish species (including overfished species) are caught in the pelagic rockfish fisheries. Additionally, as mentioned above under the descriptions for each target species, several non-target species co-occur with the target species of the pelagic rockfish fishery. These species include boccaccio, canary rockfish, greenspotted rockfish, Pacific whiting, redstripe rockfish, sharpchin rockfish, shortbelly rockfish, silvergray rockfish, and swordspine rockfish. Information about these stocks from the 2016 SAFE document is summarized in Table 4.

Table 4. Status of non-overfished groundfish species. Information obtained from the 2016 SAFE document. (A dash indicates the information wasn't available in the document.)

Stock	Management	Schooling Behavior	Co-occurring species when schooling	Depth	Latitude
Canary rockfish	Species specific trawl allocation	Some adults are semi-pelagic and some are non-schooling (benthic)	Near, but usually not on the bottom, often associating with yellowtail, widow, and silvergray rockfish	18-425 m	31° to 61° N. lat.

Stock	Management	Schooling Behavior	Co-occurring species when schooling	Depth	Latitude
Greenspotted rockfish	Shelf rockfish north and south of 40°10′ N. lat.	Large schools common near rocky outcrops, ridges, caves, and overhangs.	Consistently caught with bocaccio, chilipepper, stripetail, and shortbelly rockfishes.	30-363 m	25° to 47° N. lat.
Pacific whiting	Species specific trawl allocation	Extensive midwater aggregations	-	0-920 m	24.5°-54.5° N. lat
Redstripe rockfish	Shelf rockfish north and south of 40°10′ N. lat.; trip limits	-	-	12-425 m	32°- 66° N. lat.
Sharpchin rockfish	Minor slope rockfish trawl allocation	sometimes found in small schools identified as schooling species, although they also occurred singly	They occurred in dense patches on and within 2 m of the bottom, often mixed with pygmy rockfish	25-475 m	33°- 60° N. lat.
Shortbelly rockfish	Managed with trip limits	Actively schools in the water column and in aggregations on the bottom.	-	150-200 m	30°- 60° N. lat.
Silvergray rockfish	Minor slope rockfish trawl allocation	Form loose aggregations	POP, yellowtail rockfish, and canary rockfish	0-436 m	33.5°-55° N. lat
Spiny dogfish shark	Managed with trip limits	Often migrate in large schools	Pelagic prey consisted of 80% of their diet and they consumed twice as much food in the summer as in the winter	0-1236 m	30°-55° N. lat.
Swordspine rockfish	Shelf rockfish complex north and south of 40°10′ N. lat.	Bottom dwellers found alone or in small schools within rocky structures	-	70-433 m	38°N - 27°N

Overfished Species

The status of overfished species, how a species is determined to be overfished, and the effect of rebuilding measures are well defined within the 2015-16 Harvest Specifications FEIS and 2017-18 Harvest Specifications EA. Additional detailed information on each stock is available in the 2016 SAFE document.

As of January 1, 2017, there were five stocks managed under rebuilding plans: bocaccio rockfish, (*Sebastes paucispinis*) south of 40°10′ N. lat., cowcod (*Sebastes levis*) south of 40°10′ N, yelloweye rockfish (*Sebastes ruberrimus*), darkblotched rockfish (*sebastes crameri*), and Pacific ocean perch (POP, *sebastes alutus*) north of 40°10′ N. lat. New 2017 stock assessments for bocaccio rockfish and darkblotched rockfish, as well as POP, estimate these stocks to be rebuilt; however, new harvest specifications will not be implemented for these stocks until 2019.

Both cowcod and yelloweye rockfish can occur as bycatch in the pelagic rockfish fishery catches. Cowcod are managed as separate stocks north and south of 40°10′ N latitude. North of 40°10′ N. lat. cowcod are managed as part of an assemblage of shelf rockfish species called Minor Shelf North of 40°10′ N lat. South of 40°10′ N. lat. they are managed separately. Yelloweye rockfish are managed as a single stock throughout the West Coast region.

Stocks that have been determined to be depleted must have a rebuilding plan that plans to rebuild the stock in as short of time as possible, subject to various considerations including the needs of the fishing communities. The current status of the five overfished species, as of January 1 this year, are summarized in Table 5. T_{min} is the year in which there is a 50 percent probability of being rebuilt if there is no fishing. T_{max} is the other bound for rebuilding and is usually set as the lesser of 10 years or T_{min} plus one generation time. SPR is the spawning potential ratio or the average fecundity of a recruit over its lifetime when the stock is fished divided by the average fecundity of a recruit over its lifetime when unfished. More information on stock assessments and processes for biological considerations for overfished stocks can be found at NMFS's Sustainable Fisheries website.[12]

Table 5. Rebuilding parameters estimated in the most recent rebuilding analyses and specified in rebuilding plans for overfished groundfish stocks at the start of the 2017-2018 management cycle.

Stock	T_{MIN}	$T_{F=0}$	T_{MAX}	T_{TARGET}	Harvest Control Rule Specification
Bocaccio	2018	2018	2031	2022	SPR 77.7%
Cowcod	2019	2019	2057	2020	SPR 82.7% (E = 0.007)
Darkblotched	2012	2016	2037	2025	ACL = ABC (P* = 0.45)
POP	2040	2043	2071	2051	281 mt ACL in 2017-18; SPR 86.4% thereafter
Yelloweye	2044	2047	2083	2074	SPR 76%

The presence of these species in pelagic rockfish fishery catches is limited to bycatch under the fleet's current geographic footprint and can usually be explained as off-bottom feeding, spawning, or redistribution movements of the fish subjecting them to midwater trawl net capture. The amount allocated is significantly smaller than the total allocated for target species (Table 6).

[12] More information on stock assessments and biological considerations within the MSA can be found at: http://www.nmfs.noaa.gov/sfa/domes_fish/NS1/NS1BiologicalBasis.pdf

Table 6. Percentage of ACL attained for target species and overfished species between 2014 and 2016 and ACLs for 2017 and 2018.

Species Name	Area	Percentage Attained					ACL (mt)	
		2014	2015	2016	Max 2014-16 attain.	Avg. 2014-16 attain.	2017	2018
Chilipepper rockfish	South of 40°10' N.	29.30%	15.70%	6.30%	29.30%	17.10%	2,507	2,507
Widow rockfish	coastwide	65.80%	57.30%	59.00%	65.80%	60.70%	13,508	12,655
Yellowtail rockfish North of 40°10' N.	N. of 40°10' N. lat.	39.60%	31.60%	26.20%	39.60%	32.40%	6,196	6,002
Bocaccio rockfish	S of 4010N	11.30%	47.20%	50.80%	50.80%	36.50%	790	741
Cowcod	South of 40°10' N.	19.80%	26.20%	20.50%	26.20%	22.20%	10	10
Darkblotched rockfish	coastwide	35.10%	42.80%	42.10%	42.80%	40.00%	653	653
Pacific ocean perch	North of 40°10' N.	36.10%	42.10%	43.90%	43.90%	40.70%	281	281
Yelloweye rockfish	coastwide	5.60%	3.50%	4.50%	5.60%	4.60%	20	20

Non-Groundfish Species

A variety of non-groundfish species have been recorded in the pelagic rockfish fishery catches. The majority of non-ground species is made up of Dungeness crab and Green sturgeon that are both discussed below. The other non-groundfish species are mostly made up of coastal pelagic species (CPS), such as mackerels, market squid, northern anchovy, Pacific sardine, and Pacific herring. CPS are believed to be most vulnerable to midwater trawl gear compared to other groundfish gear types because of their off bottom schooling behavior. Small amounts (<0.13 mt) of CPS were observed caught in the non-whiting midwater trawl fishery during 2002-2013 (PFMC, 2015). More information on impacts on CPS from the groundfish fisheries can be found in in the 2017 SAFE document for CPS.

Highly migratory species (HMS), such as albacore and some sharks, have been landed in very small amounts with midwater trawl gear; however, mostly in the Pacific whiting fishery and not the pelagic rockfish fishery. Since 2011, vessels using midwater trawl gear have caught about 25 lbs. of albacore and less than 4,000 lbs. of sharks, mostly thresher and blue sharks. More information on HMS can be found in the HMS SAFE document.

3.2.2.1 Impacts of the Actions on Non-Target Species

As shown in Tables 4 and 6, a variety of non-target species are caught alongside the three target

pelagic rockfish species. The majority of these species are allocated and, subsequently, caught in small amounts. Under the no action alternative, an EFP would not be issued and vessels would continue to comply with existing regulations. Fishing by groundfish vessels and resulting bycatch of non-target species would be expected to continue along trends being observed and analyzed in the 2017-18 Harvest Specifications EA. Catch of non-target groundfish species would continue to be capped by IFQs, trip limits, sector allocations, and ACLs. There would be no increase in effort nor would a shift in effort be likely to occur outside of the normal patterns of fishing. Further impacts on non-target species of the continued fishing operations are discussed in the documents supporting the 2017-18 Harvest Specifications. Therefore, the no action alternative would not be expected to increase impacts beyond what was previously analyzed (no change) and no significant impacts are expected.

Under the action alternative, participating vessels would receive exemptions to certain time, area, and gear restrictions that could potentially impact non-target species. There is potential for an increase in catch of non-target species, including juvenile species and overfished species. Because vessels fishing on an EFP trip, under the action alternative, would be permitted to do so earlier in the year, inside the RCA coastwide, and with less selective gear (resulting from the exemptions to selective flatfish trawl and minimum mesh sizes), there is a chance that this could increase retention of non-target stocks. Additionally, there is a question of whether or not some bycatch rates of non-target species might be higher under the EFP, or alternatively the rates could decrease as vessels become more efficient at catching target species due to their ability, under the proposed action to configure their gear in a way that is most efficient for them.

Historical accounts of the widow rockfish fishery in the 1980s note that widow rockfish schooling behavior resulted in tows that were highly selective (Tagart, 1980). This information is supported by recent observer data from the West Coast Groundfish Observer Program (WCGOP) that showed that in 2015 midwater rockfish trips landed few species other than their target species (Somers et al., 2016). Additionally, any impacts on non-target species caused by this EFP would be limited by IFQ, trip limits, sector allocations, and ACLs, for these species. Mortality of trip limit species and overfished species is monitored throughout the fishing year, and NMFS and the Council can adjust management measures if necessary. Vessels would also likely try to avoid catch of non-target species when fishing in the EFP in order to maximize the value of their efforts by maximizing their catch of more valuable rockfish species. Finally, during discussions of the 2017 Trawl Gear Modification EFP, at the Council's November 2016 meeting, the Council's Groundfish Management Team (GMT) reviewed that EFP and the specific effects of the selective flatfish trawl gear and minimum mesh size exemptions and noted that inseason management should be sufficient to control mortality of these species and that no additional limits on the EFP were necessary (PFMC 2016). Therefore, based on this information, NMFS expects any additional impacts caused by the proposed action to non-target species to be negligible to low negative depending on the exemption, with the less selective gears likely having the low negative impacts due to the possibility of catch more juvenile rockfish. None of the impacts are significant. Total catch of non-target groundfish species would be mitigated by IFQ, trip limits, sector allocations and ACLs under the no action alternative, and the action alternative would be no different.

3.2.3 Prohibited Species

Prohibited species are defined in regulation at § 660.11 as those species and species groups that may

not be retained and must be returned to sea as soon as is practicable with a minimum of injury when caught and brought aboard, except when their retention is authorized by other applicable law. Prohibited species may include any species of salmonid, Pacific halibut, Dungeness crab caught seaward of Washington or Oregon, and groundfish species or species groups under the Pacific Coast Groundfish FMP for which quotas have been achieved and/or the fishery is closed.

Pacific Halibut

Pacific halibut (*Hippoglossus stenolepis*) is a bottom-dwelling, right-eyed flatfish from the family of flounders, and are managed by the bilateral (U.S./Canada) International Pacific Halibut Commission (IPHC) with implementing regulations set by Canada and the U.S. in their own respective waters. The Pacific Halibut Catch Sharing Plan for waters off Washington, Oregon, and California (Area 2A) specifies IPHC management measures for Pacific halibut on the Pacific Coast. Pacific halibut are seldom taken in midwater trawls, as they co-occur with groundfish stocks targeted with bottom contact gear and not midwater gear. Pacific halibut mortality in the groundfish trawl fishery is managed with individual bycatch quota (IBQ). All vessels must have enough IBQ to cover their incidental catch of legal and sub-legal sized Pacific halibut bycatch mortality in the area north of 40°10′ N. lat.

Dungeness Crab

Off the West Coast, Dungeness crab is most abundant in nearshore areas from central California to the Washington State-Canada border. Dungeness crab is found to a depth of about 180 m. Dungeness crab is taken incidentally, or harmed unintentionally, mostly by groundfish bottom trawl gears. In some areas, interactions with Dungeness crab by nearshore selective flatfish trawls are a concern, because concentrating vessel effort in shallow water during the summer months (<75 fm) affects Dungeness crab in the north because they are less likely to survive discard during their summer molting season. However, because vessels would not be required to use selective flatfish trawl and the species they would be targeting tend to be found slightly off the bottom, there may not be an increase in interactions with Dungeness crab.

Salmonids (including ESA-listed stocks)

Salmonids are anadromous, spending part of their life in fresh water streams and rivers from Central California to Alaska and part of their life in marine waters. During their marine phase, they occur along the U.S. and Canada seaward into the north central Pacific Ocean, including Canadian territorial waters and the high seas. Critical portions of these ranges include the freshwater spawning grounds and migration routes. Salmon caught in the groundfish fisheries include stocks that are both listed and not-listed under the ESA. There are 31 West Coast salmon and steelhead Evolutionarily Significant Units (ESUs) or distinct population segments (DPS) in the action area. Of the 31 ESUs, the following are listed under the ESA: Puget Sound Chinook, Snake River Fall Chinook, Lower Columbia River Chinook, Upper Willamette River Chinook, Upper Columbia Spring Chinook, Snake River spring/summer Chinook, California Coastal Chinook, Lower Columbia River coho, Oregon Coast coho, Southern Oregon/Northern California coho, and California Coastal coho salmon.

Of the listed salmon species, the bycatch of salmonids in the trawl fishery is almost exclusively Chinook salmon, with low or no bycatch of coho, chum, sockeye, or steelhead (Table 7). For coho and chum, estimates of bycatch averaged 227 and 82 fish, respectively, per year coastwide, since 2002, across all groundfish fishery sectors. NMFS concluded in the 2017 Biological Opinion that there is little or no effect to the steelhead, sockeye, coho, or chum salmon ESUs as a result of the

persecution of the Pacific Coast Groundfish FMP. Relevant information supporting this conclusion is reviewed briefly in Section 2.8 of the 2017 biological opinion, and is not discussed further in this assessment.

Table 7. Salmon mortality (numbers of fish) by species and fishing sector in the Pacific Coast Groundfish Fisheries, 2002-2015 (Matson and Erickson 2017).

Fishery	Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
At-sea Whiting	Chinook	1663	2617	803	3958	1192	1317	718	318	714	3989	4209	3739	6695	1806
	Coho	146	3	1	86	28	226	21	12	0	5	17	6	104	4
	Chum	24	11	55	20	87	169	60	41	10	46	53	26	4	5
	Sockeye	0	0	0	0	0	2	0	2	0	0	0	0	0	0
Shoreside Whiting	Chinook	1062	425	4206	4018	839	2462	1962	279	2997	3722	2359	1263	6898	2002
	Coho	0	0	0	0	0	0	141	10	37	16	136	16	33	167
	Chum	0	0	0	0	0	0	113	8	2	8	42	3	7	4
	Sockeye	0	0	0	0	0	47	7	26	0	6113	0	2	0	0
Bottom Trawl	Chinook	14501	16433	1758	808	67	194	449	304	282	175	304	323	984	996
	Coho	24	32	66	5	0	13	0	0	31	19	27	49	18	3
	Chum	14	38	4	0	0	0	0	0	0	0	0	0	0	0
	Sockeye	0	0	0	0	0	0	0			1	0	0	0	0
Midwater Non-whiting Trawl	Chinook	--	--	--	--	--	--	--	--	--	--	12	71	661	482
	Coho	--	--	--	--	--	--	--	--	--	--	0	0	12	7
	Chum	--	--	--	--	--	--	--	--	--	--	0	1	0	5
	Sockeye	--	--	--	--	--	--	--	--	--	--	0	0	0	0

Substantial numbers of Chinook salmon have been caught previously in the groundfish midwater and bottom trawl fisheries and have been the subject of previous biological opinions (Table 7). (*See* Section 1.2 of the 2017 Biological Opinion for Salmon for a brief history on salmon consultations for the Region.) The 1999 Incidental Take Statement (ITS) identified an expected level of take of 11,000 Chinook salmon per year for all sectors of the Pacific whiting fishery and 9,000 Chinook salmon for the bottom trawl fishery. On January 22, 2013, NMFS reinitiated consultation on the Pacific Coast Groundfish FMP to evaluate the effects of the evolving trawl fishery on Chinook salmon. Then, in October 2014, the Pacific whiting fisheries in aggregate exceeded the 11,000 Chinook salmon threshold that reinitiates the consultation.

The proposed action for the 2017 Biological Opinion included an assumption that the trawl RCA would not be in place in waters off of Oregon and California.[13] Additionally, the proposed action included this EFP, including extending the non-whiting midwater trawl fishery's geographic footprint into the area within the trawl RCA south of 40°10′ N. lat. and allowing them to fish outside the Primary whiting season dates. At the time of the analysis, there was limited data to inform salmon impacts if fishing is allowed during that time of year and within that area that was previously closed by the trawl RCA as envisioned in the proposed action. Therefore, both historical and recent data was used to inform the analysis (*See* Section 3 of the *Analysis of the West Coast Groundfish Fisheries for the 2017 Salmon ESA Biological Opinion*, Matson and Erickson, 2017).

3.2.3.1 Impacts of the Actions on Prohibited Species

Under the no action alternative, the EFP would not be permitted and vessels would continue to comply with existing regulations governing the gear, time, and areas in which fishing may take place. Fishing by groundfish non-whiting vessels and the resulting catch of prohibited species would be expected to continue along previously observed trends with the continued implementation of the Pacific Coast groundfish FMP. The prohibition on landing prohibited species would continue under current regulations for the Shorebased IFQ program. With or without the EFP, the bycatch guideline for Chinook bycatch in the non-whiting fishery would apply and would likely limit Chinook bycatch to around 4,500 fish. The total projected annual bycatch for non-whiting (groundfish bottom trawl and midwater trawl) fishery (i.e. number of Chinook salmon), based on the proposed action for the 2017 biological opinion, is projected to be around 4,500 Chinook salmon 80 percent of the time. This projection is based on full attainments of target species, and is thus likely at the high end of possible bycatch levels. Therefore, the no action alternative would be expected to have negligible impacts on protected species relative to the baseline conditions. These impacts are not significant.

Under the action alternative, participating vessels would receive several exemptions depending on the type of gear they use. Both groundfish bottom trawl and midwater trawl gear can have impacts on Chinook salmon. Vessels fishing on an EFP trip using groundfish bottom trawl may also have impacts on Pacific Halibut and Dungeness crab.

Vessels fishing under an EFP with groundfish bottom trawl gear would receive exemptions to the minimum mesh size and the requirement to use selective flatfish trawl gear. Impacts to Pacific halibut and Dungeness crab currently occur under the no action alternative when they are caught as bycatch.

[13] Currently, the Council is considering modifying or removing part or all of the trawl RCA (Agenda Item F.3 Situation Summary, November 2017). The Council is scheduled to take final action in April 2018.

These impacts could increase if additional catch of those species occurs, as a result of the minimum mesh or selective flatfish trawl exemptions, as both species are taken incidentally in the groundfish fisheries. However, because impacts to Dungeness crab and Pacific halibut occur mostly when the gear interacts with the bottom, impacts might be less likely if vessels intend to fish slightly off the bottom to target pelagic midwater species as they did during the 2017 Trawl Gear Modification EFP. Additionally, Pacific Halibut caught in the groundfish fisheries would also need to be covered by Halibut IBQ north of 40°10′ N. lat. and with set-asides south of 40°10′ N. lat., which may mitigate against additional impacts to Pacific Halibut. Therefore, any impacts to Pacific halibut and Dungeness crab as the result of the proposed action would be low negative due to the mitigation factors and the limited interaction with midwater pelagic rockfish species. These impacts are not expected to be significant.

Chinook salmon bycatch by vessels using groundfish bottom trawl had been relatively low (less than 500 individual Chinook salmon annually) from 2006 through 2013, but have been increasing in the past few years (Table 7). In 2014 and 2015, the groundfish bottom trawl fishery took 984 and 996 Chinook salmon, respectively. These takes are substantially lower than those from the first two years of the catch share program, 2002 and 2003, which resulted in Chinook estimates of 14,501 in 2002 and 16,463 in 2003 for the groundfish bottom trawl fishery. The lower catch of Chinook since 2003 is believed to be the result of very restrictive management measures that were implemented to reduce the catch of overfished species, including the RCAs, the selective flatfish trawl gear requirement, and a vessel buyback program. The average bottom trawl tow hours coastwide from 2011 to 2014 (Table 8), were 47-51 percent of the hours that occurred in 1987 (NMFS 2017).

Table 8. Limited entry bottom trawl retained groundfish, Chinook salmon catch, trawl hours, and Chinook bycatch rate (2011-2014).

	Retained groundfish		Chinook catch		Trawl hours		Chinook / mt or retained catch	Chinook/ trawl hour
	MT	Percent retained	Number	Percent Chinook	Hours	Percent hours		
Area								
North of Cape Falcon	28,143	41%	647	37%	55,019	36%	0.0230	0.0118
Cape Falcon to Blanco	16,645	24%	286	17%	38,439	25%	0.0172	0.0074
Cape Blanco to 40°10′ N. Lat.	13,879	20%	641	37%	33,330	22%	0.0462	0.0192
South of 40°10′ N. Lat.	9,869	14%	153	9%	26,205	17%	0.0155	0.0058
Depth								
0-100	13,734	20%	736	43%	26,100	17%	**0.0536**	0.0282
>100-150	901	1%	29	2%	1,205	1%	0.0322	0.0241
>150-200	6,122	9%	684	40%	6,914	5%	**0.1117**	**0.0989**
>200	47,779	70%	278	16%	118,774	78%	0.0058	0.0023

Preliminary results of the 2017 Trawl Gear Modification EFP, which included only groundfish bottom trawl vessels, indicate that that EFP has had a very limited impact on Chinook salmon or any other prohibited or protected species (Table 1). To put these early results in context, table 9 shows a

comparison between Chinook salmon bycatch rates by the 2017 trawl gear EFP (as of September 5, 2017) and bycatch rates by the commercial fishery between 2012 and 2016. The 2017 trawl gear EFP bycatch rate of Chinook salmon is considerably lower than the Chinook salmon bycatch rates for both non-EFP groundfish bottom trawl[14] and for non-whiting midwater trawl. Because the exemptions of the 2017 trawl gear EFP are the same as the proposed action for groundfish bottom trawl vessels, additional impacts from the proposed action beyond what was seen in the 2017 Trawl Gear Modification EFP, for groundfish bottom trawl vessels only, are expected to be low negative and similar to what occurred in 2017.

Table 9. Groundfish landings (mt), Chinook salmon bycatch (number), and bycatch rate from bottom trawl and non-whiting midwater trawl for the period 2012-2016. (Table taken from the 2017 Salmon ESA analysis.)

	Year	Groundfish landed (mt)	Chinook count	Commercial fishery bycatch rate (A)	2017 EFP bycatch rate (B)	2017 Non-whiting midwater trawl bycatch rate (C)	Ratio of bycatch rates (A) / (B)	Ratio of bycatch rates (A) / (C)
Bottom trawl	2012	17,026	305	0.0179			4.3	
	2013	18,715	323	0.0173			4.2	
	2014	15,876	984	0.0620	0.0042		14.9	
	2015	15,943	996	0.0625			15.0	
	2016	16,457	371	0.0225			5.4	
Non-whiting midwater trawl	2012	391	12	0.0307			7.4	5.7
	2013	622	71	0.1142			27.5	21.3
	2014	909	661	0.7270	0.0042	0.0054	175.1	135.6
	2015	1,817	482	0.2653			63.9	49.5
	2016	1,222	47	0.0385			9.3	7.2

Total Chinook salmon bycatch in the non-whiting midwater trawl fishery from 2002 to 2015 is presented in Table 7 (NMFS 2017). Because a midwater non-whiting pelagic rockfish fishery has only reemerged over the past few years with the recovery of several overfished species, it is difficult to predict the impacts to salmon by allowing non-whiting midwater trawl fishing year-round and inside the RCA coastwide.

Matson and Erickson (2017) attempted to project the impacts of this proposed action with specific focus on those exemptions for non-whiting midwater trawl gear that would expand the fishery season to earlier in the year, as well as expand the geographic footprint south of 40°10′ N. lat. within the trawl RCA. In doing so, Matson and Erickson assumed that expanding the fishery earlier into the year wouldn't result in an increase in total bycatch of Chinook salmon (i.e. number of Chinook salmon) beyond what would normally occur under current regulations, because the ACLs for target

[14] The geographic extent of the non-EFP bottom trawl fishery extends along the entire West Coast of the U.S. while the geographic extent for the 2017 trawl gear EFP was shoreward of the trawl RCA and north of 42° N. lat. only.

species are not changing under this action, and the supporting analysis looks at the effects on salmon of attaining the full quota for the target stocks. The assumption was also made because all midwater vessels that participate in the EFP would be bound by a harvest guideline for the total fishery (3,547 Chinook salmon), and two sub-harvest guidelines for the earlier part of the year (January–May 15) (800 Chinook salmon) and for the area south of 42° N. lat. (discussed further below). All EFP catch would also accrue toward the total non-whiting Chinook salmon bycatch guideline within the 2017 ITS (5,500 Chinook salmon). Therefore, the total expected impacts to Chinook salmon for all EFP trips north of 40°10′ N. lat. taken prior to May 15 would be low negative and limited to 800 Chinook salmon.

Aside from the impacts of the total catch of Chinook salmon under the preferred alternative, the geographic and temporal distribution of those impacts is important to estimate impacts to specific salmon ESUs. Matson and Erickson found that historical catch (pre-2000) of target species better informed the estimates of latitudinal shift that could occur under the proposed action than more recent catch information. This data showed that, excluding outliers, the range of catches during this time extended from 40° N. lat. to the Canadian border. Whereas, the more recent data put the range of catches from approximately 44° N. lat. to the Canadian border. Median values of geographic distribution were somewhat similar between historical and recent catch information. Matson and Erickson surmised this was because of the much higher non-whiting fishing effort (number of vessels and hauls) off Oregon and Washington relative to California, even when midwater fishing was allowed within the area of the trawl RCA south of 40°10′ N. lat. Therefore, based on historical data, it is unlikely that opening the area within the trawl RCA south of 40°10′ N. lat. would have additional significant impacts beyond those discussed in the Matson and Erickson analysis, because it is unlikely that there will be a large shift in geographic effort as a result of this spatial exemption. Additional mitigation was also assumed in the Matson and Erickson analysis for any fishing south of 42° N. lat. to limit any potential impacts that could arise from opening up that area year-round to less selective gear. Matson and Erickson (2017) knew that a limited number of EFP vessels (less than 10 annually) would be permitted to fish south of 42° N. lat. under the EFP and would be bound by the second sub-harvest guideline limiting their catch of Chinook salmon to 80 fish all year. Therefore, the total expected impacts to Chinook salmon for all EFP trips in the area south of 40°10′ N. lat. would be low negative and limited to 80 Chinook salmon.

Similarly, allowing midwater fishing prior to May 15 could impact a different mix of Chinook ESUs than those present fishing areas in the post-May 15 time period. The 800 Chinook cap for this time period, the small number of participating vessels, and the inseason monitoring and management provisions are expected to limit this impact so that the overall impact of the fishery on any ESU is within the effects considered in the 2017 biological opinion.

Finally, the preferred alternative also provides an exemption for vessels to use multiple gears, fish before previous catch is stowed, and for vessels fishing with electronic monitoring to retain salmon. Fishing with multiple gears and before previous catch is stowed should not have any additional impacts on salmon. Vessels fishing under these exemptions with observers will still be required to allow the observer to take all biological samples and data prior to any discarding. The purpose of the retention exemption is to ensure that on vessels that do not have human observers, the same biological data and samples are taken from each salmon caught on an EFP trip. As only a limited number of vessels within this EFP would also be fishing with electronic monitoring, and therefore receive this

exemption to retain salmon, it is unlikely that a large number of salmon would be landed under this EFP. If catches of salmon are similar to the 2017 Trawl Gear Modification EFP, then vessels are likely to land very few salmon (*See* Table 1). Also, because salmon lose their scales in trawl nets, they are unlikely to survive being discarded. Therefore, the impacts of retaining the salmon would be negligible and not significant, because analyses of projected salmon impacts from the groundfish fisheries already assume those salmon have perished.

Salmon Mitigation Measures

In an effort to address concerns with potential impacts to Chinook salmon, the applicants and the Council recommended that the proposed action include the same harvest guideline and sub-harvest guideline from the 2017 Trawl Gear Modification EFP, along with a second sub-harvest guideline (*See* Section 2.2.9 on bycatch mitigation). These harvest guideline and sub-harvest guidelines are meant to mitigate against potential adverse impacts to Chinook salmon caused by this EFP and were taken into account in the Matson and Erickson analysis in determining the potential for impacts to Chinook salmon. The 800 Chinook salmon sub-harvest guideline is meant to spread fishing throughout the year for data collection and also limit the potential impacts to stocks that might occur when fishing in all areas from January through April. The 80 Chinook salmon sub-harvest guideline for all fishing activity that takes place south of 42° N. lat. is meant to limit impacts on ESA-listed stocks, or their proxies, that most likely occur in that area. Neither the harvest guideline or sub-harvest guideline were breached, or even approached, during the 2017 Trawl Gear Modification EFP which took less than 10 salmon all year (Table 1).

The harvest guidelines and sub-harvest guidelines would also have indirect effects on the amount of target and non-target species caught by vessels fishing under the trawl gear EFP. For example, concerns over impacts to salmon south of 42° N. lat. have resulted in the 80 sub-harvest limit for that area for the effective dates of the EFP. If this sub-harvest guideline is reached, the EFP south of 42° N. lat. would close limiting impacts from vessels fishing under the EFP in that area on both target and non-target stocks.

The Council also recommended, and NMFS is including in the proposed action, the Klamath River and Columbia River Salmon Conservation Zones. Vessels fishing on an EFP trip are prohibited from fishing in these areas (*See* Section 2.2.9.1). These rivers are known to produce large runs of salmon annually, and closing these areas to effort from this EFP should help mitigate impacts on stocks in those areas.

Therefore, taking into account the analysis of impacts in the 2017–18 Harvest Specifications EA, the projected impacts in the 2017 biological opinion, and the mitigation measures included in the proposed action, as well as consideration of the results of the 2017 Trawl Gear Modification EFP, it is unlikely that the proposed action would result in significant impacts to Chinook salmon when compared to the no action alternative. Additionally, because of the harvest guidelines and sub-harvest guidelines coupled with 100 percent monitoring and real-time reporting, any impacts to Chinook salmon that result from this EFP would be expected to be within the harvest guideline and sub-harvest guidelines. Any impacts outside the harvest guidelines could be addressed immediately by the Regional Administrator for the West Coast Region who has the authority to close an area (i.e. south of 40°10’ N. lat.) or close the EFP prior to the end of the year.

3.2.4 Protected Species

Protected species are species protected under federal laws, including the ESA, the MMPA, the MBTA, and Executive Order (EO) 13186. Salmon that are incidentally caught in the groundfish fishery include both stocks listed under the ESA and unlisted fish and are defined by regulation as prohibited species, discussed above (*See* Section 3.2.3).

NMFS and the U.S. Fish and Wildlife Service (USFWS) completed a biological opinion in 2012 assessing the impacts of the Pacific Coast Groundfish FMP on eulachon, green sturgeon, Stellar sea lions, humpback whales, leatherback sea turtles, and listed seabirds. The biological opinion concluded that the ongoing operation of the fishery would not be likely to jeopardize the continued existence of listed species and issued an ITS with measures to monitor and minimize mortality of incidental takes of these species. The biological opinion also charged the Council with creating an Endangered Species Workgroup to compile information about and monitor compliance with the ITSs in the groundfish fishery.

The most recent report of the ESA Workgroup presented to the Council in April 2017 (Agenda Item F.5.a, Groundfish Endangered Species Act Workgroup Report) concluded that in general, groundfish fisheries have minimal interactions with ESA listed marine mammals, sea turtles, eulachon, green sturgeon, or seabirds, and the rarity of these ESA species in the catch makes projecting and estimating incidental take challenging. The Workgroup also concluded that because the ITSs for humpback whales, leatherback sea turtles, green sturgeon, and short-tailed albatross have not been exceeded recently, there is no need for any change in management measures, in regard to these species, for the Pacific Coast Groundfish fisheries at this time. Additional information on observed interactions between these species and the Pacific Coast groundfish fisheries can be found in the "Marine Mammal, Seabird, and Sea Turtle summary of Observed Interactions, 2002-2014" produced by the Northwest Fisheries Science Center (NWFSC).

Due to the rarity of interactions between groundfish trawl fisheries and most protected species, projected impacts to marine mammals, seabirds, and turtles caused by the trawl fishery are not expected to increase under the proposed action, above and beyond which was analyzed in Section 3.5 of the 2015–16 Harvest Specifications FEIS or presented by the Workgroup at the Council's April 2017 meeting. Therefore, these species are not addressed further in this section. If take of these species were to occur on an EFP trip, the Regional Administrator would have the ability to modify or close the EFP to address any concerns with the take.

Two protected species are discussed below due to their known interactions with groundfish trawl fisheries and the potential for increased interactions to occur through the Trawl Gear EFP. These species include eulachon and green sturgeon.

Eulachon

Eulachon are found in the eastern North Pacific ocean from northern California to southwest Alaska and into the southeastern Bering Sea. The southern DPS of eulachon was listed as threatened under the ESA in 2010 (75 FR 13012, March 18, 2010). Eulachon is an anadromous smelt. Adults migrate

from the ocean to freshwater creeks and rivers where they spawn from late winter through early summer. Take of southern DPS eulachon occurs as incidental catch in the groundfish bottom trawl and whiting fisheries, and mortalities result from encounters with fishing gear. The depth distribution of observed tows encountering eulachon bycatch from 2002-2010 indicates that most encounters (86 percent) occur in depths between 60 and 90 fm, which is shoreward of the trawl RCA.

Eulachon take exceeded the ITS allowance (1,004 fish) in 2011, 2013, and 2014. In 2011 the take was 1,624 fish, of which 1,268 fish were caught in the whiting catcher/processor sector, and the remaining take occurring in the bottom trawl, midwater trawl, shoreside whiting, and tribal sectors. Bycatch in 2013 was 5,113 fish, of which 4,139 fish were caught in shoreside whiting fishery, and the remaining fish were caught in the bottom trawl, midwater trawl, and whiting mothership and catcher processor sectors. Bycatch in 2014 was 3,075 fish. The groundfish bottom trawl and non-whiting midwater groundfish IFQ sector accounted for 91 percent of coastwide eulachon bycatch in groundfish fisheries in 2014 or 2,808 fish. Incidental take declined to an estimated 699 eulachon in 2015, and the groundfish bottom trawl and midwater groundfish IFQ sector was responsible for 92 percent of all eulachon bycatch in the groundfish fisheries of which 643 fish were in the bottom and midwater trawl sectors of the shoreside IFQ fishery. In April 2016, NMFS reinitiated consultation on eulachon due to exceedance of the ITS in the Pacific Coast groundfish fishery in previous years (2011, 2013, and 2014). The current consultation is ongoing.

In December 2016, because the consultation was still ongoing, NMFS conducted an analysis to determine the impact on ESA listed species of the ongoing operation of the fishery from the 2017-18 harvest specifications and Amendment 27 management measures. NMFS concluded based on observations of eulachon take since reporting of catch was initiated in 2010, the episodic nature of eulachon catch in the Pacific Coast Groundfish fishery, and on recent increases in eulachon populations, it is possible that the ITS of eulachon would be exceeded in 2017 or 2018. However, the average take over the available years of data (2002 – 2014) is 842 fish per year, which is less than the ITS of 1,004 fish. Given this low average, the likelihood that the population of eulachon was relatively high in the years when bycatch in the fishery exceeded 1,004 eulachon, and the extremely small numbers of eulachon taken by the groundfish fishery relative to the overall population and catch in other fisheries, it is likely that the effect of the proposed action on eulachon will be low negative. NMFS will continue to follow existing terms and conditions contained in the ITS during the reinitiated consultation.

Green Sturgeon

The southern DPS of North American green sturgeon was listed as threatened under the ESA in 2006 (71 FR 17757), and critical habitat was designated in 2009 (74 FR 52300). Green sturgeon critical habitat is designated from 0 to 60 fm. The depth distribution of all observed tows encountering green sturgeon bycatch was similar with most encounters taking place between 5 and 20 fm. Green sturgeon encounters have only been documented in limited entry bottom trawl (prior to 2011), IFQ bottom trawl (2011-present), and at-sea whiting sectors based on groundfish observer data. The majority of green sturgeons encountered by the west coast groundfish fishery are believed to be from the southern DPS (Al-Humaidhi, *et al.* 2011). Because the area between 0 to 60 fm is shoreward of the trawl RCA, the biggest concern will be with participating vessels fishing with bottom trawl gear in that area.

3.2.4.1 Impacts of the Actions on Protected Species

Impacts associated with the no action alternative are not expected to change. Under the no action alternative, the exempted fishing activities would not be permitted. Fishing by groundfish vessels and the impacts of the resulting catch of protected species would be expected to be the same as have been discussed in the analysis of the impacts on the affected environment in the 2017-18 Harvest Specifications EA and the 2012 Biological Opinion for non-salmonid marine species including listed eulachon, the southern DPS of green sturgeon, humpback whales, the eastern DPS of Steller sea lions, and leatherback sea turtles. These documents initially found that the continued operation of the groundfish fishery could adversely affect eulachon, southern DPS of green sturgeon, humpback whales, stellar sea lions, and leatherback sea turtles. However, those impacts are expected to be small as there is no information to indicate the fishery would cause any ITS for any of these species, except eulachon, to be exceeded under current regulations. And while, the fishery could exceed the ITS for eulachon in 2017 and 2018, the magnitude of take within the groundfish fisheries in comparison to other fisheries (e.g., the pink shrimp fishery) is significantly smaller. Where the pink fishery takes eulachon on the order of millions (almost 69 million fish in 2014), the groundfish trawl fishery takes an average of less than 1,000 fish per year. Therefore, the effect of maintaining no action is neutral for most species and low negative for eulachon. None of the impacts are significant.

Under the preferred alternative, participating vessels would receive exemptions to selective flatfish trawl and minimum mesh size. Vessels fishing with midwater trawl gear only would be permitted to fish in the trawl RCA coastwide and would be permitted to do so during the effective days of the EFP, and would not be limited to the Pacific whiting season only. Impacts to both eulachon and green sturgeon may increase when compared relative baseline environment due to the reduction in the selectivity of the gear from providing exemptions to the minimum mesh size and selective flatfish trawl gear requirements, and the geographic shift of the vessels when they are able to fish earlier in the year, as well as further south than under current regulations.

Eulachon have peak migration between January and April inshore of 100 fm where groundfish bottom trawl vessels in this area would have the selective flatfish trawl gear and minimum mesh size exemptions. Additionally, midwater non-whiting vessels would be permitted to fish for the effective dates of the EFP, which overlaps with the peak migration time. Increased effort inshore combined with reduced mesh sizes could increase bycatch of eulachon. Overall, bycatch of eulachon in the trawl fishery is typically low, with higher bycatch events during years of eulachon peak abundance (e.g., 2002, 2013). The ESA Workgroup has speculated that the overall low interaction rate could be driven by low encounter rates (few eulachon where trawlers are fishing) or low bycatch rates (eulachon are escaping the current minimum mesh sizes). Regardless, the Workgroup felt the impacts to eulachon from bycatch in the groundfish fishery were inconsequential when compared to the take in other fisheries and this should be considered when developing the new ITS levels. Results of the 2017 Trawl Gear Modification EFP have also shown no eulachon catch (Table 1) for vessels with the exemption to mesh size and the selective flatfish trawl gear requirements.

Applicants have stated verbally during public testimony that they want the reduced mesh size to eliminate gilling of marketable fish and do not intend to reduce the mesh size to target smaller fish. In addition, there is a strong incentive to use larger mesh sizes in order to minimize the amount of undersized, unmarketable fish that is debited from one's QP and the amount of fish stuck in the end

of the net. Bycatch rates are much higher for eulachon in the shrimp fishery where mesh sizes are much smaller (< 2 inches). This suggests that reducing the minimum mesh size could result in increased retention of eulachon that are encountered, which is not a result groundfish fishermen want. Therefore, it seems unlikely that participants would reduce their mesh size much below what is currently in regulation in order to avoid clogging their with unmarketable fish. Clogging the codend with fish also creates drag and can reduce fuel efficiency of the vessel which is another reason not to reduce the mesh to a size which result in these effects.

The Columbia River Salmon Conservation Zone would also be expected to limit bycatch of eulachon by limiting effort at the mouth of the Columbia River where eulachon migrate. NMFS would also monitor the bycatch of eulachon inseason and would require vessels also fishing with electronic monitoring to retain all eulachon at the haul-level so that all biological samples and data could be collected onshore. NMFS may also modify (i.e., close an area) or terminate the EFP to prevent the fishery from exceeding the ITS. Therefore, for all the reasons stated above, NMFS expects the same low negative impacts on eulachon that can be seen under the no action alternative (e.g., no change), none of which are significant.

Bycatch of southern DPS green sturgeon in the trawl fishery has occurred randomly over the past several years and been well below the ITS (20 in 2011, 11 in 2012, 5 in 2013, 15 in 2014, and 3 in 2015 out of 28/year ITS). Bycatch of southern DPS green sturgeon is not expected to increase significantly under the proposed action as interactions are rare. If participating groundfish bottom trawl effort shifts to more nearshore areas, which are designated as critical habitat for green sturgeon (inshore of 60 fm), there may be increased potential for bycatch. Any increase in bycatch would likely be very low and somewhat comparable to what would occur under the no action alternative, particularly if vessels fish their gear slightly off the bottom to target pelagic rockfish species as they did in 2017 since green sturgeon are mostly caught in bottom contact gear. As shown in Table 1, vessels participating in the 2017 Trawl Gear Modification EFP did not catch any green sturgeon.

The measures included in the EFP to mitigate against bycatch of salmon, such as some of the closed areas, would also likely minimize bycatch of sturgeon and mitigate against impacts from additional effort nearshore. Southern DPS green sturgeon are known to aggregate near the mouth of the Columbia River, so the Columbia River Salmon Conservation Zone closure would also likely limit bycatch of green sturgeon in the EFP. Restrictions on the amount of Chinook salmon bycatch allowed by EFP vessels fishing south of 42° N. lat. (80 fish) would likely limit EFP effort in this area that would also likely limit impacts to southern DPS green sturgeon. Additionally participation south of 42° N. lat. is limited to less than 10 vessels annually, which would reduce the amount of effort shoreward of the RCA and south of 42° N. lat. In addition, NMFS would monitor green sturgeon bycatch rates inseason to ensure that the ITS for the fishery overall is not exceeded and may modify or terminate the EFP if necessary. Bycatch rates of green sturgeon typically range from 1-3 individuals per tow, so NMFS and the industry would have ample notice of any green sturgeon bycatch event and be able to act to avoid further bycatch and possible exceedance of the ITS if necessary.

Other exemptions, including multiple gears onboard, fishing before previous catch is stowed, retention of eulachon, and declaration reporting are not expected to have any additional impacts on the protected species outside what has been disclosed in previous analysis. Eulachon will be required

to be retained by a limited number of vessels fishing multiple gears and with electronic monitoring. This should not have any additional impacts as eulachon already do not survive being caught in the net.

Therefore, based on the above information, the proposed alternative is likely to have low negative impacts on eulachon and green sturgeon when it comes to the gear, time, and area exemptions. However, these impacts are expected to be mitigated by some of the closed areas. None of the impacts under the no action or preferred alternative on non-target protected species are significant.

3.3 Socio-Economic Environment

The elements of the socio-economic environment that occur within the action area that may be impacted by the proposed action are discussed below. Potential impacts of the action alternative compared to the no action alternative are also discussed.

3.3.1 Harvesters and Communities

Information on the socio-economic environment of the Pacific Coast groundfish fisheries, is available in Sections 3.2 in the 2015-16 FEIS and the 2013-14 Groundfish Harvest Specifications FEIS, as well as EISs for earlier biennial periods, the 2017-18 Harvest Specifications EA, and the Whiting Fishery Chafing Gear EA (PFMC 2013a) that describe commercial fisheries targeting groundfish and characterizes West Coast fishing communities with respect to groundfish fisheries. Additional information on the shoreside IFQ program can be found in the 2016 Groundfish SAFE document that contains a series of tables summarizing landings and ex-vessel revenue in groundfish fisheries, landings and revenue by port, and indicators of fishery participation.

Because this EFP is intended to test a fishery and collect information, long-term impacts to the socio-economic environment are not expected and not discussed here. Additionally, because the pelagic rockfish fishery occurred so long ago and during a time where the fishery and participants were much different, it is unknown what type of impacts the re-emergence of this fishery might have on harvesters and communities. This EFP is meant to help gather relevant information to inform that analysis. A qualitative discussion of potential impacts of the alternatives on harvesters and communities is below.

3.3.2 Enforcement and Monitoring

Traditional enforcement methods, such as aerial surveillance, boarding at sea via patrol boats, landing inspections and documentation investigation, are especially difficult to use when dealing with large-scale closed areas (i.e., GCAs and RCAs) and the lines defining these areas are irregular. Furthermore, when management measures allow some gear types and target fishing in all or a portion of the conservation area, while other fishing activities are prohibited, it is difficult and costly to effectively enforce closures using traditional methods. Scarce state and federal resources also limit the extent to which traditional enforcement methods can be used effectively.

As mentioned in section 2.2.8 of this document, vessels are required under current regulations to submit declaration reports each time they begin a new fishing trip. Declaration reports are used by

NMFS OLE to identify the fisherman's intended use for the vessel and if the vessel would participate in a particular fishery with a specific gear. Because area restrictions are specific to the gear type and target fisheries, declaration reports are needed to adequately assess the vessel's activity in relation to the area restrictions. In addition to the groundfish fishery, there are numerous state and federal fisheries that occur in the U.S. EEZ off Washington, Oregon, and California. Because many of the groundfish vessels also participate in fisheries other than groundfish, during an enforcement flyover or from a VMS position report alone it is difficult to determine if they are fishing for groundfish or for a species and with a gear for which harvest is allowed in the closed area. Because groundfish regulations do not currently allow switching between fishing strategies (i.e. gears) on a single fishing trip, the declaration report can be used to affirm which regulations the participant is subject to on a particular fishing trip. Similarly, the declaration system assists WCGOP and NMFS OLE to know what vessels should have observer coverage. Therefore, a declaration report is necessary to identify what gear the vessel operator intends to use.

In addition to declarations and VMS, vessels participating in the Shorebased IFQ program are required to participate in WCGOP. WCGOP is a collaborative program between NMFS and the Pacific States Marine Fisheries Commission (PSMFC). Established in 2001, in response to the West Coast groundfish fishery being declared a disaster in 2000, WCGOP is the collection of coastwide, year-round discard rates for the Pacific Coast groundfish fisheries. A variety of observer coverages are in place across the Pacific Coast fisheries in an attempt to meet the needs of the Council to adequately assess the impacts of fishing activity on the fishery resource.

Individual accountability was purposefully built into the catch share program through the requirement for full monitoring of discards and landings. Without monitoring on each trip, a vessel would have an incentive to alter fishing behavior. Additionally, without complete shorebased and at-sea monitoring vessel operators or buyers could potentially discard overfished species when they reached their quota, which could exacerbate bycatch or a conservation issue. With these concerns in mind, the Council selected 100 percent monitoring for both fishing and offloads as a core element of the catch share program. Observers currently collect valuable fisheries data that helps inform fisheries managers and stock assessment scientists, as well as other fisheries researchers. In addition to observers, the offloading of catch share fish at fish buyers must also be watched by a catch monitor.

NMFS is also currently testing the use of electronic monitoring through another EFP. A proposed rule was published on September 2, 2016 (81 FR 61161) to implement electronic monitoring for two sectors of the limited entry trawl fishery: catcher vessels in the Pacific whiting fishery and fixed gear vessels in the Shorebased IFQ fishery. A final rule for those sectors is expected in 2018. More information on the WCGOP can be found at the PSFMC website and the NWFSC Observer Program website.

3.3.2 Impacts of the Actions on the Socioeconomic environment

Under the no action alternative, vessels would not receive an EFP and would not receive the exemptions to the gear, area, and time regulations as specified in Table 2. Vessels would continue to comply with existing requirements. Fishing behaviors and strategies would be expected to continue along previous trends. Catch levels and effort would remain the same. The impacts of fishing operations under current regulations was analyzed in the 2015–16 Specifications FEIS and 2017–18

Specifications EA. The no action alternative would not change the revenue or benefits to communities. Impacts from the no action alternative on enforcement would be the same as what occurs under the current regulations. Workloads and requirements under current regulations would not change. Therefore, the no action alternative would have negligible impacts on harvesters, fishing communities, enforcement, and management. None of the impacts under the no action alternative would be significant.

Under the preferred alternative, participating vessels would be able to fish for the effective dates of the EFP, this includes both groundfish bottom trawl and midwater trawl. Vessels would also be able to configure their gear in a way that is most efficient for them (e.g., multiple mesh sizes) resulting in a low positive impact, as the added flexibility could result in additional efficiencies such as a decrease in towing hours and a decrease in distances traveled to get to fishing grounds. Decreases in towing hours and distances traveled will also help contribute to safer fishing conditions. According to the GMT, some of the proposed exemptions would likely reduce operational costs (i.e. fuel costs) and create more efficient and safe fishing opportunities (Agenda Item E.9.b, GMT Report 2, November 2011). All of these factors combined could lead to more fish caught, possibly a higher price per pound, and less costs to the fleet resulting in a low to medium positive economic impact on the fishery, as well as the communities that support those fisheries.

Allowing vessels to fish under an EFP in areas or during times that haven't been fished recently allows for the collection of valuable information to help better inform Council and management decisions. As several species have recently been declared overfished, it is important to have the best available information about the fleet and potential bycatch of redeveloping these fisheries to inform stock assessments which provide the information to develop the biennial harvest specifications and management measures.

The preferred alternative would also allow for two additional exemptions relating to gear use and fishing activity. Neither of these exemptions would have direct implications for the physical environment or biological environment; however, they could have a low negative impact for the socio-economic environment, specifically monitoring and enforcement. The first of these exemptions would allow for multiple trawl gears to be used on board and fished on the same EFP trip (groundfish bottom and midwater trawl gear only), and the second would allow vessels to bring another haul onboard before a previous haul has been stowed. For vessels using multiple gears on an EFP trip, all catch would need to be sorted and kept separately until landing by gear type. Industry has suggested that these exemptions would contribute to the efficiency of the fishing operations. Further information on these two exemptions can be found in Section 2.2.6 and 2.2.7 of this document.

During discussion of these two exemptions at the March 2016 Council meeting, the GMT raised some concerns with regard to data collection and accounting that could arise (Agenda Item G.8.a, Supplemental GMT Report, March 2016). Specifically, the GMT was concerned with "…proper accounting of removals by gear type, and haul level data, especially for vessels that may be utilizing electronic monitoring (EM) solutions." The GMT was concerned that as different gears have different selectivities, it is necessary to keep catch separate by gear type to maintain reporting. If catch is not sorted, kept separate, and landed by gear type it could affect our understanding of the types and sizes of fish caught with each gear. In order to mitigate against this issue, the Council recommended that a requirement of using multiple gears is that all catch must be kept separate in the

hold and landed by gear type (*See* Section I.3 of the Terms and Conditions). The GMT was satisfied with this requirement that vessels separate catch by gear type and record it separately on electronic tickets. However, because there is no monitoring of catch in the holds, there is still some concern that catch could co-mingle before it offloaded, which could have a direct negative impact on the data of that is collected and an indirect effect on stocks (*See* Section 3.2.1.1). Vessel operators are aware of this concern and have informed the Council and NMFS that they will make every attempt to keep catch in the hold separate. If it becomes apparent that this is a difficult task or that certain vessels are not abiding by this requirement (as evidenced by the mixing of species predominantly caught by each of the gear types), then NMFS can amend the EFP to remove this exemption or remove any EFP holders that are not willing and able to comply with the terms of the permit.

The overall benefits to the anglers and communities from providing these exemptions could be a low positive impact due to the ability to further catch their allocation of target species, and increase in safety from reduced trips to port and the ability to stretch fishing over a longer period of time for non-whiting midwater trawl vessels. Impacts to managers and enforcement could be low negative as the EFP could create more workload, and the multiple gears on board exemption does create some concerns for maintaining the separation of catch until landing. If anglers are able to keep their catch separate and follow all the terms and conditions to ensure accurate reporting and reduce the negative impacts on managers and enforcement then the likely overall impacts to the socio-economic environment would be low positive. If there are impacts to catch accounting caused by issues with reporting of catch or if vessels are unable to comply with other terms and conditions, then the overall impact to the socio-economic environment could be low negative. Regardless, none of the impacts are significant.

CHAPTER 4—SUMMARY OF IMPACTS AND CUMMULATIVE EFFECTS

The following sections provide a summary of the total effects of the proposed action, as well as a discussion of the significance of the expected cumulative effects as they relate to the federally managed resources discussed in Chapter 3.

4.1 Summary of Impacts

Tables 10 through 12 provide summaries of the conclusions regarding impacts that are expected to occur as a result of the action alternative under consideration in this document.

Table 10. Summary of impacts to the physical environment for each type of gear, area, and time exemption included in the application and recommended by the Council.

Physical Environment	Alternative 1—No Action	Alternative 2—Preferred Alternative Exemptions							
		Mesh Size	Selective Flat Fish Trawl	Spatial (non-whiting midwater trawl only)	Temporal (non-whiting midwater trawl only)	Multiple Gears on Board	Fishing Before Previous Catch is Stowed	Retention of Salmon and Eulachon	Declaration Reporting
EFHCAs	no change	no change	no change—bottom trawl vessels are prohibited from fishing inside EFHCAs	negligible—EFHCAs are already open to midwater trawling when the waters surrounding the EFHCA are open to midwater trawling. EFHCAs inside the RCA south of 40°10′ within the RCA may be impacted but impacts are mitigated by limit on participation in this area	negligible—EFHCAs are already open to midwater trawling when the waters surrounding the EFHCA are open to midwater trawling	no change	no change	no change	no change
RCA	no change	no change	no change—bottom trawl vessels are prohibited from fishing inside the trawl RCA	negligible—the RCA is already open to midwater trawling during the Primary whiting season. Opening the area south of 40°10′ within the RCA to up to ten boats that are only fishing midwater gear should not cause any significant impacts	negligible—the RCA is already open to midwater trawling during the Primary whiting season. Opening the area south of 40°10′ within the RCA to up to ten boats that are only fishing midwater gear should not cause any significant impacts	no change	no change	no change	no change

Table 11. Summary of impacts to the biological environment for each type of gear, area, and time exemption included in the application and recommended by the Council.

Biological Environment	Alternative 1—No Action		Alternative 2—Preferred Alternative Exemptions						
		Mesh Size	Selective Flat Fish Trawl	Spatial (non-whiting midwater trawl only)	Temporal (non-whiting midwater trawl only)	Multiple Gears on Board	Fishing Before Previous Catch is Stowed	Retention of Salmon and Eulachon	Declaration Reporting
Target	no change	low negative—if vessels take more juvenile fish could reduce spawning stock biomass	no change—previous analysis assume full retention of these species	low negative—combined with other exemptions could impact stocks if more spawning rockfish are removed from stock	low negative—combined with other exemptions could impact stocks if more spawning rockfish are removed from stock	likely no change; possible indirect negative if stock assessment data to support fisheries management is affected	likely no change; possible indirect negative if stock assessment data to support fisheries management is affected	no change	no change
Non-Target	no change	low negative—less selective gear could result in more catch of juvenile rockfish and overfished species	low negative—less selective gear could result in more catch of co-occurring species, including overfish species	negligible—vessels may be able to land more pelagic rockfish but all impacts would have been covered in the 2017-18 Harvest Specifications	negligible—vessels may be able to land more pelagic rockfish but all impacts would have been covered in the 2017-18 Harvest Specifications	likely no change; possible indirect negative if stock assessment data to support fisheries management is affected	likely no change; possible indirect negative if stock assessment data to support fisheries management is affected	no change	no change

Biological Environment	Alternative 1—No Action		Alternative 2—Preferred Alternative Exemptions						
		Mesh Size	Selective Flat Fish Trawl	Spatial (non-whiting midwater trawl only)	Temporal (non-whiting midwater trawl only)	Multiple Gears on Board	Fishing Before Previous Catch is Stowed	Retention of Salmon and Eulachon	Declaration Reporting
Prohibited Species (Pacific Halibut, Dungeness Crab, and Salmonids)	no change	low negative—if vessels take more juvenile Salmon or if bycatch rate increases	low negative—if bycatch rates for prohibited species increases; mitigated for Pacific Halibut through IBQ	low negative—bycatch rates of salmon may increase with increased efficiency; additional impacts mitigated by harvest guideline, sub-harvest guideline for south of 40°10′N. lat., and limit on number of vessels fishing in this area	low negative—bycatch rates of salmon may increase with increased efficiency; additional impacts mitigated by harvest guideline and pre-May 15 sub-harvest guideline	no change	no change	Pacific Halibut and Dungeness crab—no change; Salmon – no change, limited number of participating vessels would be allowed to retain salmon and all salmon caught accrue against total salmon catch in the ITS	no change

Biological Environment	Alternative 1—No Action		Alternative 2—Preferred Alternative Exemptions						
		Mesh Size	Selective Flat Fish Trawl	Spatial (non-whiting midwater trawl only)	Temporal (non-whiting midwater trawl only)	Multiple Gears on Board	Fishing Before Previous Catch is Stowed	Retention of Salmon and Eulachon	Declaration Reporting
Protected Species (Eulachon and Green Sturgeon)	no change	low negative—if vessels take more eulachon or bycatch rates increase	low negative—if interactions increase with green sturgeon while fishing nearshore; mitigated by Columbia River Salmon Conservation Zone	low negative—vessels fishing south of 40°10′ N. lat. with midwater gear have the possibility of interacting with more eulachon; interactions with green sturgeon unlikely	low negative—vessels fishing earlier in the year with midwater gear have the possibility of interacting with more eulachon; interactions with green sturgeon unlikely	no change	no change	Green sturgeon—no change; eulachon—no change, limited number of participating vessels would be allowed to retain eulachon and all eulachon caught accrues against the total eulachon catch in the ITS	no change

Table 12. Summary of impacts to the socio-economic environment for each type of gear, area, and time exemption included in the application and recommended by the Council.

Socio-Economic Environment	Alternative 1—No Action	Alternative 2—Preferred Alternative Exemptions							
		Mesh Size	**Selective Flat Fish Trawl**	**Spatial (non-whiting midwater trawl only)**	**Temporal (non-whiting midwater trawl only)**	**Multiple Gears on Board**	**Fishing Before Previous Catch is Stowed**	**Retention of Salmon and Eulachon**	**Declaration Reporting**
Harvesters and Communities	no change	low positive—vessels have the flexibility to configure their gear in a way that works for them, communities may start to see more pelagic rockfish landed	low positive—vessels have the flexibility to configure their gear in a way in which works for them, communities may start to see more pelagic rockfish landed	low positive—vessels have the flexibility to configure their gear in a way in which works for them, communities may start to see more pelagic rockfish landed	low positive—vessels would have more flexibility to harvest their catch outside of the Primary whiting season; may increase efficiency and safety because vessels would not need to rush to obtain their allocations; communities may start to see more pelagic rockfish landed	low positive—could save money, increase safety, and increase profits by not having to return to port to change gears; communities may start to see more pelagic rockfish landed	low positive—could increase efficiency for vessels	no change	low positive—vessels would be permitted to make declaration at sea which could save them time and money

Socio-Economic Environment	Alternative 1—No Action	Alternative 2—Preferred Alternative Exemptions							
		Mesh Size	**Selective Flat Fish Trawl**	**Spatial (non-whiting midwater trawl only)**	**Temporal (non-whiting midwater trawl only)**	**Multiple Gears on Board**	**Fishing Before Previous Catch is Stowed**	**Retention of Salmon and Eulachon**	**Declaration Reporting**
Monitoring	no change	low negative—impacts to catch accounting from not knowing the mesh sizes used by vessels	no change	low positive—provide additional information on bycatch from fishing in a previously closed area	neutral—additional workload from tracking the EFP; however, additional information on a period of time for which there is little information	low negative—potential impacts if vessels do not sort and land catch by gear type	low negative—potential for impacts if catch comingles before it is stowed	low positive—able to obtain data on all salmon and eulachon at the haul level	no change
Enforcement	no change	no change	no change	no change	low negative—could increase workload by allowing additional vessels on the water earlier in the year	low negative—potential impacts are mitigated by requiring vessels to sort and land catch by gear; impacts could increase if vessels do not follow terms and conditions requiring additional enforcement	no change	no change	no change

4.2 Cumulative Effects

The purpose of a cumulative effects analysis is to consider the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. A cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

4.2.1 Affected Resources

In Chapter 3, the environmental components affected by the proposed action are identified and described. Therefore, section 4.2 discusses the significance of the cumulative effects of the action in relation to these affected resources:

- Physical environment—EFHCAs and the trawl RCA
- Biological environment—target species, non-target species, protected species, and prohibited species
- Socio-economic environment—harvesters and communities, monitoring, and enforcement

4.2.2 Geographic Boundaries

The analysis of impacts discusses an exempted fishing permit that would be issued to limited entry groundfish bottom trawl and non-whiting midwater trawl vessels that fish within the Council's geographic area of authority, the EEZ off the U.S. West Coast. The core geographic scope for each of the affected resources listed above is within the West Coast EEZ, specifically all areas north of 40°10′ N. lat., as well as within and seaward of the trawl RCA south of 40°10′ N. lat. However, for the purposes of cumulative effects, actions within the entire EEZ are considered. For human communities, the core geographic boundaries are defined as those U.S. fishing communities directly involved in the harvest or processing of Council-managed resources, particularly those of the states of Washington, Oregon, and California.

4.2.3 Temporal Boundaries

The temporal scope of past and present actions for the affected resources begins with the implementation of the 1996 Sustainable Fisheries Act, which required the MSA Federal list of authorized fisheries and gear (50 CFR 600.725(v)), up to the present day. The baseline period described in Chapter 3 relative to the affected environment is 2011–16. The proposed action pertains to the catch share program that was implemented in 2011. The remaining years make up the time period used to inform the 2017–18 Harvest Specifications and Management Measures and is the current state at no action. The temporal scope of future actions for all affected resources extends three years into the future. This period was chosen because it encompasses the next biennial management cycle, the dynamic nature of resource management, the vast changes in fishery right now, and lack of information on future projects makes it very difficult to predict impacts beyond this timeframe with any certainty.

4.2.4 Past, Present, and Reasonably Foreseeable Future Actions Other than the Proposed Action

Past and present actions and their effects are described in Chapter 3. This forms the environmental baseline. The cumulative effect results from the combination of the effects of these past and present actions, reasonably foreseeable future actions, and the proposed action. Ongoing and reasonably foreseeable actions with detectable effects are summarized below.

4.2.4.1 Fishery Related Actions

The historical management practices of the Council have resulted in positive impacts on the health of pelagic rockfish, such as widow, chilipepper, and yellowtail rockfish. Numerous actions have been taken to manage the fisheries for these species through amendment and specifications actions. In addition, the nature of the fishery management process is intended to provide the opportunity for the Council and NMFS to regularly assess the status of the fisheries and to make necessary adjustments to ensure that there is a reasonable expectation of meeting the objectives of the FMP and the targets associated with any rebuilding programs under the FMP.

The statutory basis for federal fisheries management is the MSA. To the degree with which this regulatory regime is complied, the cumulative impacts of past, present, and reasonably foreseeable future federal fishery management actions on the affected resources should generally be associated with positive long-term outcomes. Constraining fishing effort through regulatory actions can often have negative short-term socioeconomic impacts. These impacts are usually necessary to bring about long-term sustainability of a given resource, which should, in the long term, promote positive effects on human communities, especially those that are economically dependent upon pelagic rockfish as target species or as incidental catch in pursuit of other target.

Groundfish Harvest Specifications
NMFS approved harvest specifications for 2017 and 2018 for groundfish stocks. In 2017 and 2018 ACLs for some pelagic rockfish species (yellowtail and widow rockfish) were increased, in particular for widow rockfish, since it has been declared recovered from overfishing. NMFS approved for 2017–18 an increase in the ACL for widow rockfish of 11,290 mt (25 million pounds), one of the two primary pelagic species to be targeted under this EFP. The ACL levels in the 2017–18 harvest specifications are expected to bring an increase in benefits for the fishing industry.

The Council adopted final 2019 and 2020 specifications for all groundfish stocks, except for yelloweye rockfish, at their November 2017 meeting (*See* the Council's November 2017 Decision Document). The OFLs for widow, chilipepper, and yellowtail rockfish are expected to be high again with the 2019 and 2020 OFLs for widow rockfish being 12,375 mt and 11,714 mt, respectively. These OFLs are once again expected to provide increased benefits to fishing communities.

In addition to the harvest specifications, the Council also selected a preliminary range of management measures to be included in the 2019–20 biennial process. As part of that range of

alternatives, the Council included salmon mitigation measures for midwater trawl gears. These mitigation measures are meant to analyze the efficacy of applying whiting mitigation measures for salmon, such as closed areas (i.e. bycatch reduction areas and the ocean salmon conservation zone), to non-whiting midwater trawl vessels. The results of this analyses will be provided to the Council during an informational presentation at the March 2018 meeting. Preliminary preferred alternatives for all management measures will be selected at the Council's April 2018 meeting.

Trawl Rationalization Trailing Actions
The Council and NMFS continue to work together on the trawl rationalization trailing actions. All of these actions are expected to increase benefits from the fishery. Details on each action are available on the Council website. The most recent update on trailing actions was provided at the November 2017 Council meeting (Agenda Item F.2, Supplemental Staff Presentation 1).

Whiting Cleanup Rule
The cleanup rule, among other things, restricted the use of non-whiting midwater gear in the RCAs to the area north of 40° 10′. It also specified that the whiting season opening also apply to vessels that use of midwater gear to target non-whiting species (mainly pelagic rockfish). The final whiting clean-up rule was published in December 2015.

Electronic Monitoring (EM)
EM (cameras) are being proposed as an option to be used in lieu of the 100-percent observer coverage requirement. This proposal is currently being evaluated for all shorebased sectors under EFPs. The EM EFP program began in 2015. The Council's EM policy has been under development since 2011. Some participants in the IFQ program have reported difficulties in securing observers in a timely or consistent manner, so vessels may prefer the flexibility to turn on an EM (or video monitoring) system and leave port immediately versus waiting for an observer. The EM system would perform the function of monitoring compliance with IFQs. Therefore, EM is being explored as a flexible and economically viable substitute for the use of human observers in the trawl catch share program. EM was implemented on an experimental basis in all shorebased IFQ sectors in 2015. Vessel owners or their representatives were required to apply for and receive an EFP from NMFS, which specified the conditions that EM equipment may be used to monitor their fishing operations to document fishery discards. At its September 2014 meeting, the Council selected its final preferred alternatives for an EM program EFP for the Pacific coast limited entry trawl groundfish fishery catch shares program beginning in 2015. A proposed rule for the whiting and fixed gear vessels participating in the trawl IFQ program published in September 2016 (81 FR 61161), and a final rule is expected in 2018. The EFPs for bottom trawl gear are being extended to allow continued development of policy and a rule for non-whiting bottom and midwater trawl. Vessels fishing under this EFP will also be permitted to fish under the electronic monitoring EFP.

Gear Modification Package
Gear issues include multiple gears on a trip, gear modifications to increase efficiency, and restrictions on areas in which gears may be used. A final chafing gear regulation to allow for increased codend coverage on midwater trawl nets was published on December 2, 2014. The Council began consideration of a gear package at its September 2015 meeting. NMFS published a notice of intent to prepare an EIS on March 3, 2016 (81 FR 11189) with implementation expected in 2019. This EFP will help inform the changes considered in the EIS.

2017 Trawl Gear Modification EFP
As previously mentioned, NMFS approved an EFP for 2017 to collection information on the impacts to bycatch by providing groundfish bottom trawl vessels an exemption to the selective flatfish trawl gear and minimum mesh size requirements so that vessels could more efficiently target specific pelagic rockfish species. Thirty-two vessels enrolled, during an open enrollment period, to participate in the EFP and 11 vessels participated. The 2017 Trawl Gear Modification EFP was meant to support actions that would help to increase benefits to the fishery. Preliminary results of this EFP are presented in Table 1 of this document.

Modifications to EFH/RCAs
After completion of a 5-year review of EFH, the Council began a process for modifying EFH, EFHCAs, and the trawl RCA as they pertain to bottom trawl vessels only. The Council received a copy of the project team report in November 2016 (Agenda Item F.4, Supplemental EFH/RCA Project Team Report) and provided the project team with some guidance for moving forward, including the selection of their preliminary preferred alternative (*See* Council's November 2016 Decision Document).

4.2.4.2 Non-Fishery Actions

Non-fishing activities in the marine environment can introduce chemical pollutants and sewage; and may result in changes in water temperature, salinity, dissolved oxygen, and suspended sediment that can pose a risk to the affected resources. Human-induced non-fishing activities tend to be localized in nearshore areas and marine project areas, such as agriculture, port maintenance, coastal development, marine transportation, marine mining, dredging, and the disposal of dredged material. The non-fishing actions are not likely to have any measurable effect on the resources addressed in this EA and therefore are not discussed further in this section.

Cyclical Phenomena and Climate Change
Section 3.1 discusses the physical environment that may be affected by the proposed action. Because ocean currents and ecosystems, such as the California Current Ecosystem, are so large in scale they are not affected by issuance of a permit. Therefore, they were not discussed in this document. The Council's Fishery Ecosystem Plan (FEP), which is a living document, provides more detailed information on climate change and the effects of climate on ecosystem components.

4.2.6 Magnitude and Direction of Impacts of Actions Other than the Proposed Action

This section discusses the potential effects of the past, present, and reasonably foreseeable future actions, other than the proposed action, on each of the managed resources.

4.2.6.1 Physical and Biological Environments

Those past, present, and reasonably foreseeable future actions that may affect either directly or indirectly habitat (including EFH for FMP species), target and non-target species, bycatch, and protected resources, and the direction of those potential effects on the physical and biological environment are discussed here. As noted above in Section 4.2.4.2, non-fishing actions have no

measurable effect on resources addressed in this EA. Therefore, only fishery management actions are considered.

Fishery management actions taken through FMP processes since 1996 have had positive trends in the cumulative effects of fisheries on habitat and EFH and target species. It is anticipated that future management actions would continue along the same trends. The MSA requires, on an ongoing basis, that NMFS base conservation and management measures on the best scientific information available (16 U.S.C. § 1851(a)(2)), consider actions to conserve and enhance EFH (16 U.S.C. § 1855(b)), and minimize bycatch and bycatch mortality to the extent practicable (16 U.S.C. § 1851(a)(9). Together, those requirements anticipate a federal fisheries management regime that results in additional direct and indirect positive effects on habitat through actions that protect EFH for federally managed species and that protect the ecosystem services on which these species' productivity depends.

Of the specific fishery management actions mentioned previously, the groundfish harvest specifications and management measures biennial process may have had a minor negative effects on the physical environment previously. For example, the 2017-18 harvest specifications and management measures expanded allowable fishing area for at least some trawl fishery participants that may have had negative effects on habitat and species (PFMC 2016). The action to remove several gear requirements, including chafing gear, selective flatfish trawl gear, and the minimum mesh sizes for groundfish bottom trawl vessels may also have minor negative effects on bottom habitat by allowing trawl nets to operate closer to the ocean floor and rock formations (PFMC 2014b). Other management actions, such as modifications to EFH and RCAs could have negative effects on the habitat, particularly if the RCA is removed totally and groundfish bottom trawl gear is allowed to fish in an areas that has been closed to that gear for the past 15 years.

The federal fisheries management regime would also be expected to result in direct and indirect positive effects on target and non-target species and protected resources through actions that limit harvest to sustainable levels based on the best available science and measures to reduce and minimize bycatch. The impacts of fishing activities to protected resources are further minimized by actions taken under the ESA and MMPA to limit takes of ESA-listed and MMPA species. Of the specific actions mentioned previously, the harvest specifications and management measures biennial process likely has had some minor negative effects on biological resources compared to the absence of fishing, and the same going forward with future biennial specification cycles.

Taken as a whole, however, fisheries management within the EEZ has had a long-term positive and broad scope trend in minimizing the adverse effects of fishing gear on habitat, ending overfishing and rebuilding overfished stocks, and minimizing bycatch, and is expected to continue in that positive trend.

For the physical and biological environments, there are direct and indirect negative effects from actions that may be localized or broad in scope; however, positive actions that have broad implications have been, and NMFS anticipates would continue to be, taken to improve the condition of habitat, target species, non-target species and bycatch, and protected resources. Overall, fisheries actions have been, have had, or would have, a mix of positive, neutral or negative impacts on habitat, including EFH, depending on whether and how those actions increase human

interactions with the physical environment.

4.2.6.2 Human Communities/Social-Economic Environment

Those past, present, and reasonably foreseeable future actions that may affect the human environment, and the direction of those potential effects are discussed here.

As described above, fishery management actions taken through FMP processes since 1996 have had positive trends in the cumulative effects of fisheries on habitat and EFH and target species. The efforts to end overfishing and advance rebuilding of overfished stocks have had negative economic consequences on fishing communities in the short term due to reductions in catch limits and increases in fishing regulations. However, rebuilding of overfished stocks has provided more fishing opportunities for harvesters and increased revenues and is expected to continue to do so in the long term.

In addition, the requirements of the MSA to use the best scientific information available to manage fishing at sustainable levels and in a fair and equitable manner and to minimize adverse economic effects to fishing communities, and to promote safety at sea, anticipates such trends to continue into the foreseeable future. Of the specific fishery management actions mentioned above, the groundfish harvest specifications and management measures biennial cycle may have had positive effects for fishing communities previously due to expanded allowable fishing area for some trawl fishery participants and increased catches for previously overfished species (PFMC 2015). These positive effects should continue into the future with the implementation of future harvest specifications and management measures. Additionally, the proposed action to remove several gear requirements, including the minimum mesh size, the use of chafing gear on groundfish trawl nets, and the selective flatfish trawl may also have minor positive effects on fishing communities by allowing vessels more flexibility in operations that may result in greater catch with less effort.

For the human environment, there are direct and indirect negative effects from actions that may be localized or broad in scope; however, positive actions that have broad implications have been, and NMFS anticipate would continue to be, taken to improve the condition of the physical and biological resources to the benefit of human communities. Overall, fishing actions other than this action have had, or would have, a mix of positive, neutral or negative impacts on the human environment, on whether and how those actions increase human interactions with the physical and biological environments. Direct negative effects are related to fishing and actions that create area closures that force the fleet off of desirable fishing grounds. Fisheries actions have been, and NMFS anticipates would continue to be, trending toward positive effects.

4.6 Magnitude and Significance of Cumulative Effects including the proposed action

Considering the direct and indirect impacts of the proposed action when added to the impacts of past, present, and reasonably foreseeable future actions listed above, the cumulative impacts of the no action and proposed action alternatives are determined to be not significant for each resource (Table 13).

Table 13. Magnitude and significance of the cumulative effects; the additive and synergistic effects of the proposed action, as well as past, present, and reasonably foreseeable future actions.

	Effects of Past Actions	Effects of Present Actions	Effects of Future Actions	Effects of Alternative	Cumulative Effects	Contribution of Alternative to Cumulative Effects
Alternative 1 - No Action						
Physical and Biological Environment	ongoing low positive	ongoing mixed – positive and negative	ongoing mixed – positive and negative	ongoing low positive	low positive	Not significant
Human Communities/Socio-economic Environment	short-term – mixed; long-term – ongoing positive	short-term – mixed; long-term – ongoing positive	low positive	ongoing low negative	low positive	Not significant
Alternative 2 – Preferred Alternative						
Physical and Biological Environment	ongoing low positive	ongoing mixed – positive and negative	ongoing mixed – positive and negative	negligible to low negative	neutral (mix of positive and negative)	Not significant
Human Communities/Socio-economic Environment	short-term – low negative; long-term – ongoing positive	short-term – low negative; long-term – ongoing positive	low positive	low negative to low positive	low positive	Not significant

CHAPTER 6—LIST OF PREPARERS AND PERSONS CONSULTED

The following staff were responsible for the preparation of this document:

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Additionally, staff members of NMFS West Coast Regional Office and Northwest Fisheries Science Center, Pacific Fishery Management Council, and Pacific States Marine Fisheries Commission were also consulted in preparing this EA. No other persons or agencies were consulted.

CHAPTER 7—FINDING OF NO SIGNIFICANT IMPACTS (FONSI)

7.1 Background

Proposed Action:
The proposed action would allow NMFS to issue an exempted fishing permit (EFP) to limited entry groundfish bottom trawl and midwater trawl vessels.

Alternatives Evaluated in the Environmental Assessment:
Alternative 1—No action; do not issue a Trawl Gear EFP and vessels continue to fish under current regulations
Alternative 2—(Action alternative): issue a one-year Trawl Gear EFP to up to 60 vessels with specific terms and conditions that provides several exemptions to gear, time, and area restrictions, as well as mitigation measures to mitigate against impacts

Selected Alternative:
Alternative 2 was the both the Pacific Fisheries Management Council's and National Marine Fisheries Service's preferred alternative.

EFP Terms and Conditions:
Provisions applying to all vessels:

1) 3,547 Chinook salmon harvest guideline (HG) (This harvest guideline applies to all EFP and non-EFP non-whiting midwater vessels for the duration of the EFP).
2) 800 Chinook salmon sub-HG for pre-May 15th (These impacts count toward the 3,547 HG).
3) All fishing south of 42° N. latitude would be subject to an 80 Chinook salmon sub-HG total. These impacts count towards the 800 sub-HG and the 3,547 HG.

4) Prohibit fishing under the EFP within the Klamath and Columbia River Salmon Conservation Zones.
5) Change the definition for how mesh size is measured.
6) Vessels must follow all sampling requirements of the West Coast Groundfish Observer Program when using observers and the requirements in their individual vessel monitoring plan, if they're fishing under the electronic monitoring EFP as well.
7) Vessels fishing with multiple gears must sort, separate, and land all catch by gear type.
8) Protected and Prohibited Species Retention:
    a. Electronic Monitoring—permitted to retain all salmon and eulachon and must sort and land it by haul (all other protected and prohibited species must be discarded according to the specific vessel's monitoring plan
    b. Observed vessels—observers would take samples by haul and then all prohibited species, including salmon and eulachon must be discarded.
9) Include all the accountability and mitigation measures included in the application including the Klamath River and Columbia River Salmon Conservation Zones and participation in the industry's bycatch avoidance program.

Provisions for groundfish bottom trawl vessels:
1. North of 42° N. lat.—Exempt from selective flatfish trawl foot rope requirement when trawling shoreward of the Rockfish Conservation Area (both small footrope and SFFT are permitted)
2. Exempt from bottom trawl minimum mesh size requirement
3. Modification of the SFFT definition

Provisions for midwater non-whiting vessels:
1. Exemption from the May 15th start date for primary season.
2. Exemption to the restrictions on the use of midwater groundfish trawl gear within the trawl RCA south of 40° 10′ N. latitude.
3. Exemption from mid-water minimum mesh size requirement (3 inch).

Related Environmental Documents and Consultations
This FONSI is attached to the Environmental Assessment.

Additional Documents
Additional documents reviewed for this analysis are found in Chapter 7 – References.

7.2 Significance Review

ACTION TO ISSUE AN EXEMPTED FISIDNG PERMIT FOR LIMITED ENTRY GROUNDFISH BOTTOM TRAWL AND NON-WHITING MIDWATER TRAWL VESSELS IN THE SHOREBASED INDIVIDUAL FISIDNG QUOTA PROGRAM (IFQ): Trawl Gear EFP
Finding of No Significant Impact (FONSI)

The Council on Environmental Quality (CEQ) Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and

lists ten criteria for intensity (40 CFR 1508.27). In addition, the Companion Manual for NAO 216-6A·provides sixteen criteria, the same ten as the CEQ Regulations and six additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and any measures to reduce impacts and considered individually as well as in combination with the others.

1. *Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect would be beneficial?*

No. While the proposed action may provide some negligible to low negative impacts to the physical and biological environment, low positive benefits to the economic environment, and low negative impacts pertaining to monitoring and enforcement, these are not significant individually or cumulatively.

2. *Can the proposed action reasonably be expected to significantly affect public health or safety?*

The proposed action is expected to have a minor positive impact on safety for vessels using multiple gears. Instead of having to return to port each time to offload before switching between groundfish bottom trawl and midwater trawl gear, vessels will be permitted to switch gears at sea as long as they make the appropriate declaration according to the terms and conditions of the permit Additionally, vessels will have more time throughout the year to harvest their allocation which should allow them to fish more safely.

3. *Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?*

No significant impacts are expected to occur on any of the above areas. The proposed action does not change regulations or restrictions in any of the above areas that exist within the Exclusive Economic Zone (BEZ). And; while some additional fishing may occur over essential fish habitat conservation areas (EFHCAs), which are ecologically significant, the impacts from this fishing are not expected to be significant. Midwater trawl gear is not a bottom contact gear and contact with bottom habitat is limited; Midwater trawl gear is already allowed within the boundaries of the EFHCA when the surrounding waters are open to midwater trawling; therefore, additional significant impacts are not expected.

4. *Are the proposed action's effects on the quality of the human environment likely to be highly controversial?*

The impacts of the proposed action are not expected to be controversial. The proposed action is a one-year EFP, similar to the Trawl Gear Modification EFP issued in 2017, and is meant to further test the removal of certain gear, time, and area restrictions for the purposes of collecting information to support potentially relaxing some of these regulations. The changes are desired by industry and the information on salmon bycatch that would come from this EFP would help NMFS and the Council determine groundfish trawl impacts to BSA-listed salmon and eulachon, as well as the potential economic benefits that removing these restrictions might have for industry.

5. *Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?*

The possible effects on the human environment are relatively certain; many of them are similar to actual effects that have been observed under the EFP in 2017. The new effects, relating to new elements of the EFP are limited in their uncertainty and a limited-term EFP with specific terms and conditions that include bycatch limits, monitoring, and reporting is intended to inform NMFS and the Council about those effects.

There is some uncertainty around how participants may use/configure their gear and how providing these exemptions may impact bycatch or provide benefits to fishermen and communities. However, the proposed action would have monitoring and bycatch reduction measures in place to help address these uncertainties and keep catches within their predetermined limits.

6. *Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?*

The proposed action is a one year exempted fishing permit, which is meant to be used to collect information to inform future decisions by NMFS and the Council. The proposed action would not be setting precedents for future actions because new EFPs or EFP renewals have to be evaluated in light of the results of the previous EFPs and environmental conditions at the time of award. This EFP would help inform future decisions by both NMFS and the Council.

7. *Is the proposed action related to other actions that when considered together would have individually insignificant but cumulatively significant impacts?*

No. The proposed action would provide a one-year permit to up to 60 vessels annually to be exempt from certain gear, time, and area regulations for a one year period with built-in mitigation measures to reduce impacts. By the nature of an exempted fishing permit, these exemptions are not a permanent change to the regulations. Cumulative effects of this action in conjunction with other actions taking place in the near future are not expected to be significant. Additional actions under NMFS's consideration or the future Council consideration may require subsequent NEPA analyses to determine the cumulatively impacts at that time.

8. *Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?*

The project area encompasses the U.S. West Coast EEZ and state waters of the Pacific Ocean. No adverse impacts of this proposed action are anticipated on cultural, scientific, or historical resources because the proposed action would not in any way effect or involve these unique areas.

9. *Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?*

Salmon - The proposed action may have some impacts on salmon but they are not expected to be significant. In an effort to address concerns with potential impacts to Chinook salmon, the

applicants and the Council recommended that the proposed action ·include the same harvest guideline and sub-harvest guideline from the 2017 Trawl Gear Modification EFP, along with a second sub-harvest guideline *(See* Section 2.2.9 in the EA for this action on bycatch mitigation). These harvest guideline and sub-harvest guidelines are meant to mitigate against potential adverse impacts to Chinook salmon caused by this EFP and were taken into account in the Matson and Erickson analysis in determining the potential for impacts to salmon. The 800 Chinook salmon sub-harvest guideline is meant to spread fishing throughout the year and also limit the potential impacts to stocks that might occur when fishing in all areas from January through April. The 80 Chinook salmon sub-harvest guideline for all fishing activity that takes place south of 42° N. lat. is meant to limit impacts on BSA-listed stocks, and their proxies, that most likely occur in that area.

The harvest guidelines and sub-harvest guidelines would also have indirect effects on the amount of target and non-target species caught by vessels fishing under the trawl gear EFP. For example, concerns over impacts to salmon south of 42° N. lat. have resulted in the 80 sub-harvest limit for that area for the effective dates of the EFP. If this sub-harvest guideline is reached, the EFP south of 42° N. lat. would shut down limiting impacts from vessels fishing under the EFP in that area to both target and non-target stocks.

All Chinook salmon harvest guidelines and sub-harvest guidelines (numbers of Chinook salmon) within the provisions of the trawl EFPs are included in the projected impacts. As such, it is highly unlikely that the Trawl Gear EFP would result in significant impacts to Chinook salmon beyond what is projected to occur under the no action alternative. Additionally, because of the harvest guidelines and sub-harvest guidelines coupled with 100 percent monitoring and real-time reporting, any impacts to Chinook salmon that result from this EFP could be addressed immediately by closing an area (i.e. south of 40°10' N. lat.) or closing the EFP prior to the end of the year. Therefore, the likelihood that providing these exemptions under the proposed action would result in significant impacts to Chinook salmon when compared to the no action alternative is minimal.

Preliminary results of the 2017 Trawl Gear Modification EFP also show that the removal of the minimum mesh size and the selective flatfish trawl gear requirements for bottom trawl vessels has not increased catch of salmon for those vessels fishing in the EFP (Table 1 of the EA).

Seabirds - The proposed action is unlikely to cause the incidental take of seabirds protected by the Migratory Bird Treaty Act (MBTA) that differs substantially from levels previously considered, or from the no action alternative, as most seabird take does not occur in the trawl fishery. Additionally, the U.S. Fish and Wildlife Service (USFWS) BiOp (2017) indicated that the groundfish fishery would not likely jeopardize the continued existence of short-tailed albatross. USFWS also concurred with the NMFS determination, as stated in a biological assessment, that the fishery would not likely have an adverse effect on the marbled murrelet, and California least tern, as well as other USFWS BSA-listed species including southern sea otter, bull trout, or bull trout critical habitat.

Other marine species (eulachon, green sturgeon) - Consultation of eulachon has been reinitiated and is ongoing. The current eulachon bycatch take level is based on estimates acquired during the 2002-2010 fishery when eulachon abundance was severely depressed. Overall, bycatch of

eulachon in the trawl fishery is typically low. However, that could have been due to the requirement for a minimum mesh size as most eulachon would have been able to swim out of the net, or it could be due to low interactions between where vessels fish and eulachon. NMFS does not believe that the fleet would reduce their mesh size small enough to heavily impact eulachon, as the disincentives (e.g. fish are unmarketable, clogging of the codend, etc.) far outweigh the incentives. Additionally, preliminary results of the 2017 Trawl Gear Modification EFP show no eulachon catch (Table 1).

Green sturgeon can be caught in the trawl fisheries, but bycatch in the trawl fishery has been well below the incidental take statement in recent years. Under this EFP, vessels may shift effort to areas that include important habitat for green sturgeon that could increase take. However, the current 2017 Trawl Gear Modification EFP has been fishing in these areas this year, and there has been zero take of green sturgeon. Also, because green sturgeon tend to come up as 1-3 individuals per tow, NMFS would have ample time to address any concerns over take of green sturgeon before numbers come close to the incidental take statement.

Other ESA listed species (humpbacks, stellar sea lions, and turtles) were covered in the December 7, 2012 biological opinion that concluded that the groundfish fishery is not likely to significantly impact these species.

10. Can the proposed action reasonably be expected.to threaten a violation of federal, state, or local law or requirements imposed for environmental protection?

No. The proposed action is an experimental permit that NMFS would issue in accordance with federal regulations and the Pacific Fishery Management Council's Operating Procedure 19. All activities would be in compliance with current regulations, except where a specific exemption has been provided.

11. Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act (MMPA)?

The west coast groundfish trawl fishery is considered Category III fisheries under the MMPA, indicating a remote likelihood of or no known serious injuries or mortalities to marine mammals. The proposed action would riot adversely affect stocks of marine mammals as defined in the MMPA.

12. Can the proposed action reasonably be expected to adversely affect managed fish species?

The proposed action would not significantly impact target stocks of this EFP, such as widow, chilipepper, or yellowtail, because it would not change the amount of target species that can be harvested. Those annual catch limits (ACLs) are set through the biennial harvest specifications and management cycle. The target groundfish species harvest amounts are set consistent with the Pacific Coast Groundfish FMP, are based on the best available science, and are intended to prevent overfishing while achieving optimum yield as required by the MSA. There is 100 percent monitoring and accountability for groundfish caught.

The proposed action may have an impact on stock productivity if changing the trawl mesh size

causes smaller fish to be harvested. However, the incentive to target smaller fish or reduce the net size so as to catch more small fish is not there. These fish are not marketable but would be covered by IFQ. Therefore, the harvesters are likely to reduce their mesh size just enough to address concerns with gilled fish (fish stuck in the net), but not substantially change selectivity. Additionally, if at any time during this EFP, the Regional Administrator (RA) for NMFS West Coast Region becomes concerned with the impacts that arise from this EFP, the RA has the ability to close the EFP.

Total catch of non-target species could increase or decrease with changes in trawl gear configuration and use, but is expected to remain within acceptable harvest levels. For non-target groundfish species (including groundfish species other than rockfish, overfished species, and spiny dogfish) and Pacific halibut, regulations are in place under the Pacific Coast Groundfish FMP and the Halibut Act and Area 2A Catch Sharing Plan to limit incidental catch of halibut and groundfish to ensure that impacts to these species are sustainable. These regulations include quotas, trip/possession limits, size limits, and time/area closures. For non-target groundfish species that are part of a stock complex, a group of different groundfish species managed as a unit, component stocks should also be monitored to ensure no one stock is adversely affected.

13. *Can the proposed action reasonably be expected to adversely affect essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act?*

The proposed action is not expected to cause any additional impacts to EFH beyond what currently occurs through the no action alternative. Groundfish bottom trawling would still be prohibited from taking place inside EFHCAs and the trawl RCA. While this action does allow non-whiting fishing with midwater gear inside the RCA south of 40°10' N. lat. that is currently closed to midwater trawl gear, according to Amendment 19, midwater trawl is not considered a bottom contact gear and although it has the occasional contact with the bottom, the impacts are not significant. Midwater trawl gear is allowed in EFHCAs and the trawl RCA north of 40°10' N. lat. currently. Therefore, any additional impacts from opening this area to midwater trawling would not be significant even if it occurs over EFHCAs and within the trawl RCA.

14. *Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?*

No, the proposed action is not expected to adversely affect vulnerable marine coastal ecosystems as the biological systems that control ecosystems are much larger than anything in the proposed action. Additionally, no areas are being open to groundfish bottom trawling under the proposed action that aren't already open to groundfish bottom trawling. Impacts from opening the area within the trawl RCA south of 40°10' N. lat. are expected to be limited due to the limited number of vessels fishing in this area (<10) under this EFP.

15. *Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.)?*

Significant impacts to biodiversity and ecosystem function are not anticipated. The Pacific Coast Fishery Ecosystem Plan (FEP) (July 2013) provides information on groundfish and ecosystem interactions, including predator-prey relationships. The various life stages of groundfish play a

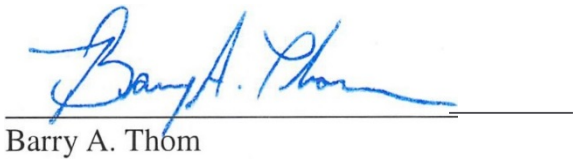
role in ecosystem function. The proposed action may increase the catch of smaller fish through changes to mesh size. Removing large amounts of smaller fish could possibly affect biodiversity or ecosystem function. However, the effect under the proposed action is not expected to be significant because harvest is within allowable harvest levels for the year and tracked through 100 percent monitoring. Fishermen also have a disincentive to reduce mesh size to very small levels as fish caught would need to be covered with IFQ and trip limits. Additionally, the incentive to take small fish does not exist as they are not marketable.

16. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

Activities under the proposed action would not involve the transport of non-indigenous species. The fishing vessels participating in the proposed action would not increase the risk of introduction through ballast water or hull fouling because they are vessels that have been and continue to be based on the west coast of the U.S. disposition of the catch does not include any translocation of living marine resources, nor use of any nonindigenous species as bait.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the issuance of this Trawl Gear EFP, it is hereby determined that this action would not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.



12/26/2017
Date

Barry A. Thom

Regional Administrator West Coast Region
National Marine Fisheries Service

CHAPTER 8—REFERENCES

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APPENDIX A. 2018 TRAWL GEAR EFP APPLICATION

Year-Round Coastwide Midwater Rockfish EFP*: Monitoring and Minimizing Salmon Bycatch When Targeting Rockfish in the Shorebased IFQ Fishery*

Date of Original Application:	**May 30, 2017**
First Revision:	**September 5, 2017**
Final Revision:	**October 4, 2017**
Applicant:	**West Coast Seafood Processors Association**, Lori Steele (Executive Director), 650 NE Holladay Street, Suite 1600, Portland, OR 97232; (503) 227-5076
	Oregon Trawl Commission, Brad Pettinger (Director), 16289 Highway 101 S., Suite C, Brookings, OR 97415; (541) 469-7830
	Midwater Trawlers Cooperative, Heather Mann (Executive Director), P.O. Box 2332, Newport, OR 97365; (541) 272-4544
	Environmental Defense Fund, Shems Jud (Oceans Program Pacific Regional Director), 1749 Regency Street, West Linn, OR 97068; (503) 358-7053
Timing/Duration:	**January 1, 2018 – December 31, 2018**
Note:	**This EFP proposal has been revised based on discussion at the June 2017 and September 2017 Pacific Fishery Management Council Meetings.**

Year-Round Coastwide Midwater Rockfish EFP*: Monitoring and Minimizing Salmon Bycatch When Targeting Rockfish in the Shorebased IFQ Fishery*

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1.0 BACKGROUND

1.1 PURPOSE AND NEED

The purpose of this exempted fishing permit (EFP) is to provide more flexibility in the configuration and use (in time and space) of midwater trawl and bottom trawl gear for participants in the groundfish trawl catch share (IFQ) program, and to provide the opportunity for vessels to use both gear types to target rockfish coastwide on a year-round basis, while ensuring that conservation objectives for the groundfish fishery continue to be met. This EFP will collect information to determine the nature and extent of bycatch of salmon and other species of concern while conducting a rockfish fishery targeting widow, yellowtail, chilipepper and other rockfish species without existing gear/time/area restrictions.

This EFP is needed to allow the fleet to develop approaches for effectively targeting rockfish while minimizing salmon bycatch to the extent practicable. It utilizes the individual vessel accountability inherent in the trawl IFQ program while providing for more fishing opportunities through flexible gear/area/time provisions that will allow fishermen, processors and associated communities to more fully realize the expected benefits of the IFQ program.

The timing of this EFP is critical. In order to ensure success, the EFP needs to start on January 1, 2018, to take advantage of the opportunity for market development, as discussed later in this proposal.

1.2 GOALS AND OBJECTIVES

The goal of this EFP is to demonstrate that removal of outdated and unnecessary gear and season restrictions in the trawl IFQ program can help the groundfish industry better meet the economic objectives of the trawl catch share program while keeping bycatch of salmon and other species within allowable limits. Benefits to the fishery will likely accrue from increased efficiency, reduced costs, and increased revenues. Moreover, the flexibility afforded by this EFP is expected to foster innovation and allow for more optimal harvest operations in the bottom trawl fishery, which could reduce bycatch and provide additional conservation benefits. This EFP will also allow NMFS, through cooperation with the industry, to collect information that will better inform the implementation process for recent and future groundfish management actions (ex., trawl gear package, year-round non-whiting midwater fishery) as well as address/mitigate any bycatch concerns, if necessary, prior to full implementation.

The overall objectives of the EFP are two-fold: (1) to advance the current (2017) selective flatfish trawl (SFFT) EFP, which exempts vessels from mesh size restrictions and SFFT requirements shoreward of the Rockfish Conservation Area (RCA), while incorporating additional elements of the Council's trawl gear package; and (2) to allow EFP participants to use midwater trawl gear to target rockfish year-round in all areas, within the constraints specified in the EFP. Achieving these objectives will enhance rockfish attainment and revenues for the groundfish trawl sector by providing greater flexibility and fishing opportunities to EFP participants.

The success of this EFP will be measured by the industry's ability to re-develop a targeted rockfish fishery while staying within limits established to minimize salmon bycatch. Expected outcomes include a significant increase in widow rockfish, yellowtail rockfish, and chilipepper rockfish landings, particularly during the first and last few months of the year.

- Regarding salmon bycatch, particularly Chinook salmon, the specific goal is for the EFP to remain open for the entire fishing year without the overall salmon bycatch cap being reached, demonstrating the effectiveness of industry-based salmon bycatch avoidance measures.
- With regards to a target fishery for rockfish, we aim to substantially increase combined widow, yellowtail and chilipepper rockfish landings from the current IFQ baseline of roughly 5 million pounds, thereby increasing revenues for harvesters and processors, and laying the groundwork to successfully redevelop an important sector of the groundfish fishery, which was integral to an economic production ecosystem that was disrupted when selective flatfish trawling restrictions and RCAs were imposed to protect overfished species.

Upon full implementation of the Council's trawl gear package and year-round non-whiting midwater packages, if markets can be redeveloped and infrastructure preserved, the Council and NMFS will likely take a significant step towards restoring and establishing the groundfish trawl fishery as it was envisioned with implementation of the IFQ program.

2.0 PROPOSED ACTION

In general, the action proposed in this EFP includes: (1) a continuation of the selective flatfish trawl (SFFT) and mesh size exemptions from the 2017 SFFT EFP; (2) addition of other elements of the Pacific Council's trawl gear package approved in March 2016; and (3) an exemption for non-whiting midwater trawl vessels from the prohibition on fishing prior to May 15 (and allowance for midwater fishing inside the RCAs prior to May 15). Additional details, restrictions, and related provisions are described below and in the following subsections.

The proposed action also includes a harvest guideline and bycatch caps for Chinook salmon, area closures, and a number of industry-based management measures to avoid salmon and minimize bycatch (see Section 2.1). More specifically, the EFP proposes the following:

I. **Several major elements of the Council's trawl gear change package, which are provided in March 2016 Agenda Item G.8, Attachment 1 *Gear Changes for the Pacific Coast Groundfish Fishery's Trawl Catch Share Program* and summarized below:**

   - No minimum mesh size for bottom trawl or midwater trawl (already authorized for bottom trawl in 2017 SFFT EFP);
   - Mesh size measurements taken between knots or corners;
   - Modify SFFT definition to allow 2-seam or 4-seam nets;

- Eliminate requirement of SFFT shoreward of RCA North of 42° N. lat. (already authorized in 2017 SFFT EFP)*,
- Multiple gears: any trawl gear allowed onboard, catch must be separated by gear type and recorded on separate tickets by gear type, salmon and eulachon must be sorted at the haul level and kept separate until landed; and
- New haul may be brought onboard and dumped on deck before all catch from previous hauls has been stowed, for:
    - Observed vessels - no mixing of hauls until observer has collected samples, after which all catch must stay separate by gear, and
    - Electronic Monitoring (EM) vessels – catch must be kept separate by gear until landed, all salmon and eulachon must be kept separate by haul until landed

This EFP does not include allowance for fishing in multiple IFQ management areas, removal of the codend restrictions, or removal of the chafing gear restrictions, which are also elements of the Council's trawl gear package.

**The components of this EFP related to bottom trawl gear (including continuation of the 2017 SFFT EFP) would be authorized only in the area north of 42° N. latitude on January 1, 2018. Upon reviewing the 2018 salmon pre-season forecasts (March 2018 Council meeting), the Council will consider adjustments to EFP provisions in the area south of 42° N. lat., including possible extension of the bottom trawl components of the EFP from 42° south to 40°-10'.*

II. **Elimination of May 15 non-whiting midwater trawl season start date requirement and corresponding restrictions from fishing with midwater trawls in RCAs**

(Revised following September 2017 Council Meeting):

- For vessels participating in the EFP, the current May 15 midwater non-whiting season start date would be eliminated, and non-whiting midwater trawl fishing could commence upon implementation of the EFP (January 1, 2018), unless otherwise specified in this EFP.
- Restrictions on the use of midwater groundfish trawl gear within the RCAs (as well as seaward and shoreward of the RCAs) would be lifted for EFP participants in the areas north of 40°-10' N. latitude.
- In the area south of 40°-10' N. lat., restrictions on the use of midwater groundfish trawl gear within the RCAs would be lifted, but vessels would still be prohibited from fishing with midwater trawls shoreward of the RCA.

III. **EFP Enrollment Provisions**

(Revised following September 2017 Council Meeting):

- Initial enrollment in the EFP will be similar to the 2017 SFFT EFP. To determine the universe of EFP participants, NMFS will send out a notice requesting interested parties contact NMFS to voice their interest by a specified date before the end of this year. NMFS will develop a process for limiting participation where necessary. In the area south of 42°, NMFS may use a process which includes allowing only vessels that reside south of 42° to participate.

IV. **Additional Provisions:**

- All quota required for the EFP will come from the EFP participants own IFQ quota accounts.
- Regulations pertaining to landings, discards, and trip limits for all target and non-target species remain unchanged under this EFP.
- All other provisions of EFP are consistent with the regulations for the groundfish bottom trawl fishery.

2.1 MEASURES TO ADDRESS SALMON BYCATCH

The industry recognizes that because there has not been a target pelagic rockfish fishery for many years, measures will need to be put in place to ensure that bycatch, and Chinook salmon bycatch in particular, is minimized.

2.1.1 Chinook Salmon Harvest Guideline and Bycatch Caps

This EFP maintains the same measures to minimize salmon bycatch as those included in the 2017 SFFT EFP and proposes an additional sub-cap on Chinook salmon bycatch south of 42° N latitude.

The measures proposed in this EFP to avoid and minimize salmon bycatch to the extent practicable include: a 3,547 Chinook salmon harvest guideline, which would apply to the entire midwater rockfish fishery (EFP and non-EFP). Additionally, no more than 800 Chinook salmon could be taken before May 15 (with no more than 80 taken from the area south of 42° N lat. during the entire year) to keep impacts aligned with NMFS' conclusions regarding the 2017 EFP and the current salmon Biological Opinion. Area closures will be established around the Columbia and Klamath Rivers, and EFP participants will be required to participate in an industry-based bycatch monitoring/avoidance program consistent with the 2017 SFFT EFP.

At the March 2017 Pacific Fishery Management Council meeting, NMFS worked with the SFFT EFP applicants and the Council's Groundfish Management Team (GMT) to develop a total bycatch estimate for the 2017 EFP that could be used as a Chinook salmon harvest guideline. This approach was adopted by the Council, and NMFS approved the harvest guideline of 3,547 Chinook salmon to assess bycatch occurring under the 2017 EFP. This guideline is based on an analysis prepared by the GMT for the 2017-2018 harvest specifications that projected the bycatch of Chinook salmon by midwater trawl vessels should the entire allocations of midwater rockfish species be attained in 2017.

The 2018 overall harvest guideline of 3,547 Chinook salmon would apply to catch from EFP vessels as well as non-EFP vessels targeting rockfish in the midwater trawl fishery beginning May 15, 2018. In addition, no more than 800 Chinook salmon may be taken in the EFP prior to May 15, and no more than 80 Chinook salmon can be taken from the area south of 42° N. latitude during the entire EFP. The harvest guideline and bycatch caps will be used to ensure that the EFP does not have a disproportionate impact on those ESA-listed Evolutionarily Significant Units (ESUs) present in the ocean early in the year.

2.1.2 Sorting/Retention Requirements for Salmon Bycatch

(Revised following September 2017 Council Meeting)

Participants in the EFP will be required to abide by the same sorting requirements of the 2017 SFFT EFP.

- **Electronic Monitoring (EM) Vessels** – Participating EM vessels would be exempt from the prohibition to discard prohibited species and would be authorized/required to retain salmon and eulachon; however, salmon and eulachon bycatch must be sorted by haul and kept separate until landing.
- **Observed Vessels** – For EFP vessels carrying observers, the observers will take samples of bycatch by haul and then all prohibited species, including salmon, are required to be discarded.

2.1.3 Area Closures

(Added following September 2017 Council Meeting)

The following rules for area closures are intended to further avoid/minimize salmon bycatch:

(1) **Klamath River Salmon Conservation Zone**. The ocean area surrounding the Klamath River mouth bounded on the north by 41°38.80′ N. lat. (approximately 6 nm north of the Klamath River mouth), on the west by 124°23′ W. long. (approximately 12 nm from shore), and on the south by 41°26.80′ N. lat. (approximately 6 nm south of the Klamath River mouth). See Figure 1.

http://www.mpatlas.org/mpa/sites/8590/

Rule. The Klamath River Salmon Conservation Zone will be closed to EFP trips for the duration of the EFP.

Figure 1 Klamath River Salmon Conservation Zone

(2) **Columbia River Salmon Conservation Zone**. The ocean area surrounding the Columbia River mouth bounded by a line extending for 6 nm due west from North Head along 46°18' N. lat. to 124°13.30' W. long., then southerly along a line of 167 True to 46°11.10' N. lat. and 124°11' W. long. (Columbia River Buoy), then northeast along Red Buoy Line to the tip of the south jetty. See Figure 2.

http://www.mpatlas.org/mpa/sites/8589/

Rule. The Columbia River Salmon Conservation Zone will be closed to EFP trips for the duration of the EFP.

Figure 2 Columbia River Salmon Conservation Zone

2.1.4 Industry-Based Bycatch Avoidance Program

EFP vessels will be required to participate in an industry-based bycatch avoidance program focused on avoiding and minimizing Chinook salmon bycatch to the extent practicable. The rules of the avoidance program will be based on the reporting/avoidance rules established for the current SFFT EFP. The elements of the industry-based bycatch avoidance program are generally summarized below.

- **Move-Along Rule When Bycatch is Encountered** – Thresholds for *high bycatch trips* and *high bycatch tows* will be established by the EFP program managers.
- A vessel that experiences a ***high bycatch tow*** is required to report the tow as quickly as possible (a reporting form will be provided to EFP participants). A vessel that experiences a high bycatch tow is also required to move its fishing operation before setting out gear again during the same fishing trip. The vessel captain must seek alternative fishing grounds where it is reasonable to expect the vessel to encounter less Chinook salmon bycatch.
- **There will be a three-strike rule for *high bycatch trips* by EFP vessels** – A vessel that lands three high bycatch trips during one month will be required to declare out of the EFP for the remainder of that month and for the following month. A vessel that must declare out of the EFP due to high bycatch trips for a second time during the EFP will have its permit for this EFP permanently revoked.

2.2 MONITORING/REPORTING REQUIREMENTS

Current monitoring and reporting requirements for midwater trawl and bottom trawl vessels in the IFQ fishery are proposed for EFP participants, including 100% at-sea observer coverage (or electronic monitoring (EM) if participating in one of the EM EFPs), as well as 100% dockside monitoring as required by Amendment 20 (50 C.F.R. 660.140(h)). This will continue to ensure that the harvest limits for targeted and incidental species are not exceeded and are accurately accounted.

2.2.1 Trip/Gear Declarations and Information about Gear Configurations

EFP participants will be required to: (1) provide information to NMFS and/or PSMFC regarding specific gear configurations used in the EFP; and (2) work with NMFS and PSMFC to modify the trip/gear declaration process as needed, to accommodate the use of multiple trawl gears on one trip, and to accurately document gear type use at the haul level. Consistent with the June 2017 Enforcement Consultant (EC) recommendations, this EFP can also test the ability of observer and/or electronic monitoring observations to accurately confirm the type of gear being used on each haul.

In general, electronic fish tickets are able to capture multiple gear types on a single ticket by species and weight, so there should be no accounting issues associated with allowing multiple trawl gear types on one trip. However, it may be more challenging for enforcement personnel to track fishing activity by gear type on a more real-time basis. At the June 2017 Council meeting, the EC identified two potential enforcement concerns associated with the EFP proposal, both of which relate to the ability to use two

trawl gear types during one trip: (1) monitoring the use of bottom trawl gear outside the RCA; and (2) monitoring midwater trawl gear within the RCA and the challenge of confirming bottom trawl gear was not used within the RCA during the trip. The EC agreed these concerns may be mitigated by enhancing the declaration process under the EFP to declare which gear type is being used at a given time.

2.2.2 Data Collection and Methodology

This EFP includes several methods for data collection:

- Data on catch and bycatch of all species will continue to be collected by at-sea observers and shoreside monitors consistent with current regulations for vessels participating in the bottom trawl and midwater trawl fisheries.
- As previously noted, EFP participants will work with WCSPA/OTC/MTC to monitor salmon bycatch as close to real-time as possible and avoid/minimize bycatch as the EFP progresses.
- We intend to continue working with Pacific States Marine Fisheries Commission to compile salmon bycatch data from EFP trips on a weekly basis, which we can use to communicate to the fleet and work with EFP participants to avoid and reduce bycatch to the extent practicable.
- In addition to ensuring accurate accounting and providing an opportunity for shoreside processors to work with local foodbanks to reduce waste while providing nutritious food to the public, the requirement to retain/land all salmon bycatch on EFP trips should increase samples available or genetic testing to determine how many Chinook have been harvested from each of the ESA-listed ESUs. Additional genetic information could help inform future approaches to avoid sensitive ESUs and ultimately enhance the long-term management of both groundfish and salmon.

2.3 NUMBER OF VESSELS

The initial enrollment process will define the actual number of participants in the EFP. This is the same approach that was utilized to identify participants in the 2017 SFFT EFP. See Section 2.0 of this document for more information.

2.4 DURATION OF EFP

This EFP is proposed for one year – January 1, 2018 through December 31, 2018. The bulk of landings from EFP participants are likely to come early and late in the year – before the primary whiting season starts (between January and May), and when pelagic rockfish fishing improves again in the late fall (October – December).

It is critical that this opportunity be available early in the year for several reasons. First, without gear flexibility and non-whiting midwater season flexibility, access to abundant pelagic rockfish ACLs will not be available until May 15, 2017. The fleet would lose nearly 40% of the fishing year. Further, it will be difficult to take advantage of abundant rockfish populations with a May start because shrimp and

whiting seasons will also be underway at that point limiting available processing capacity and filling markets with rockfish taken as bycatch in those fisheries. Finally, consumer demand is higher around Lent and lower over the summer (grilling season).

Accessing consumer demand requires months of preparation. Processors and distributors, working with retailers, plan promotions three to four months in advance, so that:

- Processors can work with fishermen to ensure delivery of product;
- Processing employees can be trained and filet stations made available at the plant;
- Trucking and delivery logistics can be arranged;
- Retail seafood case space acquired;
- Retail ads designed and printed;
- Retail staff educated and trained to answer questions;
- Related marketing materials and products are available at the seafood counters or points of sale.

Thus, marketing rockfish when seafood demand is high -- during Lent -- will help ensure rockfish will remain in retail seafood sections at times when seafood demand is less, such as summertime, when consumer interests favor other proteins. Trying to begin a marketing initiative when seafood demand is low will be twice as difficult. If the timing of this effort is not well-coordinated, it may not be possible to determine feasibility re-establishing the winter rockfish markets. As a consequence, the whole seafood industry could miss a prime opportunity and infrastructure may be lost. Due to the late implementation of the SFFT EFP in 2017, we largely missed the opportunity to begin to rebuild rockfish markets.

2.5 GEOGRAPHIC SCOPE OF EFP

This EFP would allow the midwater trawl fishery to operate within the RCAs, coastwide, on a year-round basis, within the constraints and consistent with the provisions identified in this proposal.

The 2017 SFFT EFP has been limited to the area north of 42° N. latitude for all of 2017 based on concerns about Chinook salmon bycatch in the Klamath Management Zone (KMZ). However, allowing some EFP activity to occur south of 42° N. lat. during 2018 would improve understanding of Chinook salmon bycatch in the area (i.e., bycatch rates and stock composition), which could help better inform future analyses related to the Council's trawl gear package and/or other management measures. In addition, it could help improve IFQ attainments, particularly of southern stocks like chilipepper rockfish, with limited salmon bycatch (if results are similar to the EFP that has occurred to the north in 2017). The groundfish industry is very sensitive to salmon bycatch concerns this year and understands that the salmon outlook for the next few years is similarly dire. As a result, this proposal includes an additional,

conservative sub-cap for Chinook bycatch in the area south of 42° N. latitude for the 2018 EFP (see Section 2.1 for more information).

At its June 2017 meeting, the Pacific Fishery Management Council directed NMFS to review the options for decision-making on the operation of this EFP south of 42° and report to the Council in September, including consideration of delaying approval of the EFP south of 42° until 2018 pre-season Chinook forecasts are available, and/or approving only limited elements of the EFP for the area south of 42°.

At the September 2017 Council meeting, the Council agreed that allowing some EFP activity to occur south of 42° N. lat. during 2018 would improve understanding of Chinook salmon bycatch in the area, which could help better inform future analyses related to other management actions. The Council authorized the continuance of the 2017 SFFT EFP only in the area north of 42° until it reviews the 2018 salmon pre-season forecasts (March 2018 Council meeting). At that time, the Council will consider authorizing the SFFT EFP to also occur in the area from 42° to 40° 10' N. latitude. The Council also voted to establish a Chinook salmon bycatch cap of 80 fish for ***all*** EFP activities (bottom trawl and midwater trawl) occurring south of 42° N. lat. in 2018 (see Section 2.1.1 for more information).

3.0 TARGET SPECIES, NON-TARGET SPECIES, AND PROTECTED RESOURCES

3.1 TARGET SPECIES

There are a number of target species in the groundfish fishery, which differ based on fishing strategy, area, and time of year. This EFP is focused on redeveloping the directed rockfish fishery to catch primarily widow rockfish, yellowtail rockfish, and chilipepper rockfish. The annual catch limit for canary rockfish, which previously acted as a major choke to harvesting these and other species, is increasing significantly, providing greater opportunity to target widow, yellowtail, and chilipepper rockfish as well as other valuable shelf species. According to the most recent stock assessments:

- Widow rockfish is considered rebuilt (He et al. 2011).
- Spawning biomass of yellowtail rockfish has remained above 40 percent of unfished spawning biomass since 1995. Annual fishing mortalities have been less than F_{MSY} since 1997, due to more restrictive regulations put in place to rebuild other overfished rockfishes (Wallace and Lai 2005).
- Chilipepper rockfish was approximately 70 percent of its unfished spawning biomass, and the exploitation rate has rarely exceeded the current target. From the late 1990s through the present, exploitation rates have been declining significantly, as a result of management measures implemented to rebuild other depleted rockfish species (Field 2007).
- A full assessment of canary rockfish was conducted in 2015 (Thorson and Wetzel 2015), which indicated the stock was rebuilt with a depletion of 56% at the start of 2015.

Table 1 describes the groundfish shoreside trawl allocations for a number of target species for 2017 and 2018 relative to 2016, highlighting a dramatic increase in quota for almost every stock (target stocks for this EFP are shaded in gray). The 2018 allocations of chilipepper and widow rockfish increased 154% and 797%, respectively, from 2016 allocations. Table 2 summarizes average historical and recent catches of the EFP target stocks relative to the 2018 shoreside trawl allocations. The 2018 allocations for the target rockfish species under this EFP represent a huge increase from recent and historical average catches in all cases. Widow rockfish catch could increase 25 times the 2011-2015 average under the 2018 allocation. This highlights the potential for a renewed directed rockfish fishery rivaling the historically high catches of the 1990s.

Table 1 2017/2018 Shoreside Trawl Allocations (Pounds) Compared to 2016 Allocations for Key Groundfish Stocks

	2016 SS Allocation	2017 SS Allocation	2018 SS Allocation	2018 QP % of 2016 QP	Increase in Poundage 2018:2016
Arrowtooth flounder	6,687,458	24,516,697	24,388,608	365%	17,674,695
Bocaccio rockfish	187,437	666,677	628,972	336%	479,234
Canary rockfish	98,062	2,235,705	2,235,684	2280%	2,137,623
Chilipepper rockfish	2,637,280	4,234,634	4,067,487	154%	1,597,316
Darkblotched rockfish	645,536	1,119,065	1,143,085	177%	473,519
Dover sole	101,370,312	101,381,655	101,380,736	100%	-599
English sole	14,631,287	20,422,718	15,339,607	105%	5,780,223
Lingcod N.	2,388,422	3,030,691	2,809,322	118%	609,173
Lingcod S.	929,491	1,232,162	1,126,110	121%	302,660
Pacific ocean perch	273,704	437,176	437,172	160%	163,468
Petrale sole	5,805,653	6,063,366	5,805,814	100%	246,856
Sablefish North*	5,315,874	5,282,270	5,560,000	105%	835,180
Widow rockfish	3,131,931	25,116,588	23,502,346	750%	21,984,415
Yellowtail rockfish	9,648,906	10,022,423	9,646,007	100%	-287,954

Source: CFR

**The 2018 figure for N Sablefish represents the shoreside allocation only. The total trawl allocation is 2,572 mt, with a 50 mt allocation to the at-sea sector.*

Table 2 Average Historical and Recent Catch (Pounds) of Target Species Compared to 2018 Shoreside Trawl Allocations

	Average 1995-1999	Average 2001-2010	Landings 2011-2015	2018 SS Trawl Allocation
Chilipepper Rockfish	2,861,986	299,828	575,406	4,067,487
Widow Rockfish	10,937,672	608,475	1,016,330	23,502,346
Yellowtail Rockfish	5,792,916	1,466,072	3,044,580	9,646,007
Total	19,592,574	2,374,375	4,636,316	37,215,840

3.2 NON-TARGET SPECIES AND PROTECTED RESOURCES

Non-Target Species

Non-target species in the groundfish bottom trawl fishery are described in Section 3.2.2 of the March 2016 Draft EIS for the Council's trawl gear change package. We do not anticipate that EFP fishing will lead to a significant increase in catch of non-target species relative to non-EFP bottom trawl activity, even though target species catch is expected to increase significantly. On the contrary, the intent of the EFP is to reduce the incidental catch of some non-target species by providing groundfish fishermen more flexibility to configure their nets to more efficiently catch target species and reduce the catch of unwanted, overfished, and/or prohibited species.

To date, fishing under the 2017 SFFT EFP has resulted in minimal bycatch of salmon and other non-target species despite over 2 million pounds of rockfish landed. As of October 2, 2017, ten vessels have landed fish in the SFFT EFP, landing 2,319,111 pounds of groundfish on 48 trips (Table 3). A total of four (4) Chinook salmon, 0 unidentified salmon, 0 coho salmon, 0 eulachon, and 0 green sturgeon have been caught on all SFFT EFP trips in 2017.

Table 3 Catch and Bycatch YTD on Trips Taken in 2017 Selective Flatfish Trawl EFP

Year	# Vessels	# Trips	# Chinook	# Unid. Salmon	# Coho	# Green Sturgeon	# Eulachon	Groundfish (Total Lbs.)
2017 SFFT EFP	10	48	4	0	0	0	0	2,319,111

**Data reflect catch through October 2, 2017.*

So far this year, fishing in the non-whiting midwater trawl fishery (open May 15, 2017) has resulted in minimal bycatch of salmon and other non-target species as well, with over 6 million pounds of rockfish landed. As of October 2, 2017, 14 vessels have landed fish in the non-whiting MWT fishery, landing 7,781,782 pounds of groundfish on 92 trips since May 15, 2017 (Table 4). Eighteen (18) Chinook salmon, 0 unidentified salmon, 0 coho salmon, 0 eulachon, and 0 green sturgeon have been caught on non-whiting MWT trips taken in 2017.

Table 4 Catch and Bycatch YTD on Trips Taken in Non-Whiting MWT Fishery (Open May 15, 2017)

Year	# Vessels	# Trips	# Chinook	# Unid. Salmon	# Coho	# Green Sturgeon	# Eulachon	Groundfish (Total Lbs.)
2017 MWT	14	92	18	0	0	0	0	7,781,782

*Data reflect catch through October 2, 2017.

ESA-Listed Species

The non-target species of particular concern under this EFP is ESA-listed Chinook salmon. The Chinook ESUs that NMFS has concluded to be affected by the groundfish fisheries are Snake River fall Chinook, Upper Willamette River Chinook, Lower Columbia River Chinook, Puget Sound Chinook, Sacramento River winter-run Chinook, California coastal Chinook, and Central Valley spring-run Chinook (NMFS 2006). Chinook bycatch is addressed and minimized to the extent practicable in this EFP – see additional discussion in Section 4.0.

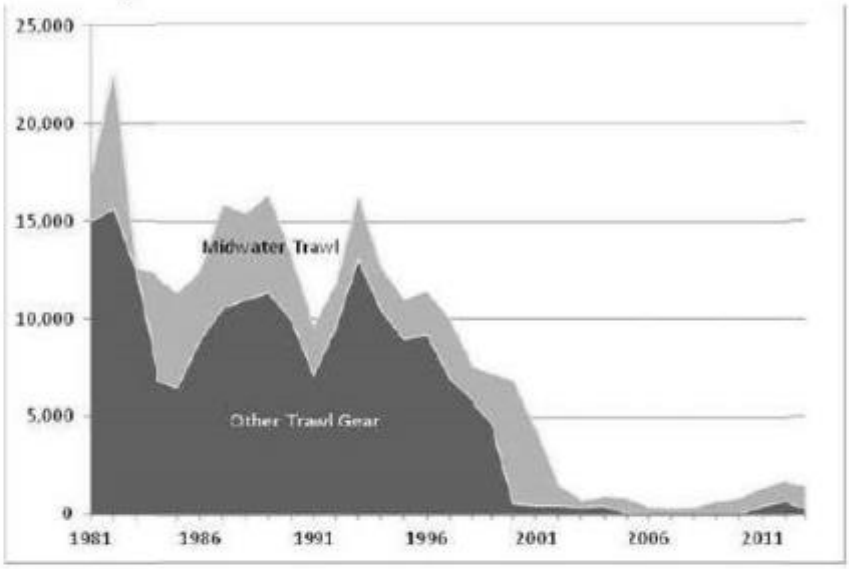
4.0 JUSTIFICATION/RATIONALE FOR THE EFP

This EFP directly addresses almost all of the EFP priorities identified by the Council in its Operating Procedures (see COP 19 regarding Consideration of Exempted Fishing Permits for Groundfish Fisheries) by emphasizing resource conservation and management with a focus on bycatch reduction, which is the Council's highest priority. It encourages innovative gear modifications and fishing strategies to reduce bycatch as well as the development of new market opportunities for the industry. By allowing this opportunity, the harvest of rockfish should increase considerably, which would enhance attainment of optimum yield in the groundfish fishery, consistent with National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

Elimination of Gear, Time, and Area Restrictions for IFQ Vessels

Between 1980 and 2000, the shoreside trawl fishery landed more than 60 million pounds of rockfish annually, worth roughly $25-30 million in 2016 dollars. Rockfish landings declined precipitously in the early 2000s due to the declaration of a number of overfished rockfish species and corresponding measures, like the Rockfish Conservation Area (RCA) and SFFT, enacted to rebuild those populations. The following figure clearly illustrates the dramatic decline in widow and yellowtail landings in the early 2000s.

Figure 3 Landings of Widow and Yellowtail Rockfish by Trawl Gear Type, 1981-2013 (PFMC 2015)



Now, after more than 15 years of hard work by fishery managers and stakeholders, and sacrifice on the part of industry, several severely constraining overfished species have been declared rebuilt, and target rockfish populations are at abundant levels. The combined trawl quota for rockfish in 2018 exceeds 60 million pounds. Landing three quarters of that fish would double the value of the bottom trawl fishery bringing much needed revenue to struggling shoreside harvesters, processors and communities.

Coupled with the 2011 trawl catch-share program which allows us to know with near precision the total mortality associated with the fishery, and provides near real-time landings and discards information, there is a tremendous opportunity to build on the early success of the 2017 gear EFP by increasing attainment of abundant rockfish species in a sustainable way that fosters greater revenue and stability for harvesters, processors and associated communities.

Selective flatfish trawl gear was designed and implemented in regulation to reduce the bycatch of round fish such as rockfish and salmon, while increasing the catch of flatfish species. However, the two-seam design of the net makes it difficult to include some types of bycatch excluders. Eliminating the SFFT requirements provides fishermen with more flexibility in designing their gear and would increase the opportunity for using bycatch reduction devices of different types. It is important to note that this EFP does not eliminate the use of the selective flatfish trawl but rather expands the options available for fishermen to harvest in the most efficient manner possible.

Removal of the minimum mesh size and other gear requirements will enhance the opportunity provided by removing the SFFT requirement, and due to other incentives inherent in the IFQ program, will not result in a significant increase in catch of undersized and unmarketable fish or sensitive species. Specifically, removal of the minimum mesh size requirement will:

- Enhance the rockfish opportunity provided by removal of the SFFT because 4.5-inch mesh results in numerous gilled widow rockfish resulting in poor functioning of excluders and added deck time cleaning the net.
- Enhance the ability to design excluders – there may be places in the net where you don't want any fish to escape so that you can direct them to a sorting panel, or you want to manipulate the water flow with tighter web.
- Retain the strong economic incentives inherent in program to avoid undersized/unmarketable fish.

Removing the May 15 non-whiting midwater season start date will provide an additional four and half months of midwater target opportunity. As with removal of the SFFT and mesh size requirements, the incentives inherent in the IFQ program, full accountability, and the salmon bycatch avoidance mechanisms of this EFP, providing participants with flexibility to determine when, where, and how to fish for rockfish will not result in significant increases of juvenile fish, unmarketable fish, or sensitive species.

Measures to Address Salmon Bycatch

One of the primary objectives of this EFP is to better understand the nature and extent of salmon bycatch in a redeveloping year-round fishery targeting pelagic rockfish species in all areas. This EFP provides for a fishing opportunity that is necessary to improve attainment of optimum yield in the groundfish fishery and improve consistency of the Groundfish FMP with National Standard 1. However, it is equally as important to consider National Standard 9 (bycatch) and ESA requirements in order to balance the socioeconomic needs of the groundfish fishery with multiple conservation objectives. To achieve this balance, this EFP establishes a conservative salmon bycatch cap and includes industry-based initiatives for collecting information and working cooperatively to minimize bycatch and operate the fishery within acceptable limits. Participants in the EFP will agree to actions to minimize bycatch (identical to the salmon avoidance structure outlined in the 2017 gear EFP) and will comply with all provisions specified in the EFP.

The proposed salmon bycatch provisions in this EFP represent a conservative approach to address salmon bycatch because the Chinook harvest guideline represents less than half of the threshold for the bottom trawl fishery, which has taken a few hundred Chinook annually since 2006. This number was recommended by the Groundfish Management Team (GMT) because it represents the estimated total Chinook salmon taken by the midwater rockfish fishery assuming the full take of the IFQ allocation of canary, widow, and yellowtail rockfish. Due to marketing constraints, actual Chinook salmon bycatches for the midwater rockfish fishery may be lower than 3,547 fish.

The short duration of this EFP (1 year) and the provisions established in the EFP ensure that any impacts from salmon bycatch would be short-term in nature and could be mitigated quickly. Unless salmon bycatch in other sectors of the bottom trawl fishery increases significantly, it is exceedingly unlikely that this EFP would cause the any bycatch thresholds for Chinook salmon to be exceeded. To date, bycatch after several months of fishing under the 2017 SFFT EFP is only four Chinook salmon (see Table 3).

5.0 BROADER SIGNIFICANCE

The groundfish trawl catch share program was designed to:

Create and implement a capacity rationalization plan that increases net economic benefits, creates individual economic stability, provides for full utilization of the trawl sector allocation, considers environmental impacts, and achieves individual accountability of catch and bycatch. (TRAT FEIS, page 5, June 2010).

That broad goal is supported by the following objectives:

1. Provide a mechanism for total catch accounting.
2. Provide for a viable, profitable, and efficient groundfish fishery.
3. Promote practices that reduce bycatch and discard mortality and minimize ecological impacts.
4. Increase operational flexibility.
5. Minimize adverse effects from an IFQ program on fishing communities and other fisheries to the extent practical.
6. Promote measurable economic and employment benefits through the seafood catching, processing, distribution elements, and support sectors of the industry.
7. Provide quality product for the consumer.
8. Increase safety in the fishery.

While aspects of the overarching goal and a number of the specific objectives related to accountability, bycatch reduction and minimization of ecological impact have undoubtedly been achieved, we have yet to see any significant progress on the economic objectives, particularly for the bottom trawl fleet. Specifically, the program has so far failed to promote measurable economic and employment benefits for industry, and has not resulted in anything close to full utilization of the trawl sector allocation. In fact, overall landings were only about 20% of the allocation in 2015, and the average pounds landed under the catch share program have been lower than in the several years pre-catch shares. Coupled with high costs of participation in the program stemming from the 3% LAPP fee and the requirement for 100% industry-funded at-sea and dockside monitoring, low attainment is creating economic hardship for many fishermen and processors. Demonstrating that removal of outdated regulations, like the SFFT, enacted under a completely different management regime, can occur without adverse outcomes for salmon or other species of concern will allow the Council and NMFS to begin to peel back the layers of

duplicative regulation to ultimately foster an efficient, profitable groundfish fishery that achieves the goals of Amendment 20.

6.0 POTENTIAL IMPACTS

Overall, the impacts of the EFP are not expected to be significant and are anticipated to be generally within the range of impacts analyzed as part of the Council's trawl gear change package. Annual catch limits for target species, hard quotas and other measures to minimize catch of non-target species, and 100% fleet accountability will ensure that the biological/conservation objectives of the groundfish management program will continue to be met if this EFP is authorized. The additional limitations proposed in the EFP, such as the Chinook salmon bycatch harvest guidelines and industry-based bycatch monitoring/avoidance program, are more conservative than the measures that are expected to be implemented by NMFS fleet-wide within the next year.

6.1 BIOLOGICAL/CONSERVATION IMPACTS

With the exception of a potential impact on salmon, the biological/conservation impacts of the EFP are expected to be neutral or negligible. The impacts on salmon are addressed and minimized to the extent practicable through the establishment of specific measures to address Chinook salmon bycatch, recognizing that NMFS could/would shut down the EFP at a level that is well below any bycatch threshold specified in a Salmon ESA consultation. In addition, impacts are minimized through an industry-based bycatch monitoring/avoidance program that mirrors the current program under the SFFT EFP. The potential impacts of this EFP are generally discussed below.

Impacts on Target Species

Removing the gear/time/area restrictions provides groundfish fishermen with more flexibility in the types gear they use as well as when/how they fish, which is consistent with the goals/objectives of an IFQ management program. The provisions in this EFP should allow fishermen to more effectively target some groundfish species and allow catch to increase within the constraints of annual catch limits (ACLs). Fishermen could still use selective flatfish trawl gear shoreward of the RCA coastwide; it would remain a fishing gear available for use by fishermen, but its use would not be required. This EFP gives fishermen more flexibility in their fishing strategies. They could target flatfish and reduce rockfish bycatch with selective flatfish trawl gear, or they could target other groundfish species with small footrope trawl gear that did not have a cut-back headrope.

As previously stated, catches of target species under this EFP are expected to increase substantially above recent levels but will remain within the conservation limits set forth in the groundfish harvest specifications. All catch is expected to be monitored, reported, and counted against each stocks' ACLs, consistent with current provisions in the Groundfish FMP. Nothing proposed in this EFP should affect the monitoring and accounting of target species catch, and nothing proposed in this EFP would allow for catch beyond the limits provided in the harvest specifications. Target species would continue to be

managed to sustainable levels with individual accountability and 100 percent monitoring. For these reasons, the impacts of the EFP on target species are expected to be neutral (i.e., within the range of impacts analyzed under the 2017-2018 harvest specifications).

Impacts on Non-Target Species

For many non-target species, the impacts of the EFP are expected to be negligible or low positive. Allowing two-seam or four-seam nets would provide fishermen with more flexibility in designing their gear and would increase the opportunity for using different types of bycatch reduction devices. Increasing the options for bycatch reduction devices would reduce the catch of certain unwanted species, possibly including some important ecosystem species. Allowing flexibility in terms of time/area fished will allow fishermen to more effectively avoid concentrations of bycatch.

This EFP could therefore have a low positive impact by reducing the incidental catch of some non-target species, which also improves stock productivity by keeping more of those fish in the ecosystem. Non-target species, including overfished species and most non-target, non-groundfish species, would continue to be 100 percent monitored under the provisions in the trawl catch share program. In addition, the WCGOP Groundfish Mortality Report would provide annual information and catch trends.

Impacts on Protected Resources

The EFP could have a low negative impact on ESA listed Chinook salmon if more salmon are caught under the EFP relative to the status quo. The duration of the EFP (1 year) ensures any potential negative impacts would be short-term and not significant in terms of salmon conservation, recovery, and restoration. The 2006 Biological Opinion reaffirms conclusions reached in the 1999 Biological Opinion regarding the impacts of the groundfish fishery on Chinook salmon, including the 9,000-fish threshold for the bottom trawl fishery, which was determined based on fishery data from a time period when catches of the EFP target species were much higher than in recent years. Therefore, some proportion of increased effort/catch of these species was accounted for in the analyses to support the existing Biological Opinion.

Perhaps most importantly, the EFP provides a mechanism to collect much-needed data about the nature and extent of salmon bycatch in the re-emerging pelagic fishery for rockfish, particularly early in the year. This information is critical to inform the updated Supplemental Biological Opinion for Chinook salmon (currently under development).

In addition, as discussed in Section 2.0, there may be an opportunity to collect additional genetic information to determine the catch of specific Chinook ESUs under the EFP (details TBD). This could help address important research questions related to salmon stock aggregation and migratory patterns. If additional/real-time genetic testing cannot be incorporated into the EFP, the requirement to land and sample all salmon shoreside on EFP trips will significantly increase the number of available samples which can be tested for genetic identification as resources are available. Additional genetic identification and monitoring has several advantages:

- It would provide information to estimate stock distribution and fish behavior outside of normal salmon seasons;
- The information would be added to the existing dataset used by scientists, managers and fishermen to inform future management decisions;
- The growing dataset would also be used to inform future seasonal, regional, decadal and global climate change on the distribution of salmon stocks.
- Better predicting when and where salmon stocks move can provide managers with important tools to allow more access to strong stocks while protecting weaker stocks.

The data collected through this EFP will inform and enhance the conservation and management of both groundfish and salmon. To the extent that the information collected through this EFP contributes to the understanding of Chinook salmon ESU distribution, migration, and interaction with other fisheries, the overall long-term benefits are likely to be positive.

Furthermore, to address and minimize any impacts on Chinook salmon to the extent practicable, this EFP proposes harvest guidelines and management measures for Chinook that would shut down the EFP at a level well below the bycatch threshold specified in the Salmon Biological Opinion, as well as an industry-based bycatch monitoring/avoidance program that mirrors the one utilized in the 2017 SFFT EFP. Based on Chinook salmon bycatch in the bottom trawl fishery in the first several years of the IFQ program, it appears highly unlikely that combined EFP and non-EFP Chinook salmon bycatch will come close to 9,000 fish (current threshold).

It is important to acknowledge that fishing under the 2017 SFFT EFP has resulted in minimal bycatch of salmon and other non-target species so far, despite over 1.5 million pounds of rockfish landed. As of May 24, 2017, seven (7) vessels have landed fish in the Selective Flatfish Trawl EFP, landing 1,589,322 pounds of groundfish on 34 trips (Table 3). Four (4) Chinook salmon, 0 coho salmon, 0 eulachon, and 0 green sturgeon have been caught on all EFP trips to date.

6.2 SOCIO-ECONOMIC IMPACTS

The economic and social impacts of this EFP are expected to be extremely positive for groundfish fishery participants, processors, and fishing communities.

Eliminating gear/time/area restrictions will allow fishermen to optimize their gear to better take advantage of available quotas. Increased rockfish attainment in particular, made possible by removing the requirement to use a net designed to avoid rockfish, is likely to help address several of the key economic challenges experienced to date under Amendment 20 – high costs, reduced landings, and poor market conditions associated at least in part with low and inconsistent harvest volume. Measurable positive impacts will be most closely correlated with the extent of the increase in rockfish landings, but even a modest increase will improve ex-vessel revenue by several million dollars, enhance

processor revenue, and lead directly to additional job opportunities on the filet line and in other fishery support positions.

Some of the provisions allowed under this EFP could decrease industry concerns about potential violations and could potentially save on financial costs related to fines and legal fees resulting from infractions. Additionally, fishermen could potentially increase the efficiency of their gear, perhaps using smaller mesh size around stress and wear points to lengthen the life of the net, in particular around excluders. Removing the mesh size restriction will also work synergistically with the removal of the SFFT. Widow rockfish commonly become "gilled" in 4.5 inch mesh. Allowing smaller mesh size will reduce sorting time sorting on deck, thereby reducing overall trip time, and resulting in a cost benefit to fishermen.

The economic benefits that are likely to result from this EFP cannot be emphasized enough. As rockfish stocks have rebuilt to sustainable levels, catches have been significantly restricted, and this has had a significant negative economic impact on participants in the shoreside IFQ fishery. It also has had a ripple effect throughout the shoreside infrastructure in many West Coast communities. Reduced catches under the groundfish IFQ program have made it impossible to maintain year-round employees in many non-whiting groundfish processing plants. As these employment opportunities are lost, skilled laborers and filleters are lost, and these jobs are very difficult and expensive to replace. Additionally, without a consistent and year-round supply of groundfish, access to important markets has been lost, like the fresh rockfish market that this EFP intends to redevelop. In most cases, West Coast groundfish have been replaced in the marketplace with price-competitive and quality-competitive species like tilapia, swai fish, and catfish. Regaining access to these markets is going to be an uphill battle; it will not be easy, nor will it happen overnight. It will take a tremendous effort, foresight, and planning by fishermen and processors, and it requires support from the Council/NMFS to ensure that access to healthy groundfish stocks can be provided as expeditiously as possible. Consistent with the purpose and need described in Section 1.1 of this proposal (p. 1), if implemented in a timely manner, this EFP will be a significant step towards regaining access to rockfish markets, which is critical to ensure the long-term economic success of the groundfish fishery.

APPENDIX B. 2018 TRAWL GEAR EFP TERMS AND CONDITIONS

PACIFIC COAST GROUNDFISH FISHERY
EXEMPTED FISHING PERMIT (EFP)
AUTHORITY: Title 50, Code of Federal Regulations
Sections 600.745 and 660.406, and part 660

TRAWL GEAR EFP:
TESTING THE REMOVAL OF CERTAIN GEAR, TIME, AND AREA
RESTRICTIONS FOR LIMITED ENTRY GROUNDFISH BOTTOM
TRAWL AND MIDWATER TRAWL VESSELS

PERMIT NUMBER: 2018-

Vessel Name	USCG Documentation or State Registration Number	Pacific Coast Groundfish Limited Entry Permit Number

The Administrator of the West Coast Region of the National Marine Fisheries Service (NMFS), acting on behalf of the Secretary of Commerce, hereby permits (INSERT VESSEL NAME), to engage in the exempted harvest of Pacific Coast groundfish over which the United States exercises fishery management authority under the Magnuson-Stevens Fishery Conservation and Management Act, 16 United States Code 1801 *et seq.* (Magnuson-Stevens Act), and implementing groundfish regulations at 50 CFR Part 660 and section 600.745, and under salmon regulations at 50 CFR 660.406. The exempted fishing must be conducted in accordance with the provisions of the Magnuson-Stevens Act and 50 CFR Parts 600 and 660, except as provided in the attached terms and conditions incorporated herein.

The permit will allow participants to collect information regarding if and how the removal of certain gear, time, and area restrictions for vessels fishing in the Shorebased Individual Fishing Quota (IFQ) Program will affect the nature and extent of salmon and eulachon bycatch. This EFP is intended to allow limited entry bottom trawl and midwater trawl vessels more flexibility, including the use and configuration of their gear, to target pelagic rockfish species, such as widow, chilipepper, and yellowtail rockfish. The West Coast Seafood Processors, Oregon Trawl Commission, Midwater Trawlers Cooperative, and Environmental Defense are the applicants for this EFP and will be involved in the coordination of participation of fishing vessels under this EFP.

This permit is valid when signed by the Regional Administrator and the EFP holder. A signed copy of the EFP permit must be returned to NMFS at the address above. This EFP expires 24 hours after notification by the Regional Administrator of termination of the EFP, or when any condition listed at Section B, is met, or at 11:59 p.m. PST December 31, 2018, whichever is earlier. It also may be terminated or modified earlier by regulatory action pursuant to 50 CFR Part 660, or by revocation, suspension, or modification pursuant to 15 CFR Part 904, or successor regulations, or by the terms and conditions of this permit.

_____ _____

Barry A. Thom, Regional Administrator Date Signed
National Marine Fisheries Service
West Coast Region

By signing below, I, the EFP Holder, agree that I and all employees, staff, and anyone else participating under this permit know, understand, and will comply with the terms and conditions of this permit.

_____ _____

Signature Print EFP Holder Name
Date Signed

EFP Holder's Name and Address

«Vessel_Owner»
«Vessel_Owner_Address»
«Vessel_Owner_City», «Vessel_Owner_State»
«Vessel_Owner_Zip»
«Vessel_Owner_Email»

TERMS AND CONDITIONS

A. SCOPE

1. This EFP is only effective if signed by both the Regional Administrator for NMFS West Coast Region and the authorized representative of the vessel owner or the vessel owner (hereinafter referred to as the "EFP holder") and becomes effective on the later of the two signature dates.

2. The terms and conditions of this EFP apply to all fishing activities under this EFP, some activities which would otherwise be prohibited (*See* Sections D and E), conducted within a single trip when the vessel registered to this EFP (hereinafter referred to as an "EFP trip"[15]) is participating in the commercial Pacific Coast groundfish fishery during the effective dates of the EFP. All fishing activity is subject to the requirement that all persons aboard a vessel operating under this EFP must comply with the terms and conditions of this EFP.

3. This EFP exempts participating vessels from some Pacific Coast groundfish regulations in 50 CFR 660.01–660.333 that apply to the commercial fishery, as stated in the permit conditions (Section B), regulatory exemptions (Section E), and restrictions (Section F), during an EFP trip during the effective dates of this EFP. The EFP holders are subject to regulations in §§ 660.01–660.333, unless otherwise stated.

B. PERMIT CONDITIONS

1. This EFP is valid only for the vessel registered to it and that vessel and/or the vessel owner/operator must meet the following requirements:

    a. Have a valid Pacific Coast Groundfish limited entry permit

    b. Have a valid vessel account set up to receive quota pounds under the Shorebased IFQ program

    c. Have enough quota pounds to cover all catch from the Shorebased IFQ program

    d. Have a current and valid U.S. Coast Guard Vessel Safety Check decal

    e. Cannot have had a state or federal violation for falsification of observer, logbook, or fish ticket data

    f. Cannot have had a state or federal violation of fishing regulations in the last 3 years in which the participant was fined more than $1,000 for a criminal penalty or $5,000 base penalty for a civil penalty

    g. Is willing and able to follow the terms and conditions of the EFP

2. The vessel's EFP holder must maintain the original, signed EFP coversheet and the terms and conditions on board the vessel, in his or her name and valid, for every EFP trip.

3. This EFP is not transferrable to another holder, entity, vessel, or vessel owner.

[15] An "EFP trip" for the purposes of this EFP is defined as the period of time between landings when fishing activities under this permit are conducted.

C. EFFECTIVE DATES

1. This EFP is effective when signed by the NMFS West Coast Regional Administrator, or designee, and the EFP holder. See B1 for information regarding signature dates. This EFP will expire on December 31, 2018, unless terminated at an earlier date.

2. This EFP is effective while the EFP holders are participating in the 2018 Pacific Coast Groundfish Shorebased IFQ Program in a manner consistent with the permit conditions described in Section D, unless terminated at an earlier date by one of the following actions:

    a. At the request of the EFP holder(s), in which case the original EFP must be returned in person or by mail to the NMFS West Coast Region Fisheries Permits Office, 7600 Sand Point Way NE, Bldg. 1, Seattle, WA 98115-0070.

    b. When the West Coast Regional Administrator determines it is necessary to issue an amended EFP containing additional or revised restrictions, in which case termination of this EFP occurs upon NMFS's receipt of a signed, amended EFP, or seven days after the NMFS mailing date of the amended permit, whichever occurs first.

    c. NMFS will terminate this EFP if the Shorebased IFQ sector is closed for any reason, including a bycatch limit, commercial harvest guideline, or species harvest guideline, in which case this EFP is no longer effective concurrent with the closure as announced in the Federal Register, and further written notification to the EFP holder or vessel owner is not required.

    d. Superseding federal regulations become effective.

    e. NMFS finds that the EFP has unintended impacts.

    f. NMFS finds that the EFP holder no longer meets the permit conditions (*See* Section B).

3. The EFP may also be terminated or modified at any time by regulatory action pursuant to 50 CFR Part 660, or by revocation, suspension, or modification pursuant to 15 CFR Part 904, or successor regulations, or by the terms and conditions of this permit.

D. REGULATORY EXEMPTIONS

1. Mesh size: Vessels fishing on an EFP trip are exempt from the minimum mesh requirement for bottom trawl gear of 4.5 inches and midwater trawl gear of 3 inches (§ 660.130(b)(2)). Additionally, vessels will be exempt from the "mesh size" definition at § 660.11, which defines mesh size as the opening between opposing knots. Instead, mesh size will mean the opening between opposing knots or corners.

2. Selective Flatfish Trawl Gear: Vessels fishing on an EFP trip are exempt from the requirement to use selective flatfish trawl gear while fishing north of 42° N. lat. and shoreward of the RCA defined at paragraphs § 660.130(c)(2), as well as the prohibition on the use of small footrope gear, as defined at § 660.130(b)(3)(ii), (except selective flatfish trawl gear) to fish for groundfish or have small footrope trawl gear onboard while fishing north of 42° N. lat. defined in paragraphs § 660.130(c)(2) and (c)(2)(i). Additionally, vessels will be exempt from the requirement at § 660.130(b)(3)(ii)(A) that selective flatfish trawl must be a two-seamed net with no more than two riblines, excluding the codend. Vessels fishing on an EFP trip will be permitted to use both two-

and four-seam selective flatfish trawl nets with two- or four-riblines, excluding the codend.

3. Area Closures: Vessels fishing on an EFP trip are exempt from the trawl RCA closures at § 660.130(e)(4)(i) only when fishing with midwater groundfish trawl gear. Vessels fishing on an EFP trip may use midwater groundfish trawl gear within the trawl RCA both north and south of 40°10' N. lat. Boundaries for the trawl RCA north and south of 40°10' N. lat. applicable to groundfish trawl vessels throughout the year are provided in the header to Tables 1 (North) and 1 (South) of subpart D and may be modified by NMFS inseason pursuant to § 660.60(c), subpart C. Vessels fishing on an EFP trip with bottom trawl groundfish gear are still prohibited from fishing inside the trawl RCA in accordance with regulations at § 660.130(e)(4).

4. Time Closures: Vessels fishing on an EFP trip are exempt from regulations at § 660.112(b)(x) and § 660.130(c)(3), which prohibit the use of midwater groundfish trawl gear outside of the Pacific whiting primary season dates for the Pacific whiting IFQ Fishery. Vessels fishing on an EFP trip using midwater groundfish trawl gear will be permitted to fish in all areas from the effective date of this EFP until it is closed in accordance with Section D.

5. New Haul Onboard: Vessels fishing on an EFP trip are exempt from the prohibition on bringing a new haul onboard before the previous haul has been stowed at § 660.112(b)(xi)) as well as the requirement to stow all catch from a haul before the next haul is brought aboard at § 660.140(h)(2)(viii)(I). However, vessels carrying observers must still provide time for the observer to take all biological data and samples before mixing any hauls. Additionally, vessels using electronic monitoring (under an electronic monitoring EFP) must follow the instructions in their individual vessel monitoring plan for handling catch from multiple hauls.

6. Multiple Gears Onboard: Vessels fishing on an EFP trip are exempt from the prohibition on having both bottom groundfish trawl gear and midwater groundfish trawl gear onboard simultaneously north of 40°10' N. lat. as defined at § 660.130(c)(4)(i)(A), or south of 40°10' N. lat. as defined in paragraph § 660.130(c)(4)(ii)(A). Additionally, because vessels will be required to make declarations each time they change gears, vessels fishing on an EFP trip are exempt from the requirement to make declarations from port before a vessel leaves port as is required at § 660.13(d)(5) and are exempt from the prohibition on declaring more than one type of trawl gear listed in paragraph (d)(5)(iv)(A) of this section on any trip. Vessels will still be required to make a declaration in accordance with Section J.1 of this document.

7. Prohibited Species—Salmon and Eulachon[16]: Vessels fishing under this EFP, while also participating in the electronic monitoring EFP, are exempt from the following regulations, with respect to salmon and eulachon only. For more information see Section H.

    a. The prohibition on retaining any prohibited or protected species at § 660.12 (a)(1).

    b. The requirement at § 660.140(g)(1) that, with the exception of vessels on Pacific whiting IFQ trips engaged in maximized retention, prohibited and protected species must be discarded at sea.

E. RESTRICTIONS

[16] This exemption applies only to salmon and eulachon. Any incidentally caught marine mammal, seabird, sea turtle, other Endangered Species Act (ESA)-listed fish, large pelagic fish (6-ft or greater in length), Dungeness crab caught seaward of Washington or Oregon, or Pacific halibut must be discarded according to the Vessel Monitoring Plan and recorded in the vessel's logbook.

1. Gear Restrictions. While on an EFP trip, the vessel is required to comply with the following gear restrictions:

    a. Only legal groundfish trawl gear as defined at § 660.11 is allowed under this EFP with the following exceptions:
        i. Participating vessels are exempt from the minimum mesh size restrictions other than those specified for midwater trawl vessels at § 660.130(b)(4). Midwater trawl vessels fishing on an EFP trip are still required to use bare ropes or mesh size of 16 inches minimum mesh size that must completely encircle the net for at least 20 feet behind the footrope or headrope.

    b. Only legal midwater trawl gear as defined at § 660.130(b)(4) may be used to fish within the trawl RCAs coastwide with the exception specified in paragraph a.i above.

    c. For vessels using bottom trawl gear, only small footrope trawl gear as defined at § 660.130(b)(3)(ii) is allowed shoreward of the RCAs coastwide, with the following exception:

        i. Between 42° N. lat. and 40°10' N. lat. and shoreward of the RCA, the vessel must use selective flatfish trawl gear, as defined at § 660.130(b)(3)(ii)(A), consistent with requirements at § 660.130(c)(2) and (c)(2)(i).

    d. Coastwide a vessel may have on board and fish bottom groundfish trawl gear and midwater groundfish trawl gear during the same EFP trip.

    e. If a vessel fishes in the trawl RCA (using midwater groundfish trawl gear), it may also fish with groundfish trawl gear (outside of the trawl RCA) on that trip provided a valid declaration report for the gear being used has been received by the Office of Law Enforcement (OLE) prior to the gear being set. (*See* Section J relative to making declarations during a trip.)

    f. Vessels using more than one groundfish trawl gear type on the same EFP trip must keep all non-prohibited or protected species catch from the different gears separate by gear type until landing. Prohibited and protected species must be handled according to regulations at § 660.140(g) except where an exemption has been provided for salmon and eulachon under this EFP.

    g. The targeting of Pacific whiting while on an EFP trip is prohibited.

2. Fishing Restrictions. While on an EFP trip, vessels are subject to the following fishing restrictions.

    a. The total harvest guideline for all EFP trips and non-EFP non-whiting midwater trips for the duration of this EFP is 3,547 Chinook salmon.

    b. The following sub-harvest guidelines also apply:

        i. Prior to May 15—All vessels fishing on an EFP trip north of 42° N. lat. will be subject to a sub-harvest guideline of 720 Chinook salmon (out of the 3,547 Chinook salmon total harvest guideline), including seaward, within, and shoreward of the trawl RCA, from the effective dates of this EFP until 12:01am on May 15, 2018, which corresponds to the start of the Primary whiting season for the Shorebased IFQ fishery north of 40°30' N. lat. From May 15 through the end of this EFP, all EFP trips taken north of 42° N.

lat. will once again be subject to the total harvest guideline for the EFP less the amount that was caught pre-May 15.

ii. South of 42° N. lat—All vessels fishing on an EFP trip south of 42° N. lat. will be subject to a sub-harvest guideline of 80 Chinook salmon (out of the 3,547 Chinook salmon harvest guideline) for this area for the duration of this EFP.

F. CLOSED AREAS

1. While on an EFP trip, all vessels are prohibited from fishing within the following closed areas defined in paragraph § 660.131(c):

   a. Columbia River Salmon Conservation Zone. All EFP vessels are prohibited from fishing in the Columbia River Salmon Conservation Zone while on an EFP trip. The Columbia River Salmon Conservation Zone is defined as the ocean area surrounding the Columbia River mouth bounded by a line extending for 6 nautical miles (nm) due west from North Head along 46°18' N. lat. to 124°13.30' W. long., then southerly along a line of 167 True to 46°11.10' N. lat. and 124°11' W. long. (Columbia River Buoy), then northeast along Red Buoy Line to the tip of the south jetty.

   b. Klamath River Salmon Conservation Zone. All EFP vessels are prohibited from fishing in the Klamath River Salmon Conservation Zone while on an EFP trip. The Klamath River Salmon Conservation Zone is defined as the ocean area surrounding the Klamath River mouth bounded on the north by 41°38.80' N. lat. (approximately 6 nm north of the Klamath River mouth), on the west by 124°23' W. long. (approximately 12 nm from shore), and on the south by 41°26.80' N. lat. (approximately 6 nm south of the Klamath River mouth).

G. PROTECTED AND PROHIBITED SPECIES:

1. Vessels on an EFP trip that are using electronic monitoring must retain all salmon and eulachon until landing. Salmon and eulachon must be sorted and stored by haul according to the vessel's monitoring plan. All other catch must be kept separate and landed by gear type.

2. Vessels on an EFP trip that are using human observers must comply with all requirements regarding observers as defined in regulations at § 660.140(h), except where an exemption has been provided in Section E, including allowing observers the time to take biological samples of all protected and prohibited species prior to discarding.

3. The disposition of salmon and eulachon landed at first receivers must be consistent with the regulations at § 660.140(g)(3)(i) (a) through (d).

H. MONITORING REQUIREMENTS

1. Any vessel making an EFP trip must maintain 100 percent monitoring coverage for each authorized EFP trip.

   a. Vessels carrying observers on an EFP trip must comply with all requirements regarding observers as defined in regulation at § 660.140(h) except where an exemption has been provided in Section E.

   b. Vessels using electronic monitoring on an EFP trip are also fishing under the electronic monitoring EFP and must comply with all restrictions and requirements of that EFP as well,

including notifying the West Coast Groundfish Observer Program that they are embarking on an EFP trip.

I. REPORTING REQUIREMENTS AND DATA CONFIDENTIALITY

1. Declarations. The vessel must have a valid declaration filed with the NMFS Office of Law Enforcement for each gear fished on an EFP trip.

   a. Vessels fishing on an EFP may only declare into:
      i. 20—Limited entry midwater trawl gear, non-whiting Shorebased IFQ, OR
      ii. 30—Limited entry bottom trawl, Shorebased IFQ fishery (not including demersal trawl);

   b. For EFP vessels using both bottom and midwater trawl gear on the same EFP trip:

      i. A declaration must be submitted from the vessel during an EFP trip prior to changing gears.

      ii. Declarations will remain unchanged until changed by the EFP holder.

   c. For all EFP vessels, to change the vessel's current declaration either:

      i. Call 888-585-5518 (leave a message if after hours when prompted to leave a comment) or

      ii. Send a declaration email from a VMS unit to NOAA by email at nmfs_gf_efp2018_declarations.wcr@noaa.gov that will be entered into the declaration system once read by a VMS tech.

   d. When making a declaration report, either by phone or by email, please include the following information in addition to the vessel number, passcode, and gear code:

      i. State the vessel name;

      ii. State that you will be fishing in the "trawl gear EFP";

      iii. State whether your vessel will be using electronic monitoring (i.e., fishing under the electronic monitoring EFP as well) or an observer.

         1. Vessels fishing under the electronic monitoring EFP, without an observer onboard, are required to retain all salmon and eulachon by haul (*See* Section G).

2. Gear Description Form. After each EFP trip, the EFP holder is required to complete and submit to NMFS a NMFS-provided form(s) describing the gear configuration and bycatch reduction device, if any, used on that EFP trip (See Appendix A).

3. Catch on trips with multiple gears. Catch taken with more than one trawl gear type on the same trip must be reported separately on electronic fish tickets by gear type.

4. Logbooks. The EFP holder must complete state bottom trawl and midwater trawl logbooks for retained catch for each EFP trip. Catch must be listed separately by gear type.

5. Net Markings when Fishing with Multiple Gears (Electronically Monitored Vessels Only). Vessels that are also fishing under the electronic monitoring EFP and that are also fishing both midwater trawl and bottom trawl gear on the same fishing trip must abide by required net markings and deployment requirements listed in their VMP to ensure the video reviewer is able to discern the type of net being fished.

6. Public Release of Information. The fishing activities carried out under this permit, which are otherwise prohibited, are for the purpose of collecting catch information. The EFP holder(s) agree to the public release of any and all information obtained as a result of activities conducted under this permit, including:

    a. The release of catch information to the staff of the West Coast Seafood Processors Association, Midwater Trawlers Cooperative, the Oregon Trawl Commission, and the Pacific States Marine Fisheries Commission for purposes of monitoring EFP performance and communicating information on bycatch and avoidance measures to other EFP holders.

J. SANCTIONS

1. Failure of the EFP holder(s), or any person to comply with the terms and conditions of this permit, a notice issued under 50 CFR Part 660, or any other applicable provision of 50 CFR Parts 600 and 660, the Magnuson-Stevens Act, or any other regulations promulgated thereunder, may be grounds for revocation, suspension, or modification of this permit as well as civil or criminal penalties under the Magnuson-Stevens Act with respect to all persons and vessels conducting activities under the EFP (50 CFR 600.725(k)).

K. WAIVER

1. The EFP holder(s) on his/her own behalf, and on behalf of all persons conducting activities authorized by the permit under his/her direction, waives any and all claims against the United States or the State, and its agents and employees, for any liability whatsoever for personal injury, death, or damage to property directly or indirectly due to activities under this permit.

TRAWL GEAR CHARACTERIZATION FORM – 2018 TRAWL GEAR EFP

INSTRUCTIONS: This form is to be completed by vessels participating in the 2018 Trawl Gear EFP. A separate form is required for each net used on an EFP trip. Completed forms should be submitted to Karen Palmigiano at karen.palmigiano@noaa.gov or Karen Palmigiano, West Coast Region, NMFS, 7600 Sand Point Way NE, Bldg 1, Seattle, WA, 98115. Photo copies and pictures of the completed form are acceptable.

Vessel Name:_____ Date:_____

Fishing Location (circle one): North of 42° North latitude South of 42° North latitude

Was the following gear configuration used on all hauls for this EFP trip?

If no, record the associated haul numbers:_____

GENERAL

Number of seams:_____ Breastline length:_____

Are there double mesh panels on this net? ☐ Yes ☐ No

Location(s):_____

Cutback headrope? ☐ Yes ☐No Hood absent? ☐ Yes ☐No

HEADROPE

Headrope Length:_____

Are floats present on center section of headrope? ☐Yes ☐No

Number of floats on headrope:_____ Diameter of floats:_____

Float spacing:_____

FOOTROPE

Footrope Length:_____ Footrope Type (circle one): Mud gear or Roller gear

Does footrope have bobbins, rollers, tires, disks? ☐Yes ☐No

Number of bobbins on footrope:_ Diameter of bobbins:_____

Bobbin spacing:_____

CODEND

Total length of codend:_____

Mesh size (If multiple mesh sizes comprise the codend, list each mesh size and the count of each mesh size running down codend length) and type of mesh (square, diamond, L90, etc.).

Size 1:_____ # of meshes:_____ Type of Mesh: _____

Size 2:_____ # of meshes:_____ Type of Mesh: _____

Size 3:_____ # of meshes:_____ Type of Mesh: _____

Size 4:_____ # of meshes:_____ Type of Mesh: _____

Chafing Gear? ☐ Yes ☐ No (If Yes, describe location on codend (include number of mesh lengths, type of chafing gear, mesh size of chafing gear, and percentage of codend circumference):_____

Any Additional Comments on Gear Configurations:_____