

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

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**Timing/Duration:** January 1, 2018 – December 31, 2018

**Foreword:** **This EFP proposal is a work in progress, with several details still TBD.**  
The applicants are working to address outstanding issues and may provide additional information at the June 2017 Pacific Council meeting.

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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 year-round, 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The goal of this EFP is to demonstrate that removal of outdated and unnecessary gear and season restrictions in the trawl IFQ program can help the groundfish industry better meet the economic objectives of the trawl catch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 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 the additional elements of the Council's trawl gear package; and (2) to allow EFP participants to use midwater trawl and bottom 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**

The action proposed in this EFP includes: (1) a continuation of the SFFT trawl and mesh size exemptions from the 2017 Selective Flatfish Trawl EFP; (2) addition of other elements of the Pacific Fishery Management Council's trawl gear package (see below); (3) an exemption for non-whiting midwater trawl vessels from the prohibition on fishing prior to May 15 (with allowance for midwater fishing inside the RCAs prior to May 15); and (4) an allowance for bottom trawl fishing inside the RCAs. The proposed action also includes a number of industry-based management measures to avoid salmon and minimize bycatch to the extent practicable. More specifically, the EFP proposes the following:

**The major elements of the Council's trawl gear change package** 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 are summarized below:

- No minimum mesh size for bottom trawl or midwater trawl (already included for bottom trawl in 2017 SFFT EFP);
- Mesh size measurements taken between knots or corners;
- No codend restrictions (i.e., eliminate requirement for single-walled codend only);
- Modify SFFT definition to allow 2-seam or 4-seam nets and eliminate requirement of SFFT shoreward of RCA N of 40-10 (already included in 2017 SFFT EFP);

- Eliminate chafing gear restrictions for bottom trawl and midwater trawl;
- Multiple gears: any trawl gear allowed onboard, catch must be separated by gear type and recorded on separate tickets by gear type; and
- New haul may be brought onboard and dumped on deck before all catch from previous hauls has been stowed; no mixing of hauls until observer has collected samples.

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

- 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) in all areas, unless otherwise specified in this EFP.
- Restrictions on the use of midwater groundfish trawl gear within the RCAs would be lifted for EFP participants.
- Restrictions on the use of groundfish bottom trawl gear within the RCAs would be lifted for EFP participants.

**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.

**Enrollment Provisions:**

- Initial enrollment in the EFP would be similar to the 2017 SFFT EFP. To determine the universe of EFP participants, it is anticipated that NMFS would distribute a notice to the industry prior to the end of 2017, with a specified EFP enrollment deadline. Vessels would be required to contact NMFS prior to the deadline to enroll in the EFP.

## 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.

**To minimize bycatch to the extent practicable, this EFP proposes to maintain the same measures to address salmon bycatch as those included in the 2017 SFFT EFP.**

This includes: 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** to keep impacts aligned with the current salmon biological opinion. EFP participants will also be required to participate in an industry-based bycatch monitoring/avoidance program consistent with the 2017 SFFT EFP.

### ***Retention Requirement for Salmon Bycatch***

Participants in the EFP will be required to retain and land salmon bycatch on all EFP trips, consistent with current requirements for vessels participating in the shoreside Pacific whiting fishery. The Pacific whiting shorebased IFQ fishery generally retains unsorted catch, and most bycatch data on salmon are gathered on shore by catch monitors at the trip level. The intent of this provision is to provide for a complete census of salmon bycatch on trips in the EFP and maximize the amount of biological and genetic sampling of salmon bycatch.

Shoreside processors will be encouraged to work with food banks to donate salmon bycatch suitable for human consumption, consistent with allowances under current regulations:

*§660.140 (g)(3)(C) Prohibited species suitable for human consumption at landing must be handled and stored to preserve the quality. Priority in disposition must be given to the donation to surplus food collection and distribution system operated and established to assist in bringing donated food to nonprofit charitable organizations and individuals for the purpose of reducing hunger and meeting nutritional needs.*

## 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.

## **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**

**Initially, this EFP will be open to all bottom trawl and midwater trawl vessels participating in the shorebased IFQ fishery.** However, in order to identify and limit the specific universe of participants, vessels will be required to notify NMFS of their interest in participating prior to the start of the EFP. It is anticipated that NMFS would distribute a notice to the industry prior to the end of 2017, with a specified EFP enrollment deadline.

**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.

### **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.

### **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 trawl allocations for a number of target species 2017 relative to 2016, highlighting a dramatic increase in quota for almost every stock (target stocks for this EFP are shaded in grey). The 2017 allocations of chilipepper and widow rockfish increased 161% and 802%, respectively, from 2016 allocations. Table 2 summarizes average historical and recent catches of the EFP target stocks relative to the 2017 trawl allocations. The 2017 trawl 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 2017 allocation. This highlights the potential for a renewed directed rockfish fishery rivaling the historically high catches of the 1990s.

**Table 1 2017 Trawl Allocations (Pounds) Compared to 2016 Allocations for Key Groundfish Stocks**

	<b>2016 Trawl Allocation</b>	<b>2017 Trawl Allocation</b>	<b>2017 QP % of 2016 QP</b>	<b>Increase in Poundage</b>
Arrowtooth flounder	6,687,458	24,362,153	364%	17,674,695
Bocaccio rockfish	187,437	666,671	356%	479,234
Canary rockfish	98,062	2,235,685	2280%	2,137,623
Chilipepper rockfish	2,637,280	4,234,596	161%	1,597,316
Darkblotched rockfish	645,536	1,119,055	173%	473,519
Dover sole	101,370,312	101,369,713	100%	-599
English sole	14,631,287	20,411,510	140%	5,780,223
Lingcod N.	2,388,422	2,997,595	126%	609,173
Lingcod S.	929,491	1,232,151	133%	302,660
Pacific ocean perch	273,704	437,172	160%	163,468
Petrable sole	5,805,653	6,052,509	104%	246,856
Sablefish North	5,315,874	6,151,054	116%	835,180
Widow rockfish	3,131,931	25,116,346	802%	21,984,415
Yellowtail rockfish	9,648,906	9,360,952	97%	-287,954

**Table 2 Average Historical and Recent Catch (Pounds) of Target Species Compared to 2017 Trawl Allocations**

	<b>Average 1995-1999</b>	<b>Average 2001-2010</b>	<b>Landings 2011-2015</b>	<b>2017 Trawl Allocation</b>
Chilipepper Rockfish	2,861,986	299,828	575,406	4,234,596
Widow Rockfish	10,937,672	608,475	1,016,330	25,116,346
Yellowtail Rockfish	5,792,916	1,466,072	3,044,580	9,360,952
<b>Total</b>	<b>19,592,574</b>	<b>2,374,375</b>	<b>4,636,316</b>	<b>38,711,894</b>

### 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. In fact, to date, fishing under the 2017 SFFT EFP has resulted in minimal bycatch of salmon and other non-target species despite over 1.5 million pounds of rockfish landed. As of May 24, 2017, seven (7) vessels have landed fish in the SFFT 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.

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

<b>Year</b>	<b>No Vessels</b>	<b>No. Trips</b>	<b>No. Chinook</b>	<b>No. Coho</b>	<b>No. Green Sturgeon</b>	<b>No. Eulachon</b>	<b>Groundfish (Total pounds)</b>
2017	7	34	4	0	0	0	1,589,322

*\*Data reflects catch through May 24, 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.

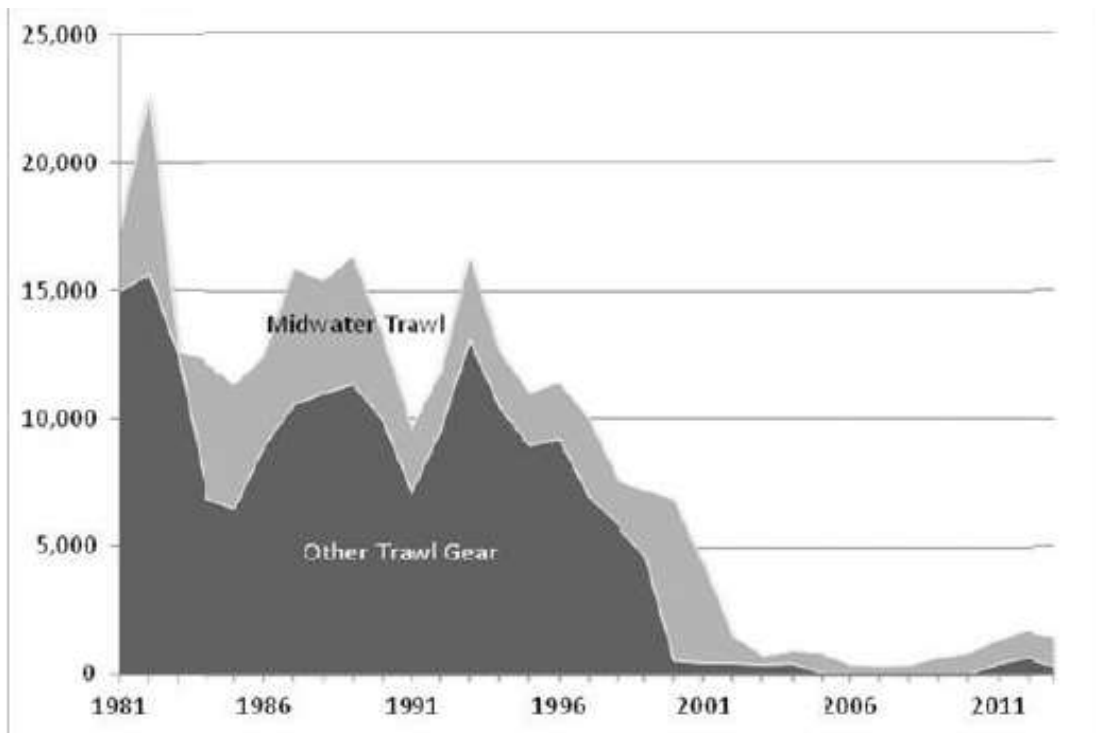
#### 4.0 JUSTIFICATION/RATIONALE FOR THE EFP

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 1 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.