

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

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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, 2019 – December 31, 2020 (Two Years)

NOTE: ***This is a preliminary proposal***, submitted for the June 2018 Pacific Fishery Management Council meeting advance briefing book materials.

A revised/updated proposal may be submitted on or before May 30, 2018 for the June 2018 supplemental briefing book materials.

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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 use (in time and space) of trawl gear for participants in the groundfish trawl catch share (Individual Fishing Quota, IFQ) program, and to provide the opportunity for vessels to use midwater gear to target rockfish coastwide on a year-round basis during 2019 and 2020, 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 represents a continuation of some elements of the 2018 Trawl Gear EFP for the 2019 and 2020 fishing years. It is needed to allow the groundfish trawl fleet to continue 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. It is also needed to provide information necessary to fully implement regulations to provide for a year-round non-whiting midwater trawl fishery, consistent with the [2017 Salmon ESA Biological Opinion](#). According to the 2017 Salmon BiOp:

Prior to allowing additional open non-whiting trawling from January through mid-May, NMFS shall implement EFPs designed to collect information about Chinook and coho bycatch levels and stock composition from fishing during that time for a minimum of three years. In doing so, NMFS should take into account relevant information from existing EFPs. Information from the EFPs will be used to inform measures the Council may adopt to ensure the impacts are consistent with the analysis in this opinion.

The timing of this EFP is critical. In order to ensure success, the EFP needs to start on January 1, 2019, to take advantage of the opportunity for market development. This EFP is proposed for two years – 2019 and 2020 –to better align with the groundfish fishery specifications process.

If necessary, this EFP will incorporate any management measures from the Pacific Fishery Management Council's (PFMC's) groundfish trawl gear change package provided in [March 2016 Agenda Item G.8, Attachment 1](#) that are not fully implemented by NMFS as of January 1, 2019.

1.2 GOALS AND OBJECTIVES

The goal of this EFP is to build on the success of the 2018 Trawl Gear EFP and continue to demonstrate that removal of outdated and unnecessary gear and season restrictions in the IFQ fishery can help better meet the economic objectives of the IFQ program while keeping bycatch of salmon and other species within allowable limits. Benefits to the groundfish 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 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., year-round non-whiting midwater fishery) as well as address/mitigate any bycatch concerns, if necessary, prior to full implementation.

The overall objective of the EFP is 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 this objective 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 on a year-round basis. 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. This was demonstrated in the 2018 Trawl Gear EFP, and better results are expected in 2019 and 2010 as markets continue to rebuild.

Upon full implementation of the Pacific 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

2.1 EFP EXEMPTIONS/PROVISIONS

In general, the action proposed in this EFP is to exempt non-whiting midwater trawl vessels from the prohibition on fishing prior to May 15 (and – as applicable – allow midwater trawling inside the Rockfish Conservation Areas (RCAs) prior to May 15, *if the RCAs are still effective during some/all of the EFP*). Consistent with the 2018 Trawl Gear EFP, this EFP 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 2.2). More specifically, this EFP proposes the following:

I. Elimination of May 15 non-whiting midwater trawl season start date requirement and corresponding restrictions from fishing with midwater trawls 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, 2019), 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 area 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.

- **Electronic Monitoring (EM) vessels** – catch must be kept separate by gear type until landed, and all salmon and eulachon must be kept separate by haul until landed;
- **Retention Requirement for Salmon Bycatch (New)** – 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. See Section 2.2.2 of this document for more information.

II. Any elements of the Trawl Gear Package provided in [March 2016 Agenda Item G.8, Attachment 1](#) and summarized below will be included in this EFP if not implemented by NMFS on or before January 1, 2019:

- No minimum mesh size for bottom trawl or midwater trawl;
- Mesh size measurements taken between knots or corners;
- Modify selective flatfish trawl (SFFT) definition to allow 2-seam or 4-seam nets;
- Eliminate requirement of SFFT shoreward of RCA North of 42° N. lat.;
- 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;
 - Observed vessels - no mixing of hauls until observer has collected samples, after which all catch must stay separate by gear, and

III. EFP Enrollment Provisions

- Enrollment in the 2019-2020 EFP will be similar to the 2018 Trawl Gear 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.

2.2 MEASURES TO ADDRESS SALMON BYCATCH

The 2019-2020 EFP proposes the following measures to minimize salmon bycatch:

- A Chinook salmon harvest guideline and area-based salmon bycatch caps to keep impacts aligned with NMFS' conclusions regarding the 2018 EFP and the recent salmon Biological Opinion;
- Sorting and retention requirements* for salmon bycatch;
- Area closures around the Columbia and Klamath Rivers;
- An industry-based bycatch monitoring/avoidance program consistent with the 2018 Trawl Gear EFP.

**Proposed retention requirements on all EFP trips are new for the 2019-2020 EFP.*

2.2.1 Chinook Salmon Harvest Guideline and Bycatch Caps

The Chinook salmon harvest guideline and bycatch caps are intended 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. This EFP will 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 2018 EFP and the recent salmon Biological Opinion.

2.2.2 Sorting and Retention Requirements for Salmon Bycatch

Participants in the 2019-2020 EFP will be required to abide by the same sorting requirements of the 2018 SFFT EFP.

- **Electronic Monitoring (EM) Vessels** – Participating EM vessels 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 continue to sample bycatch by haul; all prohibited species except salmon are then required to be discarded. Salmon bycatch must be retained on EFP trips (see below).

Retention Requirement for Salmon Bycatch (New) – 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 required to hold the salmon bycatch after shoreside sampling is completed until the respective state fish and wildlife agency can be contacted to determine if the bycatch will be collected for additional sampling.

2.2.3 Area Closures

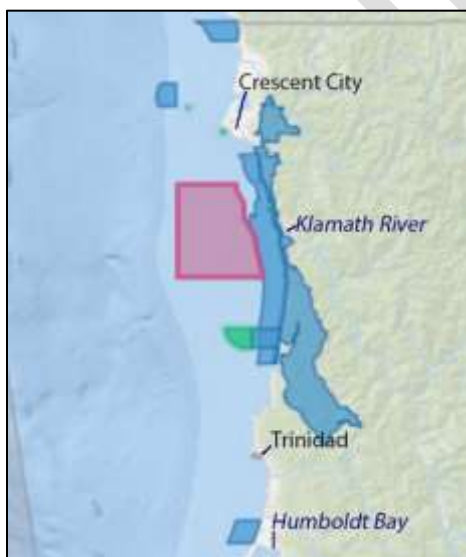
The following rules for area closures are intended to further avoid/minimize salmon bycatch:

- (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



2.2.4 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 2018 Trawl Gear 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.

2.3 MONITORING/REPORTING REQUIREMENTS

Current monitoring and reporting requirements for trawl vessels in the groundfish 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.

2.3.1 Trip/Gear Declarations and Information about Gear Configurations

Consistent with the 2018 Trawl Gear EFP, 2019-2020 EFP participants will be required to: (1) provide information to NMFS and/or the Pacific States Marine Fisheries Commission (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.

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.

2.3.2 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.
- PSMFC will continue to compile salmon bycatch data from EFP trips on a weekly basis, which can be used to communicate to the fleet and work with EFP participants to continue to avoid and reduce bycatch to the extent practicable.
- The requirement to retain/land all salmon bycatch on EFP trips should increase samples available for genetic testing to determine how many Chinook salmon 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.

2.4 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 Selective Flatfish Trawl EFP and the 2018 Trawl Gear EFP.

2.5 DURATION OF EFP

This EFP is proposed for two years – January 1, 2019 through December 31, 2020. 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).

2.6 GEOGRAPHIC SCOPE OF EFP

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

Allowing EFP activity to occur south of 42° N. lat. would improve understanding of Chinook salmon bycatch in the area (i.e., bycatch rates and stock composition), which should better inform future analyses related to the Council's management measures. In addition, it could help improve IFQ fishery 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 and 2018). 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 2019 EFP.

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.

3.2 NON-TARGET SPECIES AND PROTECTED RESOURCES

Non-Target Species

Fishing in the EFP during 2019 and 2020 is not expected to lead to a significant increase in catch of non-target species relative to non-EFP activity, even though target species catch is expected to increase significantly. As of May 8, 2018, fishing under the 2018 Trawl Gear EFP has resulted in minimal bycatch of salmon and other non-target species despite over 10 million pounds of groundfish landed. Seventeen (17) vessels have landed fish in the 2018 Trawl Gear EFP, landing 10,029,633 pounds of groundfish on 135 trips (Table 1 – a small number of vessels/trips are counted twice because they used two gear types on the same trip). **A total of three (3) Chinook salmon, 0 unidentified salmon, 0 coho salmon, 0 eulachon, and 0 green sturgeon have been caught on all EFP trips in 2018.**

Table 1 Catch and Bycatch YTD on Trips Taken in 2018 Trawl Gear EFP

| Year | # Vessels | # Trips | # Chinook | # Unid. Salmon | # Coho | # Green Sturgeon | # Eulachon | Groundfish (Total Lbs.) |
|-----------------|-----------|---------|-----------|----------------|--------|------------------|------------|-------------------------|
| 2018 Trawl Gear | 17 | 135 | 3 | 0 | 0 | 0 | 0 | 10,029,633 |

**Data reflect catch through May 8, 2018.*

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.

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).

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 2019 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 managers 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 and 2018 trawl 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.

Removing the May 15 non-whiting midwater season start date will provide an additional four and half months of midwater target opportunity. The incentives inherent in the IFQ program, full accountability, and the salmon bycatch avoidance mechanisms of this EFP, provides the 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.

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 and will comply with all provisions specified in the EFP.

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 2018 Trawl Gear EFP is only three Chinook salmon (see Table 1).

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, the fishery has yet to see any significant progress on the economic objectives, particularly for the non-whiting 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 under the catch share program (since 2011) have hovered between 25-30% attainment, 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. The success of the 2017 and 2018 EFPs demonstrates that removing outdated regulations, enacted under a completely different management regime, can occur without adverse outcomes for salmon or other species of concern. This will allow the Council and NMFS to begin to finish the job of peeling 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. 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 would be implemented fleet-wide following the EFP.

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.

Impacts on Target Species

Removing the midwater gear/time 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 specific groundfish species and allow catch to increase within the constraints of ACLs.

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 2019-20120 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. 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 recent Biological Opinion reaffirms conclusions reached in

the 2006 and 1999 Biological Opinion regarding the impacts of the groundfish fishery on Chinook salmon. 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.

In addition, as previously discussed, there may be an opportunity to collect additional genetic information to determine the catch of specific Chinook ESUs under the EFP. 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 2018 Trawl Gear 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 the current threshold.

The economic and social impacts of this EFP are expected to be extremely positive for groundfish fishery participants, processors, and fishing communities. Eliminating midwater gear/time/area restrictions will allow fishermen to 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.

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, 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.