# Kosta Oregon Experimental Fishing Permit Proposal November 2, 2019

**Applicant's name:** Captain David Kosta 6660 Alderbrook rd. Tillamook, Oregon 97141 davekosta@outlook.com 503-812-4755

Statement of the purpose and goals of the experiment for which an EFP is needed: This EFP is needed to ensure the Oregon Commercial Hook and Line Fishers are not locked out of the vast plentiful fishing ground in their front yard as they have been since the Magnuson-Stevens Act has done so many years ago. Recently net boats have been allowed in this area while hook and line fishers are made to watch on the sidelines and at the dock as these huge vessels unload. In California recently, The Emely/Platt EFP has been so successful that hook and line operations may see regulation change. This is the change we need here in Oregon and evidently, we need a relevant EFP to show there are fish stocks in the RCA and we can fish it responsibly and effectively.

But what of Oregon? There is a EFP on the Southern Oregon Coast by Scott Cook. That equipment is different than the Emely/Platt in it uses troll wires. One thing that troll wires do is they fail, leaving ghost fishing gear to damage fish stocks such as the Yellow Eye and this is not good. I have tested the methods, along with years of experience with trolling and long leader gear. The simple long leader method is simple and effective with little to no failure making it the proper gear choice as the Emely/Platt Efp has found. I suggest this EFP be modeled after the Emely/Platt EFP. There are several reasons not to join them. First, the actual area would be too large to scientifically manage. Second, States Fish and Wildlife managements are quite different and separate.

For this, I, Captain David Kosta, am submitting the Kosta Oregon Experimental Fishing Permit Proposal.

<u>This proposal</u> was largely taken from the successful Emely/Platt EFP now underway in California waters and Permissions were given from Barbara Emely and Dan Platt with their wishes of this permit to be done. The permit's text will be revised based on the Council's final recommendation

In a recent conversation of the project with Observer Coordinator Scott Leach, said that manning the project wouldn't be a problem and mentioned several ways to go and we even discussed electronic monitoring. A clarification comment is that observer coverage will be your responsibility (the Efp), but the observer team tries their best to work with EFPs to provide non catch share (NCS) observers if it won't cost them missing NCS trips.

#### Timing of this EFP

It has been expressed to me that the Council considers these EFPs once every two years and would not put a groundfish EFP on the agenda for an off year except in very extraordinary circumstances. It would seem that due to the oversight of banning commercial hook and line fishers from the waters that they need to survive would come under extraordinary circumstances. This EFP proposal is for a total of 2 years. TO BEGIN ASAP.

#### **Purpose**

This EFP is an Oregon waters fishing experiment to see if offshore hook and line fishing is viable and sustainable. This is needed immediately to see if stocks are in place due to netting and offshore illegal pressure. West Coast fisheries have been increasingly restricted in state and federal waters over the last decade to reduce impacts from fishing. Yet, demand remains for fresh, local seafood. To harvest healthy and abundant fish stocks with less impact, conservation engineering and gear experimentation is needed. This EFP will test the potential

for a new commercial jig gear configuration to harvest currently underutilized rockfish species (yellowtail, widow rock) while avoiding overfished stocks to enhance optimum yield in the mixed stock West Coast groundfish fishery.

#### <u>Goals</u>

This EFP seeks to fulfill and comply with national mandates and goals of the Magnuson-Stevens Act (MSA) for fisheries, fisheries resources, and fishing communities by addressing specific conservation and management issues in the mixed stock groundfish fishery off of Oregon.

 Consistent with MSA National Standard 1 (optimum yield) and National Standard 9 (minimize bycatch), harvest abundant stocks while minimizing bycatch and providing for rebuilding of overfished stocks.

2. Consistent with the purpose of MSA to conserve and manage U.S. fishery resources to realize their full potential (i.e., by providing employment, food, and revenue to the nation) and consistent with MSA National Standard 8 (fishing communities), seek to develop and utilize gear technology that contributes to sustained participation of fishing communities while also preventing overfishing and ensuring rebuilding of overfished stocks.

3. Provide additional opportunity in the groundfish fishery off Oregon that has been greatly constrained since rockfish conservation areas (RCAs) and lowered quotas were implemented to rebuild overfished species.

4. Test the success of this experimental commercial jig gear configuration at: 1) avoiding deep dwelling overfished rockfish stocks (canary and yelloweye) while selectively harvesting an abundant mid-water rockfish stock (yellowtail, widow

rock,ect.), and 2) providing enough harvest of abundant rockfish species to support, or at least contribute to, a commercial fishery off the West Coast in the long-term.

**Disposition of Catch Target Species** (yellowtail rockfish, Widow rock) and legal incidental catch, such as Black rockfish, lingcod will be retained for sale. Additionally, any catch allowable under open access quota may be retained for sale. Fish not authorized for sale would be released alive if possible. If desired, incidental catch of certain species (e.g., canary and yelloweye) that cannot be released alive could be retained by the observer and provided to NMFS, ODFW, or other researchers

**Justification** The fishing grounds which have been historically accessible to portfolio fishermen in Oregon's coastal communities are geographically identified as "shelf", and because of this, the gear used by these fishermen isn't useful for catching fish on the "slope" (depths greater than 100 fathoms-see Figure 5). The creation of the non-trawl rockfish conservation area (RCA) over the shelf (between 30 and 150 fathoms) has pushed fishermen outside their historical fishing grounds into deeper waters where fishing is no longer feasible with their current gears.

In order to protect and rebuild overfished yelloweye and canary rockfish off Oregon, depth and area closures were implemented off Oregon. Unfortunately, these closures have also prevented harvest of more abundant yellowtail rockfish that live higher in the water column. Combined with lower quotas, these measures caused many fishermen in Oregon's coastal communities to switch fisheries and/or supplement their incomes in non-fishery jobs because they could no longer harvest the abundant groundfish stocks. If a gear could be developed capable of harvesting the more abundant mid-water species while avoiding catch of the overfished bottom dwellers, then the optimum yield of the fishery could be determined and enhanced.

#### Kosta Oregon Experimental Fishing Permit Proposal

Oregon Recreational Yellowtail Rockfish EFP 2009, approved by the Council, was permitted to the Southern Oregon Sport Fishermen and Recreational Fishing Alliance (Oregon Chapter) for fishing in 2010 and 2011. Although not identical, this OR EFP is based on the same concept (i.e., placing hooks near the target species in mid-water and away from non-targets on the bottom). Therefore, it offers interesting insights of some relevance to this EFP application, particularly its catch composition and success at avoiding the non-target species. Under this EFP, 29 trips were made with an average of 11 anglers and 33 hooks per vessel (3 per line) were deployed on average. Reported catch of 4.3 mt (as of Aug. 1, 2011) was composed of roughly 62% Yellowtail, 23% Widow, 12% Canary and 3% other rockfish and 4kg of Yelloweye (2 fish) (see Appendix B). This catch is well below the 1 mt of Canary and 100 kg Yelloweye authorized for year two alone.

A similar design will be tested under this EFP with some modifications for use in a commercial fishery (e.g., number of hooks, size of weight). An EFP is necessary to test this gear because it is not currently authorized under the Groundfish FMP regulations and because fishing conducted under this EFP is proposed for areas that are currently closed to fishing. If the proposed modified vertical hook and line fishing technique is successful, this exempted fishing permit (EFP) would allow commercial fishermen to access historical fishing grounds targeting healthy rockfish stocks and would promote ecologically and economically sustainable fisheries in Oregon.

**Broader Significance** The long-term goal, if experiments prove successful, is to allow commercial jig fishing with this gear off the entire West Coast, including in the RCAs, by the Open Access and Limited Entry participants. If successful, this gear could also be used by the Nearshore fleet to avoid species of concern and could create a fishery that would fill out the portfolios of those who make up the bulk of the fishermen in the West Coast's coastal

#### Kosta Oregon Experimental Fishing Permit Proposal

communities. The recreational fleet might also benefit from using a similar gear with fewer hooks, similar to the Oregon Yellowtail EFP previously mentioned. Thus, the benefits of this EFP would extend beyond the initial EFP participants.

Despite the generally depressed condition of many west coast groundfish stocks, there are some stocks that remain healthy. These healthier stocks could safely sustain increased harvest levels if they could be fished more cleanly and without bycatch of more depleted stocks. If stronger stocks could be targeted without increasing fishing mortality on depressed stocks, the West Coast commercial fishing fleet would have alternative fishing opportunities that would provide some economic relief to the industry while providing the public with highly desirable sustainably harvested local seafood.

See attached COPs as amended through August 2019.

#### <u>Details</u>

In determining the proposed specifications for this experiment, several factors have been considered.

• Creating a statistically valid sample size – allowing for a sufficient number of hooks, lines, days, vessels, and locations that can provide valid conclusions as to the success of this gear at avoiding overfished non-target species and harvesting the target yellowtail in sufficient quantity to allow for potential expansion of this gear to support future commercial fishing.

• Feasibility and efficiency – whether participants can at least cover the costs involved to perform these experiments (including observer costs, fuel, gear, and bait), even if no profit is made under the EFP.

• Safety-at-sea – ensuring participants can fish on days with safe weather conditions.

• Precaution and minimizing risk – Knowing that overfished rockfish could be encountered and because at least some of the fishing would take place in the RCA, several precautionary measures have been proposed.

#### Location of Fishing under the EFP

The fishing will occur between Oregon/Washington border and the Oregon/California border (42 N to 46 15 N, to cover the OR coast), between 35 and 150 fathoms. Fishing will take place deeper than 35 fms to avoid hydrocorals (primarily Stylaster spp.) found mainly shallower than 30 fathoms. Locations for the EFP fishing have been chosen based on known yellowtail habitat, rather than lines of latitude or fathom lines and it is known that there is appropriate yellow-tail habitat in this area, i.e., high relief rocky reef deeper than 30 fathoms.

Yellowtail rockfish is the target in this experiment because they are underutilized and because they are a mid-water species, whereas the overfished rockfish species of greatest concern tend to be more bottom associated. (i.e., canary and yelloweye). The hooks would be located only in the mid-water column based on the hypothesis that this will be in the range of yellowtail but out of range for canary and yelloweye rockfish, making it less likely that they would encounter the hooks.

Even though fishing under the Emley/Platt EFP has occurred within the RCAs and it was a sensitive and delicate experiment as a ongoing scientific experiment, the past four years of 100% observer coverage and daily limits has shown there is little impact.

#### **Effort**

• Trip length: Vessels out of Garibaldi and Newport – 1 to 3 fishing days per trip depending on weather

• Drops per day: TBD (depends on conditions), possibly 5-8 hours total drop time • Length of drop: possibly 5 - 45 minutes

**Number of vessels** covered under the EFP A total of 4 vessels would participate in the study the first year, potential vessels: 2 out of newport, 2 out of garibaldi. While the area is very large for 4 vessels to cover, we want the first year simply to explore whether the gear will be able to catch Yellowtail and Widow rock avoid overfished bottom-dwelling species. If successful and with PFMC approval, in the second year, the experiment could expand with more vessels to cover more area and locate additional suitable habitat (applicants are open to GMT/GAP feedback to determine an appropriate level of expansion if a specific proposal is necessary at this time or leaving it at 4 for both years). Applying for a second two-year EFP for the next cycle might be appropriate to discover more suitable habitat in a larger West Coast area and add more vessels.

#### Description of the Gear to be Used Specifications

• A vessel will fish up to four lines and may maneuver under power as needed.

• Each line will consist of all of the following: 1. a tuna cord or similar mainline 2. a float at least 3.5 inches in diameter, above the top hook to keep the gear from contacting the bottom, as suggested by the GMT in 2009; a monofilament ganoin with 25 to 50 hooks (shrimp flies) each for a total of no more than 100 hooks, spaced 1-3 feet apart 3. a weight of no more than 25 lbs 4. a breakaway (lower test line) that is a minimum of 50 feet (8.3 fathoms) located between the lowest hook and the weight 5. When two or more lines are used they may be deployed with different lengths of breakaway line.

• Still to be determined: weight, and strength of the breakaway line.

#### Storage and Deployment

• The mainline can be coiled in a basket, wound on the reel of a fishing pole, or spooled on the boat's gurdies.

• The hooks can be placed on a "pinning rail" (usually a long piece of rubber with slots for the hooks) followed by the breakaway and the weight.

• After the weight is thrown overboard followed by the breakaway, the hooks will peel off the pinning rail. Alternative method used is deploying and hauling on a vertical or horizontal drum.

• The float will be attached above the hooks as the gear is deployed.

• Once the fisherman feels the weight hit bottom, he immediately pulls the line up so that it does not drag on the bottom and to avoid tangling in the rocks.

Species	Area	Kosta Oregon Experimental Fishing Permit Proposal Table of Set- Aside mt.	
Arrowtooth flounder	Coastwide	0.1	
Big skate	Coastwide	0.1	
Black	46º16' N. lat. To 42º N. lat.	5	
Cabezon	46º 16' to 42º N. lat.	1	
Canary rockfish	Coastwide	 20	
DARKBLOTCHED RF	Coastwide	1	
Dover sole	Coastwide	1	
English sole	Coastwide	1	
Lingcod	N of 40° 10' N. lat.	1	

Longnose skate	Coastwide	1	
Nearshore	N of 40°	1	
rockfish north	10' N. lat.		
Shelf rockfish	N of 40°	10	
north	10' N. lat.		
Slope rockfish	N of 40°	30	
north	10' N. lat.		
Other fish	Coastwide	5	
Other flatfish	Coastwide	1	
Pacific cod	Coastwide	30	
Pacific whiting	Coastwide	1	
Petrale sole	Coastwide	2	
PACIFIC OCEAN PERCH	Coastwide	3	
Sablefish	N of 36 <sup>o</sup> N. lat.	30	
Shortbelly	Coastwide	1	
Yellowtail	Coastwide	50	
Spiny dogfish	Coastwide	1	
vermillion	Coastwide	5	
Starry flounder	Coastwide	1	
Widow	Coastwide	30	
YELLOWEYE ROCKFISH	Coastwide	0.06	

As there is a recent bulletin regarding incidental catches of Salmons, I propose adhering to that table for this proposal.

# GROUNDFISH MANAGEMENT TEAM TABLE OF EXEMPTED FISHING PERMIT SET-ASIDE REQUESTS

Species	Area	Yellowtail RF Jig Fishing off CA (Platt/Emley)	Comm. Midwater Hook & Line Rockfish in RCA off OR (Cook/ODFW)		Recreational Chilipepper/ Yellowtail Midwater Iongleader gear (Mattusch)	EFP Total
Arrowtooth flounder	Coastwide		0.1		(	0.1
Big skate	Coastwide		0.1			0.1
Black	N of 46º 16' N. lat.		0			0
Black	46º16' N. lat. To 42º N. lat.	1	0.5			1.5
Black	S of 42º N. lat.		0			0
BOCACCIO	S of 40º 10' N. lat.	10	0	30	0.91	40.91
Cabezon	46º 16' to 42º N. lat.		0.1			0.1
Cabezon	S of 42º N. lat.		0			0
California scorpionfish	S of 34° 27' N. lat.		0			0
Canary rockfish	Coastwide	2	10	1	0.04	13.04
Chilipepper	S of 40º 10' N. lat.	30	0	30	0.59	60.59
COWCOD	S of 40º 10' N. lat.	0.015	0	0.015		0.03
DARKBLOTCHED RF	Coastwide	0.1	0.1	0.4		0.6
Dover sole	Coastwide		0.1			0.1
English sole	Coastwide		0.1			0.1
Lingcod	N of 40° 10' N. lat.	1.5	0.1			1.6
Lingcod	S of 40° 10' N. lat.		0			0
Longnose skate	Coastwide		0.1			0.1
Longspine thornyhead	N of 34º 27' N. lat.		0			0
Longspine thornyhead	S of 34º 27' N. lat.		0			0
Nearshore rockfish north	N of 40º 10' N. lat.		0.5		0.04	0.54

#### Kosta Oregon Experimental Fishing Permit Proposal

Nearshore	S of 40°		0			0
rockfish south	10' N. lat.		0			0
Chalf realifiah	Nof 400	2	4 5	I	I	45
Shell rocklish	10' N lat	3	1.5			4.5
Shelf rockfish	S of 40°	30	0	30 a/	0.08	60.08
south	10' N. lat.		C C			
Slope rockfish	N of 40°	1	0.5			1.5
north	10' N. lat.					
Slope rockfish	S of 40°	1	0		0.01	1.01
south	10' N. lat.					
Other fish	Coastwide		0.1			0.1
Other flatfish	Coastwide		0.1			0.1
Pacific cod	Coastwide		0.1			0.1
Pacific whiting	Coastwide	1	0.1			1.1
Petrale sole	Coastwide		0.1			0.1
PACIFIC OCEAN PERCH	Coastwide		0.1			0.1
Sablefish	N of 36º N. lat.	1	0.1			1.1
Sablefish	S of 36º N. lat.		0			0
Shortbelly	Coastwide		0.1			0.1
Shortspine thornyhead	N of 34º 27' N. lat.		0.1			0.1
Shortspine	S of 34°		0			0
thornyhead	27' N. lat.					
Spiny dogfish	Coastwide	1	0.1			1.1
Splitnose	S of 40º 10' N. lat.	1.5	0			1.5
Starry flounder	Coastwide		0.1			0.1
Widow	Coastwide	9	10	9	0.53	28.53
YELLOWEYE ROCKFISH	Coastwide	0.06	0.12	0.06		0.24

a/ Of which no more than 5 mt may be vermillion; GMT supports this as shelf rockfish south attainments are low (441 mt of 1625 mt in 2016), but vermilion rockfish removals are near the component OFL











# Species Descriptions

Descriptions of the **species life histories** can be found in Appendix B2 of the Pacific Coast Groundfish Fishery Management Plan. <u>http://www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/NEPA-</u> <u>Documents/upload/FMP-Appendix-B2.pdf</u>

Updated information on **species abundance** can be found in Chapter 3 of the Proposed Harvest Specifications and Management Measures for the 2017-2018 Pacific Coast Groundfish Fishery and

Amendment 16-5 to the Pacific Coast Groundfish Fishery Management Plan to Update Existing

Rebuilding Plans and Adopt a Rebuilding Plan for Petrale Sole; Final Environmental Impact

Statement. <u>http://www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-</u> Management/NEPA- Documents/upload/1112GF\_SpexFEIS\_100806-FINAL\_feb21\_.pdf

# Estimated Harvest Amounts

To assist in determining potential harvest amounts, provided for consideration is an estimated range of CPUE and potential catch composition. These were derived in order to consider the landings likely needed to cover costs of fishing under this EFP.

No prior data exists from which to pull an exact catch composition estimate from this gear. However, some data may be informative and could possibly be considered as the best available proxies. A possible proxy may potentially be derived from the mix of species caught during the first two years of the Oregon Recreational Yellowtail Rockfish EFP. Under that EFP, the reported catch of 4.3 mt (as of Aug. 1, 2011) was composed of roughly 62% Yellowtail, 23% Widow, 12% Canary and 3% other rockfish and 4kg of Yelloweye (2 fish) . abundance issues (i.e., lower abundance because of overfished stocks), and concerns with the accuracy of block reporting.

# Catch Accounting and Compliance

This EFP will incorporate a standardized data collection and reporting format. Under the terms of this EFP there will be 20% observer coverage. Fisheries Observers will collect data on fishing gear, location, catch, and disposition of catch.

# Precautionary Measures

Given the potential to catch overfished species and by fishing in the RCA, the utmost caution has been taken with this experiment. The following measures are proposed, and applicants are open to working with the PFMC, NMFS, and ODFW to implement others deemed necessary.

1. **Observers** – 20% observer coverage. While 100% coverage is the norm, THE EMELY/PLATT EFP has been in operation for 4 years. There have been no catches which continue to warrant this amount of coverage and the costs have made it extremely difficult to get sufficient data so we can move forward.

2. **Caps** – Based on input from the PFMC and NMFS, each boat will have either a *daily* or *trip* limit/cap of canary and yelloweye. If this cap is reached, based on catch accounting reports verified by the observer, fishing will cease for that day or trip.

3. **Trip reports and catch accounting** – On a timeline agreeable to NMFS and ODFW, trip and cumulative catch reports will be provided after each trip (e.g., within 48 hours).

4. **Status and evaluation call before each trip** – Before each vessel departs on a trip, a cumulative catch accounting report (i.e., running total for the season) and evaluation of the trips taken thus far will be reviewed to determine if another trip can be made and to discuss lessons learned (e.g., float sizes, bait, etc.). If it is likely that the allocated harvest cap would be exceeded in the upcoming trip, then all fishing under the EFP will cease for the season. Participants on each call would include the EFP participants and could include NMFS (SF & OLE), ODFW (Marine Region & Enforcement) and National Marine Sanctuaries Service.

5. **VMS and Vessel Marking** – Before each trip a vessel will call the West Coast Groundfish Declaration Line to report the trip. (This procedure should work for both the EFP and for future use of this gear type). Vessels participating in this EFP will also display a banner with "EFP Fishing" written in 2 foot high letters.

# Data Collection

The following data will be collected by observer for all fishing under this EFP:

Gear Configuration

- Number of hooks Weight size Float size and type
- Breakaway line length
   Distance between hooks

Set and Haul Data:

- Position (GPS coordinates) Time
- Bottom Depth

Catch

- Species
   Disposition (landings and discards)
- Total weight 
   Count
- Length

- Biological Sampling (if applicable) ٠
- **Species**
- position on line (e.g., hook #) •

Attachment of depth recorders may be used, as available.

If desired, incidental catch of certain species (e.g., canary and yelloweye) that cannot be released alive could be retained by the observer and provided to NMFS, ODFW, or other researchers for biological sampling.

#### **Data Analysis**

Catch per unit effort will be calculated based on hooks per hour fished. This will allow comparison between short and long drops and different gear configurations. The data will be reported on a trip by trip level. The catch data will be analyzed for CPUE of all species and each species individually.

NMFS will set criteria for data analysis.

#### **Data Collection**

EFP data collection will be conducted by both WCGOP observers and ODFW port biologists. The following data will be collected for fishing under this EFP:

#### Data collected by WCGOP observers from all trips and tacks:

#### **Gear Configuration Data**

### Set and Haul Data

- Mainline Material and Length
- Start and End Tack GPS - Type, Size and Number of Hooks - Start and End Tack Times
- Distance between Hooks Start and End Tack Bottom Depth
- Weight Size
- Float Size and Material
- Distance between Cannonball Weight and Mainline \* Depth recorders can be attached if desired

#### **Catch Data**

- Tally Census by Species for all Fish (and other organisms) Caught
- Retained vs. Discarded Fish by Species
- Lengths and Weights from all Discarded Fish

#### Data collected by ODFW port biologists from selected landings:

#### **Biological Data**

- Market Sample for Species Composition
- Subsample Lengths and Weights per Landing and Species (20 30)
- Subsample Otoliths per Landing and Species (20 30)

#### Data Analysis

All data collected by observers during EFP fishing will be tabulated, summarized and analyzed by NMFS, WCGOP and/or ODFW staff. To keep EFP impacts within allocated quotas, data from each trip for target, incidental, and protected species, such as yelloweye rockfish, will be tabulated within 48 hours of each landing, prior to any additional trips, to ensure enough fish of each species is available to continue EFP fishing.

In addition, WCGOP and/or ODFW staff will work towards various summaries, analyses, and projections to characterize effort, impacts, and statistical conclusions from data collected from the proposed gear configuration. For example, WCGOP could provide raw data and trip catch summaries to ODFW who could analyze and report on the results of the EFP, if such meets confidentiality requirements. Total catch and yelloweye rockfish impact rates under this EFP will be summarized. Gear configuration and biological data collected will also be summarized and evaluated. Projections will be made to expand this data set to reflect possible impacts of an authorized commercial hook and line fishery.

# **Participants**

#### **Choosing Participants**

Vessels participating in this EFP will be chosen on their ability to accommodate an observer, which means having bunk space for overnight trips; a life raft for enough people and a coast guard decal and their willingness to maintain detailed catch data. Vessels will also be required to have VMS as required by the open access and limited entry groundfish regulations.

#### **Planned EFP Fishing by Participants**

Fishing will take place in appropriate habitats within the latitudes and fathom curves mentioned earlier. Finding these habitats is important to the success of the EFP. Weather conditions are critical for this type of fishing, which involves drifting (not too much wind or current), so times will be left to the discretion of the captains. It is likely that July-October will be the best time of year, but fishing would not be limited to July-October. The gear is as described earlier except that a vessel may choose to use less gear than authorized to check species composition prior to setting all gear.

# Kosta Oregon Experimental Fishing Permit Proposal

# November 2, 2019

SIGNATURE S/CAPTAIN DAVID KOSTA

Catch Category	Allocation (mt)	Allocation Remaining (mt)	Caught to Date (mt)	% of Total Catch
Bocaccio	10	9.67851	0.32149	6.45%
Canary Rockfish	1	0.95986	0.04014	0.81%
Cowcod	0.015	0.01158	0.00342	0.07%
Darkblotched Rockfish	0.1	0.1	0	0.00%
Widow Rockfish	9	8.61171	0.38829	7.79%
Yelloweye Rockfish	0.03	0.01313	0.01687	0.34%
Lingcod S of 40.10°	1	0.87955	0.12045	2.42%
Lingcod N of 40.10°	0.5	0.5	0	0.00%
Sablefish N of 36°	1	1	0	0.00%
Chilipepper S of 40.10°	30	27.92028	2.07972	41.74%
Splitnose Rockfish S $ m of 40.10^{\circ}$	1.5	1.5	0	0.00%
Yellowtail Rockfish N. of $40.10^{\circ}$	10	10	0	0.00%
Minor Slope N of 40.10°	1	1	0	0.00%
Minor Slope S of 40.10°	1	1	0	0.00%
Minor Shelf N of 40.10°	3	3	0	0.00%
Minor Shelf S of 40.10° (includes Yellowtail Rockfish)	30	27.98823	2.01341	40.41%
Black Rockfish S of 46.16°	1	1	0	0.00%
Pacific Whiting	1	1	0	0.00%
Spiny Dogfish	1	1	0	0.00%
TOTAL	102.145	97.16285	4.98215	

# This following data is from the Emley/Platt efp proposal: 2017 Yellowtail EFP Catch Breakdown

# THE FOLLOWING DATA TAKEN FROM EMELY/PLATT EFP PROPOSAL

Catch Category	Allocation (mt)	Allocation Remaining (mt)	Caught to Date (mt)*	% of Total Catch
Восассіо	10	9.44336	0.55664	30.59%
Canary Rockfish	1	0.93385	0.06615	3.64%
Cowcod	0.015	0.01341	0.00159	0.09%
Darkblotched Rockfish	0.1	0.1	0	0.00%
Widow Rockfish	9	8.88747	0.11253	6.18%
Yelloweye Rockfish	0.03	0.03	0	0.00%
Lingcod S of 40.10°	1	0.99115	0.00885	0.49%
Lingcod N of 40.10°	0.5	0.5	0	0.00%
Sablefish N of 36°	1	1	0	0.00%
Chilipepper S of 40.10°	30	29.99005	0.00995	0.55%
Splitnose Rockfish S of 40.10°	1.5	1.5	0	0.00%
Yellowtail Rockfish N. of 40.10°	10	10	0	0.00%
Minor Slope N of 40.10°	1	1	0	0.00%
Minor Slope S of 40.10°	1	1	0	0.00%
Minor Shelf N of 40.10°	3	3	0	0.00%
Minor Shelf S of 40.10° (includes Yellowtail rockfish)	30	28.93601	1.06399	58.47%
Black Rockfish S of 46.16°	1	1	0	0.00%
Pacific Whiting	1	1	0	0.00%
Spiny Dogfish	1	1	0	0.00%
TOTAL	102.145	100.3253	1.8197	

# 2018 Yellowtail EFP Catch Breakdown

Species	Number of Fish	Percentage of Catch
Yellowtail Rockfish	3948	74.72%
Widow Rockfish	786	14.88%
Bocaccio	237	4.49%
Blue Rockfish	111	2.10%
Olive Rockfish	51	0.97%
Other Rockfish	62	1.17%
Speckled Rockfish	32	0.61%
Canary Rockfish	30	0.57%
Lingcod	19	0.36%
Chilipepper	4	0.08%
Yelloweye Rockfish	3	0.06%
Chinook Salmon	1	0.02%
Total Catch	5284	100.00%

#### THE FOLLOWING DATA TAKEN FROM EMELY/PLATT EFP PROPOSAL 2013-2015 Yellowtail EFP Catch Breakdown

# **ABBREVIATIONS**

CalCOFI = California Cooperative Fisheries Investigations unit

CDFG = California Department of Fish and Game

CPUE = Catch per unit effort

EEZ = U.S. Exclusive Economic Zone (200 miles offshore)

EFH = Essential Fish Habitat

FMP = Fishery Management Plan

IUCN = International Union for the Conservation of Nature and Natural Resources,

Brussels, Belgium

NMFS = National Marine Fisheries Service

NOAA = National Oceanic and Atmospheric Administration

NOS = National Ocean Service

ODFW = Oregon Department of Fish and Wildlife

PacFIN = Pacific Fisheries Information Network

PFMC = Pacific Fishery Management Council

WDFW = Washington Department of Fish and Wildlife

E = East longitude

W = West longitude

N = North latitude

- S = South latitude
- FL = Fork length

SL = Standard fish length

TL = Total fish length

ppm = parts per million

ppt = parts per thousand

OMZ = Oxygen minimum zone

NL = Notochord length