

Trawl Gear Modifications EFP Chinook Bycatch Management

Supplemental NMFS Report, Agenda Item I.3

PFMC Meeting, Vancouver, WA

March 12, 2017

Introduction

- The EFP needs to include measures to ensure that impacts remain within scope of current ESA coverage
- NMFS proposed an adaptive management approach, but EFP participants and Council members expressed desire for greater certainty
- A cap would provide:
 - Certainty for EFP participants to plan operations
 - Certainty that EFP participants will be accountable for salmon bycatch

March – May 15

May 15 - Dec

Midwater rockfish
fishery
3,547 Chinook

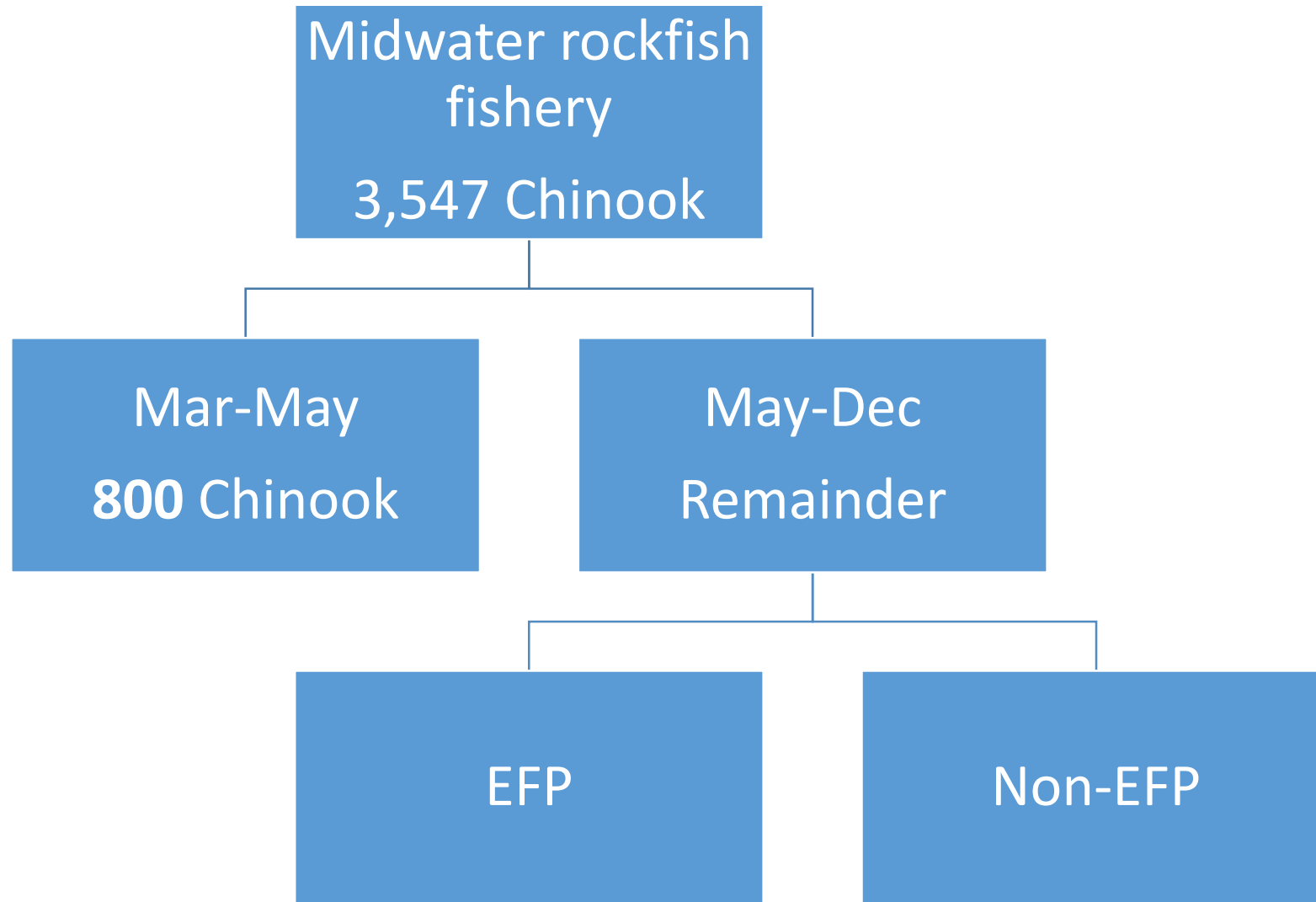


EFP
? Chinook

EFP
? Chinook

Non-EFP
? Chinook

EFP Cap
? Chinook



NMFS baseline bycatch rate proposal

Table 24. Aggregate summary of retained catch, trawl hours, and Chinook bycatch by area and depth bin, 2011-2014

	Retained groundfish		Chinook catch		Trawl hours		Chinook/ mt or retained catch	Chinook/t rawl hour
	MT	Percent retained	Number	Percent Chinook	Hours	Percent hours		
Area								
North of Cape Falcon	28,143	41%	647	37%	55,019	36%	0.0230	0.0118
Cape Falcon to Blanco	16,645	24%	286	17%	38,439	25%	0.0172	0.0074
Cape Blanco to 40°10' N. Lat.	13,879	20%	641	37%	33,330	22%	0.0462	0.0192
South of 40°10' N. Lat.	9,869	14%	153	9%	26,205	17%	0.0155	0.0058
Depth								
0-100	13,734	20%	736	43%	26,100	17%	0.0536	0.0282
>100-150	901	1%	29	2%	1,205	1%	0.0322	0.0241
>150-200	6,122	9%	684	40%	6,914	5%	0.1117	0.0989
>200	47,779	70%	278	16%	118,774	78%	0.0058	0.0023

Total GF MT	Total # Chinook	Bycatch rate
68,536	1,727	0.025

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Concerns:

- (1) Regional bycatch rates include slope trips, but EFP only shoreward of RCA (0-100 fathoms)
- (2) Bycatch rates based on selective flatfish trawl, whereas EFP would allowed hooded nets (could be underestimate if SFFT has lesser bycatch rates of stonger swimming salmon)
- (3) Bycatch rates based on total groundfish landings, whereas EFP expected to be mainly rockfish

Total GF MT	Total # Chinook	Bycatch rate
68,536	1,727	0.025

Better to use NMFS report mid-water non-whiting bycatch rates?

Table 27. Non-whiting midwater trawl

Year	Depth (fm)	Vessels	Trips	Hauls	Retained groundfish (mt)	Trawl Hours	Chinook (number)	Chinook/ mt of retained catch	Chinook/trawl hour
2011	c/	c/	c/	c/	c/	c/	c/		
2012	All depths	7	18	50	382	103	69	0.1806	0.6699
2013	All depths	6	25	75	609	164	78	0.1281	0.4756
2014	0-100	7	28	95	685	204	658	0.9606	1.8553
	>100	5	13	32	204	76	141	0.6912	

c/ Very limited activity was included with bottom trawl to maintain confidentiality

- Resolves issues from Table 24 (recent B trawl) if filter if only select 0-100 fathom data
- But only contains 2014 data, an atypically high bycatch rate year

Comparison in 0-100 fathoms:

2011-2014 selective flatfish = 0.0536 chinook per MT

2014 mid-water trawl = 0.9606

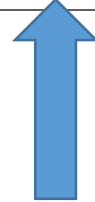
2014 mid-water trawl 17.9 x higher

Even better to use the GMT rates from Nov EFP?

Source	# Tows	# Chinook	MT RF	Bycatch rate	Projected IFQ RF attainments		GMT salmon cap for full IFQ RF
					NMFS 2,500 cap	EFP 4,500 cap	
EDCP	247	62	274	0.226	11,038	19,868	3,547
WCGOP	316	922	2815	0.328	7,632	13,738	5,129
					<i>IFQ RF = 15,659 mt</i>		
					<i>(-993.5 mt for whiting bycatch)</i>		

EDCP = BTM trawl from 1995-1999

WCGOP = MWT from 2011-2015
(so many more years than NMFS)

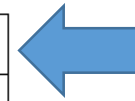


**Since based on data filtered specifically to where and how EFP will be fished,
and bycatch rates based on rockfish landings**

To meet the specifications for the EFP, the recent WCGOP mid-water and historical EDCP bottom trawl data sets were filtered for: (1) north of 40°10' N. latitude; (2) shoreward of the RCA; (3) less than 50 percent whiting (otherwise a whiting trip by definition); and (4) above 1,000 lbs. of combined rockfish to filter out a few peculiar mid-water trips that did not appear to target Pacific whiting or rockfish.

Comparison

Bycatch rate options	Type	MT GF	# Chinook	Chinook per MT	X higher	MT per Chinook
NMFS Table 24 *Total for all depths and years	2011-2015 B trawl all depths and areas (shelf SFFT and slope hooded and large footrope). All GF	68,536	1,727	0.025	---	39.7
NMFS Table 24 *0-100 FM bin only	2011-2015 selective flatfish trawl based on mainly on non-rockfish	13,734	736	0.054	2.1	18.7
GMT EDCP (Nov GMT EFP statement)	1995-1999 B trawl (EDCP) filtered to meet EFP conditions and "rockfish targeted hauls". Bycatch rates specific to rockfish	274	62	0.226	9.0	4.4
GMT WCGOP (Nov GMT EFP statement)	2011-2015 MWT filtered to meet EFP conditions and "rockfish targeted hauls".	2,815	922	0.328	13.0	3.1
NMFS Table 27 *0-100 FM only	2014 only for MWT (non-whiting) but note atypically high bycatch rate year. Similar to GMT WCGOP but fewer years	685	658	0.961	38.1	1.0



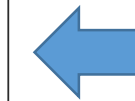
Added more relatable rate:

- If catch fewer MT of GF per Chinook, then would be exceeding the bycatch rate limit



Take home:

- GMT expects EFP catch to be ~3-4.5 MT per Chinook
- 9-17 times lower than Table 24 base NMFS proposal



Conclusion:

For the EFP to be functional, may want to consider higher bycatch rates such as those of GMT options

NMFS has indicated may want regional bycatch rates due to concerns with individual Chinook salmon stocks

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Sheer
off S42
for now



As earlier, using Table 24 bycatch rates which are lower than expected could hinder functionality of EFP

Map of regions

Table 14. Geographic areas used for salmon bycatch estimation.

Management Area	Latitude
North of Cape Falcon	North of 45°46' N. Lat.
Cape Falcon to Cape Blanco	Between 42°50' and 45°46' N. Lat.
Cape Blanco to 40°10' N. Lat.	Between 40°10' and 42°50' N. Lat.
South of 40°10' N. Lat.	South of 40°10' N. Lat.

Focus on N42 for now.



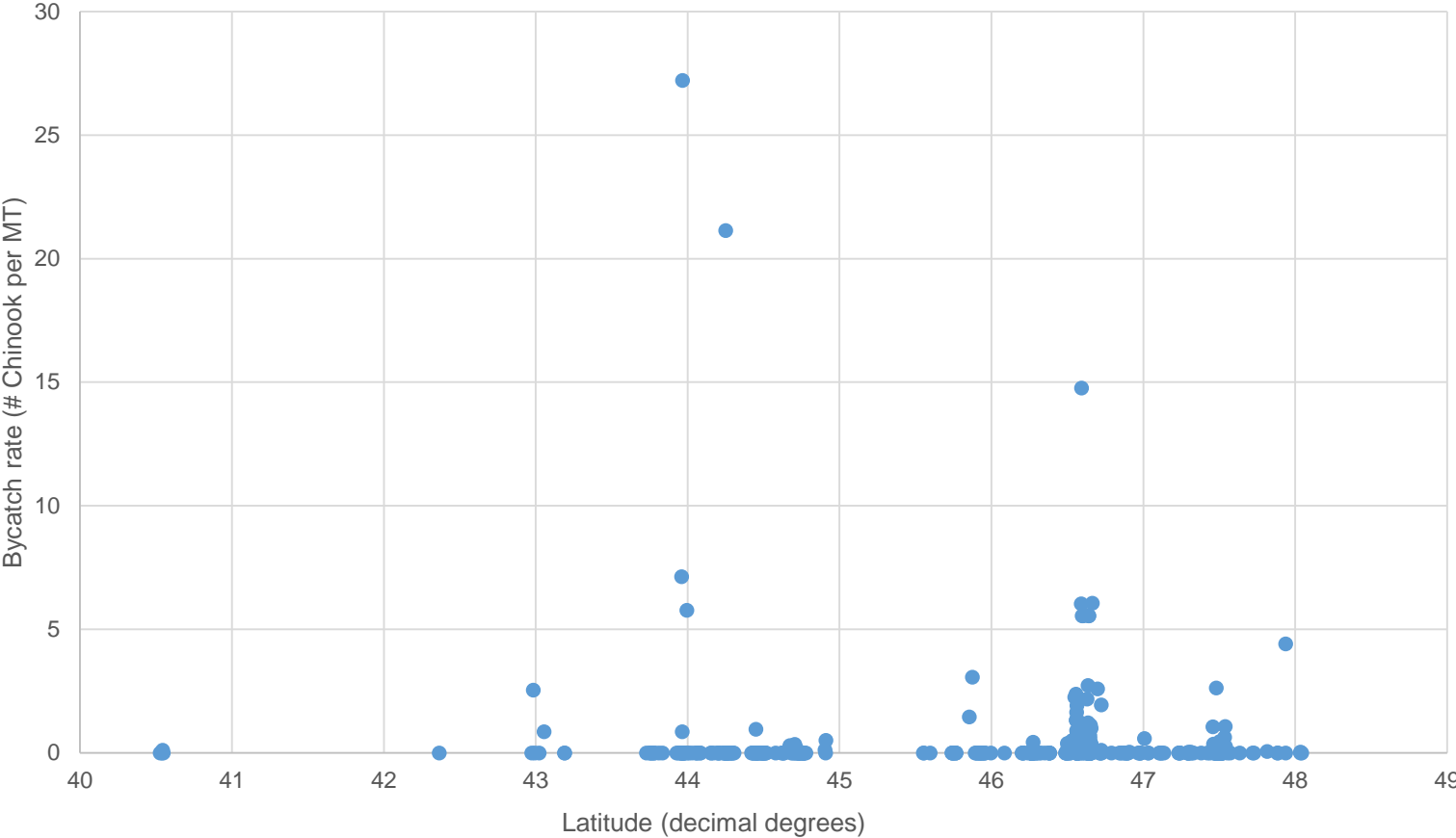
Regional bycatch rates as requested:

Area	# Hauls	MT rockfish	# Chinook	Bycatch rate
North of Falcon	394	2,746	934	0.340
Falcon to Blanco	162	295	48	0.163
Blanco to CA	c	c	c	0.000
CA to Mendocino	c	c	c	0.043
Total	561	3,089	984	0.319

- Based on GMT pooled EDCP and WCGOP (of the stringently filtered hauls to match EFP)
- Pooling done due to low sample sizes
- And most importantly since similar bycatch rates

Note: there was at least 1 haul in Blanco to CA, so showing total does not violate confidentiality since CA to Mendocino is not the total – north of falcon – blanco to falcon

Lightning strikes drive impacts throughout coast



- (1) Drive up bycatch rates used for the 3,547 projection**
- (2) Co-op style rules could be helpful to prevent lightning strikes**
- (3) If able to avoid, then less than 3,547 would be expected even if catch full IFQ allocations of rockfish**

Take Home

- Total harvest guideline: 3,547 Chinook (EFP + non-EFP)
- EFP vs. non-EFP harvest guidelines
 - Industry input on appropriate split preferable to speculative projections by the GMT or NMFS
- Area-specific bycatch rates to track distribution of bycatch
- March – May harvest guideline: 800 Chinook
- Regular check-ins with participants
 - Weekly monitoring reports
 - Bi-monthly meetings – May, July/August, October/November
- If a harvest guideline is approached or exceeded, triggers review

EDCP + WCGOP combined

