

Electronic Monitoring EFP Update and Draft Regulations

Supplemental NMFS Reports 1 and 2, Agenda Item F.2

PFMC Meeting, Sacramento, CA

April 7-11, 2017

EFP Activity

	Fishery	Total # Vessels	Total # Trips
2015	Bottom Trawl	5	23
2015	Non-Whiting Midwater	8	26
2016	Bottom Trawl	9	109
2016	Non-Whiting Midwater	6	33

*Non-whiting midwater trawl defined as a trip that landed <50% whiting

How did EM and logbooks compare?

Bottom Trawl

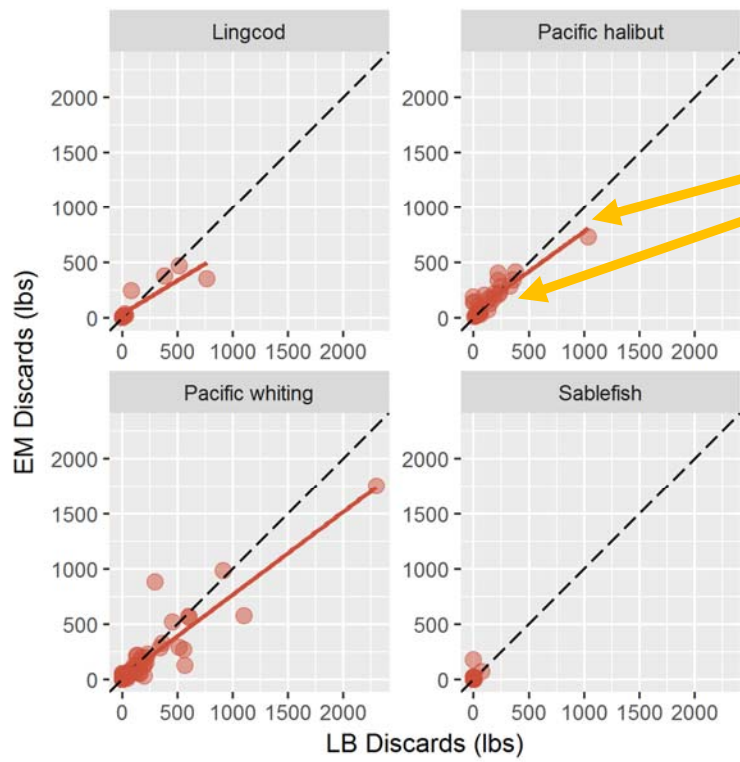
Common Name	2015 (lbs)			2016 (lbs)		
	EM	Logbook	Retained Catch	EM	Logbook	Retained Catch
Arrowtooth Flounder	269	265	13,148	2,834	2,748	71,655
Bocaccio Rockfish	8	-	6,349	-	-	17,095
Chilipepper Rockfish	26	-	11,332	-	-	9,181
Dover Sole	34	25	349,165	416	150	2,012,401
English Sole	2,533	2,317	3,491	6,480	6,749	19,176
Minor Slope Rockfish	-	-	190	329	-	3,675
Splitnose Rockfish	-	-	-	2	240	522
Aurora Rockfish	-	-	18	-	8	-
Minor Slope Rockfish	-	-	62	-	-	604
Aurora Rockfish	45	40	10	-	-	780
Rex Sole	23	-	4,566	23	6	32,530
Curlfin Turbot	20	-	165	5	-	140
Pacific Sanddab	28	-	7,674	2,460	2,008	14,284
Pacific Halibut	395	375	-	5,087	4,465	10
Pacific Hake	1,865	1,935	1,831	8,442	10,296	7,174
Petrale Sole	24	-	124,735	53	10	309,692

Bottom Trawl

Midwater

Common Name	2015 (lbs)			2016 (lbs)		
	EM	Logbook	Retained Catch	EM	Logbook	Retained Catch
Sablefish	218	12	121,619	249	77	558,046
Shortspine Thornyhead	3	-	53,833	8	99	201,154
Starry Flounder	-	-	-	4	-	76
Lingcod	11	4	4,821	1,580	1,846	14,448
Flatfish Unid	65	-	-	94	-	8
Pacific Halibut	12	-	-	1,841	2,020	-
Sanddab Unid	-	-	-	-	-	-
Roundfish Unid	37	-	-	12	-	-
Rockfish Unid	1	-	-	-	-	-
Shortspine/ Longspine Thornyhead	41	-	-	193	-	-
Fish Unidentified	49	-	-	389	-	-
Decomposed Fish	15	16	-	6	-	-
Nonselective Discards (Unknown)	-	-	-	-	150	-
Dark Rockfish	-	-	-	1	-	-
Red Rockfish	38	-	-	277	-	-
Mixed Fish	9	-	-	-	-	-
Fish Unidentified(IFQ)	-	-	-	107	-	-
Flatfish Unid(IFQ)	-	-	-	22	-	-
Pacific Hake	-	-	85,184	120	-	107,906
Nonselective Discards (Unknown)	2,968	100	-	877	4,035	-
Dark Rockfish	-	-	-	4	-	-

Bottom Trawl Gear: Other Discards



Like last year, mostly small discrepancies, with a few large ones

Note: Each point represents a single trip

How often could fish not be identified to species?

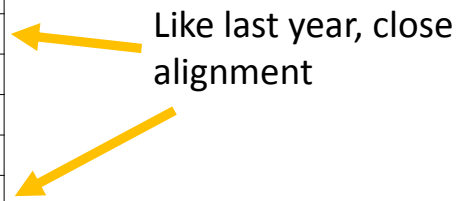
Fishery	Year	Species Group	Group Unid Discards (lbs)	Total Discards (lbs)
Bottom Trawl	2015	Flatfish	66	2996*
		Rockfish	39	118
		Roundfish	37	2131
		Thornyheads	41	44
		Other Unknown	3105	8801
	2016	Flatfish	116	12392*
		Rockfish	278	608
		Roundfish	12	10283
		Thornyheads	193	201
		Other Unknown	502	30914
Non-Whiting Midwater	2015	Other Unknown	2968	2968
	2016	Rockfish	4	4
		Roundfish	0	120
		Other Unknown	877	1001

*Pacific halibut are not included in the total flatfish weight because EM reviewers are able to distinguish halibut from other flatfish

How did EM and observer data compare?

Common Name	2016 (lbs)	
	EM	Observer
Flatfish Unid	26	-
Pacific Halibut	1,179	1,283
Rock Sole	-	1
Rex Sole	3	6
Dover Sole	172	214
English Sole	3,756	3,945
Petrals Sole	26	41
Curlfin Turbot	2	4
Pacific Sanddab	2,460	3,002
Arrowtooth Flounder	2,458	1,863
Sablefish	105	364
Pacific Hake	3,972	4,273
Widow Rockfish	-	2
Widow Rockfish	-	3
Redbanded Rockfish	-	0
Rosethorn Rockfish	-	2


Like last year, close alignment



Note: Based on 36 trips on 9 vessels;
bottom trawl only

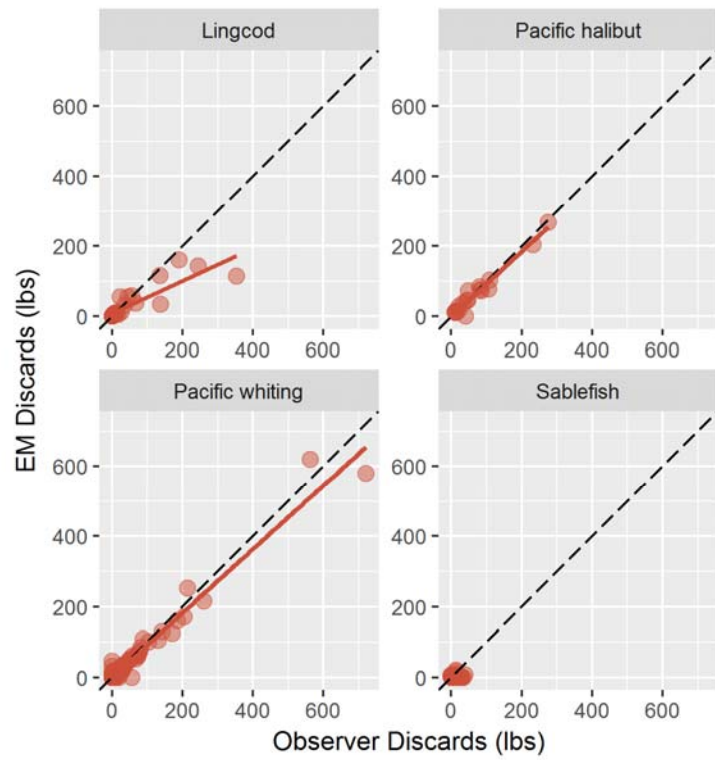
Common Name	2016 (lbs)	
	EM	Observer
Darkblotched Rockfish	-	16
Splitnose Rockfish	-	336
Aurora Rockfish	-	7
Shortspine/ Longspine Thornyhead	108	-
Shortspine Thornyhead	-	100
Longspine Thornyhead	-	62
Lingcod	904	1,416
Fish Unidentified	81	-
Decomposed Fish	3	-
Minor Slope Rockfish	326	-
Dark Rockfish	1	-
Dark Rockfish	4	-
Red Rockfish	116	-
Fish Unidentified(IFQ)	107	-
Flatfish Unid(IFQ)	2	-

Some discrepancies due to EM using group ID



Note: Based on 36 trips on 9 vessels; bottom trawl only

Trawl Gear: Other Discards



Note: Each point represents a single haul

How many trips had video gaps?

Year	Fishery	Vessels	Trips	Trips with video gaps	Trips missing video for one or more hauls	Trips missing entire video
2015	Bottom Trawl	5	23	6	0	0
2015	Non-Whiting Midwater	8	26	1	0	0
2016	Bottom Trawl	9	109	14	0	0
2016	Non-Whiting Midwater	6	33	0	0	0

How often were fish removed from camera view?

Year	Fishery	Trips with at least one unknown fate	Instances of unknown fate
2015	Bottom Trawl	0	0
2015	Non-Whiting Midwater	0	0
2016	Bottom Trawl	4	8
2016	Non-Whiting Midwater	0	0

How well did the EFPs do?

- EFPs performed well, better than last year
 - More lbs discrepancies, because of change to optimized retention and greater effort
 - Mostly small discrepancies, few large ones
 - Few instances of unidentified fish
 - Few data gaps and malfunctions

Cost Estimates

	Bottom Trawl	Non-whiting Midwater Trawl
# of vessels	9	6
Avg annual sea days per vessel	40.1	12.7
Avg review minutes per haul	64	9
Avg review rate	0.49	0.17
Avg review hours per trip	6.3	0.4
EM Per Sea Day Costs		
Equipment cost	\$83.13	\$262.47
Review cost	\$88.06	\$4.98
Data storage cost	\$31.39	\$25.70
Service & maintenance fees		
Split equally among vessels	\$162.64	\$513.52
Split equally among days	\$150.45	150.45
Total Per Sea Day Costs		
EM cost per sea day		
Field services split equally among vessels	\$365.22	\$806.67
Field services split equally among days	\$353.03	\$443.60

Field Services Scenarios		Bottom Trawl	Non-whiting midwater trawl
	# vessels	9	6
	# sea days per vessel	40.1	12.7
→	Split equally among vessels →		
	per vessel (\$300k/46)	\$6,521.74	\$6,521.74
	per sea day	\$162.64	\$513.52
	→		
	per vessel (\$200k/46)	\$4,347.83	\$4,347.83
	per sea day	\$108.42	\$342.35
→	Split equally among seadays →		
	per sea day (\$300k/1994)	\$150.45	\$150.45
	per vessel	\$6,033.10	\$1,910.73
	per sea day (\$200k/1994)	\$100.30	\$100.30
	per vessel	\$4,022.07	\$1,273.82

Total Per Sea Day Costs		
EM cost per sea day		
Field services split equally among vessels	\$365.22	\$806.67
Field services split equally among days	\$353.03	\$443.60
Observer cost per sea day	\$500	\$500
EM Savings Per Sea Day		
With camera cost		
Field services split equally among vessels	\$134.78	(\$306.67)
Field services split equally among days	\$146.97	\$56.40
Without camera cost		
Field services split equally among vessels	\$217.91	(\$44.20)
Field services split equally among days	\$230.10	\$318.87

Draft Regulations for Deeming

Draft Regulations

- Based on September 2014 Council FPA
- Based on draft regulations in whiting and fixed gear proposed rule
- NMFS Report 2 contains only regulatory language for bottom trawl and non-whiting midwater trawl-specific provisions

Draft Regulations - Highlights

- Provisions for self-enforcing agreements
 - Created a group authorization
 - Key elements of a self-enforcing agreement – similar to EMSPs and VMPs
 - NMFS would provide templates and best practices in EM Program Guidelines
- Limits on switching between observer and EM – **GEMPAC changes**
- Retention requirements – **GEMPAC changes**
 - Optimized for both bottom trawl and non-whiting midwater trawl
 - Species that cannot be identified on camera must be retained
 - Prohibited species must be discarded

Retention Requirements

1. Bottom trawl = optimized; NW Midwater trawl = maximized
 - What happens when gear rule implemented?
 - Maximized retention would negate WCGOP coverage for NWMWT trips (if prohibits can be retained)
2. Both = optimized retention
 1. Must discard prohibits (current draft reg text)
 2. May retain prohibits ?
 - Better fit for mixed flatfish/rockfish trips
 - Still need WCGOP coverage for data collection on discards

Discard Category	Can Discard?	
	Bottom Trawl	Non-whiting Midwater Trawl
IFQ species that can't be identified	No	No
Arrowtooth, Dover, English, whiting, lingcod	Yes	Yes
Non-IFQ species that can't be identified	No	No
Other non-IFQ species	Yes	Yes
Salmon	No	No
Pacific halibut	Must discard	Must discard
Other prohibited species	If sort at sea, must discard; If don't sort at sea, may retain	If sort at sea, must discard; If don't sort at sea, may retain
Large animals	Yes	Yes

Questions?

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