Regulatory Impact Review and
Final Regulatory Flexibility Analysis for the Regulatory Amendment to the Pacific Coast Groundfish Fishery Management Plan to Implement an Electronic Monitoring Program

National Marine Fisheries Service, West Coast Region

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Rulemakings must comply with Executive Order (EO) 12866 and the Regulatory Flexibility Act (RFA). NMFS undertakes a regulatory impact review (RIR) for all regulatory actions of public interest. The RIR provides a comprehensive review of the changes in net economic benefits to society associated with proposed regulatory actions. Typically, an RIR describes the fishery, provides a statement of the problem and the associated management objectives, and describes the major alternatives under consideration. The RIR also provides an economic analysis of the expected effects of each selected alternative relative to the no action alternative.

> The NMFS Economic Guidelines that describe the RFA and EO 12866 can be found at: http://www.nmfs.noaa.gov/sfa/domes_fish/EconomicGuidelines.pdf.
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> The RFA can be found at 5 U.S.C. 601 et seq.:
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> http://www.archives.gov/federal-register/laws/regulatory-flexibility/
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> Executive Order 12866 can be found at:
> http://www.plainlanguage.gov/populartopics/regulations/eo12866.pdf

REGULATORY IMPACT REVIEW

The President of the United States signed the Executive Order (EO) 12866, Regulatory Planning and Review on September 30, 1993. This order established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. The EO stresses that in deciding whether and how to regulate, agencies should assess all of the costs and benefits across all regulatory alternatives. Based on this analysis, they should choose those approaches that maximize net benefits to society.

NMFS requires the preparation of an RIR for all regulatory actions of public interest. The RIR provides a review of the economic effects of proposed regulations in order to gauge the net benefits to society associated with proposed regulatory actions. The analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the alternatives that could be used to solve the problems.

The RIR assesses whether the proposed action could be considered a significant regulatory action according to EO 12866. EO 12866 defines a significant regulatory action and requires agencies to provide analysis of the costs and benefits of such action and reasonable feasible alternatives. An action may be considered significant if it is expected to: 1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the

economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; 2) Create a serious inconsistency or otherwise interfere with action taken or planned by another agency; 3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the EO.

The RIR analysis includes a description of management objectives, a description of the fishery, statement of the problem, a description of each alternative considered in the analysis, and an economic analysis of the expected effects of each selected alternative relative to the *no action* alternative.

Description of the Management Objectives & Legal Authority

This action would amend the Pacific Coast Groundfish FMP. The regulatory amendment would implement an Electronic Monitoring Progarm (EM) for the Pacific whiting midwater trawl and fixed gear segments of the groundfish fishery. Electronic monitoring involves the use of cameras and net sensors. When the hydraulic winch kicks into gear and the line or nets are being deployed, the cameras switch on, recording high-definition video of everything the fishermen pull out of the water. The Pacific Fishery Management Council (Council) developed this regulatory amendment to address industry concerns about rising monitoring costs and a need for more operational flexibility by providing an alternative to observers to meet the 100-percent at-sea monitoring requirements of the groundfish catch share program.

The purpose of this action is to expand the range of monitoring tools for vessel operators to meet the 100 percent monitoring requirements of the Trawl Program. This action is needed to achieve the following objectives:

1. Reduce total fleet monitoring costs to levels sustainable for the fleet and agency;
2. Reduce observer costs for vessels that have a relatively lower total revenue;
3. Maintain monitoring capabilities in small ports;
4. Increase national net economic value generated by the fishery;
5. Decrease incentives for fishing in unsafe conditions;
6. Use the technology most suitable and cost effective for any particular function in the monitoring system; and,
7. Reduce the physical intrusiveness of the monitoring system by reducing observer presence.

Background

Amendment 20 to the Pacific Coast Groundfish FMP implemented a catch share program in the groundfish limited entry trawl fishery in January 2011. The program established cooperatives for the catcher-processor and mothership sectors and an individual fishing quota (IFQ) program for the shorebased fleet. The cooperatives receive an allocation of whiting and set-asides of overfished species. Vessels in the shorebased fishery receive an allocation of 30 species and species groups. As part of the catch share program, Amendment 20 also implemented requirements for 100-percent industry-funded monitoring dockside and at-sea for catch share trips. Catcher-processors and motherships must have two observers for each trip, and catcher

vessels in the mothership and shorebased sectors must have an observer on each trip. Processors receiving IFQ catch must also have 100 percent catch monitor coverage of all IFQ offloads. The observer data is used to ensure individual accountability for all catch of IFQ species and to monitor compliance with the catch share program requirements.

To assist the industry in transitioning to the catch share program, NMFS subsidized the cost of observers and catch monitors for the first 5 years of the program. In September 2015, the subsidy ended and the industry became responsible for the full costs of monitoring. In anticipation of this transition to industry-funding, the Council initiated development of a regulatory amendment in November 2012 to implement an EM program for the shorebased and mothership sectors that would allow catcher vessels to use EM in place of observers to meet the at-sea monitoring requirements of the catch share program. Amendment 20 originally allowed for vessels to use EM in place of observers, but the requirements of an EM program were not sufficiently developed to be implemented with the catch share program. This regulatory amendment would specify the detailed requirements necessary to implement this provision of Amendment 20 for two components of the trawl fishery – catcher vessels using midwater trawl gear to target whiting in the mothership and shorebased sectors and fixed gear vessels targeting other species in the shorebased sector. The regulatory amendment originally contemplated measures for all gear types, but the Council chose to postpone measures for bottom trawl and non-whiting midwater trawl vessels to a subsequent action, to allow more time for development and analysis. The Council took final action on the measures for whiting and fixed gear vessels at their April 2016 meeting. Implementation of this action is targeted for 2018, with the intent for vessels to begin fishing with EM under the regulations in mid 2018.

This regulatory amendment would establish standards and requirements for vessel owners and operators using EM, processors receiving catch from EM trips, and EM service providers. Vessel operators would self-report discards using logbooks, which would be audited using the EM data, and used to debit discards of IFQ species from IFQs and cooperative allocations. Video data would also be used to monitor compliance with the requirements of the catch share program. In addition, NMFS could maintain some level of observer coverage on EM trips using the West Coast Groundfish Observer Program (WCGOP), to continue data collection for biological information, protected species interactions, and other purposes. Vessel owners authorized to use EM would be required to obtain an EM system and video data processing services from NMFS-permitted EM service providers at their own expense. However, NMFS intends to conduct the video review itself for 2017-2019, contingent on available funding, while we develop the standards and protocols that would be used to certify and oversee video review service providers. The requirement for industry to fund the video review would take effect in 2020, or earlier if NMFS does not have funding to process the data itself.

Description of each alternative considered in the analysis

There are two major alternatives-No Action Alterative 1 and Electronic Monitoring –Alternative 2. This rule making implements the Council preferred alternative.

Alternative 1 – No Action

Under this alternative, groundfish monitoring requirements would remain as defined in Amendment 20 and subsequent rulemakings. Catcher vessels in the Pacific whiting fishery and fixed gear vessels in the Shorebased IFQ fishery would be required to obtain 100 percent observer coverage for all trips. Vessels would continue to use observers to satisfy the 100 percent observer coverage requirement and would not be able to use electronic monitoring as an alternative to observers. Vessels sorting at sea would be able to discard IFQ and non-IFQ species provided it has been documented by an observer.

Alternative 2 – Electronic Monitoring (*Council Preferred*)

Under this alternative, catcher vessels in the Pacific whiting fishery and fixed gear vessels in the Shorebased IFQ fishery would have the option to use electronic monitoring (EM) in place of human observers to meet the requirements of Amendment 20 for 100 percent at-sea observer coverage. Vessel owners would be able to submit an application to NMFS for an authorization to use EM in place of observers. Vessel owners authorized to use EM would be required to obtain, install, and maintain an EM system from an approved service provider, as well as services to review the video data to generate discard estimates and to submit reports to NMFS. Vessel operators would also be required to fill out a logbook to document and report discards to NMFS. Copies of the discard logbook and state logbook would be required to be submitted to NMFS within 24 hours of landing. Under this alternative, the EM service provider would review the EM data after the trip and calculate estimated discards by species/species group to report to NMFS to debit from IFQ and IBQ. There are two ways that EM data could be used under this alternative.

Detailed Description of the Alternatives

Alternative 1 – No Action

Alternative 2 – Electronic Monitoring (*Council Preferred*)

> **Sub-Option A1:** EM data is used as the primary data source to debit discards from vessel accounts. ***Rationale:*** There is an assertion by some that for the whiting fleet, video review is all that is needed as discard events are easily identifiable. However, industry thinks logbooks are useful tool, and video reviewers may need logbooks for whiting fleet if only to document unusual events such as equipment failures.
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> **Sub-Option A2:** Logbook data is used as the primary data source to debit vessel accounts and EM data is used to audit the validity of the logbook data. ***Rationale:*** This is the approach taken in British Columbia Fishery and in the 2015-2016 EM EFPs and this may have lower cost than A1 when video review is reduced from 100%, (*Council Preferred*)
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> **Sub-Option B1:** 100 percent of the video is reviewed to generate discard estimates. ***Rationale:*** Reviewing 100 percent of the video from a trip would provide a census of

discards and reduce the uncertainty of using discard estimates expanded from a sub-sample.
Sub-Option B2: Less than 100 percent of the video is reviewed. The level would initially be 100 percent, but NMFS would have the ability to modify the percentage based on performance in consultation with the Council. (*Council Preferred*)
Rationale: Reviewing a subsample of the video to extrapolate a discard estimate for a trip would be less costly than reviewing 100 percent of the video from the trip.

Sub-Option C1: Vessel operators would be required to retain all catch until landing, with a few exceptions for prohibited and protected species and discards for safety reasons. ***Rationale:*** Requiring the majority of catch to be retained would simplify the video review and potentially reduce review costs, and would allow more complete data collection on most catch by a shoreside catch monitor.
Sub-Option C2: Vessel operators would be able to discard those species that can be differentiated on camera. The list of species that may be discarded may be modified through a routine action as defined in the Pacific Coast Groundfish FMP. (*Council Preferred for Fixed Gear*) ***Rationale:*** Allowing vessel operators to discard those species that can be differentiated on camera would reduce the burden of having to store and dispose of unmarketable or otherwise undesirable fish.

Sub-Option D1: All discards would be debited from IFQ and cooperative allocations. (*Council Preferred*) ***Rationale:*** Debiting discards from individual and cooperative allocations would be consistent with status quo accounting methods using observer data and would create the strongest incentive for minimizing discards. Because the review time for whiting trips is so rapid, quantifying all discards would not substantially increase program costs. Debiting discards from individual and cooperative allocations would be consistent with status quo accounting methods using observer data and would create the strongest incentive for minimizing discards.
Sub-Option D2: Discards dumped off the deck or for safety reasons (e.g., pull zipper on net), and from unobserved sets/hauls would be debited from IFQ. Other discards from net bleeding, lost gear, and consumed or used as bait would be deducted preseason from the sector allocation or the ACL using historical data. ***Rationale:*** The Council considered debiting small amounts of discards or unintentional discards from sector allocations preseason to simplify and reduce the cost of video review.
Sub-Option D3: Discards from Shorebased catcher vessels would be debited from IFQ. Discards from mothership catcher vessels would be deducted from the mothership cooperative allocation preseason using historical data. ***Rationale:*** The Council considered debiting mothership catcher vessel discards preseason to simplify and reduce the cost of video review.

Sub-Option E1: A representative of the vessel (vessel operator or crew) would be responsible for delivering the hard drive to the EM service provider. (*Council Preferred*)
Rationale: Making the vessel representative solely responsible for delivering the hard drive ensures accountability and a clear chain of custody, while still allowing flexibility for the vessel operator to delegate the responsibility to a third party. This option is also cheaper than the other sub-options.

Sub-Option E2: The EM service provider would be responsible for retrieving the hard drive from the vessel and delivering it for analysis. ***Rationale:*** Having an independent third party retrieve the hard drive would ensure a clear chain of custody and may reduce the likelihood of tampering.
Sub-Option E3: The catch monitor or other third party would be responsible for delivering the hard drive to the EM service provider for analysis. ***Rationale:*** Allowing the catch monitor, processor, or other third party to retrieve the hard drive would offer flexibility to vessel operators and may reduce program costs by using existing resources

Sub-Option F1: Vessel monitoring plans would be effective until revised (*Council Preferred*) ***Rationale:*** This sub-option would reduce the administrative burden on vessel owners of having to resubmit an application and vessel monitoring plan each year.
Sub-Option F2: Vessel monitoring plans would expire and must be renewed annually. ***Rationale:*** This option would have a greater administrative burden for vessel owners, but would ensure that vessel monitoring plans remain up to date.

Sub-Option G1: No limit on switching between EM and observers. (*Council Preferred for Fixed Gear*) ***Rationale:*** This option would provide vessel operators the most flexibility to use whatever monitoring option works best for their operations at a given time. Impacts to the Observer Program could be mitigated through communication between the vessel operators and NMFS.
Sub-Option G2: There would be some limit on switching, to be determined by NMFS, with the exception that an observer could be used in the event of an EM system failure. (*Council Preferred for Whiting*) ***Rationale:*** This option would provide vessel operators some flexibility, but limit the impact of switching on Observer Program operations.
Sub-Option G3: The vessel operator would be required to log a plan with NMFS indicating when they plan to use EM and observers that could not be changed, with exceptions for EM system failures. ***Rationale:*** This option would also limit the impact of switching on Observer Program operations, but allow the vessel operator the flexibility to choose their own limits on switching depending on their individual operations.
Sub-Option G4: No switching between observers and EM would be allowed, except for instances of EM system failure. ***Rationale:*** This option would minimize the impacts of switching on Observer Program operations, but would provide the least flexibility for vessel operators.

Economic Effect of the Major Options

There are two major alternatives-No Action Alternative 1 and Electronic Monitoring – Alternative 2.

The proposed rule is presenting a choice to fishermen. They can either continue to pay for 100% observer coverage or elect to pay for electronic monitoring-camera, video review, equipment, and field services. Therefor this rule should not lead to increased monitoring costs as it presents a lower cost option.

Using cost estimates developed jointly by PSMFC and NMFS, NMFS developed a spreadsheet model for assessing the vessel, fleet, and government costs of implementing EM. Unit costs are based on the 2015 Exempted Fishing Permit Programs. NMFS has updated the analysis presented at the November 2015 Council Meeting (http://www.pcouncil.org/wp-content/uploads/2015/11/I5a_Sup_NMFS_Rpt4_CostEstimates_Nov2015BB.pdf). The key unit cost assumptions are presented below.

	Fixed	MSCV	Shoreside Whiting
# of Vessels	7	16	18
Average total Sea days per vessel	32.71	25.00	72.21
level of Video Review	100%	100%	100%
Unit Cost per day of video review	$72	$12	$11
Field Services Costs/Vessel	$5,660	$5,660	$5,660
Field Service Costs/per day	$173	$226	$78
Lifespan of Cameras	3	3	3
Camera and initial installation cost	$10,000	$10,000	$10,000

Estimates of the number of vessels participating in Electronic Monitoring Program are based on the number of participants in the bottom trawl, fixed gear, mothership catcher vessel (MSCV) and Shoreside Whiting EFPs. The model assumes that field service costs are shared amongst the fleet based on the number of vessels. Therefore, although bottom trawl vessels are not the subject of this action (EM regulations for bottom trawl vessels will be considered in a separate rulemaking), they are included in the model for purposes of determining the portion of the costs from the EM EFP program that would be attributed to whiting and fixed gear vessels. Field services costs include camera installation, having technicians on call to provide EM services, having inventory available to address equipment breakdowns, assisting in the development and management of the Individual Vessel Monitoring Plan, and assisting in the troubleshooting needed to reconcile data. The model uses unit estimates based on the 2015 EFPs. However for Field Services, the model assumes that $300,000 is the total cost to the fleet, including bottom trawl and non-whiting midwater trawl vessels. This is based on anecdotal conversations with the industry and review of costs associated with the 2004-2010 Whiting EFPs (http://www.pcouncil.org/wp-content/uploads/F2c_SUP_PubCom_ELECTRICVERSION_JUNE2014BB.pdf). This estimate as well as the bottom trawl unit costs estimates have the greatest uncertainty. Only 7 trawl vessels fished in the 2015 efp for a total of 93 sea days as compared to fixed gear (229 sea days), mothership catcher vessel (300 sea days) and shoreside whiting (1,372 seadays). Rather than use the 2015 EFP average of 12 seadays per trawl vessel, the number of seadays used in the 2014 Economic Data Collection Program analysis was used. This is the average of the number of sea days associated with the Dover sole-Thornyhead rockfish and Sablefish fishery-DTS (39 sea day average) and the non-DTS trawl vessels (23 sea days). The costs of a video review are estimated

at $50 per hour. The level of video review is based on current levels of review but it is expected that as the program matures, the required level of review will decrease.

Using this information-the following costs per sea day were developed u to that they could be compared with an observer cost of $500 per day. Costs are presented based on what costs the industry are expected to pay. Further below, the topic of government costs is addressed.

	Cost Estimates Per Sea Day			
	Trawl	Fixed	MSCV	Shoreside Whiting
Video Review	$163	$72	$12	$11
Storage Costs	$31	$23	$26	$26
Field Services Cost	$183	$173	$226	$78
SubTotal	$377	$268	$264	$115
Equipment Costs	$119	$133	$78	$55
Total	$496	$402	$341	$170
observer cost	$500	$500	$500	$500
Cost Savings with EM				
Observer-EM w Camera	$4	$98	$159	$330
Observer EM no need to purchase camera	$123	$232	$236	$385

Video Review costs are based on the average review time per vessel trip while the storage costs estimates are based on actual costs of video storage using a $150,000 local server that has a 480 terra-byte (TB) capacity. The 2015 EM EFPs generated about 100 TBs of data. Storage costs may decline in the future depending on use of Cloud services, rapidity of uploading and downloading data, associated software and personnel considerations.

Based on the above assumptions and if cameras need to be purchased, when fixed gear ($98 per day), mothership catcher vessels ($159) and shoreside whiting ($330) vessels will see a cost savings when compared to observer costs of $500 per day. Many vessels already own their cameras so they may see a greater cost savings until such time that the cameras need to be replaced. Annual Vessel estimates show fixed gear and mothership catcher vessels saving $3,000 to $4,000 and shoreside whiting vessels saving $24,000 per year. Annual Fleet estimates show similar results.

As mentioned above, NMFS intends to conduct the video review itself for 2017-2019, contingent on available funding, while the standards and protocols that would be used to certify and oversee video review service providers are developed. The requirement for industry to fund the video review would take effect in 2020, or earlier if NMFS does not have funding to process the data

itself. When there is a shift to the industry paying for video review, NMFS in association with the Pacific States Marine Fisheries Commission will shift into auditing mode. The table below shows the Program Transition Costs. It assumes that the industry will pay for the 100 percent of the video and associated storage costs and that NMFS will be auditing 50% of the video. It includes government costs for managing the program. These are costs "government fixed costs" in additional to video reviewer costs, including NMFS and PSMFC program managers, statistician, IT services, and overhead. These costs are prorated to each fleet based on each sector's proportion of government total video review costs. With the full transition, government costs will be approximately $286,000. Under current "Cost Recovery" fee percentages, only the mothership catcher vessel fleet portion will be recouped by the cost recovery fee as the other fleets are already at the maximum level of 3%. The mothership catcher vessel cost recovery fee is expected to increase by 0.02%

	Annual Vessel Estimates			
	Trawl	Fixed	MSCV	Shoreside Whiting
Total Sea days	31	33	25	72
Video Review	$5,059	$2,369	$296	$811
Storage Costs	$973.21	$752.71	$642.46	$1,855.70
Field Services Cost	$5,660.38	$5,660.38	$5,660.38	$5,660.38
Subtotal	$11,692.20	$8,781.65	$6,599.02	$8,327.30
Equipment Costs	$3,690.48	$4,361.90	$1,937.98	$3,945.93
Total	$15,382.68	$13,143.56	$8,537.00	$12,273.23
observer cost	$15,500	$16,357	$12,500	$36,105
Cost Savings with EM				
Observer-EM w Camera	$117.32	$3,213.58	$3,963.00	$23,832.03
Observer EM no need to purchase camera	$3,807.80	$7,575.49	$5,900.98	$27,777.96

	Annual Fleet Estimates			
	Trawl	Fixed	MSCV	Shoreside Whiting
Total Sea days	372	229	400	1300
Video Review	$60,703	$16,580	$4,739	$14,602
Storage Costs	$11,678.53	$5,268.94	$10,279.37	$33,402.54
Field Services Cost	$67,924.53	$39,622.64	$90,566.04	$101,886.79
Subtotal	$140,306.39	$61,471.58	$105,584.30	$149,891.44
Equipment Costs	$44,285.71	$30,533.33	$31,007.75	$71,026.75
Total	$184,592.10	$92,004.92	$136,592.05	$220,918.19
observer cost	$186,000	$114,500	$200,000	$649,895
Cost Savings with EM				
Observer-EM w Camera	$1,407.90	$22,495.08	$63,407.95	$428,976.55
Observer EM no need to purchase camera	$45,693.61	$53,028.42	$94,415.70	$500,003.30

		Program Transition Costs				
		Trawl	Fixed	MSCV	Shoreside Whiting	Total
Total Industry Video Review Costs	100%	$72,381.86	$21,848.94	$15,018.26	$48,004.65	$157,253.71
Government total video review costs as % of Industry	50%	$36,190.93	$10,924.47	$15,018.26	$24,002.32	$86,135.98
Share of total audit costs		42.02%	12.68%	17.44%	27.87%	
Government Fixed Costs		$84,032	$25,366	$34,871	$55,731	$200,000
Total Government Costs		$120,223	$36,290	$49,889	$79,734	$286,136
Current Cost Recovery Fee		3.00%	3.00%	1.20%	3.00%	
Affect on cost Covery Fee		0.00%	0.00%	0.02%	0.00%	

Other impacts are increased costs to the processors and potential increases on the observer rates for those vessels that choose to continue to employ observers. Processors receiving IFQ catch must also have 100 percent catch monitor coverage of all IFQ offloads. Typically, the observer that is used on the vessel steps off the vessel and becomes a catch monitor. Under EM, there is no observer and so the Processor must undertake the logistics of providing a catch monitor. So, on one hand, EM may cause catch monitor logistical issues in small ports but on the other hand EM aids those small ports where obtaining an observer may be difficult.

With EM, the number of vessels requiring observers is reduced. This reduction may cause the third party providers to raise their fees. Processors/First receivers would be required to sort and dispose of any prohibited or protected species retained by EM vessels. First receivers already have such disposition requirements for landings from Pacific whiting maximized retention trips. This action would expand the existing whiting sorting and disposition requirements to landings

from all EM trips. The Processors/First Receivers may have already adjusted to the effects of these provision as the mirror the requirements of the EM EMP program that has been in effect 2015.

Under Alternative 2 there are 7 sub-alternatives address various aspects of program. The **primary source** of data for debiting discards (A1-video, A2-logbook), **video review percentage** (B1-100%, B2-less than 100%), **retention** (C1-All Catch-few discard exceptions, C2—Most Catch-discards allowed for species that cameras can identify), **discard debiting** (D1-all discards, D2-All discards except discards associated with safety issues, D3-pre-season discards), **hard drive delivery** (E1-captain or crew member, E2-EM service provider, E3-Catch monitor or other),**vessel monitoring plan expiration** (F1-effective until revised, F2-annual renewal), and **switching between EM and observers** (G1-no limits, G2-limited, G3-switching based on a vessel's planned schedule with exceptions for camera failures, G4-none unless there is camera failure). The proposed regulations adopt the Council's preferred sub-alternatives Generally speaking, the Council's sub alternatives have no effect on overall cost of the program (A2, D1, E1), reduce the cost of the program (E1,B1) , or provide industry flexibility (C2, F1, G1-Fixed Gear, G2-Whiting)

Description of the Fishery

In January 2011, NMFS implemented a trawl rationalization program, which is a catch share program, for the Pacific coast groundfish limited entry trawl fishery. The program was implemented through Amendments 20 and 21 to the Pacific Coast Groundfish Fishery Management Plan and the corresponding implementing regulations at 50 CFR part 660. Amendment 20 established the trawl rationalization program that consists of: an individual fishing quota (IFQ) program for the shorebased trawl fleet (including whiting and nonwhiting sectors), and cooperative programs for the at-sea mothership and catcher/processor trawl fleets (whiting only). Amendment 21 set long-term allocations for the limited entry trawl sectors of certain groundfish species. The trawl program separated the limited entry trawl fishery into three sectors: the catcher/processor secot composed of a cooperative of large vessels that both catch and process Pacific whiting at sea; a mothership sector composed of a cooperative of catcher vessels that target whiting and the mothership vessels that process their catch at sea; and the shorebased sector composed of midwater trawl, bottom trawl, and fixed gear vessels that target groundfish species under individual fishing quota (IFQs). In the shorebased fishery, a vessel with a limited entry trawl permit may use any legal groundfish gear to catch groundfish species. Some vessels use midwater trawl gear to target whiting, others use bottom trawl gear to target a mix of species, and some vessels use fixed gear (pots and longlines) to target sablefish. Catcher vessels using midwater trawl gear to target whiting in the shorebased and mothership sectors as well as fixed gear vessels targeting sablefish in the shorebased sector are the subject of this action.

Catcher vessels in the shorebased IFQ fishery land catch to processors with a first receiver license. A first receiver license was created by the Trawl Program as a way to identify and monitor the chain of custody of IFQ species from possession of the vessel to landing. NMFS licenses first receivers annually and first receivers are required to have a catch monitoring plan

and obtain catch monitors from a third party service provider to monitor landings and weighing of all IFQ species.

Catcher vessels in the mothership sector land catch to mothership vessels in the mothership sector. Mothership vessels process and package the catch at sea. Motherships have 200% observer coverage, with 2 observers onboard the vessel on all IFQ trips.

The attached infographics developed by the NWFSC's Economic Data Collection program show the overall state of the IFQ, mothership, and first receiver/processing sectors in 2014.

In analysis presented to the Pacific Fishery Management Council, the NWFSC EDC Catcher-Vessel Document has the following 2014 Highlights (See http://www.pcouncil.org/wp-content/uploads/2016/06/G5b_NMFS_Rpt4_MS_ElecVer_JUN2016BB.pdf)

> In 2014, the fourth year of the catch share program, there were 102 catcher vessels that participated in the West Coast Groundfish Trawl Catch Share program. • Catcher vessels generated $85 million in income and 954 jobs from deliveries of fish caught in the catch share program. • Catcher vessels spent an average of 62 days fishing in the West Coast Groundfish Trawl Catch Share Program (the catch share program) and spent an average of 80 additional days fishing in non-catch share fisheries. • West Coast catcher vessels deliver to ports in Washington, Oregon, California, and at-sea; the two ports with the highest landings in 2014 were Astoria and Newport, both in Oregon. • An average of 2.4 crew members worked aboard each West Coast catcher vessel, each earning an average compensation of $54,500. • In 2014, 31 percent of vessels were owner-operated at least part of the year. • The average ex-vessel revenue per vessel from participation in the catch share program was $646,000. • Average variable cost net revenue (ex-vessel revenue minus variable costs) per vessel was $256,000 from participation in the catch share program, and the fleet-wide variable cost net revenue was $26.2 million. • Average total cost net revenue (ex-vessel revenue minus variable costs and fixed costs) per vessel was $127,000 and the fleet-wide total cost net revenue was $12.9 million.

These are preliminary results and it should be noted that some industry members have questioned the results of EDC data which is based on cost-earnings surveys where all participants are required to respond to. Via the Pacific Fishery Management Council's Five Year IFQ Trawl Review, the NWFSC economists will be meeting with the industry to further groundtruth their results with the industry.

With respect to monitoring costs, the NWFSC 2014 EDC report states the following:

> One other change resulting from the implementation of the catch share program was a shift to 100% observer coverage with partial industry funding. Prior to catch shares, there was approximately 20% observer coverage, paid for by the National Marine Fisheries Service (NMFS). In order to lessen the cost of transitioning to the required 100% observer coverage, catcher vessels received a maximum subsidy of $328.50 per day in 2011 and 2012. This subsidy decreased in 2013 to $256 per day and in 2014 to $216 per day. Catcher vessels spent on average $14,400 on observer coverage (excluding the

NMFS subsidy payments) while operating in the catch share program in 2014 (Figure 7). In 2011, observer costs represented 0.6% of total costs, and increased to 2.8% in 2014. Note that as observer subsidies have decreased over time, the average expenses per vessel have increased. For this reason, the average 2014 costs reported will not reflect the costs currently incurred by the fleet.

It should be noted that the 2015 observer subsidy was about $108 per day. The subsidy program ended in September 2015. Currently the industry is paying about $500 per day for observers.

Statement of the Problem

The problem is to reduce the industry costs of monitoring by providing an option to deploy electronic monitoring. A related issue, is the NMFS Policy that the industry should bear a larger burden in the costs of managing fisheries, especially in a world of uncertain federal appropriations. With the implementation of the Amendment 20-IFQ Catch shares, NMFS initially subsidized 100-percent of the costs of observers for industry in 2011, but this subsidy has been declining over time and finally ended in 2015 when industry took on the full costs of monitoring. Since implementation of the program, industry has been concerned about the impending full costs of monitoring and the Council and industry have been exploring the use of electronic monitoring (EM) as an alternative to observers to meet the at-sea coverage requirements. The industry would also like greater flexibility and not have to coordinate or accommodate an observer on the vessel.

RIR-Determination of Significant Impact

As mentioned above, the RIR is designed to determine whether the proposed action could be considered a significant regulatory action according to EO 12866. This rule will not trigger any of the EO 12866 test requirements for significant regulatory actions. In other words, it will not have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; 2) create a serious inconsistency or otherwise interfere with action taken or planned by another agency; 3) materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the EO.

The costs of the overall program do not trigger the EO 12866 requirements for a “significant regulatory action.” This rule would allow fishermen to substitute the use of electronic monitoring in place of human observers, presumably on the basis of costs and flexibility.

FINAL REGULATORY FLEXIBILITY ANALYSIS

The RFA, 5 U.S.C. 603 et seq., requires government agencies to assess the effects that regulatory alternatives would have on small entities. When an agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an FRFA that describes the impact on small businesses, non-profit enterprises, local governments, and other small

entities. The FRFA is to aid the agency in considering all reasonable regulatory alternatives that would minimize the economic impact on affected small entities.

For RFA purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (see 50 CFR § 200.2). A business primarily engaged in commercial fishing (NAICS code 11411) is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $11 million for all its affiliated operations worldwide.

On December 29, 2015, the National Marine Fisheries Service (NMFS) issued a final rule establishing a small business size standard of $11 million in annual gross receipts for all businesses primarily engaged in the commercial fishing industry (NAICS 11411) for Regulatory Flexibility Act (RFA) compliance purposes only (80 FR 81194, December 29, 2015). The $11 million standard became effective on July 1, 2016, and is to be used in place of the U.S. Small Business Administration's (SBA) current standards of $20.5 million, $5.5 million, and $7.5 million for the finfish (NAICS 114111), shellfish (NAICS 114112), and other marine fishing (NAICS 114119) sectors of the U.S. commercial fishing industry in all NMFS rules subject to the RFA after July 1, 2016. Id. at 81194.

Summary of significant issues raised during public comment.

NMFS published the proposed rule on September 6, 2016 (81 FR 61161). An IRFA was prepared and summarized in the Classification section of the preamble to the proposed rule. The comment period on the proposed rule ended on October 6, 2016. NMFS received 6 comment letters on the proposed rule. Two comments raised significant issues with respect to the economic analysis, asserting that NMFS' analysis was deficient because it did not consider a significant alternative and did not include some future costs. The Chief Counsel for Advocacy of the SBA did not file any comments on the IRFA or the proposed rule. NMFS' response to all comments received on the proposed rule, including those that raised significant issues or commented on the economic analyses summarized in the IRFA can be found in the ''Comments and Responses'' section of the final rule and is not repeated here.

Description and estimate of the number of small entities to which the rule applies.

In 2015, a total of 36 vessels participated in the EM program. In 2015, a total of 36 vessels participated in the EM program. This total includes 20 vessels that participated in the Pacific whiting fishery (11 that participated in both the shorebased and mothership sectors, 9 that fished only in mothership) and 7 fixed gear vessels. Given these entities elected to participate in the program, they are most likely to be impacted by this rule in the short term. This number may be an underestimate if additional vessels may elect to participate in the future. The total number of vessels that may be eligible to use EM is 175, the total number of limited entry trawl permits in 2015. When applying for their permits, entities were asked to classify themselves as a small business based on the finfish standard of $20.5 million. Only 5 indicated that they were "large" businesses and thus it would continue to be large businesses under the $11.0 million standard. 2015 Ex-vessel revenues for all west coast fisheries for the remaining vessels range from $1000 to $1.4 million. 2014 "other fisheries revenue" collected on these vessels ranges from $0 to $5.0

million. Based on these ranges, NMFS concludes that the remaining vessels would be considered "small" even after factoring the possibility of the vessels participating in Alaska fisheries.

Estimate of economic impacts on small entities, by entity size and industry.

The economic impacts on small entities are positive as these entities will have a choice of between hiring an observer or using electronic monitoring. Presumably the choice will be based on relative costs and operational flexibility. NMFS estimates indicate fixed gear will save about $98 per day, mothership catcher vessels $159 per day, and shoreside vessels about $330 per day mothership catcher vessels ($159) and shoreside whiting ($330).

Description of the Projected Reporting, Recordkeeping, and Other Compliance Requirements

The proposed action contains a collection-of-information requirement subject to review and approval by OMB under the Paperwork Reduction Act (PRA). This requirement will be submitted to OMB for approval. The proposed action does not duplicate, overlap, or conflict with any other Federal rules.

This action proposes to adjust notification requirements for groundfish vessels using EM and first receivers receiving catch from EM trips. Vessels would now be required to declare the type of monitoring they will use on a given trip – observer or EM. This change is necessary to provide vessels the flexibility to switch between different types of monitoring, depending on what is most cost effective and efficient for their operation at that time, while allowing NMFS to track which fleets vessels are participating in. The proposed change would only add additional potential answers to an existing question and not affect the number of entities required to comply with the declaration requirement (OMB Control Number 0648-0573). Therefore, the proposed change would not be expected to increase the time or cost burden associated with this requirement. Similarly, the requirement for EM vessels to notify the observer program before each trip would be in place of the existing notification to an individual vessel's observer provider when using a catch share observer, and would not be expected to increase the time or cost burden associated with the existing notification requirements approved under OMB Control Number 0648-0593. The requirement for first receivers to report protected and prohibited species landings was previously approved under OMB Control Number 0648-0619 and this action would not be expected to change the time or cost burden or number of entities associated with this requirement.

This action proposes to require vessel owners to submit an application to NMFS to be approved to use EM in place of an observer. This application would include an application form, the purchase or lease and installation of an EM system, a VMP, and attendance of a mandatory training session. The time burden associated with these requirements is estimated to be approximately 10 hours per vessel owner to prepare and submit the application package, install the EM system, and attend a training. The training would be given via webinar to maximize convenience and minimize travel costs for vessel captains. Based on comments from industry participants during the development of the regulations, NMFS is proposing that vessel owners

and captains that participated in the EFPs complete an abbreviated application process for 2017 to reduce the time burden to them. The cost of an EM system and installation is estimated at $12,000 per vessel. Approximately half the active vessels in the fleet have already received EM units through their participation in the EFPs and would not need to purchase a new unit to participate in the program. Vessel owners would likely have to purchase new EM units every 5-10 years, depending on the life of the equipment. Vessel owners would also be responsible for maintaining the EM units in good working order, likely through a service contract with a NMFS-permitted EM service provider. NMFS estimates the annual average cost burden per vessel from this requirement to be approximately $5,600.

If denied an EM Authorization, vessel owners would be able to appeal NMFS's decision through the existing appeal process at § 660.25(g). NMFS estimates the time burden associated with preparing and submitting an appeal to be approximately 4 hours per entity, with a cost of $3.00 for copies and postage. Vessel owners would be able to make modifications to their VMPs during the year by submitting a request and amended VMP to NMFS. These requests would be made electronically via email and, therefore, would not be expected to have a cost burden associated with them. NMFS estimates the time burden associated with this requirement from preparing and submitting the request to be 0.5 hours per request per entity.

Vessel owners would be required to renew their EM authorization annually. This is necessary to ensure that the vessel owners' contact information, VMPs, and fishing plans remain up to date. Industry participants raised concerns with the time burden associated with having to complete the application process each year, as was proposed in an earlier draft of the regulations. To address these concerns, NMFS is proposing to instead provide vessel owners with pre-filled renewal forms and their current VMPs to review and certify as correct in a simplified renewal process. NMFS estimates a time burden of approximately 0.5 hours per entity to review and return the pre-filled package.

Vessel operators would be required to complete and submit a logbook for each trip, with an estimated time burden of 10 minutes per submission. The logbooks are provided by NMFS and state agencies, so the cost of requirement mainly derives from postage at $0.46 per submission. To eliminate duplication, NMFS would allow vessel operators to submit a state logbook that contains all the required information. Vessel operators would also be required to submit the hard drive containing video data to NMFS (in 2017-2019) or the EM service provider (2020-beyond) using a method that provides a return receipt. This is necessary for NMFS and vessel operators to be able to track submissions. This requirement has an average cost of $15.00 per submission and a time burden of 10 min to retrieve and package the hard drive for mailing.

EM service providers would be required to apply to receive a permit from NMFS to provide EM services in the fishery. EM service providers would be required to submit an application to NMFS that includes an application form, an EM Service Plan that describes how they plan to provide services to the fishery, and statements of prior experience and qualifications. If requested, the EM service provider may also be required to provide NMFS copies of contracts with vessel owners and standard operating procedures and manuals describing their operations in more detail. In an earlier draft of the regulations, NMFS proposed requirements very similar to those for observer service providers, with minimal requirements for the provider and NMFS

training and certifying individual observers. However, at the November 2015 Council meeting EM service providers commented that different service providers may have different models and that this model is not appropriate for EM services providers. Some EM service providers may employ less highly trained analysts to initially review video and a biologist to verify species identification. Whereas another service provider may employ highly trained biologists to do it all. They recommended that the regulations provide more flexibility for different business models.

This proposed rule contains an expanded application process, incorporating an EM Service Plan, to provide the flexibility that service providers seek. The addition of an EM Service Plan allows NMFS to consider different business models proposed by different providers as meeting the EM program requirements. However, this requires EM service providers prepare and submit a detailed service plan and other documents, in order to provide NMFS with sufficient information to evaluate them. NMFS estimates the time and cost burden associated with preparing and submitting the permit application to be 47 hours and $30 (for copies and postage). Most likely much of this information would be submitted electronically. If requested by NMFS, EM service providers would be required to provide NMFS two EM units and two copies of any software for EM data analysis for a minimum of 90 days for evaluation. Due to their use by NMFS, the value of the EM units may depreciate and the EM service providers may not be able to resell the EM units for their full value. NMFS estimates the EM providers would be able to recoup 50 percent of the EM unit value at approximately $5,000 per unit. This results in a total cost associated with this requirement at $10,215 per provider (including $215 in materials and postage to send the equipment to NMFS).

An EM service provider would be able to appeal a permit decision to NMFS following the procedures at § 660.19. NMFS estimates the time and cost burden of preparing and submitting an appeal to be 4 hours and $5 per entity. EM service providers would be able to make modifications to their EM Service Plans during the year by submitting a request and amended EM Service Plan to NMFS via email (2 hours per submission). EM service providers would be required to renew their permits annually. At the April 2016 Council meeting, EM service providers requested a longer effective period to provide more stability for planning for future fishing years. Therefore, in this proposed rule NMFS is proposing an abbreviated renewal process in which NMFS would provide pre-filled renewal forms and the current EM Service Plan for the EM service provider to review and certify. This would reduce the time burden for EM service providers, while ensuring NMFS has up-to-date information. NMFS estimates the annual time and cost burden of the renewal to be 1 hour and $5 per entity.

In 2017-2019, EM service providers would be responsible for providing technical assistance and maintenance services to EM vessels. EM service providers would be required to provide technical support to vessels at sea, with an annual time burden of approximately 7 hours per entity. EM service providers and their employees would also be required to report instances of non-compliance by vessel owners and intimidation or harassment of EM technicians to NMFS. The estimated burden for reporting these events is 30 minutes per report (18 hours per entity per year). Employees of EM service providers may be debriefed by NMFS or OLE on technical or compliance issues with an estimated burden of 1 hour per trip (350 hours per entity per year).

Beginning in 2020, EM service providers would also be responsible for reviewing video from trips, preparing and submitting catch data and compliance reports to NMFS, and providing feedback to vessel operators on their catch handling, camera views, etc. NMFS would prepare burden estimates for these requirements for OMB approval and public comment through a Federal Register notice in 2019 or earlier.

Public reporting burden for these requirements includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Relevant Federal rules that may duplicate, overlap or conflict with the proposed action.

There are no relevant Federal rules that may duplicate, overlap, or conflict with this action.

A description of any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed rule on small entities

There are no significant alternative to the proposed rule that will accomplish the stated objectives and that minimize any significant economic impact of the proposed rule on small entities. As fishermen are given a choice between two alternative monitoring systems (observers vs EM), this rule is likely to have positive affects on small entities**.**

RFA-Determination of a Significant Impact

The RFA requires Federal agencies to conduct a full RFA analysis unless the agency can certify that the proposed and/or final rule would not have a significant economic impact on a substantial number of small entities. This determination can be made at either the proposed or final rule stage. If the agency can certify, it need not prepare an IRFA, a FRFA, or a Small Entity Compliance Guide or undertake a subsequent periodic review of such rules. The NMFS Guidelines for Economic Analysis of Fishery Management Actions suggest two criteria to consider in determining the significance of regulatory impacts, namely, disproportionality and profitability. These criteria relate to the basic purpose of the RFA, i.e., to consider the effect of regulations on small businesses and other small entities, recognizing that regulations are frequently unable to provide short-term cash reserves to finance operations through several months or years until their positive effects start paying off. If either criterion is met for a substantial number of small entities, then the rule should not be certified for not having an effect on small entities. These criterion raise two questions: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities? Do the regulations significantly reduce profit for a substantial number of small entities?

We do not believe that the preferred alternative for this rule will have a significant impact when comparing small versus large businesses in terms of disproportionality and profitability given available information. These regulations are likely to reduce fishing costs for both small and

large businesses. Nonetheless, NMFS has prepared this IRFA. Through the rulemaking process associated with this action, we are requesting comments on this conclusion.