Final Action - Public Review Draft

December 2016

Integrating Electronic Monitoring

Outline

- EM Integration EA/RIR
  - Overview of Analysis (Executive Summary)
    - What is the Council action
    - What is the Council's preferred alternative
    - What is covered in the analysis
  - Changes since initial review
    - New IFQ in multiple areas option
    - Clarification to EM failure enforcement discussion
    - Update to contract language
- EMWG report

Proposed action

- Establish electronic monitoring (EM) as a part of the Council's "fisheries research plan"
  - Fisheries research plan is implemented by the Observer Program
  - Allows an EM system onboard vessels to monitor harvest and discard of fish and incidental catch at sea
- Proposed action would affect fixed gear groundfish and halibut fisheries that are in the partial coverage category for observer coverage
- Analysis developed with input of fixed gear EM Workgroup
  - Established by Council in 2014, has coordinated EM research in last 3 years

Purpose and need Section 1.2 page 38

- Scope is fixed gear vessels in partial coverage
- Benefit of an assorted set of monitoring tools (including human observers and EM) to balance:
  - Need for high quality data
  - Costs of monitoring (economic, operational, social costs)
  - Ability of fishery participants to accommodate human observers
- May be possible to get at-sea from broader cross-section of fleet
- Recognizes that EM *supplements*, not replaces, observer coverage
- Integrates EM into the existing observer partial coverage process, including the annual deployment plan process

Alternatives Section 2 page 44

- **Alternative 1** – No action

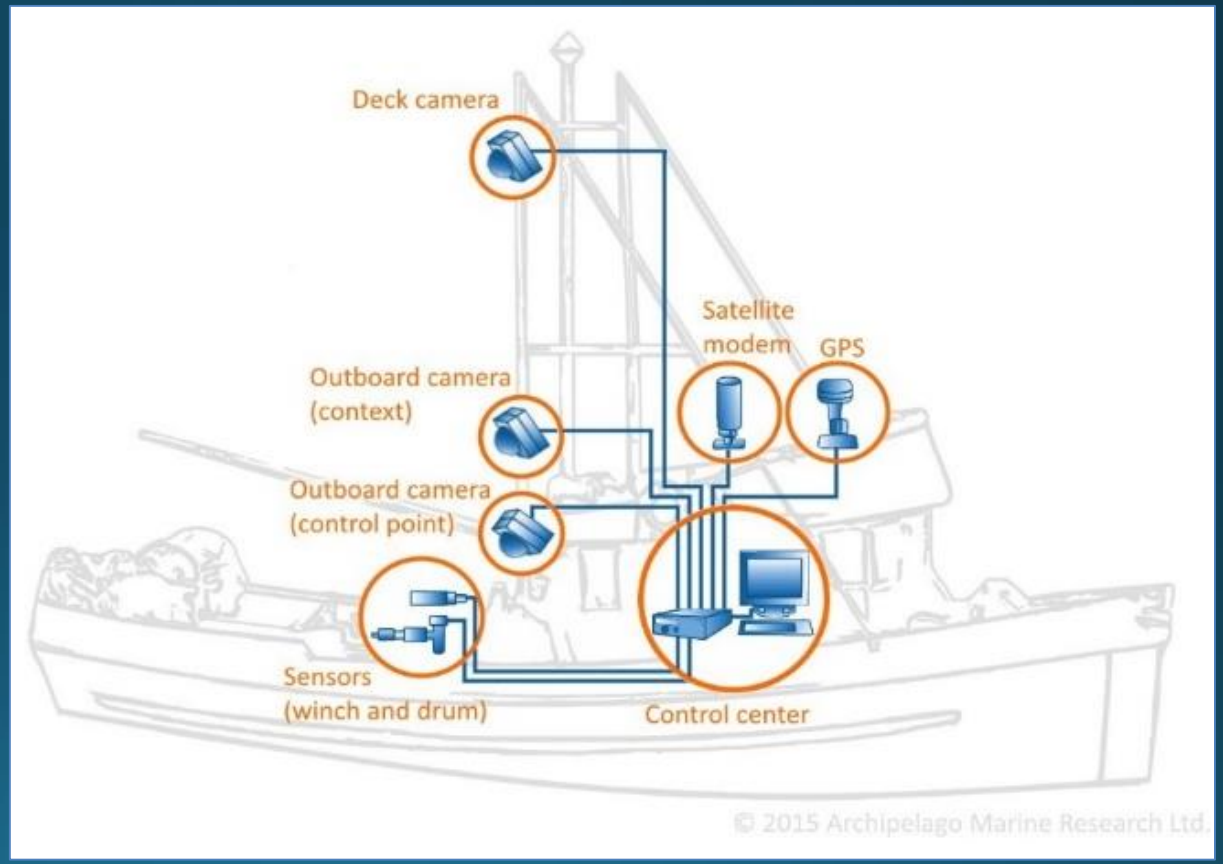
- **Alternative 2 – Preferred Alternative** - Allow use of EM for catch estimation on vessels in the EM selection pool
  - Option A – NEW – Allow EM as a monitoring tool when fishing IFQ in multiple areas
  - Option B – Require full retention of rockfish species with associated dockside monitoring

- **Alternative 3** – Allow use of EM for compliance monitoring of vessel operator logbooks used for catch estimation

Overview of the analysis

What is electronic monitoring?

Section 1.1, beginning page 34



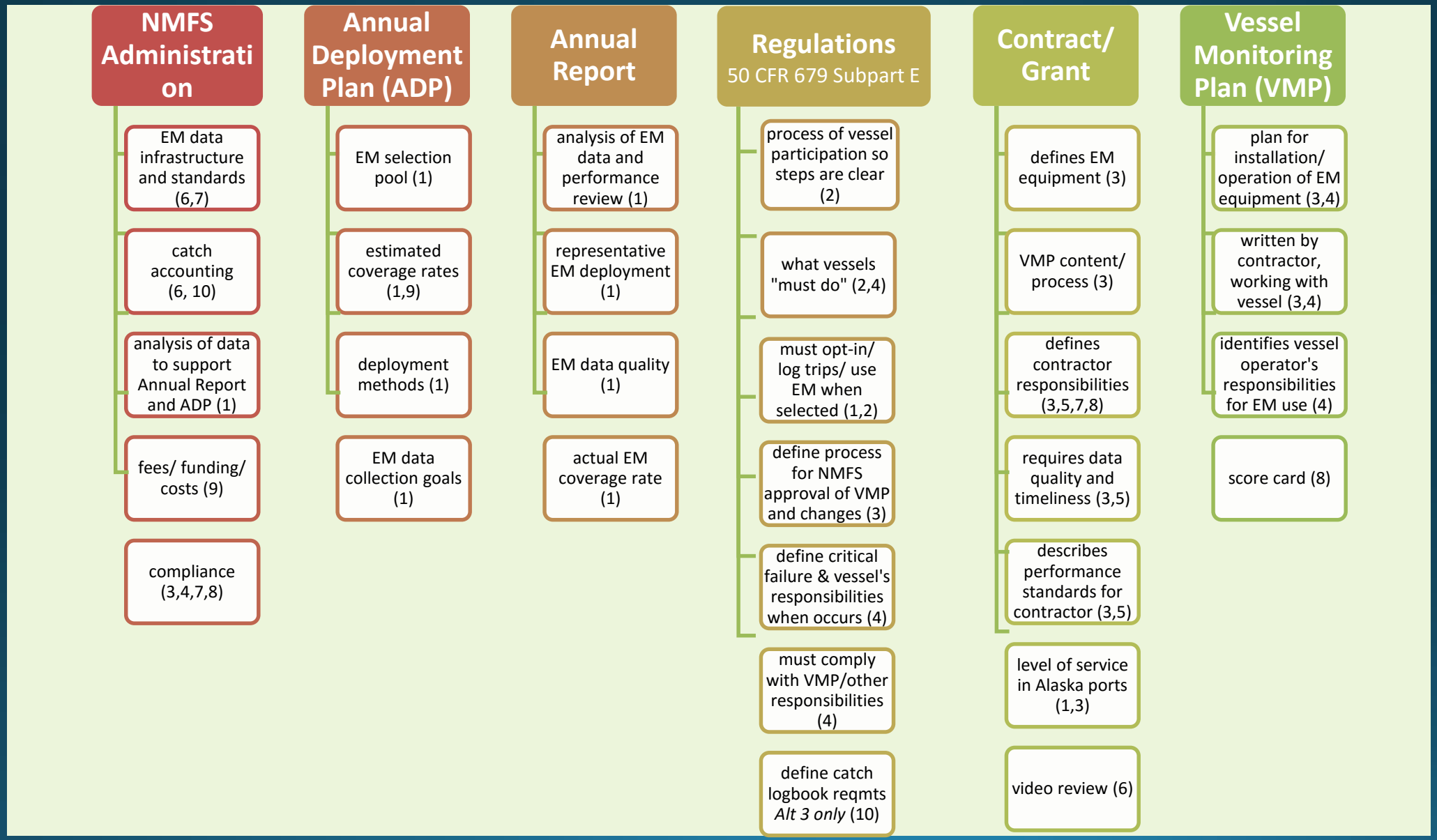
EM Program Components

In section 3.1.2, beginning page 54

1. EM Deployment Design	***Goal:*** *Use best available information to design the EM deployment methods, including the EM selection pool, which meet policy and data collection goals.*
2. Participation	***Goal:*** *A pool of EM participants that are capable and committed to making EM work on their boats.*
3. Equipment and installation	***Goal:*** *Appropriate EM equipment (wiring/sensors, cameras, monitors, hard drives) gets properly installed on each vessel, at the right port, and in a timely fashion, with the least interruption to the fishing plan.*
4. Operation	***Goal:*** *Each vessel operator maintains a functioning EM system throughout the fishing trip and there is a good process for maintaining quality control and addressing equipment failures.*
5. Data and equipment retrieval	***Goal:*** *EM equipment with data returned to NMFS timely and in good condition.*
6. EM data and Catch Accounting	***Goal:*** *Extract information from EM system and integrate it into the Catch Accounting System in a timely manner so that data can be used in management.*
7. EM data retention and storage	***Goal:*** *Retain EM data (video and data derived from video review) in an appropriate format.*
8. Feedback mechanisms	***Goal:*** *All participants have the opportunity to provide timely feedback to address problems and improve the EM Program.*
9. Fees/ Funding/ Costs	***Goal:*** *Use Observer Program fees or other sources of funding to pay for the EM equipment, installation, and maintenance.*

EM program component implementation

In section 3.1.3, page 59



Annual EM cycle

In section 3.1.3, page 60

- Annual monitoring decisions for EM and observers will be made through the existing partial coverage process using the Annual Deployment Plan

EM alternatives allow for EM development

In section 3.5.1, page 74-75

EM Development Stages

	Fisheries	Technology
Proof of Concept	• <40 ft hook-and-line catcher vessels	• Automatic species identification through video review
Pilot Program		• Stereo cameras • E-logbooks
Operational Testing		• *Logbooks with EM audit (Alt 3)*
Pre-Implementation	• Pot catcher vessels	• Standard cameras for pot
Mature	• >40 ft hook-and-line catcher vessels	• Standard cameras for hook-and-line

Catch estimation and EM data quality considerations Section 3.7 pages 83-99

Video and sensor completeness

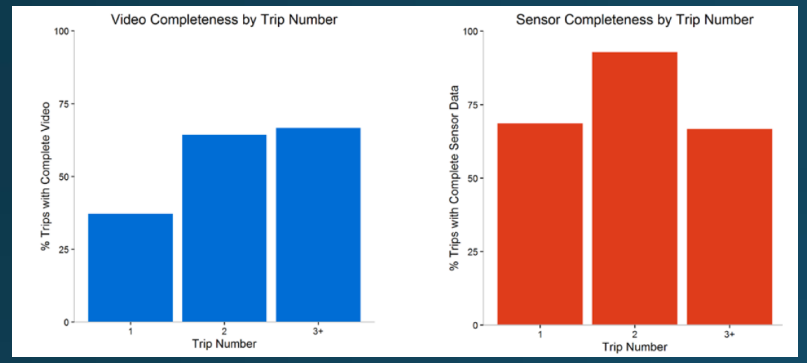
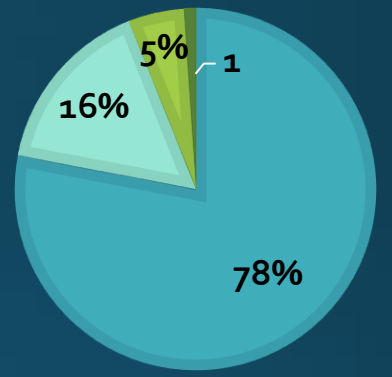
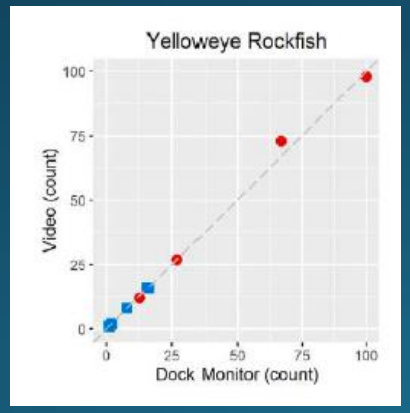


Image quality



Species identification



Timeliness

- Average video review times
- Average data turnaround times

- Some data elements will continue to rely on observer data

Using the fee for EM

Simplified from Table 3-2, page 65-67

Responsibility	EM task	Funding source
Provider	EM equipment	Fee
	EM field services (VMP, travel, field staff, installation, communication with vessels, training)	
	Video review	TBD
	Data storage	
	Dockside monitoring (if required)	
NMFS	ADP/AR	NMFS
	Catch Accounting/Data management	
	ODDS, EM opt-in/opt-out process	
	Contract/grant development and management	
	Video reviewer training/audit, communications	

Enforcement Considerations

Section 3.6, page 76

- **Alternative 2:**
- Catch monitoring program, not compliance monitoring
- 2 needs:
  - Enforcing the EM program
    - Compliance to ensure EM program meets goals (ie, collect catch data from selected vessels)
    - Methods to verify EM system is functioning correctly while on board
  - Compliance with other regulations
    - EM to verify seabird streamer line use
    - EM to allow vessels to fish IFQ in multiple areas

Environmental Assessment Chapter 4, beg page 100

- Where EM cannot duplicate an observer function, observer data will be used to generate estimates, per established procedures.

	Alternative 1 Human observer program only	Alternatives 2 and 3 EM alternatives
Data collection		
Fish	Species ID, count – based on sample	Yes, based on census
	Weight/ sex/ length	No
	Biological samples/ special projects	No
Marine mammals	Information on interactions (location, date/time, gear, fishing depth, catch composition)	Not unless brought onboard dead No marine mammal interactions recorded to date in pre-implementation
	Information on gear entanglements (length, tissue samples, disposition)	No
Seabirds	Species ID, count, tag recovery, specimen collection	Yes for species ID and count, if handling protocols adhered to Procedures needed if vessel operators are asked to collect specimens
	Compliance with streamer lines	Yes

Regulatory Impact Review Chapter 5, beg page 134

- Baseline description of EM cost categories, drivers, and associated cost trajectories
- Cost projections for the 2016 field program
- Qualitative description of financial and operational impacts on stakeholders and management entities

Other requirements addressed

(Section 7, beg page 243)

- Analysis addresses each of National Standards (pp 243-245)
- Also MSA standards for Observer Program actions addressed in the analysis:
  - Gather reliable data (Section 3.7)
  - Be fair and equitable to all vessels and processors (Natl Std 4)
  - Be consistent with applicable provisions of law (Chapter 1)
  - Take into consideration:
    - the operating requirements of the fisheries (Sections 3.1.2, 5.8)
    - and the safety of observers and fishermen (Natl Std 10)

Changes since initial review

Council's Preferred Alternative
Alternative 2: EM For catch estimation

Rationale (Section 2.4.1, pp 51-52)

- EM as a monitoring tool will address the fleet's issues with carrying an observer, and may reduce costs and increase flexibility
- The analysis shows that EM works for catch estimation
  - Good species identification, systems sufficiently reliable, image quality generally high
  - Solutions apparent for ensuring timeliness of data
- Alt 2 model mirrors the application of current Observer Program in role of fisherman
- Alt 2 and Alt 3 have same investment in technology, but Alt 3 creates additional burden, and is unsuited to a partial coverage program

NEW IFQ Multiple Areas option (Section 2.2.1, p45-46;

- Allow vessel operators to retain IFQ or halibut CDQ exceeding the amount available in the individual area being fished if they are either carrying an observer or EM
- Only available to vessels opting into the EM selection pool
- ODDS will distinguish between randomly selected trips and whenvessel is choosing EM to do IFQ multiple areas
- Note, requires coordination with IPHC regulations

Enforcement considerations for IFQ multiple areas: (Section 3.6.3.2, page 81)

- Even if the catch estimation requirements are less stringent, for these trips Enf is considering:
  - 24 hour/day power
  - Vessels must fill out the effort logbook
  - Send in the hard drive after every trip
  - Some additional requirements for video review

RIR discussion of impacts (Section 5.8.3, page 231)

- Unknown how many vessels affected, but may alleviate a hardship resulting from restructuring
- Only cost associated with data review

Enforcement clarifications on EM critical failure (Section 3.6.1)

- No change to the discussion of what happens if there is a critical failure of the EM system on a trip
- Additional concept is that if there is a chronic failure by a vessel to abide by the Vessel Monitoring Plan and have working EM equipment, then the regulations would clarify that Enforcement can tell a vessel to stop fishing

Other changes

- Contract: NMFS' likely approach
  - Seeking Federal funding for 2018
  - Bundle EM with renewal of human observer contract in 2019 for multi-party, multi-year observer and EM service contract
- Integrating EM in the ADP process

Year	Month	Annual Report / Annual Deployment Plan
2017	**October**	2018 ADP allocates funding from the observer fees to observer deployment; it is anticipated that Federal funding will support EM deployment. NMFS will present a preliminary analysis of how fees would be optimally allocated between EM and observer deployment, as a preview of methods that will be used for the 2019 ADP.
2018	**June**	2017 Annual Report includes evaluation of observer and EM strata. Presents preliminary recommendations for 2019 observer and EM deployment.
	October	2019 ADP allocates funding from fees to both observer and EM deployment.

Council decision points

- Affirm or amend the preferred alternative
- Consider whether to adopt the IFQ in multiple areas option

Implementation Timeline Section 1.3, page 36

Year	Fieldwork / Pre-implementation (Pre-Imp)	Council process, regulations	Observer Program/ Annual Deployment Plan (ADP)
2014	*Fieldwork*	*EMWG develops 2015 Cooperative Research Plan (CRP), discusses alternatives for analysis*	*Oct – 2015 ADP places 10 vessels that are participating in EM research into the no selection pool*
2015	*Feb – SSC reviews CRP* *Jan-Jul – operational longline, stereo camera, pot cod field research*	*Feb – SSC, Council review CRP* *Oct – propose a 2016 Pre-Implementation plan to Council*	*Oct – 2016 ADP proposes all EM Pre-Imp vessels in no selection pool*
2016	*Jan-Dec – Pre-implementation on 53 LL vessels 40-57.5'.* *Jan-Apr – pot cod field work* *Jan-Jul – Stereo camera research on 3-5 longline and pot vessels*	*Oct – initial review for EM analysis to integrate EM into observer program.* Dec – final action on EM analysis	*Oct – 2017 ADP proposes all EM Pre-Imp vessels in no selection pool*
2017	Jan-Dec – Pre-implementation for longline and pot vessels >40'. Potential research on other technology.	Jan-Aug – Develop proposed and final regulations for integrating EM, hold MSA-required hearings in AK, WA, OR	June – Annual Report provides prelim analysis on allocating observer fee between observers and EM Oct – 2018 ADP allocates funding to observers and EM deployment
2018	**Integrated observer/EM monitoring program**		

Track for 2018 implementation Section 1.3, page 42

Month	Milestone	Comments
December 2016	**Council final action**	
March 2017	Publish **proposed rule**/notice of availability of **FMP Amendment**	
April - June 2017	Public comment period and hearings	60-day comment period and hearings requirements are in MSA 313(c)
June 2017	**Annual Report** to Council presenting NMFS's recommended EM selection pool for upcoming year (2018).	The EM selection pool is the universe of vessels that can participate in EM based on, eg, vessel size, gear type, area fished, port.
June - August 2017	Write/review **Final rule** Approve **FMP Amendment**	Assumes 1 month GC review, which is less than the average review time.
August - September 2017	Write **ADP**; review by OAC, Plan Teams	
	Final rule publishes before September 1	30 day cooling-off period before it is effective. Effective October 1, at the latest
	Contract(s)/ Grant awarded	(estimate)
October 2017	Council reviews draft **ADP**	ADP includes the EM selection pool, an EM selection rate, etc., based on analysis of costs, partial coverage budget, selection pool size, etc.
	NMFS announces EM opt-in period and the defined EM selection pool	May be a challenge for Pacific cod, which opens on January 1.
	Vessel opt-in period	Opt-in using ODDS.
December 2017	Final **ADP**, with EM selection pool, rate, etc.	
	Start Vessel Monitoring Plan and installation process	
January 2018	NMFS starts selecting vessels for EM coverage	

EMWG report recommendations

from Nov 28-29, 2016 meeting

- Support Council's preferred alternative, Alternative 2
- Include Option A in the Preferred alternative, to allow EM when fishing IFQ in multiple areas
- WG recognizes that Enforcement is still fine-tuning its recommendations, has provided guidance and would like to review the proposed rule
- WG recommends that it continue to track EM program over next 2-3 years, as it transitions to implementation, esp re costs
  - Input to EM contract, work with FMA on tools for ADP/Annual Report
- Re <40' vessel research, WG recommends next step is a discussion paper on key questions for monitoring