Standardized Bycatch Reporting Methodology (SBRM) Omnibus FMP Amendment

NEFMC meeting
April 23, 2014

Presentation Overview

- History of the SBRM Amendment
- Review of the SBRM Amendment document structure and alternatives
- Overview of public comments

Background for SBRM Amendment

- Magnuson-Stevens Act requirements
  - Section 303(a)(11), National Standard 9, Definitions
- Court Rulings
  - *Oceana* v *Evans I* (Amendment 13 challenge)
  - *Oceana* v *Evans II* (Amendment 10 challenge)
  - *Oceana* v *Locke* (2007 SBRM challenge)

Court Rulings

- In challenges to groundfish and scallop actions, D.C. Circuit Court found the A13 and A10 documents:
    - Failed to fully evaluate reporting methodologies to assess bycatch;
    - Did not mandate an SBRM; and
    - Failed to respond to potentially important scientific evidence
- Strictly speaking, rulings apply solely to the Sea Scallop and Northeast Multispecies FMPs

Court Rulings (cont'd)

- In challenge to the 2007 SBRM Amendment, the District Court initially found in favor of the gov't
- Appeals Court overturned the District Court
- Court found fault with only one aspect, but vacated the whole amendment
- Councils formed a new FMAT specifically to address the deficiencies in the prioritization trigger and process as identified by the Appeals Court

Purpose of SBRM Amendment

- Explain methods and processes to monitor and assess bycatch in Greater Atlantic Region fisheries
- Determine if current methods and processes need to be modified and/or supplemented
- Establish standards of precision for bycatch estimation for Greater Atlantic Region fisheries
- Consider accuracy of estimate as well as precision
- Document the SBRM established for all Greater Atlantic Region FMP fisheries

Structure of SBRM Amendment

- Chapter 1 – Introduction and Background
  - Statement of the problem
  - Purpose and need
  - Issues to be addressed
- Chapter 2 – Description of the Fisheries
  - Background on each subject FMP
  - Recent landings and value *(updated)*
- Chapter 3 – Description of Fishing Modes
  - Characterization of each gear/area-based mode
  - Landings, ports, areas fished, no. of vessels *(updated)*
- Chapter 4 – Bycatch Reporting Mechanisms
  - Overview of each mechanism used and/or considered

Structure (cont'd)

- Chapter 5 – Sampling Design and Estimation of Precision and Accuracy
  - Discussion of sampling design
  - Estimation of precision
  - Analysis of accuracy
- Chapter 6 – Alternatives Under Consideration
  - Preferred alternatives *(once selected)*
  - Other alternatives considered
  - Alternatives considered but rejected
- Chapter 7 – Environmental Consequences
  - Affected environment
  - Biological, physical, socio-economic effects
  - Cumulative effects
- Chapter 8 – Applicable Laws and Directives
- Glossary, References, and Appendices

Overview of Alternatives

SBRM Element	Alternatives Under Consideration			
1.Bycatch Reporting and Monitoring Mechanisms	Status quo		Implement electronic video monitoring	
2.Analytical Techniques and Allocation of Observers	Pre-2007 SBRM Amendment	Integrated allocation approach	Integrated allocation approach w/ importance filter	Minimum percent observer coverage
3.SBRM Performance Standard	No performance standard		Establish a CV standard	
4.SBRM Review/ Reporting Process	Status quo		Specify a SBRM review process	Require periodic discard reports
5.Framework Adjustment Provisions	Status quo	Framework adjustment	Frameworks and annual adjustments	Frameworks and annual adjustments, exclusive of fishing mode
6.Prioritization Process				
6.1 Funding trigger	Status quo		Identify specific SBRM funding sources	
6.2 Reallocation	Council consultation		Proportional adjustment	Penultimate Cell Approach
6.3 Less than Minimum Pilot Coverage	Ad hoc prioritization		Remove fleets with high MPC	Remove fleets with high MPC to days absent ratio
7.Industry-Funded Observer Programs	Status quo		Observer provider approval	Framework provisions

Shaded cells indicate the alternatives adopted by the Council in June 2006

SBRM Element 2

<u>Analytical Techniques and Allocation of Observers</u>

- Pre-2007 SBRM Amendment process
- Integrated allocation approach
- Integrated allocation approach w/ importance filter
  - Option A: 2007 SBRM public hearing draft
  - Option B: Filters as adopted in 2007 SBRM (*2007 SBRM implemented option*)
  - Option C: Same as option B, but without unlikely (gray-cell) filter (*Status quo, Ad Hoc Committee preferred*)
- Minimum percent observer coverage

SBRM Element 5

<u>Framework Adjustment Provisions</u>

- Status quo
  - Changes to CV-based performance standard, how discard data is collected, SBRM reporting, industry funded observers, and fishing modes require amendment
- Framework adjustment
- Frameworks and annual adjustments *(2007 SBRM implemented option)*
- Frameworks and annual adjustments, no Council action needed for changes to fishing modes *(Additional option, Ad Hoc Committee preferred)*

SBRM Element 6 Prioritization Process

- Funding Trigger (6.1) - How we determine the available funds
- Resulting Sea Day Adjustments (6.2) - What we do if the trigger condition is met
- Funding Below Minimum Pilot Coverage (6.3) - What if not all fleets can get useful coverage

SBRM Element 6.1

<u>Prioritization Process–Part 1: Trigger</u>

6.1.1 Status quo

- Uses combination of available sources of funding within established funding restrictions, limitations, and expectations.
- Found deficient by the Court

6.1.2 Identify specific SBRM funding sources *(Ad Hoc Committee preferred)*

- Funds allocated to the Region under 4 specific Congressional appropriation lines would be used for SBRM coverage.
- Does not specify a fixed dollar amount.

SBRM Element 6.1

6.1.2 Identify dedicated SBRM funding sources, cont.

Funding Line	Average Proportion to NE Region (2010-2012)
Northeast Observers	98 percent
Atlantic Coast Observers	43 percent
National Observer Program	43 percent
Reducing Bycatch - Observers	13 percent

- Atlantic Coast Observers funding line is divided between Greater Atlantic Region, Southeast Region, and HQ.
- National Observer Program and Reducing Bycatch funds are divided between all 6 Regions and HQ.
- Funding allocated to the Region through these lines would be used to support SBRM consistent with legal requirements.
- Observer funding from other sources may also be available outside of SBRM (MMPA, ESA, catch shares, etc.).

SBRM Element 6.1
6.1.2 Identify dedicated SBRM funding sources, cont.

Budget Funding Line	Current Use	Under SBRM amendment
Atlantic Coast Observers	SBRM	SBRM
Northeast Observers	SBRM, Atlantic herring closed area	SBRM
Reducing Bycatch	Atlantic herring closed area	SBRM
National Observer Program	At-sea monitoring (ASM), special projects	SBRM
National Catch Shares	At-sea monitoring	At-sea monitoring
MMPA	Marine mammal bycatch	Marine mammal bycatch
Atlantic States Mar. Fish. Com.	Inshore fisheries	Inshore fisheries

SBRM Element 6.1
6.1.2 Identify dedicated SBRM funding sources, cont.

Current Program	FY 14 Support under Status Quo (Sea Days)*	FY14 Support under SBRM Amendment (Sea Days)
SBRM	6,001	13,058
At-sea monitoring (ASM)	6,228	475
Atlantic herring closed area	646	0
To be determined (surplus ASM)	658	0
Marine mammal bycatch	566	566
Inshore fisheries	882	882
Total	14,981	14,981

*Pending prioritization review.

SBRM Element 6.2

<u>Prioritization Process–Part 2: Sea Day Adjustment</u>

6.2.1 Status quo

6.2.2 Proportional adjustment approach

6.2.3 Penultimate cell approach *(Ad Hoc Committee preferred)*

6.2.1 Status quo

Within the Agency-funded fleets

1) Identify fleets that correspond to funding restrictions, limitations, and expectations
2) Adjustments of days to cover unfunded fleets
3) A blend of ad hoc methods including sea day allocations proportional to last year's effort used to meet funding source, Agency, and Council needs.
4) Consultation with Councils on proposed observer sea-day allocations.

However, this is similar to the previous process, which was found deficient by the Court.

6.2.2 Proportional Approach

Within the Agency-funded fleets

1. For each fleet, derive COMBINED MPC Adjusted days by subtracting the minimum pilot days from the COMBINED days

2. Derive proportion shortfall
   (funded days – min pilot days) / (COMBINED MPC Adjusted days)

3. For each fleet, derive rescaled days
   (COMBINED MPC Adjusted days x proportion shortfall)

4. Derive prioritized days
   (rescaled days + min pilot days)

Illustrative Example using 2012

Description	Days	% of days	Terminology Used
NEGF (aka NEFOP for SBRM)	2,448	28%	SBRM-applicable
At-Sea Monitoring (ASM)	5,255	60%	non-SBRM-applicable
Atlantic Coast Observers	484	6%	SBRM-applicable
MMPA	274	3%	non-SBRM-applicable
Reducing Bycatch	49	1%	SBRM-applicable
National Observer Program	276	3%	SBRM-applicable
TOTAL	8,786	100%	

Agency-funded days	3,257	37%	Applicable for SBRM process
Agency-funded days	5,529	63%	Not applicable for SBRM process
Industry-funded days	3,606		Not applicable for SBRM process

Filtered Sea Days

Row	Gear Type	Region	Mesh Group	RCRAB	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	TURS	Pilot days	Min Pilot Days	2012 Sea Days Needed COMBINED
5	Otter Trawl	MA	sm	**3,231**	364	0	497	545	397	325	513	1,719	160	30	3,231
6	Otter Trawl	MA	lg	**5,551**	0	164	141	0	107	333	173	2,952	266	27	5,551
7	Otter Trawl	NE	sm	0	411	0	461	451	531	**1,151**	489	-	168	29	1,151
8	Otter Trawl	NE	lg	**3,879**	0	568	76	280	261	229	788	-	415	35	3,879
17	Otter Trawl, Haddock	NE	lg	0	0	0	0	0	257	**567**	0	-	100	100	567
22	Sink, Anchor, Drift Gillnet	MA	sm	0	0	0	0	0	0	0	0	**172**	40	13	172
23	Sink, Anchor, Drift Gillnet	MA	lg	0	0	0	0	0	0	0	0	**172**	43	13	172
24	Sink, Anchor, Drift Gillnet	MA	xlg	0	0	70	0	0	83	0	0	**1,096**	61	15	1,096
26	Sink, Anchor, Drift Gillnet	NE	lg	0	0	0	0	0	0	**97**	0	-	134	14	97
36	Scallop Dredge	MA	all	0	0	312	0	0	164	0	0	**598**	238	109	598
39	Mid-water Paired & Single	NE	all	0	0	0	0	0	0	**571**	0	-	43	43	571
48	Pots and Traps, Lobster	NE	all	429	429	429	429	429	429	429	429	-	**429**	17	429
⋮	⋮			⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮		⋮	⋮

Agency-funded fleets	**18,301**
Industry-funded fleets	**2,289**
Total	**20,590**

2012: 55 fleets

- 46 Agency-funded fleets
- 9 Industry-funded fleets

Red font indicates "driving" species group for the fleet

Purple shade indicates Industry-funded fleets

* Turtle sea days for gear type groups have been distributed across fleets according to the percentage of days needed for each fish fleet.

6.2.2 Proportional Example (full example given in Appendix)

	Total	MPC Adjusted	Proportion
Agency-funded fleets	3,257	2,032	0.12

Row	Gear Type	Region	Mesh Group	2012 Sea Days for Min Pilot Coverage (MPC)	2012 Sea Days Needed COMBINED	2012 Sea Days Needed COMBINED MPC Adjusted	2012 Sea Days Needed COMBINED MPC Adjusted Rescaled	2012 Sea Days SBRM PRIORITIZED (Proportional)	2012 Sea Days non-SBRM (Catch share, MMPA, Discovery)	2012 Industry-funded Sea Days	Sea Days Allocated for April 2012 - March 2013 (Total)
5	Otter Trawl	MA	sm	30	3,231	3,201	381	411			411
6	Otter Trawl	MA	lg	27	5,551	5,524	657	684	*1,271*		1,955
7	Otter Trawl	NE	sm	29	1,151	1,122	134	163			163
8	Otter Trawl	NE	lg	35	3,879	3,844	457	492	*1,981*		2,473
17	Otter Trawl, Haddock Separator	NE	lg	100	567	467	56	156	*203*		359
22	Sink, Anchor, Drift Gillnet	MA	sm	13	172	159	19	32			32
23	Sink, Anchor, Drift Gillnet	MA	lg	13	172	159	19	32			32
24	Sink, Anchor, Drift Gillnet	MA	xlg	15	1,096	1,081	129	144	*287*		431
26	Sink, Anchor, Drift Gillnet	NE	lg	14	97	83	10	24	*640*		664
36	Scallop Dredge	MA	all	109	598					*1,713*	1,713
39	Mid-water Paired & Single Trawl	NE	all	43	571	528	63	106			106
48	Pots and Traps, Lobster	NE	all	17	429	412	49	66			66
⋮	⋮			⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	MMPA coverage								*274*		274
	Agency-funded fleets			**1,225**	**18,301**	**17,076**	**2,032**	**3,257**	**5,529**		**8,786**
	Industry-funded fleets			**783**	**2,289**					**3,606**	**3,606**
	Total			**2,008**	**20,590**						**12,392**

Purple shade indicates Industry-funded fleets

6.2.3 Penultimate Approach

Within the Agency-funded fleets

1) Within each fleet, list days in descending order
2) Derive differences between days within fleet
3) Rank the differences across fleets but respecting the sequence of differences within fleets
4) Reduce sea days needed following the ranked order until the cumulative reduction meets the shortfall

				4	5								
				1,512	1,174	32	16	100	33	39	295		
5	Otter Trawl	MA	sm	3,231	1,719	545	513	497	397	364	325	30	545
				RCRAB	TURS	GFS	FSB	GFL	SKATE	SBM	DOG	MPC	
				2	3	13							
				2,599	2,619	160	9	23	34	80			
6	Otter Trawl	MA	lg	5,551	2,952	333	173	164	141	107	27		173
				RCRAB	TURS	DOG	FSB	MONK	GFL	SKATE	MPC		
				7									
				620	42	28	10	40	382				
7	Otter Trawl	NE	sm	1,151	531	489	461	451	411	29			531
				DOG	SKATE	FSB	GFL	GFS	SBM	MPC			
				1	11	12							
				3,091	220	288	19	32	153	41			
8	Otter Trawl	NE	lg	3,879	788	568	280	261	229	76	35		280
				RCRAB	FSB	MONK	GFS	SKATE	DOG	GFL	MPC		
				10	16								
				310	157								
17	Otter Trawl, Haddock Separator	NE	lg	567	257	100							100
				DOG	SKATE	MPC							
				15									
				159									
22	Sink, Anchor, Drift Gillnet	MA	sm	172	13								13
				TURS	MPC								
				14									
				159									
23	Sink, Anchor, Drift Gillnet	MA	lg	172	13								13
				TURS	MPC								
				6									
				1,013	13	55							
24	Sink, Anchor, Drift Gillnet	MA	xlg	1,096	83	70	15						83
				TURS	SKATE	MONK	MPC						
				17									
				83									
26	Sink, Anchor, Drift Gillnet	NE	lg	97	14								74
				DOG	MPC								Partial reduction
				8									
				528									
39	Mid-water Paired & Single Trawl	NE	all	571	43								43
				DOG	MPC								
				9									
				412									
48	Pots and Traps, Lobster	NE	all	429	17								17
				Pilot	MPC								

1) Order days within fleets (descending)
2) Derive differences within fleets
3) Rank the differences across fleets (but sequentially within fleets)

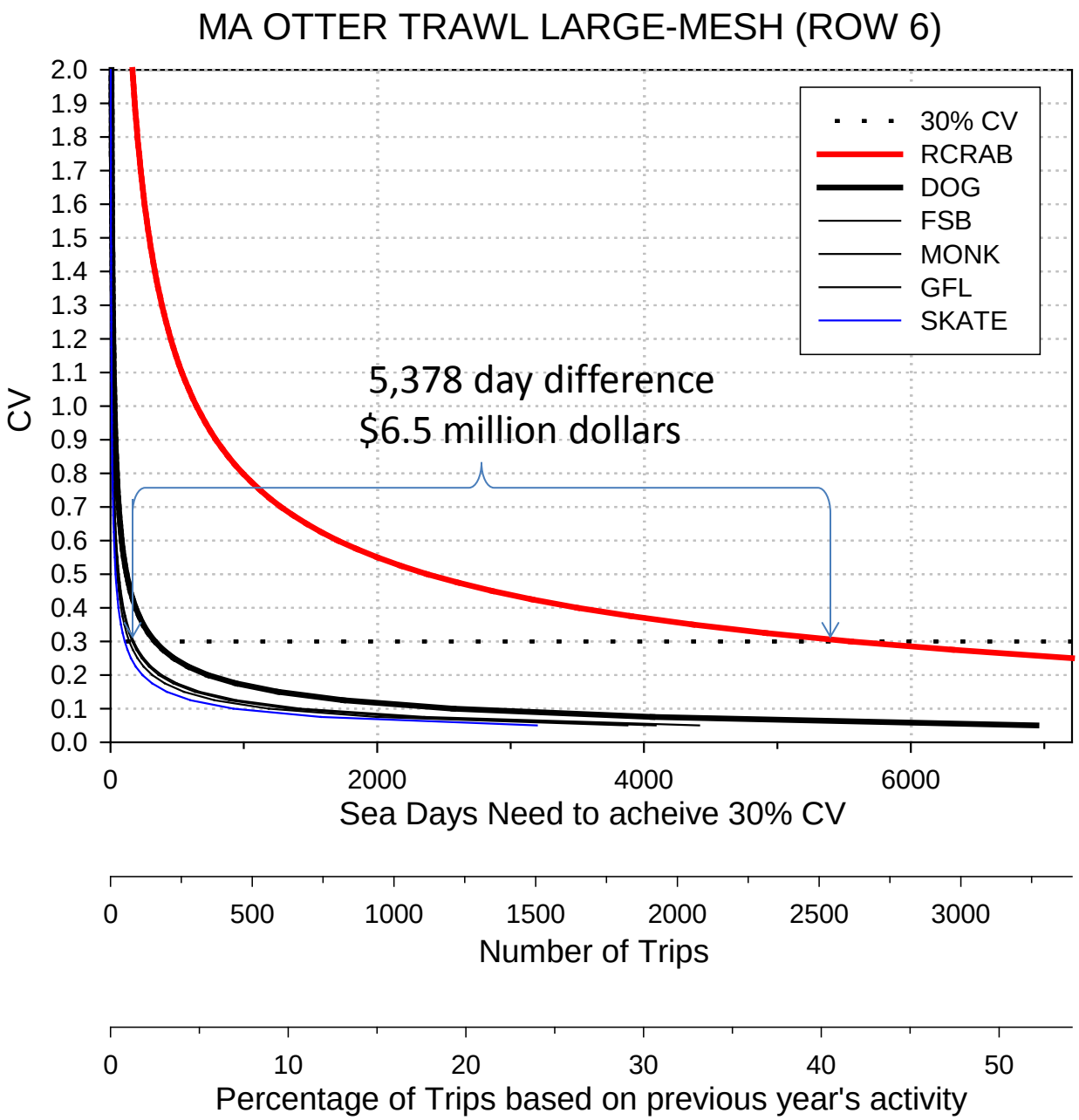
4) Reduce sea days following the ranked order until the cumulative reduction equals the shortfall

6.2.3 Penultimate Example

6.2.3 Penultimate Example (full example given in Appendix)

Row	Gear Type	Region	Mesh Group	2012 Sea Days Needed COMBINED	2012 Sea Days SBRM PRIORITIZED (Penultimate)	2012 Sea Days non-SBRM (Catch share, MMPA, Discovery)	2012 Industry-funded Sea Days	Sea Days Allocated for April 2012 - March 2013 (Total)
5	Otter Trawl	MA	sm	3,231	545			545
6	Otter Trawl	MA	lg	5,551	173	*1,271*		1,444
7	Otter Trawl	NE	sm	1,151	531			531
8	Otter Trawl	NE	lg	3,879	280	*1,981*		2,261
17	Otter Trawl, Haddock Separator	NE	lg	567	100	*203*		303
22	Sink, Anchor, Drift Gillnet	MA	sm	172	13			13
23	Sink, Anchor, Drift Gillnet	MA	lg	172	13			13
24	Sink, Anchor, Drift Gillnet	MA	xlg	1,096	83	*287*		370
26	Sink, Anchor, Drift Gillnet	NE	lg	97	74	*640*		714
36	Scallop Dredge	MA	all	598			*1,713*	1,713
39	Mid-water Paired & Single Trawl	NE	all	571	43			43
48	Pots and Traps, Lobster	NE	all	429	17			17
⋮	⋮			⋮	⋮	⋮	⋮	⋮
	MMPA coverage					*274*		274
			Agency-funded fleets	**18,301**	**3,257**	**5,529**		**8,786**
			Industry-funded fleets	**2,289**			**3,606**	**3,606**
			Total	**20,590**				**12,392**

Purple shade indicates Industry-funded fleets

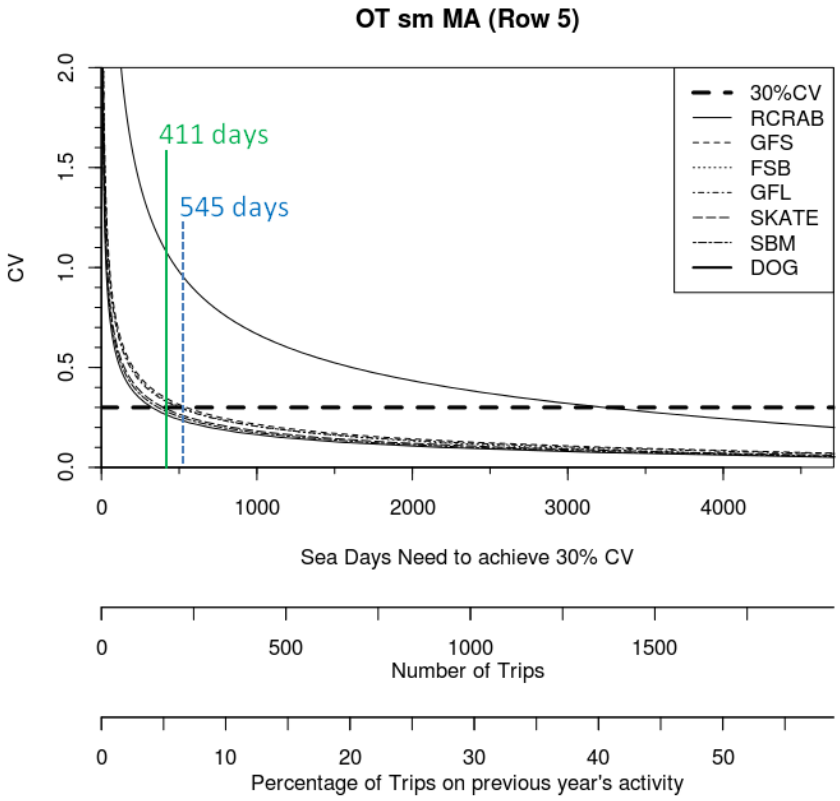


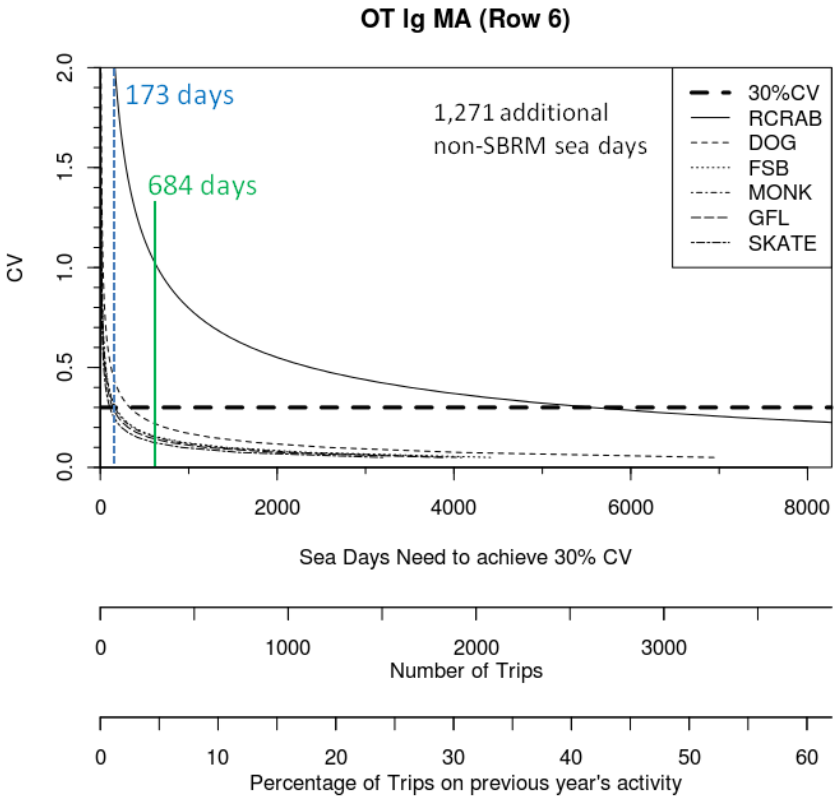
Days Needed for fleet
5,551

Days Prioritized to fleet
173

<u>Impact</u>:
Red crab: 195% CV
Dogfish: 42% CV
Other FISH species groups:
<= 30% CV

For TURS, see MA Trawl





green solid line indicates days prioritized via proportional approach;
blue dashed line indicates days prioritized via penultimate approach

SBRM Element 6.3

<u>Prioritization Process–Part 3: Funding Below Minimum Pilot Coverage</u>

- MPC is 3 trips per quarter, using average trip length
- Assures a usable discard estimate for all fleets
- If funding below MPC, some fleets would lose coverage

6.3.1 Assign coverage ad-hoc

6.3.2 Eliminate fleets w/ highest MPC days

6.3.3 Eliminate fleets w/ highest ratio of MPC to days absent *(Ad Hoc Committee preferred)*

6.3.1 Assign Coverage Ad-hoc

Regional Administrator and Science Research Director prepare proposal for Councils, which includes:

- Details of the funding shortfall
- Recommendations of which fleets receive coverage
- Legal mandates, management priorities, or data needs considered.

Councils would consider the proposal at a public meeting, and may recommend revisions or additional considerations.

6.3.2 Eliminate Highest MPC Example (full example given in Appendix)

Example with 1,000 SBRM-applicable funded sea days

Row	Gear Type	Region	Mesh Group	2012 Sea Days for Min Pilot Coverage (MPC)	MPC Rank (Desc)	2012 Sea Days SBRM PRIORITIZED (SBRM < MPC Option 1)	2012 Sea Days non-SBRM (Catch share, MMPA, Discovery)	2012 Industry-funded Sea Days	Sea Days Allocated for April 2012 - March 2013 (Total)
1	Longline	MA	all	67	4	67			67
8	Otter Trawl	NE	lg	35	10	35	*1,981*		2,016
15	Otter Trawl, Ruhle	NE	lg	59	6	59	*37*		96
17	Otter Trawl, Haddock	NE	lg	100	2	0	*203*		203
18	Shrimp Trawl	MA	all	120	1	0			0
25	Sink, Anchor, Drift Gillnet	NE	sm	41	8	41			41
36	Scallop Dredge	MA	all	109				1,713	1,713
39	Mid-water Paired & Single	NE	all	43	7	43			43
45	Pots and Traps, Hagfish	NE	all	74	3	0			0
50	Pots and Traps, Crab	NE	all	67	4	67			67
53	Dredge, Other	MA	all	41	8	41			41
⋮	⋮			⋮	⋮	⋮	⋮	⋮	⋮
	MMPA coverage						*274*		274
	Remaining Days					69			
	Agency-funded fleets			**1,225**		**1,000**	**5,529**		**6,529**
	Industry-funded fleets			**783**				**3,606**	**3,606**
	Total			**2,008**					**10,135**

6.3.3 Eliminate Highest MPC to Days Absent Ratio Example (full example given in Appendix)

Example with 1,000 SBRM-applicable funded sea days

Row	Gear Type	Region	Mesh Group	2012 Sea Days for Min Pilot Coverage (MPC)	TOTAL VTR DAYS	Ratio (MPC/VTR)	Ratio Rank (Desc)	2012 Sea Days SBRM PRIORITIZED (SBRM < MPC Option 2)	2012 Sea Days non-SBRM (Catch share, MMPA, Discovery)	2012 Industry-funded Sea Days	Sea Days Allocated for April 2012 - March 2013 (Total)
13 +	Otter Trawl, Ruhle	MA	lg	9	7	1.28571	2	0			0
14 +	Otter Trawl, Ruhle	NE	sm	27	25	1.08000	3	0			0
15	Otter Trawl, Ruhle	NE	lg	59	389	0.15167	8	0	*37*		37
16 +	Otter Trawl, Haddock	MA	lg	8	12	0.66667	5	0			0
25	Sink, Anchor, Drift Gillnet	NE	sm	41	28	1.46429	1	0			0
36	Scallop Dredge	MA	all	109	11,906					1,713	1,713
38	Mid-water Paired & Single	MA	all	17	40	0.42500	6	0			0
44	Pots and Traps, Hagfish	MA	all	3	3	1.00000	4	0			0
45	Pots and Traps, Hagfish	NE	all	74	369	0.20054	7	0			0
49	Pots and Traps, Crab	MA	all	12	83	0.14458	9	12			12
53	Dredge, Other	MA	all	41	347	0.11816	10	41			41
⋮	⋮			⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	MMPA coverage								*274*		274
	Remaining Days							13			
	Agency-funded fleets			**1,225**	**149,684**			**1,000**	**5,529**		**6,529**
	Industry-funded fleets			**783**	**30,284**					**3,606**	**3,606**
	Total			**2,008**	**179,968**						**10,135**

Review Public Comments

- Comment period was initially open from September 27, 2013 through October 27, 2013
- A *Federal Register* notice was published on November 19, 2013, reopening the comment period through December 19, 2013
- 3 comments were received

SBRM Alternatives

SBRM Element	Alternatives Under Consideration			
1.Bycatch Reporting and Monitoring Mechanisms	Status quo		Implement electronic video monitoring	
2.Analytical Techniques and Allocation of Observers	Pre-2007 SBRM Amendment	Integrated allocation approach	Integrated allocation approach w/ importance filter (Option C)	Minimum percent observer coverage
3.SBRM Performance Standard	No performance standard		Establish a CV standard	
4.SBRM Review/ Reporting Process	Status quo		Specify a SBRM review process (Option D – 3 yrs)	Require periodic discard reports (Option B – Annual)
5.Framework Adjustment Provisions	Status quo	Framework adjustment	Frameworks and annual adjustments	Frameworks and annual adjustments, exclusive of fishing modes
6.Prioritization Process				
6.1 Funding trigger	Status quo		Identify specific SBRM funding sources	
6.2 Reallocation	Council consultation		Proportional adjustment	Penultimate Cell Approach
6.3 Less than Minimum Pilot Coverage	Ad hoc prioritization		Remove fleets with high MPC	Remove fleets with high MPC to days absent ratio
7.Industry-Funded Observer Programs	Status quo		Observer provider approval	Framework provisions

Shaded cells indicate the alternatives selected by the NEFMC Ad Hoc SBRM Committee on 1/16/2014

Questions?