

# Standardized Bycatch Reporting Methodology (SBRM) Omnibus &

# Industry-Funded Observer Coverage Omnibus

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#### In common...

- NMFS lead
- Observer issues
- SBRM limits the industryfunding amendment
- Otherwise 2 different actions...



- Standardized Bycatch Reporting Methodology "Take 2"
- Lawsuit driven
- Final result should be in line with Judge's orders, but may not lead to "better" information. ③



- Standardized Bycatch Reporting Methodology "Take 2"
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- Final result should be in line with Judge's orders, but may not lead to "better" information. ③



Performance standard

How to prioritize given insufficient funds to reach performance standard.



Performance standard



#### **SBRM – Performance Standard**

- CV = coefficient of variation
  - –Uninformative

- CV can get you to a confidence interval...
  - -Informative



#### **SBRM – Performance Standard**

- 100 fish with a CV of 30%
- 100 and I'm ~68% sure the real answer is between 70-130
- 100 and I'm ~95% sure the real answer is between 40-160



#### **SBRM – Performance Standard**

Modes

Species Groups



# SBRM — Modes and Groups

												/~ · ·		/o w	/o .s.			SUP SUSS	JAMIJAHOG LAMIJAHOG	/ /
	Access	Trip			2004 OB		× /	. /	· . /	<u>*</u>	• /	angest/	× /	SPILST	SP HS		. /	CUY BAS	AMUAR	. / .
	Area (Open-	(General/		mesh	FISH		K151 / 0	My / M	ON / (	per / i	O, \ '*	X 1	Stip / WII	CE'N MIL	JY /	0 / 4	15K / JE	54 / pt	ON C	& / X0
Gear Type	Closed)	Limited)	Region	groups	TRIPS	BLIFE	FISH HERR	SALM	ON RED	RAB	MRCK-F	OUID BY	FISH NE MU	LESP ME MUL	LISPRESHI SKAT	t Dock	/ ELINA	F/ 80%	EDMOUTH E	SH PILOT CO
Longline	all	all	NE	all	12	*	*	*	*	*	*	*	0.335	0.910	0.614	0.654	*	*	*	
Longline	all	all	MA	all	0															pilot
Otter Trawl	all	all	NE	small	142	0.508	0.437	*	0.428	0.710	0.227	0.405	0.233	0.235	0.691	0.322	0.309	1.028	0.304	
Otter Trawl	all	all	NE	large	386	2.474	1.313	*	0.280	0.350	0.572	0.088	0.101	0.182	0.175	0.245	0.319	1.512	0.529	
Otter Trawl	all	all	MA	small	194	0.903	0.784	*	1.394	0.574	0.561	0.354	0.326	0.508	0.222	0.367	0.386	0.464	1.155	
Otter Trawl	all	all	MA	large	75	1.906	0.775	*	*	0.444	0.390	0.295	0.251	0.827	0.209	0.557	0.246	0.609	*	
Scallop Trawi	open	limited	MA	all	1	*	*	*	*	0.000	0.000	0.000	0.000	*	0.000	*	0.000	*	*	pilot
Scallop Trawl	open	general	MA	all	31	1.141	*	*	0.640	0.224	0.354	0.194	0.170	0.496	0.347	0.675	0.505	*	*	pilot
Shrimp Trawl	all	all	NE	all	12	*	0.479	*	*	0.965	0.981	0.235	0.224	0.557	0.799	0.960	*	*	*	
Shrimp Trawl	all	all	MA	all	2	*	*	*	*	*		*	*	*	*	0.000	*	*	*	pilot
Sink, Anchor, Drift Gillnet	all	all	NE	small	1			*			0.000					0.000		*	*	pilot
Sink, Anchor, Drift Gillnet	all	all	NE	large	577	0.220	0.229	*	0.625	0.969	0.841	0.210	0.092	0.183	0.228	0.106	0.845	*		
Sink, Anchor, Drift Gillnet Sink, Anchor, Drift Gillnet	all	all	NE	xlg	445 3	0.181	0.378	*	0.998	0.421	0.498	0.174 *	0.159	0.624	0.117	0.162	0.233	*	0.256	-7-155-1
	all all	all all	MA	small	4	1.216	*	*	*	*	0.000	*	0.868	*	1.118	0.000 1.083	0.000	*	*	pilot for fish
Sink, Anchor, Drift Gillnet Sink, Anchor, Drift Gillnet	all	all	MA MA	large xlg	27	0.304	*	*	*	0.587	*	0.273	U.000	*	0.115	0.129	0.303	*	*	pilot for fish pilot for fish
Scallop Dredge	open	limited	NE	all	26	*	*	*	0.842	0.159	0.689	0.213	0.480	0.414	0.236	0.515	0.458	0.391	*	pilot for fish
Scallop Dredge	open	limited	MA	all	69	*	*	*	1.304	0.133	0.305	0.174	0.460	0.414	0.236	0.230	0.450	0.331	*	
Scallop Dredge	open	general	NE	all	9	*	*	*	1.304	0.094	1.274	0.560	0.358	0.104	0.120	0.230	0.092	1.287	*	pilot
Scallop Dredge	open	general	MA	all	22	*	*	*	*	0.359	0.865	0.202	0.311	0.482	0.202	0.550	0.461	0.830	*	pilot
Scallop Dredge	closed	limited	NE	all	86	1.077	0.168	*	0.482	0.135	0.421	0.222	0.159	0.396	0.126	0.326	0.291	0.198	*	
Scallop Dredge	closed	limited	MA	all	35	1.208	0.660	*	0.357	0.198	0.310	0.280	0.712	0.268	0.142	0.425	0.383	0.321	*	
Scallop Dredge	closed	general	NE	all	0	1.200	0.000		0.00.		0.0.10	0.200	0.17.12	0.200		0.1.20	0.000	0.02		pilot
Scallop Dredge	closed	general	MA	all	1	*	*	*	*	0.000	*	0.000	*	*	0.000	*	0.000	*	*	pilot
Mid-water paired & single Trawl	all	all	NE	all	66	0.770	0.770	*	*	1.464	0.429	0.724	0.669	0.994	1.177	0.418	0.628	*	*	
Mid-water paired & single Trawl	all	all	MA	all	13	0.539	0.982	*	*	*	0.545	1.048	0.708	0.539	*	0.246	1.165	*	*	
Fish Pots/ Traps	all	all	NE	all	0															pilot
Fish Pots/ Traps	all	all	MA	all	6	*	*	*	*	*	*	0.408	*	*	*	*	0.161	*	*	pilot
Purse Seine	all	all	NE	all	16	*	0.981	*	*	*	0.935	*	0.973	*	*	0.972	*	*	*	
Purse Seine	all	all	MA	all	0															pilot
Hand Line	all	all	NE	all	6	*	*	*	*	*	*	*	4.030	*	*	*	*	*	*	pilot
Hand Line	all	all	MA	all	0															pilot
Scottish Seine	all	all	NE	all	5	*	*	*	*	*	*	*	0.289	0.279	0.319	*	0.253	*	*	pilot
Clam Quahog Dredge	all	all	NE	all	0															pilot
Clam Quahog Dredge	all	all	MA	all	0															pilot
Crab Pots	all	all	NE	all	0															pilot
Crab Pots	all	all	MA	all	0															pilot
Lobster Pots	all	all	NE	all	0															pilot
Lobster Pots	all	all	MA	all	0															pilot



# **SBRM – Modes**

Gear Type	Access Area (Open- Closed)	Trip Category (General/ Limited)	Region	mesh groups
Longline	all	all	NE	all
Longline	all	all	MA	all
Otter Trawl	all	all	NE	small
Otter Trawl	all	all	NE	large
Otter Trawl	all	all	MA	small
Otter Trawl	all	all	MA	large



# SBRM — Modes and Groups

												/		/	/			/ 4 6	CLAMILIAHOC FAMILIAHOC	/ /
	Access	Trip			2004.00		" <u> </u>	/	′. /	15 /	• /	MIDE EN	* /	LERY (ESK!)	(SPILEST)	/	. /	CUP BASS	LAMILAHO	· . / .
	Area (Open-	(General/		mesh	2004 OB FISH		151	IMG / N	04/	ART I	Ox \ The	THE N	ELIS. VIVI	CEL MIL		4/4	(S) / JE	Str 1st	ON C	St / STOO
Gear Type		Limited)	Region	groups	TRIPS	BLIE	rish head	SALM SALM	OH RED	SCAL SCAL	TOS MUCK	GUID'EN MON	KEISH WE WILL	TI-SOR ME MUI	II.SPR SHI	k Dock	FILIP	Sciplass Standard	ELA QUA	SET PILOT CON
Longline	all	all	NE	all	12	*	*	*	*	,	*	*	0.335	0.910	0.614	0.654	*	*	*	
Longline	all	all	MA	all	0															pilot
Otter Trawl	all	all	NE	small	142	0.508	0.437	*	0.428	0.710	0.227	0.405	0.233	0.235	0.691	0.322	0.309	1.028	0.304	$\longrightarrow$
Otter Trawl	all	all 	NE	large	386	2.474	1.313	*	0.280	0.350	0.572	0.088	0.101	0.182	0.175	0.245	0.319	1.512	0.529	<del></del>
Otter Trawl Otter Trawl	all	all	MA	small	194	0.903	0.784	*	1.394	0.574	0.561	0.354	0.326	0.508	0.222	0.367	0.386	0.464	1.155	$\longmapsto$
	all	all	MA	large	75	1.906	0.775	*	*	0.444	0.390	0.295	0.251	0.827	0.209	0.557	0.246	0.609	*	
Scallop Trawl Scallop Trawl	open	limited	MA MA	all all	1 31	1.141	*	*	0.640	0.000 0.224	0.000	0.000	0.000 0.170	0.496	0.000	0.675	0.000 0.505	*	*	pilot pilot
	open	general	NE NE	all	12	1.141	0.479	*	*	0.224	0.354	0.194	-	0.496	0.799	0.960	v.505	*	*	pilot
Shrimp Trawl Shrimp Trawl	all all	all all	MA	all	2	*	0.479 *	*	*	0.965 *	0.981 *	0.Z33 *	0.224	0.55 <i>1</i>	0.799 *	v.960 *	*	*	*	pilot
Sink, Anchor, Drift Gillnet	all	all	NE	small	1	*	*	*	*	*	0.000	*	*	*	*	0.000	*	*	*	pilot
Sink, Anchor, Drift Gillnet	all	all	NE	large	577	0.220	0.229	*	0.625	0.969	0.841	0.210	0.092	0.183	0.228	0.106	0.845	*	*	
Sink, Anchor, Drift Gillnet	all	all	NE	xlq	445	0.181	0.378	*	0.998	0.421	0.498	0.174	0.159	0.624	0.117	0.162	0.233	*	0.256	
Sink, Anchor, Drift Gillnet	all	all	MA	small	3	*	*	*	*	*	0.000	*	*	*	*	0.000	0.000	*	*	pilot for fish
Sink, Anchor, Drift Gillnet	all	all	MA	large	4	1.216	*	*	*	*	*	*	0.868	*	1.118	1.083	*	*	*	pilot for fish
Sink, Anchor, Drift Gillnet	all	all	MA	xlg	27	0.304	*	*	*	0.587	*	0.273	*	*	0.115	0.129	0.303	*	*	pilot for fish
Scallop Dredge	open	limited	NE	all	26	*	*	*	0.842	0.159	0.689	0.319	0.480	0.414	0.236	0.515	0.458	0.391	*	
Scallop Dredge	open	limited	MA	all	69	*	*	*	1.304	0.200	0.305	0.174	0.242	0.758	0.126	0.230	0.259	0.771	*	
Scallop Dredge	open	general	NE	all	9	*	*	*	*	0.094	1.274	0.560	0.358	0.104	0.177	0.318	0.092	1.287	*	pilot
Scallop Dredge	open	general	MA	all	22	*	*	*	*	0.359	0.865	0.202	0.311	0.482	0.202	0.550	0.461	0.830	*	
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Scallop Dredge	closed	limited	MA	all	35	1.208	0.660	*	0.357	0.198	0.310	0.280	0.712	0.268	0.142	0.425	0.383	0.321	*	<b></b>
Scallop Dredge	closed	general	NE	all	0				*					*				*		pilot
Scallop Dredge		general	MA	all	1	*	*	*		0.000	*	0.000	*		0.000	*	0.000		*	pilot
Mid-water paired & single Trawl Mid-water paired & single Trawl	all	all	NE	all	66	0.770	0.770	*	*	1.464	0.429	0.724	0.669	0.994	1.177	0.418	0.628	*	*	<del>                                     </del>
-	all	all	MA	all	13	0.539	0.982				0.545	1.048	0.708	0.539		0.246	1.165			7.
Fish Pots/ Traps Fish Pots/ Traps	all all	all	NE MA	all all	6	*	*	*	*	*	*	0.408	*	*	*	*	0.161	*	*	pilot pilot
Purse Seine	all	all all	NE NE	all	16	*	0.981	*	*	*	0.935	0.408 *	0.973	*	*	0.972	0.161	*	*	pilot
Purse Seine Purse Seine	all	all	MA	all	0		0.901				0.535		0.913			0.912				pilot
Hand Line	all	all	NE	all	6	*	*	*	*	*	*	*	4.030	*	*	*	*	*	*	pilot
Hand Line	all	all	MA	all	0								4.030							pilot
Scottish Seine	all	all	NE	all	5	*	*	*	*	*	*	*	0.289	0.279	0.319	*	0.253	*	*	pilot
Clam Quahog Dredge	all	all	NE	all	0								5.255	0.2.0	5.5.5		5.255			pilot
Clam Quahog Dredge	all	all	MA	all	0															pilot
Crab Pots	all	all	NE	all	0											İ				pilot
Crab Pots	all	all	MA	all	0															pilot
Lobster Pots	all	all	NE	all	0															pilot
Lobster Pots	all	all	MA	all	0															pilot
																				_



# SBRM – Species Groups

RAS SCAL	TOS MACK'E	QUID EN	FISH NE MU	ILSPRESHI AGE ME MUI	ILSPRESHI MALLMESHI	k / 306t	SH FLINE
*	*	*	0.335	0.910	0.614	0.654	*
0.710	0.227	0.405	0.233	0.235	0.691	0.322	0.309
0.350	0.572	0.088	0.101	0.182	0.175	0.245	0.319
0.574	0.004	0.254	0.220	0.500	0.222	0.207	0.200



#### Note...

- Groups Combined discards of Atl. mackerel, squids, and butterfish in each mode
  - Accuracy of total butterfish discards across all modes...



#### Note...

- Only Federally-managed species!
- River herrings and shads...
- Estimated but not used in prioritization.



Performance standard

How to prioritize given insufficient funds to reach performance standard.



How to prioritize given insufficient funds to reach performance standard.



Can't meet performance standard.

■ First "filter" then "prioritize"





- Filter Get rid of observer drivers that...
  - don't contribute much to total discards
  - -there's not much mortality from discarding



- "Prioritize"
  - -Still too many observer days needed even after filtering...
  - -Use available \$ to get as many relevant mode/species combos to 30%...



# SBRM — Modes and Groups

	_																			
																			/ 0	/ /
	Access	Trip					/ /	/ ,	/ ,	/ /	/ /	10' ct/	/ /	CR SHI	ar shi	/ /	/ /	(RY 55)	MI SHOW	/ /
	Area	Category			2004 OB		St /	· 0	4	ORE /	8/6	On Stip	ish /	ILS MES	I'S ME		× /	SCO OF	CIR OIL	* / 3
	(Open-	(General/		mesh	FISH		8 / og	SALV	b. \ 'Q	× / 🔊	/ CK.	KIV W	A. MIL	SCE WILL	ALL A	( / S	18 / IKE	Str/JAX	10th 16	5/ 50
Gear Type	Closed)	Limited)	Region	groups	TRIPS	BLUE	FISH HERR	/ SAL	OH RED	SCAL SCAL	TOS MECKY	OUID BY	/ HE ()	Track ME MAIL	ILSPP SHI	k Soci	\ 4\ \ 4\ \	Scuplass Super	CLAMITAHOC EANGLIAHOC	Set PILOT CO
Longline	all	all	NE	all	12	*	*	*	*	*	*	*	0.335	0.910	0.614	0.654	*	*	*	
Longline	all	all	MA	all	0															pilot
Otter Trawl	all	all	NE	small	142	0.508	0.437	*	0.428	0.710	0.227	0.405	0.233	0.235	0.691	0.322	0.309	1.028	0.304	
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Scallop Trawl Scallop Trawl	open	limited	MA MA	all all	31	1.141	*	*	0.640	0.000 0.224	0.000	0.000	0.000	0.496	0.000	0.675	0.000	*	*	pilot
	open	general			12	1.141		*	U.64U *				0.170			0.960	U.5U5 *	*	*	pilot
Shrimp Trawl Shrimp Trawl	all all	all all	NE MA	all all	2	*	0.479	*	*	0.965	0.981	0.235	0.224	0.557	0.799	0.960	*	*	*	pilot
Sink, Anchor, Drift Gillnet	all	all	NE	small	1	*	*	*	*	*	0.000	*	*	*	*	0.000	*	*	*	pilot
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Sink, Anchor, Drift Gillnet	all	all	MA	large	4	1.216	*	*	*	*	*	*	0.868	*	1.118	1.083	*	*	*	pilot for fish
Sink, Anchor, Drift Gillnet	all	all	MA	xlg	27	0.304	*	*	*	0.587	*	0.273	*	*	0.115	0.129	0.303	*	*	pilot for fish
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Scallop Dredge	open	limited	MA	all	69	*	*	*	1.304	0.200	0.305	0.174	0.242	0.758	0.126	0.230	0.259	0.771	*	
Scallop Dredge	open	general	NE	all	9	*	*	*	*	0.094	1.274	0.560	0.358	0.104	0.177	0.318	0.092	1.287	*	pilot
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Scallop Dredge	closed	general	NE	all	0															pilot
Scallop Dredge	closed	general	MA	all	1	*	*	*	*	0.000	*	0.000	*	*	0.000	*	0.000	*	*	pilot
Mid-water paired & single Trawl	all	all	NE	all	66	0.770	0.770	*	*	1.464	0.429	0.724	0.669	0.994	1.177	0.418	0.628	*	*	
Mid-water paired & single Trawl	all	all	MA	all	13	0.539	0.982	*	*	*	0.545	1.048	0.708	0.539	*	0.246	1.165	*	*	
Fish Pots/ Traps	all	all	NE	all	0															pilot
Fish Pots/ Traps	all	all	MA	all	6	*	*	*	*	*	*	0.408	*	*	*	*	0.161	*	*	pilot
Purse Seine	all	all	NE	all	16	*	0.981	*	*	*	0.935	*	0.973	*	*	0.972	*	*	*	
Purse Seine	all	all	MA	all	0	*	*	*	*		*	*	4.000	*	•	*	*	*	*	pilot
Hand Line Hand Line	all	all	NE MA	all	6	*	*	*	*	*	*	*	4.030	*	*	*		*	*	pilot
	all	all	MA	all	5	*	*	*	*	*	*	*	0.200	0.270	0.240	*	0.252	*	*	pilot
Scottish Seine	all all	all	NE NE	all all	0	_							0.289	0.279	0.319	_	0.253	•		pilot
Clam Quahog Dredge Clam Quahog Dredge	all	all all	MA	all	0															pilot pilot
Crab Pots	all	all	NE	all	0															pilot
Crab Pots Crab Pots	all	all	MA	all	0															pilot
Lobster Pots	all	all	NE	all	0															pilot
Lobster Pots	all	all	MA	all	0															pilot
	- Carr	- Can		- Can																15



- If getting one mode/species box would take 1000 seadays and 10 others would take 100 days each, go for the 10
- Standardized, but not necessarily addressing management priorities...



Some additional minimum pilot coverage provisions



# Leaving SBRM, Entering IFOCO



# Industry Funded Observing Omnibus

- Doesn't solve core problems

- High cost of observers
- Insufficient funding
- -SBRM's inflexibility
- NOAA interpretation Antideficiency Act, Misc. Receipts Act



# Industry Funded Observing Omnibus

Delineates what aspects NMFS
 + industry would have to pay in an industry-funded observer

- -Probably  $\sim $400 + $800$
- Provider requirements

program.



# Industry Funded Observing Omnibus

If money appears for NMFS portion of industry-funded programs, includes way to prioritize among those programs



#### **Prioritization**

- NMFS-led or Council-led "policy analysis" based process
  - Legalities, plan objectives, risk, other criteria



#### "Prioritization"

- 1) Cut all equally. Overall 80%, each program gets 80%
- (2) p most expensive
- 3) Use ratio of needed seadays to recent fishing activity (VTR days)



# 2 Specific Programs

- Herring & Mackerel
- Range of coverage levels

No funding for NMFS portion at least initially



# 2 Specific Programs

- Probably zero impact initially
  - –Maybe \$ someday
- Only way to ensure particular coverage level = ground fleet except when observer \$ is available (maybe 95% of trips).



# Questions?