



Standardized Bycatch Reporting Methodology: Response to Comments and Re-Prioritization 2011 SBRM 3-year Review Report 2011 Part 1

Presentation To:

Mid-Atlantic Fishery Management Council
April 14, 2011 via Webinar

New England Fishery Management Council
April 27, 2011



2011 SBRM Response to Comments and Re-Prioritization of Sea Days

SBRM 3-year Review Report 2011

2011 SBRM Documents available at:

[www.nefsc.noaa.gov/femad/fsb/SBRM/
SBRM_Annual_Discard_Reports.htm](http://www.nefsc.noaa.gov/femad/fsb/SBRM/SBRM_Annual_Discard_Reports.htm)

www.nefsc.noaa.gov

Search - Site Index - 'S' - SBRM

2011 SBRM Response to Comments and Re-Prioritization

MAFMC's Comments

Sea sampling intensity will not be sufficient to produce acceptably precise discard estimates;

Adequate coverage in the *Loligo* fishery is one of MAFMC's highest priorities and requests the sea days needed to monitor butterfish;

Prioritization and funding continues to be dedicated to compliance monitoring of NE Groundfish at the expense of bycatch monitoring in MA fleets.

2011 SBRM Response to Comments and Re-Prioritization

NEFMC's Comments

Strongly supports high coverage for compliance monitoring of NE groundfish fleets;

Requested further details on the compensation rate analysis used to derive the number of sea days for coverage of the scallop industry-funded fleets.

2011 SBRM Response to Comments and Re-Prioritization



Public Comments from PEG and CHOIR

Concerns regarding coverage in the mid-water trawl, purse seine, and small-mesh otter trawl fleets

All comments posted on SBRM web page

2011 SBRM Response to Comments and Re-Prioritization

Response to comments include details on:

- Funding Issues
- Compliance Issues
- Distinction between Fisheries and Fleets
- Relationship between the SBRM Allocation and Optimization Methods
- Industry-funded Coverage and Compensation Rates
- Coverage of Mid-water Trawl and Purse Seine fleets
- River Herring
- Methods for Dealing with Observer Coverage Shortfalls

2011 SBRM Response to Comments and Re-Prioritization



Funding Source	January	March
Agency-funded Total	10,936	10,936
Agency-funded applicable to SBRM	10,650	10,650
Agency-funded not applicable to SBRM	286	286
Industry-funded Total	3,254	3,354
SBRM Total	13,904	14,004

No change in Agency funding

100 day increase in Industry-funded days due to updated compensation rate analysis

2011 SBRM Response to Comments and Re-Prioritization



Fleet	Sea Days Prioritization		
	Initial	Revised	Change
MA small-mesh Otter Trawl (Row 5)	616	709	+93
NE large-mesh Otter Trawl (Row 8)	4,235	4,127	-108
MA crab trawl (New Row)		15	+15
Industry-funded fleets	3,254	3,354	+100



Questions on 2011 SBRM?

SBRM 3-year Review Report 2011

“Every 3 years, the Regional Administrator and the Science and Research Director will appoint appropriate staff to work with staff appointed by the Executive Directors of the Councils to obtain and review available data on discards and to prepare a report assessing the effectiveness of the Northeast Region SBRM.”

(Taken from Federal Register, Vol. 73, No. 18, Monday, January 28, 2008, Page 4738)

SBRM 3-year Review Report 2011

Examines 2009, 2010, and 2011 SBRMs

"SBRM 2009" = July 2007 through June 2008

"SBRM 2010" = July 2008 through June 2009

"SBRM 2011" = July 2009 through June 2010

Two parts:

1) Data portion in April 2011

2) Evaluation portion in the Fall 2011

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Part 1 is NEFSC Reference Doc (in press)

- 1) Background
- 2) A review of the recent levels of observer coverage
- 3) A review of recent observed encounters
- 4) A review of the CVs of the discard information
- 5) An estimate of total discards associated with each fleet

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Background: Review of Annual SBRM Reporting Process

Annual SBRM Reporting Cycle	SBRM 2009	SBRM 2010	SBRM 2011
Data Used (12-month period)	Jul 2007 - Jun 2008	Jul 2008 - Jun 2009	Jul 2009 - Jun 2010
Data Entry Data Analysis and Document Preparation	Jul-Sep '08 Oct 2008 - Jan 2009	Jul-Sep '09 Oct 2009 - Jan 2010	Jul-Sep '10 Nov 2010 - Jan 2011
1) Annual Report, Sea Day Analysis and Prioritization documents; 2) Presentation to NEFMC/MAFMC; 3) Prioritization Comment Period; 4) Final Budget received, Consideration of Comments, Re- prioritization document	Jan 2009 – Mar 2009	Jan 2010 – Mar 2010	Jan 2011 – Mar 2011
Response to Comments and Re- prioritization document	Apr 2009	May 2010	Apr 2011
NEFOP Sea Day Schedule (12 month period)	Apr 2009 - Mar 2010	Apr 2010 - Mar 2011	Apr 2011 - Mar 2012

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Background: Summary of Statistics

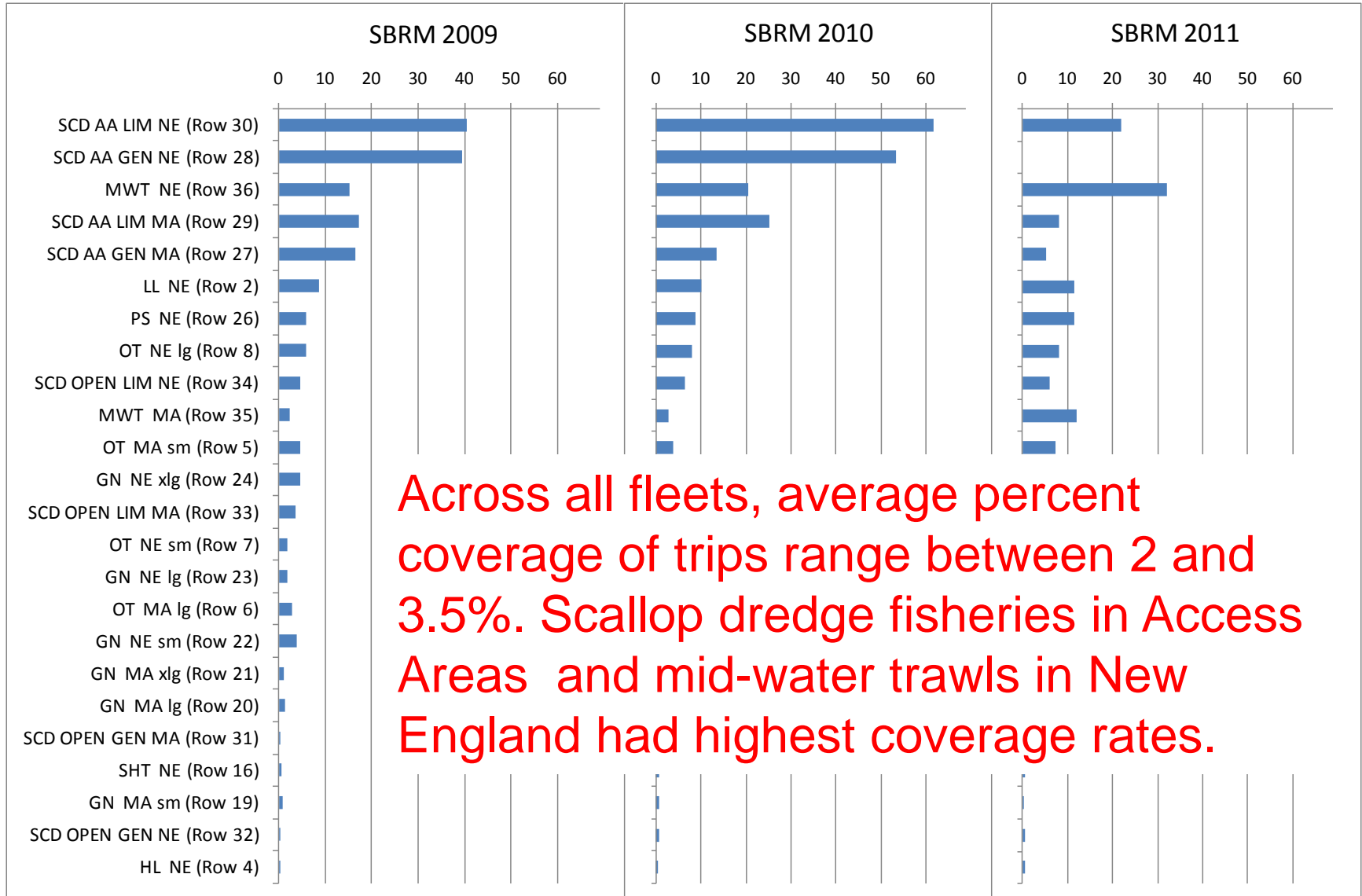
Summary Statistics	SBRM 2009	SBRM 2010	SBRM 2011
Number of Fleets	44	51	52
Fleets with Pilot coverage	24	28	30
Baseline Sea Days	54,631	51,252	52,651
SBRM Standard Sea Days	15,125	14,147	19,507
Funded Sea Days	6,161	14,375	13,904
Sea Day Shortfall	-7,746	*	-5,603
Final Funded Sea Days	6,283	13,950	14,004
Number of Fleets with Sea Days	17	30	32

* Sea day shortfall existed for some fleets due to funding constraints.

Fleets with little or no NEFOP coverage are fleets in need of Pilot coverage. Pilot coverage is defined as a minimum level of coverage to acquire bycatch information with which to calculate variance estimates that in turn can be used to further define the level of sampling needed. In SBRM, 2% of VTR trips is used.

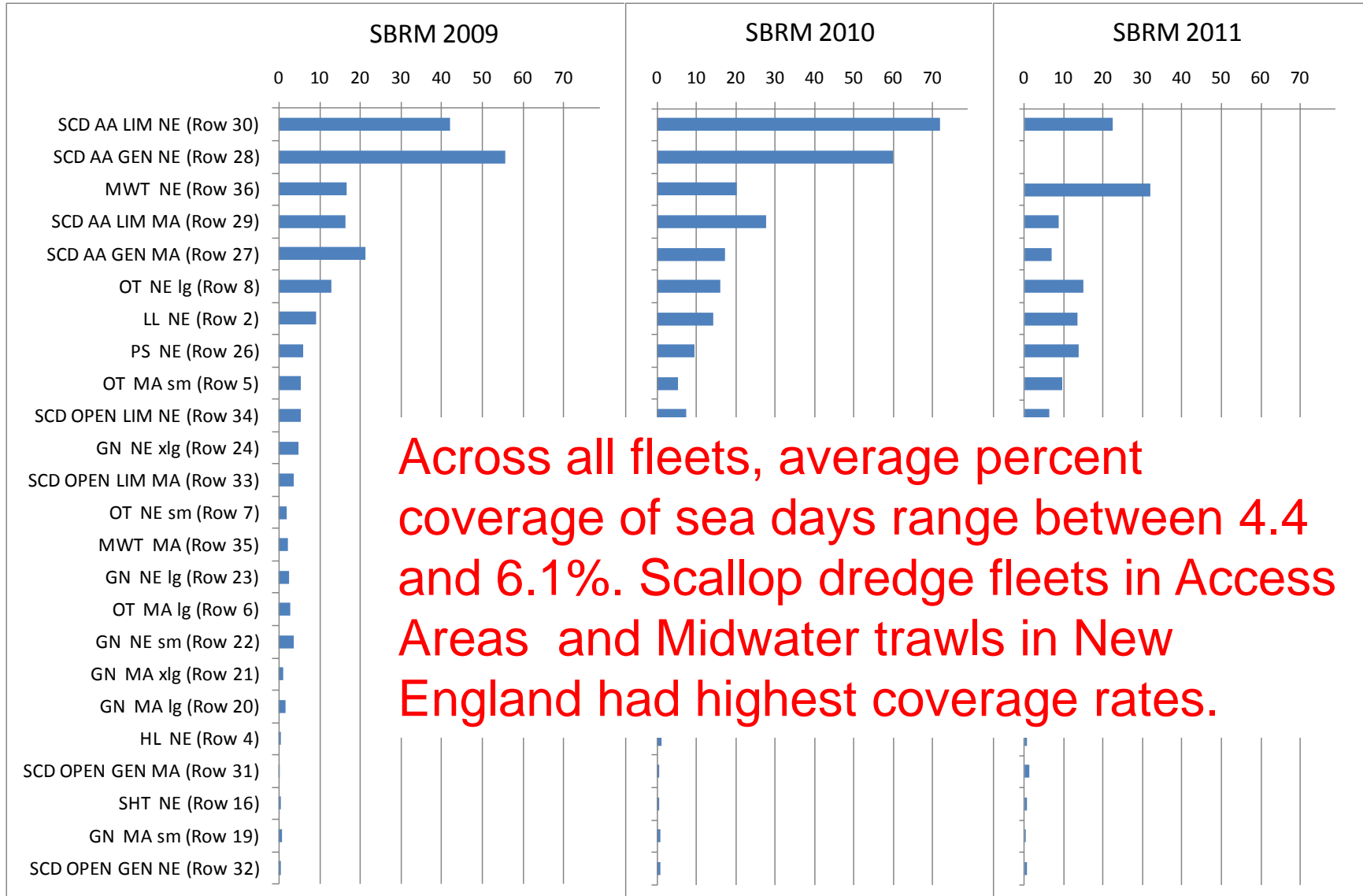
Recent Observer Coverage levels

Percentage of VTR trips observed by NEFOP



Recent Observer Coverage levels

Percentage of VTR sea days observed by NEFOP



Across all fleets, average percent coverage of sea days range between 4.4 and 6.1%. Scallop dredge fleets in Access Areas and Midwater trawls in New England had highest coverage rates.

Recent Observed Encounters

From July 2007-June 2010 NEFOP observers recorded:
312 unique species by weight;
42 species by number

Summary of the observed weight, by disposition (kept and discarded) and SBRM year are available by:

- SBRM species group,
- SBRM species groups combined,
- Non-SBRM species, and
- All species combined

The 14 SBRM species groups (fish/invertebrates) represent ~90% of the total weight of all species recorded by NEFOP observers.

Recent Observed Encounters

Example: Large-mesh Groundfish species group
in 2009 for 8 of the 52 fleets

Percent of trips that encounter this species group
Observed weight, by disposition

		SBRM 2009		
		%		
Row	Fleet	Trips	Kept	Discarded
1	Longline MA	33	8	0
2	Longline NE	91	240,983	26,993
4	Hand Line NE	100	1,476	48
5	Otter Trawl MA sm	75	2,512	11,275
6	Otter Trawl MA lg	87	105,566	26,405
7	Otter Trawl NE sm	87	9,337	28,310
8	Otter Trawl NE lg	99	7,725,339	825,489

Recent Observed Encounters

Percentage of trips that encounter species groups are informative about interactions among fleets.

Provide a measure of the likely value of a trip towards reducing the variance of an estimate of a given species group

For example: an encounter rate of 20% for species A in fleet B would mean that only one trip of five trips in fleet B is likely to provide information on species A discards.

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- Discards Totals and Precision for 14 SBRM species groups, by fleet and SBRM year.

SBRM 2009: July 2007 -- June 2008

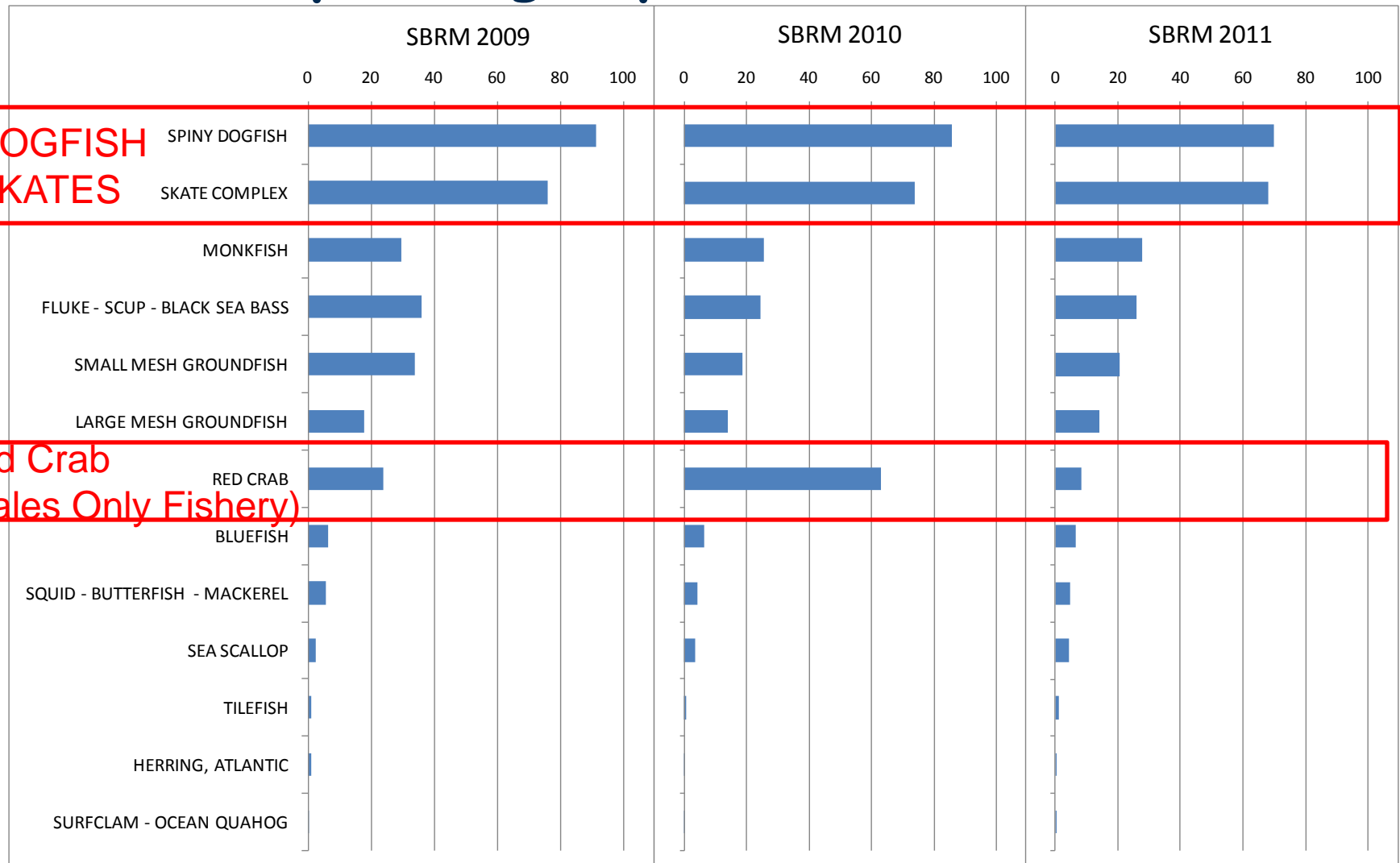
SBRM 2010: July 2008 -- June 2009

SBRM 2011: July 2009 -- June 2010

- Discard estimates are indicative but not definitive measures of discarding patterns among commercial fleets.
- Discard totals represent the values used for allocation of effort for following year

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Percentage of estimated discards for each of the 14 SBRM species groups over all fleets



Discard Totals by Fleet and Species

Landings and Discard by Species Group or species

Which fleets contribute most to total discards?

Landings and Discards by Fleet

Which species groups or species are discarded most often?

For each of the 14 SBRM species groups:

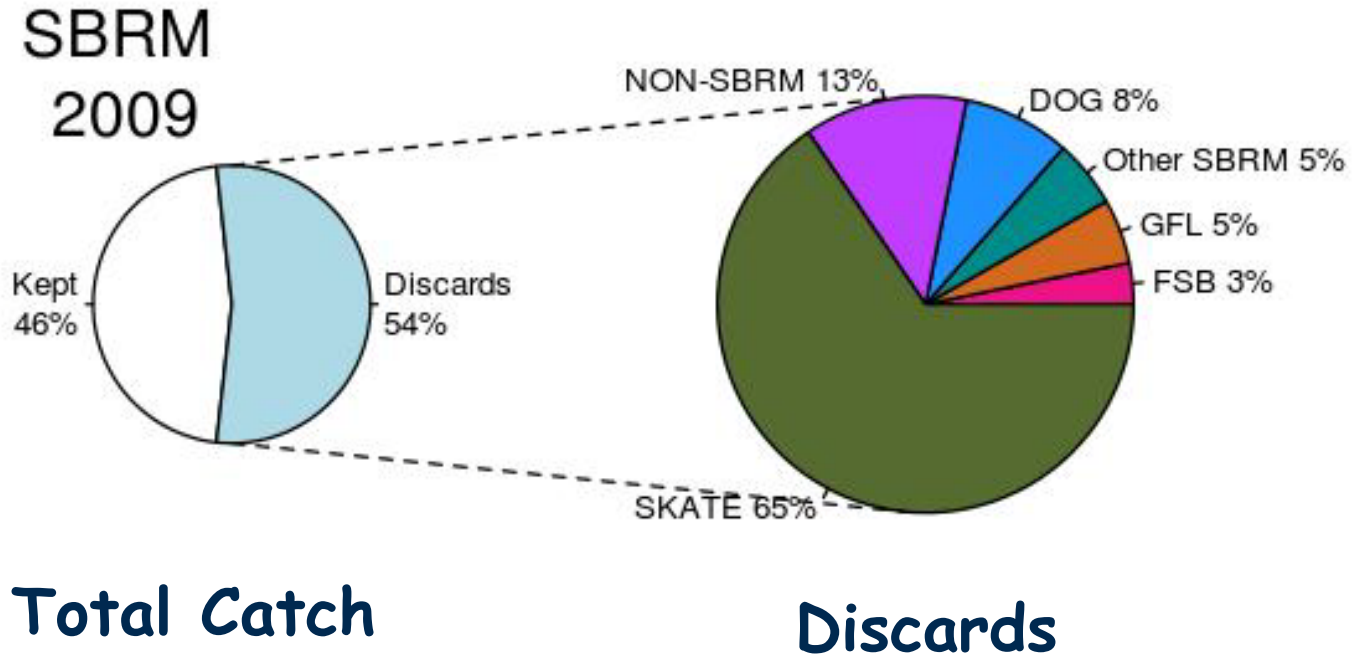
- 3 pairs of pie diagrams (one per SBRM year)
 - Left pie: Percentage of Vessel Trip Report landings (kept) and estimated discards
 - Right pie: percentage of estimated discards by fleet

Number of fleets varies by year:

- 2009: 34 fleets
- 2010: 31 fleets
- 2011: 27 fleets

Fleets are identified by individual colors

FLEET: Otter Trawl OPEN all MA Ig (Row 6)



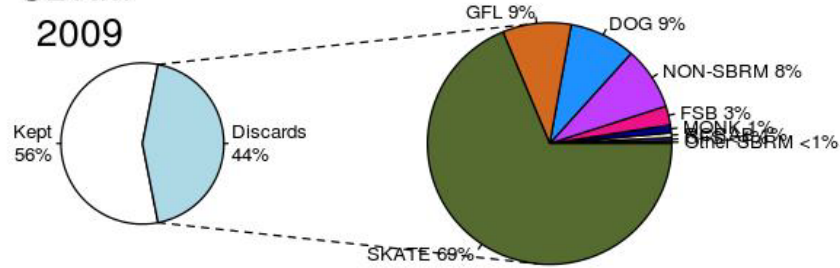
14 SBRM species groups

Skate	65%
Dogfish	8%
Groundfish, Large mesh	5%
Fluke-Scup-BSB	3%
Other 10 SBRM species groups	5%
Non-SBRM species	13%

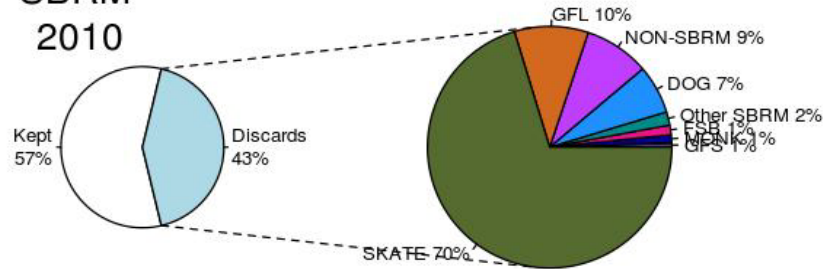


FLEET: Otter Trawl OPEN all NE Ig (Row 8)

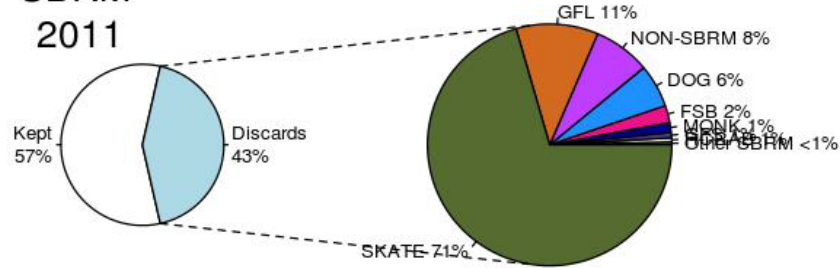
SBRM
2009



SBRM
2010



SBRM
2011

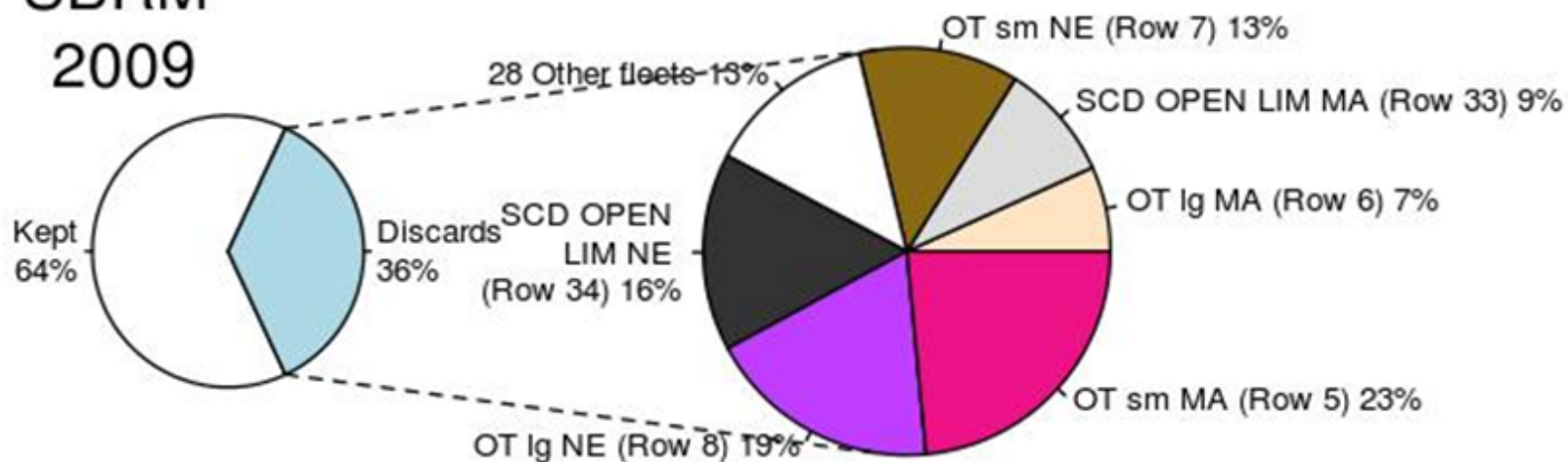


Total

Discards

SPECIES: FLUKE - SCUP - BLACK SEA BASS

SBRM
2009



Total Catch

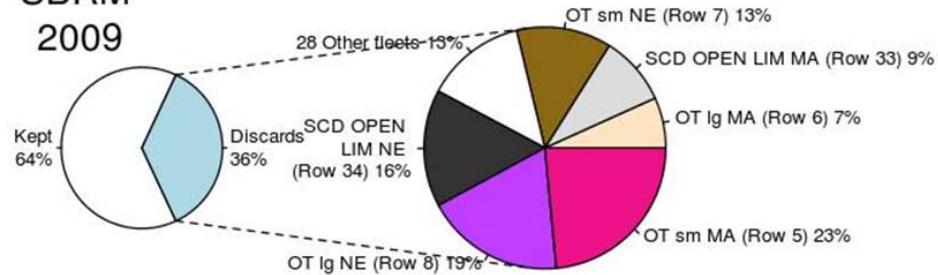
Discards

In 2009, 34 Fleets with NEFOP coverage

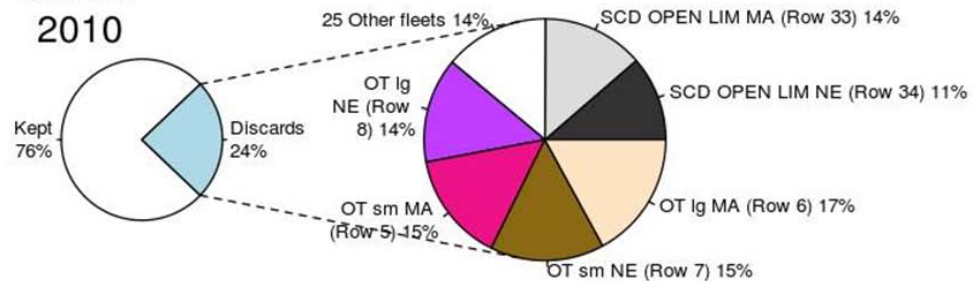
Otter Trawl small-mesh MA	23%
Otter Trawl large-mesh NE	19%
Scallop Dredge OPEN LIM NE	16%
Otter Trawl small-mesh NE	13%
Scallop Dredge OPEN LIM MA	9%
Otter Trawl large-mesh MA	7%
28 Other fleets	13%

SPECIES: FLUKE - SCUP - BLACK SEA BASS

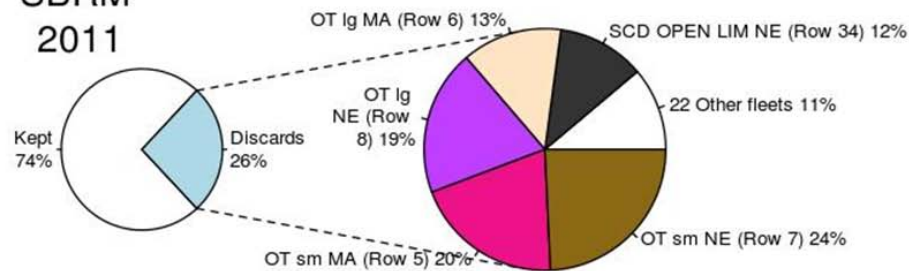
SBRM
2009



SBRM
2010



SBRM
2011



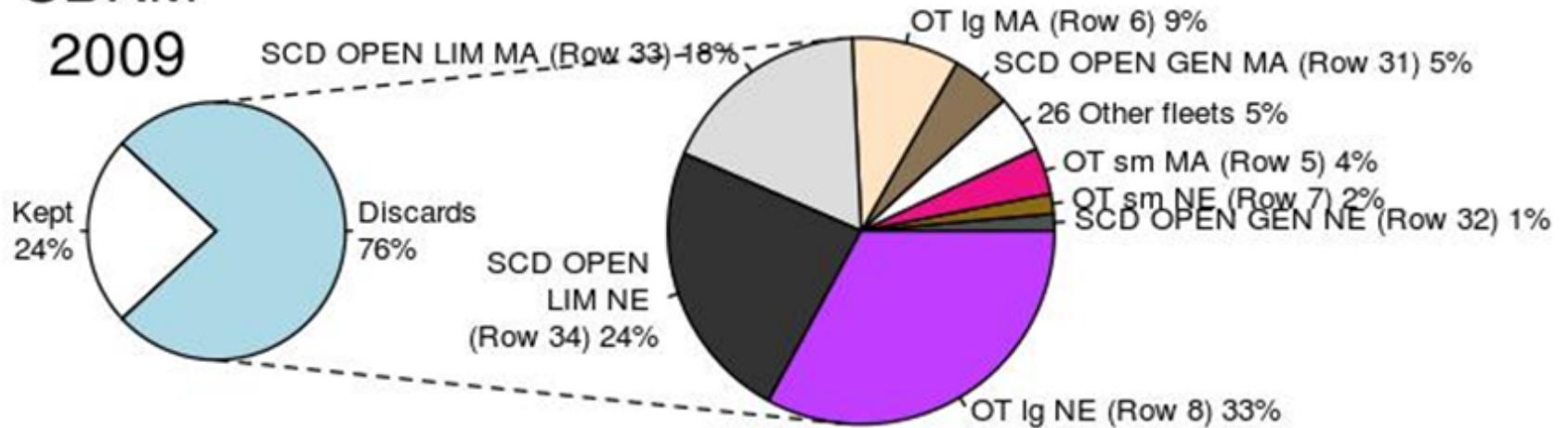
Total

Discards

SPECIES: SKATE COMPLEX

SBRM

2009



Total Catch

Discards

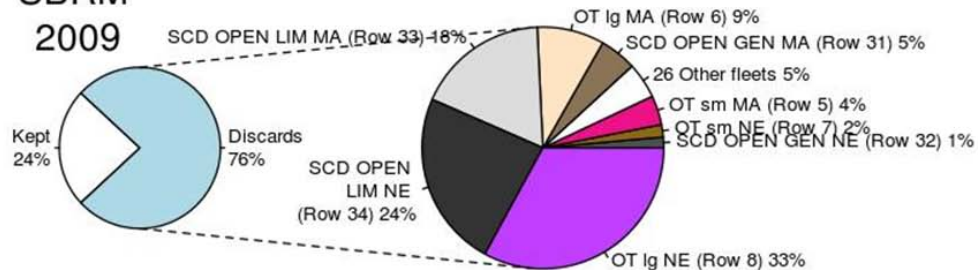
In 2009, 34 Fleets with NEFOP coverage

Otter Trawl large-mesh NE	33%
Scallop Dredge OPEN LIM NE	24%
Scallop Dredge OPEN LIM MA	18%
Otter Trawl large-mesh MA	9%
Scallop Dredge OPEN GEN MA	5%
Otter Trawl small-mesh MA	4%
Otter Trawl small-mesh NE	2%
Scallop Dredge Open GEN NE	1%
26 Other fleets	5%

SPECIES: SKATE COMPLEX

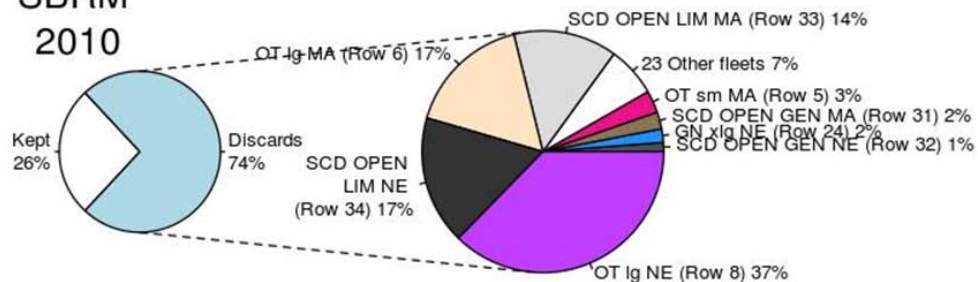
SBRM

2009



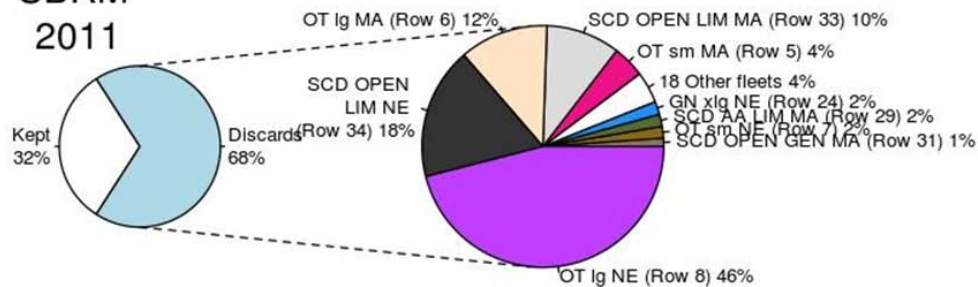
SBRM

2010



SBRM

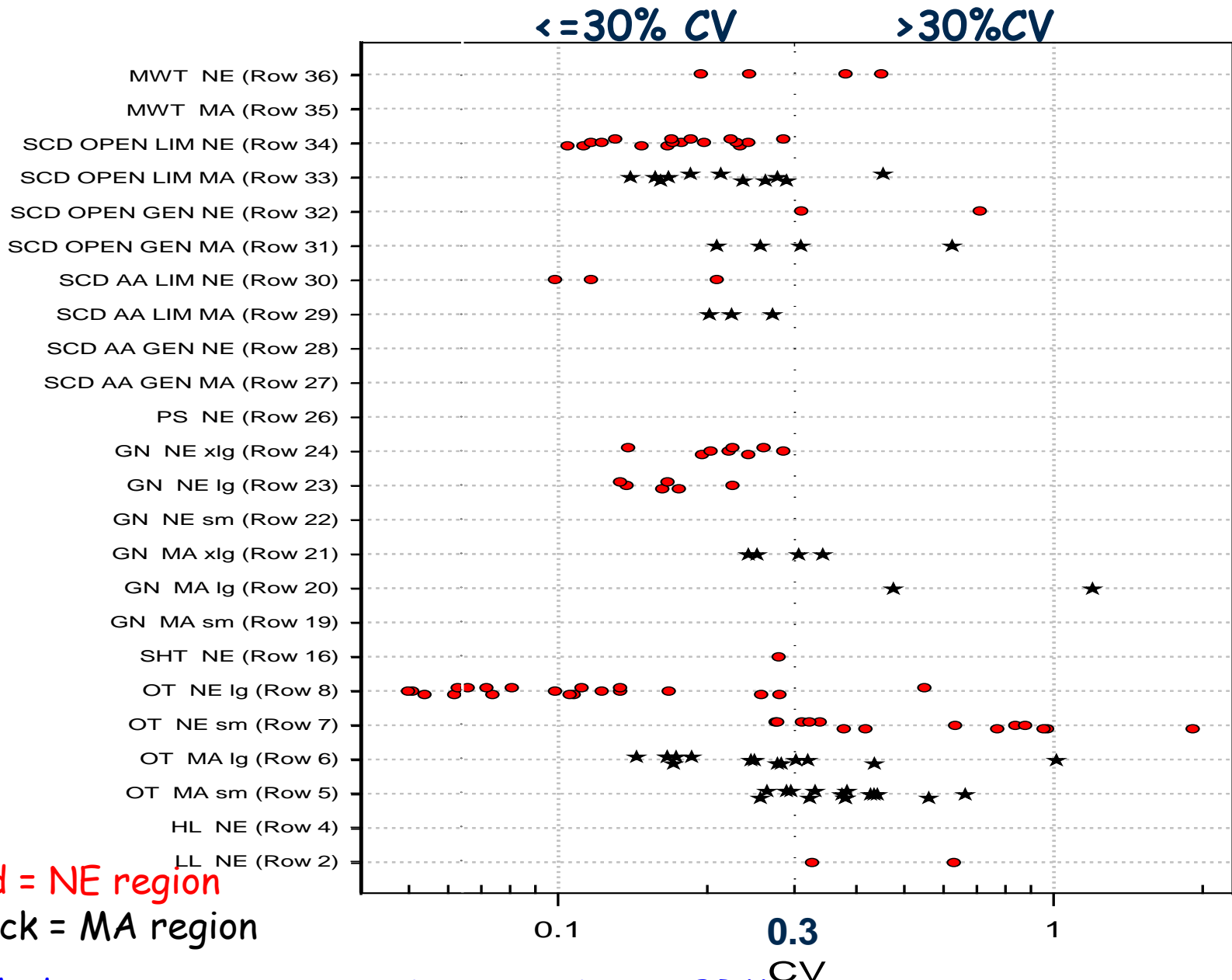
2011



Total

Discards

CVs of Discard Estimates by fleet



red = NE region
black = MA region

Each dot represents a species group in an SBRM year

CVs of Discard Estimates by fleet

NOAA
FISHERIES

<=30% CV

>30% CV

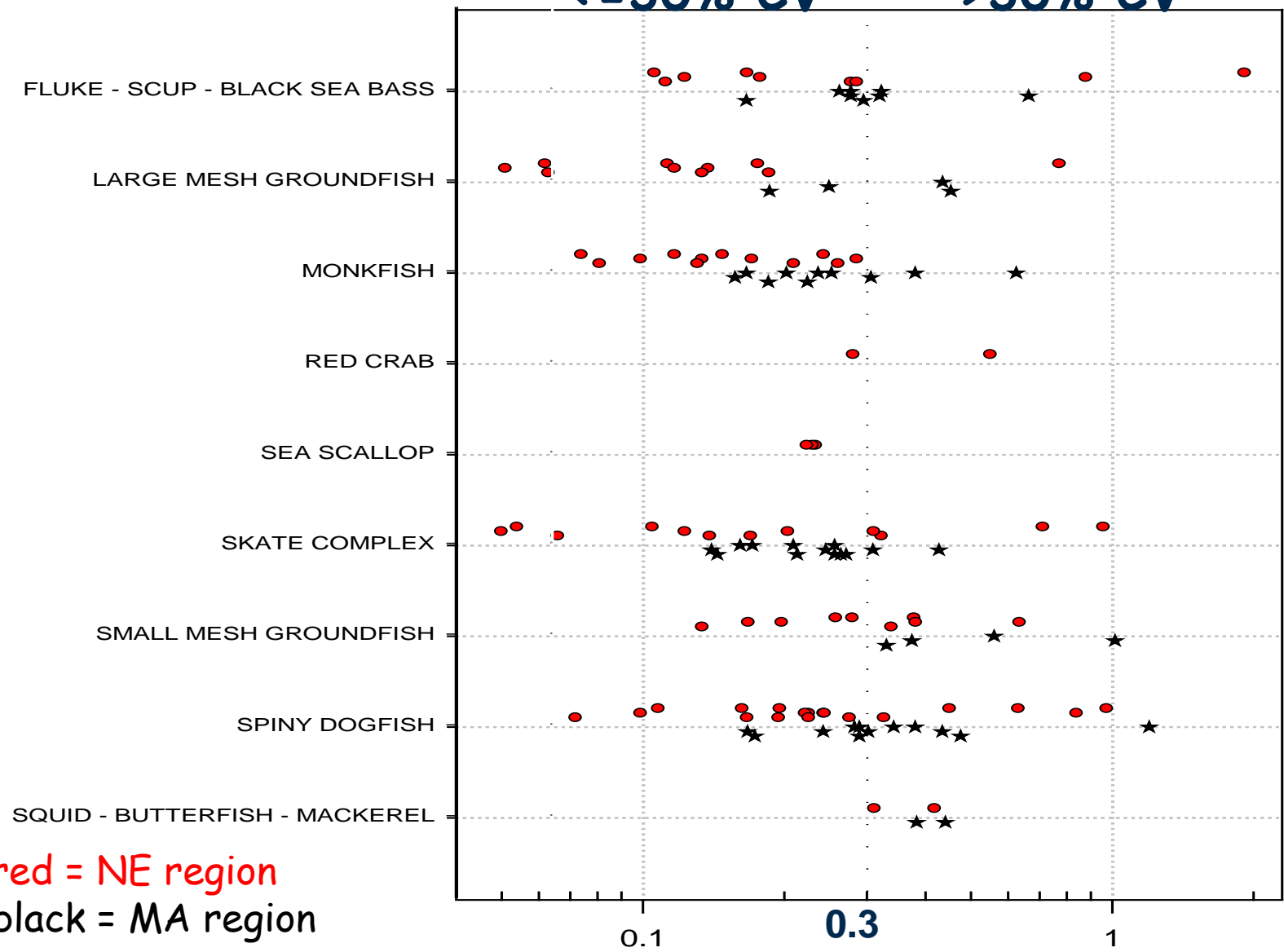
	<=30% CV	>30% CV
Mid Water Trawl	2 NE	2 NE
Scallop Dredge	20 NE	2 NE
	15 MA	3 MA
Gill Net	14 NE	
	2 MA	4 MA
Otter Trawl	21 NE	13 NE
	14 MA	15 MA
Longline		2 NE

Value represents species groups within fleet and region over all SBRM years

CVs of Discard Estimates by species group

NOAA
FISHERIES

$\leq 30\% \text{ CV}$ $> 30\% \text{ CV}$

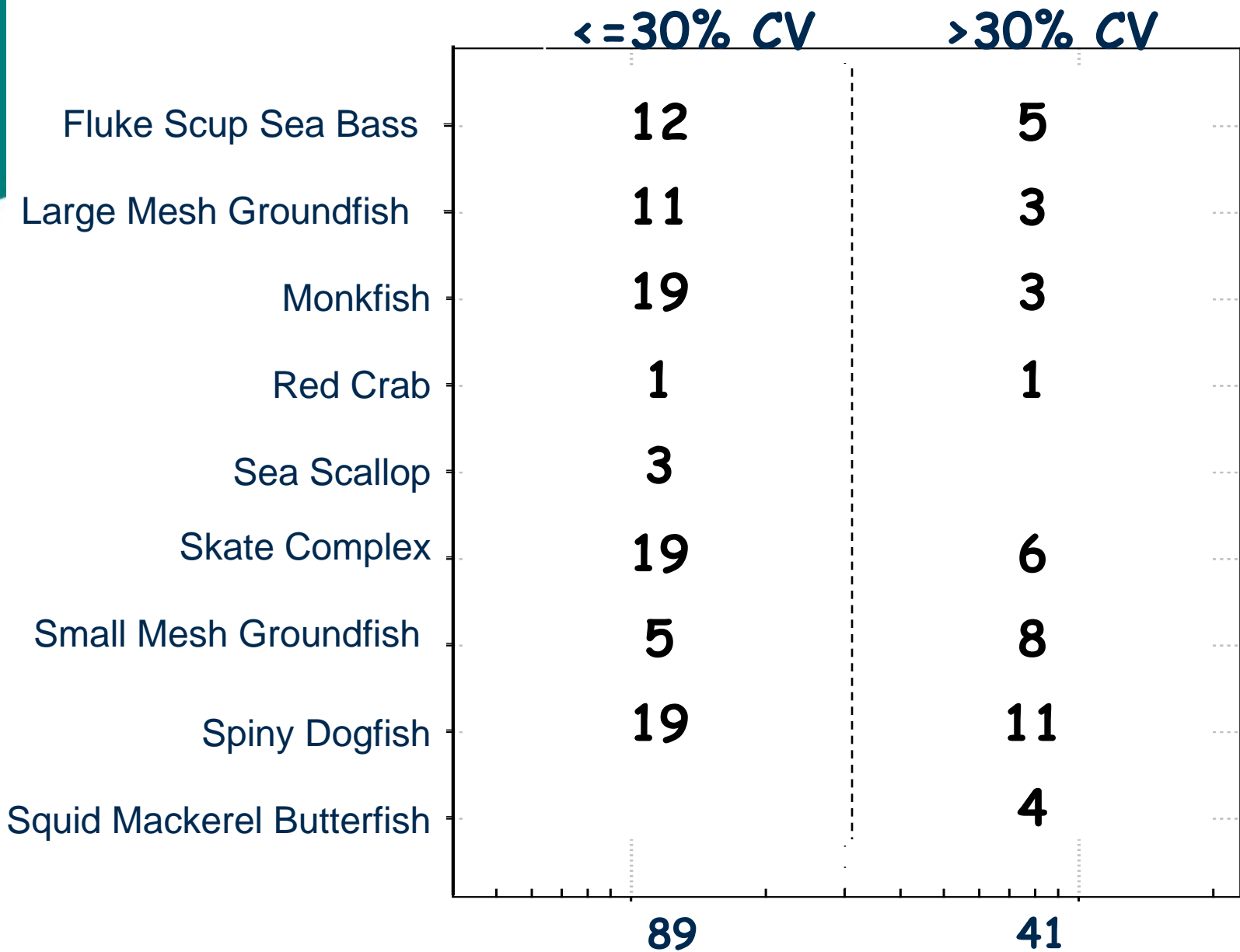


red = NE region
black = MA region

Each dot represents a fleet in an SBRM year CV

CVs of Discard Estimates by species group

NOPA
FISHERIES



Value represents number of fleets over all SBRM years

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Discard estimation caveats:

- A broad stratification scheme has been used to encompass all the federally managed species in the Northeast region.
- Species-specific stock assessment analyses may differ from this report due to differences in stratification and data used that include:
 - calendar year versus SBRM year;
 - region (based on port of departure) versus area fished,
 - VTR landings versus Dealer landings.
- Region, based on port of departure, is used for deploying observers, and it is recognized that area fished would provide a better stratification for discard estimation

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Discard estimation caveats (continued)

- The SBRM analysis utilizes the Vessel Trip Report data. Dealer data does not contain mesh or area fished information until the trip-based allocation is performed. The trip-based allocation of Dealer is conducted annually and was not available when each of the annual SBRM analyses was initiated.
- There are differences in species pounds between the VTR and Dealer data sets: VTR reports the good-faith hail weights while Dealer data provides actual landings weight.
- Assumed 100% discard mortality,

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Summary

- Highlights broad scope of NEFOP data collection;
- SBRM species groups cover majority of species encountered by commercial fleets;
- When prioritizing fleets for observer coverage, low encounters and low magnitude of discards of important/critical species can be considered;
- Comprehensive summary of discard estimates and precision by species group and individual species for federally managed species;

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Summary (continued)

- Overall, this SBRM represents one of the most comprehensive programs for planning and executing observer monitoring coverage of federally managed fisheries.
- The first three years of the program illustrate the utility of the approach for monitoring discards in these fisheries and the real-world limitations of implementing an ideal system.

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Summary (continued)

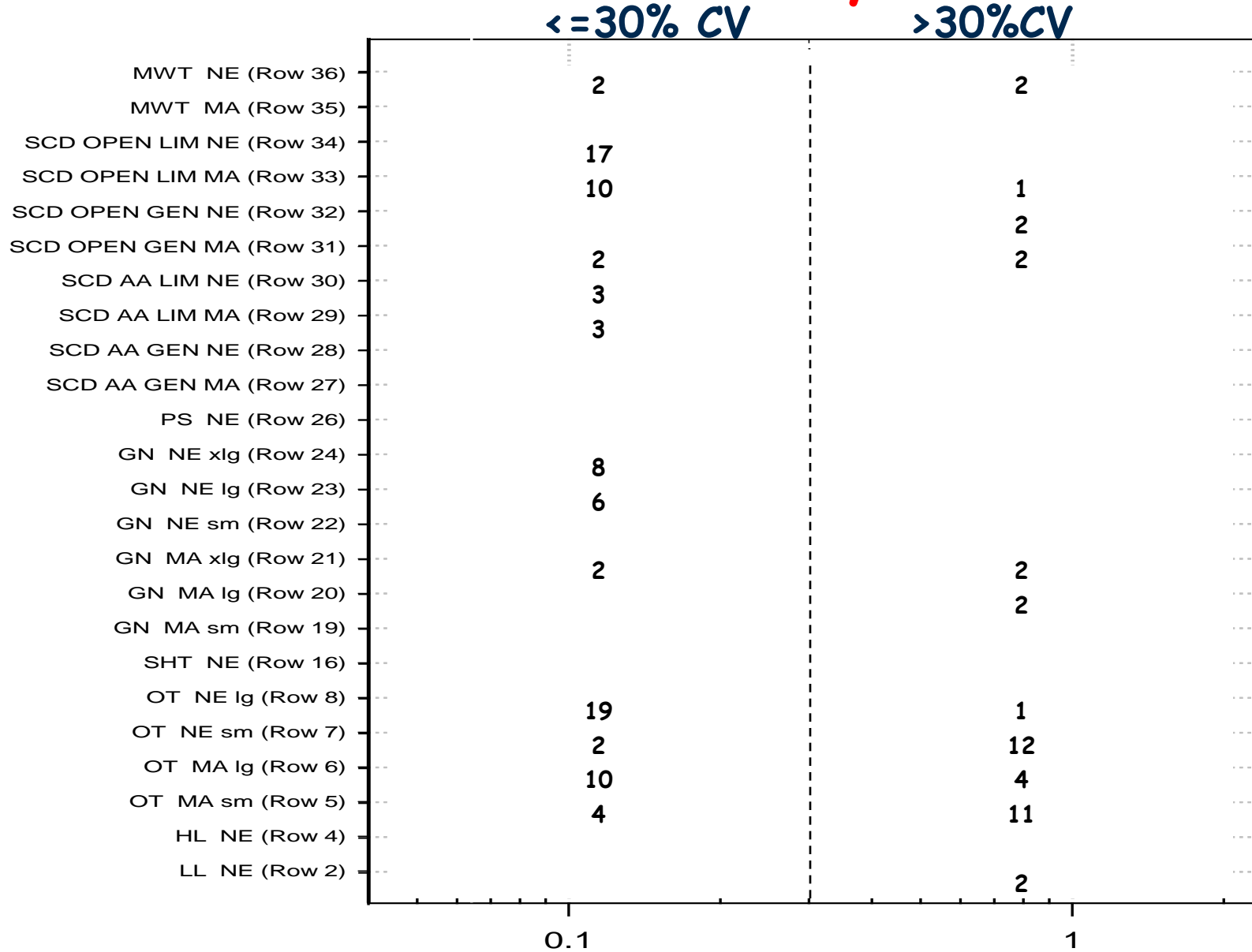
- Variations in the overall magnitude of funding, constraints on the uses of funding, and competing objectives among FMPs are some of the factors that impede attainment of the overall target level of precision.
- An analysis of the performance of the SBRM will follow in part two of this review report.



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Questions ?

CVs of Discard Estimates by fleet



Value represents the number of species groups within fleet over all SBRM years

CVs of Discard Estimates by fleet

NOAA

$\leq 30\% CV$

$> 30\% CV$

	$\leq 30\% CV$	$> 30\% CV$
MWT NE (Row 36)	2	2
MWT MA (Row 35)		
SCD OPEN LIM NE (Row 34)	35	5
SCD OPEN LIM MA (Row 33)		
SCD OPEN GEN NE (Row 32)		
SCD OPEN GEN MA (Row 31)		
SCD AA LIM NE (Row 30)		
SCD AA LIM MA (Row 29)		
SCD AA GEN NE (Row 28)		
SCD AA GEN MA (Row 27)		
PS NE (Row 26)	16	4
GN NE xlg (Row 24)		
GN NE lg (Row 23)		
GN NE sm (Row 22)		
GN MA xlg (Row 21)		
GN MA lg (Row 20)		
GN MA sm (Row 19)		
SHT NE (Row 16)	35	28
OT NE lg (Row 8)		
OT NE sm (Row 7)		
OT MA lg (Row 6)		
OT MA sm (Row 5)	2	
LL NE (Row 2)		

Value represents the number of species groups within fleets over all SBRM years

CVs of Discard Estimates by species group

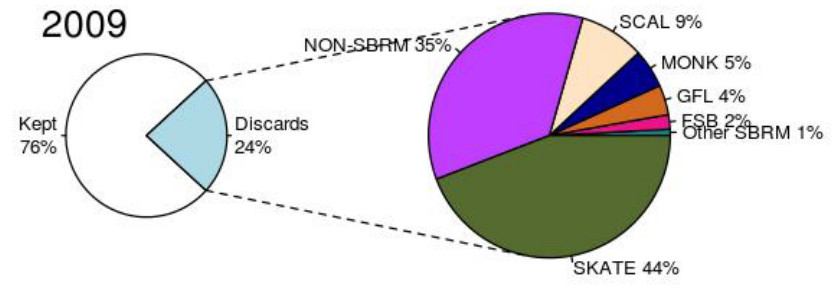
	<=30% CV		>30% CV	
	NE	MA	NE	MA
FLUKE - SCUP - BLACK SEA BASS	7	5	2	3
LARGE MESH GROUND FISH	9	2	1	2
MONKFISH	12	7		3
RED CRAB	1		1	
SEA SCALLOP	3			
SKATE COMPLEX	8	11	4	2
SMALL MESH GROUND FISH	5		4	4
SPINY DOGFISH	13	6	5	6
SQUID - BUTTERFISH - MACKEREL			2	2
	89		41	

Value represents number of fleets, by region over all SBRM years

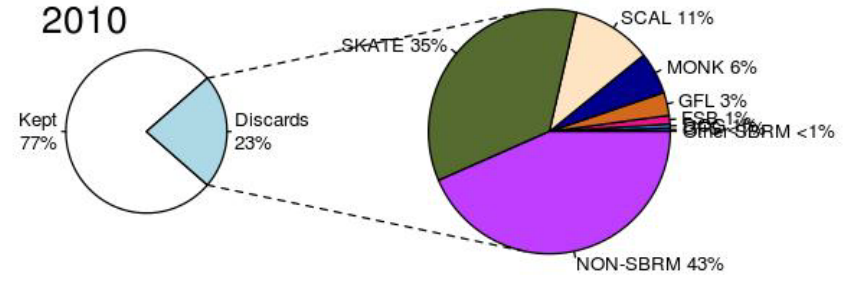


FLEET: Scallop Dredge OPEN LIM NE all (Row 34)

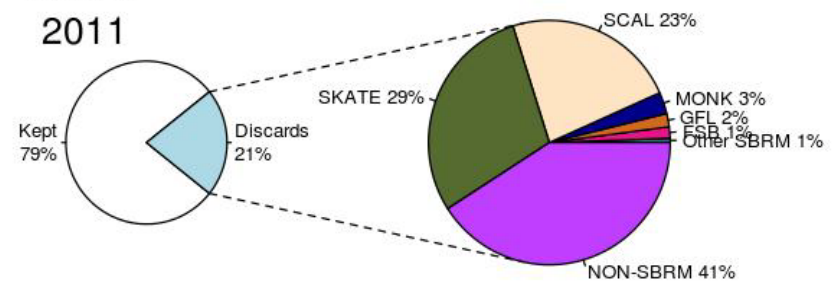
SBRM
2009



SBRM
2010



SBRM
2011



Total

Discards

FLEET: Scallop Dredge OPEN LIM NE all (Row 34)

SBRM
2009

