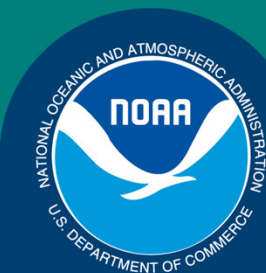


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Overview of MRFSS/MRIP Comparisons 2004-2011

John Foster
MRIP Calibration Workshop
March 27-29, 2012

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MRFSS/MRIP Comparison

- **Weighting Methodology**
- **Regional Summaries**
 - **Landings (A+B1) in numbers**

<http://www.st.nmfs.noaa.gov/st1/recreational/queries/index.html>

Catch Data > MRFSS/MRIP Comparisons

Effort Data > MRFSS/MRIP Comparisons



MRFSS Sample Weight Issues

- MRFSS gave equal weighting to all trips within estimation cells, but design was unequal probability
- Trips intercepted at higher pressure sites overrepresented relative to lower pressure site
- Alternate site-days, alternate mode intercepts, partial coverage of site-days



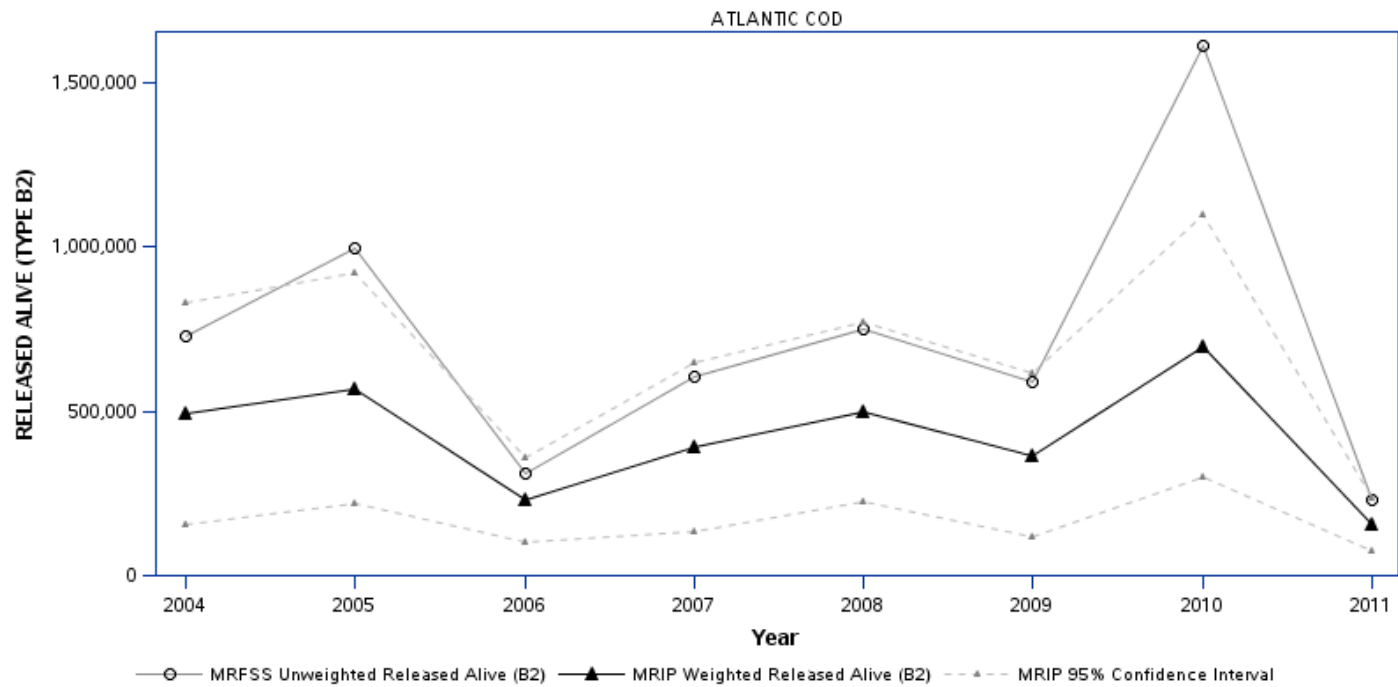
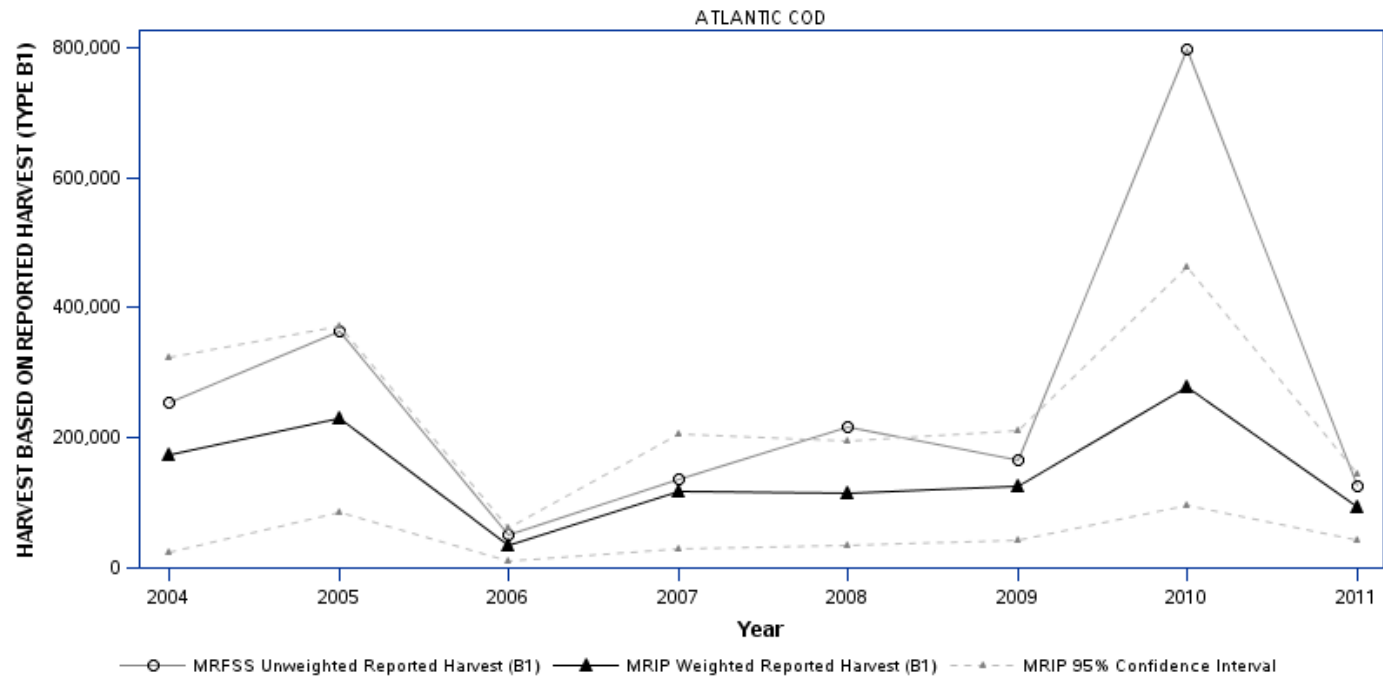
MRIP Weighting Methodology

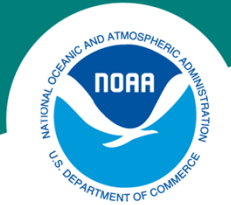
- Developed design/model hybrid weights
- Stage 1: Site-day selection probabilities
 - Primary site (design)
 - Alternate site (model)
 - Combined site-day inclusion probabilities
- Stage 2: Angler-trip selection probabilities
 - Observed angler-trip counts (design)
 - Extrapolated 24-hr total count of angler-trips (model)



Atlantic Cod Case Study

- Systematic differences, MRFSS > MRIP
 - 2004-2010
 - Massachusetts
 - Private Boat
 - B1-reported harvest and B2-releases (no. fish)





Atlantic Cod Case Study

Annual MRFSS and MRIP B1 and B2 catch-per-trip for MA PR trips, 2004-2010

Year	MRFSS B1 Catch/Trip	MRIP B1 Catch/Trip	B1 Difference (MRFSS – MRIP)	MRFSS B2 Catch/Trip	MRIP B2 Catch/Trip	B2 Difference (MRFSS – MRIP)
2004	0.104	0.077	+0.027	0.296	0.217	+0.079
2005	0.148	0.101	+0.047	0.407	0.251	+0.156
2006	0.020	0.016	+0.004	0.126	0.101	+0.025
2007	0.056	0.052	+0.004	0.246	0.172	+0.074
2008	0.088	0.051	+0.037	0.306	0.219	+0.086
2009	0.067	0.056	+0.011	0.240	0.161	+0.079
2010	0.325	0.123	+0.202	0.657	0.308	+0.349
2004-2010	0.123	0.069	+0.054	0.347	0.201	+0.145



Atlantic Cod Case Study

Characteristics for MA Sites with and without B1 and B2 catches of Atlantic cod, 2004-2010

	Unique Site Count	Avg. Intercepts per Site	Avg. Site-Day Pressure Category	% of Total MRFSS Relative Weighting	% of Total MRIP Sample Weight	Difference in % (MRFSS – MRIP)
B1 Cod Sites	16	455	3.52	55.9	44.7	+11.2
Zero Sites	127	43	2.48	44.1	55.3	-11.2
B2 Cod Sites	24	329	3.49	60.8	50.8	+10
Zero Sites	119	41	2.39	39.2	49.2	-10

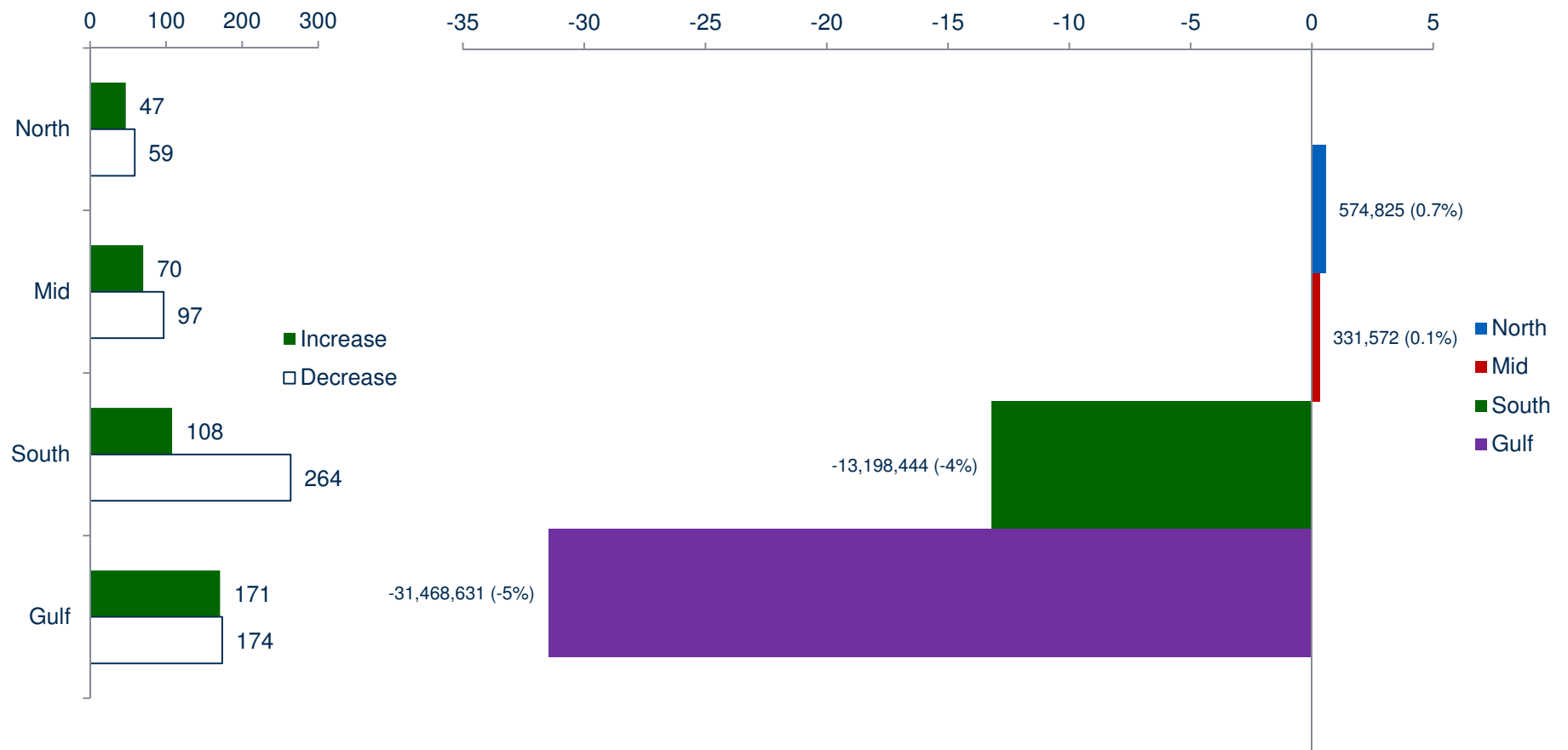


Regional Summaries

- **Landings (A+B1) in numbers, 2004-2011**
 - **Overall net change (MRIP – MRFSS)**
 - Year
 - Wave
 - Mode of fishing (collapsed)
 - Area of fishing (collapsed)
 - **Species**
 - **Increases: Total Count and Top 5**
 - **Decreases: Total Count and Top 5**
 - **Top 5: Individual species excluding bait/rough fish**

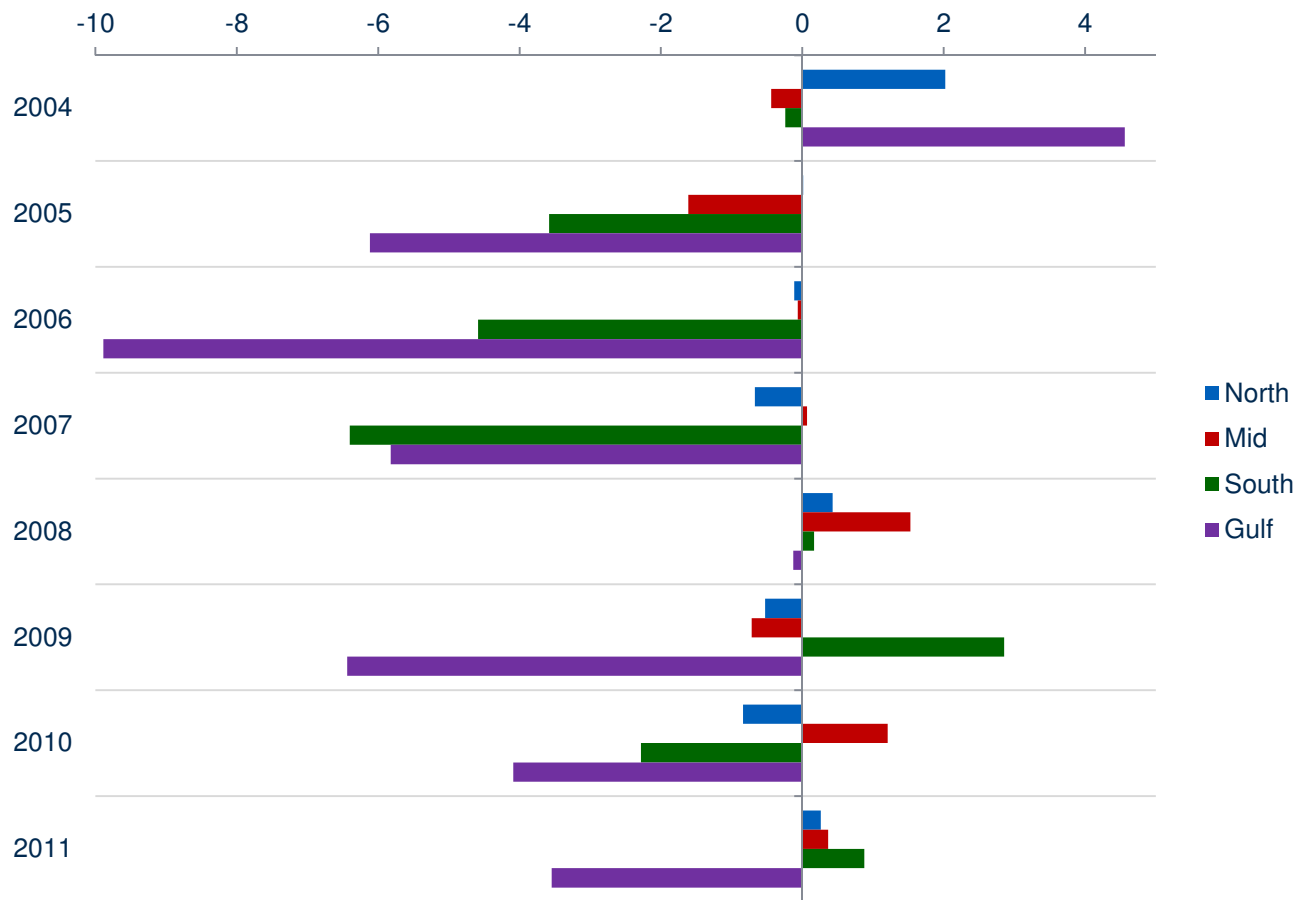


By Region – Net Change A+B1, 2004-2011



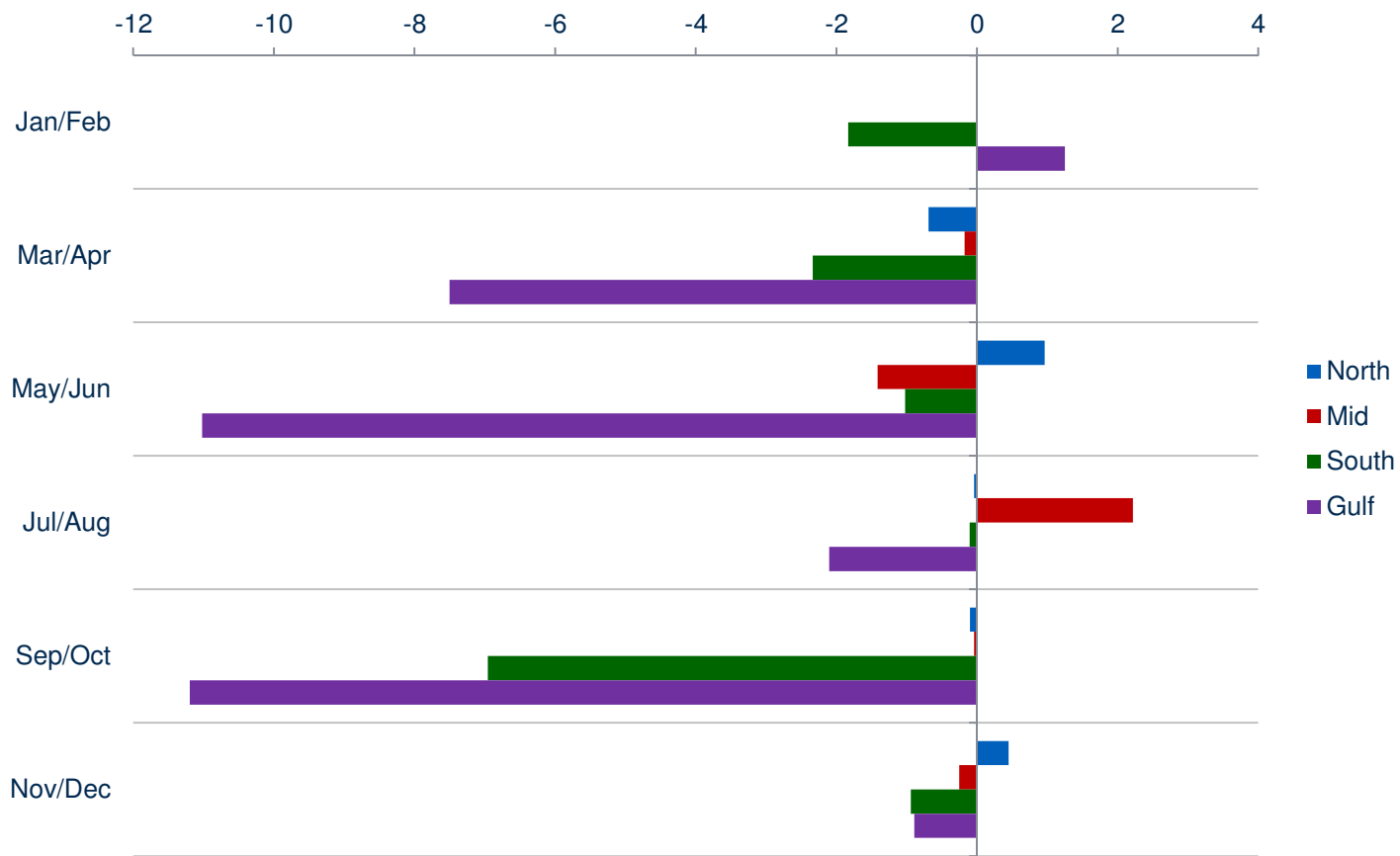


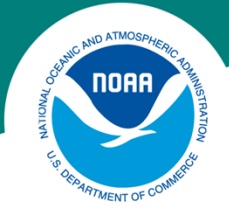
By Year – Net Change A+B1 (millions)



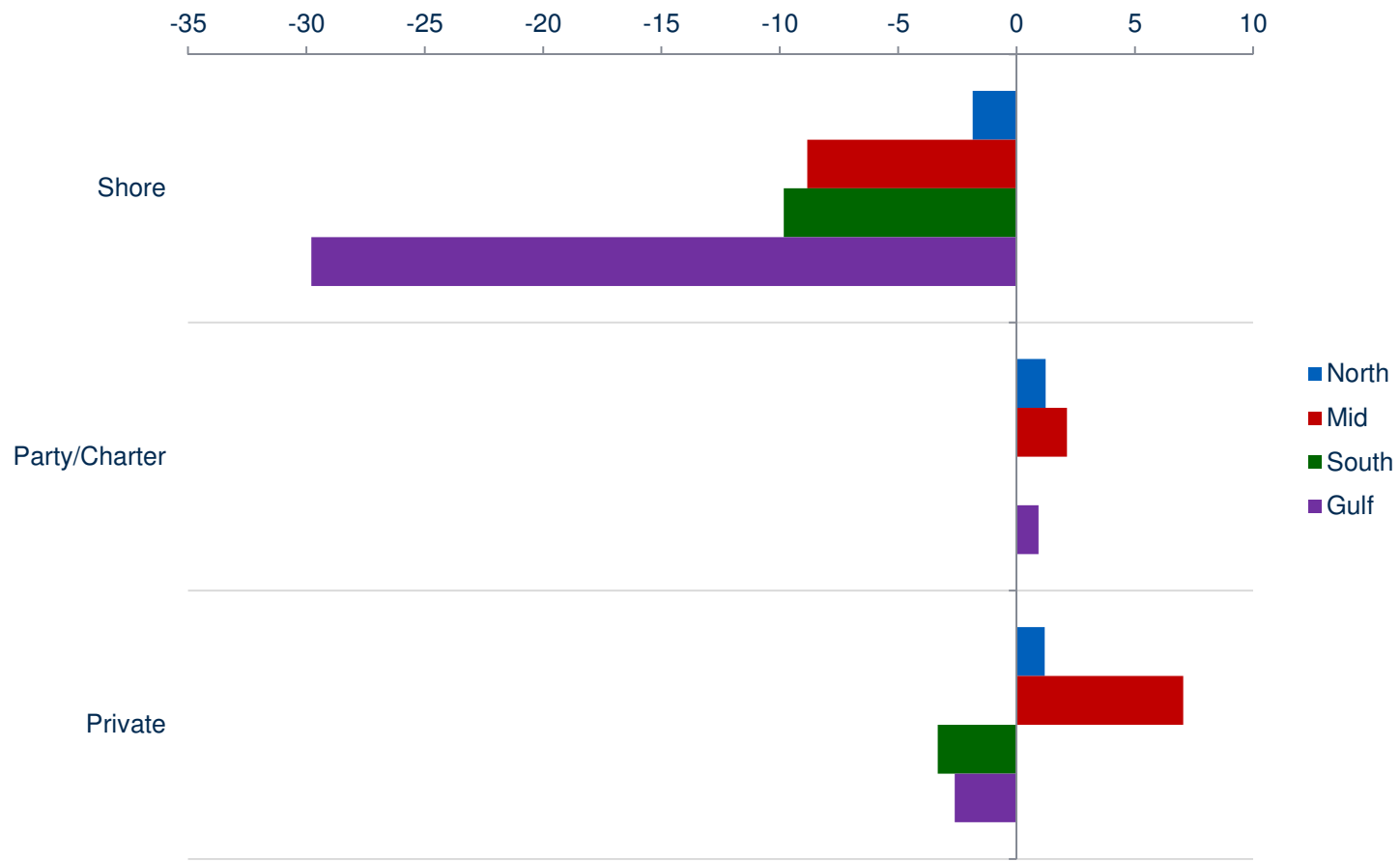


By Wave – Net Change A+B1 (millions)



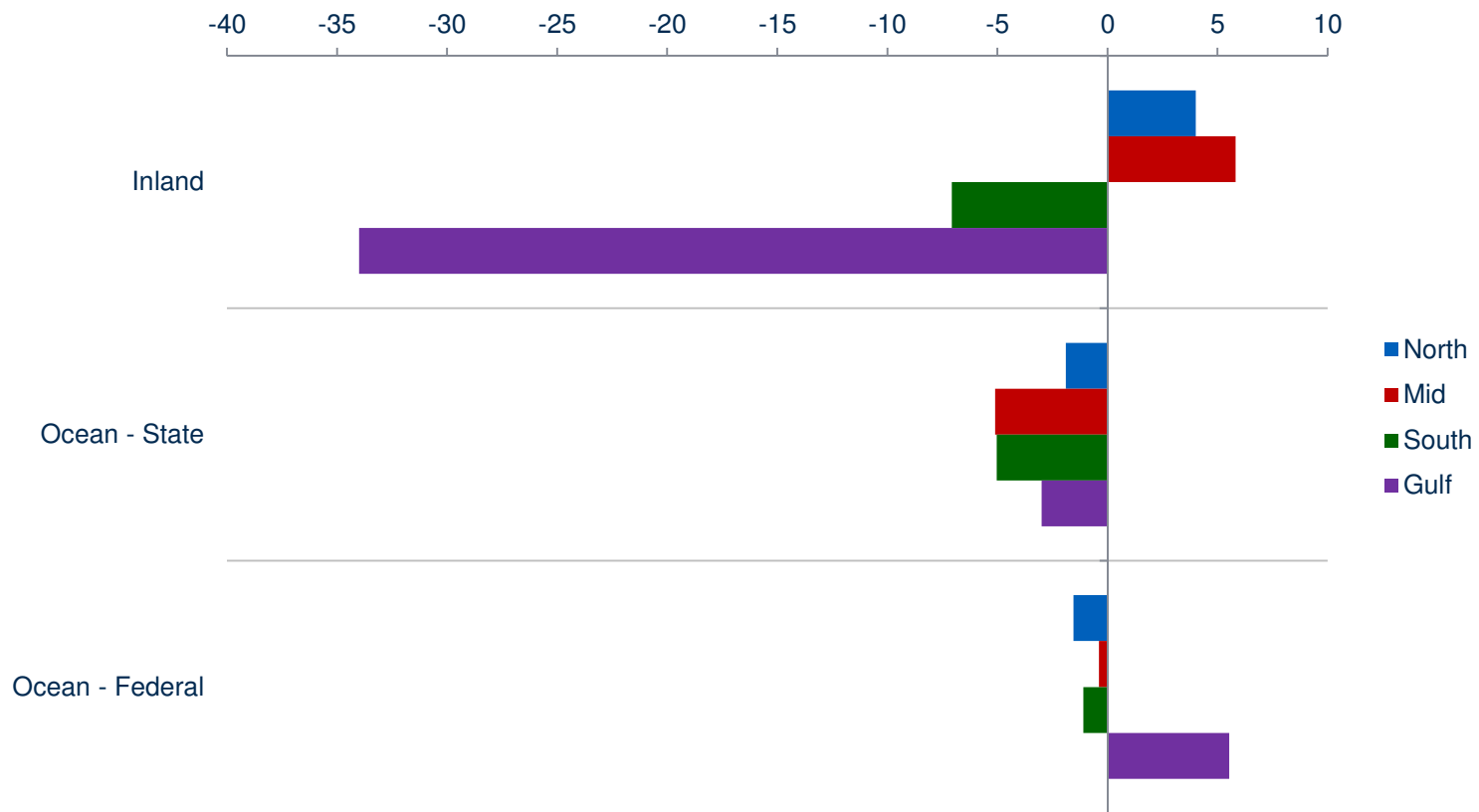


By Mode – Net Change A+B1 (millions)



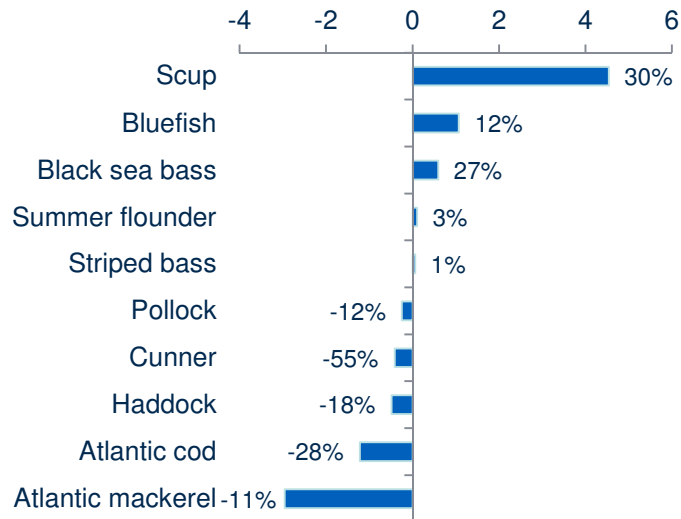


By Area – Net Change A+B1 (millions)

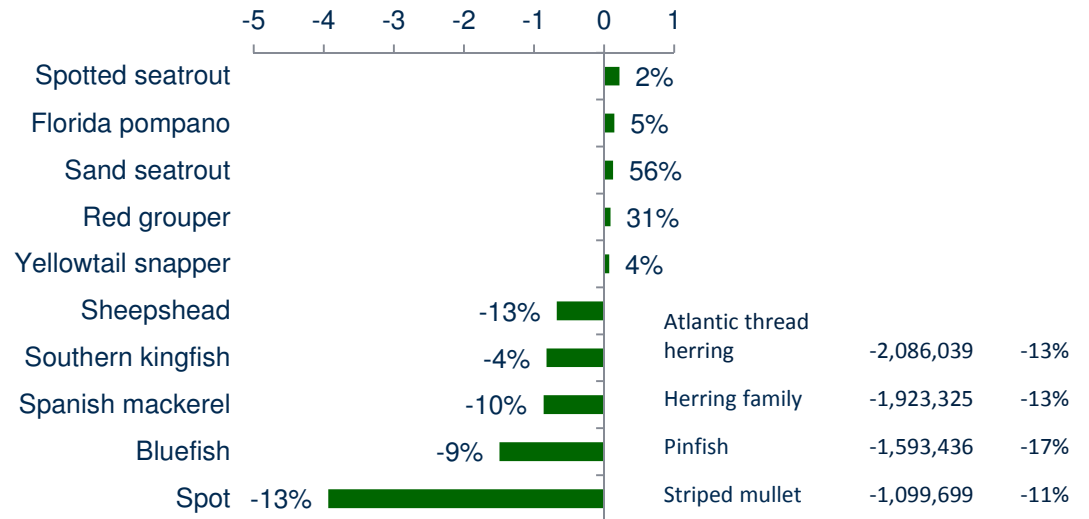


Top 5 Increases/Decreases in Landings (A+B1), 2004-2011

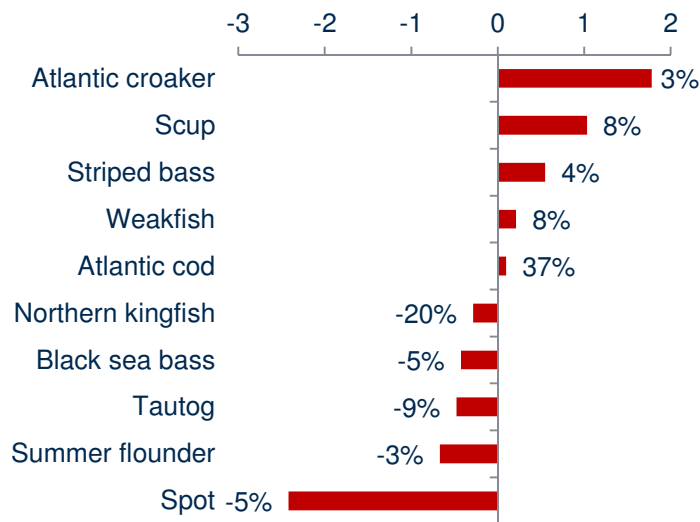
North Atlantic



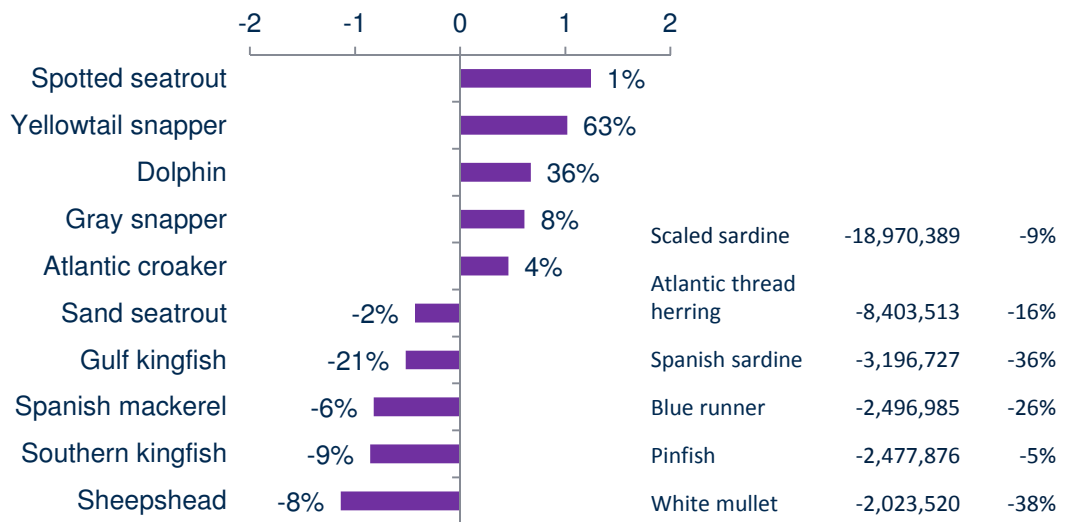
South Atlantic



Mid-Atlantic



Gulf of Mexico



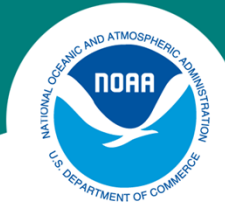
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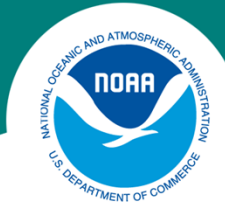
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North Atlantic – Landings A+B1 2004-2011

Species		
Total count increases:	47	44.34%
Total count decreases:	59	55.66%
Top 5 Increases		
Scup	4,538,245	30.09%
Bluefish	1,071,543	11.72%
Black sea bass	596,331	26.91%
Summer flounder	108,304	3.13%
Striped bass	62,149	1.34%
Top 5 Decreases		
Atlantic mackerel	-2,958,137	-10.55%
Atlantic cod	-1,218,430	-28.05%
Haddock	-486,782	-18.30%
Cunner	-413,725	-55.49%
Pollock	-247,044	-11.93%

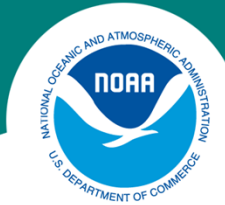
Net Change All Species					
Total	574,825	0.66%			
By Year			By Wave		
2004	2,023,828	20.67%	1	--	--
2005	11,329	0.11%	2	-689,831	-27.86%
2006	-114,437	-1.08%	3	961,876	3.37%
2007	-669,164	-4.14%	4	-42,507	-0.12%
2008	427,418	3.90%	5	-101,244	-0.62%
2009	-526,802	-6.77%	6	446,531	10.57%
2010	-840,324	-7.39%			
2011	262,977	2.41%			
By Mode			By Area		
Shore	-1,852,999	-10.24%	Inland	4,016,509	8.20%
Party/Charter	1,232,388	10.97%	Ocean – State	-1,895,096	-7.65%
Private	1,195,437	2.06%	Ocean - Federal	-1,546,588	-11.30%



Mid-Atlantic – Landings A+B1 2004-2011

Species		
Total count increases:	70	41.92%
Total count decreases:	97	58.08%
Top 5 Increases		
Atlantic croaker	1,778,897	2.77%
Scup	1,031,059	8.34%
Striped bass	548,918	4.46%
Weakfish	211,929	8.07%
Atlantic cod	98,290	36.91%
Top 5 Decreases		
Spot	-2,419,369	-5.13%
Summer flounder	-668,358	-3.47%
Tautog	-477,957	-9.12%
Black sea bass	-424,980	-4.61%
Northern kingfish	-285,514	-20.15%

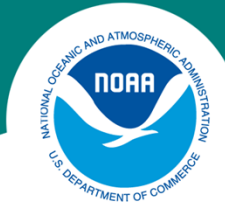
Net Change All Species					
Total	331,572	0.14%			
By Year			By Wave		
2004	-440,279	-1.38%	1	--	--
2005	-1,613,632	-4.65%	2	-175,842	-2.64%
2006	-64,305	-0.18%	3	-1,414,765	-2.24%
2007	65,456	0.16%	4	2,215,344	2.22%
2008	1,528,755	4.56%	5	-40,589	-0.06%
2009	-714,993	-2.85%	6	-252,576	-2.44%
2010	1,206,456	5.07%			
2011	364,114	1.76%			
By Mode			By Area		
Shore	-8,842,866	-16.31%	Inland	5,825,364	3.18%
Party/Charter	2,134,077	7.71%	Ocean - State	-5,101,371	-11.37%
Private	7,040,361	4.32%	Ocean - Federal	-392,421	-2.27%



South Atlantic – Landings A+B1 2004-2011

Species		
Total count increases:	108	29.03%
Total count decreases:	264	70.97%
Top 5 Increases		
Spotted seatrout	217,890	2.14%
Florida pompano	144,987	4.62%
Sand seatrout	125,736	55.66%
Red grouper	91,563	31.27%
Yellowtail snapper	70,649	3.63%
Top 5 Decreases		
Spot	-3,935,803	-13.44%
Bluefish	-1,492,567	-9.09%
Spanish mackerel	-865,716	-10.01%
Southern kingfish	-823,014	-4.13%
Sheepshead	-676,152	-12.61%
Atlantic thread herring	-2,086,039	-13.23%
Herring family	-1,923,325	-13.40%
Pinfish	-1,593,436	-16.58%
Striped mullet	-1,099,699	-10.57%

Net Change All Species					
Total	-13,198,444	-4.12%			
By Year			By Wave		
2004	-241,840	-0.50%	1	-1,832,979	-9.63%
2005	-3,584,128	-8.92%	2	-2,338,607	-8.29%
2006	-4,586,665	-10.20%	3	-1,023,404	-1.54%
2007	-6,403,446	-13.23%	4	-104,636	-0.14%
2008	165,995	0.39%	5	-6,959,019	-7.84%
2009	2,854,960	8.43%	6	-939,800	-2.29%
2010	-2,282,540	-7.61%			
2011	879,219	2.75%			
By Mode			By Area		
Shore	-9,835,233	-7.36%	Inland	-7,077,456	-5.24%
Charter	-32,884	-0.25%	Ocean - State	-5,027,431	-3.53%
Private	-3,330,326	-1.92%	Ocean - Federal	-1,093,557	-2.56%



Gulf of Mexico – Landings A+B1 2004-2011

Species		
Total count increases:	171	49.57%
Total count decreases:	174	50.43%

Top 5 Increases		
Spotted seatrout	1,244,546	1.30%
Yellowtail snapper	1,019,226	62.84%
Dolphin	671,143	36.04%
Gray snapper	612,473	8.00%
Atlantic croaker	457,708	4.32%

Top 5 Decreases		
Sheepshead	-1,137,098	-7.88%
Southern kingfish	-855,913	-9.43%
Spanish mackerel	-821,744	-5.97%
Gulf kingfish	-518,789	-20.79%
Sand seatrout	-430,075	-1.57%

Scaled sardine	-18,970,389	-8.89%
Atlantic thread herring	-8,403,513	-15.84%
Spanish sardine	-3,196,727	-35.68%
Blue runner	-2,496,985	-25.76%
Pinfish	-2,477,876	-5.02%
White mullet	-2,023,520	-37.77%

Net Change All Species		
Total	-31,468,631	-4.83%

By Year		
2004	4,561,918	5.07%
2005	-6,117,372	-8.91%
2006	-9,887,845	-9.82%
2007	-5,822,813	-7.35%
2008	-129,748	-0.14%
2009	-6,436,826	-7.11%
2010	-4,090,012	-6.13%
2011	-3,545,933	-5.65%

By Mode		
Shore	-29,792,784	-19.13%
Charter	934,512	2.73%
Private	-2,610,359	-0.57%

By Wave		
1	1,249,679	3.47%
2	-7,502,925	-10.39%
3	-11,020,634	-6.47%
4	-2,104,748	-1.32%
5	-11,196,502	-8.67%
6	-893,501	-1.07%

By Area		
Inland	-33,996,340	-7.24%
Ocean - State	-2,997,104	-2.26%
Ocean - Federal	5,524,813	11.29%