Black Sea Bass 2016 Catch and Survey Information for Stock North of Cape Hatteras, NC

Report to the Mid-Atlantic Science and Statistical Committee

NOAA Fisheries Service

Northeast Fisheries Science Center

166 Water Street

Woods Hole, MA

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Commercial Fishery

Landings in 2016 were 1,133 mt, predominately from otter trawls and fish pots, an increase from 1,113 mt in 2015. The majority of landings were reported from the Mid-Atlantic statistical areas between New York and Delaware.

Table 1. Commercial black sea bass landings (mt) by market category and region.

	unclassified	jumbo	large	medium	small	Grand Total
North	29.7	344.6	372.6	74.4	4.9	826.2
South	12.3	67.0	86.9	120.1	20.9	307.1
Grand Total	42.0	411.7	459.4	194.5	25.8	1,133.4

Table 2. Commercial black sea bass landings (mt) by gear type, and region.

	Handline	Trawl	Pot	Other	Total
North	61.7	507.5	163.3	93.8	826.2
South	14.2	102.5	145.6	44.9	307.1
Total	75.9	610.0	308.8	138.7	1133.4
North %	7%	61%	20%	11%	
South %	5%	33%	47%	15%	

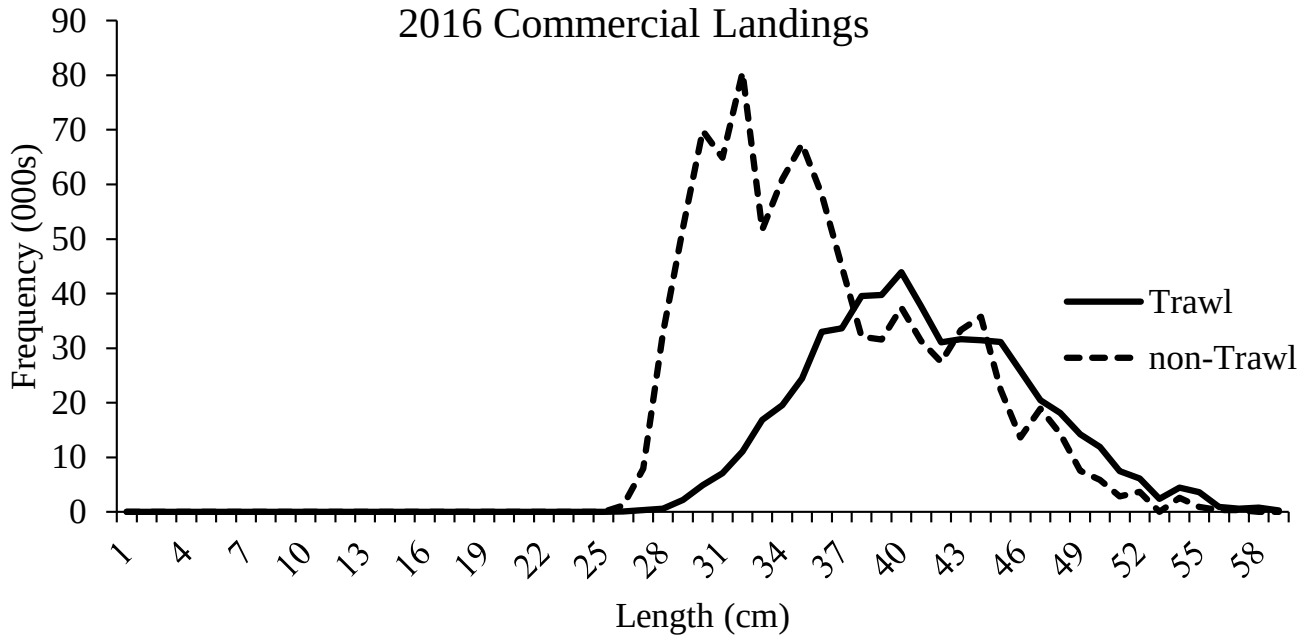

Figure 1. Length frequency of 2016 black sea bass commercial landings by gear category.

Commercial Discards

Commercial discards from otter trawls were estimated from Northeast Fisheries Observer trips discard to kept all ratios. All other gears were estimated from discarded sea bass recorded in Vessel Trip Reports by gear and are likely underestimates. Discard mortality rates as in previous assessment, with 100% from trawls and gillnets and 15% for pots and handlines.

Table 3. Commercial black sea bass discards (mt) by gear and region from 2016.

2016	Source	NEGEAR	MT
NORTH	OBS	Otter trawl	62.2
	VTR	Handline	1.6
	VTR	Fish pots	17.4
	VTR	Other pots	0.7
SOUTH	OBS	Otter trawl	368.9
	OBS	Gillnet	4.5
	VTR	Handline	0.4
	VTR	Fish pots	4.0
	VTR	Other pots	0.6
TOTAL			460.3

Recreational Fishery

Recreational landings in 2016 for Maine through Cape Hatteras, NC were 2.543 million fish equal to 2,352 mt. Total discards (B2 only) were 11.595 million fish. Assuming a discard mortality rate of 15%, discard losses equal 1.739 million fish and 551 mt. Black sea bass catch from vessel trip reports for January-February party/charter vessels was negligible. Recreational catch split into North and South regions as used in the assessment show the majority of the landings and discards occurred in the north (NY and north as a proxy for north of Hudson Canyon).

Table 4. Recreational black sea bass catch (number) by year. A mortality rate of 15% applied to live discards (B2).

	number	kg
NorthAB1	2,115,172	2,077,981
North B2 * 0.15	1,163,417	439,884
South AB1	428,207	274,246
South B2 * 0.15	575,892	110,791
Total	4,282,688	2,902,903

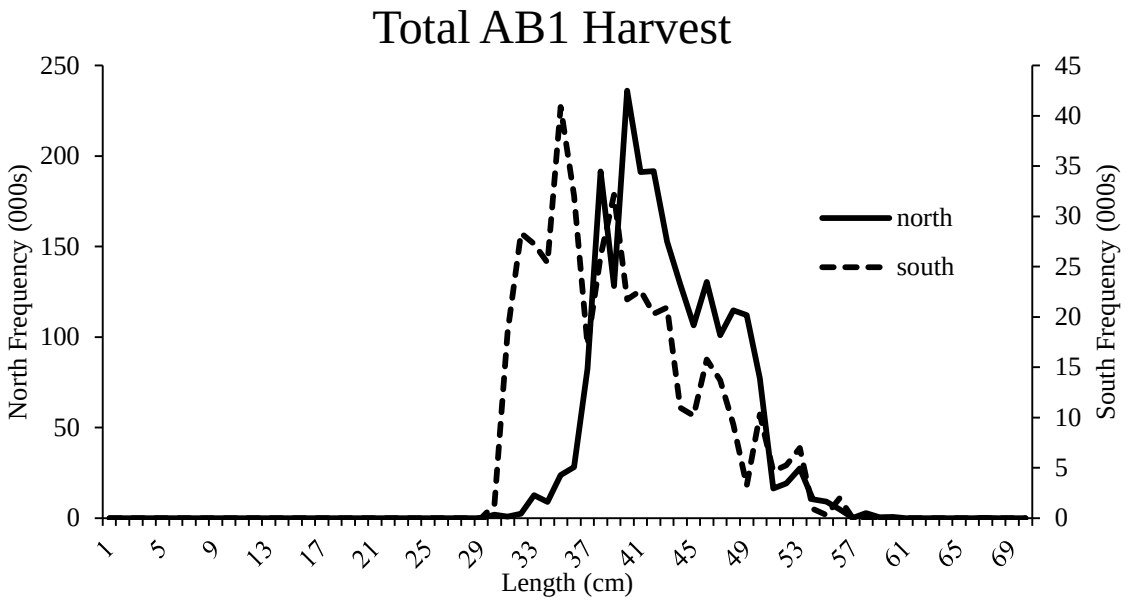

Figure 2. Length frequency (TL cm) of 2016 black sea bass recreational harvest (AB1), by region (Cape Hatteras, NC –NJ, NY-ME). Note that minimum sizes south of New Jersey are 12".

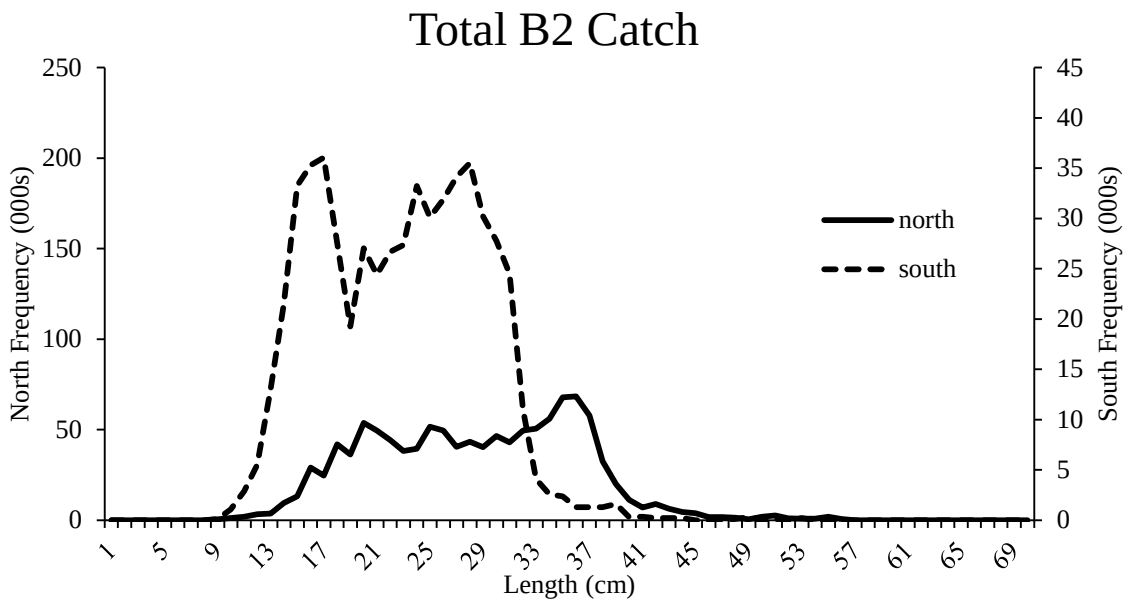

Figure 3. Length frequency (TL cm) of 2016black sea bass recreational discards (B2*15%), by region (Cape Hatteras, NC-NJ, NY-ME).

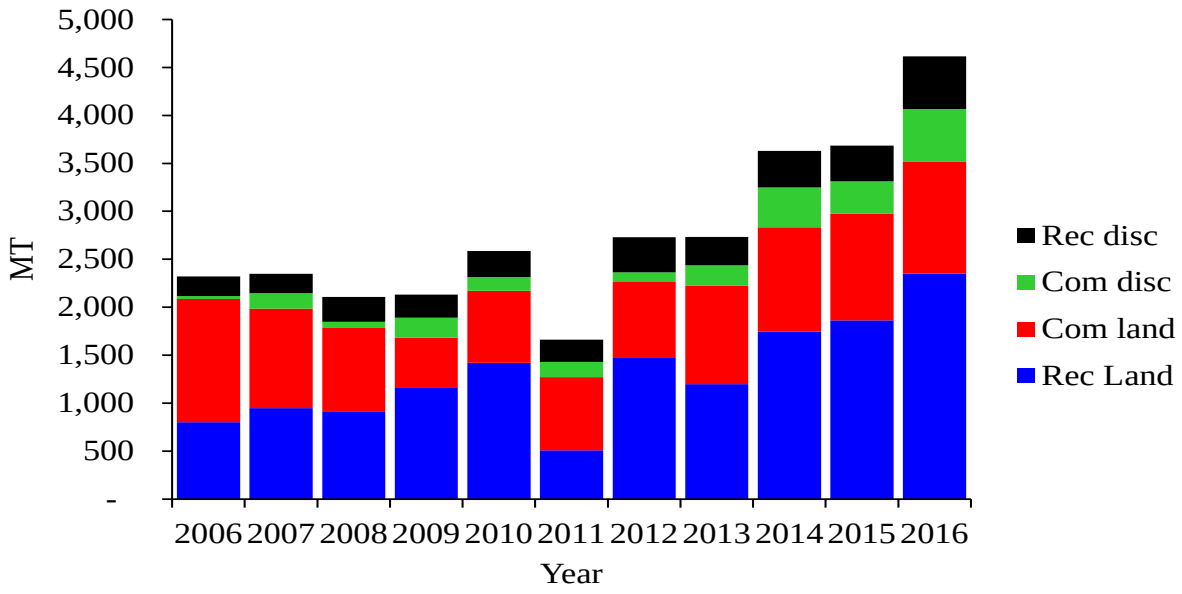

Figure 4. Black sea bass catch, Maine to Cape Hatteras, North Carolina 2006-2016.

Table 5. Summary of black sea bass total catch, 2006-2016.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Min	Max
Commercial landings	1,285	1,037	875	523	751	765	782	1,027	1,088	1,113	1,133	523	1,285
Commercial discard	30	164	66	209	142	157	103	211	416	335	460	30	460
Recreational landings	802	947	909	1,159	1,421	507	1,480	1,198	1,745	1,864	2,352	507	2,700
Recreational discards	203	200	257	241	273	232	364	296	382	371	551	200	551
Total Catch	2,320	2,349	2,107	2,132	2,587	1,662	2,729	2,733	3,631	3,683	4,496	1,662	4,844
Spawning stock biomass	4,551	4,072	5,594	6,460	8,215	8,258	9,878	12,833	17,158	16,552	-	2,485	17,158
Recruitment (age 1, millions)	19.7	22.2	27.5	22.4	22.6	22.1	68.9	27.6	17.8	24.9	-	11.9	68.9
F full[1]	0.66	0.78	0.57	0.50	0.45	0.30	0.35	0.33	0.29	0.24	-	0.24	1.34

[1] F on fully selected ages 4-7. Note that table values are not retro adjusted.

Survey data is presented for the northern and southern regions as defined in the SARC62 black sea bass stock assessment (https://www.nefsc.noaa.gov/publications/crd/crd1703/). The strong 2011 cohort which was dominant in the northern region continues to a large component of surveys north of Hudson Canyon. The abundance indices from the NEFSC surveys show increasing abundance in the north and below average indices in the southern region, although increasing in 2017. The 2015 cohort appears to be above average to strong in many of the state surveys, (with the exception of NJ and VA) as well as the preliminary 2017 NEFSC survey.

NEFSC Survey – Northern Region

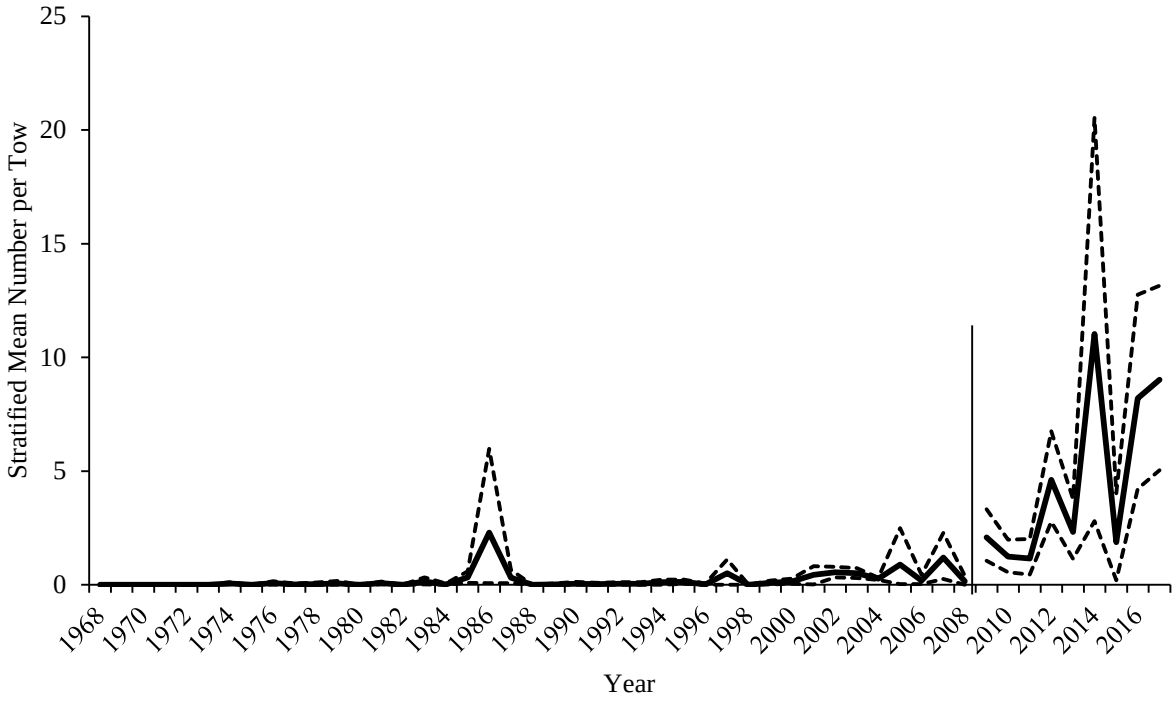

Figure 8. NEFSC spring north offshore stratified mean number per tow (± 90% CI) of black sea bass, 1968-2017. Vertical line identifies split between the Albatross and Bigelow survey series. Bigelow data presented as separate series for 2009-2017.

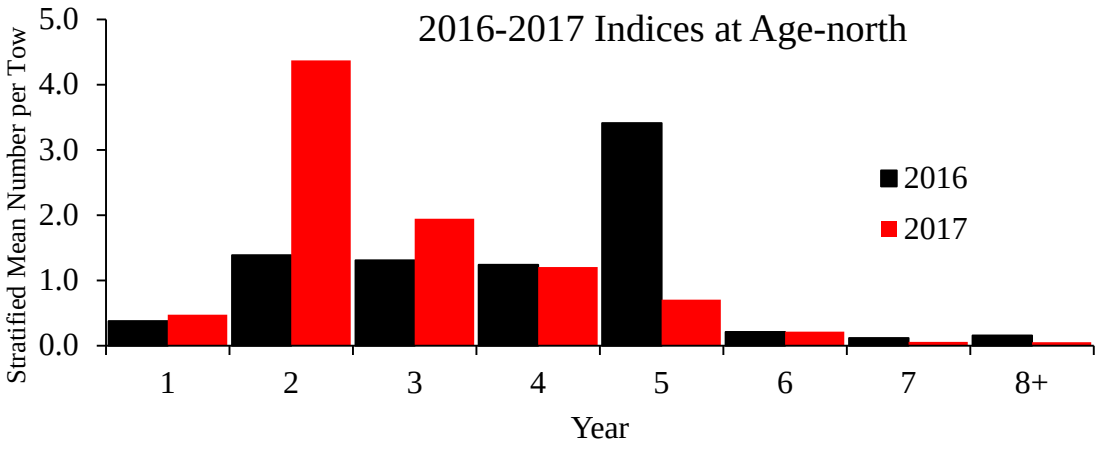

Figure 9. NEFSC spring indices at age from northern region. 2017 ages based on application of multi-year age length key.

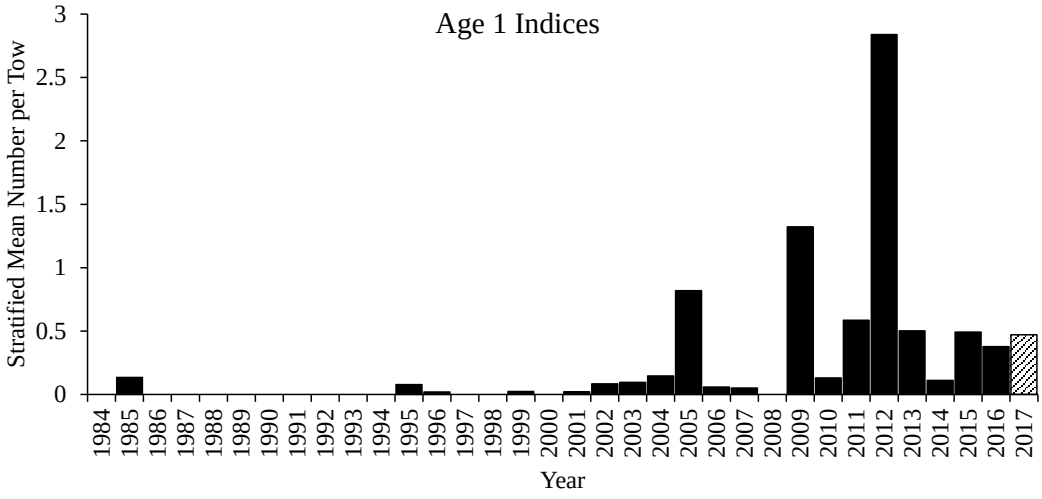

Figure 10. Indices of black sea bass recruitment (mean #/tow, age 1) in northern region from NEFSC spring offshore survey, 1984-2017. Bigelow indices from 2009-2017 not calibrated to Albatross units. 2017 age based on application of multi-year age length key.

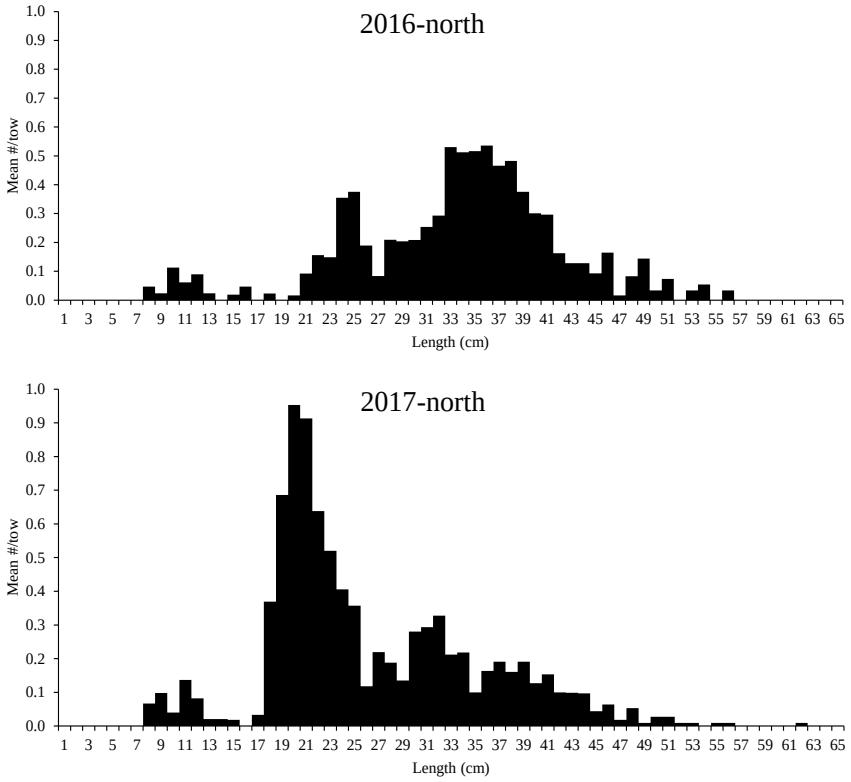

Figure 11. Length composition of NEFSC spring survey in northern region, 2016 and 2017.

NEFSC Survey – Southern Region

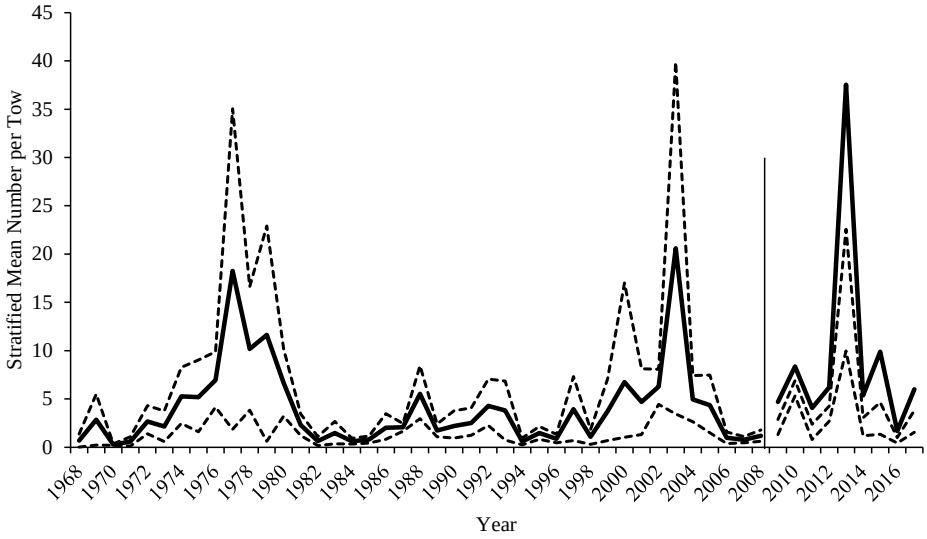

Figure 12. NEFSC spring south offshore stratified mean number per tow (± 90% CI) of black sea bass, 1968-2017. Vertical line identifies split between the Albatross and Bigelow survey series. Bigelow data presented as separate series for 2009-2017.

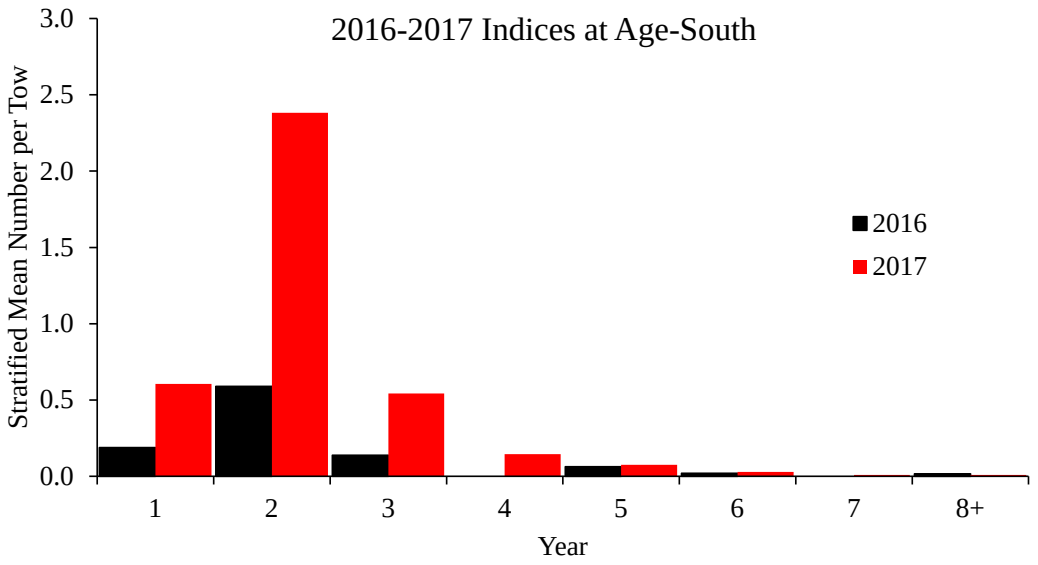

Figure 13. NEFSC spring indices at age from southern region. 2017 ages based on application of multi-year age length key.

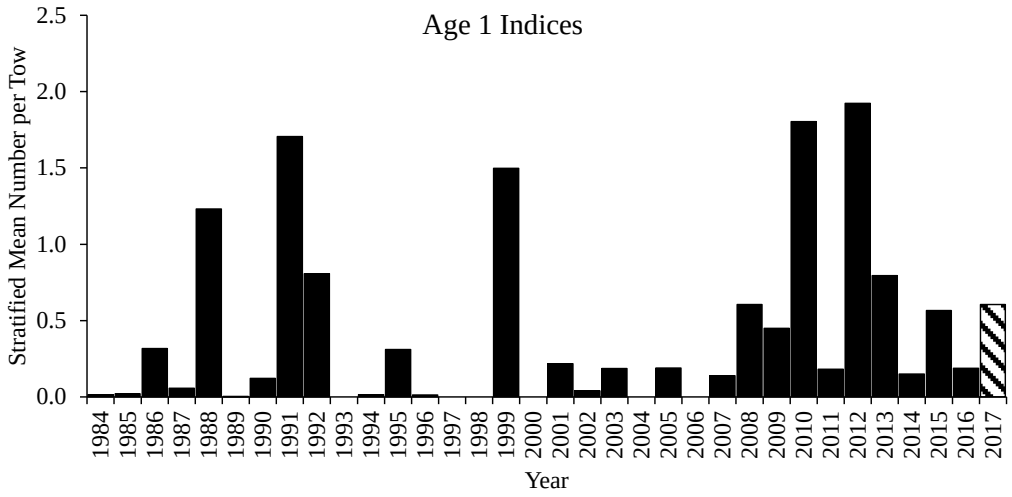

Figure 14. Indices of black sea bass recruitment (mean #/tow, age 1) in southern region from NEFSC spring offshore survey, 1984-2017. Bigelow indices from 2009-2017 not calibrated to Albatross units.

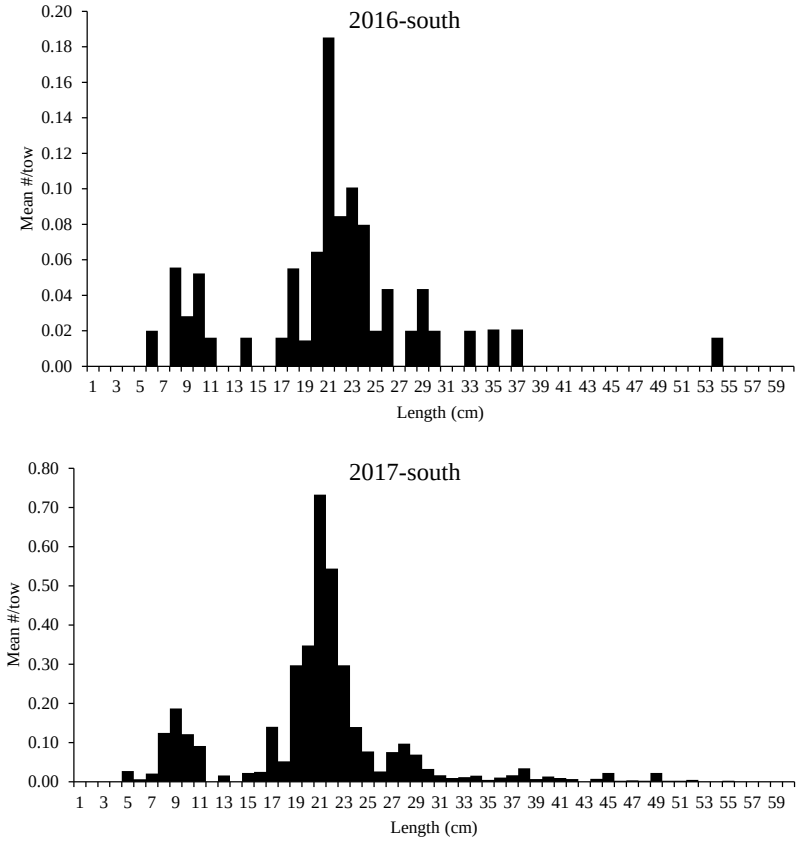

Figure 15. Length composition of NEFSC spring survey in northern region, 2016 and 2017.

NEAMAP Survey-Northern Region

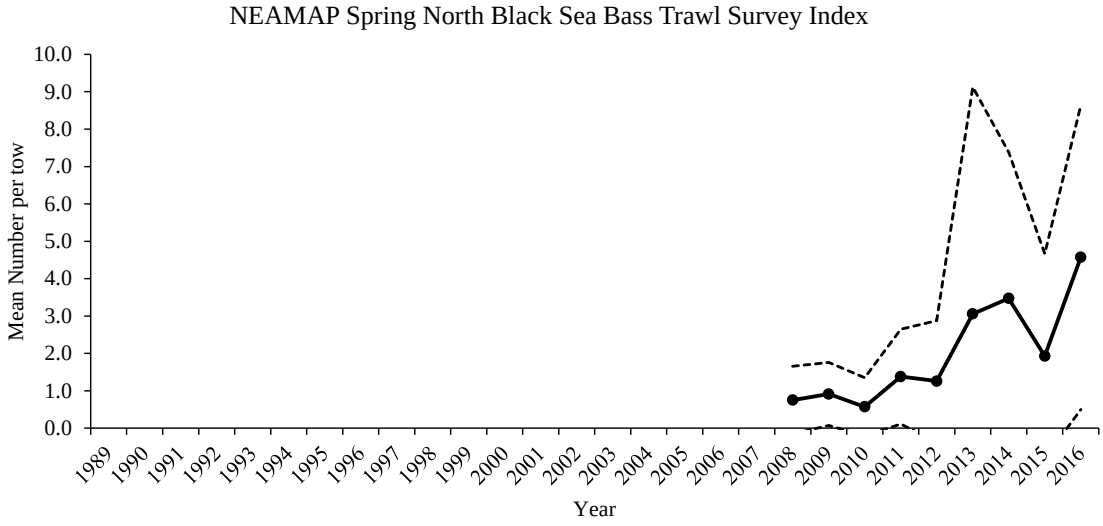

Figure 16. NEAMAP spring Northern stratified mean number per tow (± 90% CI) of black sea bass, 2008-2016.

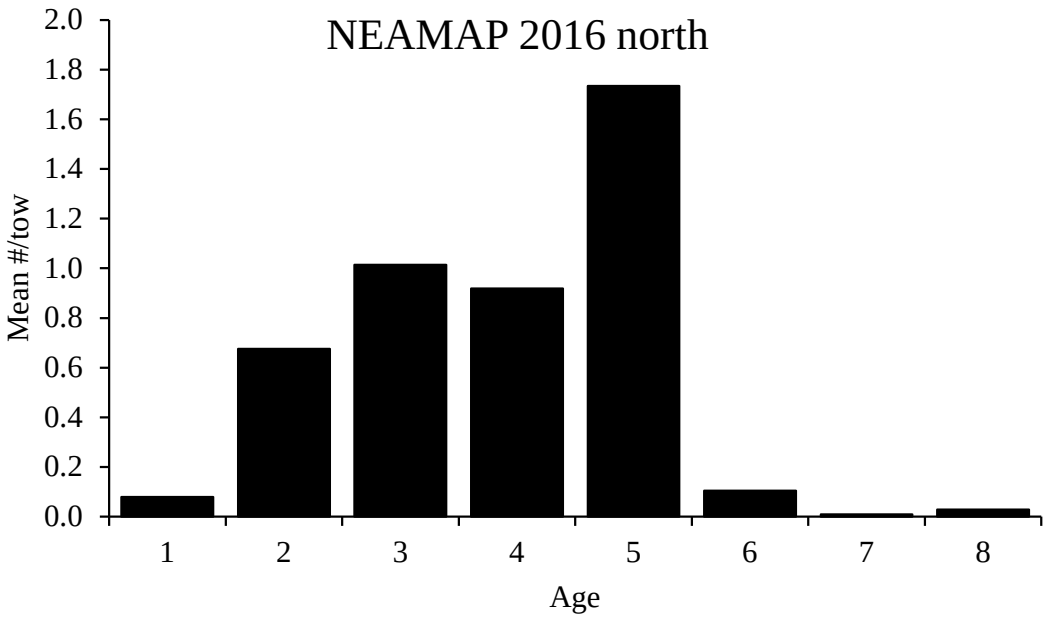

Figure 17. NEAMAP 2016 spring Northern stratified mean number per tow at age of black sea bass.

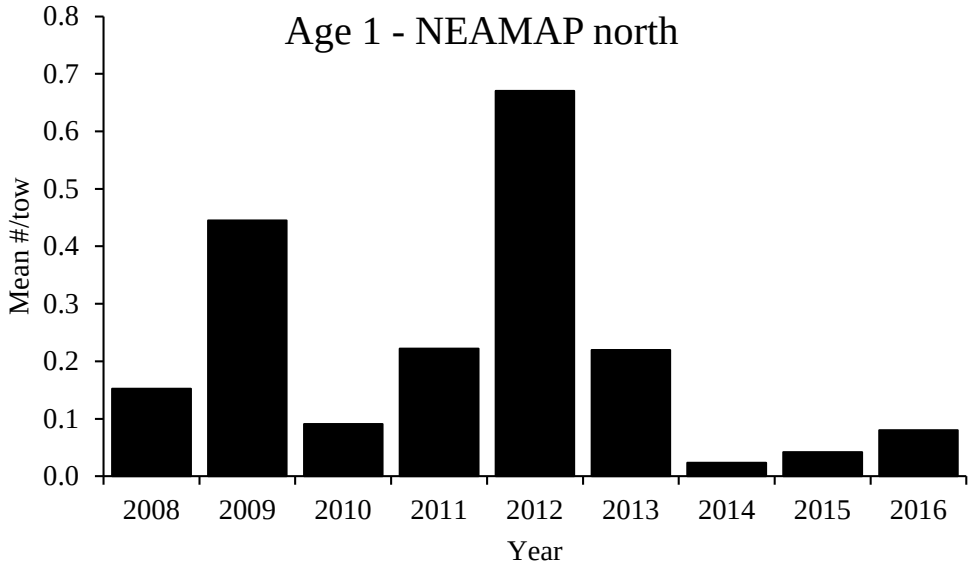

Figure 18. NEAMAP spring Northern stratified mean number per tow at age one of black sea bass, 2008-2016.

NEAMAP Survey-Southern Region

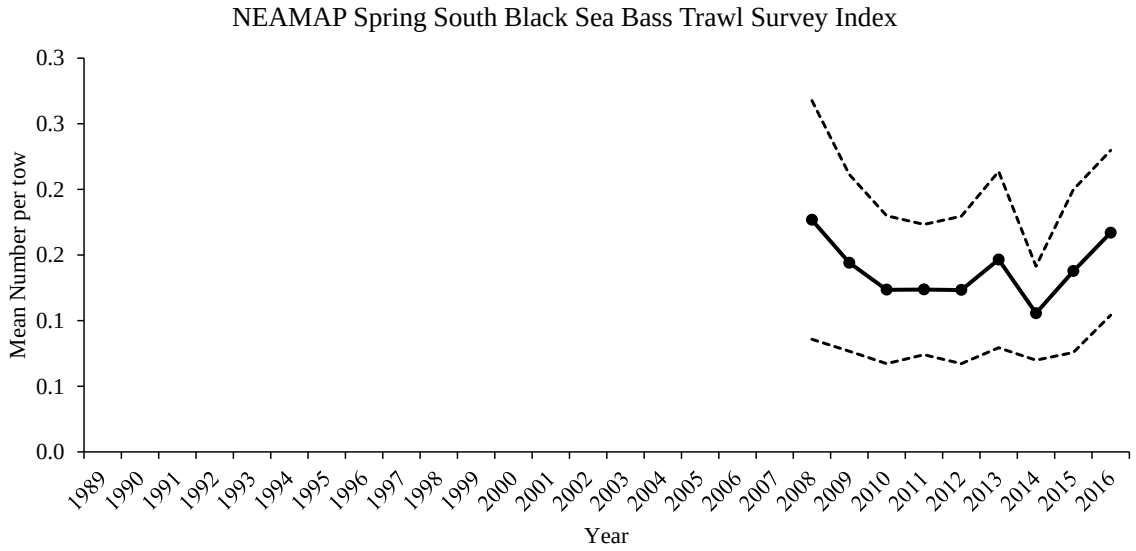

Figure 19. NEAMAP spring Southern stratified mean number per tow (± 90% CI) of black sea bass, 2008-2016.

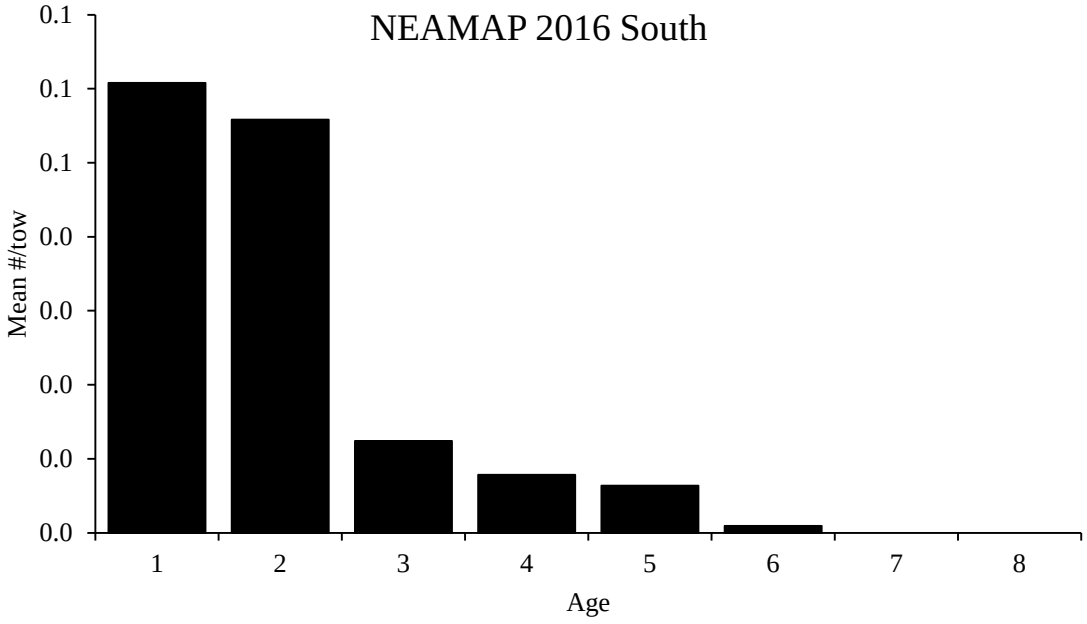

Figure 20. NEAMAP 2016 spring Southern stratified mean number per tow at age of black sea bass.

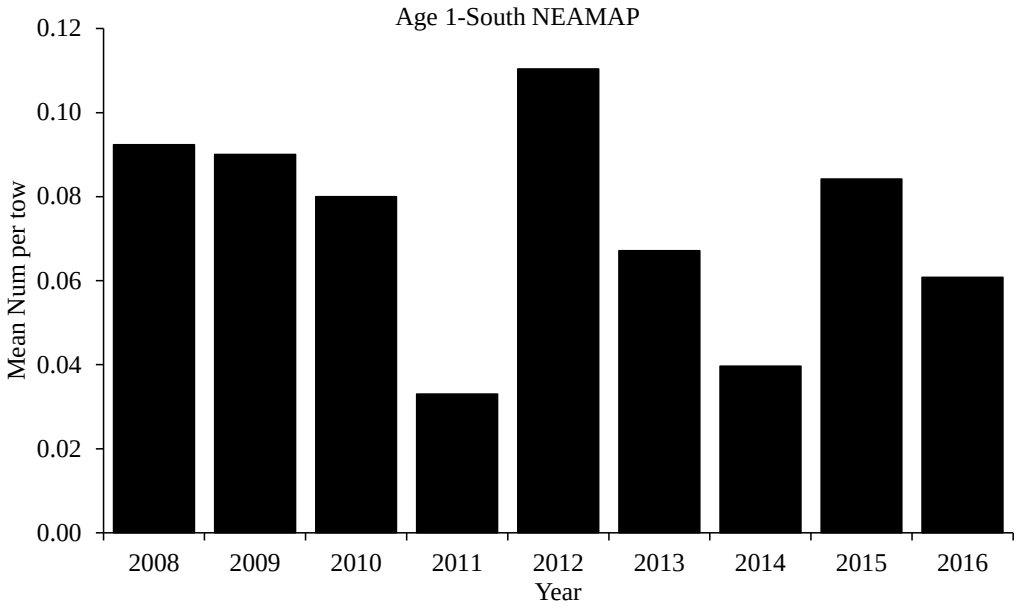

Figure 21. NEAMAP spring Southern stratified mean number per tow at age one of black sea bass, 2008-2016.

State Surveys- Northern Region

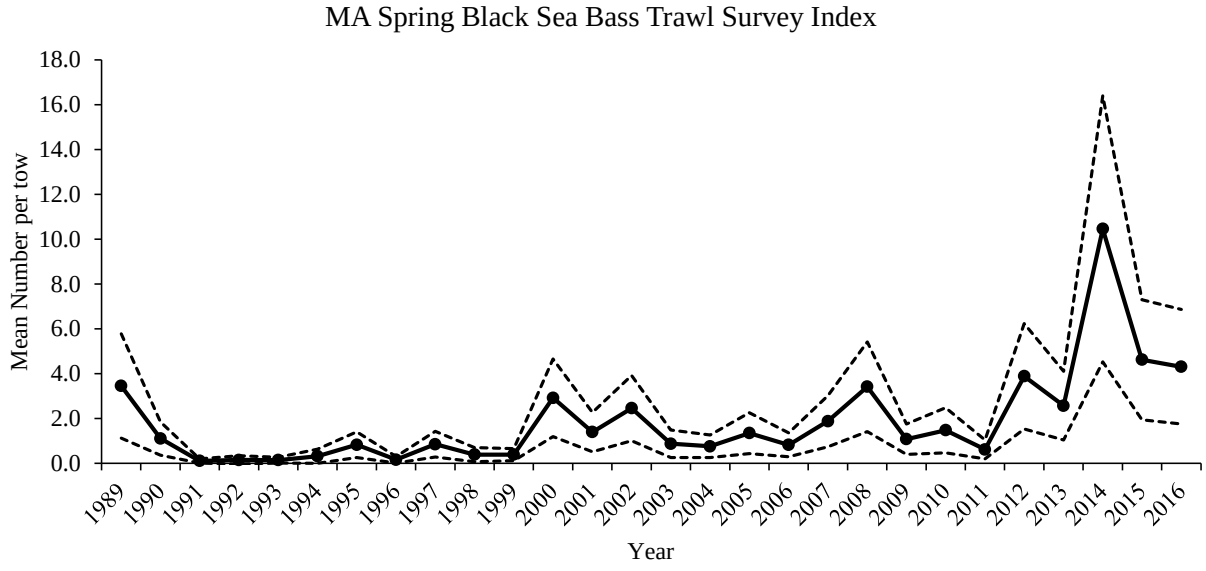

Figure 22. MADMF spring stratified mean number per tow (± 90% CI) of black sea bass, 1989-2016.

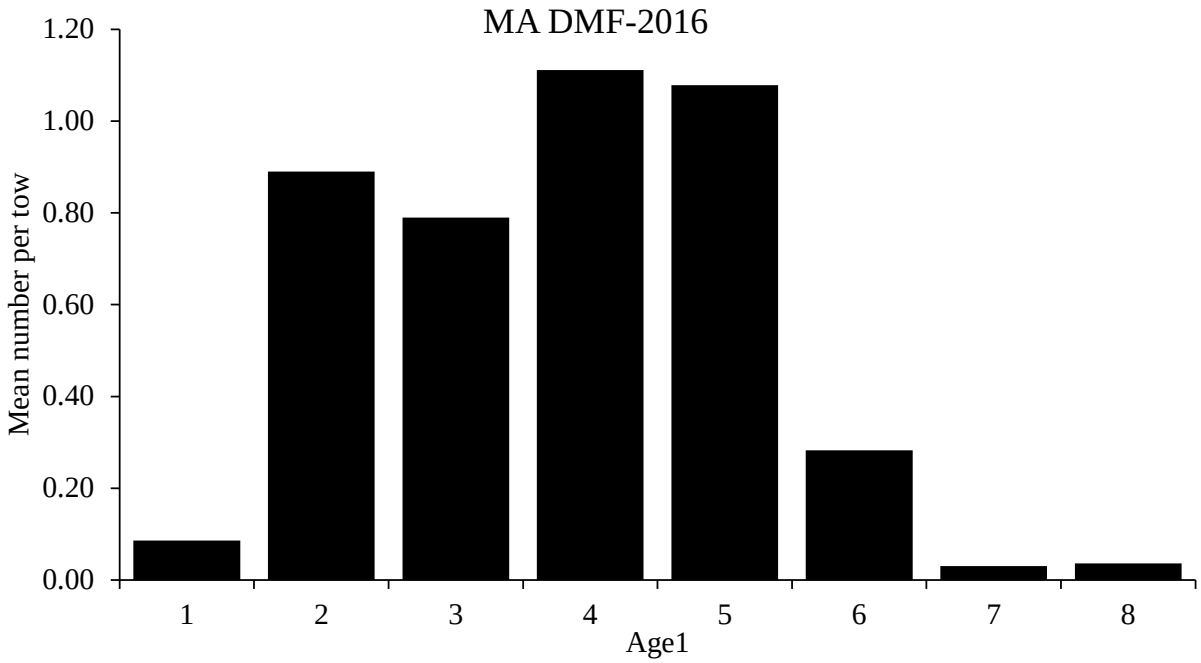

Figure 23. MADMF 2016 spring stratified mean number per tow at age of black sea bass.

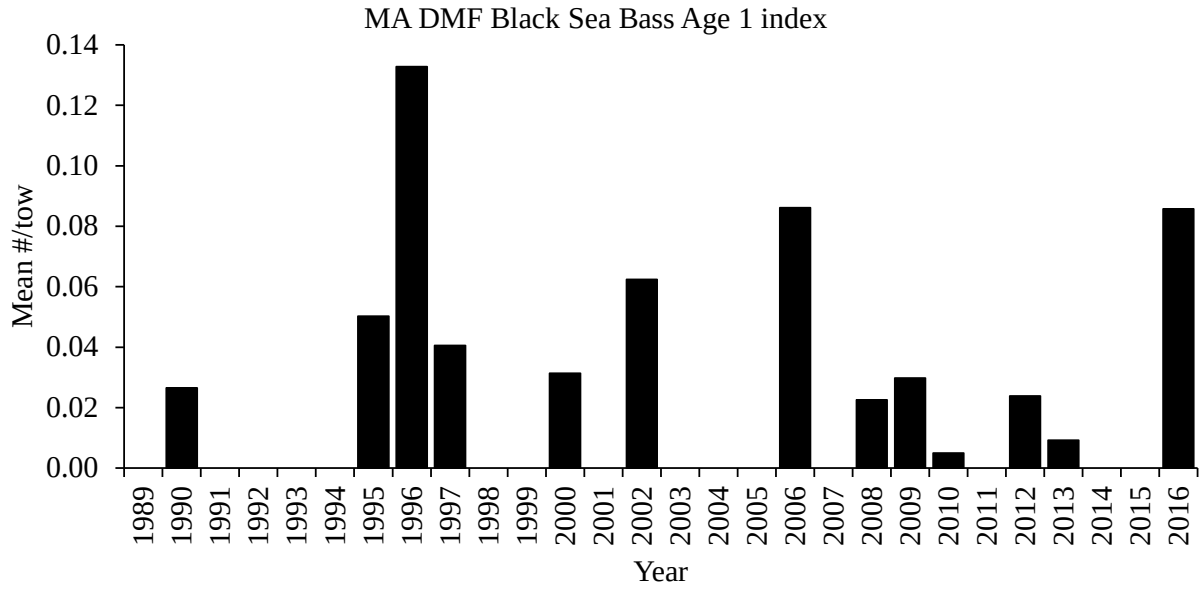

Figure 24. MADMF spring stratified mean number per tow at age one of black sea bass, 2008-2016.

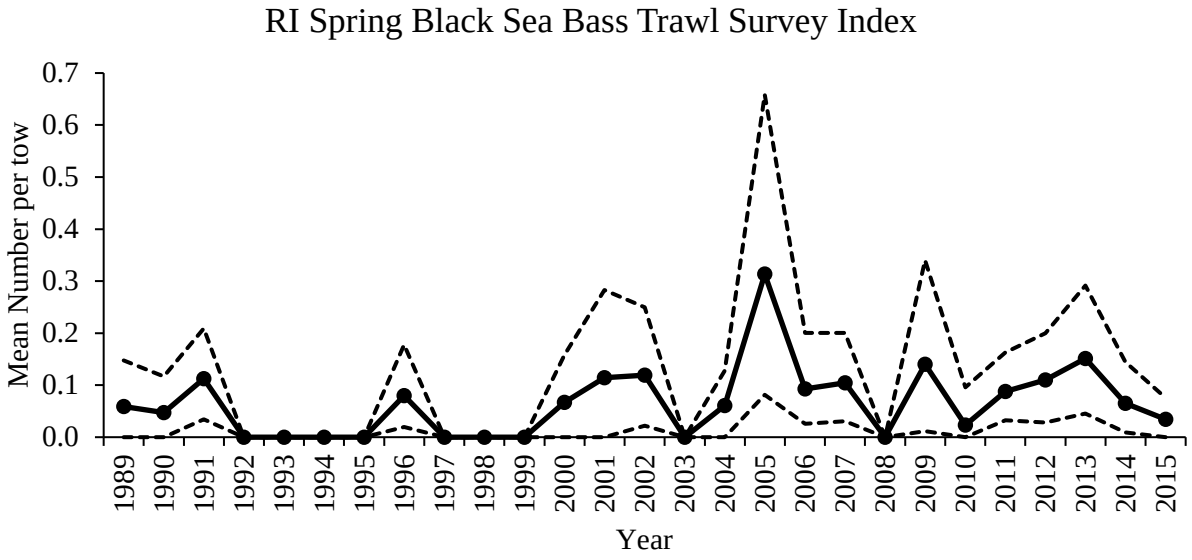

Figure 25. RIDEM spring stratified mean number per tow (± 90% CI) of black sea bass, 1989-2016.

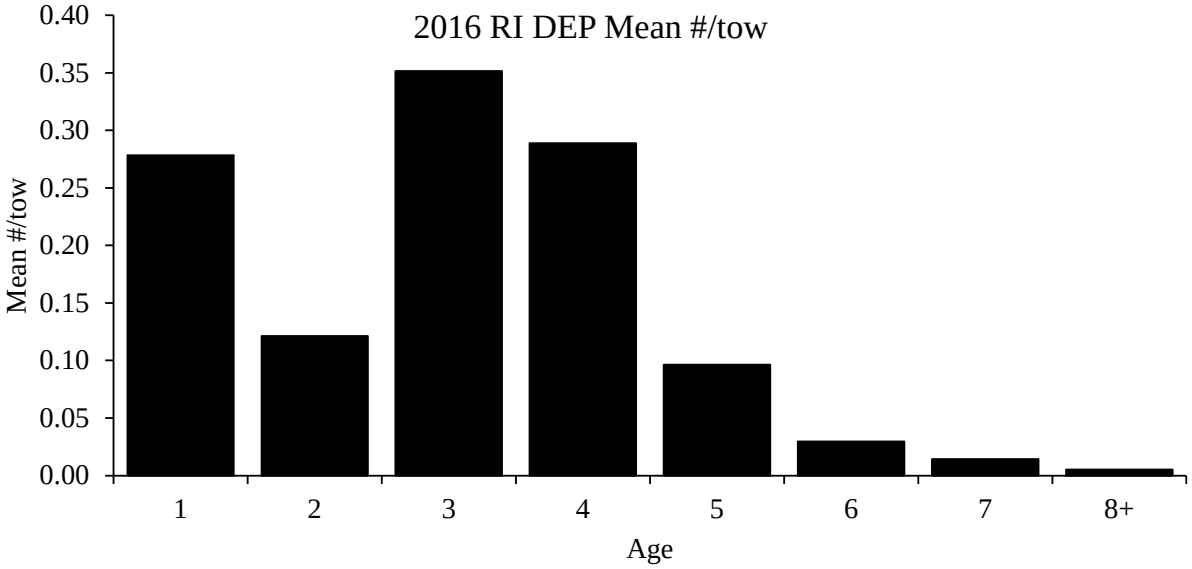

Figure 26. RI DEM 2016 spring stratified mean number per tow at age of black sea bass.

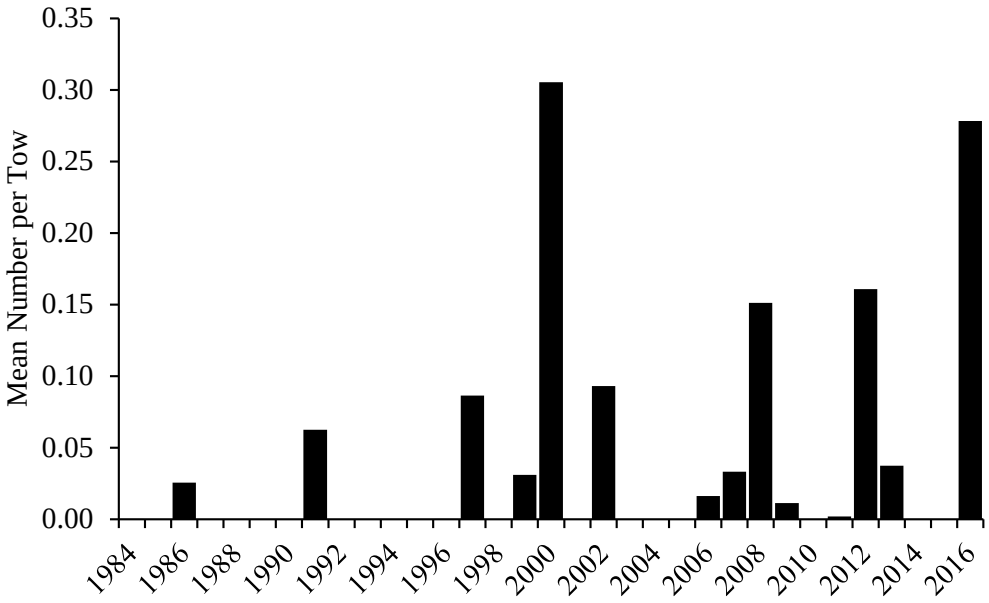

Figure 27. RI DEM spring stratified mean number per tow at age one of black sea bass, 1984-2016.

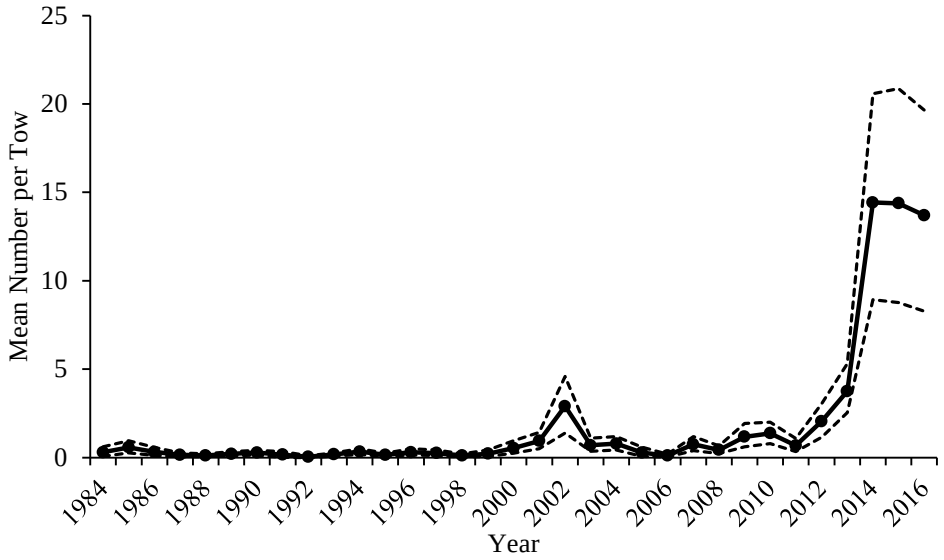

Figure 28. CT DEP spring stratified mean number per tow (± 90% CI) of black sea bass, 1984-2016.

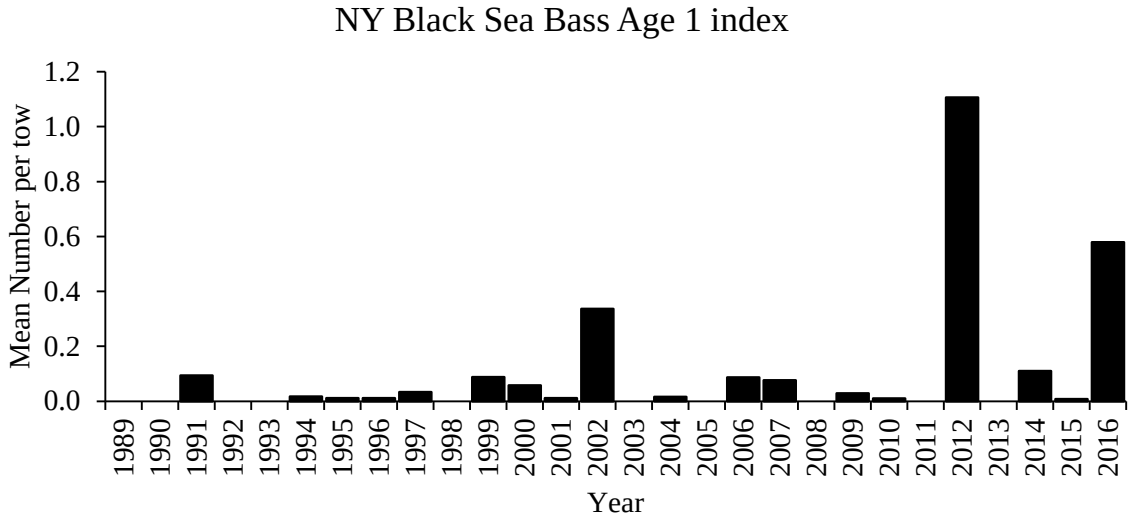

Figure 29. NY DEC spring stratified mean number per tow at age one of black sea bass, 1989-2016.

State Surveys- Southern Region

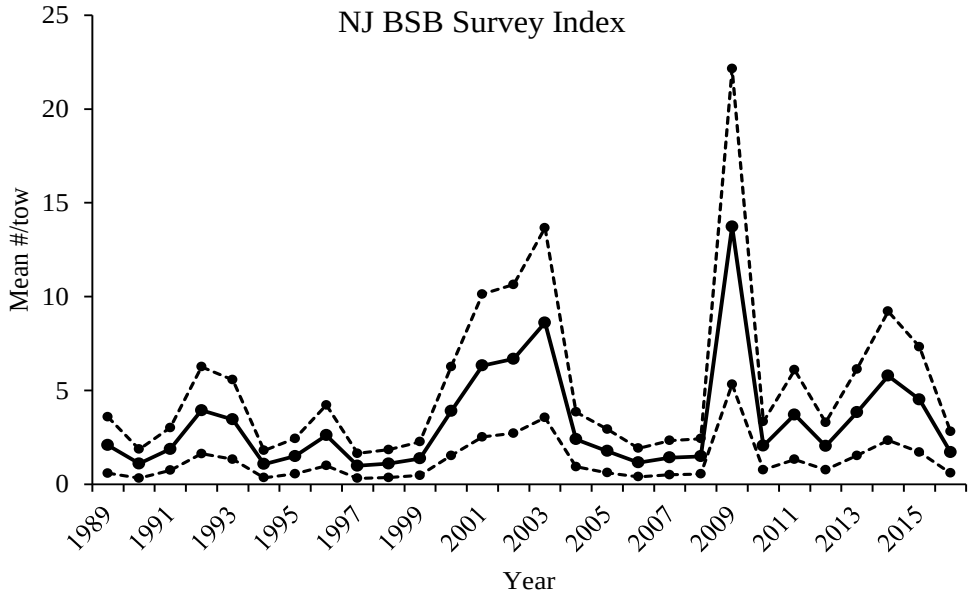

Figure 30. NJ DEP spring stratified mean number per tow (± 90% CI) of black sea bass, 1989-2016.

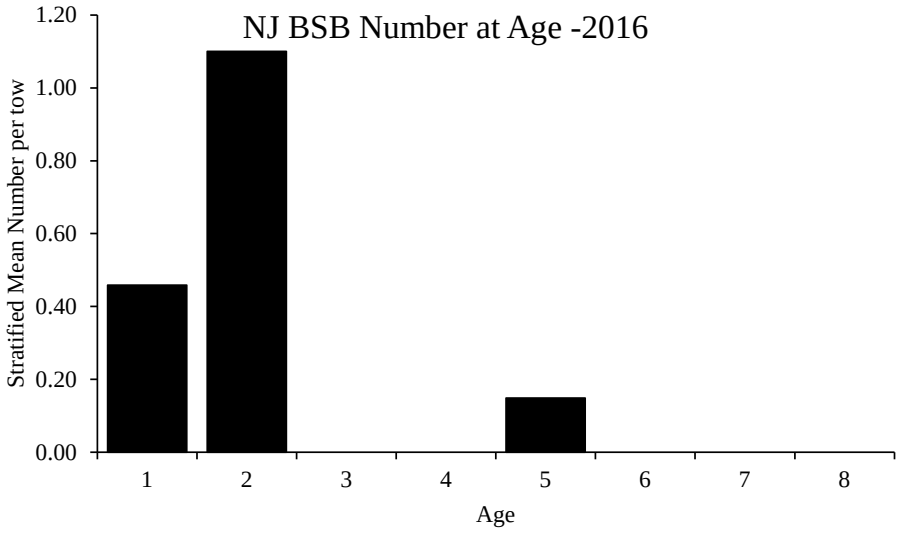

Figure 31. NJ DEP 2016 spring stratified mean number per tow at age of black sea bass.

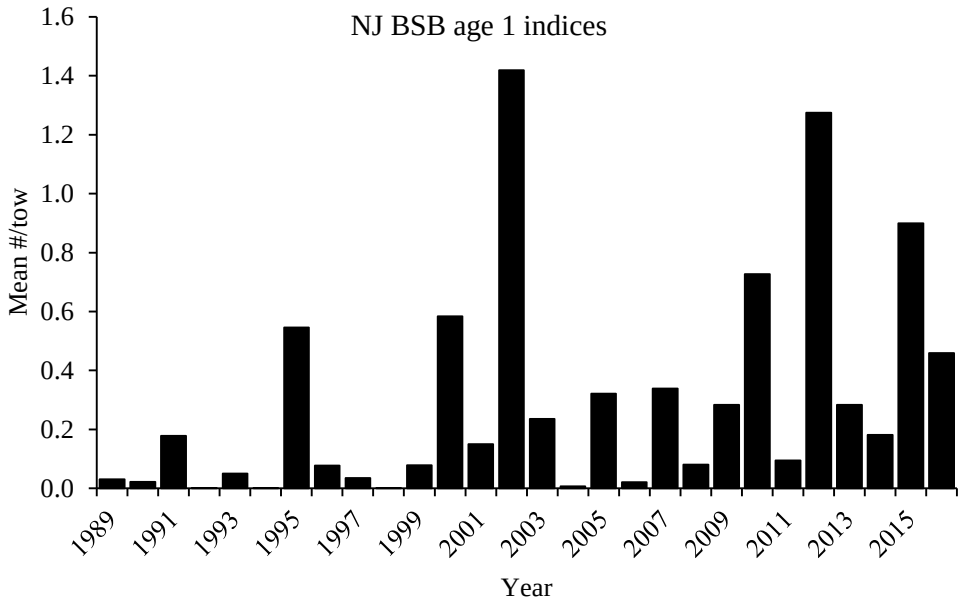

Figure 32. NJ DEP spring stratified mean number per tow at age one of black sea bass, 1989-2016.

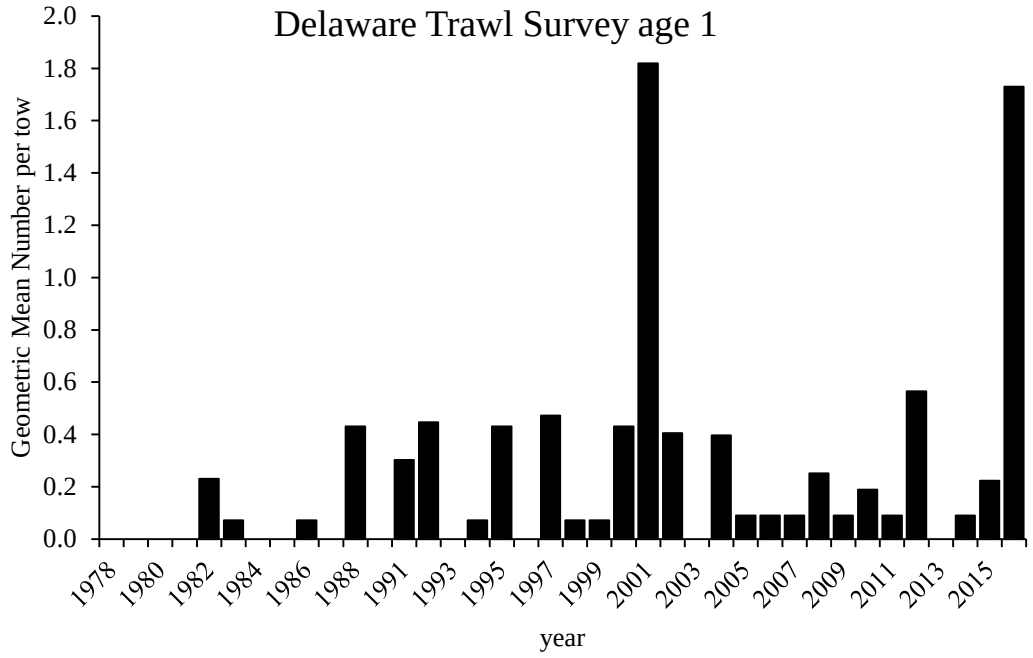

Figure 33. DE DFW spring stratified mean number per tow at age one of black sea bass, 1978-2016.

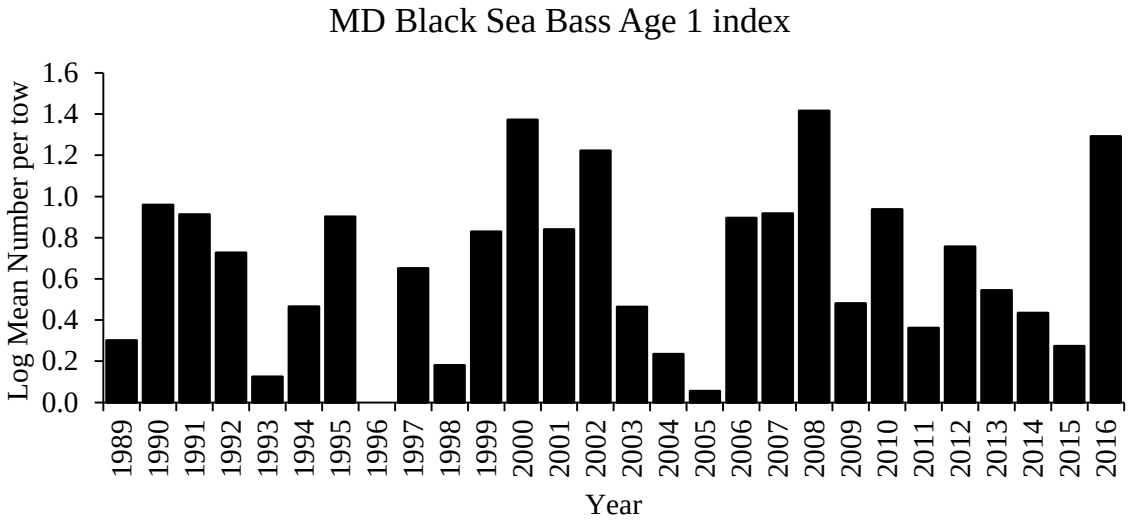

Figure 34. MD DNR spring stratified mean number per tow at age one of black sea bass, 1989-2016.

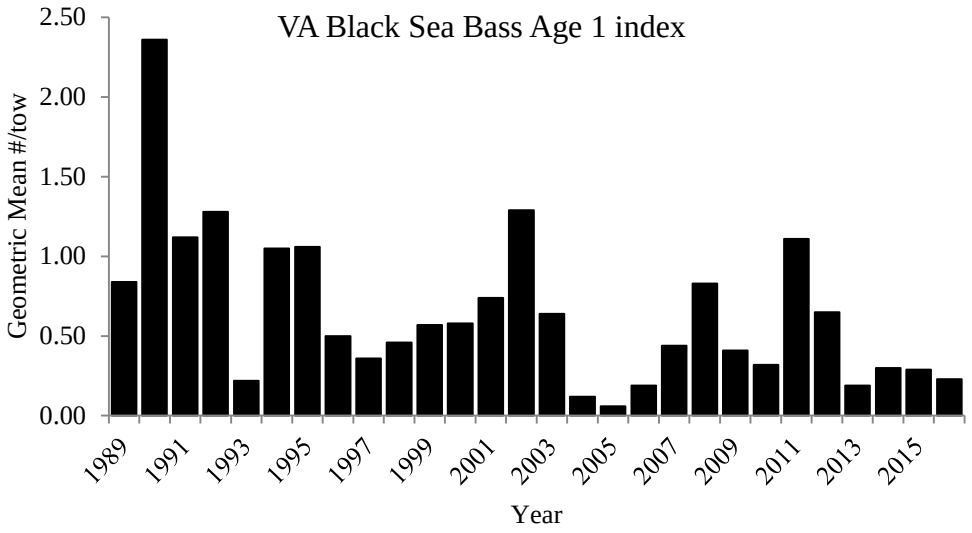

Figure 35. VIMS spring stratified mean number per tow at age one of black sea bass, 1989-2016.

Recreational Catch per Angler Trip

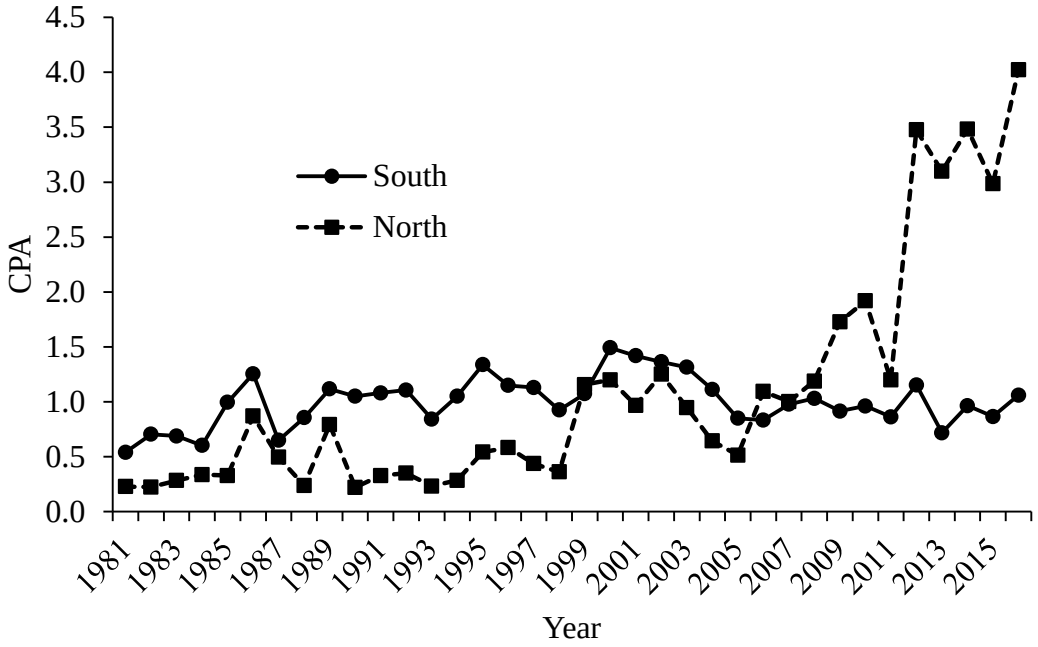

Figure 36. MRIP recreational catch (AB1B2) per angler for northern and southern regions, 1981-2016.

Acknowledgments

NEAMAP information courtesy of Jim Gartland, VIMS. NEFSC age information developed by Josh Dayton, NEFSC. Data contributions from MADMF, RI DEM, CT DEP, NY DEC, NJ DEP, DE DFW, MD DNR, VIMS

Spatial extent of state and federal surveys contributing to the assessment