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Age Composition of the 1979 Spring Recreational Catch of  
Atlantic mackerel, Scomber scombrus, in the Middle Atlantic Region

by

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## INTRODUCTION

Samples of Atlantic mackerel, Scomber scombrus, were collected in order to determine the age and size composition of the 1979 recreational catch in the Middle Atlantic region.

## METHODS

Mackerel were obtained in May 1979 from recreational anglers fishing along the New Jersey and New York coasts and in Long Island Sound. The mackerel were transported to the Sandy Hook Laboratory where they were measured to the nearest centimeter fork length and sexed. The heads were removed, frozen, and sent to the Woods Hole Laboratory for otolith removal and aging (Christensen and Clifford, 1980). Additional mackerel caught by recreational anglers from party, charter, and private boats fishing the same areas were measured to the nearest centimeter fork length. The number of fish measured at each centimeter length increment was multiplied by the percentage composition of each age at the same length increment to determine the number of fish caught in each age group at each increment. The numbers at each age were divided by the total number of fish measured to determine the percentage composition of each age in the recreational catch.

## RESULTS

A total of 466 mackerel was aged and the percentage composition of each age at each centimeter length interval was determined (Table 1). The range in fork length of all fish measured during the survey (Figure 1) was 33 to 45 cm and the mean length was 39 cm. The estimated number of fish in each

age group at each length interval, the estimated total number and percent by age group, the mean length for each age group is listed in Table 2. The fish ranged in age from 2 to >12 years old. Ages 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and >12 made up 0.2, 0.2, 0.7, 7.0, 2.0, 6.0, 3.0, 8.0, 29.0, 8.0, 20.0, and 16.0% respectively of the recreational catch in 1979.

#### DISCUSSION

A comparison of age compositions (Figure 2) was made with a previous 1978 survey (Christensen and Clifford, 1980) and estimated age class abundance at the beginning of 1978 (Anderson, 1979). This comparison readily indicated the dependence of recreational anglers on older age classes. The percent composition of all age classes produced before 1971 increased from 62 to 81% of the recreational catch between 1978 and 1979.

The 1974 year class increased relative to all year classes since 1970; however, it decreased relative to older classes. In spite of being the dominant age class in the stock, the 1974 year class has not been significantly recruited to the recreational fishery.

## BIBLIOGRAPHY

ANDERSON, E. D.

1979. Assessment of the Northwest Atlantic mackerel, Scomber scombrus, stock. NOAA Tech. Rept. NMFS SSRF-732. 13 p.

CHRISTENSEN, D. J., and W. J. CLIFFORD.

1980. The 1978 spring recreational catch of Atlantic mackerel, Scomber scombrus, off the Middle Atlantic region. Fish. Bull. (in press).



TABLE 2. Numbers, percent age composition, mean length at age of 1,516 recreationally-caught Atlantic mackerel.

Length (cm)	AGE													Total
	1	2	3	4	5	6	7	8	9	10	11	12	>12	
30														
31														
32														
33		3												3
34														
35				3	18					3				24
36			3	3	17		3	3		3		6	3	41
37					35	10	22	7	3	19	10	22	6	134
38				4	32	4	40	11	21	97	25	54	15	303
39					3	3	8	18	30	147	18	81	51	359
40						7	10	13	46	112	13	76	71	348
41							4		13	46	13	46	68	190
42						4			4	13	38	9	17	85
43												9	10	19
44														5*
45													5	5
46														
47														
48														
49														
50														
Number	3	3	10	105	28	87	52	117	440	117	303	246	1,516	
%	0.2	0.2	0.7	6.9	1.8	5.7	3.4	7.7	29.0	7.7	20.0	16.2	100.0	
Mean Length At Age	33.0	36.0	36.5	36.8	38.8	38.1	38.6	39.5	39.2	39.9	39.4	40.2		

\*No fish aged at this length increment

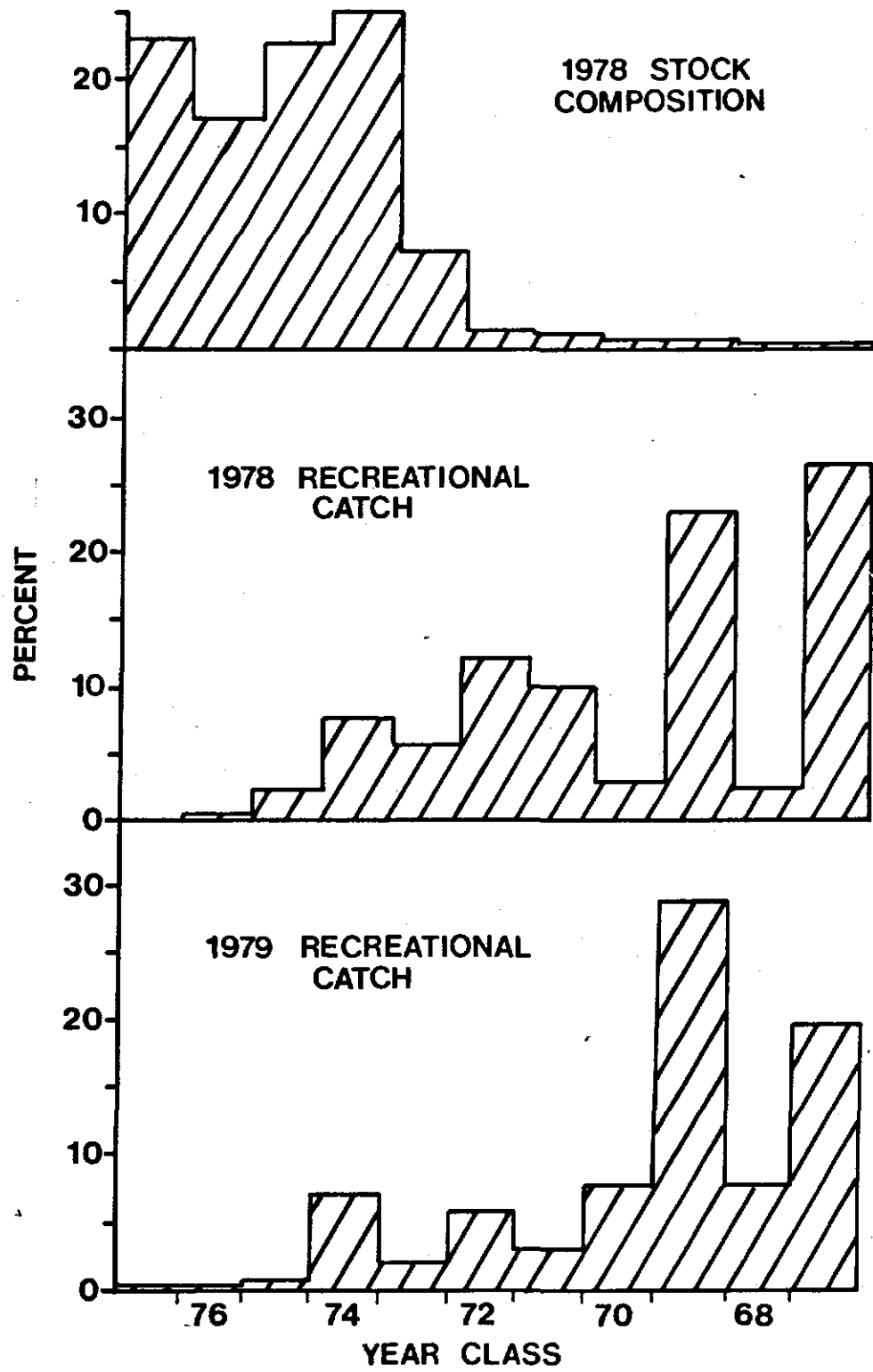


FIGURE 2. COMPARISON OF ESTIMATED PERCENTAGE AGE COMPOSITIONS OF THE STOCK AND RECREATIONAL CATCHES.

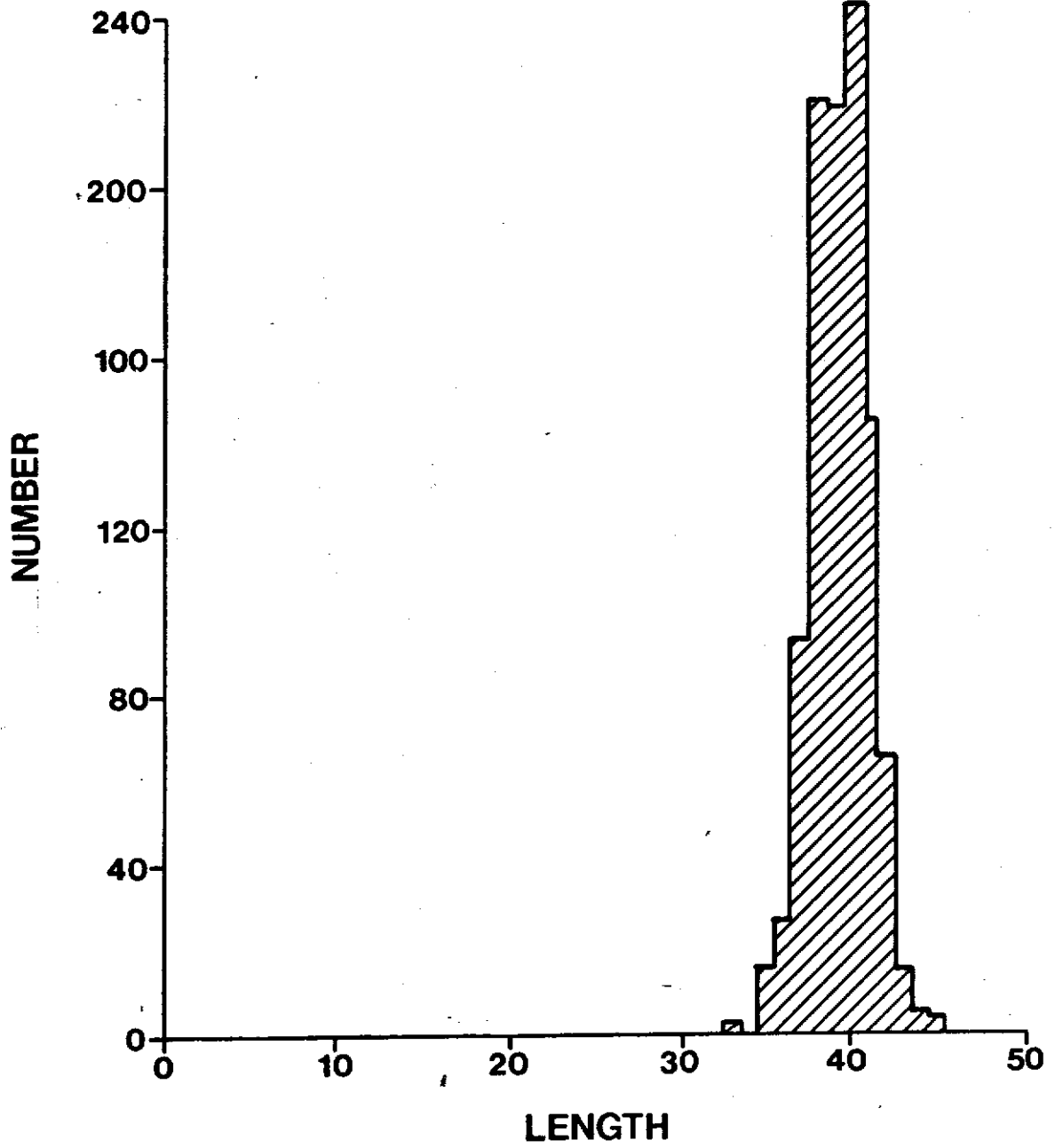


FIGURE 1. LENGTH FREQUENCY OF RECREATIONAL CATCH OF ATLANTIC MACKEREL.