

TABLE 1: AVAILABLE DATA

COMMON NAME:	ATLANTIC MACKEREL	SPECIES:	<i>Scomber scombrus</i>
AREA:	NORTHWEST ATLANTIC	STOCK:	NAFO SUBAREAS 2-6
CREATED BY:	JAY BURNETT 2001-09-21	UPDATED BY:	

Data status									
Year	Stock size	Stock composition	Age	Sex ratio	Maturity	Fecundity	Weight	Condition	Additional data
2001	(√)	√	(√)	(√)	√		√	(√)	√
2000	(√)	√	√	(√)	√		√	(√)	√
1999	√	√	√	(√)	√		√	(√)	√
1998	√	√	√	(√)	√		√	(√)	√
1997	√	√	√	(√)	√		√	(√)	√
1996	√	√	√	(√)	√		√	(√)	√
1995	√	√	√	(√)	√		√	(√)	√
1994	√	√	√	(√)	√		√	(√)	√
1993	√	√	√	(√)	√		√	(√)	√
1992	√	√	√	(√)	√		√	(√)	√
1991	√	√	√	(√)	√		√		√
1990	√	√	√	(√)	√		√		√
1989	√	√	√	(√)	√		√		√
1988	√	√	√	(√)	√		√		√
1987	√	√	√	(√)	√	√	√		√
1986	√	√	√	(√)	√		√		√
1985	√	√	√	(√)	√	√	√		√
1984	√	√	√	(√)	√	√	√		√
1983	√	√	√	(√)	√	√	√		√
1982	√	√	√	(√)	√	√	√		√
1981	√	√	√	(√)	√		√		√
1980	√	√	√	(√)	√		√		√
1979	√	√	√	(√)	√		√		√
1978	√	√	√	(√)	√		√		√
1977	√	√	√	(√)	√	√	√		√
1976	√	√	√				√		√

Data status									
Year	Stock size	Stock composition	Age	Sex ratio	Maturity	Fecundity	Weight	Condition	Additional data
1975	√	√	√				√		√
1974	√	√	√				√		√
1973	√	√	√				√		√
1972	√	√	√				√		√
1971	√	√	√				√		√
1970	√	√	√				√		√
1969	√	√	√				√		√
1968	√	√	√				√		√
1967	√	√	√				√		√
1966	√	√	√				√		√
1965	√	√	√				√		√
1964	√	√	√				√		√
1963	√	√	√				√		√
1962	√	√	√				√		

TABLE 2: DATA BASIS, FORMAT AND QUALITY

COMMON NAME:	ATLANTIC MACKEREL		
AREA:	NORTHWEST ATLANTIC		
STOCK:	NAFO SUBAREAS 2-6		
REPRODUCTIVE STRATEGY:	DETERMINATE BATCH SPAWNER	REF. NO.:	1
TIMING OF SPAWNING:	APRIL-JULY	REF. NO.:	2
OPTIMAL TIME FOR MATURITY SAMPLING:	MARCH-APRIL	REF. NO.:	2

Data basis, format and quality						
Variables	Year range	Data basis (A/L/W)	Data origin	Sampling frequency	Notes on data, methods and contents	Ref. No.
Stock size	1962-1999	A/L/W	S,CL,CC,R	B,Q,Q,Q	VPA estimates	4,5,6
	1999-2001	A/L/W	S	B	Relative abundance	6
Stock composition	1962-2001	A/L/W	S,CL,CC,R	B,Q,Q,Q		4,5,6
Age determination	1962-2001		S,CL,CC	B,Q,Q		4,5,6,7
Sex ratio	1977-2001	A/L	S	B		8
Maturity:						
A. Ogives (E)	1985-1990	A/L	S	B	Pooled; macroscopic observations	9
B. Skip of spawning						
C. Spawning probability						
D. Other	1977	A/L/W			Gonadosomatic index	1
Fecundity:						
A. Estimation	1977	A/L/W			N=214	1
	1982-1985	A/L/W			n=218	10
	1987	A/L/W			n=295	3
B. First time vs. repeat spawners						
C. Atresia						
D. Other						
Weight:						
A. Commercial fisheries data	1962-2001	A/L	CL	Q	Estimated mean weights at age	4,5,6
B. Survey data	1992-2001	A/L	S	B	Individual fish weights	8

Data basis, format and quality						
Variables	Year range	Data basis (A/L/W)	Data origin	Sampling frequency	Notes on data, methods and contents	Ref. No.
C. Other						
Condition:						
A. Fulton						
B. HSI						
C. Energy						
D. Other						
Egg viability:						
A. Egg quality						
B. Fertilisation success						
C. Egg mortality						
D. Other						
Larval viability:						
A. Hatching success						
B. Larvae quality						
C. Mortality						
D. Other						
Spawning time	1963-2001	L	S	Q-M	Egg and larval surveys	1,2,11
Contamination						
Environmental key factors						
Other factors or parameters	1973-2001	A/L	S	B	Food habits data	12

TABLE 3: STUDIES OF REPRODUCTIVE POTENTIAL

COMMON NAME:	ATLANTIC MACKEREL
AREA:	NORTHWEST ATLANTIC
STOCK:	NAFO SUBAREAS 2-6

Estimation of reproductive potential			
Subject	Brief description	Year range	Ref. No.
Potential or realised egg production			
Viable egg and larvae production			
Critical life stages			
Environmental influences			
Stock recruitment relations	Spawning stock biomass vs age 1 recruits	1962-1993	4,6
Other studies	Density-dependent changes in growth and maturation	1962-1989	13,14

TABLE 4: DATA SOURCES

COMMON NAME:	ATLANTIC MACKEREL
AREA:	NORTHWEST ATLANTIC
STOCK:	NAFO SUBAREAS 2-6

Data sources (literature reference or contact person)	
1. MORSE, W. W. 1980. Spawning and fecundity of Atlantic mackerel, <i>Scomber scombrus</i> , in the middle-Atlantic bight. <i>U.S. Fish. Bull.</i> , 78 : 103-108.	
2. SMITH, W. G. 1985. Temporal and spatial spawning patterns of the principal species of fish and invertebrates in the Georges Bank region. <i>NMFS Sandy Hook Lab. Rep.</i> , No. SHL 85-04, 35 p.	
3. GRISWOLD, C. A., and M. J. SILVERMAN. 1992. Fecundity of the Atlantic mackerel (<i>Scomber scombrus</i>) in the Northwest Atlantic in 1987. <i>J. Northw. Atl. Fish. Sci.</i> , 12 : 35-40.	
4. NORTHEAST FISHERIES SCIENCE CENTER (NEFSC). 1996. Report of the 20th Northeast Regional Stock Assessment Workshop (20th SAW). <i>NEFSC Ref. Doc.</i> , 95-18.	
5. NORTHEAST FISHERIES SCIENCE CENTER (NEFSC). 2000. Report of the 30th Northeast Regional Stock Assessment Workshop (30th SAW). <i>NEFSC Ref. Doc.</i> , 00-03.	
6. OVERHOLTZ, W. J. Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA 02543 USA (William.Overholtz@noaa.gov).	
7. DERY, L. M. Atlantic mackerel <i>Scomber scombrus</i> (Chapter 12). In: Age determination methods for Northwest Atlantic species. J. Penttila, and L. M. Dery (eds.). <i>NOAA Tech. Rep.</i> , NMFS 72 , 135 p.	
8. BURNETT, J. Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA 02543 USA (Jay.Burnett@noaa.gov).	
9. O'BRIEN, L., J. BURNETT, and R. K. MAYO. 1993. Maturation of nineteen species of finfish off the northeast coast of the United States, 1985-1990. <i>NOAA Tech. Rep.</i> , NMFS 113 , 66 p.	
10. PELLETIER, L. 1986. Fecondite du maquereau bleu, <i>Scomber scombrus</i> L., du golfe du saint-laurent. <i>Rapport technique canadien des sciences halieutiques and aquatiques</i> , No. 1467, 37 p.	
11. BERRIEN, P., and J. SIBUNKA. 1999. Distribution patterns of fish eggs in the U.S. Northeast Continental Shelf Ecosystem, 1977-1987. <i>NOAA Tech. Rep.</i> , NMFS 145 , 310 p.	
12. LINK, J. S., and F. P. ALMEIDA. 2000. An overview and history of the Food Web Dynamics Program of the Northeast Fisheries Science Center, Woods Hole, Massachusetts. <i>NOAA Tech. Mem.</i> , NMFS-NE-159, 60 p.	
13. OVERHOLTZ, W. J. 1989. Density-dependent growth in the Northwest Atlantic stock of Atlantic mackerel (<i>Scomber scombrus</i>). <i>J. Northw. Atl. Fish. Sci.</i> , 9 : 115-121.	
14. OVERHOLTZ, W. J., S. A. MURAWSKI, and W. L. MICHAELS. 1991. Impact of compensatory responses on assessment advice for the Northwest Atlantic mackerel stock. <i>U.S. Fish. Bull.</i> , 89 : 117-128.	