

TABLE 1: AVAILABLE DATA

COMMON NAME:	WHITE HAKE	SPECIES:	<i>Urophycis tenuis</i>
AREA:	NORTHWEST ATLANTIC	STOCK:	GULF OF MAINE-GEORGES BANK (NAFO SUBAREAS 5+6)
CREATED BY:	JAY BURNETT 2001-07-13	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	(√)	√							√

TABLE 2: DATA BASIS, FORMAT AND QUALITY

COMMON NAME:	WHITE HAKE	
AREA:	NORTHWEST ATLANTIC	
STOCK:	GULF OF MAINE-GEORGES BANK (NAFO SUBAREAS 5+6)	
REPRODUCTIVE STRATEGY:	DETERMINATE BATCH SPAWNER	REF. NO.:
TIMING OF SPAWNING:	ASYNCHRONOUS OCTOBER-MAY	REF. NO.: 1 5
OPTIMAL TIME FOR MATURITY SAMPLING:	OCTOBER, APRIL	REF. NO.: 5

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	1963-1981	L	S	B	Relative abundance	2
	1982-1988	L,A	S	B	Relative abundance	2
	1989-2001	L,A,W	CL,S	Q,B	VPA	2,3
Stock composition	1963-1981	L	S	B		2
	1982-1988	L,A	S	B		2
	1989-2001	L,A,W	CL,S	Q,B	Species IDs in CL	2,3
Age determination	1982-2001		S,CL,CC	B,Q		2,3
Sex ratio	1977-1981	L	S	B		3
	1982-2001	L,A	S	B		3
Maturity:						
A. Ogives (E)	1977-1981	L	S	B	Macroscopic observations	2,3
	1982-2001	L,A	S	B		2,3,4
B. Skip of spawning						
C. Spawning probability						
D. Other						
Fecundity:						
A. Estimation						
B. First time vs. repeat spawners						
C. Atresia						
D. Other						

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.
Weight:						
A. Commercial fisheries data	1985-2001	L	CL	Q	Derived from mean lengths	2,3
B. Survey data	1992-2001	L,A	S	B	Individual weights	3
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		S	Q,M	Egg and larval surveys	5
Contamination						
Environmental key factors						
Other factors or parameters						

TABLE 3: STUDIES OF REPRODUCTIVE POTENTIAL

COMMON NAME:	WHITE HAKE
AREA:	NORTHWEST ATLANTIC
STOCK:	GULF OF MAINE-GEORGES BANK (NAFO SUBAREAS 5+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	1985-1997	6
Other studies			

TABLE 4: DATA SOURCES

COMMON NAME:	WHITE HAKE
AREA:	NORTHWEST ATLANTIC
STOCK:	GULF OF MAINE-GEORGES BANK (NAFO SUBAREAS 5+6)

Data sources (literature reference or contact person)	
1.	FAHAY, M. P., and K. W. ABLE. 1989. White hake, <i>Urophycis tenuis</i> , in the Gulf of Maine: spawning seasonality, habitat use, and growth in young of the year and relationships to the Scotian Shelf population. <i>Can. J. Zool.</i> , 67: 1715-1724.
2.	SOSEBEE, K.A., L. O'BRIEN, and L.C. HENDRICKSON. 1998. A preliminary analytical assessment for white hake in the Gulf of Maine-Georges Bank region. <i>NEFSC Ref. Doc.</i> , 98-05, 96 p.
3.	K. SOSEBEE, Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA 02543 USA (Katherine.Sosebee@noaa.gov).
4.	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.
5.	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.
6.	NORTHERN DEMERSAL WORKING GROUP, NORTHEAST REGIONAL STOCK ASSESSMENT WORKSHOP. 2000. Assessment of 11 Northeast groundfish stocks through 1999. <i>NEFSC Ref. Doc.</i> , 00-05, 175 p.