

TABLE 1: AVAILABLE DATA**COMMON
NAME:**

WINTER FLOUNDER

SPECIES:*Pseudopleuronectes
americanus***AREA:**

NORTHWEST ATLANTIC

STOCK:GEORGES BANK
(NAFO DIV. 5Z)**CREATED BY:**JAY BURNETT
2001-01-08**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:	WINTER FLOUNDER		
AREA:	NORTHWEST ATLANTIC		
STOCK:	GEORGES BANK (NAFO DIV. 5Z)		
REPRODUCTIVE STRATEGY:	DETERMINATE BATCH SPAWNER	REF. NO.:	
TIMING OF SPAWNING:	MARCH-MAY	REF. NO.:	1
OPTIMAL TIME FOR MATURITY SAMPLING:	FEBRUARY-APRIL	REF. NO.:	1

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
	1982-1998	A	CL,S	Q	VPA	2
	1999-2000	L	S	B	Relative abundance	3
Stock composition	1963-1979	L	S	B	Low survey catches	2
	1980-1991	L,A	S,CL	Q	Low survey catches	2
	1992-2000	L,A,W	S,CL,CC	Q	Low survey catches	2,3
Age determination	1976-1979		S,CL	B,Q	Unaged samples	4
	1980-2000		S,CL,CC	B,Q		2
Sex ratio	1976-2000	L,A	S	B	Unanalyzed data	4
Maturity:						
A. Ogives (E)	1985-1989	A,L	S	B	Pooled; macroscopic obs.	5
	1982-1998	A,L	S	B	Pooled; macroscopic obs.	2
	1976-1981	A,L	S	B	Unanalyzed data	4
	1999-2000	A,L	S	B	Unanalyzed data	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.
A. Commercial fisheries data	1982-2000	L,A	CL	Q		2
B. Survey data	1992-2000	L,A	S	B	Individual fish weights	4
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	1963-2000		S	M-Q	Egg and larval surveys	1,6,7,8
Contamination						
Environmental key factors						
Other factors or parameters						

TABLE 3: STUDIES OF REPRODUCTIVE POTENTIAL

COMMON NAME:	WINTER FLOUNDER
AREA:	NORTHWEST ATLANTIC
STOCK:	GEORGES BANK (NAFO DIV. 5Z)

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 2 recruits	1980-1997	2
Other studies			

TABLE 4: DATA SOURCES

COMMON NAME:	WINTER FLOUNDER
AREA:	NORTHWEST ATLANTIC
STOCK:	GEORGES BANK (NAFO DIV. 5Z)

Data sources (literature reference or contact person)
1. 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.
2. BROWN, R. W., J. M. BURNETT, G. A. BEGG, and S. X. CADRIN. 2000. Assessment of the Georges Bank winter flounder stock, 1982-1997. <i>NEFSC Ref. Doc.</i> , 00-16, 88 p.
3. Unpublished data; L. HENDRICKSON, Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA 02543, USA (Lisa.Hendrickson@noaa.gov).
4. UNPUBL. DATA, J. BURNETT. Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA 02543, USA (Jay.Burnett@noaa.gov).
5. 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., NMFS</i> , 113 : 66 p.
6. COLTON, J., and J. ST. ONGE. 1974. Distribution of fish eggs and larvae in continental shelf waters, Nova Scotia to Long Island. <i>Ser. Atlas Mar. Environ., Am. Geogr. Soc. Folio</i> , 23 .
7. COLTON, J. B., Jr., W. G. SMITH, A. W. KENDALL, Jr., P. L. BERRIEN, and M. P. FAHAY. 1979. Principal spawning areas and times of marine fishes, Cape Sable to Cape Hatteras. <i>Fish. Bull.</i> , 76 (4): 5.
8. SMITH, W.G., J. D. SIBUNKA, and A. WELLS. 1975. Seasonal distributions of larval flatfish (Pleuronectiformes) on the continental shelf between Cape Cod and Cape Lookout, N.C., 1965-66. <i>NOAA Tech. Rep., Spec. Sci. Rep. Fish.</i> , 691 : 68 p.