

TABLE 1: AVAILABLE DATA

COMMON NAME:	ROUGHHEAD GRENADIER	SPECIES:	<i>Macrourus berglax</i>
AREA:	NORTHWEST ATLANTIC	STOCK:	NAFO SUBAREAS 2+3
CREATED BY:	HILARIO MURUA 2001-10-15	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	(√)	(√)		√			√	√	√

Data status									
Year	Stock size	Stock composition	Age	Sex ratio	Maturity	Fecundity	Weight	Condition	Additional data
1977	(√)	(√)		√			√	√	√
1976	(√)	(√)		√			√	√	√
1975	(√)	(√)		√			√	√	√
1974	(√)	(√)		√			√	√	√
1973	(√)	(√)		√			√	√	√
1972	(√)	(√)		√			√	√	√
1971	(√)	(√)							
1970	(√)	(√)							
1969	(√)	(√)							
1968	(√)	(√)							
1967	(√)	(√)							

TABLE 2: DATA BASIS, FORMAT AND QUALITY

COMMON NAME:	ROUGHHEAD GRENADIER	
AREA:	NORTHWEST ATLANTIC	
STOCK:	NAFO SUBAREAS 2+3	
REPRODUCTIVE STRATEGY:	DETERMINATE SPAWNER	REF. NO.: 1, 2
TIMING OF SPAWNING:	DEPENDS ON AUTHOR	REF. NO.: 1,2,7,9
OPTIMAL TIME FOR MATURITY SAMPLING:	ALL YEAR	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	1967-1983	L	S	Y	0-600	3
	1972-1983	LW	S	Y	0-600	3
	1978-2001	LW	S	Y	0-730 m, 3LN	4
	1978-2001	LW	S	Y	1500m 2GHJ + 3	4
	1988-2001	ALW	S	JULY	0-720m, 3M	5
	1995-2001	LW	S	MAY	0-1500m, 3NO	6
	1982	ALW	S	MAY-JUL	300-1000 m, 3LMN	7
	1991	LW	S	AUGUST	>1000m, 3KLM	4
	1994	LW	S	FEB	>1000m, 3KLMN	4
	1995	LW	S	SPRING	>1000m, 3KLMN	4
	1997-2000	ALW	CC	Q	800-1800m, 3LMN	8
Stock composition	1967-1983	L	S	Y	0-600	3
	1972-1983	LW	S	Y	0-600	3
	1978-2001	LW	S	Y	0-730 m, 3LN	4
	1978-2001	LW	S	Y	1500m 2GHJ + 3	4
	1988-2001	ALW	S	JULY	0-720m, 3M	5
	1995-2001	LW	S	MAY	0-1500m, 3NO	6
	1982	ALW	S	MAY-JUL	300-1000 m, 3LMN	7
	1991	LW	S	AUGUST	>1000m, 3KLM	4
	1994	LW	S	FEB	>1000m, 3KLMN	4
	1995	LW	S	SPRING	>1000m, 3KLMN	4
	1997-2000	ALW	CC	Q	800-1800m, 3LMN	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.
Age determination	1982	ALW	S	Y	MAY-JULY	7
	1994-2001	ALW	S	Y	JULY	5
	1997-2000	ALW	CC	Q		8
Sex ratio	1978-2001	LW	S	Y	SPRING	4
	1978-2001	LW	S	Y	AUTUMN	4
	1982	ALW	S	Y	MAY-JUL	7
	1972-1983	ALW	S	Y	SUMMER	3
	1991-2001	ALW	S	Y	JULY	5
	1997-2000	ALW	CC	Q		8
Maturity:						
A. Ogives (E)	1995-1996	L	S	OPPORT.	FEB, JULY, APRIL	1
	1998-2000	AL	S, CC	M	ALL YEAR	2
B. Skip of spawning						
C. Spawning probability						
D. Other						
Fecundity:						
A. Estimation	1980	L	S	OPORT.	NOVEMBER	3
	1995-1996	L	S	OPORT.	FEB, JULY, APRIL	1
	1998-2000	AL	S, CC	M	ALL YEAR	2
B. First time vs. repeat spawners						
C. Atresia	1995-1996	L	S	OPORT.	FEB, JULY, APRIL	1
D. Other						
Weight:						
A. Commercial fisheries data	1997-2000	ALW	CC	Q		8
B. Survey data	1972-1983	LW	S	Y		3
	1978-2001	LW	S	Y		4
	1978-2001	LW	S	Y		4
	1991-2001	ALW	S	JULY		5
	1995-2001	LW	S	MAY		6
	1982	ALW	S	MAY-JUL		7
	1991	LW	S	AUGUST		4
	1994	LW	S	FEB		4
	1995	LW	S	SPRING		4
C. Other						
Condition:						
A. Fulton						

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.
B. HSI						
C. Energy						
D. Other	1972-1983	LW	S	Y	SUMMER	3
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	1975-76	L	S	Y	SUMMER- WINTER	9
	1982	ALW	S	Y	MAY-JULY	7
	1995-1996	LW	S		FEB., JULY, APRIL	1
	1998-2000	ALW	S, CC	M	ALL YEAR	2
Contamination						
Environmental key factors						
Other factors or parameters						

TABLE 4: DATA SOURCES

COMMON NAME:	ROUGHHEAD GRENADIER
AREA:	NORTHWEST ATLANTIC
STOCK:	NAFO SUBAREA 2+3

Data sources (literature reference or contact person)
1. MURUA, H. and L. MOTOS. 2000. Reproductive biology of roughhead grenadier (<i>Macrourus berglax</i> Lacepède, 1801) (Pisces, Macrouridae), in northwest Atlantic waters. <i>SARSIA Nordic Journal of Marine Biology</i> , 85 : 393-402.
2. MURUA, H., MS 2001. Roughhead Grenadier (<i>Macrourus berglax</i>) Biology and Population Structure in NAFO Divisions 3LMN. <i>NAFO SCR Doc.</i> , No. 156, 23 p.
3. SAVVATIMSKY, P. I. 1989. Investigations of Roughhead Grenadier (<i>Macrourus berglax</i> L) in the Northwest Atlantic, 1967-83. <i>NAFO Sci. Coun. Studies</i> , 13 : 59-75.
4. UNPUBL. DATA: D. Power, DFO, P.O. Box 5667, St. John's NF, A1C 5X1, Canada (powerd@dfo-mpo.gc.ca).
5. MURUA, H. MS 2001. A review on Roughhead Grenadier (<i>Macrourus berglax</i>) Biology and Population Structure on Flemish Cap (NAFO Div. 3M) 1991-2000. <i>NAFO SCR Doc.</i> , No. 29, 19 p.
6. UNPUBL. DATA: H. MURUA. Fish, Resour. – AZTI Foundation, Herrera Kaia, Portualde z/g, 20110 Pasaia, Basque Country, Spain (hmurua@pas.azti.es).
7. SAVVATIMSKY, P.I. 1984. Biological Aspects of Roughhead Grenadier (<i>Macrourus berglax</i>) from Longline Catches in the Eastern Grand Bank Area, 1982. <i>NAFO Sci. Coun. Studies</i> , 7 : 45-51.
8. JUNQUERA, S., A VAZQUEZ, H. MURUA, E. ROMAN, and J. L. DEL RIO. MS 2001. Spanish Research Report for 2000. <i>NAFO SCS Doc.</i> , No. 18. Serial No. N4402, 24 p.
9. ATKINSON, D. B and D. POWER. MS 1987. Distribution of roughhead and Roundnose grenadiers in the Northwest Atlantic. <i>NAFO SCR Doc.</i> , No. 94, Serial No. N1398, 28 p.