

ECOREGION STOCK **Widely distributed and migratory stocks Tusk (*Brosme brosme*) in the Northeast Atlantic**

Introduction

Based on the genetic information that has been analyzed in 2007, ICES presents advice for the following stock units of tusk:

- Subareas I and II (Arctic);
- Division Va and Subarea XIV;
- Division XII excluding XIIb (Mid-Atlantic Ridge);
- Division VIb (Rockall);
- Other areas (IIIa, IV, Vb, VIa, VII, VIII, IX, and XIIb). This latter grouping is a combination of isolated fishing grounds and these areas are grouped due to their mutual lack of data.

The new perception of the stock structure is based on considerations of new genetic information in 2007 (ICES, 2007). Studies using recently developed microsatellite primers detected highly significant genetic differentiation in tusk within its North Atlantic range. In particular, tusk around Rockall, the Mid-Atlantic Ridge, and off Canada, most likely represent different biological populations that clearly warrant separate management considerations. For the remainder of the North Atlantic this study uncovered limited genetic differentiation and no firm conclusion can be reached at present regarding the number of populations and assessment units. Samples from Storegga and Tromsøflaket (ICES Subarea II) are similar and may represent a single population in this area, and likewise for Greenland and Iceland. Tusk from around Faroe Islands differ significantly both from those from Iceland and Tromsøflaket, but the differences are small and it is at present unclear how these differences should be interpreted in terms of management implications. The geographical coverage of this study is insufficient to exclude the possibility of additional genetically differentiated populations of tusk. More samples are required from around Iceland, Faroe Islands, Hatton Bank, and Western Scotland to disentangle potential structure within and among these areas.

Before 2008, ICES has advised for three management units proposed on the basis of apparent isolation of fishing ground: I and II (Arctic), Va (Iceland), and IIIa, IVa, Vb, VI, VII, VIII, IX, XII, and XIV (other areas).

Landings by assessment unit are presented in Figure 9.4.12.1 and Table 9.4.12.2.

Source

ICES. 2007. Report of the Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources, 8–15 May 2007, ICES Headquarters, Copenhagen. ICES CM 2007/ACFM:20.

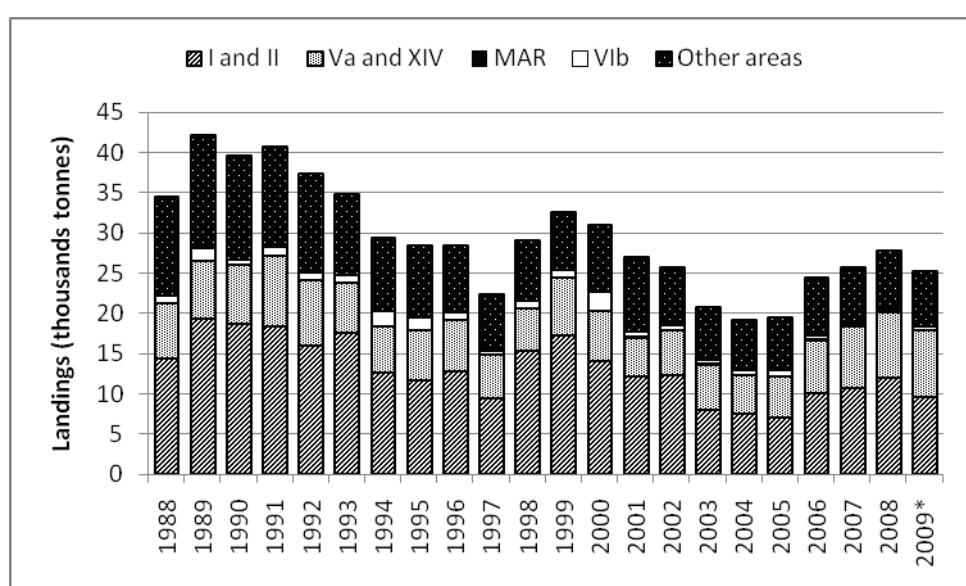


Figure 9.4.12.1 Tusk in the Northeast Atlantic. Total landings by assessment unit. (Working Group estimates).

Table 9.4.12.1 Tusk in the Northeast Atlantic. Summary of the advice for different assessment units and landings.

Year	ICES advice Subareas I and II	ICES advice Division Va Subarea XIV	ICES advice Mid Atlantic Ridge ¹	ICES advice Division VIb	ICES advice All other areas ²	ICES landings All areas
2003	Reduce effort by 30% ³	Reduce effort by 30% ³	Reduce effort by 30% ³	Reduce effort by 30% ³	Reduce effort by 30% ³	20.7
2004	Biennial ³	Biennial ³	Biennial ³	Biennial ³	Biennial ³	19.1
2005	Effort should be reduced by 30% of 1998 effort ³	Effort should be reduced by 30% of 1998 effort ³	Effort should be reduced by 30% of 1998 effort ³	Effort should be reduced by 30% of 1998 effort ³	Effort should be reduced by 30% of 1998 effort ³	19.4
2006	Biennial ³	Biennial ³	Biennial ³	Biennial ³	Biennial ³	24.5
2007	Reduce catches to 5000 t	Maintain catches at recent level (avg '01-'04) of about 5000 t	⁴ —	⁴ —	Limit catches to 5000 t ⁵	25.7
2008	Biennial	Biennial	Biennial		Biennial	27.7
2009	Constrain catches to 5000t	Constrain catches to 5000 t (avg '01-'04)	Fishery not allow to expand	Constrain catches to 530 t (avg '03-'07)	Constrain catches to 5000 t	25.1
2010	Biennial	Biennial	Biennial	Biennial	Biennial	
2011	Less than 9900 t and a reduction below recent levels ('05-'08) should be considered	Fishing at F0.1	Fisheries should not be allowed to expand and measures should be considered to limit occasional high levels of bycatch	Reduce catches by at least the rate of decline of the cpue	Less than 6900 t, and a reduction from recent levels catches should be considered	

Landings in '000 t.

¹Division Xb, XIIc and Subdivision Va₁, XIIa₁ and XIb₁.

²Division IIIa, Vb, VIa, XIIb and Subareas IV, VII, VIII, IX.

³Advice for Tusk in the Northeast Atlantic, not split by assessment units.

⁴Advice together with Divisions IIIa, IVa, Vb, VI, VII, VIII, IX, XII, and XIV (see other areas).

⁵Advice for Divisions IIIa, IVa, Vb, and Subareas VI, VII, VIII, IX, XII, and XIV.

Table 9.4.12.2 Tusk in the Northeast Atlantic. Total landings by assessment unit (tonnes). (WG estimates).

Year	I and II	Va and XIV	MAR	VIb	Other areas	Total
1988	14403	6876	1	860	12298	34438
1989	19350	7063	1	1593	14130	42137
1990	18628	7297	0	768	12948	39641
1991	18306	8796	1	1108	12500	40711
1992	15974	8127	1	867	12370	37339
1993	17585	6115	12	1003	10048	34763
1994	12566	5840	1	1846	9136	29389
1995	11617	6255	18	1564	8904	28358
1996	12795	6259	158	939	8234	28385
1997	9426	5413	30	476	7016	22361
1998	15353	5183	1	915	7510	28962
1999	17183	7232	1	953	7156	32525
2000	14008	6269	5	2344	8300	30926
2001	12061	4900	52	681	9248	26942
2002	12191	5603	27	622	7280	25723
2003	7940	5657	83	561	6500	20741
2004	7426	4861	16	627	6125	19055
2005	7050	5099	3	692	6553	19397
2006	9988	6669	64	487	7248	24456
2007	10744	7581	19	299	7090	25733
2008	11913	8182	0	293	7355	27743
2009*	9629	8268	11	469	6769	25146

*Preliminary