

9.3.48 Tusk (*Brosme brosme*) in Subareas I and II (Northeast Arctic)

ICES stock advice

ICES advises that when the precautionary approach is applied, catches should be no more than 9492 tonnes in each of the years 2016 and 2017. All catches are assumed to be landed.

Stock development over time

A standardized cpue based on data from the Norwegian longline fleet shows a positive trend from 2004 to the present. Since 2010 there has been a decline in catches.

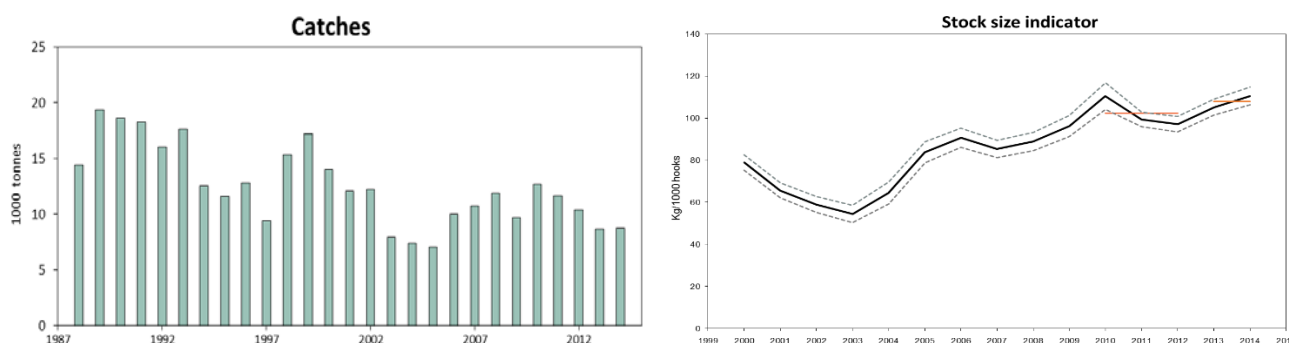


Figure 9.3.48.1 Tusk in Subareas I and II. Left: Catches (in tonnes). Right: Cpue (kg per 1000 hooks) for tusk in ICES Division IIa. The red horizontal lines indicate the average biomass index of the respective year range used to calculate the advice.

Stock and exploitation status

Table 9.3.48.1 Tusk in Subareas I and II. State of the stock and fishery, relative to reference points.

| | | Fishing pressure | | | | Stock size | | | |
|---------------------------|----------------------|------------------|------|------|----------------|----------------------|------|------|------------|
| | | 2012 | 2013 | 2014 | | 2012 | 2013 | 2014 | |
| Maximum Sustainable Yield | F_{MSY} | ? | ? | ? | Undefined | MSY | ? | ? | ? |
| Precautionary approach | F_{pa} , F_{lim} | ? | ? | ? | Undefined | B_{pa} , B_{lim} | ? | ? | ? |
| Management Plan | F_{MGT} | - | - | - | Not applicable | SSB_{MGT} | - | - | - |
| Qualitative evaluation | - | ? | ? | ? | Unknown | - | ↘ | ↗ | ↗ |
| | | | | | | | | | increasing |

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The standardized cpue series from the Norwegian longline reference fleet was applied as index for the stock development. The advice is based on a comparison of the two latest index values (index A) with the three preceding values (index B), combined with the 2012 advice. The index is estimated to have increased by less than 20% and thus the uncertainty cap was not applied in estimating the catch advice. The stock status relative to candidate reference points is unknown, and the precautionary buffer was applied in 2012. Discarding is considered negligible.

Table 9.3.48.2 Tusk in Subareas I and II. For stocks in ICES data categories 3–6, one catch option is possible.

| | | |
|----------------------|-------------|------------|
| Index A (2013–2014) | | 107.9 |
| Index B (2010–2012) | | 102.3 |
| Index ratio (A/B) | | 1.05 |
| Uncertainty cap | Not applied | - |
| Advice (2012) | | 9 040 t |
| Discard rate | | Negligible |
| Precautionary buffer | Not applied | - |
| Catch advice * | | 9 492 t |

* (Previous advice × index ratio).

Basis of the advice

Table 9.3.48.3 Tusk in Subareas I and II. The basis of the advice.

| | |
|-----------------|---|
| Advice basis | Precautionary approach. |
| Management plan | There is no management plan for this stock. |

Quality of the assessment

The advice is based on a standardized cpue series from the Norwegian longline reference fleet which covers the main areas of the stock (Helle *et al.*, 2015).

Issues relevant for the advice

No additional information available for this stock.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 9.3.48.4 Tusk in Subareas I and II. The basis of the assessment.

| | |
|--------------------------|---|
| ICES stock data category | 3.2 (ICES, 2015a). |
| Assessment type | Trends in the cpue assessment (ICES, 2015b). |
| Input data | International catch and cpue from relevant fleets. |
| Discards and bycatch | Discarding is considered to be negligible. |
| Indicators | None. |
| Other information | None. |
| Working group | Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP). |

Information from stakeholders

There is no available information.

History of advice, catch and management

Table 9.3.48.5 Tusk in Subareas I and II. History of ICES advice, the agreed TAC, and ICES estimates of catches. Weights in thousand tonnes.

| Year | ICES advice | Predicted catch corresp. to advice | TAC EU Subareas I, II, and XIV | ICES catches Subareas I and II |
|------|---|---------------------------------------|-----------------------------------|-----------------------------------|
| 2003 | Reduce effort by 30%* | - | 0.035 | 7.9 |
| 2004 | Biennial* | - | 0.035 | 7.4 |
| 2005 | Effort should be reduced by 30% of 1998 effort* | - | 0.035 | 7.1 |
| 2006 | Biennial* | - | 0.035 | 10.0 |
| 2007 | Reduce catches to 5 000 t | 5 | 0.025 | 10.7 |
| 2008 | Biennial | 5 | 0.23 | 11.9 |
| 2009 | Constrain catches to 5 000 t | 5 | 0.24 | 9.6 |
| 2010 | Biennial | 5 | 0.02 | 12.7 |
| 2011 | Less than 9 900 t and a reduction below recent levels (2005–2008) should be considered | < 9.9 | 0.02 | 11.6 |
| 2012 | No new advice, same as 2011 | < 9.9 | 0.02 | 10.4 |
| 2013 | 20% reduction in catches (last 3 years' average) | < 9.04 | 0.02 | 8.7 |
| 2014 | No new advice, same as 2013 | < 9.04 | 0.02 | 8.7 |
| 2015 | No new advice, same as 2013 | < 9.04 | 0.02 | |
| 2016 | Precautionary approach | 9.5 | | |
| 2017 | Biennial | 9.5 | | |

* Advice for tusk in the Northeast Atlantic.

History of catch and landings

Table 9.3.48.6 Tusk in Subareas I and II. Catch distribution by fleet in 2014 as estimated by ICES.

| Total catch | Commercial landings | | | Commercial discards |
|-------------|---------------------|-------------|---------------------|---------------------|
| 8.7 kt | 90% longlines | 9% gillnets | 1% other gear types | Negligible |
| | 8.7 kt | | | |

Table 9.3.48.7 Tusk in Subareas I and II. History of official commercial catch by area and country.

| Year | Subarea I | | | | | | | Division IIa | | | | | | | | | | Division IIb | | | | | | | |
|-------|-----------|--------|--------|---------|---------|--------|-------|--------------|--------|---------|-----------|--------|-------|----------|--------|---------|---------|--------------|--------|-------|--------|---------|--------|-------|--------|
| | Norway | Russia | Faroes | Iceland | Ireland | France | Total | Faroes | France | Germany | Greenland | Norway | E & W | Scotland | Russia | Ireland | Iceland | Total | Norway | E & W | Russia | Ireland | France | Total | Total |
| 1988 | | | | | | | | 115 | 32 | 13 | - | 14 241 | 2 | - | | | | 14 403 | | - | | | | 0 | 14 403 |
| 1989 | | | | | | | | 75 | 55 | 10 | - | 19 206 | 4 | - | | | | 19 350 | | - | | | | 0 | 19 350 |
| 1990 | | | | | | | | 153 | 63 | 13 | - | 18 387 | 12 | + | | | | 18 628 | | - | | | | 0 | 18 628 |
| 1991 | | | | | | | | 38 | 32 | 6 | - | 18 227 | 3 | + | | | | 18 306 | | - | | | | 0 | 18 306 |
| 1992 | | | | | | | | 33 | 21 | 2 | - | 15 908 | 10 | - | | | | 15 974 | | - | | | | 0 | 15 974 |
| 1993 | | | | | | | | - | 23 | 2 | 11 | 17 545 | 3 | + | | | | 17 584 | | 1 | | | | 1 | 17 585 |
| 1994 | | | | | | | | 281 | 14 | 2 | - | 12 266 | 3 | - | | | | 12 566 | | - | | | | 0 | 12 566 |
| 1995 | | | | | | | | 77 | 16 | 3 | 20 | 11 271 | 1 | | | | | 11 388 | 229 | - | | | | 229 | 11 617 |
| 1996 | 587 | | | | | | 587 | 0 | 12 | 5 | | 12 029 | 1 | | | | | 12 047 | 161 | | | | | 161 | 12 795 |
| 1997 | 665 | | | | | | 665 | 1 | 21 | 1 | | 8 642 | 2 | + | | | | 8 667 | 92 | 2 | | | | 94 | 9 426 |
| 1998 | 805 | | | | | | 805 | | 9 | 1 | | 14 463 | 1 | 1 | - | | | 14 475 | 73 | + | - | | | 73 | 15 353 |
| 1999 | 907 | | | | | | 907 | | 7 | + | | 16 213 | | 2 | 28 | | | 16 250 | 26 | | 4 | | | 30 | 17 187 |
| 2000 | 738 | 43 | 1 | 16 | | | 798 | | 8 | 1 | | 13 120 | 3 | 2 | 58 | | | 13 192 | 15 | - | 3 | | | 18 | 14 008 |
| 2001 | 595 | 6 | | 13 | | | 614 | 11 | 15 | + | | 11 200 | 1 | 3 | 66 | 5 | | 11 301 | 141 | - | 5 | | | 146 | 12 061 |
| 2002 | 791 | 8 | n/a | 0 | | | 799 | | 3 | | | 11 303 | 1 | 4 | 39 | 5 | | 11 355 | 30 | - | 7 | | | 37 | 12 191 |
| 2003 | 571 | 5 | | | 5 | | 581 | 6 | 2 | | | 7 284 | | 3 | 21 | | | 7 316 | 43 | | | | | 43 | 7 940 |
| 2004 | 620 | 2 | | | 1 | | 623 | 12 | 2 | | | 6 607 | | 1 | 61 | 1 | | 6 684 | 114 | | 5 | | | 119 | 7 426 |
| 2005 | 562 | | | | | | 562 | 29 | 6 | | | 6 249 | | | 37 | 3 | | 6 324 | 148 | | 16 | | | 164 | 7 050 |
| 2006 | 442 | 4 | | | | | 446 | 33 | 9 | | | 9 246 | 1 | | 51 | 11 | | 9 351 | 168 | | 23 | | | 191 | 9 988 |
| 2007 | 355 | 2 | | | | | 357 | 54 | 7 | | | 9 856 | 0 | 5 | 85 | 12 | | 10 019 | 350 | | 17 | 1 | | 368 | 10 744 |
| 2008 | 627 | 7 | | | | | 634 | 52 | 6 | | | 10 848 | 1 | 3 | 56 | 0 | | 10 966 | 271 | | 11 | 0 | | 282 | 11 882 |
| 2009 | 869 | 1 | | | | | 870 | 59 | 3 | | | 8 354 | | 1 | 82 | | | 8 499 | 249 | | 39 | | | 288 | 9 657 |
| 2010 | 725 | 1 | | | | 1 | 727 | 39 | 6 | | | 11 445 | 0 | 1 | 49 | | | 11 540 | 334 | | 57 | | | 391 | 12 658 |
| 2011 | 941 | | | | | | 941 | 59 | 5 | | | 10 290 | | 1 | 41 | | | 10 405 | 299 | | 20 | | 5 | 324 | 11 646 |
| 2012 | 1 024 | | | | | | 1 024 | 54 | 7 | 1 | | 8 764 | 2 | | 48 | | 1 | 8 877 | 453 | | 40 | | | 493 | 10 394 |
| 2013 | 692 | | | | | | 692 | 24 | 13 | 3 | | 7 729 | | 7 | 52 | | 2 | 7 830 | 121 | 3 | 16 | | | 140 | 8 662 |
| 2014* | 766 | 5 | | | | | 771 | 10 | 9 | 1 | | 7 680 | | 7 | 38 | | | 7 745 | 185 | | 41 | | | 226 | 8 734 |

* Preliminary.

Summary of the assessment

Table 9.3.48.8 Tusk in Subareas I and II. Standardized cpue series from the Norwegian longline reference fleet (kg per 1000 hooks).

| Year | Cpue | Upper | Lower |
|------|--------|--------|--------|
| 2000 | 78.95 | 82.65 | 75.24 |
| 2001 | 65.58 | 69.15 | 62.02 |
| 2002 | 58.96 | 62.69 | 55.24 |
| 2003 | 54.43 | 58.49 | 50.37 |
| 2004 | 64.36 | 69.59 | 59.14 |
| 2005 | 83.75 | 88.74 | 78.76 |
| 2006 | 90.75 | 95.36 | 86.15 |
| 2007 | 85.40 | 89.48 | 81.32 |
| 2008 | 88.97 | 93.33 | 84.62 |
| 2009 | 96.26 | 101.20 | 91.30 |
| 2010 | 110.50 | 116.90 | 104.10 |
| 2011 | 99.35 | 102.80 | 95.91 |
| 2012 | 97.19 | 100.80 | 93.55 |
| 2013 | 105.20 | 109.00 | 101.40 |
| 2014 | 110.60 | 114.80 | 106.30 |

Sources and references

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