

9.3.13 Greater silver smelt (*Argentina silus*) in Subarea XIV and Division Va (East Greenland, Iceland Grounds)

ICES stock advice

ICES advises that when the precautionary approach is applied, catches should be no more than 6477 tonnes in 2016. All catches are assumed to be landed.

Stock development over time

Survey indices show a large increase in stock biomass in 2014. The F_{proxy} has decreased since 2010; exploitation in 2014 was at a similar level as in 2002–2007.

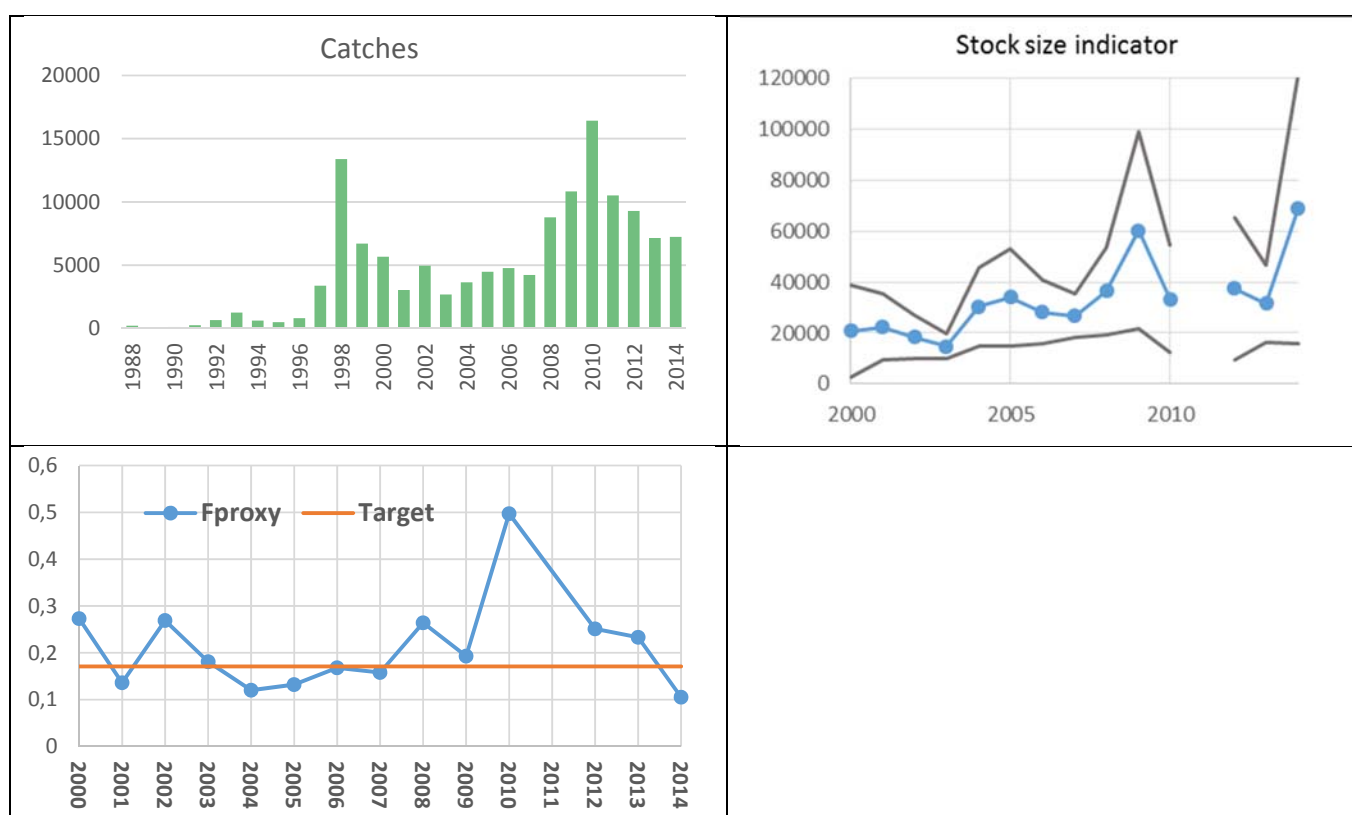


Figure 9.3.13.1 Greater silver smelt in Subarea XIV and Division Va. Top left: Catches in tonnes. Top right: Biomass at depths greater than 400 m (from the Icelandic autumn survey). Bottom: Trends in F_{proxy} based on catch/survey biomass.

Stock and exploitation status

Table 9.3.13.1 Greater silver smelt in Subarea XIV and Division Va. 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 | | | | Undefined |
| Precautionary approach | F_{pa}, F_{lim} | | | | Undefined | B_{pa}, B_{lim} | | | | Undefined |
| Management Plan | F_{MGT} | - | - | - | Not applicable | SSB_{MGT} | - | - | - | Not applicable |
| Qualitative evaluation | - | | | | Decreasing | - | | | | Increasing |

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The Icelandic autumn trawl survey was applied as harvest rate index. The advice is based on a comparison of the latest index value (index A) with the preceding value (index B), combined with the F_{proxy} target (catch/survey biomass) defined from years 2002 to 2007. The index is estimated to have increased by more than 20%, which means that the uncertainty cap was applied to calculate the catch advice. The stock status relative to candidate reference points is unknown. The precautionary buffer was not applied because the survey biomass index shows an increasing trend and the effort and F_{proxy} are considered relatively low. Discards are considered negligible.

Table 9.3.13.2 Greater silver smelt in Subarea XIV and Division Va. For stocks in ICES categories 3–6, one catch option is provided.

| | | |
|--------------------------------|-------------|-----|
| Index A (2014) | 69 073 t | |
| Index B (2013) | 31 504 t | |
| Index ratio (A/B) | 2.19 | |
| Uncertainty cap | Applied | 1.2 |
| F_{proxy} target (2002–2007) | 0.171 | |
| Discard rate | Negligible | |
| Precautionary buffer | Not applied | |
| Catch advice * | 6 465 t | |

* (F_{proxy} target × index B × cap).

Basis of the advice

Table 9.3.13.3 Greater silver smelt in Subarea XIV and Division Va. The basis of the advice.

| | |
|-----------------|-------------------------|
| Advice basis | Precautionary approach. |
| Management plan | No management plan. |

Quality of the assessment

The advice is based on a biomass index from the Icelandic autumn survey, used as an indicator of stock size and a derived F_{proxy} based on catch/survey biomass.

The index in 2014 was very high due to few large hauls in the Icelandic autumn survey. Therefore, the index used for advice in the last three years was re-calculated using Winsorization (truncation) of the data (ICES, 2010). In spite of this the change in the index from 2013 to 2014 is unlikely to be driven by changes in biomass. The 2014 value is thus capped at 1.2 times the 2013 value and the F_{proxy} target is not reduced by 20% as it was in the 2014 advice. This approach is intended to give a more stable advice that better fits with the dynamics of the stock.

Issues relevant for the advice

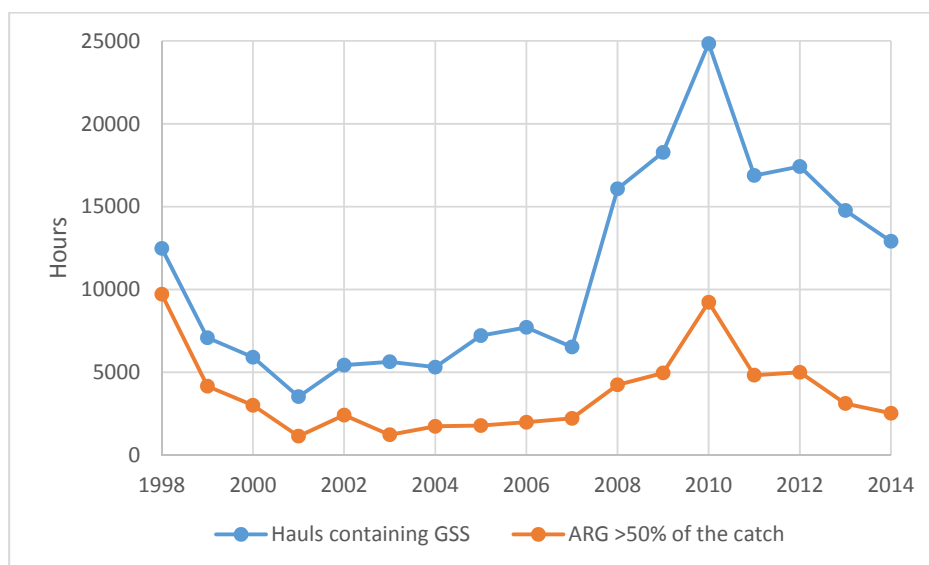


Figure 9.3.13.2 Greater silver smelt in Subarea XIV and Division Va. Changes in the number of hours trawled when the catch contained greater silver smelt (blue line) and when greater silver smelt constituted 50% or more of the catch (orange line).

Reference points

There are no reference points for this stock.

Basis of the assessment

Table 9.3.13.4 Greater silver smelt in Subarea XIV and Division Va. The basis of the assessment.

| | |
|--------------------------|---|
| ICES stock data category | 3.3 (ICES, 2015a). |
| Assessment type | Catch and survey-based assessment (ICES, 2015b). |
| Input data | Landings and survey indices (Icelandic autumn survey). |
| Discards and bycatch | Discarding is considered to be negligible. |
| Indicators | None. |
| Other information | This assessment unit was last benchmarked in 2010 (WKDEEP; ICES, 2010). |
| Working group | Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP). |

Information from stakeholders

There is no information available for this stock.

History of advice, catch and management

Table 9.3.13.5 Greater silver smelt in Subarea XIV and Division Va. History of ICES advice, the agreed TAC, and ICES estimates of landings. Weights in thousand tonnes.

| Year | ICES advice | Predicted catch corresp. to advice | ICES landings |
|------|---|---------------------------------------|---------------|
| 2003 | * | | 2.7 |
| 2004 | * | | 3.6 |
| 2005 | * | | 4.5 |
| 2006 | * | | 4.8 |
| 2007 | The fishery should not be allowed to expand unless it can be shown that it is sustainable | | 4.2 |
| 2008 | Biennial | | 8.8 |
| 2009 | Same advice as 2007 | | 10.8 |
| 2010 | Biennial | | 16.4 |
| 2011 | Reduce exploitation rates to 2001–2007 levels | | 10.5 |
| 2012 | No new advice, same as 2011 | | 9.3 |
| 2013 | Fproxy (2001–2007) | 3.7 | 7.2 |
| 2014 | No new advice, same as 2013 | | 7.2 |
| 2015 | Fproxy (2002–2007), 20% lowering of target | 4 | |
| 2016 | Fproxy (2002–2007), capped index increase | 6.5 | |

* Prior to 2007 advice for this stock was included in the advice on greater silver smelt in other areas.

History of catch and landings

Table 9.3.13.6 Greater silver smelt in Subarea XIV and Division Va. Catch distribution by fleet in 2014 as estimated by ICES.

| Total catch | Commercial landings | Commercial discards |
|-------------|----------------------|---------------------|
| 7 241 t | 100% trawl fisheries | Negligible |
| | 7 241 t | |

Table 9.3.13.7 Greater silver smelt in Subarea XIV and Division Va. History of commercial official catches in Icelandic waters.

| Year | Catches |
|------|---------|
| 1988 | 206 |
| 1989 | 8 |
| 1990 | 112 |
| 1991 | 247 |
| 1992 | 657 |
| 1993 | 1 255 |
| 1994 | 613 |
| 1995 | 492 |
| 1996 | 808 |
| 1997 | 3 367 |
| 1998 | 13 387 |
| 1999 | 6 704 |
| 2000 | 5 657 |
| 2001 | 3 043 |
| 2002 | 4 960 |
| 2003 | 2 686 |
| 2004 | 3 637 |
| 2005 | 4 481 |
| 2006 | 4 775 |
| 2007 | 4 226 |
| 2008 | 8 778 |
| 2009 | 10 829 |
| 2010 | 16 428 |
| 2011 | 10 515 |
| 2012 | 9 290 |
| 2013 | 7 154 |
| 2014 | 7 241 |

Summary of the assessment

Table 9.3.13.8 Greater silver smelt in Subarea XIV and Division Va. Assessment summary. Weights in tonnes.

| Year | Catch | Index | CV | Upper | Lower | F _{proxy} |
|------|--------|--------|------|---------|--------|--------------------|
| 2000 | 5 657 | 20 764 | 0.44 | 38 794 | 2 735 | 0.272 |
| 2001 | 3 043 | 22 426 | 0.29 | 35 348 | 9 503 | 0.136 |
| 2002 | 4 960 | 18 465 | 0.24 | 27 151 | 9 779 | 0.269 |
| 2003 | 2 686 | 14 826 | 0.17 | 19 766 | 9 886 | 0.181 |
| 2004 | 3 637 | 30 289 | 0.26 | 45 724 | 14 854 | 0.120 |
| 2005 | 4 481 | 33 956 | 0.29 | 53 190 | 14 722 | 0.132 |
| 2006 | 4 775 | 28 317 | 0.22 | 40 749 | 15 885 | 0.169 |
| 2007 | 4 226 | 26 832 | 0.17 | 35 510 | 18 155 | 0.157 |
| 2008 | 8 778 | 36 458 | 0.24 | 53 751 | 19 165 | 0.241 |
| 2009 | 10 829 | 60 278 | 0.33 | 99 029 | 21 526 | 0.180 |
| 2010 | 16 428 | 33 383 | 0.32 | 54 452 | 12 314 | 0.492 |
| 2011 | 10 515 | | | | | |
| 2012 | 9 290 | 37 413 | 0.38 | 65 278 | 9 548 | 0.248 |
| 2013 | 7 154 | 31 504 | 0.24 | 46 509 | 16 499 | 0.227 |
| 2014 | 7 241 | 69 073 | 0.39 | 122 278 | 15 867 | 0.105 |

Sources and references

- ICES. 2010. Report of the Benchmark Workshop on Deep-water Species (WKDEEP), 17–24 February 2010, Copenhagen, Denmark. ICES CM 2010/ACOM:38. 247 pp.
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- ICES. 2015a. Advice basis. *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 1. In preparation.
- ICES. 2015b. Report of the Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP), 20–27 March 2015, ICES Headquarters, Copenhagen. ICES CM 2015/ACOM:17.