

NORSK-ÍSLENSK VORGOTSSÍLD

NORWEGIAN SPRING-SPAWNING HERRING

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RÁÐGJÖF – ADVICE

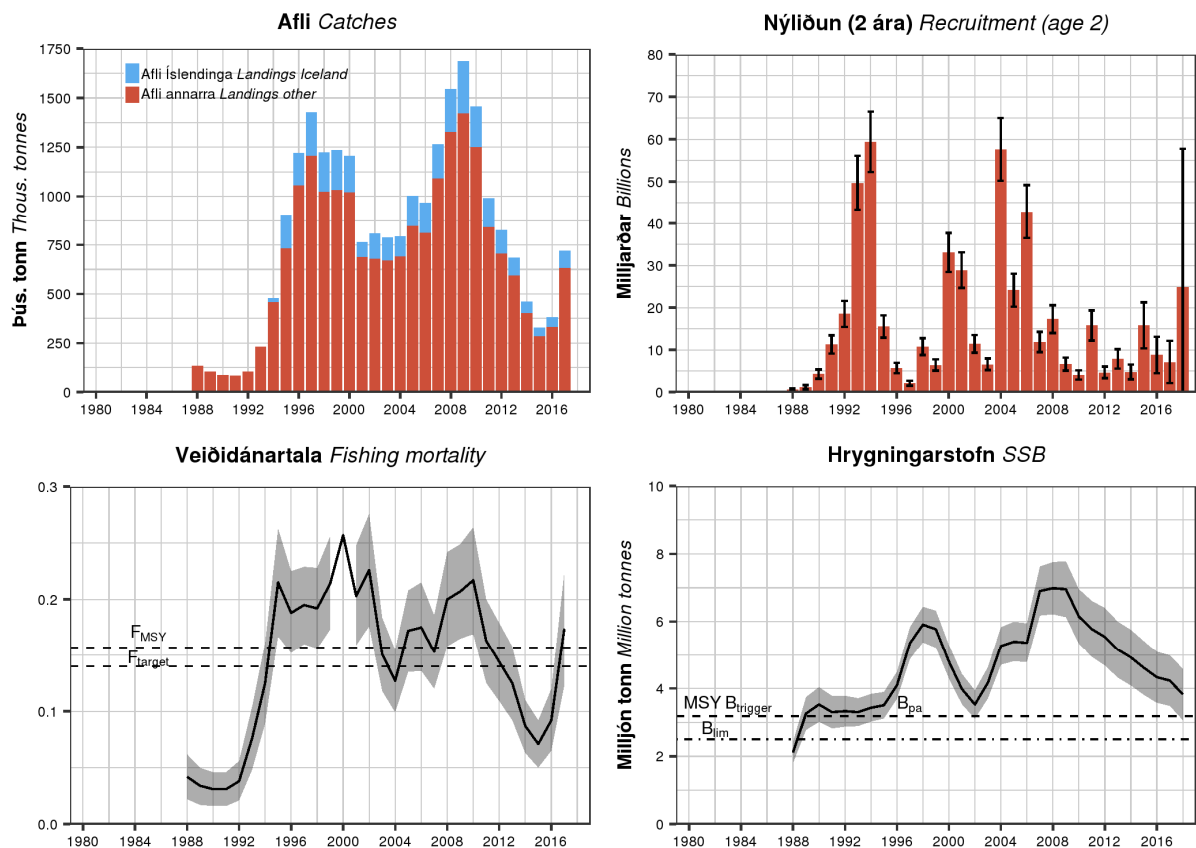
Alþjóðahafrannsóknaráðið (ICES) ráðleggur í samræmi við samþykktu aflareglu strandríkja að afli ársins 2019 verði ekki meiri en 588 562 tonn.

ICES advises that when the long-term management strategy agreed by the European Union, the Faroe Islands, Iceland, Norway, and Russia is applied, catches in 2019 should be no more than 588 562 tonnes.

STOFNÞRÓUN – STOCK DEVELOPMENT

Fiskveið dauði hefur farið hækkandi síðan 2015 og var yfir F_{MSY} árið 2017. Hrygningarstofninn hefur farið minnkandi en er metinn undir aðgerðarmörkum ($MSY B_{trigger}$) árið 2018. Stofninn hefur getið af sér fjóra stóra árganga síðan 1998 (árgangar 1998, 1999, 2002 og 2004). Árgangar frá 2005–2015 voru undir meðalstærð eða litlir. Árgangurinn frá 2016 er hinsvegar metinn yfir meðalstærð.

Fishing mortality has been increasing since 2015 and is above F_{MSY} in 2017. The stock is declining but estimated to be above $MSY B_{trigger}$ in 2018. Since 1998 four large year classes have been produced (1998, 1999, 2002, and 2004). The 2005–2015 year classes are estimated to be average or small. The 2016 year class, however, is estimated to be above average.



Norsk-íslensk vorgotssíld. Afli, nýliðun 2 ára, veðiðánartala og hrygningarstofn. Stofnmat keyrt frá 1988, eftir að stofn tók að stækka aftur eftir hrun á sjöunda áratug síðustu aldar.

Norwegian spring-spawning herring. Catches, recruitment at age 2, fishing mortality and spawning stock biomass (SSB). Assessment run starts in 1988, when the stock has started to rebuild after collapse in the 1960s.

STOFNMAT OG VIÐMIÐUNARMÖRK – BASIS OF ASSESSEMENT AND REFERENCE POINTS

Forsendur ráðgjafar <i>Basis of the advice</i>	Aflaregla <i>Management plan</i>
Aflaregla <i>Management plan</i>	Langtímaafaregla sem var samþykkt árið 2018 (Anon. 2018). <i>A long-term management plan agreed in 2018 (Anon. 2018).</i>
Stofnmat <i>Assessment type</i>	Tölfræðilegt stofnmatslíkan (XSAM; ICES 2018a; 2018b) sem notar aflagögn í stofnmati og framreikningum ásamt óvissumati á afla og fjöldavísitölum. <i>Statistical assessment model (XSAM; ICES 2018a; 2018b) that uses catches in the model and in the forecast, and includes error structures in catches and abundance indices.</i>
Inntaksgögn <i>Input data</i>	Fjöldi eftir aldri úr afla (meðalþyngdir í stofni eftir aldri frá leiðongrum, en aflagögnum frá 2009). Aldursvísitölur frá þremur leiðongrum: Norska bergmálsleiðangrinum á hrygningar-slóð í feb./mars (1994–2005, 2015–2018); Alþjóðlega vistfræðileiðangrinum í Austurdjúpi í maí sem nær yfir fullorðna hluta stofnsins í Noregshafi (1996–2018) og tveggja ára síld í Barentshafi (1991–2018). Stofnstærðarháð mat á kynþroskahlutfalli eftir aldri. Fastur náttúrulegur dauði ákvarðaður frá eldri gögnum (settur 0.9 fyrir tveggja ára og 0.15 fyrir eldri en tveggja ára). <i>Commercial catches-at-age (stock weight-at-age from surveys and since 2009 from catch sampling). Three survey indices: Norwegian acoustic survey on spawning grounds in February/March (NASF, 1994–2005, 2015–2018); International Ecosystem Survey in the Nordic Seas (IESNS) covering the adult stock in the Nordic seas (1996–2018) and number at age 2 in the Barents Sea (IESNS; 1991–2018). Maturity ogive variable by year-class strength. Natural mortalities are fixed values from historical analyses (age 2 = 0.9, ages greater than 3 = 0.15).</i>

Nálgun <i>Framework</i>	Viðmiðunarmörk <i>Reference point</i>	Gildi <i>Value</i>	Grundvöllur <i>Basis</i>
MSY nálgun <i>MSY approach</i>	MSY $B_{trigger}$	3 184 000 t	B_{pa}
	F_{MSY}	0.157	Byggt á hermumum. <i>Stochastic simulation (ICES 2018d)</i>
Varúðarnálgun <i>Precautionary approach</i>	B_{lim}	2 500 000 t	Ásættanleg lágmarksstærð hrygningarstofns <i>Minimum biological acceptable level (MBAL)</i>
	B_{pa}	3 184 000 t	$B_{lim} \times \exp(0.147 \times 1.645)$ (ICES 2018c)
	F_{pa}	0.227	Byggt á hermumum. <i>Based on medium-term simulations</i>
	F_{target}	0.140	Samþykkt aflaregla. <i>Agreed management plan</i>

HORFUR – PROSPECTS

Stofnmatið sýnir lítilsháttar aukningu í stofnstærð verði aflareglu fylgt árið 2019.

The assessment indicates a minor increase in SSB if the management plan will be followed in 2019.

Norsk-íslensk síld. Áætluð þróun stærðar hrygningarstofns (tonn) miðað við veiðar samkvæmt aflareglu.

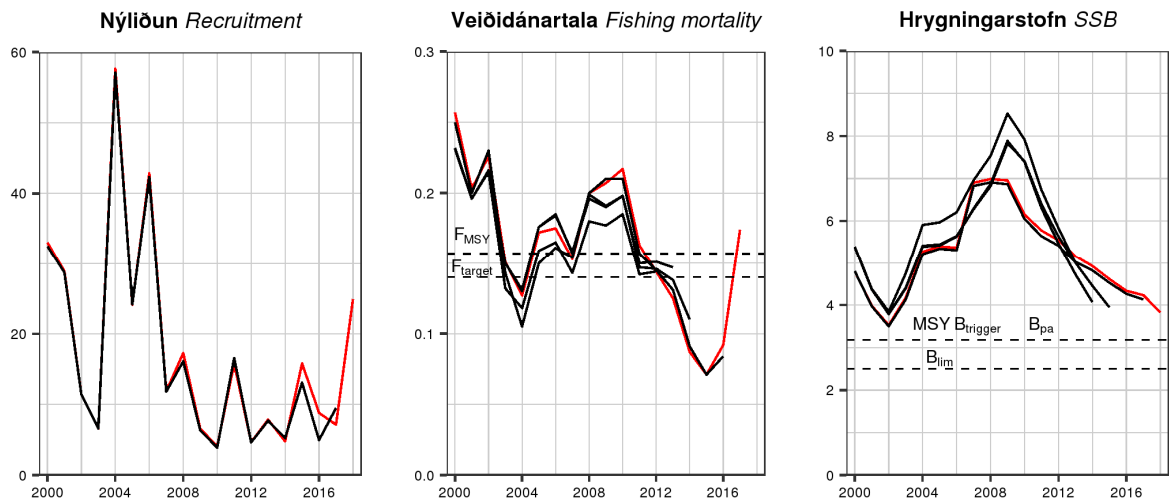
Norwegian spring-spawning herring. Projection of SSB (tonnes) based on adopted harvest control rule.

2018		2019			2020
Áætlaður afli <i>Estimated catches</i>	F	Aflamark skv. aflareglu <i>TAC based on management plan</i>	Hrygningar stofn <i>SSB</i>	F	Hrygningarstofn <i>SSB</i>
546 448	0.125	588 562	3 859 000	0.14	4 016 687

GÆÐI STOFNMATS – QUALITY OF THE ASSESSEMENT

Niðurstöður stofnmatsins í ár eru sambærilegar við mat síðasta árs.

The perception of the stock is consistent with last year's assessment.



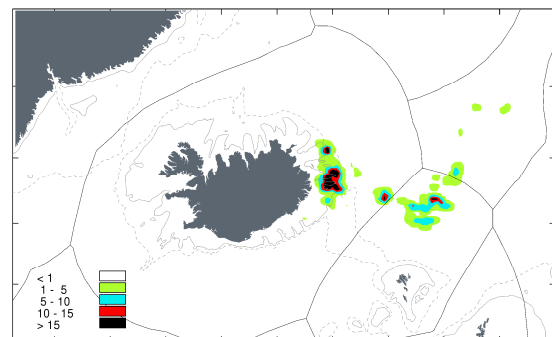
Norsk-íslensk vorgotssíld. Samanburður á stofnmati árána 2013–2018 (rauð lína: 2018). Fram til 2015 miðaðist nýliðun frá stofnmati við fjölda 0 ára í stað 2 ára og þeim árum er því sleppt hér.

Norwegian spring-spawning herring. Current assessment (red line) compared with previous estimates (2013–2017). Recruitment estimates from assessments conducted before 2016 are not shown as they refer to age 0 instead of age 2.

VEIÐAR ÍSLENDINGA – THE ICELANDIC FISHERY

Afli íslenskra skipa úr norsk-íslenska síldarstofninum árið 2017 var 90 400 tonn og var allur veiddur í flotvörpu. Rúmlega 62% aflans fékkst innan íslenskrar lögsögu, um 32% í færeyskri lögsögu og um 6% á alþjóðahafsvæði. Veiðar úr stofninum fóru fram frá ágúst til nóvember. Mest veiddist í október (59%) og í september (18%). Þungamiðja veiðanna hefur því verið seinna á árinu undanfarin ár. Heildarafli allra þjóða úr stofninum árið 2017 var 721 566 tonn.

Icelandic landings of Norwegian spring-spawning herring in 2017 were 90 400 tonnes, all caught with pelagic trawl. About 62% of the catches were taken within the Icelandic EEZ, around 32% within the Faroese EEZ, and around 6% in international waters. The main fishery took place in August to November. Majority of the catches were taken in October (59%) and September (18%). Thus, the fishery is taken place later in the season every year. The total catch of all nations in 2017 was 721 566 tonnes.



Norsk-íslensk síld. Veiðisvæði íslenskra skipa árið 2017 (t/sjm²)
NSS herring. Fishing grounds of the Icelandic fleet in 2017 (t/nm²)

AÐRAR UPPLÝSINGAR – OTHER INFORMATION

Ekki er í gildi samkomulag milli þeirra þjóða sem stunda veiðar úr norsk-íslenska síldarstofninum um skiptingu aflahlutdeildar og hver þjóð hefur því sett sér aflamark. Afleiðingarnar eru að frá árinu 2013 hafa veiðar umfram ráðgjöf ICES numið 10–21% á ári. Samhliða hefur stofninn farið minnkandi vegna lélegrar nýliðunar frá árinu 2005.

Ráðgjöfin fyrir árið 2019 byggir á nýrri aflareglu (Anon. 2018). Jafnframt hafa viðmiðunarmörk verið endurmetin þar sem t.d. aðgerðarmörk ($MSY B_{trigger}$) lækkaðu frá 5 milljón tonn niður í 3,184 milljón tonn.

Since 2013, a lack of agreement by the coastal states on their share in the TAC has led to unilaterally set quotas, which together are 10–21% higher than the TAC indicated by the management plan. Simultaneously, the stock size has declined because of relatively poor recruitment since 2005.

The advised catch for 2019 is based on a new management rule (Anon. 2018). In addition, biological reference points have been revised where for example $MSY B_{trigger}$ changed from 5 million tonnes to 3.184 million tonnes.

RÁÐGJÖF, AFLAMARK OG AFLI – ADVICE, TAC AND CATCH

Norsk-íslensk síld. Tillögur um hámarksafla, aflamark samkvæmt ákvörðun stjórnvalda og afli (tonn).

Norwegian spring-spawning herring. Recommended TAC, national TAC and catches (tonnes).

Ár Year	Tillaga ICES Rec. TAC ICES	Aflamark Ísland Iceland national TAC	Afli Íslendinga Catches Iceland	Aflamark allra þjóða Total national TAC	Afli alls Total catch
2011	988 000–1 170 000	145 000	151 074	988 000	992 997
2012	833 000	121 000	120 956	833 000	826 000
2013	619 000	90 000	90 729	692 000*	684 743
2014	418 487	61 000	58 828	436 893*	461 306
2015	283 013	41 000	42 626	328 206*	328 740
2016	≤ 316 876	46 000	50 186	376 612*	383 174
2017	≤ 437 364**	103 000	90 400	805 142*	721 566
2018	≤ 384 197	72 428		546 448*	
2019	≤ 588 562				

* Ekkert samkomulag um heildaraflamark; því er sýnd summan af aflamarki allra þjóða – *There was no agreement on the TAC; the number is the sum of autonomous quotas from the individual states.*

** Fyrri ráðgjöf upp á 646 075 þús. tonn var endurskoðuð í nóvember 2017 eftir að villa í stofnmati uppgötvaðist. – *The advice was revised in November 2017 from 646 075 tonnes after an error in the assessment was noted.*

HEIMILDIR OG ÍTAREFNI – REFERENCES AND FURTHER READING

Anon. 2018. Arrangement for the long-term management of the Norwegian Spring Spawning (Atlanto-scandian) Herring stock. Coastal States meeting, London, UK, October 2018.

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ICES. 2018b. Report of the Working Group on Widely Distributed Stocks (WGWISE), 28 August–3 September 2018, The Faroe Marine Research Institute, Tórshavn, Faroe Islands. ICES CM 2018/ACOM:23. [ICES WGWISE report 2018](#)

ICES. 2018c. Report of the Workshop on the determination of reference points for Norwegian Spring Spawning Herring (WKNSSHREF), 10–11 April 2018, ICES Headquarters, Copenhagen, Denmark. ICES CM 2018/ACOM:45. 83 pp

ICES. 2018d. Report of the Workshop on a long-term management strategy for Norwegian Spring-spawning herring (WKNSSHMSE), 26–27 August 2018, Torshavn, Faroe Islands. ICES CM 2018/ACOM: 53. 108 pp.