

NORSK-ÍSLENSK VORGOTSSÍLD

NORWEGIAN SPRING-SPAWNING HERRING

Clupea harengus

RÁÐGJÖF – ADVICE

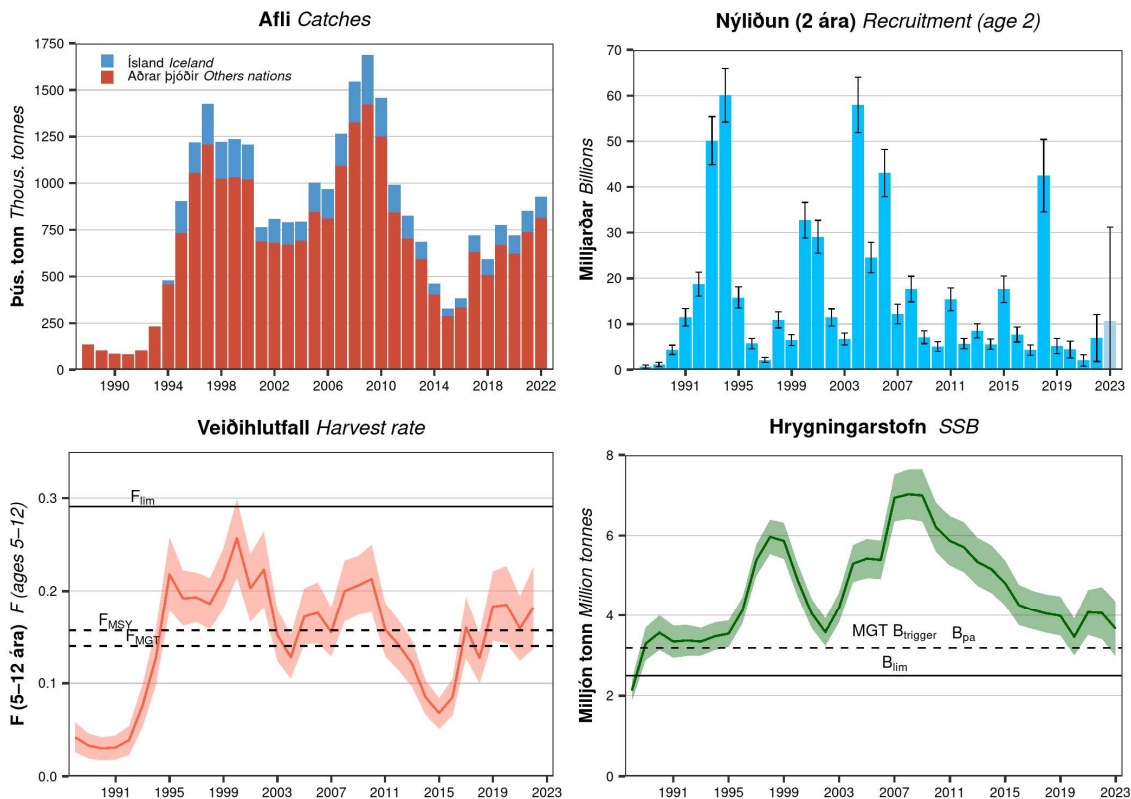
Alþjóðahafrannsóknaráðið (ICES) ráðleggur í samræmi við langtímanýtingarstefnu samþykka af Evrópu-sambandinu, Bretlandi, Færeyjum, Íslandi, Noregi, og Rússlandi að afli ársins 2024 verði ekki meiri en 390010 tonn.

ICES advises that when the long-term management strategy agreed by the European Union, the UK, the Faroe Islands, Iceland, Norway, and the Russian Federation is applied, catches in 2024 should be no more than 390010 tonnes.

STOFNÞRÓUN – STOCK DEVELOPMENT

Veiðidánartala stofnsins er metin yfir kjörsókn (F_{MSY}) og er á milli F_{pa} og F_{lim} . Stærð hrygningarstofns er yfir aðgerðarmörkum (MGT $B_{trigger}$), gátmörkum (B_{pa}) og varúðarmörkum (B_{lim}).

Fishing pressure on the stock is above F_{MSY} and between F_{pa} and F_{lim} , and spawning-stock size is above MGT $B_{trigger}$, B_{pa} , and B_{lim} .



Norsk-ísleensk vorgotssíld. Niðurstöður stofnmats. Áætluð nýliðun árið 2023 er sýnd með ljósbláum lit.

Norwegian spring-spawning herring. Summary of the stock assessment. The assumed recruitment value for 2023 is shaded in light blue.

STOFNMAT OG GÁTMÖRK – BASIS OF ASSESSEMENT AND REFERENCE POINTS

Forsendur ráðgjafar <i>Basis of the advice</i>	Nýtingarstefna <i>Management strategy</i>
Nýtingarstefna <i>Management strategy</i>	Langtímanýtingarstefna sem var samþykkt af strandríkjum árið 2018 (Anon, 2018) og í framhaldinu af Bretlandi (Anon, 2020). <i>A long-term management strategy was agreed by coastal states in 2018 (Anon, 2018) and subsequently by the UK (Anon, 2020).</i>
Stofnmat <i>Assessment type</i>	Aldursafllíkan (XSAM; ICES 2016) <i>Statistical age disaggregated assessment model (XSAM; ICES, 2016)</i>
Inntaksgögn <i>Input data</i>	Stofnmatið nær til árunna 1988–2023: aldursgreindur afli (stofnþyngdir byggðar á þyngd eftir aldri úr leiðöngrum, og frá 2009 á sýnatöku úr afla). Þrjár leiðangursvísitölur: Norskur bergmálsleiðangur á hrygningarsvæðum í febrúar/mars (NASF, 1994–2005, 2015–2023); Alþjóðlegur vistfræðileiðangur í Austurdjúpi í maí (IESNS) sem nær yfir fullorðna hluta stofnsins í Noregshafi (1996–2023) og tveggja ára síld í Barentshafi árin 1991–2019 og 2021 (enginn leiðangur var farinn 2020 og 2022–2023). Kynþroskahlutfall eftir aldri háð stærð árgangs. Fastur náttúrulegur dauði ákvarðaður frá eldri gögnum (settur sem 0.9 fyrir tveggja ára og 0.15 fyrir eldri en tveggja ára). <i>Assessment period 1988–2023: 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 [A7918]; 1994–2005, 2015–2023); International Ecosystem Survey in the Nordic Seas (IESNS; A3675) covering the adult stock in the Nordic seas (1996–2023), and the juvenile stock in the Barents Sea 1991–2019 and 2021 (no survey was conducted in 2020 and 2022–2023). Proportion mature depends on year-class size. Natural mortalities are fixed values from historical analyses (age 2 = 0.9; ages greater than 2 = 0.15).</i>

Nálgun <i>Framework</i>	Viðmiðunarmörk <i>Reference point</i>	Gildi <i>Value</i>	Grundvöllur <i>Technical Basis</i>
MSY nálgun <i>MSY approach</i>	MSY $B_{trigger}$	3.184	B_{pa} ; í milljónum tonna <i>B_{pa}; in million tonnes</i>
	F_{MSY}	0.157	Slembihermanir byggðar á Beverton-Holt, skiptri aðhvarfsgreiningu og Ricker stofn-nýliðunar samböndum, en er að hámarki jafnt F_{POS} <i>Stochastic simulations with Beverton-Holt, segmented regression, and Ricker stock-recruitment relationships, capped to F_{POS}</i>
Varúðarnálgun <i>Precautionary approach</i>	B_{lim}	2.5	MBAL (samþykkt 1998); í milljónum tonna <i>MBAL (accepted in 1998); in million tonnes</i>
	B_{pa}	3.184	Byggt á B_{lim} og stofnmatsóvissu. $B_{lim} \times \exp(1.645 \times \sigma)$, með $\sigma = 0.147$; í milljónum tonna <i>Based on B_{lim} and assessment uncertainties. $B_{lim} \times \exp(1.645 \times \sigma)$, with $\sigma = 0.147$; in million tonnes</i>
	F_{lim}	0.291	Mismunandi sviðsmyndir metnar með slembinni nýliðun: F gildið samsvarar 50% líkum á $SSB < B_{lim}$ <i>Equilibrium scenarios with stochastic recruitment: F value corresponding to 50% probability of ($SSB < B_{lim}$)</i>
	F_{pa}	0.157	F_{POS} ; F sem leiðir til $SSB \geq B_{lim}$ með 95% líkum <i>F_{POS}; the F that leads to $SSB \geq B_{lim}$ with 95% probability</i>
Langtímanýtingarstefna ESB, Færeyja, Íslands, Noregs og Rússlands <i>EU-Faroes-Iceland-Norway-Russian Federation long-term management strategy</i>	SSB_{mgt_lower}	2.5	Nýtingarstefna byggð á varúðarnálgun metin með nýtingastefnuhermunum. Stærð hrygningarflokkur í milljónum tonna. <i>Precautionary HCR evaluated by MSE. SSB values in million tonnes</i>
	SSB_{mgt}	3.184	
	F_{mgt_lower}	0.05	
	F_{mgt}	0.14	

HORFUR – PROSPECTS

Norsk-íslensk vorgotssíld. Forsendur fyrir stofnmatsárið og í framreikningum.

Norwegian spring-spawning herring. Assumptions made for the interim year and in the forecast.

Breyta Variable	Gildi Value	Athugasemdir Notes
F ₅₋₁₂₊ ára (2023) F _{ages 5-12+} (2023)	0.186	Samkvæmt áætluðum afla 2023 Based on assumed catches in 2023
Hrygningarstofn (2024) SSB (2024)	3 059 464	Byggt á stofnmati; í tonnum From the assessment; in tonnes
Nýliðun 2 ára (2024) Recruitment age 2 (2024)	10.619	Miðgildi nýliðunar árána 1988-2022; í milljörðum Median stochastic recruitment based on the years 1988-2022; billions
Nýliðun 2 ára (2025) Recruitment age 2 (2025)	10.619	Meðaltal nýliðunar árána 1988-2022; í milljörðum Median stochastic recruitment based on the years 1988-2022; billions
Afli (2023) Catch (2023)	692 942	Samanlagt aflamark veiðþjóða; í tonnum Sum of declared unilateral quotas; tonnes

Norsk-íslensk vorgotssíld. Áhrif mismunandi aflamarks. Allar þyngdir eru í tonnum.

Norwegian spring-spawning herring. Annual catch scenarios. All weights are in tonnes.

Grunnur Basis	Afli (2024) Catch (2024)	Veiðidánartala (2024) F ₅₋₁₂₊ (2024)	Hrygningarstofn (2025) SSB (2025)	% Breyting á hrygningarstofni ¹⁾ % SSB change ¹⁾	% Breyting á afla ²⁾ % catch change ²⁾	% Breyting á ráðgjöf ³⁾ % Advice change ³⁾	% líkur að hrygningarstofn fari undir B _{lim} 2025 % probability of SSB falling below B _{lim} in 2025
Samþykkt nýtingarstefna Agreed management strategy	390 010	0.124	2 913 275	-5	-44	-24	15.7
F = F ₂₀₂₃	570 511	0.186	2 759 039	-10	-18	12	27.7

¹⁾ Hrygningarstofn árið 2025 miðað við hrygningarstofn árið 2024 (3 059 464 t) – SSB in 2025 relative to SSB in 2024 (3 059 464 t)

²⁾ Afli árið 2024 miðað við áætlaðan afla ICES árið 2023 (692 942 t) – Catch in 2024 relative to ICES estimated catch in 2023 (692 942 t)

³⁾ Ráðlagt aflamark fyrir árið 2024 miðað við ráðlagt aflamark árið 2023 (511 171 t) – Advice value 2024 relative to advice value 2023 (511 171 t)

Ráðgjöf ársins 2024 er 24 % lægri en árið 2023 vegna: (1) hrygningarstofn er að minnka vegna lélegrar nýliðunar síðan stóri árgangurinn frá árinu 2016 kom inn í stofninn; og (2) ráðlögð veiðidánartala lækkar frá síðasta ári þar sem áætlaður hrygningarstofn árið 2024 er undir aðgerðamörkum (SSB_{mgt} = MSY B_{trigger}).

The advice for 2024 is 24% lower than for 2023 because: (1) the adult stock size is declining as a result of low recruitment since the large 2016 year class; and (2) F advised is reduced compared to last year since the SSB in 2024 is predicted to be below SSB_{mgt} (=MSY B_{trigger}).

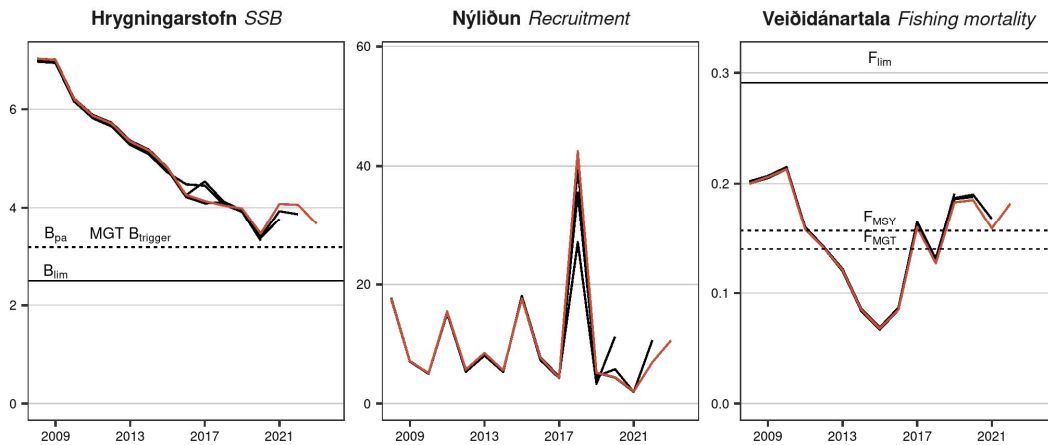
GÆÐI STOFNMATS – QUALITY OF THE ASSESSEMENT

Áætluð stærð hrygningarstofns og veiðidánartala eru í samræmi við stofnmat síðasta árs. Mat á stærð árgangsins frá árinu 2016 hefur hækkað frá mati fyrri ára.

Stofnmælingaleiðangur Rússa í Barentshafi í maí féll niður árin 2022 og 2023. Engar leiðangursvísitölur eru því til um tveggja ára síld. Í framreikningum á stofnstærð var nýliðun því ákvörðuð sem miðgildi nýliðunar yfir árin 1988–2022. Þetta hefur þó engin áhrif á ráðlagðan afla.

The estimated SSB and fishing mortality are consistent with the estimates from last year's assessment. The 2016 year class has been revised upward over the last years.

The Russian Barents Sea survey (IESNS; A3675) was not conducted in 2022 or 2023. There was no survey information on age 2, and therefore median stochastic recruitment based on the years 1988–2022 was used instead in the forecast. However, this has no impact on the advised catches.



Norsk-íslensk vorgottsíld. Samanburður á stofnmati árunum 2019–2023 (rauð lína: 2023).

Norwegian spring-spawning herring. Current assessment (red line: 2023) compared with previous estimates (2019–2022).

AÐRAR UPPLÝSINGAR – OTHER INFORMATION

Afli íslenskra skipa úr norsk-íslenska síldarstofninum árið 2022 var 112 739 tonn og var allur veiddur í flotvörpu. Rúmlega 90 % aflans fékkst innan íslenskrar lögsögu og 10 % í Síldarsmugunni. Veiðar úr stofninum voru stundaðar í júní- nóvember og var mest veitt í september (47 %) og október (40 %). Heildarafla allra þjóða úr stofninum árið 2022 var 813 834 tonn.

Gert er ráð fyrir að árgangurinn frá árinu 2016 verði uppistaða aflans árið 2024 (45 %). Árgangar þar á eftir eru metnir slakir.

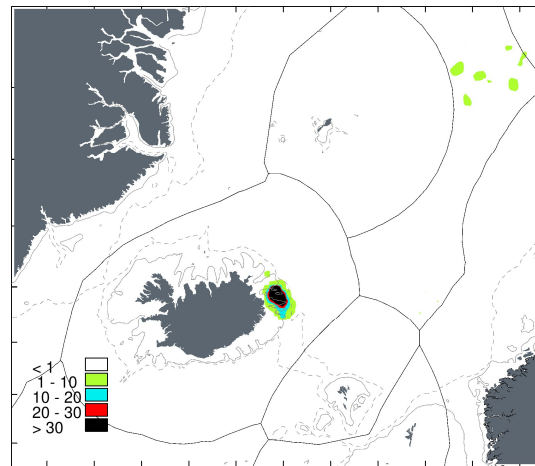
Niðurstöður stofnmatsins sýna að stærð hrygningarstofns árið 2025 verður undir aðgerðarmörkum nýtingarstefnu (SSB_{mgt}) jafnvel þótt aflareglu verði fylgt árið 2024.

Veiðar úr stofninum hafa verið umfram ráðgjöf síðan árið 2013. Ráðgjöfin byggir á fiskveiðidauða

samkvæmt langtímanýtingarstefnu sem samþykkt var af Evrópusambandinu, Færeyjum, Íslandi, Noregi og Rússlandi. Þar er ekki gert ráð fyrir frávikum frá ráðlögðu aflamarki sem er hins vegar reyndin eins og sjá má af samanlögðu einhliða aflamarki ríkjanna. Við prófanir á aflareglunni var ekki tekið tillit til að afli færi kerfisbundið umfram ráðgjöf samkvæmt nýtingarstefnu (ICES, 2016). Það getur leitt til þess að veiðarnar uppfylli ekki varúðarsjónarmið og að stærð hrygningarstofns fari undir varúðarmörk og skili minni afrakstri til lengri tíma lítið.

The Icelandic catch of Norwegian spring-spawning herring in 2022 was 112 739 tonnes, all caught with pelagic trawl. About 90% of the catches were taken within the Icelandic EEZ and 10% in international waters. The fishery took place in June to November with the highest catches in September (53%). The total catch of all nations in 2022 amounted to 813 834 tonnes.

The 2016 year class is expected to dominate the catches in 2024 (45%), and the subsequent year classes recruiting to the fishery are estimated to be weak.



Norsk-íslensk síld. Veiðisvæði íslenskra skipa árið 2022 (t/sjm²)

NSS herring. Fishing grounds of the Icelandic fleet in 2022 (t/nmi²)

SSB is predicted to be below SSB_{mgt} in 2025 even if the management plan is applied in 2024.

There has been an overshoot of the catches in relation to the advised TAC since 2013. The advice is based on the target fishing mortality in the long-term management strategy agreed by the European Union, the Faroe Islands, Iceland, Norway, and the Russian Federation; it does not consider the deviations from the long-term management strategy as evident from the sum of declared unilateral quotas. During the evaluation of the long-term management strategy (ICES, 2018a), the implementation error in the form of a consistent overshoot of the TAC was not included. Therefore, failing to adhere to the advised catches as derived from the application of the long-term management strategy may not be precautionary. Specifically, this may result in an increased risk for the stock to fall below B_{lim} and loss of catch in the long term.

RÁÐGJÖF, AFLAMARK OG AFLI – ADVICE, TAC AND CATCH

Norsk-íslensk síld. Tillögur um hámarksafla, aflamark samkvæmt ákvörðun stjórnvalda og aflí (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 ¹⁾	684 743
2014	418 487	61 000	58 828	436 893 ¹⁾	461 306
2015	283 013	41 000	42 626	328 206 ¹⁾	328 740
2016	316 876	46 000	50 186	376 612 ¹⁾	383 174
2017	437 364	103 000	90 400	805 142 ¹⁾	721 566
2018	384 197	72 428	83 392	546 448 ¹⁾	592 899
2019	588 562	102 174	108 046	773 750 ¹⁾	777 165
2020	525 594	91 243	98 173	693 915 ¹⁾	720 937
2021	651 033	117 707	114 299	881 097 ¹⁾	851 813
2022	598 588	108 225	112 739	827 963 ¹⁾	813 834
2023	511 171	90 954		692 942 ¹⁾	
2024	390 010				

¹⁾ Ekkert samkomulag um heildaraflamark; því er sýnt útgefið heildaraflamark veiðipjóða - There was no agreement on the TAC; the number is the sum of autonomous quotas from the individual parties.

HEIMILDIR OG ÍTAREFNI – REFERENCES AND FURTHER READING

Anon. 2018. Agreed record of conclusions of fisheries consultations between Iceland, the European Union, the Faroe Islands, Norway and the Russian Federation on the management of the Norwegian spring-spawning (Atlanto-Scandian) herring stock in the North-East Atlantic in 2019. London, 6 November 2018. 6 pp.

<https://www.pelagic-ac.org/media/pdf/2019%20CS%20agreement%20on%20ASH%20TAC%20and%20LTM%20plan.pdf>

Anon. 2020. Agreed record of conclusions of fisheries consultations between Norway, the European Union, the Faroe Islands, Iceland, the Russian Federation and the United Kingdom on the management of the Norwegian spring-spawning (Atlanto-Scandian) herring in the North-East Atlantic in 2021. Video-conference, 20-21 October 2020. 7 pp.

<https://webarchive.nationalarchives.gov.uk/ukgwa/20201216185739/https://www.gov.uk/government/publications/fisheries-herring-and-blue-whiting-management-in-the-north-east-atlantic>

ICES. 2016. Report of the Benchmark Workshop on Pelagic Stocks (WKPELA), 29 February–4 March 2016, ICES Headquarters, Copenhagen, Denmark. ICES CM 2016/ACOM:34. 106 pp. <https://doi.org/10.17895/ices.pub.5581>

ICES. 2018a. Report of the Workshop on a long-term management strategy for Norwegian Spring-spawning herring (WKNSSHME), 26–27 August 2018, Torshavn, Faroe Islands. ICES CM 2018/ACOM:53. 113 pp. <https://doi.org/10.17895/ices.pub.5583>. Annex 9 is available separately on [ICES website](#).

ICES. 2018b. 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. <https://doi.org/10.17895/ices.pub.5582>

ICES. 2023a. Advice on fishing opportunities. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, section 1.1.1. <https://doi.org/10.17895/ices.advice.22240624>

ICES. 2023b. Working Group on Widely Distributed Stocks (WGWIDE). ICES Scientific Reports. 5:82. <https://doi.org/10.17895/ices.pub.24025482>