

LANGA - LING

Molva molva

RÁÐGJÖF – ADVICE

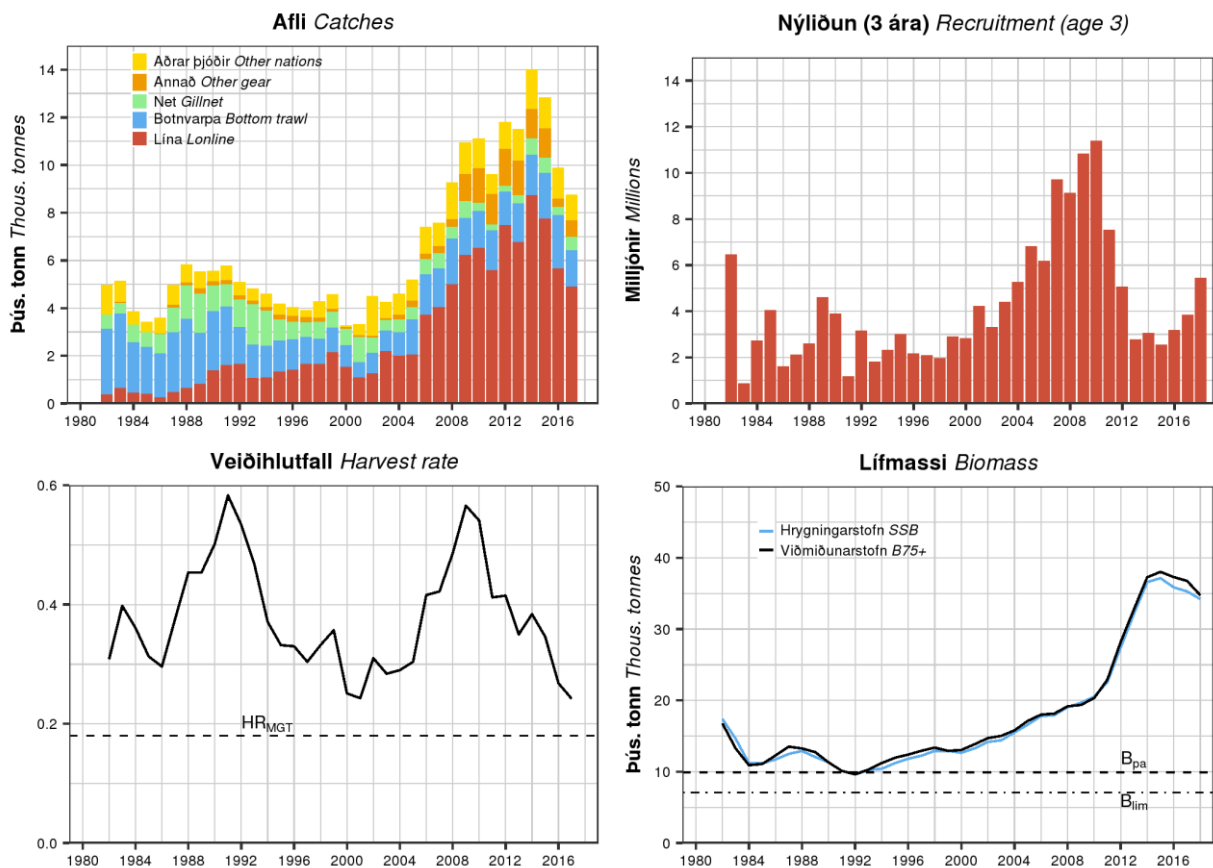
Hafrannsóknastofnun og Alþjóðahafrannsóknaráðið leggja til, í samræmi við aflareglu íslenskra stjórnvalda, að afli fiskveiðiárið 2018/2019 verði ekki meiri en 6255 tonn.

MFRI and ICES advise that when the Icelandic management plan is applied, catches in the fishing year 2018/2019 should be no more than 6255 tonnes.

STOFNÞRÓUN – STOCK DEVELOPMENT

Nýliðun var góð milli 2004 og 2011 en hefur minnkað og er nú svipuð og á árunum fyrir 2000. Stærð hrygningarstofns (SSB) og viðmiðunarstofns (langa stærri en 75 cm) er metin við sögulegt hámark. Veiðihlutfall hefur lækkað síðan 2008 og er nú það lægsta á stofnmatstímabilinu, en er þó yfir því veiðihlutfalli sem stefnt er að í aflareglu (HR_{MGT}).

Recruitment was high from 2004 to 2011 but has declined to the levels of the 1980s and 1990s. The spawning-stock biomass (SSB) and the reference biomass (ling >75 cm) in 2017 are among the highest in the time-series. Harvest rate (HR) has decreased since 2008 and is now the lowest in the time series, but above HR_{MGT} .



Langa. Afli eftir veiðarfærum, nýliðun 3 ára, veiðihlutfall, og stærð viðmiðunarstofns (B_{75+}) og hrygningarstofns.

Ling. Catch by gear types, recruitment at age 3, harvest rate, and SSB and reference biomass (B_{75+}).

STOFNMAT OG GÁTMÖRK – BASIS OF THE ASSESSMENT AND REFERENCE POINTS

Forsendur ráðgjafar <i>Advice basis</i>	Aflaregla <i>Management plan</i>
Aflaregla <i>Management plan</i>	Aflamark sett sem 18% af stærð viðmiðunarstofns (B_{75+}) á stofnmatsári <i>TAC set as 18% of reference biomass (B_{75+}) in the assessment year</i>
Stofnmat <i>Assessment type</i>	Gadget – aldurs og lengdar líkan. <i>Gadget: Analytical age-length based assessment</i>
Inntaksgögn <i>Input data</i>	Aldurs og lengdargögn úr aflu og stofnmælingum (SMB). <i>Age and length data from commercial catches and surveys (IS-SMB)</i>

Nálgun <i>Framework</i>	Gátmörk <i>Reference point</i>	Gildi <i>Value</i>	Grundvöllur <i>Basis</i>
Aflaregla <i>Management plan</i>	SSB _{MGT}	9930	B_{pa}
	HR _{MGT}	0.18	Veiðihlutfall af viðmiðunarstofni (B_{75+}), leiðir til langtíma hámarksafraksturs. Vænt gildi veiðihlutfalls, þegar veitt er samkvæmt aflareglu, er milli 0.12 og 0.28. <i>Percentage of biomass 75+ cm. Leads to long-term MSY. Realized HR can range from 0.12-0.28.</i>
MSY	MSY- $B_{trigger}$	9930 t	B_{pa}
	HR _{MSY}	0.24	Slembireikningar innan Gadget líkans <i>Stochastic projections</i>
	F _{MSY}	0.284	Slembireikningar innan Gadget líkans <i>Stochastic projections</i>
Varúðarnálgun <i>Precautionary approach</i>	B_{lim}	7090 t	$B_{pa}/1.4$
	B_{pa}	9930 t	B_{loss}
	F _{lim}	0.7	Veiðidánartala sem leiðir til þess að hrygningarstofn er yfir B_{lim} með 50% líkum <i>Equilibrium F which will maintain the stock above B_{lim} with a 50% probability</i>
	F _{pa}	0.41	95% líkur á að veiðidánartala sé undir F _{lim} <i>95% probability that true F is below F_{lim}.</i>
	HR _{lim}	0.56	Veiðihlutfall sem leiðir til þess að hrygningarstofn er yfir B_{lim} með 50% líkum <i>Equilibrium HR which will maintain the stock above B_{lim} with a 50% probability</i>
	HR _{pa}	0.35	95% líkur á að veiðihlutfall sé undir HR _{lim} <i>95% probability that true HR is below HR_{lim}.</i>

HORFUR – PROSPECTS

Framreikningar benda til að hrygningarstofn löngu og afli muni minnka á komandi árum vegna lítillar nýliðunar árin 2012–2016.

Short term projections indicate a declining SSB and catches as the result of low recruitment in 2012–2016.

Langa. Áætluð þróun á stærð hrygningarstofns (tonn) miðað við veiðar samkvæmt aflareglu.

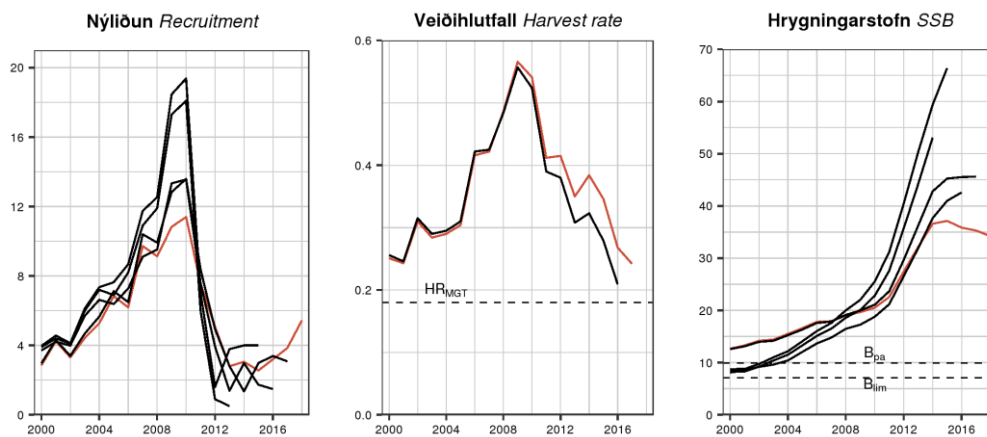
Ling. Projection of SSB (tonnes) based on catch according to the management plan.

2018		2018/2019		2020
Viðmiðunarstofn (B_{75+}) <i>Reference biomass (B_{75+})</i>	Hrygningarstofn <i>SSB</i>	Aflamark <i>TAC</i>	Veiðihlutfall 2018 <i>Harvest rate 2018</i>	Hrygningarstofn <i>SSB</i>
34 750	34 200	6255	0.180	32 693

GÆÐI STOFNMATS – QUALITY OF THE ASSESSMENT

Stofnmat löngu var endurskoðað á rýnifundi WKICEMSE (ICES, 2017) og því er stofnmat árána 2017 og 2018 ekki að fullu sambærileg við stofnmat fyrri ára. Veiðiálag er nú skilgreint sem veiðihlutfall löngu 75 cm og stærri, en í stofnmati fyrir 2017 var það skilgreint sem fiskveiðidánartala 14–19 ára. Kynþroski er nú metinn innan stofnmatslíkansins.

This stock was benchmarked in 2017 (ICES, 2017), therefore the assessments in 2017 and 2018 are not fully comparable with previous assessments. Fishing pressure is now defined in terms of harvest rate of biomass of ling 75 cm and larger, but in the assessments prior to 2017 it was defined in terms of fishing mortality for ages 14–19. In previous assessments a fixed maturity ogive was used, but maturity is now estimated in the model.



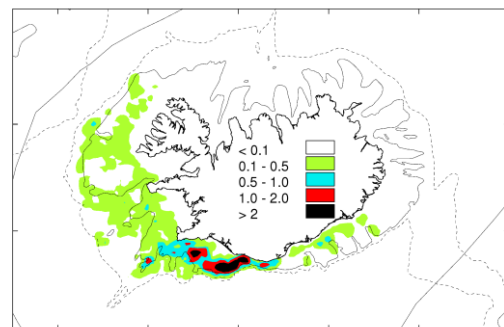
Langa. Samanburður á stofnmati árána 2014–2018 (rauð lína: 2018).

Ling. Current assessment (red line) compared with previous estimates (2013–2017).

VEIÐAR – THE FISHERY

Á tímabilinu 1982–2005 var landaður afli á bilinu 3200–5900 tonn en jókst mikið fram til 2014 þar sem hann náði rúmum 13 þúsund tonnum. Afliinn hefur síðan þá minnkað og var tæp 9000 tonn árið 2017. Síðustu þrjú áratugi hafa Íslendingar veitt 85–90% lönguafllans á Íslandsmiðum.

In 1982–2005 ling catches ranged between 3200–5900 tonnes but increased until the year 2014 to more than 13 000 tonnes. Catches have since then decreased and were around 9000 tonnes in 2017. Catches of ling were mostly taken by Icelandic vessels.



Langa. Veiðisvæði árið 2017 (t/sjm²)

Ling. Fishing grounds in 2017 (t/nm²)

Afli 2017 (tonn) Catches 2017 (tonnes)	Lína Longline	Botnvarpa Bottom trawl	Net og dragnót Gillnets and demersal seine
8766	65%	20%	15%

AÐRAR UPPLÝSINGAR – OTHER INFORMATION

Árið 2017 tóku íslensk stjórnvöld upp aflareglu sem áður hafði verið rýnd af Alþjóðahafrannsóknaráðinu (ICES) m.t.t. varúðarnálgunar, sem og hvort hún væri í samræmi við hámarksafrakstur til lengri tíma litið (MSY).

In 2017, the Ministry of Industries and Innovation adopted a harvest control rule for tusk which had previously been reviewed by ICES in terms of the precautionary approach, and if it was consistent with ICES MSY-approach.

RÁÐGJÖF, AFLAMARK OG AFLI – ADVICE, TAC AND CATCH

Langa. Tillögur um hámarksafla, ákvörðun stjórnvalda um aflamark og aflu (tonn).

Ling. Recommended TAC, national TAC, and catches (tonnes).

Fiskveiðiár <i>Fishing year</i>	Tillaga <i>Rec. TAC</i>	Aflamark <i>National TAC</i>	Afli Íslendinga <i>Catches Iceland</i>	Afli annarra þjóða <i>Catches other</i>	Afli alls <i>Total catch</i>
2010/11	7500	7500	9327	768	10095
2011/12	8800	9000	10074	1059	11133
2012/13	12000	11500	11196	1249	12445
2013/14	14000	13500	11717	1683	13400
2014/15	14300	13800	11112	1311	12423
2015/16	16200	15000	9773	1456	11229
2016/17	9343	8143	7291	1135	8426
2017/18	8598 ¹⁾	7598			
2018/19	6255 ¹⁾				

¹⁾ 18% aflaregla. 18% harvest control rule

HEIMILDIR OG ÍTAREFNI – REFERENCES AND FURTHER READING

ICES. 2017. Report of the Workshop on Evaluation of the Adopted Harvest Control Rules for Icelandic Summer Spawning Herring, Ling and Tusk (WKICEMSE), 21–25 April 2017, Copenhagen, Denmark. ICES CM 2017/ACOM:45. 196 pp. http://www.hafogvatn.is/wp-content/uploads/2017/05/wkicemse_2017.pdf

ICES. 2018. Report of the Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP), 11 - 18 April 2018, Copenhagen, Denmark. ICES CM 2018/ACOM:14. https://www.hafogvatn.is/static/files/Veidiradgjof/2018/06-ling2018_wgdeep.pdf

MFRI Assessment Reports 2018. Ling. Marine and Freshwater Research Institute, 13 June 2018.