

LANGA – LING

Molva molva

RÁÐGJÖF – ADVICE

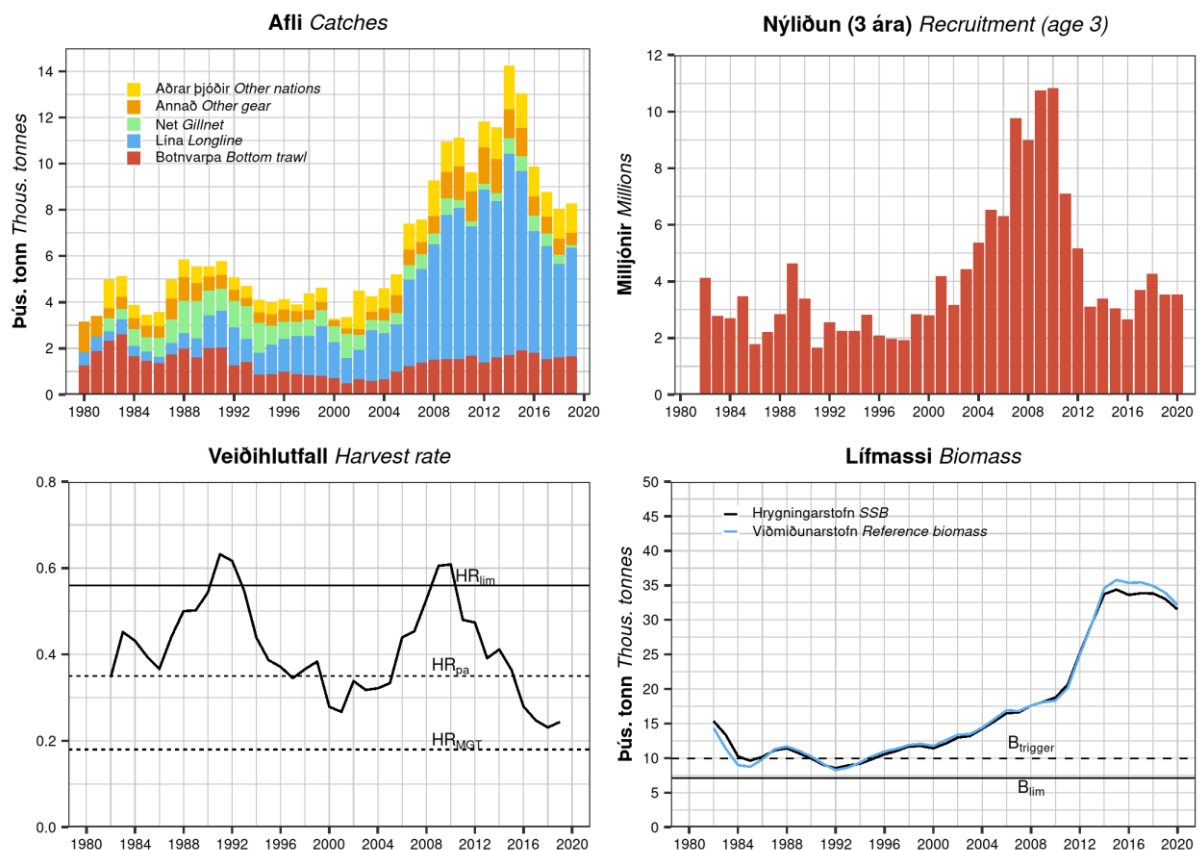
Hafrannsóknastofnun leggur til, í samræmi við aflareglu íslenskra stjórnvalda, að afli fiskveiðiárið 2020/2021 verði ekki meiri en 5700 tonn.

MFRI advises that when the Icelandic management plan is applied, catches in the fishing year 2020/2021 should be no more than 5700 tonnes.

STOFNÞRÓUN – STOCK DEVELOPMENT

Stærð hrygningarstofns (SSB) og viðmiðunarstofns (langa >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}). Nýliðun var góð árin 2004–2011 en hefur minnkað og er nú svipuð og á árunum fyrir 2000.

The spawning-stock biomass (SSB) and the reference biomass (ling >75 cm) in 2013–2018 were among the highest in the time series, but are now declining. Harvest rate (HR) has decreased since 2008 and is now the lowest in the time series, but above HR_{MGT} . Recruitment was high from 2004 to 2011 but has declined to the levels of the 1980s and 1990s.



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

Ling. Catch by gear types, recruitment, 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 hámarksafkrasturs. 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 og viðmiðunarstofn löngu muni haldast stöðugur á komandi árum.

Short term projections indicate relatively stable SSB and reference biomass of ling.

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

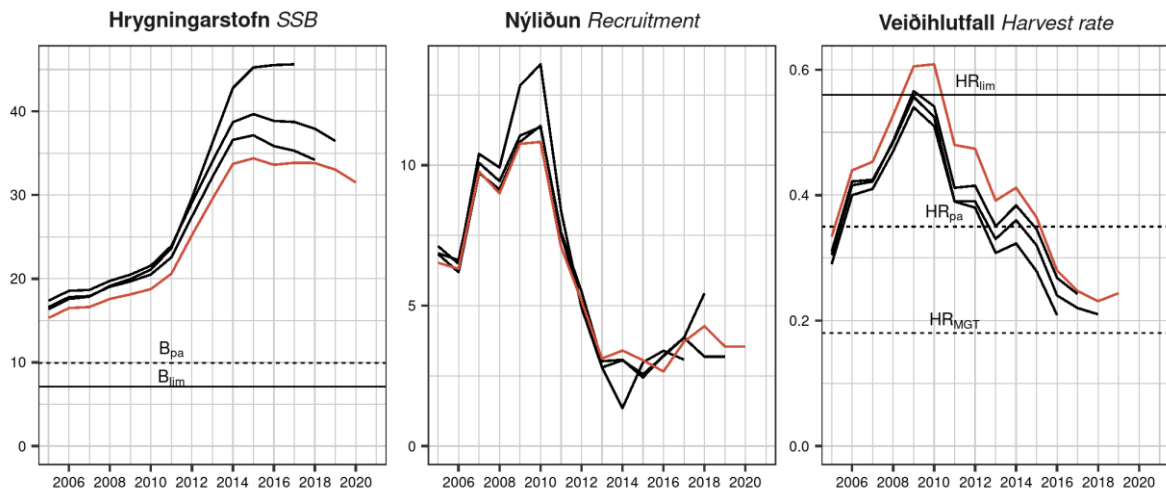
Ling. Projection of SSB (tonnes) based on catch according to the management plan.

2020		2020/2021		2022	
Viðmiðunarstofn (B_{75+}) <i>Reference biomass (B_{75+})</i>	Hrygningarstofn <i>SSB</i>	Aflamark <i>TAC</i>	Veiðihlutfall 2020 <i>Harvest rate 2020</i>	Viðmiðunarstofn (B_{75+}) <i>Reference biomass (B_{75+})</i>	Hrygningarstofn <i>SSB</i>
31665	31105	5700	0.18	32901	32203

GÆÐI STOFNMATS – QUALITY OF THE ASSESSMENT

Stofnmatið í ár metur stofn löngu minni og veiðhlutfall hærra en stofnmatið 2019. Munurinn er innan þeirra marka sem búast má við vegna óvissu í stofnmatslíkaninu.

The advice has decreased from last year due to a decrease in reference biomass and a slight downward revision of recent biomass levels, causing an upward revision in harvest rate, which falls within the expected bounds of model uncertainty.



Langa. Samanburður á stofnmati árána 2017–2020 (rauð lína: 2020).

Ling. Current assessment (red line) compared with previous estimates (2017–2019).

RÁÐGJÖF, AFLAMARK OG AFLI – ADVICE, TAC AND CATCH

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

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

Fiskveiðiár Fishing year	Tillaga Rec. TAC	Aflamark National TAC	Afli Íslendinga Catches Iceland	Afli annarra þjóða Catches other	Afli alls Total catch
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	6948	1625	8573
2018/19	6255 ¹⁾	5200	6927	1101	8028
2019/20	6599 ¹⁾	5299			
2020/21	5700 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

MFRI Assessment Reports 2020. Ling. Marine and Freshwater Research Institute, 16 June 2020.