

# ÚTHAFSRÆKJA – NORTHERN SHRIMP

## OFFSHORE

### *Pandalus borealis*

#### RÁÐGJÖF – ADVICE

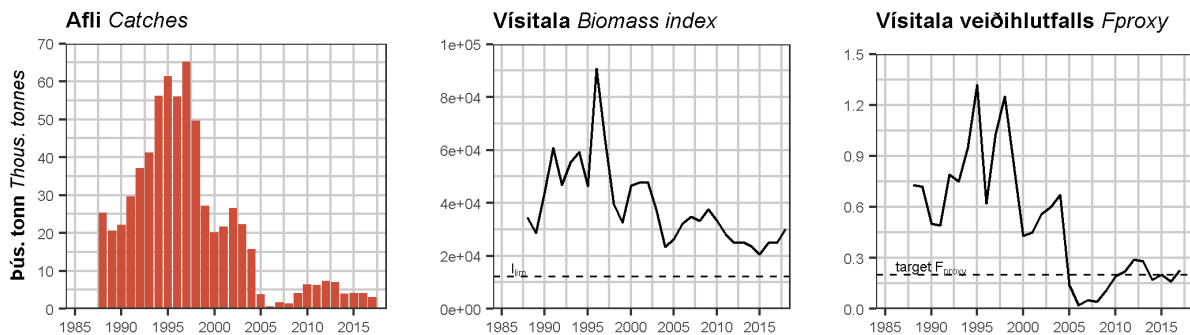
Hafrannsóknastofnun leggur til í samræmi við varúðarsjónarmið að afli fiskveiðiárið 2018/2019 verði ekki meiri en 5852 tonn.

*MFRI advises that when the precautionary approach is applied, catch in the fishing year 2018/2019 should be no more than 5852 tonnes.*

#### STOFNÞRÓUN – STOCK DEVELOPMENT

Vísitala veiðistofns hefur lítið breyst á árunum 2012–2018 fyrir utan árið 2015 þegar hún lækkaði og var sú lægsta frá upphafi mælinga. Vísitala veiðihlutfalls hækkaði frá 2005–2011. Vísitala veiðihlutfalls árin 2014–2017 var nærri markgildi (target  $F_{proxy}$ ).

*The biomass index has been relatively stable in 2012–2018, with the exception of the 2015 value which was the lowest in the time series. The  $F_{proxy}$  increased between 2005 and 2011, and the  $F_{proxy}$  in 2014–2016 was close to the target  $F_{proxy}$ .*



**Úthafsrækja.** Afli, vísitala veiðistofns ásamt varúðarmörkum  $I_{lim}$  og vísitala veiðihlutfalls. **Northern shrimp offshore.** Catches, fishable biomass indices with  $I_{lim}$ , and  $F_{proxy}$ .

#### STOFNMAT OG GÁTMÖRK – BASIS OF THE ASSESSMENT AND REFERENCE POINTS

Forsendur ráðgjafar <i>Advice basis</i>	Varúðarnálgun <i>Precautionary approach</i>
Aflaregla <i>Management plan</i>	Ekki hefur verið sett aflaregla fyrir þennan stofn <i>There is no management plan for this stock</i>
Stofnmat <i>Assessment type</i>	Byggt á tímaháðum breytingum í afla og stofnmælingum <i>Trends in biomass indicators and catch</i>
Inntaksgögn <i>Input data</i>	Afli og vísitölur (veiðistofn) úr stofnmælingu úthafsrækju <i>Commercial catch and fishable biomass index (Icelandic shrimp survey)</i>

Nálgun <i>Framework</i>	Gátmörk <i>Reference point</i>	Gildi <i>Value</i>	Grundvöllur <i>Basis</i>
Varúðarnálgun <i>Precautionary approach</i>	Markgildi $F_{proxy}$ <i>Target <math>F_{proxy}</math></i>	0.2	Meðaltal $F_{proxy}$ árána 2010–2015 <i>Mean <math>F_{proxy}</math> in 2010–2015</i>
	$I_{lim}$	12 200	Varúðarmörk ( $B_{lim}$ ). Gildi vísitölu veiðistofns sem er 20% af meðaltali þriggja hæstu vísitölugilda. <i>Proxy for <math>B_{lim}</math>. Biomass index value of 20% of the three highest indices.</i>

Grunnur ráðgjafar fylgir forskrift Alþjóðahafransóknaráðsins fyrir stofna þar sem ekki er hægt að beita aldurs-afلاغreiningu, en til eru vísitölur sem taldar eru gefa mynd af breytingum í stofnstærð (Category 3 stocks; [ICES, 2012](#)). Vísitala veiðistofns og afli eru notuð til að reikna vísitölu veiðihlutfalls ( $F_{proxy} = \text{afli}/\text{vísitala}$ ). Ráðgjöf byggir á markgildi á vísitölu veiðihlutfalls (target  $F_{proxy}$ ) sem er meðaltal árána 2010–2015, en á þeim tíma voru vísitölur veiðihlutfalls og veiðistofns tiltölulega stöðugar. Ráðgjöfin er fengin með því að margfalda markgildi  $F_{proxy}$  og nýjasta gildi vísitölu veiðistofns, að því gefnu að vísitalan sé yfir varúðarmörkum ( $I_{lim} = 12\,200$ ).

*This advice follows the ICES framework for category 3 stocks for which analytical assessment is not possible but trends in biomass indicators are assumed to reflect changes in stock dynamics (ICES 2012). The Icelandic shrimp survey was used as biomass indicator. The target  $F_{proxy}$  (catch/survey biomass) was defined as the mean from the reference period 2010–2015. The advice is based on multiplying the target  $F_{proxy}$  with the most recent index value, given that the index value is above  $I_{lim}$  (12 200). Since the target  $F_{proxy}$  is considered precautionary, the precautionary buffer was not applied. Discarding is considered negligible.*

Vísitala 2018 - Index 2018	29262	
Target $F_{proxy}$	0.2	
Ráðgjöf 2017 – Advice 2017	5000 t	
(Vísitala 2018 x target $F_{proxy}$ ) / Ráðgjöf 2017 (Index 2018 x target $F_{proxy}$ ) / Advice 2017	1.17	
Sveiflujöfnun – Uncertainty cap	Ekki beitt – Not applied	
Ráðgjöf – Catch advice	5852 t	

## HORFUR – PROSPECTS

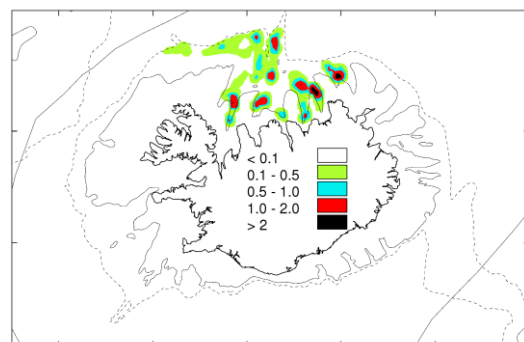
Vísitala ungrækju hefur verið lág frá 2004 og var í sögulegu lágmarki árin 2015, 2016 og 2018. Stofnvísitalan hefur verið nokkuð stöðug frá árinu 2012. Stofnmælingin bendir til að stofninn muni ekki stækka á næstu árum.

*The juvenile index has been low since 2004 and was at historically low levels in 2015, 2016 and 2018. The biomass index has been relatively stable since 2012. The shrimp survey therefore suggest that the stock will remain at low levels in coming years.*

## VEIÐAR – THE FISHERY

Veiðar á úthafsækju hófust um miðjan áttunda áratuginn og náði afli hámarki árin 1994–1997. Helstu veiðisvæði eru norður af landinu. Helstu meðaflategundir eru þorskur og grálúða.

*Offshore shrimp fishing started in the mid-1970s. Annual catches reached a maximum in 1994–1997. The main fishing grounds are north of Iceland. The main bycatch species in the fishery are cod and Greenland halibut.*



Úthafsækja. Veiðisvæði árið 2017 (t/sjm<sup>2</sup>)  
Offshore northern shrimp. Fishing grounds in 2017 (t/nmi<sup>2</sup>)

## AÐRAR UPPLÝSINGAR – OTHER INFORMATION

Magn þorsks í stofnmælingu úthafsækju var mikið á árunum 2015–2018. Einnig mældist mikið af þorski í stofnmælingu botnfiska að vori (SMB) og hausti (SMH). Því er líklegt að afrán á úthafsækju hafi aukist mikið á undanförunum árum.

*The abundance of cod in the offshore shrimp survey in 2015–2018 was high. The same was observed in the spring groundfish survey (IS-SMB) and the autumn groundfish survey (IS-SMH). Therefore, it is assumed that the predation of shrimp by cod has increased significantly in recent years.*

## RÁÐGJÖF, AFLAMARK OG AFLI – ADVICE, TAC AND CATCH

**Úthafsækja.** Tillögur um hámarksaflla, ákvörðun stjórnvalda um aflamark og afli (tonn).

**Northern shrimp offshore.** Recommended TAC, national TAC, and catches (tonnes).

Fiskveiðiár Fishing year	Tillaga Rec. TAC	Aflamark National TAC	Afli Catches
2010/11	7000	-	6300
2011/12	7000	-	7300
2012/13	5000	-	7400
2013/14	5000	-	5100
2014/15	5000	5000	4100
2015/16	4000	4000	4300
2016/17	4100	4100	3100
2017/18	5000	5000	
2018/19	5852		

## HEIMILDIR OG ÍTAREFNI – REFERENCES AND FURTHER READING

ICES. 2012. Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM 68.

(<http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2012/ADHOC/DLS%20Guidance%20Report%20012.pdf>)

MFRI Assessment Reports 2018. Offshore northern shrimp. Marine and Freshwater Research Institute, 31 July 2018.