

## Northern shrimp (*Pandalus borealis*) in Division 4.a West (northern North Sea, Fladen Ground)

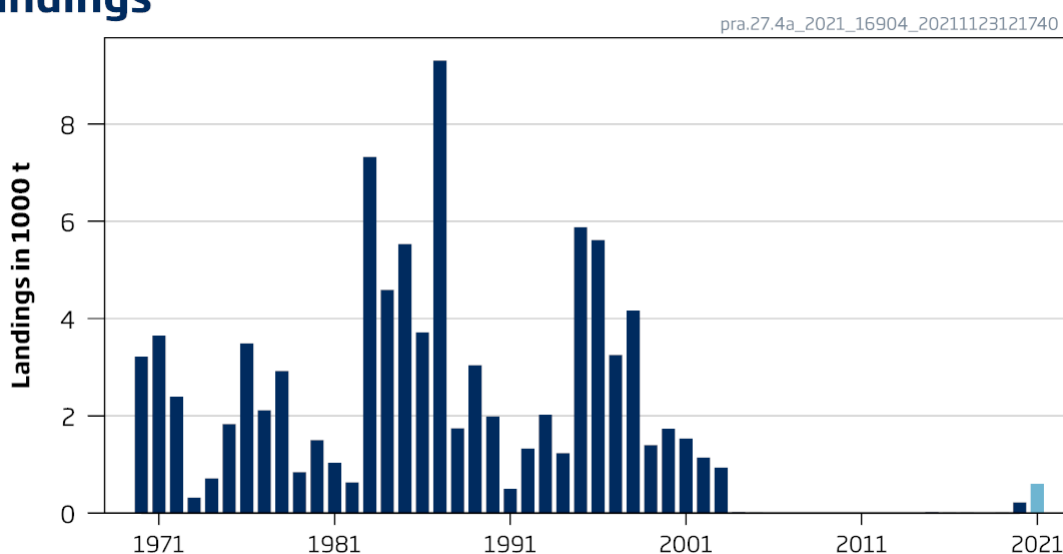
### ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, there should be no targeted fisheries on this stock for the years of 2022 and 2023. ICES cannot provide advice on the status of this stock because of a lack of sufficient survey and catch data.

### Stock development over time

ICES cannot assess the stock and exploitation status relative to MSY and precautionary approach (PA) reference points because information to define reference points is not available.

## Landings



**Figure 1** Northern shrimp in Division 4.a West. Total official landings. The 2021 paler bar is preliminary estimation.

### Catch scenarios

ICES framework for category 6 stocks was applied (ICES, 2012). For stocks without information on abundance or exploitation, ICES considers that a precautionary approach should be applied. In this case there should be no directed fishing until sufficient information is available to demonstrate that an expansion of the fishery can be considered sustainable.

### Basis of the advice

**Table 1** Northern shrimp in Division 4.a West. The basis of the advice.

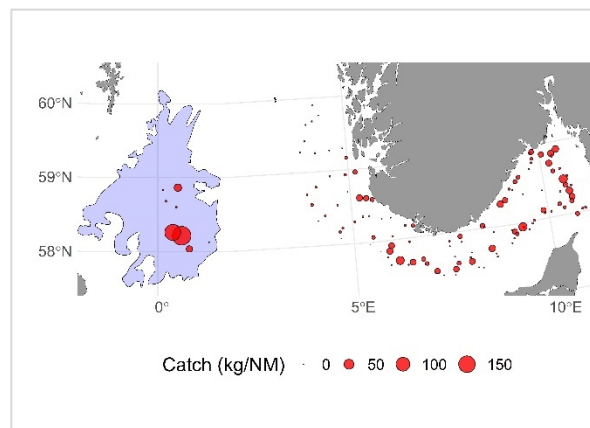
Advice basis	1. Precautionary approach
Management plan	2. ICES is not aware of any agreed precautionary management plan for northern shrimp in

## Quality of the assessment

New information was available for 2021 but this was considered insufficient to inform a stock assessment.

## Issues relevant for the advice

In January 2021, the survey for northern shrimp in divisions 3.a and 4.a East was extended to cover the Fladen Ground (Figure 2). The area was previously surveyed using a different vessel in October/November between 1986 and 1994. Two of the eight trawl tows performed on the Fladen Ground in 2021 had high catch rates of northern shrimp.



**Figure 2** Northern shrimp in Division 4.a West. Catch rates of shrimps from the Norwegian shrimp survey in January 2021 covering both divisions 3.a and 4.a and the Fladen Ground (Division 4.a West).

There have been minor Danish and Norwegian landings of northern shrimp from this stock since 2011, primarily taken as bycatch in the Norway pout fishery. For the targeted shrimp fishery, a Danish observer and self-sampling programme was initiated in 2021, which provided biological data of the stock (weight, length, and sex).

A new index of abundance based on the weight proportion of shrimps as bycatch in the Danish small meshed fishery for Norway pout shows a steep increase in 2021.

New information and analyses of historical data have improved the knowledge basis on the Fladen Ground shrimp stock. However, this information is considered insufficient to inform a stock assessment at this stage.

## Reference points

No reference points are defined for this stock.

## Basis of the assessment

**Table 2** Northern shrimp in Division 4.a West. The basis of the assessment.

ICES stock data category	6 ( <a href="#">ICES, 2021a</a> )
Assessment type	No assessment
Input data	Official landings
Discards and bycatch	Unknown
Indicators	Two new Danish fishery-based stock size indices. New survey information from the Norwegian annual shrimp survey in 2021.
Other information	None
Working group	Joint NAFO/ICES <i>Pandalus</i> Assessment Working Group ( <a href="#">NIPAG</a> )

## History of the advice, catch, and management

**Table 3** Northern shrimp in Division 4.a West. History of ICES advice, the agreed TAC, and official landings. Weights in tonnes.

Year	ICES advice	Landings corresponding to advice	TAC EU waters of 2.a and 4	Official landings
2006	Average landings (2001–2003)	< 1300	4980	0
2007	No increase in effort to levels above the average for the years where fishing activity took place. Mandatory data collection programme for catch and effort data on both target and bycatch fish.	-	3984	0
2008	Same advice as last year	-	3984	0
2009	Same advice as last year	-	4980	0
2010	Same advice as last year	-	4233	0
2011	Average landings (1999–2003), mandatory data collection programme	< 1400	3598	0
2012	No increase in catch	-	3058	1
2013	No increase in catch unless there is evidence that this will be sustainable	0	3058	0
2014	No new advice, same as for 2013	0	2446	1
2015	No new advice, same as for 2014	0	2446	20.1
2016	No increase in catch unless there is evidence that this will be sustainable	0	2446	10
2017	No increase in catch unless there is evidence that this will be sustainable	0	2446	10.7
2018	No increase in catch unless there is evidence that this will be sustainable	0	1957	0.5
2019	No targeted fisheries on this stock	0	1566	8
2020	No targeted fisheries on this stock	0	1200	219
2021	No targeted fisheries on this stock	0	660	600*
2022	No targeted fisheries on this stock	0		
2023	No targeted fisheries on this stock	0		

\* Estimated landings based on information available at the end of November.

## History of the catch and landings

**Table 4** Northern shrimp in Division 4.a West. Catch distribution by fleet in 2020 as estimated by ICES.

Total catch	Landings	Discards
Unknown	100% trawl	Unknown
	219 tonnes	

**Table 5** Northern shrimp in Division 4.a West. History of official landings are presented for each country participating in the fishery (in tonnes). Norwegian historical landings were corrected in 2021.

Year	Denmark	Norway	Sweden	UK–Scotland	Total
1970	3115			104	3219
1971	3216			436	3652
1972	2204			187	2391
1973	157			163	320
1974	282			434	716
1975	1308			525	1833
1976	1552			1937	3489
1977	425			1692	2217
1978	890	9		2027	2926
1979	565	10		268	843
1980	1122	4		377	1503
1981	685			347	1032
1982	283			352	635
1983	5492	8		1827	7327
1984	4553	13		25	4591
1985	4188	7		1341	5536
1986	3416			301	3717
1987	8620			686	9306

Year	Denmark	Norway	Sweden	UK–Scotland	Total
1988	1662			84	176
1989	2495			547	3042
1990	1616		4	365	1985
1991	421	25		53	499
1992	1212			116	1328
1993	1516			509	2025
1994	1202	0		35	1237
1995	4552	30		1298	5980
1996	3689	32		1893	5614
1997	2886			365	3251
1998	2801			1365	4166
1999	934	9		456	1399
2000	1358			378	1736
2001	1117	18		397	1532
2002	1061	9		70	1140
2003	935		1		936
2004	21	0	0	0	21
2005	10	0	0	0	10
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	1	0	0	1
2013	0	0	0	0	0
2014	1	0	0	0	1
2015	19	0	0	1.1	20.1
2016	0	10	0	0	10
2017	1	6	0	3.7	10.7
2018	0	0.5	0	0	0.5
2019	2	6	0	0	8
2020*	153	66			219

\* Preliminary

## Summary of the assessment

There is no assessment for this stock.

## Sources and references

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM:68. 42 pp. <https://doi.org/10.17895/ices.pub.5322>.

ICES. 2021a. Advice on fishing opportunities. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, section 1.1.1. <https://doi.org/10.17895/ices.advice.7720>.

ICES. 2021b. Joint NAFO\ICES Pandalus Assessment Working Group (NIPAG). ICES Scientific Reports, 3:22. 25 pp. <https://doi.org/10.17895/ices.pub.7917>.

[Download the stock assessment data and figures.](#)

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