### Marine Stewardship Council - Variation Request

Date submitted to MSC	15 <sup>th</sup> March 2018
Name of CAB	Acoura Marine
Fishery Name/CoC	West Greenland coldwater prawn
Certificate Number	
Lead Auditor/Programme	Rod Cappell/Billy Hynes
Manager	
Variation prepared by:	John Hambrey
Scheme requirement(s) for	CR 1.3 27.4.10.2 allow an exemption to requirements for IPI stocks
which variation requested	
Is this variation sought in	Yes
order to fulfil IPI	
requirements (FCR 7.4.14)?	

1.	Proposed variation	
N/A		
2.	Rationale/Justification	
N/A		
3.	Implications for assessment (required for	fisheries assessment variations only)
N/A		
4.	Have the stakeholders of this fishery	No
	assessment been informed of this	
	request? (required for fisheries	
	assessment variations only)	
5.	Further Comments	
N/A		
6.	Confidential Information [DELETE IF NOT /	APPLICABLE]
N/A		

7. Inseparable or practicably inseparable (IPI) catches [DELETE IF NOT APPLICABLE]				
Is this request to allow fish or fish products from IPI stocks to enter into	No/			
chains of custody?				
N/A				
Is this request to allow an exemption to detailed requirements for IPI	Yes			
stocks?				
Under the original certification for this fishery, an application to allow P. m	ontagui to be an IPI stock was			
made and accepted by MSC. Because the proportion of <i>P. montagui</i> was between 2 and 15% the the IPI				
status could only be applied for one assessment. In order for the product to continue to use the MSC logo				
the client must either, per Annex PA6, a) have <i>P. montagui</i> assessed under Principle 1 at a re-assessment;				
or, b) develop techniques to effectively separate catches of P. montagui from	om <i>P. borealis</i> ; or, c) develop			

Document : MSC Variation Request Form v2.1	Page 1
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

measures to reduce the proportion of *P. montagui* to  $\leq 2\%$  so as to achieve an exemption from the requirements for IPI stocks (CR2.0 7.4.14.2). The UoC chose c) as the best way forward in the short term, but with the longer-term objective of improving information and management to the point where P. *montagui* could be successfully assessed under principle 1.

*Pandalus montaguii* is distinguishable from the target stock *P borealis* on the basis of appearance but has nonetheless been identified as inseparable or practicably inseparable (IPI) because:

(27.4.9.1b) it is not commercially feasible to separate due to the practical operation of the fishery that would require significant modification to existing harvesting and processing methods impossible to separate mechanically

and

c. The total combined proportion of *P montagui* does not exceed 15% by weight of the total combined catches of *P borealis* and *P montagui* within the unit of certification in the most recent annual fishing year prior to commencing assessment.

d. The stocks are not ETP species.

e. The stocks are not certified separately.

Under 27.4.10.2 of the MSC guidance a variation request to allow an exemption to requirements for IPI stocks shall include a detailed and substantiated rationale showing that, in addition to 27.4.9.1:

a. The proportion of IPI stocks is less than or equal to 2%, and the total catch of IPI stock(s) by the fishery under assessment does not create a significant impact on the IPI stock(s) as a whole.

i. CABs shall note that significance will be assessed on basis of the status of the IPI stock, and the risk that the IPI catch poses to the health of the IPI stock.

### a) The proportion of IPI stocks is less than or equal to 2%

Historically there have been some difficulties in the recording of the P. *montagui* bycatch because of uncertainties about the accuracy of log book returns from fishing vessels, and in particular from smaller inshore vessels. Given the importance of this information in relation to IPI for MSC certification, a request was made by Sustainable Fisheries Greenland to the Greenland Fisheries Licence Control Authority (GFLK) to generate more accurate statistics by supplementing log book data on catch with information from sales invoices/receipts. The proportion of the two species affects the value of the mixed product, and processors (either offshore on larger vessels, or onshore for the smaller vessels), routinely sample the mixed product to determine the proportion of the two species which are easily distinguishable by eye.

GFLK convened a small working group of AnnDorte Burmeister and Nanette Hammeken, both of the Greenland institute of Natural Resources, and Mads Rossing Lund and Lars Uldall-Jessen, both from Greenland's Fishery Licence Control (GFLK), to develop a more accurate method and compare with

Document : MSC Variation Request Form v2.1	Page 2
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

previous statistics. The following statistics (Table 1) were generated which are considered by the authorities to be the most accurate available.

It can be seen that there is considerable inter-annual variation with an average over the 7 years recorded of 2.6%, a low of 0.7% and a high of 5.3%. The (latest) overall figure for 2017 is 1.1%.

YEAR	P. borealis	P. montagui	<i>P.montagui</i> % of total
2010	115,531,364	780,704	0.7%
2011	116,945,147	2,841,090	2.4%
2012	112,112,772	3,597,174	3.1%
2013	90,935,943	5,049,059	5.3%
2014	85,140,562	1,487,805	1.7%
2015	70,816,806	1,593,266	2.2%
2016	82,145,710	3,113,199	3.7%
2017	85,955,846	962,960	1.1%

 Table 1: Catch of P. borealis and P. montagui (kg) and P montagui catch as proportion of total catch of target species (see annex 2 for more detailed derivation)

## b) the fishery under assessment does not create a significant impact on the IPI stock(s) as a whole

### Status

*P. montagui* is widely distributed in coastal and shelf waters of the northwest Atlantic ranging from Greenland and Iceland, the Arctic Ocean, and the northern Atlantic Ocean, south to Rhode Island and the British Isles (Komai 1999, Kingsley 2011; Kanneworff 2003); and usually found in shallower waters than *P. borealis*. It is most common at depths between 20 and 100 m though may occasionally occur as deep as 700m (FAO). While 83% on average (from 2001-2015) of the biomass of *P. montagui* was recorded in depths less than 200 m, 10% or less of the *P. borealis* biomass was found is these depths within the fishery area (Siegstad 2015). *P montagui* also prefers hard substrates while *P borealis* prefers mud, although it can be found on rock, gravel, sand, and mud.

The *P. montagui* stock is relatively localised, highly variable from year to year, and understanding of the stock is more limited than that available for *P. borealis*. Catch and survey data as well as industry sources indicate distinct discrete areas where *P. montagui* may be more likely be caught: Kangaatsiaq, the Holsteinsborg Deep and the Arsuk Hole – in descending order of importance. Abundance appears to be highly variable (Kingsley 2011, Siegstad 2015) and arguably "episodic" (Kingsley 2011, Burmeister et al 2017). Stratified random bottom trawl surveys have been carried out since 1988 in NAFO Subarea 1 and a small part of NAFO Division 0A (East of 59°30'W) as part of the assessment of the stock of *P. borealis*. These have been reported by Kanneworff (2003), Kingsley (2011) and Siegstadt (2015). These studies suggest that survey biomass of *P. montagui* is typically less than 1% of *P. borealis*, although this may in

Document : MSC Variation Request Form v2.1	Page 3
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

occasional years go as high as 8% (Siegstad 2015). *P. montagui* biomass estimates from the survey are highly variable from year to year, ranging from near zero to 16,000 t in the period 1988-2009 (Siegstad 2015), probably reflecting changes in distribution of survey effort relative to distribution of the species, rather than changes in abundance. However, it should be noted that the survey design was focused on *P borealis*, does not include data from depths less than 150m, and likely underestimates *P montagui*.

Given the low catches relative to its widespread distribution and the likely stock biomass, and the only partial overlap between its preferred depth/habitat and that of *P* borealis, it is highly likely that *P* montagui is within biologically based limits.

### Management

No licences are issued for directed fishing of *P. montaguii* (SCR Doc. 16/43); and since 2012, it has been included among the species protected by a precautionary 'move-on rule' to limit bycatch. Vessels are required to move 5 km if bycatch exceeds 10% of target shrimp catch. Catch and response is recorded in logbooks to improve stock monitoring and assessment data.

*P montagui* is also now the subject of a specific and directed voluntary management plan developed by the UoC (Annex 2) that includes the following elements:

- Setting of a TAC for *P montaguii* at 2% of P borealis TAC, and allocated between offshore and inshore fleets in the ratio 57:43
- Encouragement of quota trading between inshore and offshore fleet
- Graduated restriction of fishing activity in the known hotspot areas as companies approach their quota limits.
- Intensified MCS by Greenland's Fishery Licence Control (GFLK)

The success of the proposed measures to maintain *P. montaguii* catch below 2% is likely to depend on both motivation and enforcement. The fishing industry association reports that high proportions of *P. montagui* in catches of the target species *P. borealis* can exclude the product from markets for high-quality shrimp and can reduce price paid in other markets by 15-20%, so there is limited incentive to harvest this species. However, this incentive varies from year to year and may be outweighed by the cost of moving on, or the incentive to catch *P. montagui* when quota for *P. borealis* is limiting. Kingsley (2011) indicates that the ability to market *P. montagui* depends on arrangements between individual harvesters and purchasers.

The quota trading provision in the proposed measures should encourage inshore fishers to avoid *P montagui* and allow for better recording and control. It should also facilitate an optimal or rational allocation of a more limited resource. Increased targeted observer coverage in hotspot areas, and/or on vessels approaching their quota allocation, should underpin effective monitoring and enforcement.

In the longer term Greenland's Fishery Licence Control (GFLK) and Greenland Institute of Natural Resources are working on the development of a CPUE index to allow for the development of a stock assessment model, leading to more informed and effective management of the fishery. This should eventually allow the UoC to include *P montagui* as a targeted certified product under P1.

Document : MSC Variation Request Form v2.1	Page 4
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

### Risk to the *P montagui* fishery

Given the small proportion of the total catch, the assessment of stock status and the management measures currently in place and anticipated under the draft management plan, it is concluded that the fishery under assessment does not and is not likely to create a significant impact on or risk to the health of the IPI stock(s) as a whole.

### References

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Kanneworff P., 2003, Occurrence of (Pandalus montagui) in Trawl Survey Samples from NAFO Subareas 0+1. NAFO SCR Doc. 03/70 Scientific Council Meeting – November 2003

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Komai T. (1999). A revision of the genus Pandalus (Crustacea: Decapoda: Caridea: Pandalidae) . Journal of Natural History. 33 (9): 1265–1372. doi:10.1080/002229399299914

Siegstad, H. 2015. Occurrence of Pandalus montagui in Trawl Survey Samples from NAFO Subareas 0+1 2000-2015.NAFO/ICES Pandalus Assessment Group Meeting – September 2015 . Serial No. N6481NAFO SCR Doc. 15/046. GNIR Greenland

Document : MSC Variation Request Form v2.1	Page 5
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

Annex 1: More detailed statistics on recorded catch of P montagui and P borealis derived from both vessel log books and processing records

	Logb	ooks			Land	ings			
	YEAR	PRA	AES	AES pct of total	YEAR	PRA	AES	AES pct of total	
	2010	74,741,117	497,733	0.7%	2010	16,927,484	103,870	0.6%	
	2011	70,236,583	2,269,504	3.1%	2011	19,394,013	1,625,603	7.7%	
Production	2012	65,731,317	2,808,076	4.1%	2012	17,320,722	944,337	5.2%	
inouuciion	2013	55,165,016	4,769,098	8.0%	2013	14,695,153	1,328,936	8.3%	
vessels	2014	51,146,009	1,053,531	2.0%	2014	11,093,774	267,970	2.4%	
	2015	44,258,495	1,111,239	2.4%	2015	10,146,000	358,010	3.4%	
	2016	46,645,744	2,672,256	5.4%	2016	10,453,659	593,779	5.4%	
	2017	53,013,984	469,790	0.9%	2017	10,352,256	233,568	2.2%	
	YEAR	PRA	AES	AES pct of total	YEAR	PRA	AES	AES pct of total	
	2010	49,354,906	659,306	1.3%	2010	40,790,247	282,971	0.7%	
Non	2011	47,151,145	60,177	0.1%	2011	46,708,564	571,586	1.2%	
NOII-	2012	46,637,856	318,248	0.7%	2012	46,381,455	789,098	1.7%	
production	2013	37,178,696	138,373	0.4%	2013	35,770,927	279,961	0.8%	
	2014	34,271,254	327,929	0.9%	2014	33,994,553	434,274	1.3%	
vessels	2015	26,070,100	912,615	3.4%	2015	26,558,311	482,027	1.8%	
	2016	34,963,159	510,468	1.4%	2016	35,499,966	440,943	1.2%	
	2017	33,157,933	202,406	0.6%	2017	32,941,862	493,170	1.5%	

Note:

PRA = Pandalus borealis; AES = Pandalus montagui

Production vessels = offshore factory (processing on board) vessels

Non – production = primarily inshore vessels that land to local land based (Greenland) processors)

Document : MSC Variation Request Form v2.1	Page 6
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

# Annex 2: Action plan for reducing bycatch of *Pandalus montagui* in the West Greenland prawn fishery to ≤ 2% of the total catch

### 1. Background:

In connection with the certification of West Greenland prawn trawling in 2013, an exemption was obtained in which bycatch of the prawn species *Pandalus montagui* was deemed acceptable in quantities corresponding to up to 15% of the total prawn catch (*Pandalus borealis* and *Pandalus montagui* together).

The exemption was given a duration of five years, which means that by the time of the recertification of the fishery in 2018, a method must be found to ensure compliance with the usual bycatch rules, identified as  $\leq 2\%$ .

In practice, this will mean that by the forthcoming four-year audit in 2017, we must have a plan in place for how we will ensure compliance with these rules.

Our surveillance report from the 2016 audit states: "*It is recognised that if all skippers (in the prawn fishery) complied with the moving protocol, the bycatch could be reduced to a suitable level.*"<sup>1</sup>

The report indicates three possibilities for remedying the problem: (This action plan focuses on 'c.', and is divided into a short-term and long-term part, of which the former can be implemented with immediate effect, i.e. for the remainder of 2017 and the following years, until the long-term part can be implemented.)

- a. Fishing for *Pandalus montagui* is certified, which means that a sustainable quota could be set for the species. (The certification must take place in accordance with Principle 1, as the certification already obtained under Principles 2 and 3 can also cover *Pandalus montagui*, which in reality is a bycatch species.)
- b. A technique is developed which makes it possible to remove prawns of the species *Pandalus montagui* in the catch situation (which is considered to be impossible).
- c. A strategy is developed to ensure that the bycatch level of *Pandalus montagui* remains below ≤ 2%. (This strategy is in fact already in effect through the moving protocol of the Bycatch Order. However, it is doubtful whether our assessment team will accept an assurance that the companies are prepared to comply with this provision. Reference is made in this context to the fact that catches of the species have actually increased in recent years, even though the companies have been made aware that the catches should be reduced.)

### 2. Requirements towards the action plan:

The following requirements have been set out in advance for the action plan:

- **a.** Implementation of the action plan's individual elements must be administratively simple, involving a minimum of expense.
- **b.** On the basis of an ordinary assessment, there must be good prospects that the action plan will work as intended.
- **c.** The plan must include measures to be implemented if and when the catch rate approaches the limit of 2%.
- **d.** The elements of the plan must be evaluated both individually and as a whole by the Greenland Institute of Natural Resources, who will at the same time be requested

In the case of prawn, the moving protocol is further sharpened:

<sup>&</sup>quot;8. In prawn fishery, the fishing must be halted if the bycatch mentioned in section 6 (1) and section 7 (2) exceeds 5%."

Document : MSC Variation Request Form v2.1	Page 7
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

<sup>&</sup>lt;sup>1</sup> The rules are contained in "Government of Greenland Executive Order no. 14 of 6 December 2011 on by-catches in fishery", section 6 of which states: "When fishing with gear other than pound nets and crab pots, the fishing must be halted if the bycatch in one trawl exceeds 10% by weight of the total catch of the trawl.

<sup>(2)</sup> Fishing may not be resumed less than 5 nautical miles from any point within the logged starting and ending positions before a minimum of 60 hours has elapsed from the end time recorded in the logbook."

to express their assessment of the plan's anticipated effectiveness in representing an effective solution to the challenge associated with bycatch.

e. It must be possible to efficiently check the level of compliance with the system and its effectiveness. This must be confirmed/documented by Greenland's Fishery Licence Control (GFLK).

### 3. Plan assumptions:

The plan's structure is based amongst other things on the fact that while bycatches of *P. montagui* certainly occur in various locations, three distinct 'hot spots' can be identified in which such bycatches are particularly frequent, in large quantities. These hot spots are shown in the following map, which has been compiled by the Greenland Institute of Natural Resources on the basis of logbook catch records:



Figure 5. Catch of P montagui 2011 - 2015: 50 - 59.99 % of total catches.

Fig. 1. The map is taken from the GINR's so-called "Montagui paper" from 2016. From north to south, the map shows the three areas of Kangaatsiaq, the Holsteinsborg Deep and the Arsuk Hole, where the proportion of P. montagui in the catch during the period 2011-2016 amounted to between 50 and 59.99%.

Document : MSC Variation Request Form v2.1	Page 8
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

Because of the relative frequency of P. montagui catches, it appears that these three hot spots may be arranged in a sequence, in which Kangaatsiaq has the highest bycatch rates and the Arsuk Hole the lowest.<sup>2</sup>

In addition, the successful implementation of the plan requires that the term 'prawn', as used in the Fisheries Act, is interpreted so broadly that future quotas for the species *P. montagui* can be made saleable. This is because the bycatch problem is apparently different for the two fleet segments.

KNAPK informs us that the coastal prawn fishermen rarely experience bycatch of a problematically high level, while this seems to be more the rule than the exception in offshore fishing.

In order to maintain continuous fishing, it will therefore probably be of great importance if the coastal companies can transfer unused bycatch quotas to the offshore fishing segment. It is also worth noting that such trades could strengthen the economy of the coastal fishing.

 Knowledge of the Pandalus montagui stock: Our knowledge of *P.montagui* is not nearly as extensive as the knowledge that has been built up over time about *P. borealis.* However, the GINR monitors the stock, on the basis of both annual surveys and information

However, the GINR monitors the stock, on the basis of both annual surveys and information from commercial fishing (logbooks).

The GNIR has stated that it expects to have collected enough data to draw up proper scientific advice for the stock in the course of approximately the next three years.

### 5. Practical implementation of the plan (short term):

- **a.** When the TAC for the traditional prawn fishery in West Greenland (*P. borealis*) is set, a TAC should at the same time be set for prawn of the species *P. montagui*. This TAC should be set at a value of 2% of the TAC for *P. borealis*.<sup>3</sup>
- **b.** The TAC will then be divided between the coastal and offshore fleet segments in the ratio 43:57, and bycatch licences will be issued to companies in accordance with their quota shares in the fishing for *P. borealis.*
- **c.** It will then be communicated in an appropriate manner to the companies that the *P. montagui* quota can be traded between the companies, and that it is possible to sell bycatch quotas across the boundary between the two fleet segments.
- **d.** The companies will at the same time be informed that the flex-quota that applies to the species *P. borealis* does not apply to quotas for *P. montagui*. This restriction is intended to prevent the risk of 'humps' in the bycatch quotas.<sup>4</sup>
- e. Greenland's Fishery Licence Control will be responsible for carrying out intensified inspections of the influx of prawns of the species *P. montagui.*<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> GFLK has stated that the institution will be able to provide 'real-time calculations' of the quota influx as soon as the electronic logbook system is operating. This is expected to be the case soon.

Document : MSC Variation Request Form v2.1	Page 9
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016

<sup>&</sup>lt;sup>2</sup> A more precise description of the three hot spots will be compiled with the participation of locally-experienced skippers, so that boundaries can be placed on areas recognised as critical, in that the risk of substantial catches of *P. montagui* there is high. In the final action plan, hot spots will be defined as rectangles, the corners of which will be stated with positions in <sup>0</sup> and '.

<sup>&</sup>lt;sup>3</sup> A bycatch quota of 2% is certainly subject to some uncertainty as regards sustainability. However, when it is considered that in connection with the current TAC for *P. borealis*, this quota will be less than the actual catches in recent years, the selected level is regarded as responsible. This is even more the case when we take into consideration the fact that the GINR expects to be in a position to be able to provide proper scientific advice for the species in around three years' time.

<sup>&</sup>lt;sup>4</sup> The special provisions of section 5 are assumed to be covered by the provisions of the Fisheries Act. For the sake of simplicity and clarity, however, it is recommended that all the mentioned matters should be regulated through a new bycatch order.

- **f.** If, in the course of a year, a company exceeds 80% of its bycatch quota, the company will be banned from fishing in the 'hot spot' area of Kangaatsiaq.
- **g.** If, in the course of a year, a company exceeds 85 % of its bycatch quota, the company will be banned from fishing in the 'hot spot' area Holsteinborg Deep.
- **h.** If, in the course of a year, a company exceeds 90% of its bycatch quota, the company will be banned from fishing in the 'hot spot' area of Arsuk Hole.
- i. If the total bycatch of *P. montagui* reaches 90% of the quota for *P. borealis*, the Fisheries Council will be urgently convened to issue advice to the Government of Greenland on possible solutions to the problem.
- **j.** This proposed solution, which will be implemented as quickly as possible, will be regarded in the first active years of the scheme as a pilot project, which must subsequently be evaluated in order to ensure compliance with the rules, until such time as a quota can be set for *P. montagui* within biologically safe limits, and this fishery can be certified.

### 6. Practical implementation of the plan (longer term):

- **a.** Further action will be deferred until the GINR has collected sufficient data on the population of *P. montagui* to enable the Institute to provide proper scientific advice on the species, naturally including an accurate stock size estimate.
- **b.** A TAC will then be set for the species in accordance with this scientific advice, and without regard to the role of the species as bycatch in fishery for *P. borealis.*
- **c.** Certification for fishing for the species will be sought in line with the fishery for *P. borealis*.

### 7. Recommendation:

With the submission of this draft action plan, the members of the Fisheries Council and officials of the government of Greenland recommend that the above be included in the regulatory framework for prawn, and that this should be done at the earliest possible time, as due to the compelling market necessity of maintaining certification for the West Greenland prawn fishery, the case may well prove to be urgent.

Document : MSC Variation Request Form v2.1	Page 10
Date of issue: 4 October 2016	© Marine Stewardship Council, 2016