

SUBMISSION TO THE
NUNAVUT WILDLIFE MANAGEMENT BOARD AND NUNAVIK MARINE
REGION WILDLIFE BOARD

FOR

Information:

Decision: X

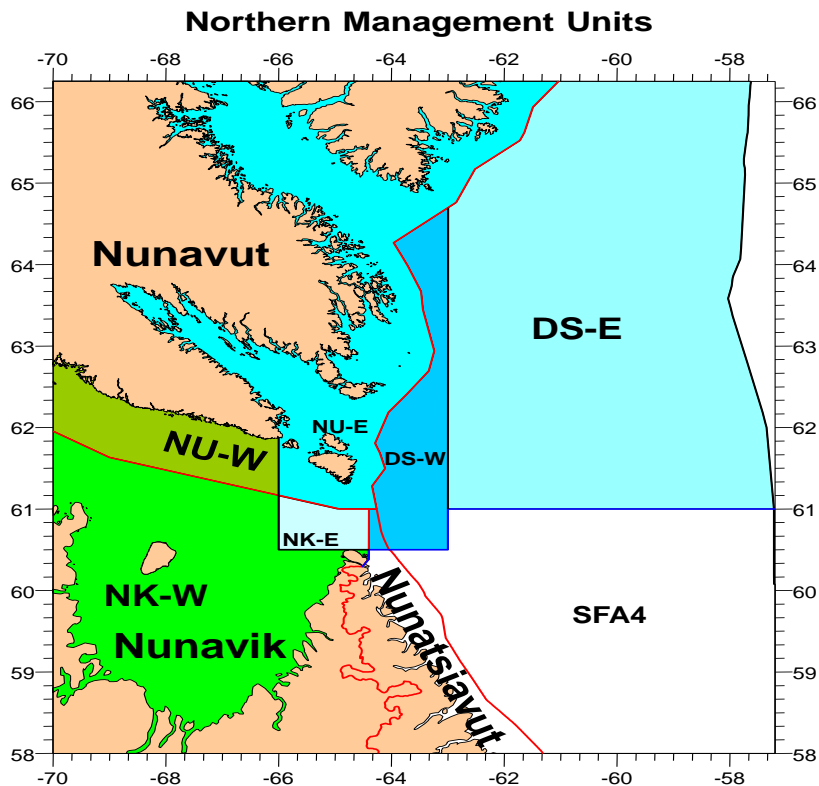
Recommendation: X

Issue: Total Allowable Catch levels for Northern (*Pandalus Borealis*) and Striped (*Pandalus Montagu*) Shrimp for the 2019/20 season

Map:

Blue areas – Eastern Assessment Zone

Green areas – Western Assessment Zone



Total Allowable Catch levels for Northern (*Pandalus Borealis*) and Striped (*Pandalus Montagu*) Shrimp for the 2019/20 season

Background

Two shrimp species (*Pandalus Montagu* and *Pandalus Borealis*) occur in the Northern shrimp fishery that takes place in the Davis Strait and eastern Hudson Strait which includes parts of the Nunavut Settlement Area (NSA) and the Nunavik Marine Region (NMR). Total Allowable Catch (TAC) for each species is set for two distinct science

assessment zones (East and West), then distributed into management units as per defined sharing arrangements.

In the Eastern Assessment Zone (EAZ), the Minister's decisions for the 2018/19 TACs incorporated science advice, which in turn considered the 2017 and 2016 survey data, the decisions and recommendations of the NWMB and the NMRWB, and consultations with the Northern Shrimp Advisory Committee (NSAC). The 840t Montagu TAC was maintained, while the Borealis TAC was reduced by 17.36% to 7,840t to achieve a 20% exploitation rate (ER).

Science conducts full stock assessments on a two-year cycle, with the next full assessment (dated 2018) scheduled for February 2019. This full stock assessment will inform the TAC decisions for the 2019/20 season.

Decisions and recommendations on TAC levels in the Western Assessment Zone (WAZ) and EAZ respectively for each species of shrimp for the 2019/20 season are required from both Boards.

However, as has occurred in the past, the timing of consultative and co-management processes and the availability of new science information to inform decision making will again present a challenge this season. Science results from the 2018 survey are expected by mid to late February, 2019. Consultation with NSAC is planned for early March. The NWMB and NMRWB regular meetings are typically held mid-March and the opening of the shrimp fisheries is April 1.

Therefore, to better position the 2019/20 fishery and avoid delays insofar as possible, the Department is seeking decisions and advice from the Boards on pre-agreed methodology on TACs in the WAZ and the EAZ.

Western Assessment Zone – For Decision

The WAZ falls entirely within the NSA/NMR. Beginning in 2014, the science survey in the WAZ was undertaken by the Northern Shrimp Research Foundation (NSRF) and the Department. As such, the vessel and gear used to complete the survey changed, as well as the time of year the survey is conducted. Consequently, the time series for this assessment zone was reset with 2014 as year one; the 2018 survey provides the fifth data point. Science advises that at least 3 – 5 reliable points on the time series are required to responsibly make any decisions to modify the TAC. In the WAZ since the survey began, changes in fishable biomass greater than 25% (considered precipitous) have occurred every year for Montagu, and 50% of the time for Borealis. The survey last year (2017) indicated a biomass decline (20%) for the second consecutive year for Borealis (-54% in 2016) and an increase for Montagu (42%). The rollover of the Borealis (2,080t) and Montagu (6,138t) TACs in 2018 resulted in ERs of 19.8% and 13.7% respectively. Prior to the 2016 fishing season, the ERs were below 10% in most cases.

It is important to note that the Borealis fishable biomass has declined for two consecutive years. A decline greater than 1% would result in an ER of 20% with a TAC rollover. Given the uncertainties surrounding the status of the stock in the context of a PA framework (Healthy, Cautious, or Critical Zone), should the fishable biomass decline occur again this year, attention must be given to an appropriate ER and TAC level.

Implicit in quota and Total Allowable Take (TAT) decisions by the Boards for 2018/19, which the Minister accepted, was the continuation of the 50/50 split of the overall TAC between Nunavut and Nunavik.

The Department is seeking the respective Board decisions on harvest levels for NU/NK West (i.e. overall TAC), and confirmation of the split of the overall TAC between Nunavut and Nunavik Inuit.

Given that the most recent 2018 survey represents the fifth data point for both species in the WAZ, the plan is for Science to establish Limit Reference Points (LRPs) in early 2020. Following Science approval of these LRPs, Resource Management will work with the Nunavut and Nunavik Boards and their industries to develop Upper Stock Reference Points (USRs). The reference points will be applied to TACs resulting from the next full stock assessment (2021/22).

Recommendation for the WAZ:

Given 1) that Science will have five data points in the time series; 2) the often precipitous changes in fishable biomass for both species in recent years; and 3) the pending reference points that would delineate the Healthy, Cautious and Critical Zones, a reasonable approach to ensure that shrimp harvesting inside the settlement areas remains within sustainable catch levels is to rollover the Montagui TAC. Borealis, however, requires additional consideration to establish harvest levels should there be any level of continued fishable biomass decline.

TACs:

1) Montagui:

- a) Regardless of increase or decrease of fishable biomass, rollover the current TAC of 6,138t.
- b) If the fishable biomass increases, increase the TAC by 15% to a maximum 20% ER.

2) Borealis:

- a) Borealis: if the fishable biomass increases, rollover the current TAC of 2,080t (results in a decrease of the ER).
- b) If the fishable biomass declines by greater than 1%, the Boards could establish the TAC at a level and ER they feel is appropriate.
- c) If the fishable biomass declines, establish the TAC based on a rollover the current ER (19.8%). However, this level of ER would be perceived as high given the third year of decline and the accepted maximum ER is 20% for those stocks identified as being in the Healthy Zone.

The Eastern Assessment Zone – For Recommendation and Decision

The EAZ falls both within and outside the NSA/NMR. This stock has been managed in the order of 15% with the exception of 2018 (20%). While the Borealis stock is in the Healthy Zone of the Department's PA Framework, there is continued uncertainty associated with the Montagui stock.

In the EAZ, TACs for the 2018/19 fishing season were reduced by 17.36% for Borealis to 7,840t (20% ER) in response to the 2017 survey that showed a precipitous 40.2% decline of fishable biomass. 20% is the maximum ER accepted by the Marine Stewardship Council for stocks in the Healthy Zone. The Borealis fishable biomass also declined by 17% in 2016. The Montagu fishable biomass has fluctuated significantly since at least the 2012 survey, and increased for the second consecutive year (44% in 2017, 124.7% in 2016). The Montagu TAC was maintained at 840t (ER 3.4%). Implied through the quota and TAT decisions by the Boards since the 2015/16 fishery, which were accepted by the Minister, was the continuation of the split between Nunavut and Nunavik Inuit in NU/NK East, as well as the distribution between the NU/NK East and Davis Strait management units.

In the EAZ, Montagu is the directed fishery and Borealis is taken as a bycatch species in the NU/NK East management units, while the reverse is true in the offshore Davis Strait management units.

The Department is seeking the recommendations of the Boards on the TAC for both species in the EAZ. The Boards' advice on TAC could imply confirmation the distribution between the offshore area (Davis Strait) and the NSA/NMR (NU/NK East management units). In addition, the Department is seeking the decisions of the Boards on the harvest level for the NU/NK East management units.

TACs:

Montagu

- a) Should the fishable biomass increase, increase the TAC by 15%.
- b) Rollover the current TAC of 840t.

Borealis:

- a) Should the fishable biomass increase, rollover the TAC of 7,840t
- b) Should the fishable biomass increase, increase the TAC by a maximum of 15% as long as the ER remains below 20%
- c) If the stock further declines but remains in the Healthy Zone, establish the TAC based on a 20% ER

As per usual practice, should the science assessment identify a 'precipitous change in biomass' (up or down, greater than 25%) for either species in the WAZ or EAZ, DFO will provide an addendum for the Boards to reconsider decisions and recommendations.

Summary of Request

Considering this, the Department is seeking from the Board, for the 2019/20 fishery:

- 1) TAC Decisions for both species in the WAZ
- 2) A recommendation on TACs for both species in the EAZ
- 3) Sharing decisions, which can be implied through TAC and harvest levels:
 - a. Decision on sharing arrangements for Nunavut and Nunavik in the WAZ
 - b. Decision on sharing arrangements for NU/NK East management units
 - c. Recommendations on distribution of EAZ TAC between the NU/NK East and offshore Davis Strait management units

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