

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

FOR

Information: X

Decision:

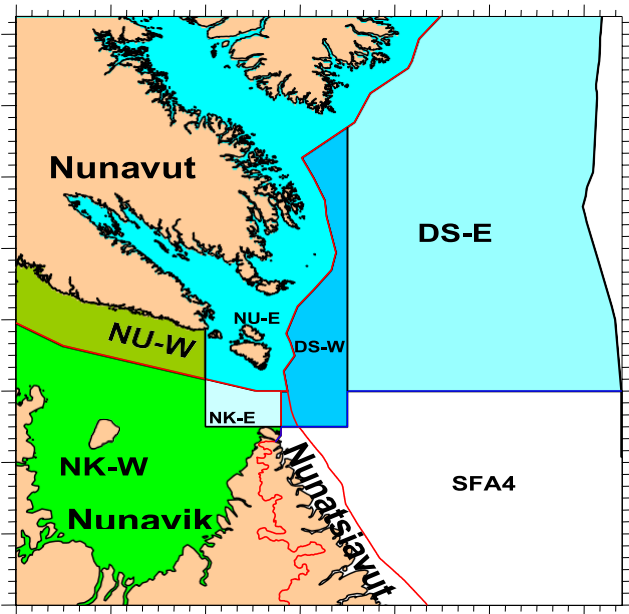
Recommendation:

Issue: Development of Harvest Decision Rules as part of the Precautionary Approach Frameworks for Northern (*Pandalus borealis*) and Striped (*P. montagui*) Shrimp in the Western and Eastern Assessment Zones

Map:

Blue areas – Eastern Assessment Zone (EAZ)

Green areas – Western Assessment Zone (WAZ)



Northern shrimp (*Pandalus borealis*)



Striped shrimp (*Pandalus montagui*)

Background

The purpose of this information note is to provide an update on Fisheries and Oceans Canada's (DFO) work to develop and implement a Precautionary Approach (PA) Framework that will guide fisheries management decisions for *P. montagui* and *P. borealis* in the Western Assessment Zone (WAZ), and update the existing PA Framework for these species in the Eastern Assessment Zone (EAZ). The primary components of the generalized framework are; reference points to define stock status zones (Healthy, Cautious and Critical) and harvest decision rules (HDRs). A map of Shrimp Fishing Areas (SFAs) is at Appendix 1.

As provided in previous briefings to the Boards, new Limit Reference Points (LRP) for *P. montagui* and *P. borealis* in the WAZ and updates to the previous LRPs for stocks in the EAZ were established by DFO Science through a Canadian Science Advisory Secretariat (CSAS) peer review process in the spring of 2020. Through this same process, DFO Science proposed Upper Stock Reference (USR) points for these stocks.

In Fall 2020, DFO Resource Management established the Northern Precautionary Approach Working Group (NPAWG), the objectives of which were to develop and recommend the outstanding components of the WAZ and EAZ PA Frameworks, namely, USRs and HDRs. Members of the NPAWG include DFO Science and Resource Management sectors, provincial governments, indigenous groups, industry representatives as well as Board staff.

In June 2021, DFO brought forward NPAWG recommendations to seek decisions and recommendations from the NMRWB and NWMB on USRs for EAZ and WAZ stocks. DFO's request was rejected with the condition that the Boards would not establish or recommend USRs until the PA Framework could be presented as a full and comprehensive amendment to the Integrated Fisheries Management Plan (IFMP). USRs recommended by DFO Science have been used to help inform management decisions since 2020, though have not been formally established.

Work to develop HDRs is ongoing. HDRs will provide direction on harvest rates and other management procedures for each stock status zone. More recently, this work has proceeded through an industry-led working group that was established following a recommendation at the Northern Shrimp Advisory Committee (NSAC) meeting in February 2023. This working group was struck to, among other things, advance the development of candidate HDRs that may have applicability for all shrimp stocks (e.g. EAZ, WAZ, SFAs 4, 5, and 6). Participants in the working group include DFO Science and Resource Management sectors, the provincial government of Newfoundland and Labrador, Nunatukavut Community Council, and fishing industry representatives (inshore and offshore). It is understood that this working group is not fully representative of the NSAC and is not considered to replace NPAWG.

Progress to Date

The industry-led working group has held a series of meetings since March 2023 to explore and collaborate on HDR approaches for shrimp stocks. The working group has discussed the implementation of HDRs that maximize economic benefits from the resource in an

ecologically sustainable manner, ensuring the approach is consistent with the guidelines of the PA.

In the context of this working group, DFO Resource Management has developed and tabled a draft HDR approach termed 'Base Total Allowable Catch (TAC)' for intended application in the EAZ and WAZ. Key features of this HDR approach include the establishment of a set (Base) TAC level for each stock based on the geometric mean of the Fishable Biomass (FB) from a recent time series. The approach considers the most recent stock status in the Healthy, Cautious and Critical Zones and potential exploitation rate (ER) of the Base TAC to inform adjustments to the TAC in a given year. The Base TAC approach was derived from advice received in previous discussions with the NPAWG in 2020 and 2021. The Base TAC approach continues to evolve in conjunction with feedback provided by members of the industry-led working group.

Industry stakeholders (Canadian Association of Prawn Producers, Northern Coalition and, Nunavut Fisheries Association) have also tabled a HDR approach first presented to DFO in March 2022. The HDR approach termed '50% or Finish' is applicable for shrimp stocks in the EAZ as well as in SFAs 4 and 5. Its applicability in the WAZ is also being considered. Key features of this HDR approach are to limit the increases or decrease of the annual TAC change to 50 per cent of what could otherwise be pursued by applying set ERs to the most recent estimate of FB. The balance of the TAC change would be applied in the second year, unless the TAC change would amount to greater than 50 per cent (in which case 50 per cent of this new difference would be pursued).

The industry-led group continues to consider the effectiveness of the two candidate HDR approaches in meeting PA objectives.

Next Steps

The industry-led working group has two additional meetings scheduled over the coming months with the aim of concluding its discussions on the candidate HDR approaches by Fall 2023. To ensure full representation of NSAC in the development of HDRs, discussion will transition to the NPAWG thereafter.

Development of HDRs will also include discussion of season bridging protocols for Nunavut, Nunavik, and Offshore allocations in the WAZ and EAZ.

Pending NPAWG support for one or both of the candidate HDR approaches with associated USRs, DFO will present these at a special session of NSAC in Winter 2023. NSAC support for a candidate HDR is required prior to DFO's seeking decisions and recommendations from the NWMB and NMRWB to establish the HDRs and USRs for EAZ and WAZ stocks (anticipated in Spring 2024 - March Board meetings). If approved by the Boards, HDRs could first be applied in TAC decisions and recommendations for the 2024-25 fishing season.

DFO acknowledges outstanding work on the development of a biomass projection model and possible changes to the LRPs for Northern shrimp in SFAs 4-6 (with potential applicability for

northern stocks). This work is tentatively scheduled for completion and CSAS review in Fall 2024 and will not be available ahead of the 2024-25 management decision cycle. However, the development and implementation of HDRs are not contingent upon the completion of this work.

Should the full suite of PA components for stocks in the EAZ and WAZ, including the HDRs, not be finalized in time for use in 2024-25 TAC decisions, established LRPs will provide guidance for sustainable harvest decisions.

Prepared by: Fisheries Resource Management, Fisheries and Oceans Canada

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