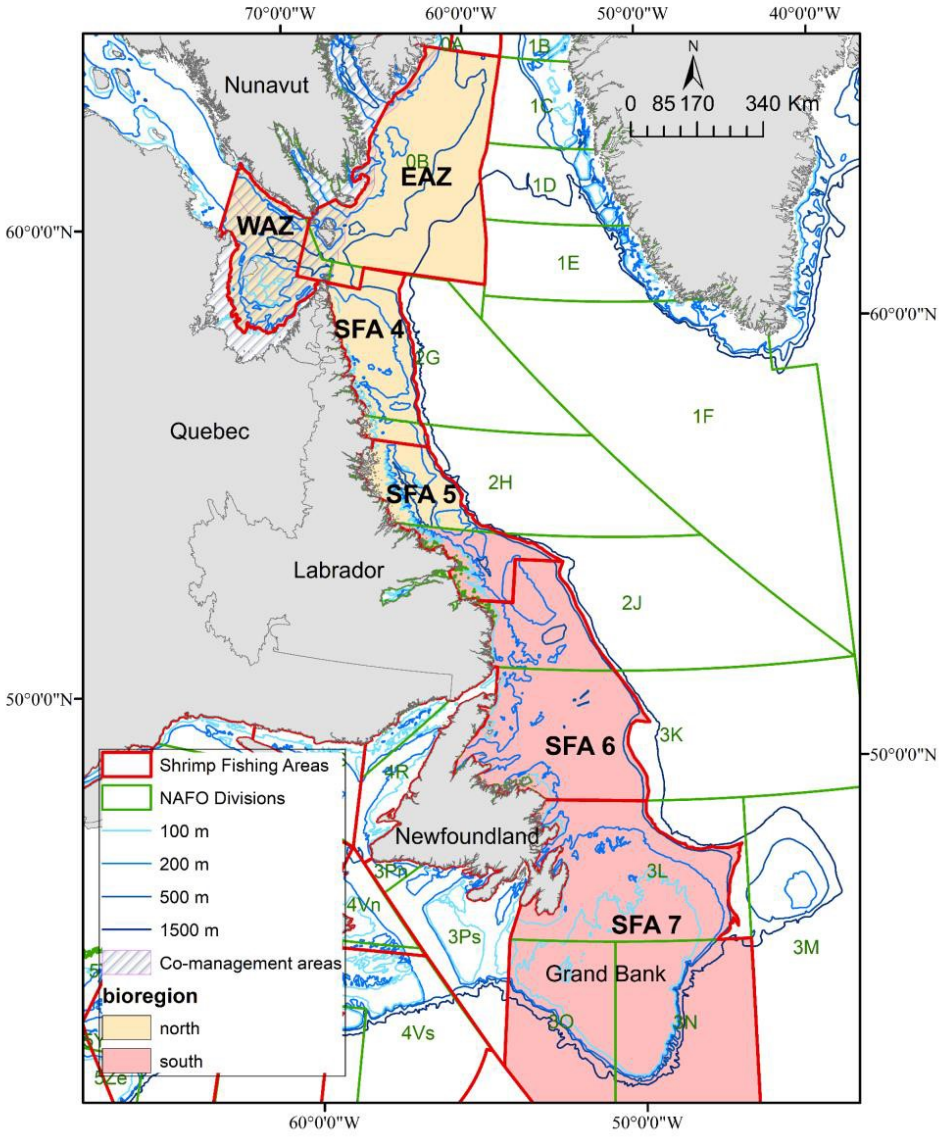
SUBMISSION TO THE NUNAVUT WILDLIFE MANAGEMENT BOARD AND NUNAVIK MARINE REGION WILDLIFE BOARD

FOR

Information: X **Decision:** **Recommendation:**

Issue: Updated Precautionary Approach Framework for Northern Shrimp (*Pandalus borealis*).

Map:



Northern shrimp (*Pandalus borealis*)

Background

Northern Shrimp (*Pandalus borealis*) is an economically important, commercially harvested species of shrimp.

Historically, the Northern Shrimp in waters surrounding Nunavut were assessed in two delineated areas, namely Western and Eastern Assessment Zones (WAZ and EAZ), which were roughly corresponding to Hudson Strait and Davis Strait, respectively.

The fishery in these areas operates April 1 – March 31. Harvesting activity typically commences in June to July, subject to ice conditions.

Where this fishery occurs within and adjacent to the Nunavut Settlement Area (NSA) and Nunavik Marine Region (NMR), decisions and recommendations on TAC and harvest levels for each species are requested annually from the Nunavut Wildlife Management Board (NWMB) and the Nunavik Marine Region Wildlife Board (NMRWB; the Boards).

This briefing note (BN) is intended to provide background and updates on the development of a new Precautionary Approach (PA) Framework for Northern Shrimp. The primary components of a PA Framework include: Reference points (Limit Reference Point and Upper Stock Reference) to define stock status zones (Healthy, Cautious and Critical) and Harvest Decision Rules (HDRs).

Note that the Science assessments and management of Striped Shrimp (*Pandalus montagui*) will remain unchanged.

Science Advice

Following the science process that took part between December 9 and 13, 2024 (Canadian Science Advisory Secretariat meeting), a new understanding of the Northern Shrimp population structure was adopted. The spatial scale of assessment for Northern Shrimp has now changed from the six areas (Eastern and Western Assessment Zones, and Shrimp Fishing Areas 4 – 7), to two assessment regions - North and South - divided by the boundary between

NAFO Divisions 2H and 2J (approximately half point in the SFA 5 – see map above). The Nunavut-adjacent waters will fall into the North assessment region along with SFA 4 and half of SFA 5. The assessment regions were delineated by the difference in shrimp size and distribution, proportion of females to males, larval settlement patterns and genetic differences.

The estimation of shrimp biomass will be now based on the spatio-temporal model output. This method is more reliable than the previous method because it takes into account the entire North region, removes the uncertainty related to shrimp movement across the assessment areas, and uses more indices than just shrimp distributional patterns (includes also the shrimp size and contribution of males and females). The input data which will feed into the model remains the same such that the stock will continue to be surveyed with the joint DFO-Northern Shrimp Research Foundation (NSRF) survey.

A Limit Reference Point (LRP) of 50% of Bmsy was adopted for both the North and South assessment regions. This 50% level is more precautionary relative to the previous LRPs, which were set at 30% or 40% of Bmsy, depending on the fishing area. A proposed USR at 80% of Bmsy was suggested for both the North and South assessment regions. This level is consistent with the previous USRs.

Important consideration: This new approach to Northern Shrimp has no implications for science assessments or management of Striped Shrimp (*Pandalus montagui*) .

Summary of Request

The aim of this note is to inform the Boards about the planned changes to how the assessment of the Northern Shrimp stocks will be conducted in the years to come.