

Þ°Ò∧₀ 2. 2012

∠፫ጚ'ኄ'ን\* ሶ' ሳ'ል▷' Γσ'ር'ህና ΔL'Γ▷ር፫ሊትና 15 ፌበ'ህ, ፖ°በσላና Δ΄ጔ'ጚላና 200 የላ" ላጋሊላ\* ላጋኛ, ላ°በ▷ሊ▷ K1A 0E6

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- (a) ሳየሥነርኮታ ነና, ሳየቦሳርኮታ ነና ኦናሮ ነና እናርኮታ ነና የታልጎ ታላና ነር አበናጋቦና ላላት ነርና ላህ ፈሥርኮታ ነር (ላህ ፈሥርኮታ ልጎንና) አርኮታታ ነር ላርኮን ላርኮን ነር ነር አርክንታ ነሳ
- (b) PU'VU' 4 PC 4 CD CD 4 CD

- (b) ሳየቦላ'ርኦታት' ኦ'ኖኌትት' ለ'ርኦታት' ላሌላንስ' ኦ'ኖኌትት' ለኦ'ኒ ላጋ'ፖLቲ' ር $\Delta$ ይትህ' ለን'ህታ ኦ'ኌህር ላበታን'ልኦታትር ውይህበርንስ' (ቲ $\Delta$  9, 1993). $^8$

⁴ ርፊምና, Þናጋየበዮጔዮና, ፴ፌሤበርየስና Δ፫ኒዮና 5.2.33(d), 5.6.1, 5.6.3, 5.6.5, ላਾ∟ጔ 5.6.16 ▷ጐኒ 5.6.18.

<sup>&</sup>lt;sup>5</sup> ርፊዮና, ÞናጋንበՐጔቦና, ፴ፌሄበርንስና Δ፫-ዮና 5.2.33(e) ላ⊦Lጔ (f), ላ⊦L⊃ 5.6.19 Þ≫∿ 5.6.30.

<sup>6</sup> ርፊዮና, Þናን?በՐጔዮና, ውሬህበር?ስና Δሬጥና 5.2.33(g) ኦንዲ (i), ላዲጋ 5.6.31 ኦንዲ 5.6.40.

 $<sup>^7</sup>$  (Ժዮ'  $_{\Delta}$ ሬህበር?ስ'  $_{\Delta}$ ር 5.2.33(m) ላ  $_{L}$  5.6.16.  $_{\Delta}$   $_{\Delta}$ ላሊ 2009 $_{L}$ ,  $_{\Delta}$   $_{\Delta}$   $_{\Delta}$   $_{\Delta}$   $_{\Delta}$  5.6.16.  $_{\Delta}$   $_{$ 

<sup>&</sup>lt;sup>8</sup> (dJ) Φα YN C? Λ' Δα U 5.2.33(m) 4 L = 5.6.4.

ĎL≺፫ሊትናፈፋ (ፈቴሬናርሌሁና, (Ľιጵና Δ፫ኦቴሌዮፈስኑ Λρζεςλαί)፦ Ľቴሬኦቴሌቴ βΕͿζϷͼናΓͱ, ኦርክጋና ላጋ፦ነበርኦቴሌና ላርΔቴሬቱላነንና ፴ሬ/ፊበርንስና በበናነረLቴሌሁና 5 ጋቴኦቴΔቴናቧና ጳፑናረLፈና.<sup>9</sup>

 $C\Delta L\Delta^* = V_{a}^*, \Delta = V_{a}^* + V_{a}^* +$ 

1.1.1 ለነላርኦላና ሥዜና ኦዜላሮሌ አላላና Δሥዜተ ኦምኒኒኒር ላቸህዜፈናና አበናጋናና ላላተነናናና የመልት ነው ነርኦ ላርኦናላና ይመልት ላርኦና ላቸው ላይ ላይ የተመመመ የህናናት መልንና ለነብርኒህ የህተርትና መረው.

 $C\Delta L$   $\flat L \prec C L$   $\land C$   $\land$ 

- (a)  $a^{-}$   $\Delta L^{+}$   $\Delta$

<sup>&</sup>lt;sup>9</sup> ር**ሬ**ነዋና, Þናጋንበበጔቦና, ጔ፞፞፟፟ፈነብና Δ፫ነብና Δ፫ነብና 5.1.2, 5.1.3, 5.3.3(b), 5.6.1, 5.6.3, 5.6.5, 5.6.16 ▷ንሢ 5.6.40, 5.6.45 ▷ንሢ 5.6.47, 5.7.3(b) ላ┖ጔ (c), 5.7.6(b) ላ┖ጔ (c), 5.7.26 , ላ┖ጔ 5.7.34(b).

<sup>10</sup> Cd P° Δα ΨΠ C? Λ° 5.6.17(a) ΦL Δ (b), 5.7.3(b) ΦL Δ 5.7.6(b).

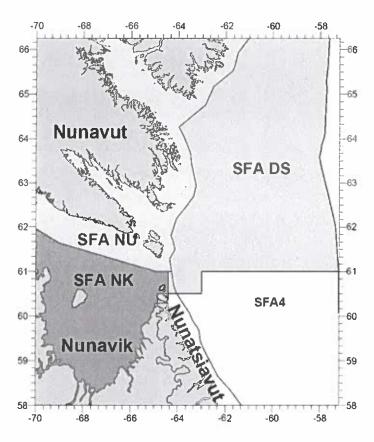
α˙፫<0)Δ°α° ΔL′Γ▷(፫, ἐς ▷'<° ὑ'ở' ὁL'ὑ(° ὸ\) ▷'ὑ▷ፖሊ∟▷° ϒ(°) ° ἀς (Π'ፖσ) Γ.

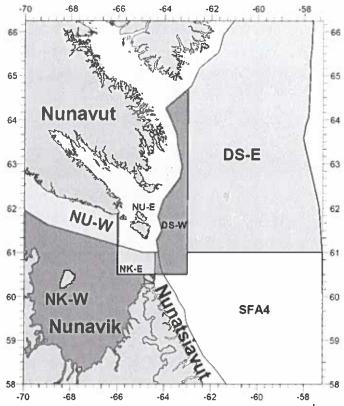
## 

- (a) 4% a'),  $4^{\circ}$  a'),  $4^{\circ}$  a'),  $4^{\circ}$  a'),  $4^{\circ}$  a'),  $4^{\circ}$  a'),  $4^{\circ}$  a'),  $4^{\circ}$

ርΔLΔ°σ%ውና, ÞL≺፦
\[
\text{\Delta} \\ \Delta \\

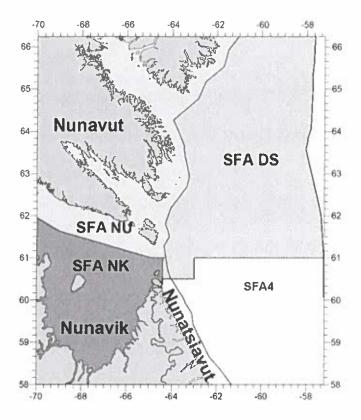
<sup>&#</sup>x27;' (ժሁ ÞLՎ슨ሊት'ናላና ፖስነላሊ 2, 2011 በበ%ቴዮና ΔL'ΓÞ(ሮሊት'ና Γσ`ር∿ω', ላየLω Γσ`ζÞና Þ'ኃΛሊ 24, 2011 ΡÞ'ኣብዮና.

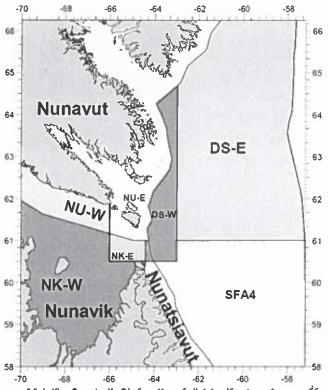




## 1.3 4ጋ-'6ታ' 2 $^{1}$ ጉ $^{2}$ ጉ $^{2}$ ጉ $^{2}$ ጉ $^{2}$

- (b) ሳየቦላ'ጔቦና ለንሀትፌንሀር የትርንባና የህናናትቃላያሉ የየናርሷና Δየንሀው በየኦበጔሀ LÞንሀ የህናናትቃላያሉ ውልልነቦ የትርንሀውና;
- (c) Δυσο βህ<<°σσίδι ΔαδιΓ, σίβιωρις Ειβι Φρείγιδο τίν: "Δαδι Λυανισ" αδι Λυανισ); σενισ σενισ και σενισ





ሳየ'ርኦን' Δἰ' ÞLՎ-ኢት'ላኅ ላኅኅነጋስ' ለታኦ ቴትኦነታኦነ ጌርነታት ለታላታት Δἰበና 175 ርጎ Ldσት P. borealis የህጎሩት ሀታ ውዲንና አህብርህተኒላ ፌኒር, L-ናንሀ Δ-ላት 5.6.4 ኦላላ ውዲንና ውዲ ህብርንታር ላኅ የነበርህ ላጎት ለነበርህ ለተ

### 1.5 4) CY Ldoll P. borealis PU'C' o' Lo Dan' ba'allo 4>c'C'A>T

## 1.8 ��ল'ৱ৮ Lde t P. montagui የህጎሩ ተ Le ውልል be a te ላይ ልዩ ላይ ተ

borealis  $PV<^-\sigma^+$   $\wedge^+V^-\sigma^+\sigma^ \wedge^+V^-\sigma^+\sigma^ \wedge^+V^-\sigma^ \wedge^+V^-\sigma^+\sigma^ \wedge^+V^-\sigma^ \wedge^+V^-\sigma^$ 

## 1.12 ላጋሮህታዬ Ldውህ P. borealis የህ<ናው Lo ውልላ ለህ ሲህው ላውር የለልኦላር

## 1.15 Docker Look P. montagui Ptisto Dan Atalo Descholt

ሳዮ'ርኦን $^{*}$  ΔĹ $^{\circ}$  ÞL $^{\circ}$ ርላ $^{\circ}$ ረላ $^{\circ}$ ረላ $^{\circ}$ ረላ $^{\circ}$  ΔL $^{\circ}$ ርጉርር ΔL $^{\circ}$ ር  $^{\circ}$ ረት ΔL $^{\circ}$ ር  $^{\circ}$ ረት  $^{\circ}$ ረት ላይር የነልኦ ረፐ.

1.16 ጋናረናውና Pር ላይር አለት ነው የተከመመው የሚያስ ነው የተመመመው የሚያስ ነው የሚያ

## $\blacksquare 2$ . $\wedge$ ' $\forall$ Criangle $\forall$ $\dot{ riangle}$ $\dot{ riangle}$

 $bLdch^{\prime}d^{\prime}$   $\Delta dLch^{\prime}l^{\prime}$   $d^{\prime}L$   $d^{\prime}l^{\prime}$   $d^{\prime}l^{\prime}$ 

- (b)  $\dot{\mathsf{L}}^*$   $\mathsf{APC}^*\mathsf{APC}^*$   $\mathsf{APC}^*\mathsf{APC}^*$ ,  $\mathsf{APC}^*\mathsf{APC}^*$   $\mathsf{APC}^*\mathsf{APC}^*$
- (c) ሳ'የ''ጉላ ልላጉርት የ ልጉርት የ ሳ'የቦላንርኦሁት'ን የህ'ሩት ታላ'ል' የተርትዮ ልና ተርርነጋበት ውጪ'ያበርንበውና የተርኮላታ, ለታሊላየተርበነጋታ ላኮር የታው የህ'ሩት ታላሁነታት, ቴኮር ነና ለጋላር ዕርው ተነገር ልላት ጋነበና ላት ተጋ ልቴላነጋቦና ርሊኮና ቴኮትኦታ ነገና ቴቦኮትታት <ልናና ሃብርና ለላጭነገና ተርጉር፥ ላት ተጋ

# 2.1 ለነላር እና ላህ $\alpha$ /ነት ምህና Leu $\Delta$ /Le $\Delta$

- 2. סרידות מסבירות אדת מף הוכסיבו:
- 4. 4/ት?ሰና 4ርሴ 4ር

# 2.2 ለነላርኦ $\checkmark$ ላጋ፦ $\checkmark$ ነት ነገን ፈርት ላህፈሥልኦ $\checkmark$ ለርት ውዲንና ለህበርህለL $\checkmark$ ፈር ( $\Delta$ ርኒኒ 1.3)

- 4/²ት?ሰ° 4▷ሬና/Jበ▷Վ୮⁰ ለ৮ሒ4°°~JC▷¹ሬና;

- 5.  $4^{\circ}$ 60/60/6-5'0%  $6^{\circ}$ 6  $6^{\circ}$ 6  $6^{\circ}$ 6  $6^{\circ}$ 6  $6^{\circ}$ 6  $6^{\circ}$ 6  $6^{\circ}$ 7  $6^{\circ}$ 7  $6^{\circ}$ 7  $6^{\circ}$ 7  $6^{\circ}$ 7  $6^{\circ}$ 8  $6^{\circ}$ 8  $6^{\circ}$ 9  $6^{\circ}$

 $\Lambda^{\flat}$ ላር▷  $\prec^{\flat}$   $\dot{}$   $\dot{$ 

- 1.  $\Lambda$ ירי שב $\Delta$ 'בילים שלרם שלרליטרי שבלוחלי  $\Delta$ ילבין  $\Delta$ לבין  $\Delta$ לבי

- 4. ÞLՎ፫ቪትፕሬና ለትኮቴፖኦትኦኦነቴፕንታኑ ለታናጓታኑ ΔረL፫ኦንበኄና ለርቴቪርኦዴት 225 ርኄ (ΔĹ ኌላሀሬኑ 56%) ΔΔΔ\-ሮՐላንበታኑ ውልዶናር ዮህ<< ታላነበውና.

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- 1. ለ৮'\' 'ቴኔል' ኔላ'ቴ ነና ቴሬኒርኦ'ለላ'ን' ለኌላ'ርል፫ ም'」' ልላ፟፟ዾጏበራኑ, ላኒይኔ ላፎ'ቴልላ' ዾዾል' $\Gamma$  ዾዾ፞፞ላር'ው'J' ላ የቴበሶንበ ነን "ታ (ይይልነር ይይህበርንስሳ) ጋ "ኒልኦላታ ለኌላርል፫ ም'」';
- 2. ለንት ነር ለታው የተለከተ ነጋና ለታ ነር ልዾበበ 400 ርት ር፥ ሀው የህናርት መላህም ለታው ነር የህናርት መፈዛበር ህገር ነር ለታው መልነበር ነር ለታወቁ መልንና የህናርት መላነበና ነር ለታወቁ መልንና ነር ለታ

- 3. 175 ርግ ለ৮ናኒና ውሬንና የህናናት ቀናበውና ውሬንና bፌትፌትሁት ለርቴትርኮቲና 225 ርግ (ΔΕ-546-56%) ΔውΔኒ በላየስና ርዛውት;
- 4. CAL  $\dot{b}$ L+Cal  $\dot{b}$ L+Cal  $\dot{b}$ L+Cal  $\dot{b}$ Calcalcate  $\dot{b}$
- 5.  $b \bigcap L + C^{*} \Delta^{*} C^{*} = 250 C^{*} \Delta^{*} \Delta^{*} \Delta^{*} C^{*} C^{*} \Delta^{*} C^{*} \Delta^{*} C^{*} \Delta^{*} C^{*} \Delta^{*} C^{*} C^{*} \Delta^{*} C^{*} C^{*} \Delta^{*} C^{*} C^{*} \Delta^{*} C^{*} C^{*$

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 $\Lambda^{\flat}$ ላር▷  $\mathcal{A}^{\flat}$   $\dot{\mathcal{D}}^{\flat}$   $\dot{\mathcal{D$ 

- 1. ለ $\flat$ '\' የ $\Delta$ '  $\Delta$ '  $\Delta$ '  $\Delta$ '  $\Delta$ ' የ $\Delta$ '  $\Delta$ ' የ $\Delta$
- 3.  $\rlap{\ }$   $\rlap{\ }$
- 4. ÞL≺<\alpha\frac{1}{2} ላ ለ\frac{1}{2} ላ \frac{1}{2} \frac{1}{2}

## 2.7 ለነላር ነና ላጋር ነታው Ldo P. montagui የህናናት Lo ውል የውር ላው ላው ነር ( $\Delta$ ር ህ 1.8)

 $\Lambda^{\flat}$ ላር▷  $\forall$   $\dot{}$   $\dot{}$ 

- 1.  $\Lambda$ >'\' '\ bad'ad' belicp'\' d'\'  $\Lambda$ a'\(\Delta \sigma'\) \ \Delta \delta' \\ \Delta' \delta' \\ \Delta \delta' \\ \Delta \delta' \\ \Delta' \delta' \\ \Delta' \delta'
- 2.  $\ref{constraints} \ref{constraints} 2. \ \ref{constraints} \ref{constraints} 2. \ \ref{constraints} \ref{constraints} 2. \ \ref{const$
- (ΔL ÞL≺
   Λρ'\
   Δ''\
   Δ''\

- 2. ለ৮ና\ഛና ୮ዮ'-- በላንሰና ΔΓ-- የነጋበት ▷%▷(▷-- ▷ነጋ% ΔΡናΓ ዮህና< ት ወናነበഛና;
- 4.  $a^{+}$   $\Delta$ /LΓ+  $a^{+}$   $a^$

ለንፈርኮዊ  $\dot{p}$ Lፈርሊትናላላና ላጋር-ህታ የዮጔና  $\dot{p}$   $\dot{p}$  ላዊ የቦርና ለታፆታናው  $(\Lambda \dot{p})$   $\dot{p}$   $\dot{p}$ 

- 2.  $\D^{\circ}$  ձሬ 'በ' 'ፖታፕ  $\D^{\circ}$  \D\D\D^{\operator} \D\D\D^{\operator} \D\D^{\operator} \

# 2.10 ለሃላርኦላ ለሃርካታ $\Delta$ /L $\subset$ ኦንጌ Ldσ $^{1}$ Ldσ $^{1}$ P. borealis $^{1}$ የህ< $^{1}$ $^{1}$ $^{1}$ $^{1}$ $^{2}$ $^{2}$ $^{3}$ $^{4}$ $^{$

ለነላር እና  $\dot{D}$  ይረተር ላግ የነገባ ነገር እንደነው ለነር የህናርት  $\dot{D}$  ይረታ ርግ  $\dot{D}$  Loo ነ  $\dot{D}$  Loo  $\dot{D}$  Loo ነ  $\dot{D}$  Loo  $\dot{D}$  Loo ነ  $\dot{D}$  Loo ነ  $\dot{D}$  Loo ነ  $\dot{D}$  Loo  $\dot{D}$  Lo

- - (a)  $\frac{1}{2}$   $\frac{1}{2}$
  - (b)  $Ld\sigma^h P. \ borealis$   $P^h'<^+\sigma^h$   $\Delta a^h$   $\Delta a^h$

#### 

 $\Lambda^{\flat}$ ላ(▷ $\mathcal{A}^{\flat}$  ▷ $\mathcal{A}^{\flat}$ ርላና ላጋር $\mathcal{A}^{\flat}$ ሪስር  $\mathcal{A}^{\flat}$ ርስር  $\mathcal{$ 

- - (a)  $\frac{1}{2}$   $\frac{1}{2}$
  - (b) Ldo P. borealis  $P^{1} < \Delta^{c}$  Da C ba a C Da C Da C ba a C Da C D

  - (d)  $\dot{\mathsf{D}}\mathsf{L}$   $\mathsf{L}$   $\mathsf{$
  - (e)  $C\Delta L\Delta^{\circ}\sigma^{\circ}L_{\sigma}^{\circ}$ ,  $\dot{\rho}L_{\tau}L_{\tau}^{\circ}L_{\tau}^{\circ}L_{\tau}^{\circ}$   $\dot{\sigma}L_{\tau}^{\circ}L_{\tau}^{\bullet$

 $\Lambda^{\flat}$ ረርኦ $4^{\circ}$  ▷L4ርሌት' $4^{\circ}$  ላጋሮሃታትህውና ΔĹ $^{\circ}$  ቴርንናና ላላቴትናርና ለኦኦታናነት (ለኦኦታቴርንና) ΔĹበና 5,000 ርቴት ላይ Δሬቴትላይትንርኦታቴትንና ΔĹበና 10% ይፈታትህ P. montagui የህጎናትታት ለትህ ፌህታ ቴሪኦትኒልኦላቮ (ውሬንና ለትህትሬትህታ ላይ አላ ለትህትሬትህታ ላይ ላይ ተለልኦላታ) ኦժላትንትና

## 2.13 ለሃላርኦላና ለታናኒ $_{\Delta}$ ና $\Delta$ ሪት $_{C}$ ኮንት $_{J}$ ና $Ld\sigma^{4}$ P. montagui የህ< $\Delta$ ና $_{\Delta}$ ያና ለህ $_{\Delta}$ ህ $_{\Delta}$ ህ $_{\Delta}$

ለነፈርኮፈና  $\dot{p}$ Lፈር-ኢትናፈላና ላኄናጐኄና ለታናጌት  $\Delta \dot{L}$ በና 2,700  $\dot{C}^{5}$  P. montagui  $\dot{P}$ ህናናጐት  $\dot{p}$ ይላ ለህጎሬ ነው ላኮሬና የለኮተር  $\dot{p}$ ይላ ነው።

- 2. ('dd ഛ(' ለ৮'\' ለ৮' Δ/Lቦ⊁Ժ' ഛ(Ժ' ለ৮'\Ժ' ΔĹበቦ 5,000 (՟` ĹԺ ለ\'a\'Ժ ቴኦት\'ልኦՎ୮'. ኦLՎーሊት'Վሳ ለ\'ՎՈ\'Ր Δ/Lーኦ'፦' ፴ሬ৯' ለ\'a\'Ժ ላኦረ'\ልኦՎ୮ ለ৮'\ഛ' ΔĹበቦ 2,700 (՟` ኦժላህ»':

  - (b) Ld4 P. montagui  $PV<\Delta^c$  sabc balance of balance

  - (e)  $C\Delta L\Delta^{\circ}\sigma^{\circ}L_{\sigma}$ ,  $\dot{\rho}L_{\sigma}L_{\sigma}^{\circ}L_{\sigma}^{\sigma}L_{\sigma}^{\circ}L_{\sigma}^{\circ}L_{\sigma}^{\circ}L_{\sigma}^{\circ}L_{\sigma}^{\circ}L_{\sigma}^{\circ}L_{\sigma}^{\circ}$

## 2.14 ለ<sup>5</sup>국(▷국<sup>c</sup> ላ)፦ 'd৮ኌ<sup>c</sup> *P. montagui* ዮህ<sup>c</sup>< 'ጐ<sup>b</sup> ചፈል<sup>b</sup> ለኂ<sup>c</sup>ቈኂኇ ላ▷ፎ'ረ<sup>c</sup>ል▷국Γ (Δፎኂ 1.15)

ለነፈርኮፈና  $\dot{\mathbf{p}}$ Lፈር-ሌትናፈላና  $\mathbf{q}$ ጋር-ሬታ የኒውና  $\mathbf{\Delta}\dot{\mathbf{L}}^{\mathrm{L}}$  ለታናኒና  $\mathbf{\Delta}\dot{\mathbf{L}}$ በና 2,300 ርግ P. montagui  $\mathbf{P}$ ህናና $\mathbf{\Delta}^{\mathrm{L}}$ ር ው ልላት ለጓኒስር ላው ረር የኒልኮፈቦ  $\mathbf{p}$ ዕላ ህንና:

- 1.  $\Lambda$   $\mathcal{C}$   $\mathcal{C}$
- - (b) Ld4 P. montagui  $PV<\Delta'$  sape batale  $A^{L}$  sach  $A^{L$
  - (c) 4ĊJ' Δ∠LJCÞゼ', アランド Λト'\\ ΔĹΠΓ 3,000 C"\ ΓΡ'--ΓΦ'(Þ--Þ') ΔĹΠΓ 1,850 C"\ (61.7%) トラッし 1,150 C"\;
  - (d)  $\triangleright$ L $\dashv$ c $\land$ c $\land$ f $\dashv$ e $\land$ ff P. montagui  $\land$ eff  $\land$ ef
- 2.15 ለነላርኦላና ላጋ፦3ታኔና ΔLነ ΔLነዮኦር፦ $\lambda$ ትና ይLየኦኄነጋቦነ ጋላናልቴናፖላና፦ ላLታ ላLታ ላLትቴበቴና፦1የህናናት ለLታ ጋታሪቱ የነርና ላLታ ጋታሪቱ (ጋናና ላLተ ላLተ

Þðð ለሃላርኦላ፡  $\dot{b}$ Lላር-ኢትናላላ፡ ላጋ-ነፊት የኖፌ፡  $\Delta \dot{L}^b$  ፌኒር፡ን፫፥ ጋላኔለቴናለላ፡፦ ላኒጌ  $\dot{d}$ ትቴበቴናት፡  $\dot{b}$ Lላር-ኢትናላላ፡  $\Delta$ ለቴርኦጋበ፥ የህናና-ታላነበ፡ ለቴርኦጋበ፥ የህናና-ታላነበ፡ ለጐር፡  $\dot{d}$ ትቴበቴናት፡  $\dot{d}$ ት፡  $\dot{d}$ 

- (a) Þσ¹bσ¹, α\_α²٩ΓΙΠσ¹ Þ<<</li>ά\_ς Π666768999<l
- (b) ▷ቴ▷ፖነሪ ఉ፫ናበናፖσናΓ, ΔΕናΓ▷ር፫ቪትና ዮじჀና ▷ቴ፫▷ናጋኈ Δ፫ኑ, "...*bLፖL "Υናጋህ"* ቴጔ፨ *bበፖL Վና ዮህናና ጐላሁΔና ላኮ፫ር▷ኒት L ኒቨር የዮናርጏና Δዮህር ለ ኒኒ ሚ*

### 3. ለ৮ሒ?ሰ<sup>ና</sup>

Γ`C  $\Gamma$ σ`C,  $\dot{\rho}$ L $\prec$ c $\Lambda$ c' $\prec$ d'  $\dot{\alpha}$ c' $\rho$ b' $\rho$ s'  $\Delta$ lL $\dot{\rho}$ D\Γ $\sigma$ b d'L $\dot{\sigma}$ d'C',  $\dot{\rho}$ L $\dot{\sigma}$ d'C' L $\dot{\sigma}$ c'  $\dot{\rho}$ c'  $\dot{\rho}$ c'  $\dot{\rho}$ c' L $\dot{\sigma}$ c'  $\dot{\rho}$ c'  $\dot$ 

۵- مر کرد خلال

Lar 10° - 40°,

Δና**ረ**¢ρ(ኦβ<mark>۵</mark>,σ<sub>2</sub>)<sub>8</sub> ኦሬ<sup>2</sup>

m ancies

שם אנג אַראבייד, אתנ פטרד אָנוּ

bLቦታ $^{\circ}$   $\Delta$ 'Lቦታ $^{\circ}$   $\Delta$ 'Lቦታ $^{\circ}$   $\Delta$ 'Lቦታ $^{\circ}$   $\Delta$ 'L $^{\circ}$   $\Delta$ 'C' $^{\circ}$ 

bL $\Gamma$ ታ%ነጋበ $^{\flat}$   $\Delta$ /L $\Gamma$ ታ $\sigma$  $^{\flat}$  dየ $\Gamma$ dየ $\Omega$  $\sigma$  $^{\flat}$  Pdየ $\Omega$  $\sigma$  $^{\flat}$   $\Phi$ የህ< $\Delta^{c}$  ላਾL $\Rightarrow$  P. montagui የህ< $\Delta^{c}$  L $\Rightarrow$  የህ<<c  $\Rightarrow$  የህ<c  $\Rightarrow$  ላਾL $\Rightarrow$  4.  $\Rightarrow$  ት በበናሃL $\Rightarrow$  የ ישישי אסטים איליבולי ארואדאסטיביטרי ארערעדילע הוארךשי קילער אררעדילער האלרךשי קילערערילילי በበናነፖĽላ∿ኒታ (www.nwmb.com). ▷'b▷ፖነሪ' ፌሬናበናፖታናፔ ቴበĽንՎበℾታና  $\Delta^{\circ}$   $\Delta^{\circ}$   $\Delta^{\circ}$   $\Delta^{\circ}$   $\Delta^{\circ}$   $\Delta^{\circ}$   $\Delta^{\circ}$ 

## <u>α\_α-~ΥΙΛΥΑΔΟΙΛΥ</u>: (ασΥΛΥΥ 3 ΦL\_ 4)

Δ/LJ(>
 Φ/ΥΔΦ>
 Φ/Υ
 Φ/Υ<

 $CL^{1}P'$   $P^{1}J'<\Delta^{C}$   $PL^{1}D^{1}F'$ ,  $CL^{1}D^{1}D^{1}F'$   $AP^{1}D^{1}D^{1}F'$ 

የህ<< ጉ.

o 44,450,c ے<u>ב</u>ህበርህ/L4< የ'~ምበJ' ላLጋ %>>\ነበיLኢ' %>>\አ\ኅበJ'.

 $\Delta A \Gamma C A$  Preform Vacace in  $\Delta A \Gamma C C$ 

 $\circ$   $\forall A'' \rightarrow A''$ 

o ALLIFI  $\Delta P \subset (A_1 V) P A V$ የህናና ታላ ታ ነው ነው ነ

 $\circ$   $\Delta$ P'F P $lag{V}$ < $\circ$   $\Delta$ PLJ $\cap$  V  $\cap$  V< $\cap$ 

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LPA'd' &'L'(\')' \( \Delta \chi^\chi^\chi^\chi^\chi^\chi^\chi^\chi\chi'\).

 $<sup>^{12}</sup>$  ליכאררשן, בים 3,000 (בי P montagui אליגי אלאט ביטי כבייר פיטיליק אלא  $^{12}$  ליכאררשן, בישי  $C^*$   $\Delta C = \Delta^* \Upsilon' D = \Delta^*$   $\Delta C = \Delta^* C =$ 

- Δϲ·ϞͿΔϧΔͿ(ϷͿ·ͼ·ን՝ ϫͼϧ· ΛϞͿ·ͼʹϞϧ ϭͰͺϫϫͼϧ· ΛϞͿ·ͼʹϞϧ (ΔͰͺϞ ΛϞͿ·ͼʹϞϧ ʹϧϷϧϞʹϗϷͺϟʹͼͺͼ) ϭʹϷʹ(Ϸϒϭϯ· ΔͰΠϒ 12.5%, ϭͰͺϫ ϧΠʹንϒ· ϭͺϒ·ʹϒϹʹ ΛϧϷϧ·ϒ· ϭϽϲʹϭͿϧ· ϭΓϲͿϞͺϭʹ϶Ϲʹ (ΔͰΠϒ.
- የህናረትታላናም (ቪታ የትርቴኒ ታ ΔĽ 2 ኦናሮኔትታና 3 ኦፐላናቲላና የህናረትታላንና ቪታ የየነርኔና Δየህታ. የየነርኔ ተላንስት ላይኔ ይየልነታ ለንትታየባታና ለንትታት ይነትታ ኦናሮኔትታና ለህታታ ላናነታ ላርታ ውርም ላኦፎናታህተኦቲም.
- LPδ<sup>6</sup> "4c<sup>6</sup>bPL<sup>6</sup>/7<sup>4</sup> 4<sup>7</sup>P<sup>6</sup>F<sup>6</sup> b)<sup>7</sup>Pσ<sup>4</sup>F<sup>6</sup> Λ<sup>2</sup>Cσ<sup>6</sup> 4<sup>1</sup>L<sub>2</sub> (ΔL<sup>6</sup><sub>2</sub>σ<sup>6</sup>) 4<sup>7</sup>Cσ<sup>6</sup> α<sup>2</sup>Cσ<sup>6</sup> α<sup>2</sup>
- LbV, qipith, 13

   FbV, qipith, 13

#### <u>a\_a~γΓ)</u>ή(/ΔΔ</ή(:

- LPልነሪና ላላግጥሆኑ በህ୮ላነጋና ላෑLo Lta ላጋΔቴልትና ለኦናኒው፥ (Lidd ልተጥተው.
- $4^{+}$ ך  $4^{-}$ ר  $4^{-}$ 4
- ሁ'ーግቦ'ውና ላለነት?ስና ላፌ የልላ አማጋ ለተነጋ በነ (L'a, (L'a, ΛΡ ላ").
- Λρίζος» ρυίζος σίσις (Le Δραίσαί)» σας σί.

## <u>αΔάζής ραδίς (Λρίτρς-πρί βΕντυρίνος βΠΕρίς (ραδίς βΠΕρί) βσίβης σ</u>

 $\Delta \sim \Lambda^{1} \Gamma + \Gamma \Lambda^{2} \Gamma \Lambda^{2} \Gamma^{1} \Lambda^{2} \Gamma^{2} \Gamma^{$ 

- Þժላ ፴ፌልነና ቴበLትና σንላፌኦናንና ላግንደርጋበና ለ≫ናትና በበናናርኦ៤σግና ΔΕΊΓኦር-ኢትና Δ/LJበግር LΔ 2010Γ, ላይጋ ላግናንበት Δ/LΓኦታት ዮና-ግናውና ላ/ኦትንበታት ዮህናህታ ጋታኦሶየላግህናውጥር Lና 2011Γ. ፴ፌልነና ቴበLትና ጋታረፈኦግባናንና ΔΕΊΓኦር-ኢትና Γታነርህውና ለኦኦቴናርንና ቴ፴Δር ጋላናታግሮታት ላጋር-ህኦታት.
- 10%  $\Delta$ /Lቦኑና  $\Delta$ ሮ የህΔኑ?(ኦ) ቴሪንና ላጋናሶቦላ는ና የኦኦሁ/ላጎ  $\Delta$  ለኦኦሀቴሪንና የትርዮም ውልላ ለየተፈተም ላተ  $\Delta$  ውልንና ለየተፈተም ኮዮት(ኦታዩ የህናናቴት (*P. montagui*).

#### 

ΔαΝΓ ԵΠΕትና ΔΖΕ-ΡΕΡΊΣ ΡΟΘΡΙΕΊΔΟΝ ΦΟ-ΉΡΘΕ ΛΡΡΙΙάΣΤΟ ΒΔΔ΄ ΔΘΡΎΓΟΝ ΡΟΘΡΙΕΊΧΟΝ ΕΝΕΡΙΑΙΚΑ ΕΝΕΡΙΑΙ

- $a\dot{\Gamma}^*\sigma^*\Gamma'$   $\Gamma P\dot{\prec} C D \sigma^! \Delta^c$   $P U' < \Delta^c$  (P. montagui)  $a \Rightarrow a ! L C D N ^a G \sigma \Delta^*\Gamma' G U' U' U L C L ^a .$   $A = J' L L C U L C L ^a U L C U L C L ^a U L C U L C U L C L ^a U L C U L C U L C U L C L ^a U L C U$

## <u>αΔάγλι ισιών σαδι Λενιώνι ασυενόν σειρλιών</u>:

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NWMB decision and recommendation concerning proposed changes to shrimp fishery management for Shrimp in Shrimp Fishing areas 2, 3, and 4

In the meantime, the NWMB wishes to thank you and your officials for the significant attention that DFO has devoted to the development of the revised northern shrimp fishery management regime. Of course, more work remains to be done - in particular, the task of applying the NLCA Article 5 allocation system to the NSA shrimp fishery. Please be assured that the Board will continue to collaboratively work with the Department and its other co-management partners in ensuring that the management of all NSA fisheries fully aligns with the terms of NLCA Article 5.

If you or your officials have any questions with respect to the contents of this letter, please do not hesitate to contact the NWMB at your convenience.

Yours sincerely,

Miller

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October 2<sup>nd</sup> 2012

The Honourable Keith Ashfield Minister of Fisheries and Oceans 15<sup>th</sup> Floor, Centennial Towers 200 Kent Street Ottawa, Ontario K1A 0E6 NWMB - SENT DATE: Oct 4/2 to.

Dear Minister Ashfield:

Re: Nunavut Wildlife Management Board decisions and recommendations concerning proposed changes to shrimp fishery management for *Pandalus borealis* Shrimp and *Pandalus montagui* Shrimp in Shrimp Fishing Areas 2, 3 and 4

### 1. NWMB DECISIONS AND RECOMMENDATIONS

In response to a March 2012 *Proposal for Decision* (Proposal) from the Department of Fisheries and Oceans (DFO), the Nunavut Wildlife Management Board (NWMB or Board) held a one-day public hearing in Iqaluit, on June 12<sup>th</sup> 2012. The Proposal requested a total of six NWMB decisions and ten recommendations.<sup>2</sup>

Prior to the oral hearing, the NWMB received written response submissions from the Government of Nunavut's Department of Environment, Makivik Corporation and the Nunavik Marine Region Wildlife Board.

Following the hearing, the NWMB met on September 12<sup>th</sup> 2012 to carefully consider the Proposal and all of the written and oral hearing submissions, and to make its decisions and recommendations. Those decisions and recommendations are set out below in sections 1.2 through 1.16. However, before turning to them, it is necessary to address the preliminary matter of what form the NWMB's quantitative limitation decisions should take.

<sup>&</sup>lt;sup>1</sup> The hearing was scheduled to take place over a two day period, June 12<sup>th</sup> and 13<sup>th</sup>. However, all oral submissions were delivered, and all questions, answers, comments and discussions completed by the end of the first day.

<sup>&</sup>lt;sup>2</sup> In fact, the Proposal set out a list of seven "NWMB decision and recommendations", labelled A to G (see page 4 of the Proposal). However, when it came time to formally consider each requested decision/recommendation, the NWMB concluded that the Proposal was seeking six NWMB decisions and ten recommendations.

1.1 Potential quantitative harvesting limitation options permitted by the *Nunavut Land Claims Agreement*: (i) total allowable harvests, basic needs levels and surpluses; (ii) levels of harvesting; and (iii) quotas

The Proposal recommends four quantitative harvesting limitations within the Nunavut Settlement Area (NSA).<sup>3</sup> Prior to making those decisions, the NWMB was required to consider the preliminary issue of what form those limitations should take, pursuant to the terms of the *Nunavut Land Claims Agreement* (NLCA).

The NSA allocation system outlined in NLCA Article 5 consists of three principal elements:

- (a) The establishment, modification or removal of a level of total allowable harvest (TAH) for a relevant wildlife stock or population;<sup>4</sup>
- (b) The subsequent striking and potential adjustment of a basic needs level (BNL);<sup>5</sup> and
- (c) Where the level of TAH is higher than the (adjusted) BNL, the determination and allocation of the surplus.<sup>6</sup>

NLCA Article 5 also includes two limited exceptions to the TAH-BNL-surplus allocation system:

- (a) The establishment, modification or removal of a level of harvesting for a relevant wildlife stock or population; <sup>7</sup> and
- (b) The modification or removal of a restriction or quota that has been in force since prior to the date of ratification of the NLCA (July 9<sup>th</sup> 1993).<sup>8</sup>

In the NWMB's view, both exceptions are intended to be temporary measures, pending the implementation of the permanent NLCA Article 5 allocation system.<sup>9</sup>

<sup>&</sup>lt;sup>3</sup> Quantitative harvesting limitations for each of *P. borealis* and *P. montagui* shrimp in both the Nunavut East and Nunavut West Management Units. See sections 1.4, 1.7, 1.11 and 1.14 of this decision letter.

<sup>&</sup>lt;sup>4</sup> See, for instance, NLCA Sections 5.2.33(d), 5.6.1, 5.6.3, 5.6.5, and 5.6.16 to 5.6.18.

<sup>&</sup>lt;sup>5</sup> See, for instance, NLCA Sections 5.2.33(e) and (f), and 5.6.19 to 5.6.30.

<sup>&</sup>lt;sup>6</sup> See, for instance, NLCA Sections 5.2.33(g) to (j), and 5.6.31 to 5.6.40.

<sup>&</sup>lt;sup>7</sup> See NLCA Sections 5.2.33(m) and 5.6.16. In January of 2009, the NWMB formally indicated in writing to its relevant co-management partners that - until such time as the Board should determine that the Nunavut wildlife management system is not being properly served by the immediate adoption of a TAH and BNL when a quantitative harvesting limitation for Inuit is necessary - the Board will not establish a level of harvesting for Inuit.

<sup>&</sup>lt;sup>8</sup> See NLCA Sections 5.2.33(m) and 5.6.4.

Particularly considering that the NLCA has been in force for almost 20 years, the Proposal's comprehensive recommended changes to shrimp management in the NSA presented a welcome opportunity to more closely align that management regime with the terms of the NLCA. Accordingly, the Board would have preferred to have applied the NLCA Article 5 allocation system in making its quantitative harvesting limitation decisions for shrimp in the NSA. Unfortunately, for the reasons set out in section 1.1.1 below, that is not currently a practical option.

As a result, all quantitative limitation decisions made by the Board in response to the Proposal remain in the form of quotas, as permitted by NLCA S.5.6.4. Nevertheless, the NWMB recognizes that this is a temporary arrangement, and is determined to apply the permanent NLCA Article 5 allocation system to the NSA shrimp management regime at the earliest reasonable opportunity.

1.1.1 Reasons why the NWMB decided not to establish total allowable harvests, basic needs levels and surpluses for *P. borealis* and *P. montagui* shrimp in the Nunavut Settlement Area

If the NWMB had decided to proceed by way of establishing TAHs, it would have been required to strike one or more BNLs – as well as one or more surpluses, if any TAH were to exceed its accompanying BNL. Several serious challenges would have arisen in attempting to make such decisions, including the following:

- (a) Neither DFO's Proposal nor any of the submissions (evidence/arguments) mentioned the establishment of TAHs, BNLs and surpluses (except for a single passing comment from NTI's Fisheries Advisor – see p.66 of the transcript), or any factors associated with the calculation of BNLs and the allocation of surpluses. Accordingly, there is nothing in the hearing record for the NWMB to consider and/or rely upon in making its BNL and surplus decisions.
- (b) The shrimp fishery in the NSA has primarily been conducted by a corporation (Baffin Fisheries Coalition), and the NWMB has not previously been faced in the context of establishing community and/or regional TAHs and BNLs (the Board's only two alternatives under the terms of the NLCA) <sup>10</sup> with considering the relationship between Hunters and Trappers Organizations (HTOs), Regional Wildlife Organizations (RWOs) and the corporations that they either wholly or partially own (the allocation of the Surplus could also be similarly complicated). This is a potentially complex and controversial matter that neither DFO nor any other party commented on during the hearing.

<sup>&</sup>lt;sup>9</sup> See, for instance, NLCA Sections 5.1.2, 5.1.3, 5.3.3(b), 5.6.1, 5.6.3, 5.6.5, 5.6.16 to 5.6.40, 5.6.45 to 5.6.47, 5.7.3(b) and (c), 5.7.6(b) and (c), 5.7.26, and 5.7.34(b).

<sup>&</sup>lt;sup>10</sup> See NLCA Sections 5.6.17 (a) and (b), 5.7.3(b) and 5.7.6(b).

(c) In any case, DFO is currently in disagreement with the NWMB and Nunavut Tunngavik Inc. about what harvests are to be included in the calculation of BNLs. As agreed by the NWMB and the Minister, final TAH and BNL decision-making by the Board for the Kingnait Fiord char fishery has been postponed, to provide the NLCA parties and the NWMB more time and opportunity to reach agreement on what harvests must be included in the calculation of BNLs. 11 Both the Minister and the NWMB appear to agree that the most likely outcome if the NLCA decision-making process for Kingnait Fiord had not been postponed would have been the involvement of the courts through judicial review. The same reasoning applies in this circumstance.

### 1.1.2 The NWMB's intended way forward

The modification of commercial shrimp quotas in the NSA pursuant to NLCA S.5.6.4 is intended by the NWMB to be a temporary measure only. Article 5 of the NLCA clearly expects TAHs, BNLs and surpluses to be established for all fisheries in the NSA. However, in order for the NWMB to successfully take that step for the NSA shrimp fishery, there must first be a consensus between the Board and the NLCA parties as to what harvests must be included in the calculation of BNLs. Unfortunately, that consensus does not yet exist.

Also prior to taking that step, the Board must obtain relevant evidence and arguments from Government, Inuit and industry that address:

- (a) TAHs, BNLs and surpluses for the NSA shrimp fishery; and
- (b) The relationship between HTOs and RWOs and the corporations that they either wholly or partially own, in the context of NLCA rights and responsibilities, the NLCA Article 5 allocation system, and the NSA commercial shrimp fishery.

Accordingly, the NWMB has decided that the most prudent way forward is for the Board to review the four shrimp quota decisions made in this hearing process in two years' time (i.e., prior to the 2015 fishing season), with the intention that:

- (a) The BNL calculation issue will have been resolved by then, and
- (b) The NWMB will be in a position to hold a follow-up public hearing to establish TAHs and BNLs and surpluses, if required for all NSA shrimp harvesting.

<sup>&</sup>lt;sup>11</sup> See the NWMB's September 2<sup>nd</sup> 2011 letter to the DFO Minister, and the Minister's October 24<sup>th</sup> 2011 reply.

# 1.2 Non-quota limitation decision on areas of harvest within the Nunavut Settlement Area

RESOLVED that, pursuant to Section 5.6.48 of the *Nunavut Land Claims Agreement*, the NWMB approve with respect to both *P. borealis* and *P. montagui* shrimp:

- (a) The geographic coordinates outlined in Figure 1 below as the boundaries for the Shrimp Fishing Area Nunavut (SFA NU); and
- (b) The geographic coordinates outlined in Figure 2 below as the boundaries for the Nunavut West (NU-W) and Nunavut East (NU-E) management units.

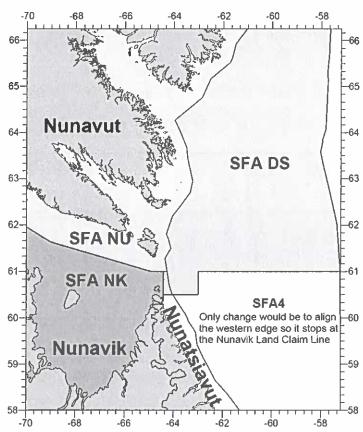


Figure 1: Proposed Shrimp Fishing Areas (SFAs) for both shrimp species.

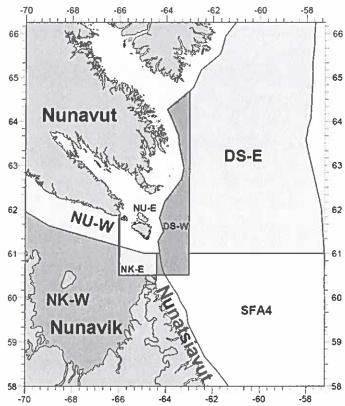


Figure 2: Proposed management units within the new Shrimp Fishing Areas (SFAs) for both shrimp species.

#### 1.3 Recommendation on areas of harvest outside the Nunavut Settlement Area

RESOLVED that the NWMB recommend the following changes outside the Nunavut Settlement Area with respect to both *P. borealis* and *P. montagui* shrimp, as outlined in Figures 1 and 2 below:

- (a) Modify the boundaries of Shrimp Fishing Areas 2, 3 and 4, to form the following Shrimp Fishing Areas: "Shrimp Fishing Area Nunavik" (SFA NK), "Shrimp Fishing Area Davis Strait" (SFA DS) and "Shrimp Fishing Area 4" (SFA 4);
- (b) Align the western edge of SFA DS so that it stops at the SFA NK boundary line;
- (c) Within SFA NK, establish the following two management units: "Nunavik West" (NK-W) and "Nunavik East" (NK-E); and
- (d) Within SFA DS, establish the following two management units: "Davis Strait West" (DS-W) and "Davis Strait East" (DS-E)

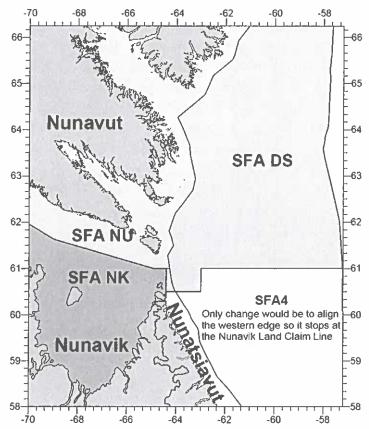


Figure 1. Proposed Shrimp Fishing Areas (SFAs) for both shrimp species.

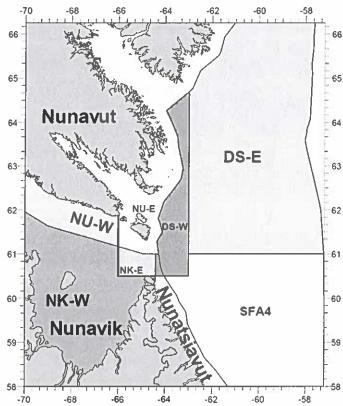


Figure 2: Proposed management units within the new Shrimp Fishing Areas (SFAs) for both shrimp species.

### 1.4 Quota decision for P. borealis shrimp in the Nunavut East Management Unit

RESOLVED that the NWMB approve a by-catch quota of 175t for *P.borealis* shrimp in the Nunavut East Management Unit within the Nunavut Settlement Area, pursuant to Section 5.6.4 of the *Nunavut Land Claims Agreement*.

### 1.5 Recommendation for P. borealis shrimp in the Nunavik East Management Unit

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a by-catch quota of 75t for *P. borealis* shrimp in the Nunavik East Management Unit.

1.6 Recommendation for a Total Allowable Catch and exploitation rate for *P. montagui* in the Eastern Assessment Zone (Nunavut East, Nunavik East and Davis Strait West Management Units)

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a Total Allowable Catch of 2,250t and an exploitation rate of 15% for *P. montagui* shrimp in the Eastern Assessment Zone (Nunavut East, Nunavik East and Davis Strait West Management Units).

### 1.7 Quota decision for P. montagui shrimp in the Nunavut East Management Unit

RESOLVED that the NWMB approve a quota of 950t for *P. montagui* shrimp in the Nunavut East Management Unit within the Nunavut Settlement Area, pursuant to Section 5.6.4 of the *Nunavut Land Claims Agreement*.

### 1.8 Recommendation for P. montagui shrimp in the Nunavik East Management Unit

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a quota of 200t for *P. montagui* shrimp in the Nunavik East Management Unit.

1.9 Recommendation to reduce the quota for *P. montagui* shrimp in the Davis Strait West Management Unit, outside the Nunavut Settlement Area

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans reduce the 3,300t quota for *P. montagui* shrimp in the Davis Strait West Management Unit outside the Nunavut Settlement Area to 1,100t.

1.10 Recommendation for a Total Allowable Catch and exploitation rate for *P. borealis* in the Western Assessment Zone (Nunavut West and Nunavik West Management Units)

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a Total Allowable Catch of 1,500t and an exploitation rate of 10% for *P. borealis* shrimp in the Western Assessment Zone (Nunavut West and Nunavik West Management Units).

### 1.11 Quota decision for P. borealis shrimp in the Nunavut West Management Unit

RESOLVED that the NWMB approve a quota of 825t for *P. borealis* shrimp in the Nunavut West Management Unit within the Nunavut Settlement Area, pursuant to Section 5.6.4 of the *Nunavut Land Claims Agreement*.

#### 1.12 Recommendation for P. borealis shrimp in the Nunavik West Management Unit

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a quota of 675t for *P. borealis* shrimp in the Nunavik West Management Unit.

1.13 Recommendation for a Total Allowable Catch and exploitation rate for *P. montagui* shrimp in the Western Assessment Zone (Nunavut West and Nunavik West Management Units)

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a Total Allowable Catch of 5,000t and an exploitation rate of 10% for *P. montagui* shrimp in the Western Assessment Zone (Nunavut West and Nunavik West Management Units).

### 1.14 Quota decision for P. montagui shrimp in the Nunavut West Management Unit

RESOLVED that the NWMB approve a quota of 2,700t for *P. montagui* shrimp in the Nunavut West Management Unit within the Nunavut Settlement Area, pursuant to Section 5.6.4 of the *Nunavut Land Claims Agreement*.

#### 1.15 Recommendation for P. montagui shrimp in the Nunavik West Management Unit

RESOLVED that the NWMB recommend that the Minister of Fisheries and Oceans establish a quota of 2,300t for *P. montagui* shrimp in the Nunavik West Management Unit.

1.16 Request for an NWMB decision and recommendation on the management regime – directed vs. by-catch – for *P. borealis* shrimp in the Western Assessment Zone (Nunavut West and Nunavik West Management Units)

There were essentially no submissions, evidence or arguments presented on this issue during the hearing process. The NWMB recommends that DFO carry out suitable consultations and negotiations with the fishing industry prior to the Board considering and delivering its decision and recommendation on the management regime for *P. borealis* shrimp in the Western Assessment Zone.

#### 2. REASONS FOR THE NWMB DECISIONS AND RECOMMENDATIONS

The NWMB's decisions and recommendations are based upon the most reliable and persuasive evidence and arguments received during the public hearing process. All of the written submissions filed and considered at the hearing are publicly available for download from the Board's website (<a href="www.nwmb.com">www.nwmb.com</a>). In addition, the NWMB has produced a full transcript of the oral submissions, questions and answers delivered during the hearing. That transcript is available from the Board upon request. A brief summary of key points made during the hearing process is also attached to this letter as Appendix A.

In carrying out its deliberations, the NWMB carefully noted – and is in agreement with – the shared recognition by a number of the hearing parties of the following fundamental facts:

- (a) There is a need to align shrimp fishing boundaries with land claim boundaries;
- (b) The current management system is unnecessarily complex, and raises conservation concerns;
- (c) The system proposed by DFO would align shrimp fishing boundaries with land claim boundaries, simplify management of the fishery, address conservation concerns and support Marine Stewardship Council certification conditions; and
- (d) The new system offers the potential for new fishing opportunities in both Nunavut and Nunavik settlement waters.

#### 2.1 Reasons for the non-quota limitation decision on areas of harvest in the NSA (s.1.2)

The reasons for the NWMB's approval of the boundaries for the Shrimp Fishing Area Nunavut and boundaries for the Nunavut West and Nunavut East management units are the following:

- 1. The changes align relevant shrimp fishing boundaries with NSA boundaries;
- 2. The changes make the management system less complex;
- 3. The changes help to better distribute fishing effort in order to address conservation concerns and facilitate sustainable harvest levels;
- 4. The changes offer the potential for new fishing opportunities in the NSA; and
- 5. There was a consensus among the hearing parties for these changes.

# 2.2 Reasons for the recommendation on areas of harvest outside the Nunavut Settlement Area (s.1.3)

The reasons for the NWMB's recommendation for approval of the boundaries for the Shrimp Fishing Area Nunavik and boundaries for the Nunavik West and Nunavik East management units are the following:

- 1. The changes align relevant shrimp fishing boundaries with Nunavik Marine Region (NMR) boundaries;
- 2. The changes make the management system less complex;
- 3. The changes help to better distribute fishing effort in order to address conservation concerns and facilitate sustainable harvest levels;

- 4. The changes offer the potential for new fishing opportunities in the NMR; and
- 5. There was a consensus among the hearing parties for these changes.

# 2.3 Reasons for the quota decision for *P. borealis* shrimp in the Nunavut East Management Unit (s.1.4)

The reasons for NWMB approval of a by-catch quota of 175t for *P. borealis* shrimp in the Nunavut East Management Unit are the following:

- 1. The quota amount successfully addresses conservation concerns, and reflects the NLCA principles of conservation;
- 2. The previous by-catch quota of 400t for this fishery has consistently been fished entirely within the NSA, by only Nunavut fishers;
- 3. The NWMB's by-catch quota decision of 175t for the Nunavut East Management Unit accepts DFO's proposed 150t decrease (400 150 = 250) and then removes a further 75t, so as to provide Nunavik fishers with a new designated *P. borealis* shrimp by-catch quota of 75t; and
- 4. The NWMB's by-catch quota decision represents a 225t (approximately 56%) decrease for Nunavut fishers.

# 2.4 Reasons for the recommendation for *P. borealis* shrimp in the Nunavik East Management Unit (s.1.5)

The reasons for the NWMB recommendation of a by-catch quota of 75t for *P. borealis* shrimp in the Nunavik East Management Unit are the following:

- 1. The quota amount successfully addresses conservation concerns, and reflects the *Nunavik Inuit Land Claims Agreement* (NILCA) principles of conservation;
- 2. The previous by-catch quota of 400t for this fishery has consistently been fished entirely within the NSA, by only Nunavut fishers;
- 3. A 175t quota for Nunavut fishers in Nunavut East represents a 225t (approximately 56%) decrease for them;
- 4. If the NWMB's recommendation is accepted, Nunavik fishers will have a new designated 75t quota; and
- 5. The combined Nunavut East and Nunavik East by-catch quotas (175t + 75t = 250t) matches the Proposal's recommended combined by-catch quota for the two Management Units.

2.5 Reasons for the recommendation for a Total Allowable Catch and exploitation rate for *P. montagui* shrimp in the Eastern Assessment Zone - Nunavut East, Nunavik East and Davis Strait West Management Units (s.1.6)

The reasons for the NWMB recommendation of a Total Allowable Catch (TAC) of 2,250t and an exploitation rate of 15% for *P. montagui* shrimp in the Eastern Assessment Zone (Nunavut East, Nunavik East and Davis Strait West Management Units) are the following:

- 1. The recommended TAC and exploitation rate successfully address conservation concerns, and reflect the NLCA and NILCA principles of conservation; and
- 2. No hearing party opposed the proposed TAC and exploitation rate.
- 2.6 Reasons for the quota decision for *P. montagui* shrimp in the Nunavut East Management Unit (s.1.7)

The reasons for NWMB approval of a quota of 950t for *P. montagui* shrimp in the Nunavut East Management Unit are the following:

- 1. The quota amount successfully addresses conservation concerns, and reflects the NLCA principles of conservation;
- 2. The previous quota of 3,000t for this fishery was entirely within the NSA, and was allocated exclusively to Nunavut fishers (Nunavik had none of the 3,000t *P. montagui* shrimp quota in SFAs 2 and 3);
- 3. The NWMB's quota decision of 950t for the Nunavut East Management Unit accepts DFO's proposed 1,850t decrease (3,000 1,850 = 1,150) and then removes a further 200t, so as to provide Nunavik fishers with a new *P. montagui* shrimp quota of 200t where previously they had none; and
- 4. The NWMB's quota decision represents a 2,050t (approximately 68.4%) decrease for Nunavut fishers.
- 2.7 Reasons for the recommendation for *P. montagui* shrimp in the Nunavik East Management Unit (s.1.8)

The reasons for the NWMB recommendation of a quota of 200t for *P. montagui* shrimp in the Nunavik East Management Unit are the following:

1. The quota amount successfully addresses conservation concerns, and reflects the *Nunavik Inuit Land Claims Agreement* (NILCA) principles of conservation;

- 2. The previous quota of 3,000t for this fishery was entirely within the NSA, and was allocated exclusively to Nunavut fishers (Nunavik had none of the 3,000t *P. montagui* shrimp quota in SFAs 2 and 3);
- 3. A 950t quota for Nunavut fishers in Nunavut East represents a 2,050t (approximately 68.4%) decrease for them;
- 4. If the NWMB's recommendation is accepted, Nunavik fishers will have a new 200t quota in an area where they previously had no quota; and
- 5. The combined Nunavut East and Nunavik East Management Unit quotas (950t + 200t = 1,150t) matches the Proposal's recommended combined quota for the two Management Units.
- 2.8 Reasons for the recommendation to reduce the quota for *P. montagui* shrimp in the Davis Strait West Management Unit, outside the Nunavut Settlement Area (s.1.9)

The reasons for the NWMB recommendation to reduce the 3,300t quota for *P. montagui* shrimp in the Davis Strait West Management Unit outside the Nunavut Settlement Area to 1,100t are the following:

- 1. The recommended quota reduction successfully addresses conservation concerns, and reflects the NLCA and NILCA principles of conservation;
- 2. The quota reduction was voluntarily proposed by the offshore fleet;
- 3. The combined Davis Strait West, Nunavut East and Nunavik East Management Unit quotas (1,100t + 950t + 200t = 2,250t) matches the Proposal's recommended TAC (2,250t) and exploitation rate (15%) for the Eastern Assessment Zone; and
- 4. No hearing party opposed the Proposal's recommended TAC and exploitation rate for the Eastern Assessment Zone.
- 2.9 Reasons for the recommendation for a Total Allowable Catch and exploitation rate for *P. borealis* in the Western Assessment Zone Nunavut West and Nunavik West Management Units (s.1.10)

The reasons for the NWMB recommendation of a Total Allowable Catch (TAC) of 1,500t and an exploitation rate of 10% for *P. borealis* shrimp in the Western Assessment Zone (Nunavut West and Nunavik West Management Units) are the following:

- 1. The recommended TAC and exploitation rate successfully address conservation concerns, and reflect the NLCA and NILCA principles of conservation; and
- 2. Only one hearing party recommended a higher exploitation rate (Makivik: 12.5%) and a corresponding increase in the TAC.

# 2.10 Reasons for the quota decision for *P. borealis* shrimp in the Nunavut West Management Unit (s.1.11)

The reasons for NWMB approval of a quota of 825t for *P. borealis* shrimp in the Nunavut West Management Unit are the following:

- 1. The quota amount and corresponding exploitation rate do not raise conservation concerns, and reflect the NLCA principles of conservation.
- 2. This is a new quota drawn from a proposed new TAC of 1,500t for the Western Assessment Zone. The NWMB's reasoning for deciding upon a Nunavut West Management Unit quota of 825t is as follows:
  - (a) A fair division of the new shrimp quota between Nunavut and Nunavik should be an even (50/50) split, subject to any adjustments arising from inequities in related shrimp fisheries;
  - (b) For *P. borealis* shrimp in the Nunavut East and Nunavik East Management Units, the previous by-catch quota of 400t for this fishery has consistently been fished entirely within the NSA, by only Nunavut fishers;
  - (c) Under the Proposal, that previous by-catch quota of 400t has been decreased by 150t (37.5%) to 250t;
  - (d) The NWMB's *P. borealis* shrimp by-catch quota decision of 175t for the Nunavut East Management Unit (s.1.4) accepts the proposed 150t decrease and then removes a further 75t, so as to provide Nunavik fishers with a new designated *P. borealis* shrimp by-catch quota of 75t; and
  - (e) As a consequence, the NWMB has adjusted the split for the new P. borealis shrimp TAC in the Western Assessment Zone by adding 75t to the Nunavut West Management Unit: 750t + 75t = 825t.

# 2.11 Reasons for the recommendation for *P. borealis* shrimp in the Nunavik West Management Unit (s.1.12)

The reasons for the NWMB recommendation of a quota of 675t for *P. borealis* shrimp in the Nunavik West Management Unit are the following:

- 1. The quota amount and corresponding exploitation rate do not raise conservation concerns, and reflect the NILCA principles of conservation.
- 2. This is a new quota drawn from a proposed new TAC of 1,500t for the Western Assessment Zone. The NWMB's reasoning for recommending a Nunavik West Management Unit quota of 675t is as follows:

- (a) A fair division of the new shrimp quota between Nunavut and Nunavik should be an even (50/50) split, subject to any adjustments arising from inequities in related shrimp fisheries;
- (b) For *P. borealis* shrimp in the Nunavut East and Nunavik East Management Units, the previous by-catch quota of 400t for this fishery has consistently been fished entirely within the NSA, by only Nunavut fishers;
- (c) Under the Proposal, that previous by-catch quota of 400t has been decreased by 150t (37.5%) to 250t;
- (d) The NWMB's *P. borealis* shrimp by-catch quota decision of 175t for the Nunavut East Management Unit (s.1.4) accepts the proposed 150t decrease and then removes a further 75t, so as to provide Nunavik fishers with a new designated *P. borealis* shrimp by-catch quota of 75t; and
- (e) As a consequence, the NWMB recommends that a fair division of the new *P. borealis* shrimp TAC in the Western Assessment Zone would be to provide the Nunavik West Management Unit with 50% of the 1,500t TAC minus 75t: 750t 75t = 675t.
- 2.12 Reasons for the recommendation for a Total Allowable Catch and exploitation rate for *P. montagui* in the Western Assessment Zone Nunavut West and Nunavik West Management Units (s.1.13)

The reasons for the NWMB recommendation of a Total Allowable Catch (TAC) of 5,000t and an exploitation rate of 10% for *P. montagui* shrimp in the Western Assessment Zone (Nunavut West and Nunavik West Management Units) are the following:

- 1. The recommended TAC and exploitation rate successfully address conservation concerns, and reflect the NLCA and NILCA principles of conservation; and
- 2. Only one hearing party recommended a higher exploitation rate (Makivik: 12.5%) and a corresponding increase in the TAC.
- 2.13 Reasons for the quota decision for *P. montagui* shrimp in the Nunavut West Management Unit (s.1.14)

The reasons for NWMB approval of a quota of 2,700t for *P. montagui* shrimp in the Nunavut West Management Unit are the following:

1. The quota amount and corresponding exploitation rate do not raise conservation concerns, and reflect the NLCA principles of conservation.

- 2. This is a new quota drawn from a proposed new TAC of 5,000t for the Western Assessment Zone. The NWMB's reasoning for deciding upon a Nunavut West Management Unit quota of 2,700t is as follows:
  - (a) A fair division of the new shrimp quota between Nunavut and Nunavik should be an even (50/50) split, subject to any adjustments arising from inequities in related shrimp fisheries;
  - (b) For *P. montagui* shrimp in the Nunavut East and Nunavik East Management Units, the previous quota of 3,000t was entirely within the NSA, and was allocated exclusively to Nunavut fishers (Nunavik had none of the 3,000t *P. montagui* shrimp quota in SFAs 2 and 3);
  - (c) Under the Proposal, that previous quota of 3,000t has been decreased by 1,850t (61.7%) to 1,150t;
  - (d) The NWMB's *P. montagui* shrimp quota decision of 950t for the Nunavut East Management Unit (s.1.7) accepts the proposed 1,850t decrease and then removes a further 200t, so as to provide Nunavik fishers with a new *P. montagui* shrimp quota of 200t where previously they had none; and
  - (e) As a consequence, the NWMB has adjusted the split for the new *P. montagui* shrimp TAC in the Western Assessment Zone by adding 200t to the Nunavut West Management Unit: 2,500t + 200t = 2,700t.

# 2.14 Reasons for the recommendation for *P. montagui* shrimp in the Nunavik West Management Unit (s.1.15)

The reasons for the NWMB recommendation of a quota of 2,300t for *P. montagui* shrimp in the Nunavik West Management Unit are the following:

- 1. The quota amount and corresponding exploitation rate do not raise conservation concerns, and reflect the NILCA principles of conservation.
- 2. This is a new quota drawn from a proposed new TAC of 5,000t for the Western Assessment Zone. The NWMB's reasoning for recommending a Nunavik West Management Unit quota of 2,300t is as follows:
  - (a) A fair division of the new shrimp quota between Nunavut and Nunavik should be an even (50/50) split, subject to any adjustments arising from inequities in related shrimp fisheries;
  - (b) For *P. montagui* shrimp in the Nunavut East and Nunavik East Management Units, the previous quota of 3,000t was entirely within the NSA, and was allocated exclusively to Nunavut fishers (Nunavik had none of the 3,000t *P. montagui* shrimp quota in SFAs 2 and 3);

- (c) Under the Proposal, that previous quota of 3,000t has been decreased by 1,850t (61.7%) to 1,150t;
- (d) The NWMB's *P. montagui* shrimp quota decision of 950t for the Nunavut East Management Unit (s.1.7) accepts the proposed 1,850t decrease and then removes a further 200t, so as to provide Nunavik fishers with a new *P. montagui* shrimp quota of 200t where previously they had none; and
- (e) As a consequence, the NWMB recommends that a fair division of the new *P. montagui* shrimp TAC in the Western Assessment Zone would be to provide the Nunavik West Management Unit with 50% of the 5,000t TAC minus 200t: 2,500t 200t = 2,300t.
- 2.15 Reasons for the recommendation that DFO conduct consultations and negotiations with the fishing industry prior to the NWMB considering and delivering its decision and recommendation on the management regime (directed vs. by-catch) for *P. borealis* shrimp in the Western Assessment Zone Nunavut West and Nunavik West Management Units (s.1.16)

The following are the reasons for the NWMB recommendation that appropriate consultations and negotiations be carried out with the fishing industry prior to any NWMB decision or recommendation regarding the management regime for *P. borealis* shrimp in the Western Assessment Zone:

- (a) Essentially no submissions, evidence or arguments were presented on this issue during the hearing process;
- (b) During the oral hearing, a DFO representative indicated the following, "...we have not come to grounds on how the mixed fishery would be managed in Davis Strait West or how the mixed fishery would be managed in Nunavut-Nunavik West. At the last teleconference we had, we got the message that these are management decisions that could be handled at the IFMP type table between industry and DFO... [Transcript, page 44, lines 18-23]"; and
- (c) The NWMB requires more information in order to make an informed decision and provide an informed recommendation. Discussions/negotiations between industry and DFO would be likely to produce the type of information required by the Board.

#### 3. CONCLUSION

Mr. Minister, the NWMB hereby forwards its decisions and recommendations to you, for your consideration pursuant to the relevant terms of the NLCA. Mindful of DFO's intention to complete the NLCA decision-making process in time to implement the resulting changes early in 2013, the Board looks forward to soon receiving your replies.

In the meantime, the NWMB wishes to thank you and your officials for the significant attention that DFO has devoted to the development of the revised northern shrimp fishery management regime. Of course, more work remains to be done – in particular, the task of applying the NLCA Article 5 allocation system to the NSA shrimp fishery. Please be assured that the Board will continue to collaboratively work with the Department and its other co-management partners in ensuring that the management of all NSA fisheries fully aligns with the terms of NLCA Article 5.

If you or your officials have any questions with respect to the contents of this letter, please do not hesitate to contact the NWMB at your convenience.

Yours sincerely,

Manasie Audlakiak,

M. Juin

A/Chairperson of the

Nunavut Wildlife Management Board

cc. Eric Kan, Eastern Arctic Area-Director, Fisheries and Oceans Canada
Larry Dow, A/Eastern Arctic Area-Director, Fisheries and Oceans Canada
Sandra Courchesne, Senior Fisheries Resource Management Officer, Fisheries and
Oceans Canada

#### APPENDIX A

Summary of the Public Hearing Record for the Nunavut Wildlife Management Board's consideration of proposed management changes to Shrimp Fishing Areas 2, 3 and 4

**PLEASE NOTE:** The following description offers only a summary of the main positions presented to the NWMB in connection with the Board's public hearing to consider proposed modifications to shrimp fishery management for *P. borealis* Shrimp and *P. montagui* Shrimp in Shrimp Fishing Areas 2, 3 and 4. The complete written submissions are available at any time for review at the NWMB's Public Hearing Registry (www.nwmb.com). Oral hearing transcripts are available from the NWMB upon request.

Summary of the DFO Proposal for Decision: Approve the proposal as requested.

#### **Evidence/Arguments**:

- The proposal will streamline shrimp fishery management in the North.
  - o The proposed changes would create Shrimp Fishing Areas and management units that are the same for both shrimp species, which would simplify management.
  - o The proposed changes would create individual total allowable catches for both shrimp species.
  - o The changes would align Shrimp Fishing Area and management unit boundaries with land claim boundaries and science survey areas.
- The proposal addresses conservation concerns.
  - o The changes would address concerns about high potential exploitation rates of Striped shrimp (*P. montagui*) in the Resolution Island area.
  - o The proposed Management Units within each Shrimp Fishing Area will distribute fishing effort.
  - o The offshore fleet's proposal for reducing Striped shrimp (*P. montagui*) harvest could help reach a sustainable exploitation rate of 15%.
  - O The suggested 10% exploitation rates for both species in the Western Assessment Zone are precautionary because of the limited number of science surveys in the area.
- The new Shrimp Fishing Area Nunavik in the Hudson Strait would create new fishing opportunities for both species.
- The proposal keeps existing quotas the same as much as possible and "reflects the current access reality." 12

<sup>&</sup>lt;sup>12</sup> For example, the current 3,000 t *P. montagui* quota can be fished in both SFA 3 and SFA 2 inside the NSA. Most of the catch is around Resolution Island and the waters within the new Nunavut-E area, but technically it can also be caught in the waters within new Nunavut-W area. Although this 3,000 t quota does not directly correspond to the new Nunavut – E management unit, it can be thought off as such in order to simplify the current complex management scenario for decision making purposes (see hearing transcript p. 42 lines 24 and 25, and p. 43 lines 1-20).

• The changes would support Marine Stewardship Council fishery certification conditions.

#### **Summary of the Makivik Corporation Submission:**

- Makivik is in agreement with changing the fishing areas.
- The exploitation rate for Nunavut West and Nunavik West (i.e. the Western Assessment Zone) should be set at 12.5%, and the Total Allowable Catch recommendations should be increased accordingly.
- Fishing in the area should be limited to 2 or 3 vessels to limit fishing effort in the Davis Strait. Qikiqtaaluk Corporation and Makivik should be given priority for the first two or three years under the new management system.
- Makivik "promotes equal sharing of the resource and equal access" to areas in the proposed Nunavut and Nunavik East and Nunavut and Nunavik West Management Units] notwithstanding the disproportional amount of shrimp in the Nunavik Marine Region.
- Makivik would like to resolve the sharing arrangement discussions with NTI as soon as possible. 13

#### Evidence/Arguments:

- An exploitation rate of 12.5% in Nunavik West and Nunavut West is a compromise between the suggested precautionary 10% exploitation rate and the standard 15% exploitation rate, and it would not negatively impact the resource.
- Both Qikiqtaaluk Corporation and Makivik have enterprise allocations (individual allocations) and are adjacent to the resource.
- Makivik is a licence holder and currently has access to quota in these areas.
- Makivik has invested over \$6 million in research and development, and has shrimp fishing history in the area since the late 1970s/early 1980s.
- The changes in the management areas would allow for better management and compliance with rules and conservation requirements (e.g. as per the Marine Stewardship Council).
- The boundary changes would create an Inuit-exclusive area, which is positive.
- Developing the fishery in this area will benefit local communities.

### Summary of the Nunavik Marine Region Wildlife Board (Nunavik Board) Submission:

- The Nunavik Board is responsible for establishing harvest levels for the proposed Shrimp Fishing Area Nunavik (Nunavik East and West Management Units). A coordinated management effort is needed between the Nunavut and Nunavik Boards.
- This Nunavik Board voted to approve an earlier version of DFO's proposal in May 2010, and accepted the proposed boundary changes after they were first presented in March

<sup>&</sup>lt;sup>13</sup> Nunavut Tunngavik Incorporated and Makivik Corporation indicated they would negotiate a sharing arrangement for the quotas in the Hudson Strait/Ungava Bay area (proposed Management Units Nunavut West and Nunavik West) and around Resolution Island (proposed Management Units Nunavut East and Nunavik East). No indication of such an agreement has been submitted to the NWMB to date.

- 2011. The Nunavik Board did not provide the DFO Minister with harvest level recommendations.
- A 10% potential exploitation rate should be used to determine harvest limits in Nunavik West and Nunavut West for Striped shrimp (*P. montagui*).

#### Evidence/Arguments:

- The Nunavik Board decided to wait to recommend harvest levels until Makivik and NTI discussed sharing arrangements for allocations in the Nunavik Marine Region and Nunavut Settlement Area. To the Nunavik Board's knowledge, no agreement has yet been reached. The Nunavik Board would prefer the Makivik and NTI come to an agreement, but in the event that this does not happen, they would be open to moving ahead with the NWMB.
- The distribution of Striped shrimp (*P. montagui*) is unpredictable because of strong currents in the area. Past surveys indicated a large portion of the shrimp occurred within the Nunavik Marine Region.
- The proposed boundary changes will align management units, stock assessment survey areas and land claim boundaries. It will also address concerns regarding high potential exploitation rates around Resolution Island and decrease administrative burdens.
- A potential exploitation rate of 10% in the Nunavut West and Nunavik West Management Units (the Western Assessment Zone) is conservative. The area may become more accessible in the future, so management decisions should be conservative.

#### Summary of the Government of Nunavut Department of Environment Submission:

- The Government of Nunavut supports the proposed changes to streamline the management regime.
- Management should be conservation-based.
- The sharing arrangements for quotas should be as follows:
  - o Nunavut should retain all (100%) of shrimp allocations in the proposed Nunavut East and Nunavik East Management Units.
  - O Nunavut should obtain a minimum of 50% of the new allocations in the Nunavut West and Nunavik West Management Units.

#### **Evidence/Arguments:**

- The proposed changes have the potential to benefit Nunavut.
- Harvest levels should be adjusted to reflect estimates of the amount of shrimp present to avoid overexploitation.
- Nunavut currently has access to all of the available quotas in Shrimp Fishing Areas inside the Nunavut Settlement Area. Nunavik does not have any direct quotas in these areas.
- There is the potential for a new allocation in Nunavut West and Nunavik West.

#### Summary of the Nunavut Tunngavik Incorporated Submission:

• Discussion between Nunavut Tunngavik and Makivik on how the sharing arrangement will be divided is a priority.<sup>2</sup>

- The proposed boundary changes look acceptable, with the exception of the Shrimp Fishing Area 3 east boundary; the line should be moved east to the Nunavut Land Claim boundary by the southeast corner of Resolution Island. This would simplify management.
- A harvest rate of 10% is acceptable.

Summary of the OWB Submission: No position, arguments, or evidence were provided.

#### **Summary of the Industry Submission:**

- Baffin Fisheries Coalition:
  - O There is renewed interest in shrimp fishing in these areas even if recent exploitation levels have been low. Part of this interest may be due to recent decreases in southern catches.
  - O The potential harvest level rate around Resolution Island is high, but it has never been reached (DFO indicated actual harvest levels have been less than 1%). Regardless, the high potential exploitation rate needs to be addressed.
  - o Baffin Fisheries Coalition has been fishing in the resolution Island area in recent years.
  - o Baffin Fisheries Coalition agrees with restricting the number of vessels in the area, but does not agree with Makivik statement that Qikiqtaaluk Corporation and Makivik should be given priority to fish the area.
- Qikiqtaaluk Corporation:
  - O Qikiqtaaluk Corporation agrees with the proposed management zones and quotas.
  - O Would like to see a 50/50 quota sharing arrangement for Nunavut and Nunavik under the new system. Qikiqtaaluk Corporation fished near Resolution Island in the 1980s, but has been denied inshore fishing twice by the NWMB since the establishment of Nunavut.

#### Additional considerations:

• NWMB staff were notified in mid-September 2012 that the Nunavik Marine Region Wildlife Board recently gave Makivik Corp. permission to fish its offshore *P. montagui* quota in Shrimp Fishing Area 3 within the Nunavik Marine Region, and thus access to the 400 tonne *P. borealis* by-catch quota. This was a situation that had not previously been encountered, but the issue of accessing the by-catch quota was discussed at the hearing (hearing transcript p. 41 lines 24 and 25, p. 42 lines 1-22, and p. 68 lines 1-10). There is currently no Nunavik-specific directed quota for *P. montagui* (or *P. borealis*) in Shrimp Fishing Area 3 within the Nunavik Marine Region. Only allocation holders with Nunavut *P. montagui* allocations had previously been accessing the *P. borealis* by-catch quota within the NSA in Shrimp Fishing Area 3.







Ottawa, Canada K1A 0E6

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Mr. Manasie Audlakiak Acting Chairperson Nunavut Wildlife Management Board P.O. Box 1379 Iqaluit, Nunavut X0A 0H0

Dear Mr. Audlakiak:

Thank you for your letter of October 2, 2012, regarding the Nunavut Wildlife Management Board's decisions and recommendations on the proposed shrimp fishery management changes for *Pandalus borealis* and *Pandalus montagui* shrimp in Shrimp Fishing Areas 2, 3, 4.

I appreciate the detailed explanation as to why the Board has decided not to establish a Total Allowable Harvest and Basic Needs Level for shrimp in the Nunavut Settlement Area at this time, and instead modified existing shrimp quotas in the Nunavut Settlement Area pursuant to section 5.6.4 of the Nunavut Land Claims Agreement. I look forward to receiving the Board's Total Allowable Harvest, Basic Needs Level and surplus decisions for shrimp in the Nunavut Settlement Area for the 2015 season.

With respect to the Board's decisions and recommendations on the proposed shrimp management changes, I accept the Board's non-quota limitation decision and recommendation to approve the shrimp fishing area boundaries and management unit boundaries as identified in the Department's proposal for both shrimp species.

I also agree with the Board's recommendations to establish a Total Allowable Catch of 5000t and Exploitation Rate of 10% for the *P. montagui* species as well as a Total Allowable Catch of 1500t and Exploitation Rate of 10% for the *P. borealis* in the Western Assessment Zone and to establish a Total Allowable Catch of 2250t and Exploitation Rate of 15% for the *P. montagui* species in the Eastern Assessment Zone with 1100t designated for the "Davis Strait West" management unit outside the Nunavut Settlement Area.

.../2



I note that the Board's letter does not provide a recommendation on the 250t *P. borealis* by-catch quota designated for "Nunavut East" and "Nunavik East" management units, yet the Board's *P. borealis* harvest level decision for "Nunavut East" and recommendation for "Nunavik East" is based on a quota level of 250t. Therefore I have interpreted that the Board supports a 250t *P. borealis* by-catch quota to be allocated between "Nunavut East" and "Nunavik East" management units.

With respect to harvest levels in relation to trans-boundary wildlife populations such as the *P. borealis* and *P. montagui* shrimp in the "Nunavut West" and "Nunavut East" management units, I am pleased that the Board has given consideration to shrimp harvesting activities by others when modifying quotas that are deemed to have been established by the Board for each shrimp species.

However, as you are likely aware, I recently received a decision from the Nunavik Marine Region Wildlife Board with respect to shrimp harvest levels. When considering the Nunavut Wildlife Management Board and the Nunavik Marine Region Wildlife Board decisions together, the sustainable Total Allowable Catch levels in each assessment zone and the *P. borealis* by-catch quota as set out above are exceeded. Harvesting above these sustainable catch levels would raise conservation concerns for both shrimp species and be inconsistent with the precautionary fisheries management approach for these fisheries.

In light of the above reasons, I reject the modified harvest levels for *P.borealis* and *P. montagui* shrimp in the Nunavut Settlement Area for the management units "Nunavut West" and "Nunavut East" for conservation reasons and I am referring this matter back to the Board for reconsideration.

It would be my preference for the two Boards to determine, together, any adjustments that should be made to arrive at harvest levels that fall within the sustainable Total Allowable Catch levels and by-catch amount when combined. I encourage the Board to engage the Nunavik Marine Region Wildlife Board to discuss adjustments to respective harvest level decisions as the Board works towards arriving at a final decision. If it would be of assistance, my officials are available to facilitate discussions with the Nunavik Marine Region Wildlife Board

I look forward to hearing the Board's final decision on harvest levels for the management units within the Nunavut Settlement Area.

Sincerely,

Keith Ashfield





May 14<sup>th</sup> 2013

The Honourable Keith Ashfield Minister of Fisheries and Oceans 15<sup>th</sup> Floor, Centennial Towers 200 Kent Street Ottawa, Ontario K1A 0E6

Dear Minister Ashfield:

Re: Nunavut Wildlife Management Board and Nunavik Marine Region Wildlife Board final decisions and recommendations concerning *Pandalus borealis* and *Pandalus montagui* shrimp harvest levels in the Nunavut West-Nunavik West and Nunavut East-Nunavik East Management Units

#### 1. THE NWMB AND NMRWB FINAL DECISIONS AND RECOMMENDATIONS

The Nunavut Wildlife Management Board (NWMB) and the Nunavik Marine Region Wildlife Board (NMRWB) each recently held a decision meeting for the purpose of reaching final decisions and recommendations with respect to sustainable harvest levels for *Pandalus montagui* (montagui) and *Pandalus borealis* (borealis) shrimp in the Nunavut West and Nunavut East Management Units within the Nunavut Settlement Area (NSA), and in the Nunavik West and Nunavik East Management Units within the Nunavik Marine Region (NMR). A significant component of the preparations for both decision meetings was the close collaboration between the NMRWB and the NWMB (the Boards) to develop and successfully implement a joint reconsideration and final decision-making plan. A primary objective of the plan was for the Boards to reach complementary harvest level decisions that, together, would fall within the already established sustainable Total Allowable Catch levels and borealis shrimp by-catch quota for both the NSA and the NMR.

During their decision meetings, the Boards once again reviewed all of the relevant written and oral arguments and evidence of the various parties at the original NWMB public hearing (held on June 12<sup>th</sup> 2012). The Boards also carefully considered your December 14<sup>th</sup> 2012 reasons for rejection of their initial quota/total allowable take (TAT) decisions, as well as the additional

March 13<sup>th</sup> and April 12<sup>th</sup> 2013 written submissions received from Makivik Corporation (Makivik), and the April 12<sup>th</sup> 2013 written submissions from Nunavut Tunngavik Inc. (NTI).<sup>1</sup>

After completing their respective deliberations, the Boards decided to revise their initial decisions and recommendations. The Boards' resolutions/final decisions and recommendations are set out immediately below.

#### 1.1 Quota and TAT decisions

RESOLVED that, pursuant to Section 5.6.4 of the *Nunavut Land Claims Agreement*, the NWMB approve the following shrimp quota levels in the Nunavut West and Nunavut East Management Units:

- 1. For Pandalus montagui shrimp:
  - (a) A quota of 2,500 tonnes (t) in the Nunavut West Management Unit within the Nunavut Settlement Area (NSA); and
  - (b) A quota of 805t in the Nunavut East Management Unit within the NSA; and
- 2. For Pandalus borealis shrimp:
  - (a) A quota of 750t in the Nunavut West Management Unit within the NSA; and
  - (b) A by-catch quota of 200t in the Nunavut East Management Unit within the NSA.

RESOLVED that, pursuant to Section 5.2.10 of the *Nunavik Inuit Land Claims Agreement*, the NMRWB approve the following shrimp levels of total allowable take (TAT) in the Nunavik West and Nunavik East Management Units:

- 1. For *Pandalus montagui* shrimp:
  - (a) A TAT of 2,500 tonnes (t) in the Nunavik West Management Unit within the Nunavik Marine Region (NMR); and
  - (b) A TAT of 345t in the Nunavik East Management Unit within the NMR; and
- 2. For *Pandalus borealis* shrimp:
  - (a) A TAT of 750t in the Nunavik West Management Unit within the NMR; and
  - (b) A by-catch TAT of 50t in the Nunavik East Management Unit within the NMR.

<sup>&</sup>lt;sup>1</sup> A brief summary of the above-referenced evidence and arguments is attached to this letter as Appendix I. In addition, the NWMB's and NMRWB's initial October 2012 decision correspondence to you – including a brief summary of key points made during the public hearing process - are attached as Appendix II. Your disallowance letters are attached as Appendix III, and the three written submissions delivered following the Boards' receipt of your disallowance letters are attached as Appendices IV (Makivik), V (Makivik supplementary) and VI (NTI). All of the written submissions received and considered at the June 2012 hearing are publicly available for download from the NWMB's website (<a href="https://www.nwmb.com">www.nwmb.com</a>). In addition, the NWMB has produced a full transcript of the oral submissions and questions and answers delivered during the one day hearing. That transcript is available upon request to the NWMB.

#### 1.2 Recommendations regarding land claim boundaries, monitoring and reporting

RESOLVED that the NWMB and the NMRWB recommend to the Minister of Fisheries and Oceans that, strictly for the purposes of commercial fishing for *Pandalus montagui* and *Pandalus borealis* shrimp within the Nunavut-Nunavik West and the Nunavut-Nunavik East Management Units, the Minister:

- 1. Permit Nunavut allocations in the Nunavut West Management Unit and Nunavik allocations in the Nunavik West Management Unit to be fished anywhere within those Management Units, regardless of land claim boundaries;
- 2. Permit the same arrangement for Nunavut and Nunavik allocations in the Nunavut East Management Unit and the Nunavik East Management Unit; and
- 3. Require monitoring of and reporting by allocation-holders, sufficient to assemble the information necessary to evaluate the viability of continuing the current shrimp management arrangements beyond the 2015 harvesting season.

#### 1.3 Non-quota limitation decision concerning the area of harvest for Resolution Island

RESOLVED that, pursuant to Section 5.6.48 of the *Nunavut Land Claims Agreement* - and subject to the approval and implementation by the Minister of Fisheries and Oceans of the NWMB's and the Nunavik Marine Region Wildlife Board's recommendations to permit commercial shrimp fishing of Nunavut Settlement Area and Nunavik Marine Region allocations regardless of land claim boundaries - the NWMB approve the automatic closure of all shrimp fishing in the Resolution Island area<sup>2</sup> once harvests in the area reach the threshold percentage<sup>3</sup> of the combined Nunavut East and Nunavik East quotas and levels of total allowable take for *Pandalus montagui* shrimp.<sup>4</sup>

1.4 Decision to conduct a review of shrimp management arrangements in the Nunavut and Nunavik Management Units

RESOLVED that the NWMB and the NMRWB, in cooperation with the Department of Fisheries and Oceans - and prior to the commencement of the 2016/2017 shrimp harvesting season - conduct a review of the shrimp management arrangements in the Nunavut-Nunavik West, and the Nunavut-Nunavik East Management Units, including with respect

<sup>&</sup>lt;sup>2</sup> Area coordinates to be determined in cooperation with the Department of Fisheries and Oceans, and in consultation with the Nunavik Marine Region Wildlife Board.

<sup>&</sup>lt;sup>3</sup> Threshold percentage to be determined in cooperation with the Department of Fisheries and Oceans, and in consultation with the Nunavik Marine Region Wildlife Board.

<sup>&</sup>lt;sup>4</sup> If DFO science advises – and provides sufficient supporting evidence - that this non-quota limitation is unnecessary to ensure the conservation of the shrimp resource in the Resolution Island area, the NWMB is prepared to rescind this particular decision.

to quotas and levels of total allowable take, and the viability of fishing Nunavut and Nunavik shrimp allocations regardless of land claim boundaries.

# 2. THE MINISTER'S REASONS FOR REJECTION OF THE INITIAL NWMB AND NMRWB DECISIONS

You rejected the Boards' initial quota/TAT decisions for conservation reasons: "... When considering the Nunavut Wildlife Management Board and the Nunavik Marine Region Wildlife Board decisions together, the sustainable Total Allowable Catch levels in each assessment zone and the <u>P. borealis</u> by-catch quota as set out above are exceeded. Harvesting above these sustainable catch levels would raise conservation concerns for both shrimp species and be inconsistent with the precautionary fisheries management approach for these fisheries..."

You then proceeded to recommend that the Boards "...determine, together, any adjustments that should be made to arrive at harvest levels that fall within the sustainable Total Allowable Catch levels and by-catch amount when combined..."

#### 3. THE MARCH AND APRIL 2013 HEARING SUBMISSIONS

In compliance with your recommendation, the two Boards worked closely together, first in the development of a joint reconsideration and final decision-making plan, and thereafter in the issuance of – and follow-up to - February 15<sup>th</sup> and March 15<sup>th</sup> 2013 correspondence to NWMB hearing parties and the *Regional Nunavimmi Umajulirijiit Katujjiqatiginninga*. As a result, two of the hearing parties, Makivik and NTI - representing Nunavik and Nunavut Inuit – attempted, without success, to reach agreement on the equitable sharing (by percentage) of shrimp resources between the Nunavut West-Nunavik West (NU/NK-W) and the Nunavut East-Nunavik East (NU/NK-E) Management Units. Those parties each subsequently filed written submissions with both the NWMB and the NMRWB.

#### 3.1 Makivik's submissions

Makivik proposed the following harvest level recommendations (53% NU - 47% NK split):

Montagui in NU/NK-W: Montagui in NU/NK-E

NU: 2500t NU: 750t NK: 2500t NK: 400t

Borealis in NU/NK-W: Borealis in NU/NK-E

NU: 750t NU: 200t NK: 750t NK: 50t

Makivik offered three additional recommendations:

- 1. Both jurisdictions be permitted to fish their harvest levels across the Nunavut and Nunavik land claim boundaries:
- 2. A limited number of vessels be allowed in the fisheries; and
- 3. Any future increase in NU/NK-E be two to one in favor of Nunavik until such time as there is equal sharing, and 50/50 sharing thereafter.

#### 3.2 NTI's submissions

NTI proposed the following harvest level recommendations (56.7% NU - 43.3% NK split):

Montagui in NU/NK-W: Montagui in NU/NK-E

 NU: 2870t
 NU: 1000t

 NK: 2870t
 NK: 150t

Borealis in NU/NK-W: Borealis in NU/NK-E

 NU:
 825t
 NU:
 200t

 NK:
 675t
 NK:
 50t

NTI agreed with Makivik's first two additional recommendations (permit fishing across the land claim boundaries, and maintain a limited entry system for the fisheries), but did not agree with Makivik's proposal pertaining to the distribution of future increases.

4. THE NWMB'S AND NMRWB'S RECONSIDERATION IN LIGHT OF THE MINISTER'S REASONS TO REJECT AND THE MARCH/APRIL HEARING SUBMISSIONS

The Boards agree that, for conservation reasons, the combined NWMB and NMRWB decisions must not exceed the sustainable Total Allowable Catch levels in each assessment zone (5000t montagui shrimp in NU/NK-W; 1150t montagui shrimp in NU/NK-E; 1500t borealis shrimp in NU/NK-W) and the *P. borealis* shrimp by-catch quota (250t borealis shrimp in NU/NK-E). In a concerted effort to ensure that their combined final decisions respect the principles of conservation, the NWMB and the NMRWB have worked closely together in a procedurally fair process to determine adjustments to their respective initial decisions.

In adjusting their initial decisions, the Boards carefully considered the most recent submissions from both Makivik and NTI, and concluded that the latest Makivik proposal comes closer to achieving the most equitable sharing arrangement. In fact, the Boards' only concern is with respect to Makivik's proposed split of montagui shrimp in NU/NK-E. As NTI has correctly pointed out, the new management regime must take account of Nunavut's heretofore 3,000t montagui shrimp quota in SFA3 and SFA2 inside the NSA. It is important to also note that the Department of Fisheries and Ocean's (DFO's) new management regime has already reduced that original 3,000t Nunavut quota by approximately 62% to 1,150t.

In an effort to arrive at a reasonable balance based on all relevant considerations, the Boards have turned to - and accepted - the NMRWB's October 17<sup>th</sup> 2012 total allowable take decision for montagui shrimp in NU/NK-E: 805t for Nunavut and 345t for Nunavik - representing a 70/30 split, as opposed to Makivik's recommended 65/35 split, and NTI's proposed 87/13 split. In accepting the NMRWB's initial decision, the NWMB has reduced its own initial (October 2<sup>nd</sup> 2012) quota decision for Nunavut by 145t, from 950t to 805t – resulting in a 72.5% increase to its initial recommendation for Nunavik, from 200t to 345t. All other Nunavut and Nunavik harvest levels in the Boards' final decisions and recommendations are taken directly from Makivik's most recent proposal:

Montagui in NU/NK-W: Montagui in NU/NK-E

 NU: 2500t
 NU: 805t

 NK: 2500t
 NK: 345t

Borealis in NU/NK-W: Borealis in NU/NK-E

 NU: 750t
 NU: 200t

 NK: 750t
 NK: 50t

The Boards' final harvest level decisions and recommendations amount to a 54/46 split between Nunavut and Nunavik – very close to the halfway point between Makivik's original recommendation of a 50/50 split and the NWMB's initial decision to establish a 59/41 split.

In addition, the Boards adopted – by way of recommendation - the consensus proposal from NTI and Makivik that both jurisdictions be permitted to fish their harvest levels across the Nunavut and Nunavik land claim boundaries. Such a flexible and cooperative arrangement recognizes that shrimp resources in the area are very mobile, and are likely highly influenced by water temperatures. However, the Boards understand that providing this level of flexibility to commercial fishers from both jurisdictions could potentially result in an exploitation rate for *P. montagui* in the Resolution Island area that raises conservation concerns. Accordingly, in conjunction with their recommendation to permit fishing across the two land claim boundaries, the NWMB has established a non-quota limitation that closes all shrimp fishing in the Resolution Island area, once montagui shrimp harvest levels reach an agreed-upon threshold percentage.

Taking into careful account the NWMB's and the NMRWB's initial decisions and the Minister's rejections and reasons, the Boards did not feel it was necessary to include within their final decision-making any decisions concerning a limited entry system for the fisheries and/or the distribution of potential future increases.

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<sup>&</sup>lt;sup>5</sup> See, for instance: the Canadian Science Advisory Secretariat *Science Advisory Report 2011/010*, pages 2, 6, 11, 13 and 16; the Hearing Transcript, page 52 lines 11 to 25, and page 53 lines 1 to 4; and Makivik's April 12<sup>th</sup> 2013 *Supplementary Submission*, page 2.

# 5. JUSTIFICATION FOR THE BOARDS' FINAL DECISIONS AND RECOMMENDATIONS

The Boards' final decisions and recommendations:

- 1. Are justified pursuant to NLCA S.5.3.3(a) and NILCA S.5.2.10 the restrictions limit Inuit harvesting of shrimp in the NSA and the NMR only to the extent necessary to effect the valid conservation purposes of:
  - (a) Maintaining vital healthy montagui and borealis shrimp populations capable of sustaining harvesting needs as defined in NLCA Article 5 and NILCA Article 5 (NLCA S.5.1.5(c), NILCA S.5.1.5(b)); and
  - (b) Maintaining the natural balance of ecological systems within the NSA and the NMR (NLCA and NILCA S.5.1.5(a));<sup>6</sup>
- 2. Satisfy the requirements of NLCA S.5.3.4 and NILCA S.5.5.4.1 for (i) the NWMB and the Minister to take account of northern shrimp harvested outside the NSA, and (ii) the NMRWB and the Minister to take account of northern shrimp harvested outside the NMR, by persons resident elsewhere;
- 3. Fully address the Minister's reasons for rejecting the Boards' initial decisions, by ensuring that shrimp harvesting inside both the NSA and the NMR remains within sustainable catch levels, does not raise conservation concerns, and is consistent with the precautionary fisheries management approach for these fisheries;
- 4. Comply with the Minister's recommendation that the NWMB and the NMRWB work cooperatively together so as to produce decisions on shrimp harvesting levels within the NSA and the NMR that, when combined, fall within the sustainable Total Allowable Catch levels in each assessment zone and the *P. borealis* shrimp by-catch quota in NU/NK-E;
- 5. Take into careful account the submissions of both Makivik and NTI, and set out harvest levels that are in full compliance with Makivik's most recent proposal except with respect to montagui shrimp in NU/NK-E, which harvest levels are in full compliance with the NMRWB's initial (October 24<sup>th</sup> 2012) decision to the Minister;
- 6. Recognizing that the various facets of the new management system need to be assessed in a timely manner, require monitoring of and reporting by allocation holders, sufficient to assemble the information necessary to evaluate the viability of continuing the current shrimp management arrangements beyond the 2015 harvesting season; and

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<sup>&</sup>lt;sup>6</sup> It effects those conservation purposes by helping to ensure that the harvesting of northern shrimp inside both the NSA and the NMR remains within sustainable limits, and by requiring the automatic closure of all shrimp fishing in the Resolution Island area once *P. montagui* shrimp harvest levels reach a threshold percentage that ensures conservation of the resource.

7. Commit the NWMB and the NMRWB – in cooperation with DFO – to conduct a comprehensive review of the new management system prior to the commencement of the 2016/2017 shrimp harvesting season, and to make any required modifications.

#### 6. CONCLUSION

Mr. Minister, the Boards hereby forward their final decisions and recommendations to you, for your consideration pursuant to the relevant terms of the NLCA and NILCA. Mindful of DFO's intention to complete the NLCA and NILCA decision-making processes in time to implement the resulting changes for the prosecution of the 2013 northern commercial shrimp fishing season, the Boards look forward to soon receiving your replies.

In the meantime, please be assured that the NWMB and the NMRWB will continue to collaboratively work with the Department and other co-management partners in ensuring that the management of shrimp and all other NSA and NMR fisheries fully aligns with the terms of NLCA Article 5 and NILCA Article 5.

If you or your officials have any questions with respect to the contents of this letter, please do not hesitate to contact the NWMB and the NMRWB at your convenience.

Yours sincerely,

Manasie Audlakiak.

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A/Chairperson of the

Nunavut Wildlife Management Board

Robbie Tookalak
A/Chairperson of the

Nunavik Marine Region Wildlife Board

Attachments (6)

## Minister of Fisheries and Oceans



#### Ministre des Pêches et des Océans

Ottawa, Canada K1A 0E6

JUL 0 5 2013

Mr. Manasie Audlakiak Acting Chairperson Nunavut Wildlife Management Board P.O. Box 1379 Iqaluit, Nunavut X0A 0H0

Dear Mr. Audlakiak:

Thank you for your letters of May 9 and 14, 2013 regarding the Nunavut Wildlife Management Board's decisions and recommendations on shrimp management in the Nunavut Settlement Area for *Pandalus borealis* and *Pandalus montagui*.

First I would like to commend both the Nunavut Wildlife Management Board (NWMB) and the Nunavik Marine Region Wildlife Board (NMRWB) for the collaboration and cooperation in determining final harvest level decisions for the management units within the respective settlement areas and non—quota limitation decisions for the sustainable management of the shared shrimp resource. The efforts of the NWMB and NMRWB in working towards establishing a sound management structure for the sustainable management of the shared shrimp resource in the north has been appreciated.

I note that the joint decision letter of May 14, 2013 contains both final and initial Board decisions pursuant to the land claims agreements. I also note that the NWMB has provided separately on May 9, 2013 a related decision on the management regime in the Western Assessment Zone and on May 7, 2013 its recommendations on the suballocation of Nunavut's share of these shrimp resources. I have addressed each of the decisions and recommendations separately herein for simplicity.

#### Harvest levels

I accept the modified harvest levels in the Nunavut Settlement Area for *P. montagui* (2500t) and *P. borealis* (750t) shrimp for the Nunavut West management unit which represents a 50% share of the established Total Allowable Catch for each shrimp species in the Western Assessment Zone for a three year term (2013 to 2015 inclusive).

I also accept the modified harvest levels in the Nunavut Settlement Area for *P. montagui* (805t) and *P.borealis* (200t) shrimp for Nunavut East management unit which represents a 70% share of the established quota for *P. montagui* and 80% share of the established by-catch quota for *P.borealis* for the Nunavut /Nunavik East management units for a three year term (2013 to 2015 inclusive).

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#### Management Regime

I agree with the joint NWMB and NMRWB recommendation that, for the purpose of commercial shrimp fishing, respective shares in the Nunavut/Nunavik West and East management units are permitted to be fished in either land claims settlement area for a three year term (2013 to 2015 inclusive).

I accept the NWMB's non-quota limitation decision set out in its May 9, 2013 letter to have both P. *montagui* and P. *borealis* shrimp species managed as directed fisheries in the Western Assessment Zone for a three year term (2013 to 2015 inclusive).

With respect to the joint non-quota limitation decision for the conservation of the *P. montagui* shrimp species in the Nunavut/Nunavik East management units, I note that the NWMB has indicated that it is prepared to rescind this decision if the Department advises that this additional conservation measure is unnecessary for the conservation of the shrimp resource in the Resolution Island area. You will recall that the conservation concerns for the *P. montagui* shrimp stock in the area resulted from the old management system which allowed quotas to be fished across management units all of which could be fished near Resolution Island. The new management measures put in place along with the reduction of the Total Allowable Catch for *P. montagui* to 2250t addressed the conservation concerns to my satisfaction. However I am prepared to accept this non-quota limitation decision for the three year term if the NWMB and NMRWB deemed it necessary.

I have asked my officials to provide the NWMB and NMRWB with background information to assist the Boards in evaluating the need for this non-quota limitation.

#### Sub-Allocation

I appreciate the detailed information on how the NWMB determined its sub-allocation recommendations of Nunavut's share of the shrimp resources in the Nunavut East and West management units. I have given considerable deliberation to the NWMB's recommendations, along with other relevant considerations, and have decided to allocate Nunavut's share of the shrimp resources to Baffin Fisheries Coalition for the 2013 season as recommended in your letter of May 7, 2013.

I look forward to continued collaboration with the Board in the management of this important resource.

Soly, M.

Sincerely.

eith7Ashfield



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July 18<sup>th</sup> 2013

The Honourable Gail Shea Minister of Fisheries and Oceans Canada 15<sup>th</sup> Floor, Centennial Towers 200 Kent Street Ottawa, Ontario K1A 0E6

Dear Minister Shea:

Re: Nunavut Wildlife Management Board decision to rescind non-quota limitation decision in the shrimp fishery around Resolution Island in the Nunavut East management unit

The Nunavut Wildlife Management Board (NWMB or Nunavut Board) met on a conference call on July 15<sup>th</sup> 2013 to reconsider its non-quota limitation decision concerning the area of shrimp harvest for Resolution Island outlined in its May 14<sup>th</sup> 2013 joint letter with the Nunavik Marine Region Wildlife Board (Nunavik Board) to the Minister of Fisheries and Oceans Canada. The NWMB has decided to rescind its decision.

The Nunavut Board indicated in its joint May 14<sup>th</sup> 2013 letter with the Nunavik Marine Region Wildlife Board that for conservation purposes it would "approve the automatic closure of all shrimp fishing in the Resolution Island area once harvests in the area reach the threshold percentage of the combined Nunavut East and Nunavik East quotas and levels of total allowable take for Pandalus montagui shrimp." However, the NWMB also indicated that if Fisheries and Oceans Canada Science "advises – and provides sufficient supporting evidence – that this non-quota limitation is unnecessary to ensure the conservation of the shrimp resource in the Resolution Island area, the NWMB is prepared to rescind this particular decision."

The Fisheries and Oceans' July 5<sup>th</sup> 2013 response letter indicated that the Minister did not feel the extra non-quota limitation was necessary for conservation purposes. The Minister was willing to accept the non-quota limitation for a 3-year term, but indicated that Fisheries and Oceans Canada staff would provide the additional information requested by the Nunavut and Nunavik boards. On July 10<sup>th</sup>, Fisheries and Oceans Canada Science staff provided NWMB staff with an email indicating that the new shrimp management units, and the reduction of total allowable harvest, had sufficiently addressed conservation concerns with the *P. montagui* fishery around Resolution Island, and "hence no additional closure mechanism, or other management measure, is required."

The NWMB considered the Fisheries and Oceans Canada Science advice and RESOLVED that the NWMB accept the Fisheries and Oceans Canada Science explanation and rescind its April

23<sup>rd</sup> 2013 non-quota limitation decision concerning the area of shrimp harvest for Resolution Island.

If you or any of your staff have any questions with respect to this NWMB decision, please do not hesitate to contact the NWMB.

Yours sincerely,

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Manasie Audlakiak,

A/Chairperson of the

Nunavut Wildlife Management Board

Enclosures (2)

Cc.

Dave Burden, A/Regional Director General, Central and Arctic, Fisheries and Oceans Canada Larry Dow, Director of Northern Operations, Fisheries and Oceans Canada Robbie Tookalak, A/Chairperson, Nunavik Marine Region Wildlife Board Mark O'Connor, Director of Wildlife, Nunavik Marine Region Wildlife Board Wayne Lynch, Director of Fisheries and Sealing, Government of Nunavut Jeff Maurice, Fisheries Policy Advisory, Nunavut Tunngavik Inc. Jerry Ward, Chairperson, Nunavut Offshore Allocation Holders Association