

18th, 2010

<p> ገጽ ፩ ለ ኃይለማርያም ገጽ ፩ ለወንጌል ለፍትሕና ለሰላም ፋይል, ፋይል K1A 0A6 </p>	<p> ገጽ ፩ ለወንጌል ገጽ ፩ ለወንጌል ለፍትሕና ለሰላም ፋይል, ፋይል K1A 0E6 </p>
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[illegible]

Γσ¹ C > α⁰ Π¹]^c Δ^L L Γσ¹ C / Δ]^c.

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ወደፊት ትረፍ ሲሆን የፍርድ ቤቱ ስርዓተ ፍርድ ስርዓቶችን በፍጥነት ማስፈጸምና ማስፈጸሙን ያረጋግጣል።

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[illegible][illegible][illegible]

⁴ COSEWIC 2004. p.32.

[illegible]

[illegible][illegible][illegible][illegible][illegible][illegible]

⁹ ᐃᑦᓂᓄᐅᑦᑐᓂᓪ ᓂᓈᒫᕐᓂᐸᐸᐸ ᒪᓪᓴᓴᓯᓯᓯ 51 (15-22); COSEWIC 2004 p.11

¹⁰ ርዕረግጥጥ ሲርቅበልጥጥ ከበሊኖባልሙ ሊለሊኑር 51-52 (25-3);

¹¹ ሲረከቡት ጋብኮ ከባላቸው ለግሉግ 76 (7-12); p. 81 (10-14); p.83-84 (24-3); p.96 (13-16)

በበኛፍጋፍ፣

DDC 22C

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JΔC a d c^{5b}

 $\Delta_{\alpha} \approx \dot{\Gamma}/L^{\epsilon_b} \quad \Delta_L \approx \dot{D}/C_L \gamma_D L^{\epsilon_b}$

መግቢያ ስለሚገኝበት ስራ ስለሚገኝበት ስራ ስለሚገኝበት

nn^sb^bdΔ^b 1379

$\Delta^c b \rightarrow \Delta^c$, $m_{\Delta^c} \approx 1.0$ GeV

add^{5b},

[illegible][illegible][illegible][illegible]



Tammaqtailinahuaririit anngutighat atuqhugit Inuit qaujimajatuqangillu ilihmaniillu ilitquhiannin
Conserving wildlife through the application of Inuit Qaujimajatuqangit and scientific knowledge

Δ⁵ 29, 2011

ᐱᓕᑦᑲᓄᓂ ᐱᓕ ᐅᐱᓕ
ᐸᓕᑦᑲᓄᓂ ᐱᓕᐸᓕᑦᑲᓄᓂ
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10 ᐅᐱᓕᑦᑲᓄᓂ ᐱᓕᑦᑲᓄᓂ, 28 ᐱᓕᑦᑲᓄᓂ
ᐱᓕᑦᑲᓄᓂ, ᐱᓕᑦᑲᓄᓂ
K1A 0H3

Γ₁C ρΔ^ac_uΔ:

ለጋህ: ከጊዜያዊነትና ልማት ጋር በተያያዘ ለሀገር ልማትና ለህዝብ ጤና ለሚጠቅም ሁሉንም ጥረትና ጥረት ያደርጋል።

1. $\Delta L \leftarrow \text{ကနဦးသတ်မှတ်ချက်များ} \quad \rho_{\text{သတ်မှတ်ချက်များ}} \leftarrow \text{ကနဦးသတ်မှတ်ချက်များ}$

[illegible]

በብሉኑ ድህረገጽ ላይ የሚገኝ የጥያቄው ዋና ዋና ክፍሎች ለሚገኙት ስራዎች (i) ስራው ለማጠናቀቅ ያስፈልጋል፡፡ (ii) ስራው ለማጠናቀቅ ያስፈልጋል፡፡ (iii) ስራው ለማጠናቀቅ ያስፈልጋል፡፡

[illegible][illegible]

- [illegible]

[illegible][illegible][illegible][illegible]

² "ወጋገራትና ስራዎች ለግብርና ሚኒስቴር ለጥቅም ላይ የዋለው (ጥር 2010), ለጥቅም 17.

³ $\mathfrak{b} \rightarrow \Delta \cap \sigma^a \mathfrak{r}^a \rightarrow \sigma^b \mathfrak{b}^c$ ($\triangleright \sigma^b \mathfrak{b}^c$), $L^c \wedge \mathfrak{c} \cup \mathfrak{c}^b$ 24.

3. ለኃላፊነት ስለተሰጠው የሥራ ምርቶች ልዩ ማስረጃ ይሰጣል

ዴሞክራሲ ለጎብኪዎች ከተሰጠው የህግ-አስተዳደር አገልግሎት ዕድል ጋር በተያያዘ፡

- [illegible]

[illegible]

- [illegible]

[illegible]
$$^{18} \triangleright \sigma^{-b} \dot{b}^c, \quad L^c \wedge U^c \quad 32.$$

¹⁹▷σ^bḃ^c, L^cΛL^{qb} 26.

4. $\Delta \rightarrow \text{C}_2\text{Pn}^c$

[illegible][illegible][illegible][illegible] $\Delta C^a \rightarrow C^c$ $\Delta C^b \rightarrow C^d$

၂၃၂၆ ၁၆၆၆

$$\Delta^c \nearrow \triangleleft \triangleright C^b \quad \triangleright \triangleleft \circ$$

መጋቢት ፳፻፲፱ ዓ.ም. ለግልጽ ምርመራ

 $\Delta \subset \mathbb{R}^n \rightarrow \mathbb{R}^n$

- (i) ኃይሉ 18, 2010 ለጥራት፣ ስሜትና ልማት ልዩ ምርመራዎች በጥራት፣ ስሜትና ልማት
- (ii) ሰላም 6, 2010 የጥራትና ስሜት ምርመራዎች ምርመራዎች፡

Λ⁹βC⁹: ρ₁ = 1.00, ρ₂ = 1.00, ρ₃ = 1.00, ρ₄ = 1.00, ρ₅ = 1.00, ρ₆ = 1.00, ρ₇ = 1.00, ρ₈ = 1.00, ρ₉ = 1.00, ρ₁₀ = 1.00, ρ₁₁ = 1.00, ρ₁₂ = 1.00, ρ₁₃ = 1.00, ρ₁₄ = 1.00, ρ₁₅ = 1.00, ρ₁₆ = 1.00, ρ₁₇ = 1.00, ρ₁₈ = 1.00, ρ₁₉ = 1.00, ρ₂₀ = 1.00, ρ₂₁ = 1.00, ρ₂₂ = 1.00, ρ₂₃ = 1.00, ρ₂₄ = 1.00, ρ₂₅ = 1.00, ρ₂₆ = 1.00, ρ₂₇ = 1.00, ρ₂₈ = 1.00, ρ₂₉ = 1.00, ρ₃₀ = 1.00, ρ₃₁ = 1.00, ρ₃₂ = 1.00, ρ₃₃ = 1.00, ρ₃₄ = 1.00, ρ₃₅ = 1.00, ρ₃₆ = 1.00, ρ₃₇ = 1.00, ρ₃₈ = 1.00, ρ₃₉ = 1.00, ρ₄₀ = 1.00, ρ₄₁ = 1.00, ρ₄₂ = 1.00, ρ₄₃ = 1.00, ρ₄₄ = 1.00, ρ₄₅ = 1.00, ρ₄₆ = 1.00, ρ₄₇ = 1.00, ρ₄₈ = 1.00, ρ₄₉ = 1.00, ρ₅₀ = 1.00, ρ₅₁ = 1.00, ρ₅₂ = 1.00, ρ₅₃ = 1.00, ρ₅₄ = 1.00, ρ₅₅ = 1.00, ρ₅₆ = 1.00, ρ₅₇ = 1.00, ρ₅₈ = 1.00, ρ₅₉ = 1.00, ρ₆₀ = 1.00, ρ₆₁ = 1.00, ρ₆₂ = 1.00, ρ₆₃ = 1.00, ρ₆₄ = 1.00, ρ₆₅ = 1.00, ρ₆₆ = 1.00, ρ₆₇ = 1.00, ρ₆₈ = 1.00, ρ₆₉ = 1.00, ρ₇₀ = 1.00, ρ₇₁ = 1.00, ρ₇₂ = 1.00, ρ₇₃ = 1.00, ρ₇₄ = 1.00, ρ₇₅ = 1.00, ρ₇₆ = 1.00, ρ₇₇ = 1.00, ρ₇₈ = 1.00, ρ₇₉ = 1.00, ρ₈₀ = 1.00, ρ₈₁ = 1.00, ρ₈₂ = 1.00, ρ₈₃ = 1.00, ρ₈₄ = 1.00, ρ₈₅ = 1.00, ρ₈₆ = 1.00, ρ₈₇ = 1.00, ρ₈₈ = 1.00, ρ₈₉ = 1.00, ρ₉₀ = 1.00, ρ₉₁ = 1.00, ρ₉₂ = 1.00, ρ₉₃ = 1.00, ρ₉₄ = 1.00, ρ₉₅ = 1.00, ρ₉₆ = 1.00, ρ₉₇ = 1.00, ρ₉₈ = 1.00, ρ₉₉ = 1.00, ρ₁₀₀ = 1.00, ρ₁₀₁ = 1.00, ρ₁₀₂ = 1.00, ρ₁₀₃ = 1.00, ρ₁₀₄ = 1.00, ρ₁₀₅ = 1.00, ρ₁₀₆ = 1.00, ρ₁₀₇ = 1.00, ρ₁₀₈ = 1.00, ρ₁₀₉ = 1.00, ρ₁₁₀ = 1.00, ρ₁₁₁ = 1.00, ρ₁₁₂ = 1.00, ρ₁₁₃ = 1.00, ρ₁₁₄ = 1.00, ρ₁₁₅ = 1.00, ρ₁₁₆ = 1.00, ρ₁₁₇ = 1.00, ρ₁₁₈ = 1.00, ρ₁₁₉ = 1.00, ρ₁₂₀ = 1.00, ρ₁₂₁ = 1.00, ρ₁₂₂ = 1.00, ρ₁₂₃ = 1.00, ρ₁₂₄ = 1.00, ρ₁₂₅ = 1.00, ρ₁₂₆ = 1.00, ρ₁₂₇ = 1.00, ρ₁₂₈ = 1.00, ρ₁₂₉ = 1.00, ρ₁₃₀ = 1.00, ρ₁₃₁ = 1.00, ρ₁₃₂ = 1.00, ρ₁₃₃ = 1.00, ρ₁₃₄ = 1.00, ρ₁₃₅ = 1.00, ρ₁₃₆ = 1.00, ρ₁₃₇ = 1.00, ρ₁₃₈ = 1.00, ρ₁₃₉ = 1.00, ρ₁₄₀ = 1.00, ρ₁₄₁ = 1.00, ρ₁₄₂ = 1.00, ρ₁₄₃ = 1.00, ρ₁₄₄ = 1.00, ρ₁₄₅ = 1.00, ρ₁₄₆ = 1.00, ρ₁₄₇ = 1.00, ρ₁₄₈ = 1.00, ρ₁₄₉ = 1.00, ρ₁₅₀ = 1.00, ρ₁₅₁ = 1.00, ρ₁₅₂ = 1.00, ρ₁₅₃ = 1.00, ρ₁₅₄ = 1.00, ρ₁₅₅ = 1.00, ρ₁₅₆ = 1.00, ρ₁₅₇ = 1.00, ρ₁₅₈ = 1.00, ρ₁₅₉ = 1.00, ρ₁₆₀ = 1.00, ρ₁₆₁ = 1.00, ρ₁₆₂ = 1.00, ρ₁₆₃ = 1.00, ρ₁₆₄ = 1.00, ρ₁₆₅ = 1.00, ρ₁₆₆ = 1.00, ρ₁₆₇ = 1.00, ρ₁₆₈ = 1.00, ρ₁₆₉ = 1.00, ρ₁₇₀ = 1.00, ρ₁₇₁ = 1.00, ρ₁₇₂ = 1.00, ρ₁₇₃ = 1.00, ρ₁₇₄ = 1.00, ρ₁₇₅ = 1.00, ρ₁₇₆ = 1.00, ρ₁₇₇ = 1.00, ρ₁₇₈ = 1.00, ρ₁₇₉ = 1.00, ρ₁₈₀ = 1.00, ρ₁₈₁ = 1.00, ρ₁₈₂ = 1.00, ρ₁₈₃ = 1.00, ρ₁₈₄ = 1.00, ρ₁₈₅ = 1.00, ρ₁₈₆ = 1.00, ρ₁₈₇ = 1.00, ρ₁₈₈ = 1.00, ρ₁₈₉ = 1.00, ρ₁₉₀ = 1.00, ρ₁₉₁ = 1.00, ρ₁₉₂ = 1.00, ρ₁₉₃ = 1.00, ρ₁₉₄ = 1.00, ρ₁₉₅ = 1.00, ρ₁₉₆ = 1.00, ρ₁₉₇ = 1.00, ρ₁₉₈ = 1.00, ρ₁₉₉ = 1.00, ρ₂₀₀ = 1.00, ρ₂₀₁ = 1.00, ρ₂₀₂ = 1.00, ρ₂₀₃ = 1.00, ρ₂₀₄ = 1.00, ρ₂₀₅ = 1.00, ρ₂₀₆ = 1.00, ρ₂₀₇ = 1.00, ρ₂₀₈ = 1.00, ρ₂₀₉ = 1.00, ρ₂₁₀ = 1.00, ρ₂₁₁ = 1.00, ρ₂₁₂ = 1.00, ρ₂₁₃ = 1.00, ρ₂₁₄ = 1.00, ρ₂₁₅ = 1.00, ρ₂₁₆ = 1.00, ρ₂₁₇ = 1.00, ρ₂₁₈ = 1.00, ρ₂₁₉ = 1.00, ρ₂₂₀ = 1.00, ρ₂₂₁ = 1.00, ρ₂₂₂ = 1.00, ρ₂₂₃ = 1.00, ρ₂₂₄ = 1.00, ρ₂₂₅ = 1.00, ρ₂₂₆ = 1.00, ρ₂₂₇ = 1.00, ρ₂₂₈ = 1.00, ρ₂₂₉ = 1.00, ρ₂₃₀ = 1.00, ρ₂₃₁ = 1.00, ρ₂₃₂ = 1.00, ρ_{233</}

$\gamma_b \Delta^{\alpha} r^n \nabla^{\sigma} \nabla^b > r.$

Pat Kent

ΓσΉC ΔC ρc, Λ.ρ., ΓσΉC

ርኅረኤ ለፖለቲካ ምክር ቤቱ ለፖለቲካ ምክር ቤቱ ለፖለቲካ ምክር ቤቱ



Tammaqtailinahuarniriit anngutighat atuqhugit Inuit qaujimajatuqangillu ilihmaniillu ilitquhiannin
Conserving wildlife through the application of Inuit Qaujimajatugangit and scientific knowledge

The Hon. Gail Shea
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making its decision whether or not to approve the listing of the Cumberland Sound beluga population as a threatened species under the federal Species at Risk Act (SARA), the NWMB needed to only consider whether it has been established through reliable and persuasive arguments and evidence that the risk status for the Cumberland Sound beluga population probably satisfies the SARA definition of “threatened”.

When the NWMB makes decisions it is essential that those decisions are supported by the “best available” information. When considering the evidence provided by Environment Canada, the NWMB was concerned that it was not provided with the best available information at that time, as the COSEWIC report was written six years ago and was based on an aerial survey that was eleven years old (1999).

The NWMB’s concern was emphasized through the following response from a DFO representative at the public hearing upon questioning by the NWMB:

“...the assessment was done in 2004 by COSEWIC, and after that DFO has produced some additional information, further analysis, so that’s why there are some differences because the information gets better...we do have more information since the original assessment, so that’s why there are some differences.” (Public Hearing Transcript (PHT) p.49 (lines 16-24))¹

The arguments and evidence provided to the NWMB during its public consideration process demonstrated the uncertainty surrounding the general delineation of beluga populations, including the possibility of other populations in the Cumberland Sound area. The COSEWIC report identifies the possibility that more than one population may summer in Cumberland Sound.² In addition, the NWMB heard at its public hearing from Inuit Elders and Inuit representatives that there existed at least two separate populations in Cumberland Sound, as supported by the following statement from a Pangnirtung Elder:

“...I’ve seen different populations, different kinds of population of beluga that were in there. I go down to the southern side of the Cumberland Sound, and the ones that are in the southern part of Cumberland Sound are not from the Cumberland Sound population...” (PHT p.79 (15-21))³

The COSEWIC report identifies the Cumberland Sound population meeting criteria D (as per COSEWIC’s quantitative assessment criteria) for threatened (<1000 mature individuals)⁴, and based on the population estimates submitted to the NWMB during its public hearing the Cumberland Sound beluga population does not appear to meet this criteria based on the most current information provided to the NWMB. The COSEWIC report specifies that based on surveys conducted in 1999 the estimated size of the Cumberland Sound population was 1,547 (95% CI =1,187-1,970).⁵ As specified in the COSEWIC report based on this population estimate the number of mature individuals would be 928 thereby meeting the criteria for threatened.

¹ See also PHT p. 71-72 (26-4), in which DFO indicated that it recently conducted an aerial survey and that results would be available in early 2011.

² COSEWIC 2004. COSEWIC assessment and update status report on the beluga whale *Delphinapterus leucas* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. p.18.

³ See also from PHT p.61 (18-20), p.69 (11-14), p.74 (14-20), p.93 (5-11), p.163 (5-21), p.178 (11-16); and COSEWIC report p.18 which identifies Inuit recognition of three “types of belugas”.

⁴ COSEWIC 2004. p.32.

⁵ COSEWIC 2004. p. 24

However, the NWMB was also provided with a revised population estimate based on dive data analysis, which estimated the population at 1,960 (90% CI =1,590-2,409)⁶ and a further updated estimate from 2002, based on analysis of population dynamics, of 2,018 individuals (SE=271).⁷ Based on the most recent population estimate the Cumberland Sound beluga population does not meet criteria D as the number of mature individuals would equal 1,211. The COSEWIC report further notes that the Cumberland Sound beluga population does not meet any of the other four criteria used by COSEWIC. Based on this information the NWMB is of the view that the most current information is the most reliable and persuasive and that the Cumberland Sound beluga population does not qualify as a “threatened” species as per COSEWIC’s quantitative criteria.

Furthermore, as evidenced by the population estimates and accounts of observations by Inuit provided to the NWMB at the public hearing it was clear that beluga in Cumberland Sound are increasing and that the current harvest is sustainable. As indicated by a representative of the Pangnirtung HTO:

“...what we see these days, they seem to have been increasing after the quota was set, and we now know that the numbers are increasing as it was mentioned earlier.” (PHT p.78 (8-12))⁸

The NWMB was also presented with information from Inuit representatives and Elders indicating that beluga in Cumberland Sound had a shorter reproductive period than the three year estimate based on scientific information⁹. Inuit knowledge indicates that beluga can reproduce every year¹⁰; a shorter reproductive period would allow the Cumberland Sound beluga population to recover at a faster rate. As demonstrated from the following statement from a Pangnirtung Elder:

“...I go yearly to do beluga hunting when the season is open, the beluga right now, they have yearlings that accompany them, and before, there were hardly any yearlings, but nowadays there are a lot more yearlings than that because they’re getting babies every year that was mentioned that the yearlings and then brand-new born ones, they start getting babies in July. They have a yearling, and they get a brand-new one in July because that’s when they get their baby whales.” (PHT p. 64 (8-18))

The COSEWIC report also identified killer whales as a possible threat to the Cumberland Sound beluga population. At the public hearing, the NWMB heard from Inuit representatives that killer whales were no longer a threat, given that few killer whales have been observed in Cumberland Sound in recent years.¹¹ Based on this evidence the NWMB does not consider killer whales to be a threat to the population at this time.

Based on the arguments and evidence submitted to the NWMB, the Board cannot support a listing of “threatened” for the Cumberland Sound population. This decision is due to the

⁶ DFO. The most recent population estimate for Cumberland Sound belugas was based on aerial surveys conducted in 1999 (DFO, unpublished data). Fisheries and Oceans Canada. p. 1.

⁷ DFO 2005. Recovery Potential Assessment of Cumberland Sound, Ungava Bay, Eastern Hudson Bay and St. Lawrence beluga populations (*Delphinapterus leucas*). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2005/036. p. 5.

⁸ See also PHT p. 106 (9-10); PHT p. 109 (20-26); PHT p.127 (8-21); PHT p. 160 (14-25)

⁹ PHT p.51 (15-22); COSEWIC 2004 p.11

¹⁰ See also PHT p. 51-52 (25-3);

¹¹ PHT p. 76 (7-12); p. 81 (10-14); p.83-84 (24-3); p.96 (13-16)

remaining uncertainties regarding the delineation of beluga populations, lack of evidence supporting the criteria used for the designation as demonstrated by the reliable and persuasive evidence that the population numbers for mature individuals do not meet the COSEWIC criterion that would support a listing of threatened, and local Inuit knowledge and observations presented at the NWMB's public hearing that demonstrated to the NWMB that the Cumberland Sound beluga population does not satisfy the SARA definition of "threatened".

Should you have any questions or concerns with respect to this decision or the rationale provided by the NWMB, please do not hesitate to contact the Board.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'Willie Nakoolak', with a stylized, cursive script.

Willie Nakoolak
A/Chairperson of the Nunavut
Wildlife Management Board



DEC 06 2010

Mr. Willie Nakoolak
Acting Chairperson
Nunavut Wildlife Management Board
P.O. Box 1379
Iqaluit NU X0A 0H0

Dear Mr. Nakoolak:

Thank you for your letter of October 18, addressed to my predecessor, in which you present the Nunavut Wildlife Management Board's initial decision on the proposed listing of the Cumberland Sound population of beluga whale (*Delphinapterus leucas*) as threatened under the *Species at Risk Act* (SARA). I note that the Board does not support adding this population of beluga whale to Schedule 1 to the Act.

In your correspondence, you indicated that the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessment of the Cumberland Sound population of beluga whale as threatened is no longer warranted. You questioned whether the information upon which the report was based was the best available at that time. Although I have been given to understand that Fisheries and Oceans Canada has provided you with further analysis, please be assured that this information was not available at the time of the status report, and that the status report was based on the best available information at that time. This is therefore considered the best available information. I have been advised that the information shared by Fisheries and Oceans Canada with the Board would not support a change to the COSEWIC designation, and a decision to refer this species back to the Committee is not warranted.

One of the issues you raised concerns the possibility of there being more than one beluga whale population in the Cumberland Sound area. This possibility was known to COSEWIC and considered in its assessment. The status report considered the evidence of hunters that more than one population of this species

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spends its summers in Cumberland Sound. Nonetheless, the Committee concluded that the existing genetic, distributional and abundance data reinforce the historical view that the beluga whales of Cumberland Sound form a single, discrete population.

As well, you raised concerns around more recent population estimates, suggesting COSEWIC's criteria of fewer than 1 000 individuals no longer applies. However, I am advised that despite these more recent analyses, when the uncertainty associated with these analyses is considered, the Cumberland Sound population of beluga whale continues to be at risk of extinction. Specifically, if the projections are based on the lowest range of the confidence interval (CI), then the number of mature individuals for the dive data analysis would be 60 percent of 1 590, or 954. This same logic holds for the 2002 data, which you also referenced in your letter; the Bayesian model estimated the 2002 population size to number 2 018 (95 percent CI: 1 553 to 2 623). Again, making allowances for the confidence interval, the number of mature individuals that would be present if the lower estimate were correct would be 60 percent of 1 553, or 931 individuals ("Recovery Potential Assessment of Cumberland Sound, Ungava Bay, Eastern Hudson Bay and St. Lawrence Beluga Populations (*Delphinapterus leucas*)," Fisheries and Oceans Canada, *Canadian Science Advisory Secretariat Report 2005/036*). COSEWIC suggests the use of population estimates lower than the mean when uncertainty is involved (the Committee's Assessment Process and Criteria, approved by COSEWIC in April 2010, www.cosewic.gc.ca/eng/sct0/assessment_process_e.cfm).

Challenges to monitoring beluga whale populations include the expense of monitoring and the beluga's grouping behaviour. These are exacerbated by the wide confidence limits of the available data, such that beluga whale population fluctuations cannot reliably be detected in time to avert a serious decline.

The Nunavut Wildlife Management Board also cited evidence supporting the belief that the population trend is increasing for the Cumberland Sound population of beluga whale. However, it is clear that the threats to this population are not fully understood. The severe declines from historic overharvests have been mitigated by improved monitoring and the implementation of quotas. But despite estimates that indicate a slowly increasing trend, the current population of 2 018 (95 percent CI: 1 553 to 2 623) using the Bayesian model, 2002, is about 24 percent of the estimated historic size of 8 465. If nothing is done to improve the size of the population, it will continue to be at risk of sudden and sharp declines, instead of returning to its normal structure and functions.

On the issue of reproductive frequency, the three-year interval is an average based on the reproductive physiology of the female beluga whale which has been consistently measured in many beluga whale populations worldwide. It is quite probable that hunters see females with both a calf and a two-year old young (not one-year old). Furthermore, females cannot give birth every year since they have a gestation period which exceeds one year (approximately 14 to 15 months), and it is extremely difficult to assess that a calf next to an adult comprise a mother-calf pair.

I have considered your arguments as well as the COSEWIC status report and the advice of Fisheries and Oceans Canada officials. Given the level of uncertainty associated with all available data, I have a responsibility to ensure that reasonable measures to prevent the further reduction of this beluga whale population are not postponed for lack of full scientific certainty. Therefore, I have decided to reject the Nunavut Wildlife Management Board's initial decision and I am continuing to consider listing the Cumberland Sound population of beluga whale as threatened to Schedule 1 to the *Species at Risk Act*. I understand that the Board will consider my decision on a confidential basis and make its final decision at the Board's next quarterly meeting. I also understand that the Board will forward that decision within ten days of the conclusion of that meeting.

Whether or not a species is listed under SARA, COSEWIC must do a re-assessment every ten years or at any time it has reason to believe that a species' status has changed significantly. As such, should you have new data, either relating to overall trends or to the number of populations of this species in Cumberland Sound, which would warrant a change in the status of this population, a request can be made to the Committee to re-assess the Cumberland Sound population of beluga whales before 2014. If, at a future date, COSEWIC finds this population of beluga whales to be not at risk, this species population can be removed from Schedule 1 to the Act.

I appreciate that there continues to be challenges to meeting time lines under the Memorandum of Understanding to Harmonize the Designation of Rare, Threatened and Endangered Species Under the Nunavut Land Claims Agreement and the Listing of Wildlife Species at Risk Under the *Species at Risk Act*. As both the Nunavut Land Claims Agreement and SARA involve tight time lines and require that decisions be made in an efficient and timely manner, the implementation of the harmonization Memorandum of Understanding continues to be challenging to all parties. My officials would be interested in meeting with you and discussing these challenges.

I look forward to continued collaboration and consultation with the Nunavut Wildlife Management Board. Please accept my best wishes.

Sincerely,

A handwritten signature in dark ink, appearing to read 'John Baird', with a stylized flourish at the end.

John Baird, P.C., M.P.

c.c.: The Honourable Gail Shea, P.C., M.P.

Re: Reconsideration and final decision by the Nunavut Wildlife Management Board with respect to the proposed listing of the Cumberland Sound beluga population as a threatened species under the *Species at Risk Act*

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1. The COSEWIC Status Report (SR) was based on the best available information at the time it was completed. Additional information shared by the Department of Fisheries and Oceans (DFO) during the hearing process does not support a change to the COSEWIC designation. Accordingly, a decision to refer this population back to COSEWIC is not warranted.

NWMB response: The Board agrees that the SR contained the best available scientific information up to 2004. The best available scientific information in the SR concerning population numbers relied upon surveys conducted in 1999. The additional population information provided by DFO also relied upon the data from those 1999 surveys. Although a new survey was conducted in August 2009, DFO reported during the oral hearing that the results will not be made available to the Board until 2011. The NWMB finds it extremely disconcerting that a listing decision for a species of such high social and cultural significance to Inuit is expected to be based upon 11 year-old surveys. The Board's concern is further increased by the knowledge that highly relevant results from an additional survey conducted one year prior to the oral hearing will not be made available until sometime after the NWMB renders its decision.

COSEWIC, the NWMB and the Minister are all required to base their conclusions regarding the risk status of Cumberland Sound beluga on the best available scientific knowledge, community knowledge and aboriginal traditional knowledge (*Inuit Qaujimajatuqangit* or IQ). The best available scientific knowledge submitted at the hearing was based on surveys carried out in 1999. The best available community knowledge and IQ were based on up-to-date observations grounded in many lifetimes of accumulated experience. Those facts need to be taken into careful account by each decision-maker in assessing the reliability and persuasiveness of the evidence submitted.

As explained more fully below, the NWMB disagrees that the further analysis submitted by DFO during the hearing does not support a change to the COSEWIC designation. That analysis clearly shows that the most recent estimated numbers of belugas in the Cumberland Sound population are significantly higher than the numbers relied upon by COSEWIC. Based on that further analysis, the number of mature individuals within the Cumberland Sound beluga population in 2002 was above 1,000. IQ evidence – supported by western science – further indicates that the beluga population has continued to increase in the 9 years since then.

2. COSEWIC was aware of the possibility that there may be more than one beluga population in the Cumberland Sound area. Although the evidence of hunters was considered, COSEWIC concluded that the existing genetic, distributional and abundance data reinforce the historical view that the beluga whales of Cumberland Sound form a single, discrete population.

NWMB response: The NWMB generally agrees with the Minister's summary of COSEWIC's position. However, the Minister's summary did not mention the SR's

acknowledgement that genetic and organochlorine contaminant signatures are not inconsistent with the possibility that more than one beluga population summers in Cumberland Sound.

A significant amount of additional IQ evidence identifying more than one beluga population in Cumberland Sound was presented at the hearing by Pangnirtung hunters and *qaujimaniliit* (persons recognized by their community as possessing in-depth IQ).¹ Coupled with COSEWIC's acknowledgement that the available scientific information does not rule out the presence of more than one beluga population summering in the Sound, the NWMB found the IQ presented at the hearing on this point to be reliable and persuasive.

3. When estimating the quantity of mature individuals, COSEWIC suggests the use of population estimates lower than the mean if uncertainty is involved. When the uncertainty associated with the more recent population estimates/analyses is considered, the Cumberland Sound beluga population – having less than 1,000 mature individuals - continues to be at risk of extinction.

NWMB response: The Board disagrees with the Minister for the following reasons:

- (a) The description provided of COSEWIC's position is inaccurate. "*COSEWIC's Assessment Process and Criteria*" (approved by COSEWIC in April 2010) sets out the following point with respect to the use of population estimates lower than the mean: "*Where the population size fluctuates, use a lower estimate. In most cases this will be much less than the mean.*"²
- (b) At p. 31 of the SR, COSEWIC posed the question, "*Are there extreme fluctuations in number of mature individuals?*" The Committee then unequivocally replied, "*No*". In COSEWIC's view, there is no reason to use an estimate lower than the mean for the Cumberland Sound beluga population.
- (c) Accordingly, in estimating the number of mature individuals in the population, COSEWIC used the 1999 population estimate of 1,547, as set out on p.24 of the SR. The Committee did not use an estimate much less than the mean, or – as the Minister has done – at the lowest level of the confidence limits. See COSEWIC's unambiguous statement at p. 31 of the SR: "*Number of mature individuals 928 (60% x 1,547)*". The confidence limit for the estimate of 1,547 was 1,187 – 1,970.³
- (d) Following precisely the same approach as COSEWIC used in the SR to estimate the number of mature individuals - and relying upon DFO's most recent

¹ Hearing Transcript, p. 61, lines 16-20; p. 69, lines 9-18; p.74-75, lines 10-2; p.79, lines 15-22; p.93, lines 5-14; p.97, lines 3-6 and 9-16; p.113-114, lines 23-2; p.158-159, lines 17-18; p.163, lines 5-20; p.164-165, lines 16-5; p.178-179, lines 8-4; p.185, lines 5-16; and p.186, lines 18-22.

² "*COSEWIC's Assessment Process and Criteria*" (April 2010), p. 17.

³ Status Report (SR), p.24.

population estimates for Cumberland Sound belugas – it is clear that the number of mature individuals at the time was within the range of 1,176 (based on a re-analysis using dive data: 60% x 1960) to 1,210 (based on an analysis of population dynamics: 60% x 2,018).

It is important to place these population estimates in context – the higher estimate (2,018) is with respect to the size of the population in 2002.⁴ In the 9 years since then, IQ evidence– supported by western science - indicates that the beluga population has continued to increase.⁵

4. Because of the wide confidence limits of the available data, beluga population fluctuations cannot reliably be detected in time to avert a serious decline. The threats to this population are not fully understood. Despite estimates that indicate a slowly increasing trend, the current population of 2,018 (95 percent CL: 1,553 to 2,623) using the Bayesian model, 2002, is about 24 percent of the estimated historic size of 8,465. If nothing is done to improve the size of the population, it will continue to be at risk of sudden and sharp declines, instead of returning to its normal structure and functions.

NWMB response: The NWMB disagrees with the Minister for the following reasons:

- (a) Large commercial hunts from 1868 to 1939 are believed to have reduced the original population to less than 1,000 individuals.⁶
- (b) According to DFO, maximum counts from 1979 to 1990 produced counts ranging from 454 to 541.. Two surveys flown in 1999 produced counts of 720-770 animals. Further analysis using dive data based on the 1999 estimate increased the estimate to 1,960 whales. The most current DFO population estimate, using the Bayesian model, was 2,018 animals in 2002, with an eventual recovery target of 5,926.⁷ Based upon those DFO numbers, there has been no evidence of a decline in the population for at least 25 years – in fact, by any reasonable measure, an increase had been achieved by 2002. As a result, as of that year, the population was at 34% of the recovery target of 5,926 whales.
- (c) Subject to receipt of the 2009 survey results, all indications are that the population has continued to increase in the 9 years since 2002.⁸

⁴ “*Recovery Assessment Report on the Cumberland Sound Beluga Population*”, DFO Science Advisory Report 2005 (SAP), Tab 10 of the Hearing Binder, p.5.

⁵ Transcript, p.24, lines 7-8 and 24-25; p.30, lines 24-25; p.46, lines 1-3; p.50, lines 20-22; p.78, lines 9-21; p.104-105, lines 25-2; p.106, lines 9-10; p.108, lines 4-8; p.109, lines 23-24; p.120, lines 20-23; p.127, lines 17-19; p.144, lines 18-20; and p.160, lines 15-25; SR, p.32; SAP, p.5-6.

⁶ SR, p.24.

⁷ SAP, p.2 and 5.

⁸ Transcript, p.24, lines 7-8 and 24-25; p.30, lines 24-25; p.46, lines 1-3; p.50, lines 20-22; p.78, lines 9-21; p.104-105, lines 25-2; p.106, lines 9-10; p.108, lines 4-8; p.109, lines 23-24; p.120, lines 20-23; p.127, lines 17-19; p.144, lines 18-20; and p.160, lines 15-25; SR, p.32; SAP, p.2,5-7.

- (d) The population is not subject to a small distribution range, to decline or to fluctuation.⁹
 - (e) The population is not subject to a small total population size and decline.¹⁰
 - (f) There is no prediction of extinction at current harvest levels.¹¹
 - (g) As of 2002, the number of mature individuals in the population was between 1,176 and 1,210.
 - (h) While unregulated hunting by Inuit may have contributed to a further decline following the commercial decimation of the population in the late-1800's and early-1900's, hunting has been regulated since the 1980's,¹² and "*Current harvest levels in Cumberland Sound are low enough to allow recovery*".¹³ COSEWIC similarly holds that, "*Current quotas (41 in 2003) appear to be sustainable.*"¹⁴
5. On the issue of reproductive frequency, the three-year interval is an average based on the reproductive physiology of the female beluga whale, which has been consistently measured in many beluga whale populations worldwide. Females cannot give birth every year since they have a gestation period which exceeds one year (approximately 14 to 15 months). It is extremely difficult to assess that a calf next to an adult comprise a mother-calf pair.

NWMB response: The Board agrees with the Minister that the beluga female gestation period is more than one year – the SR indicates approximately 12.8 to 14.5 months.¹⁵ However, that length of gestation does not necessarily result in the three-year reproductive cycle postulated by scientists. While it may be difficult to assess that a calf next to an adult comprises a mother-calf pair, the NWMB is confident that experienced Inuit beluga hunters and *qaujimaniliit* are able to accurately make such an assessment. The Board accepts as reliable and persuasive evidence the consistent observations by Pangnirtung hunters and *qaujimaniliit* of female belugas with both calves and newborns.¹⁶ Accordingly, the NWMB is of the view that beluga whales summering in Cumberland Sound are able to reproduce more often than once every three years.

⁹ SR, p.32.

¹⁰ SR, p.32.

¹¹ SR, p.32.

¹² SR, p.32.

¹³ SAP, p.7.

¹⁴ SR, p. 32.

¹⁵ SR, p.11.

¹⁶ Transcript, p.51, lines 19-22; p.51-52 (DFO), lines 25-2; p.58-59, lines 25-11; p.64, lines 8-24; p.79, lines 8-9; p.169-170, lines 12-6; and p.171, lines 8-21.

3. REASONS FOR THE NWMB's FINAL DECISION

The specific reasons for the NWMB's final decision are the following:

1. None of the 5 criteria used by COSEWIC to designate a wildlife species as "*threatened*" are met in the case of the Cumberland Sound beluga population. Those criteria are:
 - (A) Decline in total number of mature individuals;
 - (B) Small distribution range and decline or fluctuation;
 - (C) Small and declining number of mature individuals;
 - (D) Very small or restricted total population (less than 1,000 mature individuals); and
 - (E) Quantitative analysis.¹⁷

In the SR, COSEWIC concluded that criteria A, B, C and E did not apply to the population - and that only criterion D applied, because the total number of mature individuals was believed to be 928.¹⁸ Relying upon the more recent population estimates produced by DFO during the hearing, and following precisely the same approach as COSEWIC used in the SR to estimate the number of mature individuals in the population, that number - as of 2002 - was between 1,176 (60% x 1960) and 1,210 (60% x 2,018).

2. The primary reason for the precipitous drop in the size of the Cumberland Sound beluga population was commercial hunting, which ended 72 years ago. To the extent that unregulated hunting by Inuit may have further increased the decline, Inuit hunting has been carefully regulated for approximately the last three decades.
3. Between the early 1980's and 2002, estimates of Cumberland Sound beluga numbers have increased.¹⁹ All indications are that the population is continuing to grow.²⁰
4. DFO has formally confirmed that the population is estimated to be increasing, and that the current hunting limits allow for the Cumberland Sound beluga population to reach its recovery target of 5,926. COSEWIC believes that the quotas presently in effect are sustainable. Apart from hunting, there are no apparent important anthropogenic impacts on this population.²¹

¹⁷ "COSEWIC's Assessment Process and Criteria" (April 2010), p. 8-10 (Table 2).

¹⁸ SR, p. 32.

¹⁹ SAR, p.5: "In Cumberland Sound, beluga numbers were estimated to be in the low hundreds in the early 1980s... Two surveys flown in 1999, resulted in counts of 720-777 animals. Correcting the 1999 estimate for submerged animals results in a total of 1,960 (SE=250) belugas in Cumberland Sound. Bayesian estimation...resulted in... an estimated 2002 population size of 2018 (SE=271)."

²⁰ SAR, p. 2: "The population is estimated to be on an increasing trend..."

²¹ SR, p. 26.

5. As of 2002 – nine years ago - the Cumberland Sound beluga population was at 34% of the recovery target.

4. CONCLUSION

After thoroughly weighing all of the arguments and evidence, the NWMB has decided not to approve the listing of the Cumberland Sound beluga population as a threatened species. In arriving at that final decision, the Board carefully considered the Minister's reasons for rejection of its initial decision, and agreed with some of the points raised. In addition, the Board accepted and agreed with much of what COSEWIC and DFO presented during the hearing process. In the final analysis, however, the NWMB found the following to be most reliable and persuasive: DFO's more recent evidence of a higher population number than the original 1999 estimate relied upon by COSEWIC; the COSEWIC criteria and practice to determine whether this beluga population is threatened; Inuit evidence of ongoing population growth; and DFO's confirmation that the current sustainable harvest will permit the population to continue its strong recovery.

The NWMB supports ongoing monitoring and research of the Cumberland Sound beluga population, to help ensure that the population remains healthy and is able to reach its recovery target. Two areas that would particularly benefit from scientific and IQ research would be further investigations into the existence/prevalence of other beluga populations summering in Cumberland Sound, and into the reproductive cycles of the Cumberland Sound population and other beluga populations in the area.

The NWMB hereby forwards its final decision to you, Mr. Minister, pursuant to NLCA S.5.3.21 and clause 3.16 of the *Memorandum of Understanding to Harmonize the Designation of Rare, Threatened and Endangered Species Under the Nunavut Land Claims Agreement and the Listing of Wildlife Species at Risk under the Species at Risk Act*.

Should you have any questions or concerns with respect to this decision or the reasons provided by the NWMB, please do not hesitate to contact the Board.

Yours sincerely,



Mikidjuk Akavak,
Chairperson of the
Nunavut Wildlife Management Board

Attachments:

- (i) October 18th 2010 initial NWMB decision letter, and
- (ii) December 6th 2010 response letter from the Minister.

c.c.: The Honourable Gail Shea, P.C., M.P.



JUN 21 2011

Mr. Mikidjuk Akavak
Chairperson
Nunavut Wildlife Management Board
P.O. Box 1379
Iqaluit NU X0A 0H0

RECEIVED
JUL 21 2011

Dear Mr. Akavak:

Thank you for your correspondence of January 27 and April 29, regarding the proposed listing of the Cumberland Sound population of beluga whale as a threatened species under the *Species at Risk Act*.

I note that the Nunavut Wildlife Management Board maintains its original decision to not approve the listing of this species in Schedule 1 to the Act. This concludes the decision-making process as per the Memorandum of Understanding to Harmonize the Designation of Rare, Threatened and Endangered Species Under the Nunavut Land Claims Agreement and the Listing of Wildlife Species at Risk under the *Species at Risk Act*. It also concludes the Agreement decision-making process for this population of beluga whale, enabling me to move forward with the development of my proposed recommendation to the Governor in Council.

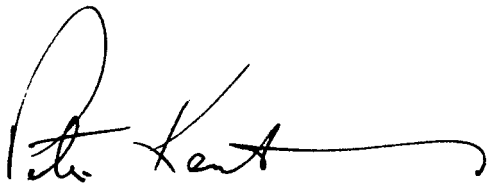
The next step will be the publication of my proposed recommendation in Part I of the *Canada Gazette*, to allow for a 30-day public comment period. I appreciate the Board's carefully considered reasons and will weigh its rationale prior to making my final recommendation to the Governor in Council. The Governor in Council's final decision will be published in Part II of the *Canada Gazette*.

I concur that the use of the Memorandum of Understanding is making a positive contribution to reconciling the Act and the Agreement listing processes. With respect to the noted challenges, considering changes that might facilitate the Memorandum of Understanding's implementation is a logical next step. Federal officials will therefore be contacting the Board for further discussions.

.../2

Please accept my best wishes.

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter Kent', with a long horizontal flourish extending to the right.

The Honourable Peter Kent, P.C., M.P.

c.c.: The Honourable Keith Ashfield, P.C., M.P.