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Uranium Industry Issues in Québec

Inquiry and public hearing report (Cree/English version)

May 2015



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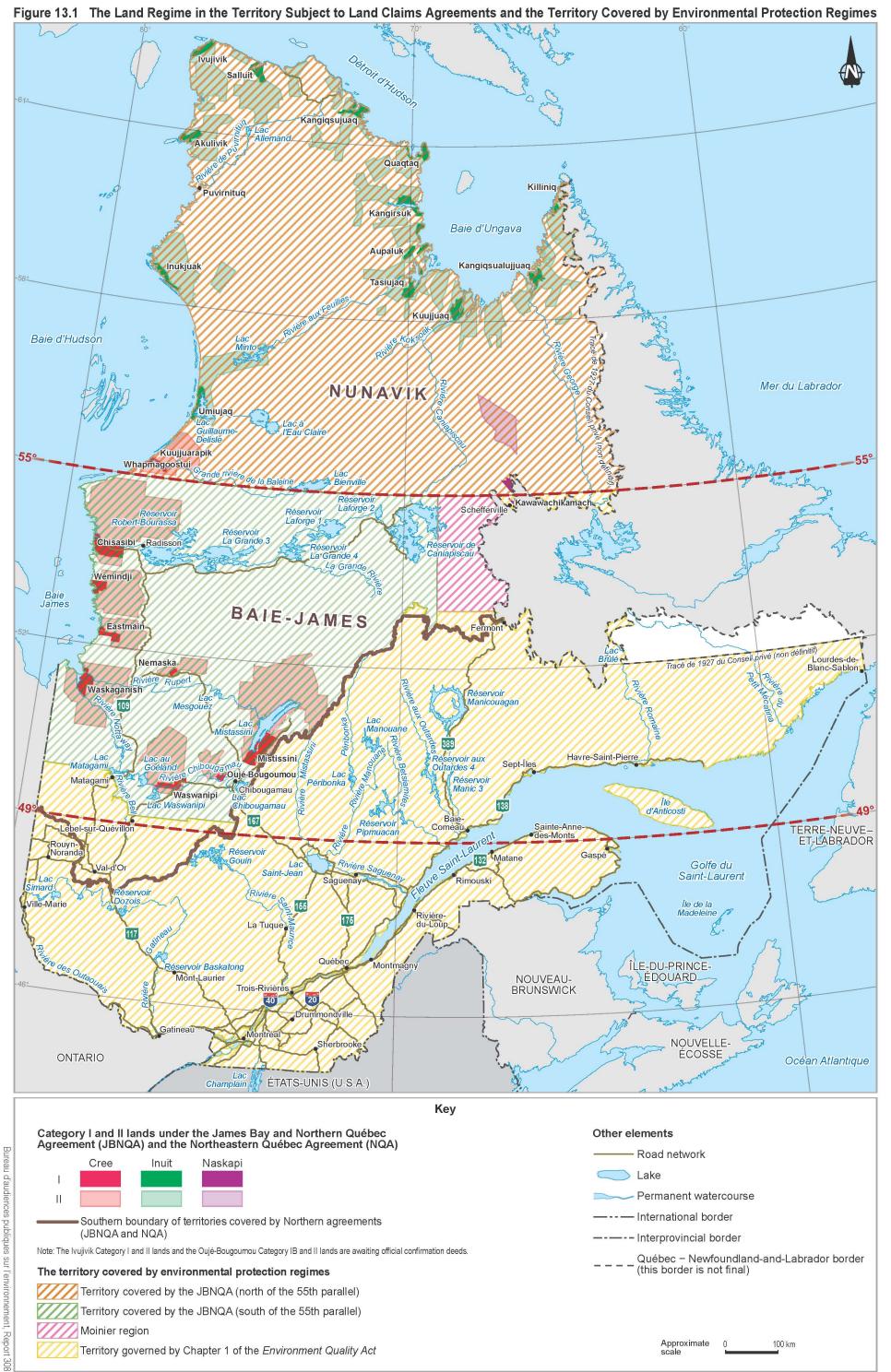
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Uranium Industry Issues in Québec



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◆ ΔĠ" ΠΔ" - Ϥϭ϶ ΒΑΡΕ Ρ϶" JBACE ὁ Γ° ΓΝ ΔΘ" ΓΝ Φ ΓΝ ϶ ΓΝ Θ ΦΝ" ΦσΔ"

i. ὑ Ϥϭ" Ϥʹρ" Ϥ Ϥϭ" Δίλλ ο ϭ Ϳ ͿΔσ" ο, ἡ λ Ϲ ΓΡ Γ° Θ " ΦσΔ" ΦσΔ"

i ὑ Δνὰδ" ο, Ρ϶" Λἱ ΓΝ Δ" Ρ϶" Ϥ ΦΝ Δ" ΓΝ" Ϥ ΦΝ Γ Λὑ Γ" ΡὰσΔ ΦΘ"

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ÿγς i ΔΛυρφσΔυ Ανί"ς i i ρυγ ΔυφσΔυ στο σίς γι" συσγοργου (ΔΔο RBHSS, ΜΕΜ199, p. 2)χ

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^{6.} ሥቦ ቀ ፴ል* *Γτ/ሲቦንሷ* ታፅና ነ ፲ታም ሷዎት (2004), Γ⁴ 16% ሥቦ ቀ Γτ ፡፡ ቫርኒ ላ ቨርኒ ላ ቨርኒ ላ ሶ ሥቦ ሎ ሶ ሥቦ ቀ ላ ሶ ፣ ላ ላ ሶ ቦ የታ ኦፊላ ሶ ቮርኒ ላ ላታ ሲ ኮ የ ነ ል ላ ለ ነ ላ ላ ሶ ሶ ላ ላ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ላ ላ ሶ ሶ ሶ ሲል የ RBHHS, MEM199, p. 21) x

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^{7.} \triangle° $\dot{\cap}$ $\dot{\cap$

POTTO 44 CAP (ibid.)x

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i° 1893 β < Φ Φ, ΨΥΥ, ΓωΨ, Φ Ν. ΨΓΥΡΑ Φ, ΕΥΡΑ Ν. ΕΥΡ PΔ"PC 44π'x Δ'Λ 1916 Λ" > 1948, 4C 6 ΔΓ Κ ΤΟ 1948, U Δω Γ' ἐμ" ἐ) × 1956 ἐ Δ' Δλ' , خلات ἐ ἐ ἐ ἐ ἐ ἐ ἐ ἐ ἐ خطت و الله خطت و الله الله خطت و الله خطت و الله الله خطت و الله خطا و الله خطت و الله خط و الله خلاط و الله خلاط

1978 **b** Δ' Λλ' , Γ΄ Γλσ' Ελ' Δ' Ελ' Δ' ΑΕ ΝΟΑ, Ρ' Δ' Θ' Ε' Γ' ΡσΔ' Γ^{\prime} $\dot{\Delta}$ Φ $\dot{\Gamma}$ $\dot{\Delta}$ Φ $\dot{\Delta}$ 326 km² $\dot{\Delta}$ $\dot{\Delta}$ Λ $\dot{\Delta}$ Λ ٨١٠٠ ﴿ ﴿ أَلَّا مُ اللَّهُ مِنْ اللَّهُ مِنْ اللَّهُ اللَّ

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^{9.} Φ°Γ˙L° Δ°Γ˙SΔ° "ΓĊ" Φ΄ Δ°Γ˙SΤΡ" x

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ἰ Γ΄ ΛΓΛΝ' x ΦΕ" Ϥ ἀΠ' ἀσΔ', ϤΕ" Φ' Φ Λ· LΔ Φ΄ Φ΄ ἱ ἀΡΠΦ' Θ'"

(σρ σν " τωΛ), Γ"ΠΔ' Φ' Δ Δ" ΘΔ" Κ-Δ Ρ) " Β· Γ' ' ' ' ' ' ' Ε' Ε' '

ἀ" Θ' ἱ LL" Δ Δὰ Ρ) " Φ' Θ' 70 km Δ" Λ" Γ' Θ' Ν' Γ΄ Φ΄ Δ΄ Φ' ΄),

Ρὸ Φ΄ Ν΄ Θ΄ Ν΄ Θ΄ ΦΟ Φ΄ Φ ΘΡ΄ ἱ ΓΙΛ Ι΄ (PREMNAT14, p. 27;

PREMNAT18; ΔΔΝ RBHSS, ΜΕΜ199, p. 4) x

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2008 \dot{b} Δ' ΛΡ', ΔΡΡ° በ \dot{c} "Γίν° (CRA) Γ΄ ▷/" \dot{c} \dot{c} በሥታ ላኩ ላኩ" ላ Γ΄ ማ ቦዋ ው ΔΡ'" ላ Γ΄ ላ Γ΄ \dot{c} በ \dot{c} የ \dot{c}

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◆ Δπ΄ ΒΑΡΕ Ρὑ" JBACE ὑ Γ°ΛΛ Γ'ἱλ" ΠΙ΄ Δτὸ ὑ ΔΛ σΓ°ΡΓλ'" Δτλ°"
 ΦΦ΄ Δ" ϹʹΔσ" ὑ Δτὸ ἀΥὰ ἀΥἰΔστο ΦΦ΄ ΊΔΓ ἱ ΚΑ Φ΄ Ι΄ ΄ ΚΑ Φ΄ ὑ
 Φ" ΔἱΛλ Ρὑ" ϭ ϔ ΓΓΛλ" ΔΦ΄ ἱ ϔ ϹΦΙ Ι΄ Π΄ ἀΥὰ ὑ ὑ Τ΄ ΓΙΝ Ρὑ"
 ΛΑὰ Γἱνο" χ

5° 1950s b Δ' Λλ' Γ΄ ΛΓΛλ° Δ΄ ΔΥ ἀσΔ' ΦΦΕ ΔΔΑ' ΦΓ"' x ΦΦΕ L' ΔΛ ΦΕ"', σ1λ ΡΙΓ Δ"Πα' ὑδ' ὑ Γ' ΓσΦΑ' ΘΌσΔ', Ρὸ" Γ" Π' Γ΄ Θ' Ρ" ΔϢ ΛΑ' Δ ΔΥ ἀ° ὑ' Λὸ Δ΄ ΔΠ Δ"Π' ΦΕ" Δ΄ ΔΠ Φ" ΘΌΓ" ὑ ὑδ', ΦΕ" Δ΄ ΔΠ Δ" Θ΄ ΦΤΙ ὑδ', ΔΕ" Δ΄ ΔΠ Δ" Θ΄ ΔΤΟ ΔΤΟ ΓΕ ΕΙΝΟΘΕ ΔΑΕ ΦΙΙ" x

◆ Φπ΄ ΒΑΡΕ Ρ϶" ΚΕΑC ὁ Γ°ΠΛι Γ'ἱλ"ΠΙι ϭ Δ" ΠΦσλι ϭ ΔΓ Φ° Ċλλι ἱὁλο Φ΄ Γ΄" ωΔδι Φ΄ Γ΄", Γο ἱι Φ΄ Λι Γ'ἱλ"ΠΙι Φ΄ ΘΠΔι ΠΦ΄ ΓἱΔι, LPΔι ὁ ΓλὶΛι, Ανο ΠΦ΄ ΓἱΛο Ρ϶" ΔΥ Δι Θ΄ Λὸ Γ"Γ. ϭ ϭ ϪἰΛΥΙΤΟ ἱ Γ΄ Φ΄ Θ΄ Γὰ Ρ϶" ὁ Γ΄ Γὰ Ρ" ΦΕ" ϭ Γ΄ ΦΡΡΟΔλι ϭ Γ΄ ΔΥ ΔσΔλι.

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 $\dot{S}^{\circ} \ \dot{\Gamma} \ \Lambda \Gamma \Lambda \Lambda^{\circ} \ \dot{D} \ \Delta \Gamma \dot{G}^{\circ} \ \dot{G}^{\circ} \$

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﴿ مَحَكُمُوا اللَّهُ مِنْ مَنْ اللَّهُ اللَّهُ لَكِيْلَ الْحَلَيْلَ الْحَلِيلَ الْحَلِيلُ الْحَلَّمُ الْحَلَّمُ الْحَلَّمُ الْحَلَّمُ اللَّهُ الْحَلَّمُ اللَّهُ الْحَلَّمُ اللَّهُ الْحَلَّمُ اللَّهُ اللّ CBHSSJB \checkmark L Δ ' \dot{b} Δ D' $\dot{\Delta}$ " Ω " \dot{C} \dot{C} الله له ١٥٤ "كلة غير عظير قير علي المجار ال رَا ٩" لَكَا ، مَكَامَ مَثَ مَا خَانَ ، مَ عَلَيْ ، مَا عَلَيْ الله الله عَالَمُ الله الله عَالَمُ الله الله ع كار حاني، ميمام بهام مور عورا ع ميرا مي حاني، له حعب ገΔΓ' VΔ Δ៎ᢣᢣᄽ″ (ልኄ∩ኒ '❖ በፋΔ, MEM29, p. 6, ▷Λળበὑ່ን ▷ᢣ ⅃ሷው ' ◁ ሶ ▷ ሆ በ ∆ڭ ۩ڶ۩؈؇ ۺ۩؇ ؇ڔ ڶڔڡۧڿ٤٠٠ ﴿ ٩٠٩ ؋ ڰ٧ ۞ۥ۩ۥ؞ ڶڔڹڔ؈ ڰڔٳ؞؋؞ ؇ إڳ ﴿ ١٠ /مُحِبَ إِنَّ ١ أَنَّ ١ كُن ١ أَن كُن ١ أَن كُن اللَّهُ عَلَا مِصْلًا ۚ لَا إِن الرَّهُ عَلَى اللَّهُ ال ﴿ أَا اللَّهُ ﴿ لَا كُمَّا لَتُحَمُّ لَا كُمَا كَا هَا هُمَا اللَّهُ ﴿ فَا لَا ضَمَا ﴿ إِذَا كَا ا Γσ" ÞàσΔ' Ρὸ" Ϥ ΓΓὰσΔ' ΔλλΓΓι, ·϶΄ ἀΚΔ' Þὸ Խ ΔΛ Δ''Π'' Δλλ° rspri"b dod dodi d'ri° àd V ani⊃ (i.ak d'-b', mem205, p. 11)x

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[...] إِ اَنْ َ لَا اَلَهُ اللّٰ َ اَ اَ اَ كَ َ اَ اَ كَ َ ا اَ كَ َ اَ اَ كَ َ اَ لَا كَ َ اَ لَا كَ َ اللّٰ كَ اللّلّٰ كَ اللّٰ كَ اللّلّٰ كَ اللّٰ كَا اللّٰ كَ اللّٰ كَا اللّٰ كَ اللّٰ كَ اللّٰ كَ اللّٰ كَا اللّٰ كَاللّٰ كَا اللّٰ كَاللّٰ كَاللّٰ كَا اللّٰ كَا اللّٰ كَاللّٰ كَاللّٰ كَا اللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَا اللّٰ كَا اللّٰ كَاللّٰ كَاللّٰ كَالّٰ كَا اللّٰ كَاللّٰ كَا اللّٰ كَا اللّٰ كَاللّٰ كَاللّٰ كَا اللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَاللّٰ كَالْكَالْمُ كَا اللّٰ كَالْكَا لَلّٰ كَا اللّٰ كَالْكَا لَا اللّٰ كَالْمُ كَالْمُ كَالْكَا لَلّٰ كَا اللّٰ كَالْكَالْمُ كَا اللّٰ كَالْمُ كَا اللّٰ كَاللّٰ كَاللّٰ كَا اللّٰ لّٰ كَالْمُلْكَا لَا اللّٰ لَا اللّٰ لَاللّٰ كَالْمُلْلّٰ كَا اللّٰ لَل

ط ل أ حاحة "١٦ كخا ل أ كال تضحك ل ل غاكمت ك لـ إلى الأحك الم الله عنه الله الله عنه الله الله عنه الله الله ال ﴿ كُمْ ﴿ أُمَّا اللَّهِ مُحْفَثُرُ فَي اللَّهِ فَ فَيْ لَكُومَمُ فَي صَفَّ كَا فَصَدْ حَمَدُ الْأَكْ ٩٠٠ ا اح ۱۹۰۵ م به ۱۹۰۸ م طب خ، ربه، ح ۱۵۰ دم، احب، احب، احب، احب، اجه، ح ج، به، ح ج، به، ح ج، به، ح ج، به، ح، ح، به، ح، ج، ح، ج، ح، به، ἀωι Δ" nd"ι ἱ 宀 σ" Φ' nT" ΔΦ Φ΄ ΡσΦΝΕΡσΔς Φ Β ΕΡΠός ΦΕΜ25, p. 10) x ٨٥٠ حمث أه حكث الأحظ أث الما الله أن الفريَّا ؟ "لَظْهَا اللَّهُ ٩٤١ حَمْ ° 4/\$\rightarro\right\right\right\right\right\right\right\right\right\right\ ὑ Γ΄ ἀἰλ"ΓΓ" Φ΄σΔ' ϭϭ϶Γ΄ (ΊΔΓ' ·ϭʹϻ', ΜΕΜ48, p. 4; ·Φ' ά΄>ϻ', ΜΕΜ51, p. 3; UΔ' "Φ', MEM61, p. 2)x Φ' ΔΦ' Β΄ ΔΩ' ΔΦ' Β΄ TRAN22, p. 48) x Φ΄ CMEB Γ΄ Δ΄ ΔΙ Ρ΄ Φ ΔΑ ΔΔάσΑ ἱ Γ΄ Γ΄ ٢٠ ١٠ كغة غهر، خمري عهد اله الجهارة، ن إذ كم عجهه له اله اله الجهارة، أ σ^ω ὑΟ'' ἀ σ^ω ἀ Γ^ω ΓἰΟ'' ι d ὑΓ' ὑ ΔΔ' (ΜΕΜ104, p. 15) x ἀ Δ' ἀ σ"Φ"Π"Δd ΔΦ˙ \"L Δ Ͻ϶Ͱ"Π' Ρ϶" dλ' Δ σ σ"Π' (MEM25. p. 10)x

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(🙉 🖧 RBHSS, MEM199, p. 15)

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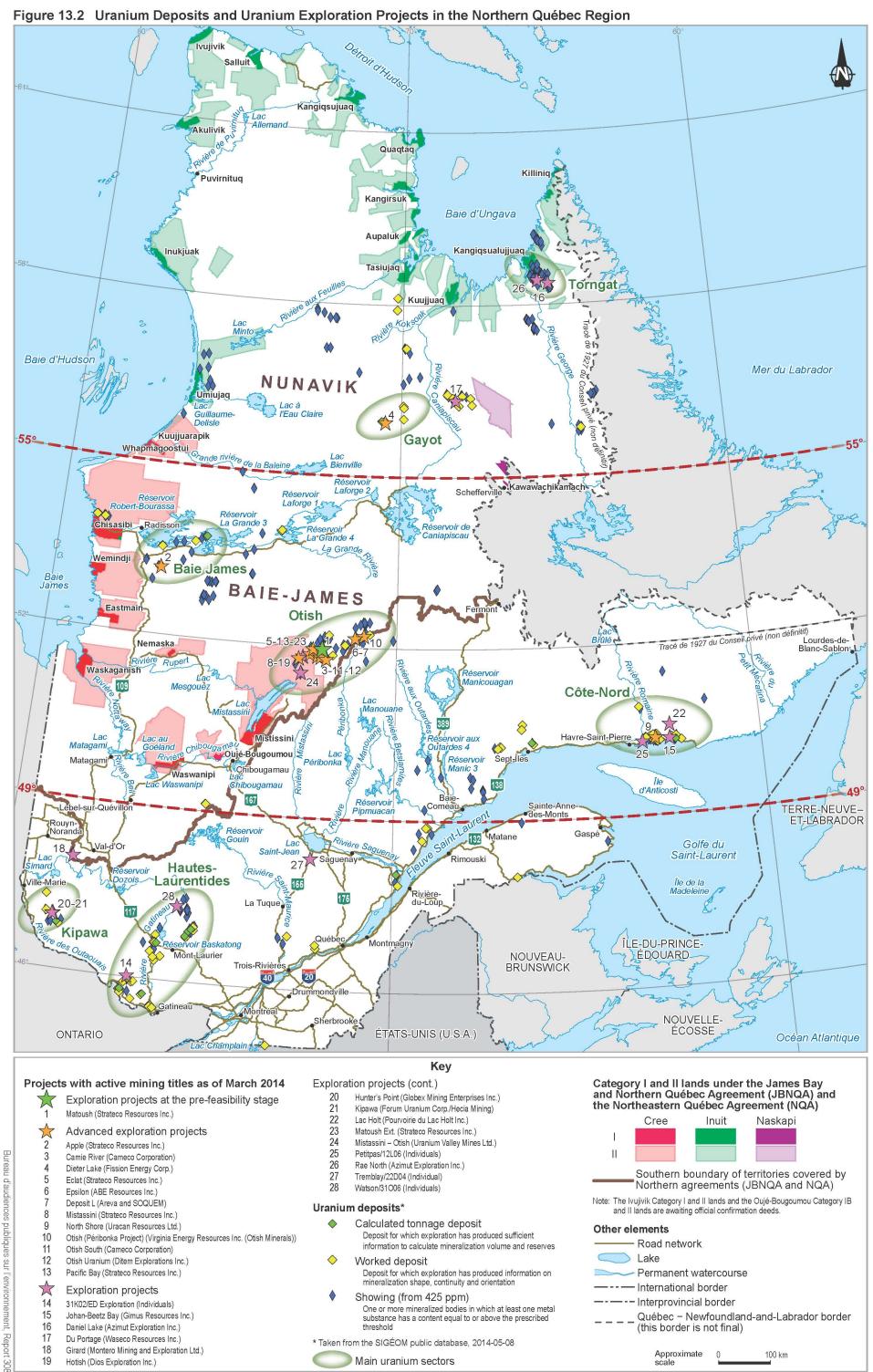
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^{13.} ቀ ፭ ል"ሮ ኖሩ ቀ ፭ ፭ውበ፭" ΓίσΔ Λθοί ፭ ለፀ፭ ÄἰσΔ ἱ ሶ ▷" Γ Γ'ኒት"ሮታና じ ኖሩ ፭ ልግ ል"ሮ ዮኑ" ἱ ሶ Ր ኒት"ሮታና ዕ ሳ ላግ ል"ሮ የተ ፍተ ማ ሰ ፭ ወጋንኒት"ሮታሪያ (EXPLO3) x

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^{15.} أن كا ١٨ ك أن كا ١٨ مخية حجة غ كا ١ ١٨ كا كا ك خب غ حم كا ١ أ ك كفة أخ ع أ أ ، خ أ أ « الف الفرة الك أن الك الك الك الك الك الك عنه ع أ 4 ك كذا ك الك الك الك الك الك الك الك الك الك

(**LP&**, 2014, p. 153)

ל ני הבל"ץ לא" לי ניף הא" ניף א שי לא היה א הא" לי היא לא היה א היה א

★ ΔΦ" NΔ" - ΦΓ΄ ὁ Γ" ΝΙ ΔΦ" ΝΙ, Φ΄ ἱ ὁ σ Δὶ ὁ Δ΄ ἱ ἱ ϭ ΛΑἰ Γἱ σΔι Ρὶ"
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13.6.3 **4 AS C" P" ALAY TYALAY AG"**

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^{16.} ቀ ፭ Δ^ω Γ΄-ŚσΔ^ι, "Φ" ϶σ" Ρ΄ν" σ" Φ΄ν" ΓΡ^ω" Γ΄Γ^ι ፭ ΔΛΥ" ΓΡσΔ^ι ΦΕ" Δλ" □Δσ" ^ι Ν'Γ ΦΕ" Ν'Υ Γ΄-Δ΄ ^ι Δ'ν ΓργσΔλ^ι (RBHSS, MEM199, p. 1) x

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♠ ◁ ዮσϤΝ ἀνσΔν Δλλ° Δν ἀΔν ἀΛν ἀν (QUES22) x ಈ ἀν ΓΓ° ἀ ۸۲۸۳ شصی , حاء ۲۵ منطه، INSPQ و کر ختر، ابا اب از ار ۱۰۵م خ خ ቍሥ ሥቦ ቴቭ ላቴቭ ፵ ፭٠٠/۲۲۲ ° Ϥ (QUES22.1, p. 15) x Φ ላ ላ ቀ በ riangle $\dot{ riangle}$ $\dot{$ ا له نا ن حض الماسك ٩ ١٣ ١٠ ١٨ كمون الماسك ١٥ كمون الماسك ١٥ كمون الماسك ١٥ كمون الماسك ١٥ كمون الماسك لغ ١٩٠٥ عنهم

حمرت ١٠١١ ﴿ ١٠ أَنَّ اللَّهُ اللَّهُ ﴿ ١٤ أَنَّا اللَّهُ ﴿ ١٤ أَنَّا اللَّهُ ﴿ ١٤ أَنَّا اللَّهُ اللَّهُ اللَّ $\Lambda \Gamma \Lambda$ $\Box P \sigma \Delta$ $\Box A$ \Box Γ' P.⊲İ Ċ˙:

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 <t (NAT24, p. 50)

﴿ ٩ حَاٰ ٨ ٢ كَ ١ كَ ١ كَ ١ كَ الْحَالِ اللَّهُ الْحَالِ اللَّهُ اللَّهُ اللَّهُ اللَّهُ اللَّهُ اللَّهُ اللَّ غااغه له له له اله الأد عاب ب ماء له اله كاد طه له كاد طه اله حَثِ ٰ لَهُ اللَّهِ ٢٩ أَ مَنْ اللَّهِ ٢٩ أَ مَنْ اللَّهِ ٢٩ أَ مَنْ اللَّهُ لِهُ لِهُ اللَّهُ اللَّهِ اللَّه كا فحَار إلا الله على المخبر "ع فاله الله علي المخبر 108 المحبر 1 Ň" λ" Γ° 50 ∩<<< dσβ~ < Δ' Λ\΄ Λ" Π" , P\΄ " dΩ° < σφή < ΔΩ΄ LPσΔ' "

"Φ' σſ°ρ"ι" ላታ 30 km ለ" ነ 50 km ላ ሶ° በለ" Δρε" ላ Δ' Λ\ Λ\ Λ\ Π'' κ ላ ላ حض٬ إذ المنهج ال إذ المنهج المناه المرابع المال حمير المجنور المرابع ا ♦ ١٤ ال أخط الله ﴿ ﴿ كَا اللَّه اللَّه مَا اللَّه اللَّه اللَّه اللَّه اللَّه اللَّه اللَّه اللَّه اللَّه اللّ

^{17. &}quot;ሶጛ ላልሮ 6 Lነቦ' የቀቀሳ" * ቀ ላ" l ላልሮ 6 Lነቦ' የቀሮ ቦ ላጣ ልጭ" ላሶx

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ΔĠ" ΠΔα - Φπ΄ ἱ Γ" ΠΛι ΔĠ" ΠΙι Φ Ϥ ·Ϥ;ΑΝ" ΦσΔι Ϥ Δ" Λ" Δ' Λλ" ΔΦ
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ፋ LL"' ፭ Διὰσ"' ሩ ፭ መሩት"በ"ል፭ ሩታ" ለነየበረመልዮ 14, ▷ ለነየረመልዮሙ" የየ ልና"ልሩኩነ ዕ መጋ ርአውል ሩ ር ፅ"ሩ ፭ Διὰσ" ሩውር ገΔΓ' VΔ ሩ ሶ"' የት" ጨልኑ ሩ ሶ"' x

13.7.1 4 C" (LD" 4 D) CT (D) 64 A" CAO" 1

 $Φ \quad \dot{L}^{\circ} \quad \dot{\Gamma}^{\circ} \quad \dot{Q} \quad \rho \sigma \phi \dot{W} \quad \dot{C} \sigma \Delta^{\circ} \quad \dot{Q} \quad \dot{A}^{\circ} \wedge \dot{W} \quad \dot{C}^{\dagger} \dot{U}^{\dagger} \dot{U}$

◆ δπ΄ ἱ Γ°ΠΛι Γ΄ Δ΄ Π΄ Δ
 ★ Δ΄ ἱ΄ ἱ΄ Δ΄ Π΄ Δ΄ ΓΛΙ Α΄ Θ΄ ΓΛΙ Α΄ ΦΕ΄ ΔΙ Α΄ Μ΄ Δ΄ Δ΄ Θ΄ Π΄ Δ΄ Δ΄ Δ΄ Δ΄ Δ΄ Π΄ Π΄ Δ΄ Δ΄ Δ΄ Δ΄ Λ΄ Δ΄ ΓΛΙ Α΄ Δ΄ Δ΄ Δ΄ Δ΄ Δ΄ Λ΄ Δ΄ ΓΛΙ Α΄ Δ΄ Δ΄ Δ΄ Δ΄ Δ΄ ΓΛΙ Α΄ Δ΄ Δ΄ Δ΄ Δ΄ ΓΛΙ Α΄ ΓΛΙ Α΄ Δ΄ ΓΛΙ Α΄

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Mandate for an Inquiry and Public Hearing on Uranium Industry Development in Québec

April 30, 2015

In March 2014, when the Bureau d'audiences publiques sur l'environnement (BAPE) was asked to organize a general hearing on uranium, the JBACE joined the inquiry commission and formed its own commission. During the three phases of the inquiry, the JBACE commission accompanied the BAPE at consultations in the communities concerned by the issue of uranium and situated in the area covered by Section 22 of the James Bay and Northern Québec Agreement.

At the end of a year-long process between May 2014 and May 2015, and following submission of this report, the commissioners, on behalf of the JBACE, would like, first, to express their appreciation of the experience and the collaborative relationship established during their participation in this extensive undertaking. The commissioners would also, and especially, like to underscore the quality of the work achieved, in particular with regard to the challenge of all three commissions working jointly to write Chapter 13. We share the opinions and conclusions expressed in that chapter. The inquiry was therefore a unique opportunity for all three parties to work together, which of itself is a major step forward, one that deserves to be acknowledged.

Paul John Murdoch, Chair

Melissa Saganash, Commissioner

Manon Cyr, Commissioner

Jean Picard, Commissioner



Mandate for an Inquiry and Public Hearing on Uranium Industry Development in Québec

April 30, 2015

In accordance with the mandate given by the Minister in connection with the uranium industry in Québec, the Commission of the Kativik Environmental Advisory Committee (KEAC) was involved in the process for the territory of Nunavik. It took part in the three phases of public consultations held in Nunavik, and was involved in writing the joint report, Chapter 13, entitled "The Territory of Northern Québec". The joint report was written in conjunction with the BAPE commission and the commission of the James Bay Advisory Committee on the Environment.

The members of the KEAC commission agree with the observations, opinions and conclusions presented in this joint report. We thank the BAPE commission and the JBACE commission for their excellent collaboration throughout the inquiry process.

Michael Barrett, Chair

Michael Barroll

Sylvie Létourneau, Commissioner

Claude Abel, Commissioner

Betsy Palliser, Commissioner

Summary

On March 3, 2014, Yves-François Blanchet, Québec's Minister of Sustainable Development, Environment, Wildlife and Parks asked Pierre Baril, President of the Bureau d'audiences publiques sur l'environnement (BAPE), to set up a commission whose mandate would be "to hold an inquiry and public hearing on the uranium industry". The mandate encompassed the whole of Québec, including the territories covered by the James Bay and Northern Québec Agreement and the Northeastern Québec Agreement. In his instructions, the Minister stipulated that the commission would begin its work on May 20, 2014 and would table its report on May 20, 2015.

As soon as it was created, and at the Minister's request, the BAPE inquiry commission contacted the James Bay Advisory Committee on the Environment and the Kativik Environmental Advisory Committee to include them in the public consultations. Each Committee set up its own commission to be responsible for considering the same issues and working with the BAPE inquiry commission in the regions covered by these agreements. The three commissions agreed on a number of conditions for collaboration.

To identify the issues and problems associated with its mandate, the BAPE commission divided the public hearing into three phases. The initial pre-consultation phase, comprising 20 sessions, was followed by a 35-session question and information phase. During the third and last phase of the process, 254 briefs were received.

The participants' concerns

Uranium mines differ from other mines due to the presence of radionuclides, or substances that emit radiation. Although radioactivity is a natural phenomenon and uranium is present everywhere in the environment to some degree, many of the participants at the hearings were concerned and skeptical because of uncertainty, scientific and technological limitations and the potential impacts of radioactivity on public health and the environment. These concerns were also due to military use of uranium and past nuclear disasters. In contrast, some participants were in favour of uranium mining, mainly for economic reasons.

The resource

Canada ranks second in the world as a uranium producer, behind Kazakhstan and ahead of Australia. In 2013, it produced nearly 9,000 tons of uranium, or roughly 16 % of world production, all from three mines in Saskatchewan. Some of Saskatchewan's deposits have a very high uranium content.

According to current knowledge, Québec's uranium reserves are modest. Figures provided by the Ministère de l'Énergie et des Ressources naturelles show that the uranium resources identified so far, in compliance with international standards, amount to roughly 8,800 tons, or less than 0.12 % of the identified world resource in 2013. Québec's reserves are situated mainly in James Bay and the Côte-Nord region. Other regions, including Nunavik, Témiscamingue, Hautes-Laurentides and Outaouais, also report uranium showings.

Supervision

In Canada, under the *Nuclear Safety and Control Act*, the Canadian Nuclear Safety Commission (CNSC) is responsible for regulating and controlling the use of uranium materials and for ensuring that Canada's use of uranium complies with international nuclear non-proliferation treaties and undertakings. The CNSC issues the licences required by mine operators and oversees the industry's impacts on human populations and ecological environments. It also oversees impacts on the health of uranium mine workers.

Like the other provinces, Québec owns its natural resources and has exclusive jurisdiction to legislate on mineral exploration and mining. Although there have been no working uranium mines in Québec in the past, the State has extensive experience with mineral exploration and mining in general. Responsibility for these aspects is shared by the MERN and the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC). The MERN oversees mining activities, grants mining rights and administers the mine taxation system. As for the MDDELCC, it regulates mining activities that are likely to damage the environment. For example, it is responsible for the environmental impact assessment and review process in southern Québec, and is also involved in every step of the environmental impact assessment processes in the territory covered by the James Bay and Northern Québec Agreement.

Exploration

After an increase in uranium mine exploration activities between 2007 and 2009, there have been no new exploration projects in Québec since 2013. However, because of its radioactivity and potential environmental impacts, uranium drilling waste must be overseen by the MDDELCC, which must also establish thresholds above which safe management practices are required.

Mining

There are two main types of uranium mining: conventional open-pit or underground mining, and in-situ leaching. However, Québec's uranium deposits are situated in

geological formations that are not suited to this latter type of treatment, and conventional mining is therefore the only option.

The ore mined in open-pit or underground mines is crushed and then processed to extract the uranium, which is then salvaged in the form of a powder known as uranium concentrate or yellowcake. Concentration operations have a variety of impacts on air, water and soil quality, and measures are required to limit emissions of radon, uranium and radionuclides in dust or effluent.

Waste management

The question of uranium waste management attracts a great deal of attention because the waste remains radioactive for thousands of years, and also because of the chemical contaminants (e.g. heavy metals) that it contains. Clearly, the confinement methods used in the 1950s are outdated, and mine operators now use new methods. In Saskatchewan, the CNSC and mine operators have chosen a trench burial system that does not require levees, and that is supposed to reduce long-term surveillance needs. However, the long-term effectiveness of trench burial has yet to be demonstrated.

Environmental impacts

The scientific literature shows that uranium's chemical toxicity is more damaging to the environment than its radiological toxicity. In aquatic environments, the impacts vary according to the physical and chemical characteristics, with some environments being more sensitive than others, especially in Northern Québec. Eco-toxicological knowledge of radionuclides produced by uranium decay is incomplete. It is therefore important to continue research into this aspect.

Before uranium is mined, a chemical and radiological characterization would be required to establish the baseline status of the ecosystems in which the mine would be implemented. Characterization would allow for more complete monitoring of aquatic and terrestrial organisms, a more accurate measurement of additional chemical and radiological exposure, and an assessment of its effects.

Lastly, environmental impact assessments performed on a project-by-project basis do not provide an overview of the cumulative impacts of all the activities in a given territory. A method is therefore required to address this.

Public health and worker health

Current data show that exposure levels among populations living near uranium processing facilities in Canada are below 1 mSv/year, which is the Canadian and international standard. The CNSC therefore concludes that there is no cause-and-effect

relationship between the development of disease, especially cancer, and the fact of living near a uranium mine or facility. Environmental monitoring in northern Saskatchewan also shows that the traditional country foods consumed by Aboriginal populations should not pose a risk to health.

However, the *Institut national de santé publique du Québec* notes that uranium mines may generate additional exposure for nearby populations, and that this may constitute a chemical and radiological risk.

As for uranium mine workers, it has been shown that exposure levels have declined considerably in recent decades, and the average dose is now below 1 mSv/year, which is much less than the standard of 50 mSv/year. However, the standard should be lowered to 20 mSv/year in order to harmonize it with the recommendations of the International Commission on Radiological Protection.

Economic issues

The Organisation for Economic Co-operation and Development and the International Atomic Energy Agency estimate that the share of nuclear energy in the world energy balance sheet should remain stable at around 12 % between now and 2035. The current demand for uranium, at around 67,000 tons per year, may increase to levels varying from 72,000 tons per year to 122,000 tons per year by 2035, mainly due to the world's growing energy needs. However, projections over this timeframe are by definition inaccurate and uncertain, since outcomes will be influenced by many different factors.

In addition, the financial guarantees currently required by the CNSC cover only restoration and post-closure monitoring, and not long-term risk management, including disasters. It would therefore be essential for Québec to consider introducing a long-term risk coverage mechanism that should, as far as possible, be harmonized with the practices of the actors concerned.

A cost-benefit analysis would also be appropriate before authorizing uranium mining. An analysis such as this would take into account the anticipated external effects of uranium mining. Given that the management and supervision fees currently paid by mining companies cover only a fraction of the costs incurred by the Government, it is also important that the mining industry be made to pay the totality of this cost.

Governance

The experience acquired by the CNSC and Saskatchewan over the last few decades led to the signature of a federal-provincial agreement in 2000. The agreement stipulates that population health and safety and environmental protection must be priorities. It also stipulates that both levels of government must harmonize their uranium project assessment and control rules, their financial requirements and their public consultation

methods, and allows for the possibility of delegating federal controls to the province. In Québec, it would be appropriate to introduce a legislative, regulatory and administrative framework specific to the uranium industry, with a view to signing a federal-provincial agreement in the future.

Accordingly, Québec should not authorize any uranium mining project unless it is able to assess, structure and manage that project using appropriate resources, standards and methods. In addition, certificates of authorization should be mandatory for some specific exploration activities. The fact of placing all environment-related responsibilities and activities under the authority of the Government department responsible for the environment would allow for integrated supervision and control, and would also make better use of the available expertise. This aspect could be achieved through a new regulation specifically for uranium mines.

If the 2013 amendments to the *Mining Act* are adopted, the regional county municipalities will be allowed to designate areas that are incompatible with mining activities, in line with standards to be enacted by the MERN. Although the MERN would then limit the granting of new mining rights in those areas, existing mining claims could still be used to develop mining activities, including uranium mines, provided their holders comply with the regulations. Given the uncertainties and potential risks of this type of mine, it would be appropriate to stipulate that no new mining leases should be issued in the future for uranium mines in urbanized areas. The same should also apply to sites used for natural heritage conservation.

Territories subject to land claims agreements

The BAPE, James Bay Advisory Committee on the Environment and Kativik Environmental Advisory Committee commissions worked together to cover the territory of Northern Québec under treaty. It became clear that the environmental and social protection regimes established by the James Bay and Northern Québec Agreement are tools that should be used to ensure harmonious development of this vast territory.

For the Cree, Inuit and Naskapi people, hunting, fishing and trapping activities are still of vital for meeting their physical, psychological and economic needs and in upholding their spirituality and cultural values. They must be taken into account when considering all mine development, including uranium mines. To protect these needs, industrial development must be respectful of historic, social and economic contexts and territorial organization.

In James Bay, the recently-created Eeyou Istchee-James Bay Regional Government should provide a suitable framework for reviewing mining development based on priorities set out in the territory's future regional integrated land and resource development plan.

In Nunavik, the Inuit communities have introduced a number of planning tools, including the Nunavik Plan, the *Parnasimautik* Consultation Report and the Nunavik Mining Policy. All these instruments clearly express the desire of the Inuit to regain control over development in the region.

The Aboriginal communities in the territories subject to land claims agreements all expressed considerable concern about the effect of radioactivity on the living resources in their environment, and on their own health. Science can provide only partial answers to their questions, and it is impossible to define the area of impact of a uranium mine. Moreover, the fear of foods being contaminated by radioactive substances may be sufficient to trigger changes in eating, hunting and fishing activities, and this, in turn, may ultimately be detrimental to the Aboriginal populations.

Generally speaking, the commissions are of the opinion that the psychological and social impacts of uranium development may be harmful to the Aboriginal communities of Northern Québec because of their attachment to the natural environment, their culture and their way of life.

Social acceptability

The overwhelming majority of civil society members and political bodies that expressed views at the public hearings were against uranium exploration and mining. The many scientific limitations and uncertainties, combined with the potential risks of radioactivity for human health and the environment, were all preponderant factors in this stance.

Conclusion

Uranium mines have existed for decades, and the experience gained has produced some significant progress in terms of operating technologies and waste confinement strategies. On the other hand, there is still a great deal of uncertainty, and many questions concerning the risk to human health and ecosystem integrity have yet to be answered.

These uncertainties are exacerbated by the radioactive nature of uranium waste, which will be a problem for thousands of years. The most recent confinement technique recommended in Canada was introduced roughly 30 years ago. Older technologies are now considered obsolete, even though they were regarded as lasting solutions when they were first introduced.

Because of the uncertainties, gaps and sometimes major limitations in scientific and technological knowledge, there is no social or political consensus on the issue, and this has led to a very low level of acceptability in Québec. The uranium industry is rejected almost unanimously by the Aboriginal communities in territories subject to land claims agreements in James Bay and Nunavik, and in southern Québec.

The Québec Government could decide to suspend uranium mining in Québec either temporarily or permanently. However, because of its potential legal and economic impacts, such a decision should not be made in haste, so as to minimize its costs.

On the other hand, if the Government decides to open the door to uranium mining in Québec, it must satisfy three requirements. First, it must ensure that social acceptability is present with regard to uranium mining development.

Second, it must work hard, over a long period, to generate enough reliable knowledge to overcome existing scientific gaps and technological uncertainties.

Third, the Québec Government must take the time it needs to develop a legal framework more compatible with the respective missions of its departments, and must enter into a federal-provincial agreement that will allow it to control uranium mine operations by means of rules that are harmonized with federal legislation.

Realistically, it will take several years to fulfill these requirements. Accordingly, it would be inappropriate to give the green light to uranium mining in Québec in the current context.

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Chapter 13 JOINT REPORT

The Territory of Northern Québec

This chapter begins by describing the context and mandate, and is then divided into six sections: 1) Territoriality and the agreements governing the framework of relationships between the Governments and the Aboriginal people, and the project assessment procedure applied within the territory; 2) A socio-economic and demographic profile of the communities living in the territories under agreement, including a description of specific stewardship aspects in James Bay and Nunavik; 3) A profile of the current mining situation in each territory, highlighting the impacts and socio-economic consequences of mine development and current relationships between the industry and the communities; 4) The concerns and opinions of participants in the Northern Québec hearings; 5) The potential impacts and consequences of developing the uranium sector in Northern Québec; and 6) The position of the Northern Québec population with regard to the uranium sector.

13.1 Context and Mandate

A significant percentage of Québec's uranium potential is situated in Northern territory covered by the James Bay and Northern Québec Agreement (JBNQA) and the Northeastern Québec Agreement (NQA). This chapter will therefore focus exclusively on those territories. Some aspects addressed earlier in the report will be reviewed here, to ensure that the chapter is both coherent and complete. For communication purposes, the chapter has been translated into three languages: English, Cree and Inuktitut.

On March 3, 2014, the Minister of Sustainable Development, Environment and the Fight against Climate Change instructed the BAPE to conduct an inquiry and public hearing on uranium industry issues in Québec. The mandate does not focus on a specific project. Its purpose is to inform and consult the population on the environmental, social and economic impacts of activities relating to uranium exploration and mining in Québec.

Specifically, the mandate from the Minister stipulates that the BAPE's work:

[...] will focus on the entire territory of Québec, including the territories covered by Sections 22 and 23 of the James Bay and Northern Québec Agreement (JBNQA), Section 14 of the Northeastern Québec Agreement (NQA), and Chapter II of the EQA. I therefore expect the advisory committees mentioned in the JBNQA, the NQA and Chapter II of the EQA to be involved in the public consultation exercise, in order to benefit from their expertise and ensure that the Aboriginal rights stipulated in Sections 22 and 23 of the JBNQA and Section 14 of the NQA are not infringed. (CR4, p. 1, free translation from the original French)

A BAPE commission composed of Louis-Gilles Francoeur (Chair), along with Michèle Goyer and Joseph Zayed (Commissioners), worked with the James Bay Advisory Committee on the Environment (JBACE) and the Kativik Environmental Advisory Committee (KEAC) for this process. For the purposes of the mandate, each of these committees set up a special commission composed of a Chair, three Commissioners and analysts to assist them with their work (Table 13.1).

Table 13.1 Composition of the JBACE and KEAC Commissions

JBACE Commission	KEAC Commission		
Paul John Murdoch, Chair	Michael Barrett, Chair		
Manon Cyr, Commissioner	Claude Abel, Commissioner		
Jean Picard, Commissioner	Sylvie Létourneau, Commissioner		
Melissa B. Saganash, Commissioner	Betsy Palliser, Commissioner		
Catherine Lussier, Analyst	Lorraine Brooke, Consultant		
	Benjamin Patenaude, KEAC Executive Secretary		

The BAPE commission signed a memorandum of understanding with each of the other two commissions, to ensure that Aboriginal rights were upheld and the conditions for consultation and participation in the writing of this chapter were defined (PREMNAT21 and PREMNAT22).

It was agreed to divide the consultation into three phases, as planned and proposed by the BAPE commission:

- a pre-consultation phase to obtain the population's concerns, with a view to establishing and adjusting the inquiry strategy;
- a question and information phase with theme-based workshops, to consider the inquiry issues in more depth, with support from experts and resource people from Government departments and agencies;
- a presentation phase for briefs, to hear the views of participants.

The three consultation phases were carried out by the three commissions in various towns and villages in James Bay and Nunavik between May and December 2014, in a climate of cooperation, partnership and mutual respect (Table 13.2). In addition, during the question and information phase held in Québec City on September 3 to 26, the JBACE and KEAC commissions enjoyed special status and were able to submit their own questions to the participants.

Nunavik James Bay Chisasibi **Pre-Consultation** June 3, 2014 Chibougamau Kuujjuaq June 12-13, 2014 June 4, 2014 Mistissini June 5, 2014 Mistissini Phase **Question and** September 3-4-5, 2014 Information Kangiqsualujjuaq Note: Videoconference rooms were available in September 25, 2014 Chibougamau and Chisasibi during the Mistissini sessions. **Brief Presentation** Chisasibi Kawawachikamach November 11, 2014 December 1, 2014 Chibougamau Kuujjuaq November 12, 2014 December 2, 2014 Mistissini Kangiqsualujjuaq November 13, 2014 December 3, 2014

Table 13.2 Northern Towns and Villages Visited During the Consultations

It is important to note that the content of this chapter was produced jointly by the BAPE commission and the JBACE and KEAC commissions, and reflects positions shared by them all. Unless otherwise stipulated, the observations and opinions are supported by all three commissions

◆ **Opinion** – The BAPE commission and the JBACE and KEAC commissions are of the opinion that the inquiry and public hearing process should be adapted when general mandates entrusted to the BAPE concern territories under agreement in Northern Québec.

13.2 Territoriality and Agreements

The Northern territory mainly comprises the Nord-du-Québec administrative region, bounded by Hudson Bay and James Bay to the west, the Hudson Strait and Ungava Bay to the north, Labrador to the north-east, and the administrative regions of Abitibi-Témiscamingue, Mauricie, Saguenay—Lac-Saint-Jean and Côte-Nord to the south and south-east. In addition to the Nord-du-Québec administrative region, the vast Northern Québec territory includes part of the Côte-Nord administrative region.

The territory of Northern Québec covers an area of slightly more than one million square kilometres, and includes the territories of James Bay and Nunavik. This chapter focuses exclusively on this territory "under agreement", which extends northwards from the 49th parallel.

13.2.1 The Northern context

Administrative and environmental management throughout most of this vast territory is structured by the JBNQA and the NQA. The JBNQA, signed in 1975 by the Cree and Inuit, the Governments of Québec and Canada, Hydro-Québec, the James Bay Energy Corporation and the James Bay Development Corporation, was Canada's first modern land claims agreement. It sets out the framework for relations between the Aboriginal people and the governments of Québec and Canada (Aboriginal Affairs and Northern Development Canada, 2010: online; Secrétariat aux affaires autochtones, 2001, p. 5, 7 and 24; BAPE, 2000, Report 142, p. 451 and 452).

On February 7, 2002, in the wake of many disputes concerning the implementation of the JBNQA, the Québec Government and the Crees signed a comprehensive political and economic agreement covering a period of 50 years. The agreement, commonly known as the "Paix des Braves", marked the beginning of a new era in Québec-Cree relations by guaranteeing Cree participation in forestry, mining and hydroelectric development in James Bay, along with part of the revenue derived from that development (Secrétariat aux affaires autochtones, 2002b).

The Sanarrutik Agreement was also signed in 2002 by the Makivik Corporation, the Kativik Regional Government (KRG) and the Québec Government. Described as the "partnership agreement on the economic and community development of Nunavik", it also helped consolidate relations between Québec and the Inuit of Nunavik. Its purpose was to promote hydroelectricity, mining and tourism development in Nunavik, improve public services and infrastructures within the territory, promote meaningful community participation in projects, and ensure a fair division of the revenues derived from development (Secrétariat aux affaires autochtones, 2002a).

In addition, several complementary agreements for implementation of the JBNQA have been signed with the Canadian government since 1975. It is therefore clear that the agreements are evolving constantly.

13.2.2 The agreements and protection of the environment and social milieu

Among other things, the JBNQA and NQA establish a land regime, a hunting, fishing and trapping regime (Section 24, JBNQA; Section 15, NQA), and environmental and social protection regimes. The agreements are therefore very broad in scope, and regulate not only exclusive hunting, fishing and trapping rights, but also the conditions for industrial development within the territory, Cree Inuit and Naskapi participation in the decision-making process, economic development of the Nations and communities, and governance by their own institutions, especially in the fields of education and health (Petit *et al.*, 2011, p. 187 to 193).

The JBNQA land regime divides the territory into three categories (Categories I, II and III) (Figure 13.1). Category I lands account for 1.3 % of the territory under agreement, and are reserved exclusively for the the beneficiaries of the JBNQA. These are the lands on which the villages are situated. Category II lands, accounting for 14.8 % of the territory under agreement, are public lands usually located around the villages, on which beneficiaries hold exclusive hunting, fishing and trapping rights. Lastly, Category III lands, accounting for 83.9 % of the territory under agreement, are public lands on which beneficiaries hold exclusive rights for the harvesting of specific species and the trapping of fur-bearing animals (MDDELCC, 2015: online).

Environmental and social protection regimes

The JBNQA establishes two environmental and social protection regimes north and south of the 55th parallel. These regimes differ from those applicable to Southern Québec, in that their aim is to ensure compatibility of natural resource development, conservation of traditional Aboriginal ways of life and community economic development. Significant elements of these regimes include the environmental and social impact assessment process and active, preferential participation by the Cree, Inuit and Naskapi in decisions concerning development projects. The JBNQA therefore instituted some of the first environmental assessment procedures in North America.

The regime creates two advisory committees on the environment, namely the JBACE, for the territory located south of the 55th parallel, and the KEAC, for the territory situated north of the 55th parallel. These two committees, composed of members appointed by the regional administrations and the provincial and federal governments, are responsible for advising the governments on policies and regulations that affect the environment and the social milieu of the Cree and Inuit people. They also oversee the application of the environmental and social protection regime in James Bay and Nunavik (MDDELCC, 2015: online).

Section 22 of the JBNQA applies between the 49th and 55th parallels and on Whapmagoostui lands, an area commonly known as the "James Bay territory", while Section 23 applies north of the 55th parallel, to the "Nunavik territory", excluding Whapmagoostui¹. Their provisions take precedence over those of the EQA with regard, among other things, to the environmental assessment mechanisms applicable to projects in the territories under agreement². Generally speaking, the NQA contains similar provisions, guaranteeing Naskapi participation in the environmental and social protection process in the territory covered by the agreement (Figure 13.1). However, the environmental assessment regime applicable to the territory covered by the NQA, occupied mostly by the Naskapi people, also

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^{1.} The Cree village of Whapmagoostui is located north of the 55th parallel, in Nunavik, and is not officially part of the James Bay territory. However, it is an integral part of the Cree Nation and its traditional territory.

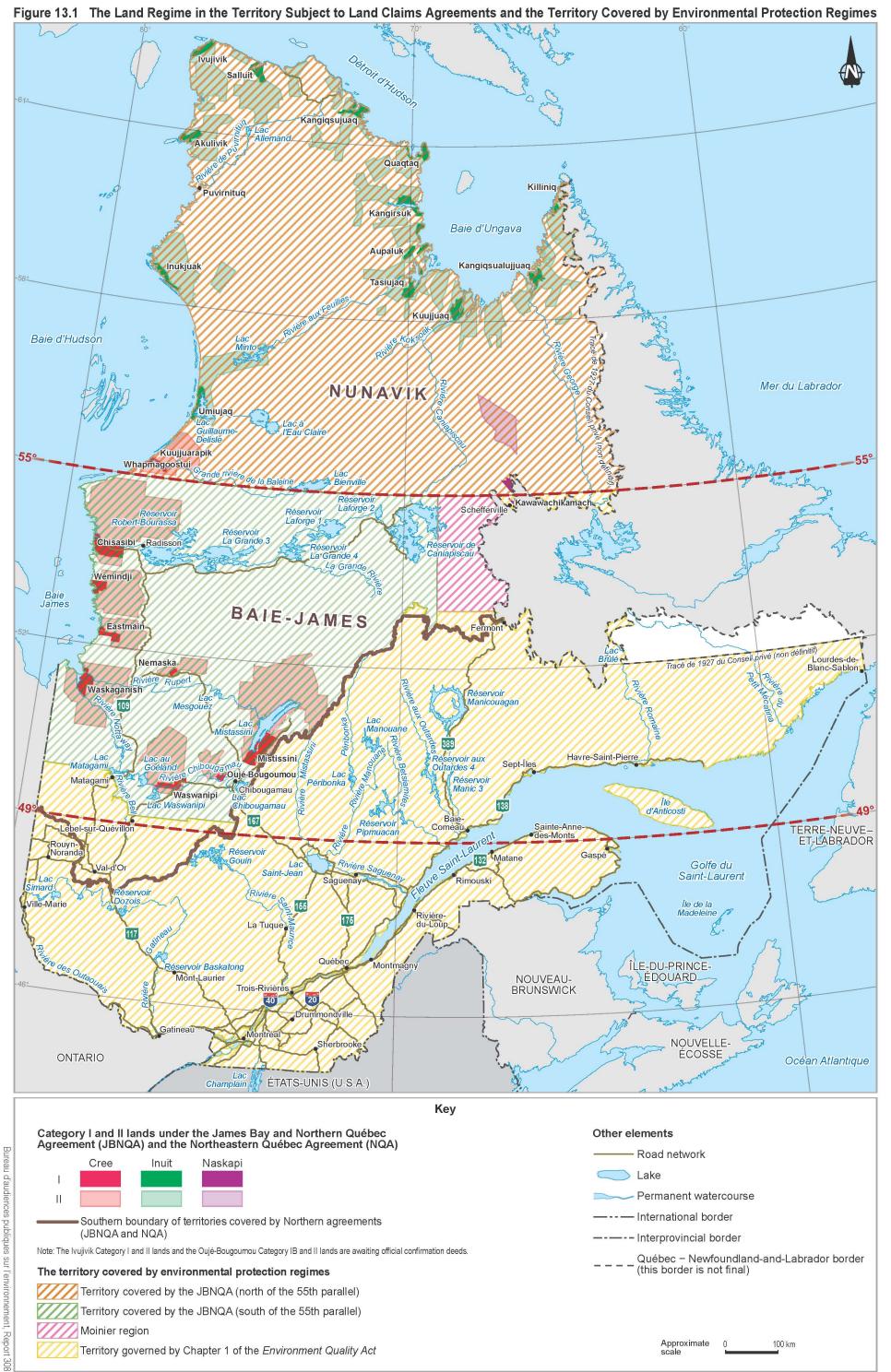
Chapter II of the EQA contains special environmental impact assessment provisions for James Bay and Northern Québec, in compliance with the relevant sections of the JBNQA and the NQA.

states that projects are subject to the information and consultation requirements in force in Southern Québec (*ibid*.).

Under the terms of the environmental protection regimes applicable to the territories under agreement, development projects are subject to an environmental and social impact assessment and review procedure, depending on whether they fall under federal or provincial jurisdiction. The decision to accept or reject a project is then made by the provincial administrator, the federal administrator or the Cree administrator for the Cree communities³.

Every proponent must submit its project, whether public or private, to the procedure, and is responsible for preparing the impact assessment. Schedules I and II to the JBNQA (and Schedules A and B to the EQA) identify the projects that are legally required to undergo the procedure and those that are legally exempted from it. The provincial environmental impact assessment procedure for Northern projects, regardless of whether they are located north or south of the 55th parallel, is divided into six separate steps: 1) a declaration by the project proponent, which must submit a notice of intention and preliminary information on the project to the Administrator concerned; 2) a review in which the tripartite Québec-Canada-Cree Evaluation Committee (COMEV) or the bipartite Québec-Inuit Kativik Environment Quality Commission (KEQC) must define the nature and scope of the impact assessment required; 3) preparation of the impact assessment by the project proponent, in compliance with the instructions given by the Administrator; 4) an impact assessment by the bipartite Québec-Cree Examination Committee (COMEX) or by the KEQC, which may, if necessary, hold public hearings or any other form of consultation for the population concerned; 5) a recommendation by the COMEX or a decision by the KEQC, which is conveyed to the provincial Administrator; and 6) the Administrator's final decision to authorize or refuse the project, based on the COMEX recommendation or KEQC decision. The general public has access to the COMEX, COMEV and KEQC minutes (ENC4, p. 8; MDDELCC, 2015: online; Ginette Lajoie, TRAN21, p. 106, 110 to 112; Marthe Côté, TRAN27, p. 96 and 97; Petit et al., 2011, p. 187 to 193). The JBNQA and NQA both provide for a federal assessment and review of environmental and social impacts for projects under federal jurisdiction, similar to the provincial assessment for projects under provincial jurisdiction. A selection committee begins by assessing the project notices, and then the federal review committees (COFEX) review the impact assessments and make recommendations to the federal Administrator - either COFEX-Sud (Canada-Cree) or COFEX-Nord (Canada-Inuit).

^{3.} In the JBNQA, the Administrator is the person qualified to make a final decision concerning assessments and reviews of development projects, based among other things on the recommendations or opinions of the COMEV, COMEX and KEAC. This person is the Minister of Sustainable Development, Environment and the Fight against Climate Change in the case of a provincial project, the President of the Canadian Environmental Assessment Agency in the case of a federal project, or the Administrator of the Cree Local Authority if the project is situated on Category I lands in James Bay.



The aim of these regimes is, first, to "minimize the environmental and social impact of development when negative on the Native people and the wildlife resources of the Territory" (articles 22.2.2b and 23.2.2b JBNQA) and second, to consider elements of the social milieu, including the protection of Cree and Inuit populations, their cultures, their economy and their rights and guarantees, including the hunting, fishing and trapping rights recognized in Section 24 of the JBNQA. In addition, the regime provides for Cree, Inuit and Naskapi participation in project environmental assessments via the various committees created by the agreement.

- The commissions note that the James Bay and Northern Québec Agreement and the Northeastern Québec Agreement establish obligations that are specific to James Bay and Nunavik, in the land regime and in the environmental and social protection regime.
- ◆ **Opinion** The commissions are of the opinion that the environmental and social protection regimes in the territory subject to these agreements, as set out in the Northern agreements, are appropriate instruments to ensure harmonious, responsible development in the territories of James Bay and Nunavik.

13.2.3 Environmental and social impact assessment of mining activities in Northern Québec

With regard to mining activities in the North, the provisions of the JBNQA (Section 7) and the NQA (Section 5) stipulate that Québec preserves mining rights and subsurface rights in the territories under agreement. In addition, as stipulated in Schedule A to the EQA, "all mining developments, including the additions to, alterations or modifications of existing mining developments" must undergo an assessment and review. However, mining exploration projects in the territories under agreement are not necessarily subject to or exempt from the procedure, according to Schedules I and II of the JBNQA (Schedules A and B of the EQA).

In other words, mining exploration projects fall into a "grey area" with respect to assessment and review, and are submitted to the provincial Administrator, who decides whether or not the procedure will apply, based on a recommendation by the COMEV or a decision by the KEQC. The COMEV and KEQC review of these "grey area" projects takes into consideration the project as a whole, including all related work and activities, and is based on certain principles set out in articles 22.2.4 and 23.2.4 of the JBNQA and sections 151 and 186 of the EQA (QUES19.1; Ginette Lajoie, TRAN21, p. 106 to 108; Marthe Côté, TRAN27, p. 94 and 95, TRAN30, p. 3 and 4 and TRAN34, p. 41). Reviews of mining exploration or extraction projects must be performed in compliance with Section 24 of the JBNQA, which among other things recognizes Aboriginal hunting, fishing and trapping rights and preservation of the trapline system for the Cree (for whom traplines are a vital element of territorial organization).

In addition, the *Mining Act* and the *Act respecting the land regime in the James Bay and New Québec territories* (CQLR, c. R-13.1) contain specific provisions governing mining activities. For Category I lands, exploration permits and mining leases cannot be granted

without the consent of the local Aboriginal authority concerned, or without the payment of an agreed compensation. In other words, the Government cannot unilaterally award claims on these lands. On Category II lands, claims may be awarded by the Government for mining exploration work, but the work itself must be "carried out so as to avoid unreasonable conflict with the exercise of the harvesting rights of beneficiaries as stipulated in the Act respecting hunting and fishing rights in the James Bay and New Québec territories" (INFO24, p. 19, free translation from the original French).

In Northern territory, uranium mining projects fall under combined federal and provincial jurisdiction and are therefore subject to several different assessment and review procedures. As mentioned earlier, the federal and provincial environmental and social impact assessment and review processes stipulated in the JBNQA and the NQA would therefore apply. In addition, the Canadian Environmental Assessment Act (2012) (CEAA), which applies throughout Québec, stipulates among other things that an environmental assessment must be carried out for every mining project and for every uranium concentration plant, and that the CNSC is the authority responsible for this. Based on the assessment, the CNSC grants or refuses to issue the licence required to operate a uranium mine (ENC4, p. 10). In addition, if a uranium mining project required construction of maritime infrastructures or maritime transportation of ore, it would have to be assessed using one of the procedures stipulated in the Nunavik Inuit Land Claims Agreement signed in 2006 by the Canadian government, the Nunavut government and the Makivik Corporation, and in the Eeyou Marine Region Land Claims Agreement. These agreements govern the use and ownership of land and natural resources in the James Bay, Hudson Bay, Hudson Strait and Ungava Bay areas, in a portion of Northern Labrador and in an area offshore from Labrador (Government of Canada, 2015a and 2015b: online).

◆ **Opinion** – The commissions are of the opinion that, in future, uranium mine operations would have to be coordinated by the various authorities involved in applying the environmental assessment procedures.

13.3 Territories under agreement

The territories under agreement are those covered by the JBNQA and the NQA, north of the 49th parallel, including James Bay and Nunavik (Figure 13.1). The Cree, Inuit and Naskapi people live in these territories,⁴ in villages where they maintain a way of life based to a large extent on their traditional activities. In all, the territory is home to a population of slightly over 44,000 people, including roughly 16,000 Cree, 11,000 Inuit

One Innu community (Matimekosh-Lac-John) and two Algonquin communities (Lake Simon and Pikogan) live within the boundaries of the territory under agreement but are not signatories of either agreement.

and 900 Naskapi,⁵ as well as 15,000 Jamesians (Institut de la statistique du Québec, 2015a: online; Secrétariat aux affaires autochtones, 2013: online).

13.3.1 The territory south of the 55th parallel

This territory, known as the "James Bay territory", covers almost 350,000 km² between the 49th and 55th parallels, and extends over a distance of 640 km from east to west. It is bordered to the west by the James Bay shoreline and the Ontario border, to the south by Abitibi-Témiscamingue and Saguenay–Lac-Saint-Jean, to the east by the Otish Mountains and to the north by Nunavik (James Bay Regional Land and Natural Resource Commission, 2011, p. 2).

From a geological standpoint, the region is characterized by mineral deposits containing gold, copper, silver, zinc, nickel, diamonds and uranium among others.

The area's hydrography, which includes thousands of lakes and rivers, forms part of the greater James Bay and Hudson Bay watersheds. Mistassini Lake – the province's largest body of water, covering an area of 2,335 km² – and the major rivers that flow through the territory are significant elements of the geographical and historical landscape (MDDELCC: online).

With regard to wildlife, the territory offers a broad range of habitats that support a number of important species, such as the woodland caribou, the moose, the black bear, the beaver and several fur animal species. Bird life is extremely rich. Some 238 species have been observed, including migratory species such as the large snow goose and the Canada goose, which use one of the continent's largest migratory corridors. The fish populations are also significant (James Bay Regional Land and Natural Resource Commission, 2011, p. 8).

Elements of population history

The territory was occupied by the ancestors of the Cree as far back as the Archaic Period, between 5,000 and 7,000 years ago. The first contacts with European explorers took place in the early 17th century, leading to the development of the fur trade and the construction of trading posts. Until then, the Cree lived in organized bands of huntergatherers who travelled throughout the territory in search of the resources they needed for their survival (Denton *et al.*, 2002, p. 19 to 21, 34 and 35).

The fur trade lasted for nearly three centuries and had a considerable impact on the way of life and practices of the Cree, for whom trapping of fur-bearing animals gradually became more important. Families began to settle around the trading posts, adopting a more sedentary lifestyle that brought a improvement in living conditions, but over time they became increasingly dependent on the European economic system (Morantz, 2002,

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^{5.} The data relate only to Aboriginal people living in their communities.

p. 24-26). In the 17th century, Chibougamau had already become the meeting point for traders between James Bay and Lac-Saint-Jean (Ville de Chibougamau, 2012: online).

In the early decades of the 20th century, Cree families were hit hard by over-exploitation of fur-bearing animals and the ensuing economic decline (Morantz, 2002, p. 109 to 113). Beaver reserves were created in the 1940s in an attempt to restore populations of the species in the sectors most affected by over-exploitation. Repopulation of these habitats led to the first register of traditional family hunting territories, which would henceforth be known as "traplines".

In the 1950s, mining exploration and forestry began to develop in James Bay. This was when the territory's first towns were founded, mainly in places where mineral resources were present. By 1960, some 8,000 people were employed in the mining sector, and Chibougamau had nearly 5,000 inhabitants. The mining towns in James Bay enjoyed a period of prosperity between their early years of existence and the decline that took place in the 1980s (Ville de Chibougamau, 2012: online).

In the 1980s, large-scale hydroelectricity development in James Bay led to the construction of the James Bay Road and opening up of the traditional Cree territory. In the 1990s, the Cree joined forces to object to the Great Whale project, which was cancelled in 1994. For the region's residents, this was the beginning of a difficult period, as mining reserves were exhausted, metal prices fell and deposit grades declined. The history of the James Bay communities has always been dependent on economic cycles in the mining and forestry sectors and in natural resource development (Feit, 1995: online).

◆ The BAPE and JBACE commissions note that the major changes to territorial occupation in James Bay have shaped the population's collective memory and are now points of reference for all subsequent development within the territory.

Demography and socio-economic characteristics

The James Bay territory, like the whole of Northern Québec, is sparsely populated, with fewer than one inhabitant/km². The region is shared by two communities: the Jamesians and the Cree. There are fifteen localities: four self-contained towns (Chapais, Chibougamau, Lebel-sur-Quévillon and Matagami), eight Cree communities (Chisasibi, Eastmain, Mistissini, Nemaska, Oujé-Bougoumou, Waskaganish, Waswanipi and Wemindji), three localities (Valcanton, Villebois and Radisson) and two hamlets (Desmaraisville and Miquelon).

The Cree village of Whapmagoostui is located north of the 55th parallel, in the territory of Nunavik, and is not officially part of the James Bay territory. However, it is an integral part of the Cree Nation and the Nation's traditional territory, known as *Eeyou Istchee* or "land of the people". Its legal status is not the same as that of other communities; when it was created, the Great Whale River Cree band and the Inuit community of Poste-dela-Baleine (now known as Kuujjuaraapik) were twinned and had to share the land and

rights. Today, they are two contiguous communities. A tenth Cree community, Washaw Sibi, located close to the town of Amos, is currently being formed and integrated into the Cree Nation.

The town of Chibougamau is the largest population pool in the James Bay region, with nearly 7,600 inhabitants. Most of Northern Québec's provincial and federal authorities have their headquarters there. The second-largest town is Lebel-sur-Quévillon, with 2,159 inhabitants. It is followed by Chapais (1,610 habitants) and Matagami (1,526 habitants) (Emploi-Québec, 2013, p. 10 to 13).

Populations in the James Bay region's towns have declined slightly over the years, while the Cree villages have grown quickly in the last 30 years, due to a high birth rate and increased life expectancy at birth (Emploi-Québec, 2013, p. 7 to 9).

More than 90 % of the James Bay population speaks French as their first language. The Cree speak mainly Cree and English.

Health and welfare

The Cree receive health care from the Cree Board of Health and Social Services of James Bay (CBHSSJB), via the Chisasibi Hospital and clinics located in the communities. Every community also has its own *Miyupimaatissiun* centre, which is similar to the health and social service centres found elsewhere in Québec. The centres provide general medical and home care, as well as dental and social services.

The Jamesian towns are served by five health centres under the authority of the James Bay Regional Health and Social Services Centre (RHSSC), which also has a sixth facility at its headquarters in Chibougamau. The James Bay RHSSC also finances care, services and community organizations in Valcanton and Villebois.

The main health problems currently faced by the Cree population are cancer, circulatory disease, respiratory disease, diabetes and obesity. Diabetes rates in Cree communities are very high and are on the increase. The James Bay RHSSC also reports a number of social problems including addiction and substance abuse, domestic violence and a high rate of attempted suicide (MEM80, p. 9 and 10 and James Bay RHSSC: online).

In the Jamesian population, although life expectancy has increased and both physical and mental health are perceived as positive, the progression of cancer continues to be a cause for concern. The growing senior population and the support they require have placed, and will continue to place, pressure on the health network. As is the case for the Cree community, the percentage of people who are overweight – a major risk factor for many chronic diseases – has grown in the last ten years (James Bay RHSSC: online).

The economy

The economy in the James Bay and Eeyou Istchee territory has historically been dependent on natural resources, forestry and hydroelectric development. In fact, the arrival of the Jamesian population in Northern Québec coincided with the development of the primary sector.

In the last ten years, the James Bay region's economy has diversified, shifting from an economy focused mainly on the primary and secondary sectors to one that also includes the tertiary and service sectors. The resource regions experienced strong economic growth from 2008 to 2013 thanks to mining and hydroelectric development. In 2003, the mining and forestry industries still form an integral part of the regional economy, although prevailing market circumstances continue to hinder both the stability and the predictability of economic development in the region (Ministère de l'Économie, de l'Innovation et des Exportations, 2014, p. 15).

The Cree economy has grown steadily since the agreements were signed, and especially since the Paix des Braves came into force. Many regional companies and organizations work and continue to grow in James Bay, including some owned by Cree communities or by Cree Nation entities.

Cree land use and occupation

When in their territory, the Cree live in base camps strategically placed on their traplines. Up to ten cabins may be established at the same location. Camps are usually equipped with a traditional teepee, which is used to process and cook game. There are also several cultural camps scattered throughout the territory, which serve as assembly points for the communities and are used mainly to teach Cree culture to younger generations. Sharing of the meat obtained from hunting is a fundamental element of social structure, Cree community ethics and the relationship with the land.

Recreational hunting and fishing are very popular among the Jamesian population, and the region boasts numerous outfitters and facilities offering these types of activities. In winter, ice fishing and outdoor sports are also popular.

As the road network has developed, land use practices have also changed, in part due to the fact that it now takes much less time and effort to travel to and from the hunting camps. Given the distances involved and the harsh climate, access and travel play a central role in the everyday lives of Northern residents. Hydro-planes or helicopters are used to travel to the more remote sectors, or during the spring thaw. They are also used by the Cree to travel to their camps.

For the Cree, the presence of roads has also influenced their choice of sites for new permanent camps, which are now built, wherever possible, in places that can be accessed by road.

Cree spirituality

Cree spirituality is tied to their deep and complex relationship with the land and their respect for its ability to heal and meet the needs of the people who live on it. A hunting territory can be described as a kind of heritage fund for the families who have known it, and who strive to ensure its survival as a carrier of collective and individual memory, advanced knowledge of habitats and habitat development, major family events and sacred sites.

Elders still share stories and legends about the sacred aspects of water and he land, and the spiritual connection with the animals and plants that allow them to survive in the forest (Feit, 1995: online). As the Grand Council of the Crees pointed out in its brief: "We are at our healthiest when we are on the land." (MEM205, p. 15). These values are still present in Cree society, in their hunting practices and in all the other ways in which they use the land.

We use the term *liyiyuu lituun* to describe our methods, our traditions and, more generally, our culture. The immaterial aspects of our culture and our heritage comprise our moral and spiritual values, our cosmology and our cultural perception of the world, our traditions and our customs, including the skills that allow us to survive on the land. The teachings of our elders are vital, since they form a tangible connection between all these aspects of *liyiyuu lituun*.

(Grand Council of the Crees and Cree Regional Authority, 2008, p. 4)

Despite the major changes that have affected the Cree way of life, the land continues to be one of the foundations of their identity.

Governance

The Eeyou Istchee James Bay Regional Government

Together, the JBNQA, its sequel the Paix des Braves, and the federal agreement, form what can be described as the legal, political and administrative framework underpinning the growth and social development of the signatory communities. Each agreement marks a crucial step in the process of harmonizing interests within the territory.

To implement these major agreements and their many derived entities, it has been necessary to set up joint management mechanisms through which the actors concerned have been able to work together over the years.

In the last year, however, governance of the James Bay region has changed significantly. The Eeyou Istchee-James Bay Regional Government (EIJBRG) was created on January 1, 2014, as a result of the *Agreement on Governance in the Eeyou Istchee-James Bay Territory between the Crees of Eeyou Istchee and the Gouvernement du Québec*, signed on July 24, 2012. The Regional Government is a municipal organization whose territory is composed of the James Bay municipality's territory as it existed on December 31, 2013, with the exception of Category II lands. The new government acts as a regional

conference of elected officers (known by its French acronym CRÉ) with respect to the duties of the regional land and natural resource commission (known by its French acronym CRRNT).

In the Nord-du-Québec administrative region, the functions of the former CRÉ were split between the James Bay Regional Administration (JBRA), the Regional Government, the Cree Nation Government and the Kativik Regional Government. The Regional Government's mandates relate mainly to land use planning and integrated resource development. Among other things, the James Bay CRRNT is responsible for preparing an Integrated Regional Land and Resource Development Plan for the territory's Category III lands.

◆ The BAPE and JBACE commissions note that the establishment of the new Eeyou Istchee-James Bay Regional Government illustrates the combined will of the territory's communities to share their visions and aspirations with regard to land use planning and development.

The Grand Council of the Crees of Eeyou Istchee

In the territory of Eeyou Istchee, every community manages its own social and economic development through band councils composed of a Chief, a Deputy Chief and councillors. However, all the band councils are gathered under the umbrella of the Grand Council of the Crees of Eeyou Istchee and its administrative branch, the Cree Nation Government.

Many different local and regional entities and institutions are responsible for the political, social and economic administration of the Cree communities.

The James Bay Regional Administration

In the wake of the restructuring, James Bay regional governance has also undergone some significant changes at the legal and administrative levels. The JBRA, which has replaced the James Bay regional conference of elected officers (CRÉ), is now the principal interlocutor in dealings with the Québec Government concerning regional development issues (JBRA, 2015: online).

◆ Opinion – The BAPE and JBACE commissions are of the opinion that uranium mine development, if authorized in James Bay, should take place with due respect for the planning and governance mechanisms instituted by the regional authorities, including the Eeyou Istchee-James Bay Regional Government, the Cree Nation Government and the James Bay Regional Administration.

Traplines and support programs

The territory of every Cree community in Eeyou Istchee is subdivided into a number of family hunting territories known as "traplines". Today, there are more than 300 identified traplines covering the entire territory of Eeyou Istchee (Grand Council of the Crees,

MEM205, p. 3). These territories are important symbolic and political references, as well as anchor points for Cree identity.

Each trapline is under the stewardship of a "tallyman", who is, in many respects, a successor to the traditional *Uchimwaw* hunting leader. The tallyman's role is to manage animal populations and share harvestable resources with a view to ensuring renewal of the species. He or she is also a primary interlocutor with regard to mining or other developments likely to affect the traditional land.

These traditional Cree practices, and the respectful attitude towards the land that they support, form the basis for many of the rights set out in the JBNQA and in other agreements between the Crees, Québec and Canada. One of the main aims of the JBACE is to ensure that traditional Cree hunting, fishing and trapping practices and the associated knowledge, beliefs and customs are maintained in Cree society, and in the context of development within Eeyou Istchee.

In addition, given the importance of these activities, the JBNQA allowed for the creation of various support programs and entities for traditional practices, such as the Cree Trappers' Association and the Income Security Program for Cree Hunters and Trappers (Cree Hunters and Trappers Income Security Board, 2010, p. 15).

- ◆ The BAPE and JBACE commissions note that traditional Cree hunting, fishing and trapping practices help perpetuate Cree cultural knowledge, beliefs and customs.
- Opinion The BAPE and JBACE commissions are of the opinion that any development activity carried out in the territory under agreement must be respectful of the historic, social and economic assets of the communities, especially with regard to the land regime and the specific ways in which the Crees and Jamesians occupy the territory, including the traplines.

13.3.2 The territory north of the 55th parallel

The territory of Nunavik is located north of the 55th parallel and covers more than 500,000 km², or roughly one-third of Québec's total area. It is bordered to the east by Labrador and is surrounded by Hudson Bay, Hudson Strait and Ungava Bay. The Nunavik coastline is roughly 2,500 km long, with thousands of islands and islets (PREMNAT18).

The area forms part of the Canadian Shield, and two of the geological sub-provinces (the Labrador Trough and the Ungava Trough) contain metallic minerals such as iron, nickel, asbestos, uranium and copper (*ibid*.).

The area's drainage network is vast and complex. The largest rivers include the Koksoak River, the George River, the Leaf River, the Payne River and the Great Whale

River. It is also home to many large bodies of water, including Clearwater Lake, Richmond Gulf and Lac Le Moyne (*ibid.*).

Nunavik's wildlife mainly comprises terrestrial mammals, marine mammals, birds and fish (freshwater and saltwater species). The larger river valleys contain unique ecosystems and habitats that are essential to the survival of wildlife. The marine area surrounding Nunavik is also an essential habitat for a host of wildlife species, and Nunavik is home to several caribou herds (*ibid*.).

Some elements of Inuit history

The Inuit have lived in the territory of Nunavik for more than 4,000 years. They were completely isolated until the early 1700s, when the whalers began to frequent the region. Contact with the outside world increased in the 1800s, as the fur trading companies became established in the Nunavik region. Inuit families, attracted by the commercial goods brought in by these companies, moved closer to the trading posts, changing their formerly nomadic and seasonal lifestyle. The arrival of the missionaries disrupted traditional Inuit spiritual beliefs and cultural values. In the 1950s, the federal government introduced a series of measures to support the Inuit by providing them with basic housing, health services, schools and public authorities (Makivik, 2014, p. 3 and 4).

The early 1950s were also marked by a tuberculosis epidemic in Nunavik. The Inuit who contracted the disease were transported by ships to southern treatment facilities where they were kept for long periods, away from their families and culture. It was also around this time that the federal government removed Inuit children from their families and sent them away to residential schools in the south. These two events broke up many families and disrupted the lifestyles and culture of the Inuit (*ibid.*).

Demography and socio-economic characteristics

Today, the territory of Nunavik includes fourteen villages located along the coast (Figure 13.1), several hundred kilometres apart. There are no road links between the communities, or with southern Québec. The communities can therefore be accessed only by air, by sea during ice-free periods, and by snowmobile in the winter.

Today, Nunavik has a population of more than 12,000 people (Institut de la statistique du Québec, 2015a: online), more than 90 % of whom are Inuit. Individual community populations range in size from 195 to 2,350 inhabitants, and the percentage of non-Inuit residents varies from 5 % to 10 %. Only Kuujjuaq, Puvirnituq, Salluit and Inukjuak have more than 1,000 inhabitants. The regional capital, Kuujjuaq, is by far the largest, with a population composed of 2,350 residents, roughly 24 % of whom are non-Inuit (PREMNAT16; Nunavik RBHSS, MEM199, p. 2).

The Nunavik population is relatively young compared to the rest of Québec, since more than half the Inuit population (58.4 %) is under 25 years of age. The population growth

rate is also three to four times higher than the average for Québec (Duhaime, 2008, p. 6; PREMNAT16; Nunavik RBHSS, MEM199, p. 8).

Inuktitut is still spoken by the vast majority of Inuit, and a number of educational and cultural groups have been formed to work on new terminology that will allow the language to continue to evolve and remain relevant in the modern world. For the Inuit, Inuktitut and cultural identity are inseparable. The fabric of family life, family relationships, personal and collective values and traditional knowledge are all easier to express and understand in Inuktitut (Duhaime, 2008, p. 30).

Health and welfare

Major gains have been made in recent years, in terms of access to health and social services in Nunavik. All Nunavik's communities now have local community service centres (CLSCs) attached to one of the health centres. However, they provide only limited health care, and patients must still travel to towns in the south of the province for screening and diagnostic services and medical treatment (Nunavik RBHSS, MEM199, p. 2).

Despite these gains, there is still a substantial difference between Inuit health and the health of the rest of the Québec population. For example, occurrences of some infectious diseases have declined in Nunavik in recent years, but blood-borne and sexually transmitted infections are still rife. Tuberculosis is also a major public health concern in Nunavik (*ibid.* p. 9 and 10).

According to the *Nunavik Inuit Health Survey* (2004), smoking is common, as is regular alcohol consumption. The survey also found that crimes against persons (assault and battery, sexual assault, theft) are more frequent in Nunavik than in the rest of Québec. Psychological distress and depression are also a cause for concern (Nunavik RBHSS, 2008: online).

Inuit vulnerability to health problems is clearly illustrated by the high hospitalization rates, infant mortality rates, the number of suicides and the ensuing short life expectancy. All these indicators clearly show that the Inuit of Nunavik are at a disadvantage, health-wise, compared to the rest of Québec's population (Nunavik RBHSS, MEM199, p. 9 and 10).

The modern Inuit diet is partially responsible for their poor health, among other things because access to wildlife and fish resources has become increasingly difficult. The Inuit diet used to be very rich in omega-3 fatty acids, nutrients and protein, but has gradually changed and now includes a much larger percentage of processed foods, often of very poor quality, and this has an impact on the population's physical health.⁶

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^{6.} According to the *Nunavik Health Survey* (2004), only 16 % of total dietary energy came from traditional country foods. The figure rose to 28 % among older Inuit (Nunavik RBHHS, MEM199, p. 21).

Crowded housing also has negative impacts on residents' living conditions and psychological health (Duhaime, 2008, p. 92; Riva, 2012, p. 110; Makivik Corporation and KRG, 2010, p. 204).

The economy

The Inuit of Nunavik have experienced substantial social, economic and cultural changes in recent decades. The socio-economic situation in Nunavik, although steadily improving, is still fragile and very different from that in the rest of Québec. The cost of living is higher in Nunavik, across every category of consumer goods and services. Food costs are the highest, and the weekly grocery bill is roughly 60 % more expensive than in the rest of Québec. On the other hand, incomes are lower in Nunavik than in Québec as a whole (Duhaime, 2008, p. 74 and 83; Makivik, 2014, p. 45; Makivik Corporation and KRG, 2010, p. 203; Makivik Corporation and KRG, MEM161, p. 4).

In addition, and contrary to the other Aboriginal communities in Québec, the Inuit of Nunavik pay income tax to the federal and provincial governments. Most employment opportunities in Nunavik are in the civil service and in resource extraction. In a context where the cost of living is very high and incomes are low, traditional activities play an important role by providing the Inuit with a certain quality of life and enabling them to meet their subsistence needs. Mutual support and sharing of food derived from hunting and fishing with the rest of the community also help the Inuit to satisfy their basic needs (*ibid.*).

In reality, the Inuit are still deeply attached to the land, and harvesting is culturally and economically important, since a significant portion of their diet comes from the natural environment. Although land use methods and systems have changed over the years, harvesting still plays a very important role in meeting subsistence needs (*ibid.*).

Inuit spirituality

Although Inuit values and traditions have been shaken by colonization and modern lifestyles, they continue to be strong within the community. Family ties determine the place of individuals within families and communities. *Ilagiit*, meaning "part of the family", is an important concept for the Inuit. Family ties place them within a structure of support and mutual responsibility. Early in life, children learn the fundamental values of love, respect, sharing and mutual help. As adults, they pass these values on to their own children, through their relationships with the extended family, within the community, and most importantly, in their harvesting and food sharing practices. In this way, individual and collective values remain coherent (Makivik, 2014, p. 56 to 60).

Rites of passage are also important events in the lives of individuals within the community. A young boy will bring his first catch to his *sanajik*⁷ and a young girl, her first

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An Inuktitut word used to describe the person who cuts the umbilical cord when the baby is born, and welcomes the baby to the land.

sewing project. A newborn Inuit baby is given the name of another person, not necessarily a family member, who becomes his or her *sauniq.*⁸ This practice establishes another level of relationship and responsibility among the people in the community (*ibid.*).

Animals and the physical world, both regarded as means of survival, used to play an important role in spirituality. The *angakok*⁹ would ask the spirit world to protect people, provide sufficient animals and allow the Inuit to live in harmony with the world. There were very strict rules and rituals to ensure that animals received the respect they deserved before, during and after hunting. Drums, masks and special ceremonies were held, under the authority of an *angakok* (*ibid.*).

The Naskapi

The Naskapi Nation has roughly 850 members. There is only one Naskapi village in Québec: Kawawachikamach, located roughly 15 km north of Schefferville. Its population speaks Naskapi and uses English as its second language (Secrétariat aux affaires autochtones, 2009: online).

When the Europeans arrived, the Naskapi hunted caribou for food, clothing and tools. Having lived as nomads in order to follow the caribou herds during migration, and strengthened by the self-sufficiency this lifestyle afforded, they were extremely reluctant to become involved in the fur trade (*ibid.*).

Beginning in 1893, however, the Naskapi population was decimated by a series of famines. Between 1916 and 1948, they settled near Fort Mckenzie, and later, around 1952, at Fort Chimo (now known as Kuujjuaq). In 1956, they finally settled with the Matimekosh Innu, near Schefferville, in the hope of improving their living conditions (*ibid.*).

In 1978, the Naskapi signed the NQA, under which they obtained exclusive ownership of 326 km² of land. They also had an exclusive 4,144 km² hunting, fishing and trapping territory. Since part of their traditional territory is located north of the 55th parallel, in Nunavik, they have a seat on the KRG board (*ibid*.).

At the time, the NQA was negotiated on the basis that Schefferville would become an active mining centre. In 1983, to symbolize their nation's rebirth, the Naskapi began to construct the village of Kawawachikamach. Unfortunately, however, the community was severely affected by the closure of its principal employer, the Iron Ore Company in Schefferville (*ibid.*).

In 1984, the *Cree-Naskapi (of Québec) Act* exempted the two Nations from the provisions of the *Indian Act* and gave them a great deal of administrative autonomy. The Naskapi Development Corporation was created at that time, to ensure the

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^{8.} An Inuktitut word meaning "homonym", i.e. the person with whom the child shares a name and family tie.

^{9.} An Inuktitut word meaning "shaman".

community's socio-economic development via an outfitting operation, a shopping mall, a craft store, a construction company, and road maintenance services. Today, the community's main economic activities are in the areas of adventure tourism, construction, fur animal trapping and crafts (*ibid*.).

The Naskapi Nation recently signed an Impact and Benefit Agreement (IBA)¹⁰ with two mining companies, Labrador Iron Mines Limited and the New Millennium Capital Corporation, both of which work in the Kawawachikamach-Schefferville area.

Governance

The Kativik Regional Government and the Makivik Corporation

The KRG is a public, non-ethnic agency created in 1978 following signature of the JBNQA. Under the terms of the *Act respecting Northern villages and the Kativik Regional Government* (CQLR, c. V-6.1), known as the "Kativik Act", the KRG has jurisdiction over the Kativik region¹¹ and acts as a municipality for all unorganized portions of the territory (section 244) (KRG: online).

The KRG's responsibilities under the Kativik Act or under agreements with the governments relate to different areas of public administration, including municipal and regional issues, technical assistance for the Northern villages, transportation, civil security, employment and workforce training, protection of the environment and wildlife, park development and management, and support for hunting, fishing and trapping activities (*ibid*.).

In 2003, under the *Act respecting the Ministère des Affaires municipales, des Régions et de l'Occupation du territoire* (CQLR, c. M-22.1), the KRG was given status as a regional conference of elected officers for the Kativik region (section 21.5), becoming the Québec Government's main interlocutor for regional development issues in Nunavik (*ibid.*).

The Makivik Corporation is a non-profit agency also created in 1978 following signature of the JBNQA, by the *Act respecting the Makivik Corporation* (CQLR, c. S-18.1). It took over from the New Québec Inuit Association, one of the JBNQA signatories. The Makivik Corporation's responsibilities include encouraging, promoting, protecting and helping to preserve the Inuit lifestyle, values and traditions; developing the Inuit communities and improving their means for action; fighting poverty and promoting Inuit welfare, progress and education; and receiving, administering, distributing and investing financial compensation intended for the Inuit, in compliance with the provisions of the JBNQA (Makivik Corporation, 2015: online).

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An IBA is a contractual agreement that is usually confidential and generally covers cash payments, scholarships and employment, training and business opportunities.

^{11.} The Kativik region is the area of Nunavik located north of the 55th parallel, except for the Category la and IB lands of the Cree community of Whapmagoostui.

In the mining sector, the Makivik Corporation is also involved in IBAs with mining companies that work in the region. In Kuujjuaq, it operates a research centre that works on issues such as wildlife management, traditional country food quality and the environment (*ibid.*).

Unlike Québec's other Aboriginal communities, the Nunavik communities are constituted as Northern villages under the terms of both the JBNQA and the *Act respecting Northern villages and the Kativik Regional Government*. Municipal services are therefore provided by the Northern village corporations, administered by elected municipal councils that operate in a similar way to Québec's other municipalities.

The JBNQA also created the Kativik School Board, and transferred responsibility for administering health and social services in the region to the Nunavik Regional Health and Social Services Board (Nunavik RHSSB). The Inuit therefore administer the vast majority of the public services available to the population (Secrétariat aux affaires autochtones, 2001, p. 12).

The Nunavik Plan and the Parnasimautik Report

In response to growing international demand for mineral and hydroelectric resources, and in the wake of the Plan Nord, the KRG and the Makivik Corporation worked with the regional organizations to produce the Nunavik Plan, which sets out the Nunavik Inuit vision of development within their territory and presents their position with respect to the Plan Nord and natural resource development. It sets out priorities for the next 25 years in a variety of fields, including housing, health, education, land access, protection of the environment and wildlife, and mineral resources. It states that all development within the territory of Nunavik must comply with the provisions of the treaties and agreements signed by the Inuit of Nunavik and must respect the rights of the population, and that investments must match the priorities in order to improve standard of living for Inuit (Makivik Corporation and KRG, 2010, p. 171 and 172). The Plan, published in 2010, served as a basis for consultations with the Inuit of Nunavik on the proposed orientations for regional development.

The *Parnasimautik* public consultations took place in 2013 and a report was published in 2014. The process, which involved local and regional populations, gave the Inuit of Nunavik an opportunity to reflect on their past, present and future. At the 2015 annual general meeting of the Makivik Corporation, a formal declaration was adopted that identified fundamental issues and priorities, and set out the conditions under which development would be acceptable to Inuit in Nunavik (Makivik, 2014, p. 1 and 2).

• Opinion – The BAPE and KEAC commissions are of the opinion that uranium mining development, if authorized in Nunavik, must take place with due respect for the planning tools implemented by the regional authorities, including the Nunavik Plan and the Parnasimautik Report.

13.4 Natural Resource Development: A Current Profile

This section describes the current mining situation in Northern Québec, in both James Bay and Nunavik. It begins by presenting the current profile of Northern development, focusing on aspects such as the number of claims, the companies currently active in the region, current projects and projects under development. It then goes on to examine the impacts of and socio-economic spin-offs from this development for local communities, to give some perspective to the prevailing relationship between the communities and the mining industry and see what the communities are likely to gain from the development in the longer term.

13.4.1 The current mining situation in Northern Québec

According to data from the Ministère de l'Énergie et des Ressources naturelles (MERN), as of October 30, 2014, there were more than 155,000 active claims covering an area equivalent to 4.4 % of Québec's territory. Nearly 95,000 of these claims were located in the territory under agreement, and covered roughly 4,500,000 ha, or 4.9 % of the area. In all, more than 61 % of all claims in Québec were situated in James Bay and Nunavik (EXPLO16, p. 1).

For Québec's mining industry, 2013 was marked by uncertainty in the world market, declining mineral prices and problems with access to capital. As a result of this situation, after nine years of steady growth, mining investments fell to \$4.6 billion, representing a 10 % decline from their record level of \$5.1 billion in 2012. Nearly 34 % of this amount was invested in Northern Québec (Institut de la statistique du Québec, 2015b: online).

Mining in James Bay

Historically, mining has always been the primary economic activity for the James Bay population, followed by forestry and hydroelectricity. Gold, base metals and diamonds are the main minerals mined in the region.

Currently there are roughly ten mining projects at an advanced development stage, for extraction of gold, zinc, diamonds, copper, molybdene, nickel and silver. Some have been suspended recently, including Corner Bay, Sleeping Giant and Lac Rocher, due to market instability or lack of funding. Goldcorp Inc.'s Eleonore gold mine began production in 2014 and has attracted interest in recent years from junior exploration companies, which are focusing their efforts on adjacent mining properties (MERN, 2015: online).

Three other mining projects currently under development may begin production in the short or medium term: Stornoway Diamond Inc.'s Renard diamond mine, Nemaska Lithium's Whabouchi project, and BlackRock Metal Inc.'s iron, titanium and vanadium mine in Chibougamau (*ibid.*).

Eight advanced exploration projects are situated in the Otish Mountains sector, and a ninth is located east of the James Bay Road, on the territory of Wemindji. The only uranium exploration project to have reached the pre-feasibility stage is the Matoush project, which is currently on the back burner because it lacks social acceptability. There are also three exploration projects close by, to the west and south-west of the Matoush project.

The Cree Nation's Mining Policy

The *Cree Nation Mining Policy* provides a framework for mine development on Eeyou Istchee territory by setting guidelines for exploration and mining operations, based on sustainable development principles that are respectful of Cree rights and interests. The policy is also intended to provide a model for resource extraction activities in other sectors. The Cree recognize both the economic and social potential of the mining sector and their desire to participate, in compliance with the unique social and environmental regime applicable to the territory under agreement.

The Cree Government will support and promote mineral resource extraction activities in Eeyou Istchee that provide long-term social and economic benefits for the Cree, that focus on sustainable development with due respect for the JBNQA's environmental and social protection regime, and that are compatible with the Cree way of life and the protection of Cree rights on Cree territory. (PREMNAT6, p. 4, free translation from the original French)

 Opinion – The BAPE and JBACE commissions are of the opinion that uranium mining development, if authorized in James Bay, must take place in compliance with the Cree Nation Mining Policy.

The Table jamésienne de concertation minière

The *Table jamésienne de concertation minière* (or James Bay mine coordination panel) is a public organization with the mission of developing the James Bay region's mineral potential. It was created in 2001, to support and maintain mining industry development in James Bay. Its main role is to advise decision-makers by issuing sector-based opinions on problems specific to the mining sector.

It also attempts to be proactive with respect to social acceptability of the mining industry, and in maximizing the socio-economic spin-offs from mining in the region, with a special focus on restoration of tailing sites and support for mining exploration.

The Cree Mineral Exploration Board

The Cree Mineral Exploration Board (CMEB) was set up pursuant to the Paix des Braves, signed in 2002. Its goal is to develop and support prospection and exploration activities, generate and encourage gathering of information on the region's mineral potential, and develop regional organizations working in the mineral resource field (MERN, 2013a: online).

The MERN grants funds to the CMEB to encourage Cree community involvement in the process of developing the region's mineral potential.

◆ The BAPE and JBACE commissions note the existence of the Table jamésienne de concertation minière and the Cree Mineral Exploration Board, both of which are important actors for mining development in the James Bay region.

Mining in Nunavik

Mining companies have shown considerable interest in Nunavik's resources, including its uranium deposits. There are currently three active mines in Nunavik, namely Raglan, Nunavik Nickel and Tata Steel, as well as several mining projects at different stages of development and many others at the exploration stage (PREMNAT19, p. 19).

The Raglan Mine was the first to begin operations, in 1997. It has a useful life estimated at roughly 20 years. The mining site, located close to the Pingualuit National Park (the New Québec Crater), between the villages of Salluit and Kangiqsujuaq, is an immense complex spread over nearly 70 km from east to west, producing mainly nickel concentrate (PREMNAT14, p. 27; PREMNAT18; Nunavik RBHSS, MEM199, p. 4).

The second active mine, Nunavik Nickel, is located approximately 20 km west of the Raglan Mine, near the villages of Kangiqsujuaq and Salluit. It became active in 2014, and will be producing nickel and copper concentrates. Since it is close to the Raglan Mine, the two companies have agreed to share some of the infrastructures that will be needed to support its operations (Canadian Royalties inc., 2013: online; Nunavik RBHSS, MEM199, p. 5).

The third mine is Tata Steel. It includes the Sunny 1 and Goodwood deposits, and will produce iron ore concentrate. Both deposits are located roughly 50 km northwest of Schefferville, in Nunavik. Mining operations are expected to begin in 2017.

Oceanic Iron Ore has iron deposits along Ungava Bay, between 20 km and 50 km from the coast. These deposits are divided into three project zones: Hopes Advance, Lake Morgan and Lake Roberts, which cover a large area of the Labrador Trough in Nunavik. The deposits are situated just 25 km from the village of Aupaluk, which has a population of less than 200 people. The company is planning to build a deep-water port in Ungava Bay. However, the promoter must first go through several environmental impact assessment processes to obtain the required government authorizations before starting the project (Oceanic Iron Ore Corp: online; Nunavik RBHSS, MEM199, p. 5).

Lastly, Quest Rare Earth Minerals' rare earth project at Strange Lake is also being examined by environmental impact assessment organizations. It is located roughly 220 km north-east of Schefferville. If the proponent obtains the necessary authorizations, it plans to begin construction work in June 2017.

The Nunavik Inuit Mining Policy

The Makivik Corporation recently published the *Nunavik Inuit Mining Policy* on behalf of the Inuit of Nunavik, to structure mining development in Nunavik. The policy acknowledges that mining exploration and extraction activities are likely to increase in the coming years, and that the Inuit are concerned about the impacts of mining development on their lifestyle, on wildlife and on the environment. It stipulates that wildlife and land are essential for harvesting, and must be protected. It also acknowledges that mining activities offer opportunities for training, job creation, contracts and investments for the Inuit, and it establishes conditions that must be met in order for the Makivik Corporation to support mining development in Nunavik:

Provided the Inuit of Nunavik obtain significant direct and indirect social and economic benefits during the exploration, development, mining and restoration phases of mining projects in Nunavik, and provided these activities are carried out in compliance with all applicable federal and provincial legislation concerning environmental and social protection in Nunavik or, where that is the case, in compliance with the James Bay and Northern Québec Agreement, the Makivik Corporation reiterates its support for sustainable mine development in Nunavik. (PREMNAT19, p. 20, free translation from the original French)

 Opinion – The BAPE and KEAC commissions are of the opinion that uranium mining, if authorized in Nunavik, must take place in compliance with the Nunavik Inuit Mining Policy.

13.4.2 The impacts of and socio-economic spin-offs from mine development

In modern Québec, social acceptability and respect for the environment are essential conditions for the success of many industrial projects, and growing numbers of mining companies are developing tools for public participation and environmental protection. These tools, usually adapted to their host communities, include agreements, accommodation measures, training programs and employability measures for local communities.

In addition to ensuring that projects are integrated as completely as possible into the host communities, economic spin-offs are usually considered essential, since they can have a structuring effect. However, there is a downside to these spin-offs. All mining projects have known social and environmental impacts that must be considered when assessing the overall, long-term quality of life of the populations concerned.

Impacts and spin-offs in James Bay

Seven major hydroelectric facilities forming part of the La Grande complex were built between 1974 and 1994 and nearly 11,000 km² of land were flooded, creating numerous reservoirs. From the standpoint of the Crees, the space they considered to be sacred, familiar and part of their home underwent sustained development, and some

of their ancestral land was destroyed and submerged. The way in which this development was carried out left its mark on the Cree heart and memory, and in many respects the consequences of this are still felt today. As pointed out by James Bobbish:

[...] I am raising these two issues as examples of the impact that development has and will continue to have on our culture, our traditional practices, and our way of life in general. It affects us. In addition to mercury contamination, we have experienced many social impacts as a result of the hydro development project. (MEM48, p. 3 and 4)

A generation and a half later, things are still evolving. The Crees have become a stakeholder, not only through the Grand Council and the rights granted by the agreements, which have opened the door to the creation of a Nation-to-Nation relationship with the Québec Government, but also through their participation, with the Jamesians, in the region's land planning and development process.

Although the JBNQA grants exclusive hunting and fishing rights for certain species and introduces a consultation and environmental impact assessment framework applicable to this particular category of land, the Cree people must continually adjust their own use of the territory to the increasing pace of natural resource extraction and the fact that more people are now present in the territory.

The main impacts mentioned repeatedly by Cree participants, and which still require special attention when deciding on mitigation measures, are related to water quality, air quality and human and animal health. These aspects are considered vital for territorial integrity, and for continuity of the Cree way of life, culture and well-being.

It is now an accepted fact that mitigation measures will be more effective and appropriate if they are identified, monitored and managed jointly with the communities concerned. However, they can never totally eliminate a project's impacts on land use or on the environment. It is for this reason that negotiated project spin-offs, especially social and economic spin-offs, should help tip the balance by addressing urgent needs such as employment, training, territorial access or additional income.

Mining industry jobs held by James Bay residents and the Cree

The question of employment is a crucial aspect for the development of the Cree Nation. As mining exploration activities have taken place in the James Bay region, the Cree people have become more familiar with the types of jobs and work associated with the mining industry. However, the number jobs they hold in the mines is still, even today, far below target. It is also important to note that, compared to the Jamesians, the Cree people are less receptive to the promise of jobs, given that, both collectively and historically, they have less experience with the industry and as a result, fewer of them have the skills required by the mining companies.

Traditionally, a much higher percentage of total employment is derived from the primary sector in Northern Québec than in the province as a whole, but like the rest of the province, most jobs are still in the tertiary sector. In 2013, Emploi-Québec reported a downward trend in employment for the resource regions, mainly due to a significant decline in mining investment and construction (Emploi-Québec, 2014, p. 3). However, the ISQ's mining industry employment compilation for Northern Québec showed a marked increase in the number of person-years between 2011 and 2013, from 1,311 to 2,596 (Institut de la statistique du Québec, 2015c: online).

♦ The BAPE and JBACE commissions note that, despite the efforts of local organizations and mining companies, the employability rate for Cree people in the James Bay mining sector continues to be a major challenge.

Training programs

The James Bay Vocational Training Centre in Chibougamau has offered targeted training since 1998 to respond to the demand created by mining projects in the territory (James Bay School Board: online).

For the James Bay Cree, training is encouraged and overseen by the CMEB and by Cree Human Resource Development, whose mandate is to provide services and establish training programs, job integration programs and skill development programs. Among other things, Cree Human Resource Development has introduced a Eeyou Mining Skills Enhancement Project, the aim of which is to allow Cree participants to develop skills that will improve their chances of finding jobs in the mining sector (Cree Human Resource Development: online).

Agreements between mining companies and communities

The Troilus mine project is often cited as one of the first examples of integrated development in which the Cree people were involved from the outset, in a process of mutual learning and acquisition of skills (Penn and Roquet, 2008, p. 62, 64, 67, 68, 121 to 125).

Cree activities were obviously disturbed by the mine, and they had to change the way they used the land, but the project also made it easier for them to access their territory, allowing them to use it more frequently.

The Troilus agreement was signed in 1995 by the Inmet Company and the Mistissini community, and was the first of its kind for mining development in James Bay. It focused in particular on Cree training and employment, and on Cree service contracts at the mine. As for the environmental impacts, the measures implemented as a result of discussions with Cree users produced good results (*ibid*.).

Generally speaking, the Troilus mine experience and agreement are regarded as having more benefits than negative impacts. The positive aspects include long-term employment, skills development and personal fulfillment, increased buying power and

other economic consequences. The negative impacts include adjustment problems on both sides, undermining of family relationships due to remote employment, increased drug and alcohol use, and communication problems (*ibid.*).

Goldcorp's Eleonore project gave rise to a longstanding collaboration with the Wemindji community, although it took several years to establish a comfortable relationship and create a dynamic based on trust and mutual respect. In 2011, the Opinagow Collaborative Agreement, signed by the Cree Nation of Wemindji, the Grand Council of the Crees and the Cree Regional Authority, marked the beginning of a new era: the Crees, now established in their role as interlocutors, undertook to develop a lasting partnership with the company.

The Opinagow Agreement is much more than a simple impact and benefit agreement: it also sets a precedent in upholding Aboriginal rights. In addition to financial benefits, it provides for appropriate training, priority business opportunities for Cree and local firms, and a collaborative relationship between the parties for the duration of the project. The Agreement also sets out Goldcorp's long-term commitment to sustainable development, environmental protection and respect for the Cree community's social and cultural practices. In addition, it provides for the creation of committees and establishes the parties' intention to continue their dialogue throughout the project, clearly showing that social acceptability, far from being a static concept, can evolve during the project's life cycle.

Generally speaking, a development agreement such as the Opinagow Agreement not only demonstrates the support for social acceptability of a project, but also, and mainly, serves as a tool for the development, maintenance and protection of relationships throughout a project, from inception to restoration.

◆ Opinion – The BAPE and JBACE commissions note the emergence of unpublished partnership agreements models in the James Bay mining sector. In the commissions' view, it is clear that such initiatives should be encouraged, since they help ensure that the rights of local communities are upheld, that lasting relationships are created and that social acceptability is maintained in the long term.

Impacts and spin-offs in Nunavik

The Raglan mine has been active in Nunavik since the late 1990s, meaning that not only can the spin-offs for local communities be measured, but its various impacts can also be seen.

In 1995, the company signed an impact and benefit agreement (known as the Raglan Agreement) with the communities of Salluit and Kangiqsujuaq and the Makivik Corporation. Contrary to most other agreements of this type with Aboriginal groups in Canada, the Raglan Agreement, including all its financial provisions, is public. Its aim is to foster dialogue with neighbouring Inuit communities and allow them to participate

fairly in the project. It also aims to provide economic spin-offs for the two communities, which receive annual royalties. Under the terms of the agreement, the company also undertakes to give preference to Inuit and local companies for jobs and contracts, and to provide training for the local Inuit workforce (Thierry Rodon, TRAN45, p. 16 to 18; Natural Resources Canada, 2013: online).

When deploying its project in Nunavik, the company introduced measures to reduce the environmental impacts of its activities. Conditions were also imposed when it obtained authorization to move forward with the project.

As set out in the agreement, the Raglan Committee was established and prepared a training plan for the Inuit, aimed at ensuring that Inuit workers could be hired in priority for jobs at every skill level, so they would account for more than 20 % of the company's workforce. The initiative helped several Inuit residents to find jobs at the mine. However, despite the company's efforts, the percentage of Inuit workers has remained static at between 15 % and 17 %, depending on the year (*ibid*.).

As for the economic spin-offs for the host communities, the royalties stipulated in the agreement are paid directly to Inuit organizations rather than to regional governments. The financial provisions include a combination of guaranteed amounts and profit-sharing.

The Raglan Agreement does help develop the local economy to some extent. In terms of direct economic spin-offs, the mine has created jobs in the region, provides some business opportunities for local companies, and pays local and regional royalties. It has also generated some indirect spin-offs, since the royalty payments are used to create jobs in the communities. Generally speaking, the royalties and jobs at the mine have helped improve the quality of life of the Inuit populations in both communities.

However, as noted by the Director of the Research Chair on Sustainable Northern Development, some care is needed when citing facts such as these. In reality, in both Salluit and Kangiqsujuaq, the mine has contributed very little, directly or indirectly, to local employment. In addition, the fact that royalties have been paid directly to individuals, as has been the case in Salluit, has generated some questionable socioeconomic impacts for the population, among other things because most of this money is spent not in the communities themselves, but in Southern Québec, to purchase material goods. The additional income for households has also led to more alcohol and drug abuse, amplifying a problem that already existed in Nunavik (Thierry Rodon, TRAN45, p. 17 to 23; Rodon *et al*, 2013: online).

A 2012 survey of residents in the Raglan Mine's two neighbouring Inuit communities revealed their perceptions regarding the impacts of major mining projects. The Inuit interviewed for the survey thought the mine had helped enrich the community and improve living conditions. However, most also thought it had produced some negative impacts, in particular for culture, traditional lifestyles and individual health and well-

being. The findings from the survey were therefore somewhat mixed, since the Inuit in the communities of Salluit and Kangiqsujuaq thought the impacts of the mine's presence in their immediate environment were both positive and negative (*ibid*.).

Despite the amount of royalties paid to the two Inuit communities and the additional income available in some households, the economic spin-offs will be temporary due to the mine's limited useful life. In most cases, once mining has ceased, mines leave virtually nothing behind. Given the isolation of Nunavik's communities, it would therefore seem difficult to optimize the structural effects of mining operations and benefit in a lasting way from the mine's presence (*ibid*.).

With regard to the Nunavik Nickel mine, which has only been active for a few years and has not yet achieved its maximum output due to the financial context, it is difficult, for the time being, to measure the extent of its socio-economic impacts and spin-offs for the Inuit. However, the Impact and Benefit Agreement, signed by the mining company, the three Inuit villages concerned (Kangiqsujuaq, Puvirnituq and Salluit), and the Makivik Corporation, sets out the company's formal commitment to ensuring that the economic benefits of the project are distributed fairly and equitably.

The KRG, the Kativik School Board, the Makivik Corporation, the Nunavik Landholding Corporations Association, Glencore Raglan, Canadian Royalties and Oceanic Iron Ore have established a partnership and set up the Kautaapikkut Mining Strategy Table, whose purpose is to establish and implement training programs and coordinate mining training and employment initiatives. Funds are provided by the industry and by the federal and provincial governments. So far, 488 Inuit people have received training in Nunavik. Between 200 and 230 Inuit people are currently employed in Nunavik's mining sector, and the Kautaapikkut Mining Strategy Table has set the goal of doubling this figure in the next two years.

- ◆ The BAPE and KEAC commissions note that, despite the efforts of local organizations and mining companies, Inuit employability rates in Nunavik's mining sector continue to pose a major challenge.
- Opinion The BAPE and KEAC commissions are of the opinion that it is important, when developing major mining projects in general and uranium mining projects in particular, to assess the capacity of the Nunavik territory and its local community to absorb all the negative impacts. Accordingly, every development project in Nunavik should be carried out in compliance with the Parnasimautik and with the Nunavik Inuit Mining Policy, both of which clearly state the Inuit people's wish to take charge of their region's development.

• Opinion – The BAPE and KEAC commissions are of the opinion that new partnership models, in the form of agreements, have emerged in Nunavik's mining sector. In the commissions' view, it is clear that such initiatives should be encouraged, since they help ensure that the rights of local communities are respected, that lasting relationships are created and that social acceptability is maintained in the long term.

13.4.3 Mining legacies from the past

The mining industry in Northern Québec has made a significant contribution to local community development in recent decades. Like most major development projects, past and present mining activities leave their trace on the land and in the host communities. Some of these traces can be positive, others less so.

One of the legacies of past mining activities in Northern Québec is unquestionably the presence of so-called abandoned mining sites with no known or solvent owners. Today, there are still 488 abandoned mining exploration sites, 275 of which are in Nunavik and 213 in James Bay. Restoration of these sites presents a significant challenge for both the mining industry and the Government. Since 2007, the environmental liability arising from the obligation to restore contaminated land under State responsibility has been included in public accounts. As of March 31, 2012, these accounts show an amount of \$1.2 billion in environmental liabilities for the mining sector, including \$880 million for restoration of mining sites in respect of which the State must take action, and \$336 million for sites in respect of which the State may have to take action (INFO46, p. 7).

The legacy in James Bay

Abandoned mining sites

In 2008, the Cree Regional Authority (CRA) produced an inventory of abandoned mining exploration sites in Eeyou Istchee (Grand Council of the Crees and CRA, 2008b). In 2010, based on this report, the CRA estimated that 325 such sites required investigation. In 2013, the JBACE also recommended that section 164 of the *Mining Act* be amended to include a provision requiring promoters who abandon their claims to submit an opinion or report to the MERN, confirming that all their property has been removed from the site (JBACE, 2013, p. 10). The MERN is currently in discussions with the Crees, and clean-up work should begin in 2014 on the 213 identified abandoned mining exploration sites on traditional Cree land that are deemed part of the State's environmental liability (Roch Gaudreau, TRAN27, p. 7).

As for abandoned mines, a total of 16 have been identified in James Bay. Work has been done on nine of these sites and is currently being inspected. Work has also begun at the site of old Principale Copper Mine, located in Chibougamau. The Oujé-Bougoumou and Chibougamau communities are involved in this project. In addition, the trenches at the old Certac and Chesbar mines near Desmaraisville were secured in 2011

and all debris has been cleared from the sites (MERN, 2013b, p. 122; MERN, 2012-2013: online).

◆ The BAPE and JBACE commissions note the existence of real environmental liabilities in the James Bay territory, as a result of mining sites being abandoned. Clean-up work has begun, but much still remains to be done.

Resource development and community relations

The environmental and social impacts of developments prior to the major agreements and protection regimes have left scars on the land and in the collective memory of the Cree people. Today, as we saw at the hearings, the Cree continue to remind promoters and government representatives, at every project hearing, of the extent to which they were and continue to be adversely affected by Hydro-Québec's presence in their region and the environmental impacts left behind by work on the La Grande complex.

Since that time, relations between the communities and the mining industry have changed, and the impacts of those changes appear to be irreversible in many respects. The new political and legal context in James Bay will undoubtedly make it easier to establish a more balanced relationship and practices that are more respectful of community aspirations.

Despite the communication problems arising from the presence of separate and sometimes incompatible cultures, it is nevertheless clear that the Cree communities are no longer corralled off or kept apart from development. With the progress achieved through the JBNQA, the authorities created as a result of it and the creation of the Eeyou Istchee James Bay Regional Government (EIJBRG), the Cree communities are now in a position to participate fully in strategic land planning, economic development and the process of defining their place on the political and social chessboard of Northern Québec.

The BAPE and JBACE commissions note that the Cree communities' past experience of mining development projects in the region has left its mark on them and has adversely affected their trust in the mining companies and the Government.

The legacy in Nunavik

Abandoned mining sites

There is a long history of mining exploration in Nunavik, dating back to the 1950s. There was virtually no regulation at the time, and the mining companies' activities had significant impacts on vegetation, wildlife habitats, water quality and landscapes in the region.

In 1999, the KRG, the Makivik Corporation and Laval University carried out a joint project to identify and locate abandoned mining exploration sites in Nunavik. The

Naskapi nation of Kawawachikamach joined the project in 2000. At the time, 595 potential sites were identified. In the early 2000s, inventories were taken from a sample of 193 sites, and were classified based on criteria taken from a national classification system for contaminated sites. As a result of the inventory, 90 sites were identified as requiring clean-up (18 major, 27 intermediate and 45 minor). So far, 15 of the 18 major sites and 23 of the 27 intermediate sites have been cleaned. The KRG signed a funding agreement with Environment Canada in 2004, and clean-up work began in 2005. In 2007, another contribution agreement was signed by the KRG, the Makivik Corporation, the Ministère des Ressources naturelles et de la Faune and the Restor-Action Nunavik Fund, formed by the mining companies. Work is still ongoing. (Nancy Dea, TRAN28, p. 11; PREMNAT2, p. 1 to 3).

Early mining activity has left the region with a legacy of many abandoned exploration sites containing large quantities of contaminated waste and hazardous materials.

The BAPE and KEAC commissions note the existence of a real environmental liability in Nunavik, but acknowledge that the Kativik Regional Government, the Makivik Corporation, the Québec Government and the mining companies have entered into a real partnership in order to clean up and restore abandoned mining sites.

An example of mining operations

Before the Raglan Mine came to the region, the only experience Inuit had with mining was with the Asbestos Hill mine, located roughly 50 km inland from Deception Bay. This open-pit mine, which was active from 1970 to 1984, produced asbestos fibre concentrate and employed between 400 and 450 people.

The mining company began its operations before the JBNQA was signed, and was subject to virtually no environmental review or supervision. In addition, the impacts of asbestos on the health of local populations and workers were not rigorously monitored.

When the JBNQA was signed and the environmental and social protection regime was introduced, the Inuit raised a number of concerns about the impacts of the company's activities on the environment and local wildlife, including obstruction and contamination of a river due to the culverts constructed by the company. It was not until the mid-1990s, following extensive efforts by the Inuit and the authorities, that the situation was finally corrected after permission to begin construction of the Raglan Mine had been given.

- ◆ The BAPE and KEAC commissions note that the Inuit communities' past experience of mining development in Nunavik has left its mark on them and has adversely affected their trust in the mining companies and the Government.
- Opinion The BAPE and KEAC commissions are of the opinion that future uranium mining development must take into account the historical context of mining projects in Nunavik and the past experience of the Inuit communities.

13.5 The Concerns and Opinions of Participants in Northern Québec

This section presents a summary of the concerns and opinions expressed by participants in the sessions held in James Bay and Nunavik during the three phases of the consultation.

13.5.1 Eeyou Istchee James Bay participants

The participants' positions

Most of the participants who expressed opinions at the James Bay sessions were Cree. Very few Jamesians took part in the process.

The Cree Nation's position is unequivocal. All the Cree participants were adamant in their rejection of uranium industry development within their territory.

The Grand Council of the Crees, in its brief, reasserted its firm opposition to uranium exploration and mining in Eeyou Istchee, on behalf of all the Cree communities in James Bay. Among other things, it had this to say: "The Cree Nation stands together and speaks with one voice in its opposition to uranium exploration and uranium mining in Eeyou Istchee" (Grand Council of the Crees, MEM205, p. 1 and 9). This position was supported by a number of other organizations, including the Cree School Board (MEM22, p. 1), the Cree Outfitting and Tourism Association (MEM27, p. 1), the Regional Public Health Branch of the Cree Board of Health and Social Services of James Bay (MEM80, p. 22) and the CMEB (MEM104, p. 7).

However, some participants were anxious to note that their communities were not against development, and were prepared to support sustainable, responsible mining development on Eeyou Istchee territory. However, they felt the specific case of uranium was different and was likely to worsen, not improve, their quality of life (Cree Nation Council of Mistissini, MEM25, p. 2; Cree Nation of Chisasibi, MEM49, p. 4; Grand Council of the Crees, MEM205, p. 1-2).

Within the Cree communities, only one participant – the CMEB – qualified its stance in this respect. The CMEB's mission is to promote and facilitate Cree participation in mining exploration activities. In its brief, it noted that, while in full agreement with the position expressed by the Grand Council of the Crees, it nevertheless felt that future decisions concerning uranium industry development in Eeyou Istchee should be based on documented knowledge of the mining and uranium potential (MEM104, p. 7).

The James Bay Regional Administration (JBRA), for its part, emphasized the importance of the mining industry, which, more than any other industry, had helped shape the social, cultural and economic context in the James Bay region. In its brief, it noted that the

development of the uranium industry, like that of any other resource-based industry, could be viewed as desirable if the health and safety of the James Bay population and the quality of the environment would not be compromised in any way whatsoever (MEM101, p. 3 and 4).

A number of procedures have been implemented in recent years in response to the enthusiasm surrounding uranium mining in James Bay. They include the activities begun as part of the Matoush project. In 2009, the James Bay resource development authorities launched an information and communication process to improve the population's understanding of the industry. Among other things, the James Bay regional conference of elected officers (CRÉ) set up a working committee on uranium, to document the issue and circulate information to those concerned. The committee received support from CNSC experts and held information and consultation sessions for target groups in Chapais, Chibougamau and Mistissini, where Aboriginal chiefs from Saskatchewan came to talk about their experience with active uranium mines (JBRA, MEM101, p. 4).

The Crees cited a variety of legal and public actions in support of their opposition to uranium mining in Eeyou Istchee. For example, the Cree Nation Council of Mistissini, at a meeting on December 13, 2010, unanimously adopted a resolution clearly asserting its objection to the Strateco uranium project in the Otish Mountains (MEM25, p.5). The Cree Trappers' Association, for its part, adopted a resolution at its annual general meeting in August 2012, officially supporting the Cree Nation of Mistissini's objection to exploration activities in its territory (CTA, MEM35, p 4). In August 2012, the Grand Council of the Crees unanimously adopted a resolution in favour of a permanent moratorium on uranium development in Eeyou Istchee, invoking the risks of uranium for health and the environment (MEM205, p. 1 and 9). In addition to these legal initiatives, an 800-kilometre citizens' march between Mistissini and Montreal was organized by the Cree Nation Youth Council to symbolize Cree opposition to uranium exploration and mining operations in their territory (Joshua Iserhoff, TRAN74, p. 59).

Repercussions for human health and the environment

The Crees' opposition, reiterated by several participants, is due in large part to their close bond with nature and their territory (Cree Nation Council of Mistissini, MEM25, p. 8; Grand Council of the Crees, MEM205, p. 35). As mentioned by the Nishiiyuu Council of Elders: "This land has always been sacred to the Cree" (MEM26, p. 2), and according to one participant, the Crees are responsible for the land and must treat it with respect because it is only on loan from future generations (Thomas Neeposh, MEM51, p 1). Chief Davey Bobbish also noted that the Cree people have always depended on the resources of the land, its lakes and rivers, and the wildlife and plants that inhabit it (Cree Nation of Chisasibi, MEM49, p. 3). As for the Cree Trappers' Association, it noted the Crees' close bond with the land:

For the Cree people, culture is determined and shaped by *Eeyou lyihtiwin* – that is, the Eeyou way of doing things – and includes all the beliefs, values, principles, practices, institutions, attitudes, morals, customs, traditions and knowledge of Eeyou [...] Safeguarding the traditional system of over three hundred traplines [...] to ensure that the land and resources will be available to both present and future generations [...] We cannot predict the effects of the radioactive traces, in the form of uranium waste and tailings, that uranium mining would leave on our territory for many thousands of years.

(MEM35, p. 1 to 5)

As most participants noted, the uranium industry's potential impacts on the environment are a source of great concern. One participant mentioned the importance of the land, plants and animals, and did not understand why these elements were ignored in the assessment of impacts in Eeyou Istchee (Janie Pachano, MEM200, p 1). Daisy House, in her brief, noted that the environmental impacts could be devastating and, in some cases, irreversible (MEM61, p. 2). Some participants mentioned the possibility that uranium mining waste could infiltrate water supplies, contaminating entire watersheds and the surrounding environment (Cree Nation Council of Mistissini, MEM25, p 9; George M. Shecapio, MEM54, p. 2; Grand Council of the Crees, MEM205, p. 11).

The JBRA also noted that the task of managing uranium mine tailings was more complex than that of managing other types of tailings, hence the importance of applying stringent, modern, sustainable management and monitoring methods to reduce the risk of contaminant dispersal. The JBRA and the *Table jamésienne de concertation minière* demanded "an assurance that the risk of contamination from radioactive or chemically toxic materials dispersed by wind, water or other agents is negligible" (MEM101, p. 8 and 12, free translation from the original French).

With regard to human health, many participants expressed concerns to the commissions regarding the potential impacts of uranium exploration and mining in James Bay. Some emphasized the fact that the Cree people have a holistic perception of the world (Cree School Board, MEM22, p. 1; Dr. Darlene Kitty, TRAN57, p. 34). This particular relationship with the land contributes to the spiritual, physical and psychological well-being of the Cree people (Cree Trappers' Association, MEM35, p. 3). And as pointed out by the Public Health Branch of the Cree Board of Health and Social Services of James Bay: "For the Cree people, the environment is a core element of their vision of health" and "hunting, trapping, fishing and gathering activities are vital to the diet and traditional medicine of the Cree people" (CBHSSJB, MEM80, p. 3 and 7, free translation from the original French).

According to the opinions expressed at the hearings, there is a clear cause-and-effect relationship between environmental damage and the community's health and social problems. The Public Health Branch of the CBHSSJB noted that human health in Cree communities is closely tied to environmental health (CBHSSJB, MEM80, p. 22). One participant, emphasizing the unique relationship between the Cree people and their

territory's resources, noted that: "The human groups most at risk are those that practise hunting, fishing and gathering activities. They include the First Nations of Québec, and by extension the James Bay Cree" (Frédéric Fortier, MEM29, p. 6, free translation from the original French). According to the Chief of the Cree Nation of Chisasibi, the most frightening scenario that may arise if uranium were to be mined in Eeyou Istchee would be contamination of all the links in the food chain (Cree Nation of Chisasibi, MEM49, p. 5). This would have a direct impact on harvesting and consumption of traditional country foods, as pointed out by the Grand Chief of the Grand Council of the Crees (Matthew Coon Come, MEM205, p. 11).

The JBRA, in its brief, raised concerns regarding the health and safety of workers and neighbouring populations. It noted that recent studies have not found a link between the fact of working in a uranium mine and incidences of cancer or other diseases. However, it shared the opinions of physicians concerning the need for further research and monitoring over the long term to ensure that the standards applicable to the uranium industry are sufficient to protect the health of workers and neighbouring communities (MEM101, p. 6).

Also in its brief, the JBRA addressed the notion of "background noise". Health Canada and the CNSC both believe that the natural exposure rates to low doses of radioactivity in Québec are not, of themselves, harmful to health. The JBRA admits to being reassured because the uranium industry has said it is able to achieve and maintain even lower levels (MEM101, p. 6 and 7). However, it notes that:

In the absence of prior, specific data on the natural background noise from uranium, on the geographical distribution of uranium and on its chemical and biochemical behaviour in the secondary environment, it is difficult if not impossible to measure the extent of the imbalance inflicted on the natural uranium cycle by uranium exploration and mining.

(MEM101, p. 10, free translation from the original French)

Other participants mentioned the fact that the level of uncertainty is still too high and the extent of the risk to health and the environment is still largely unknown (James Bobbish, MEM48, p. 4; Grand Council of the Crees, MEM205, p. 15). One participant noted, in his brief, that in spite of everything he has heard in recent months, he is still concerned by the impacts of uranium development on the health of the Cree people, the health of the land and the traditional Cree way of life (Jimmie Neacappo, MEM53, p. 1). As noted by the CMEB, the environmental and health risks associated with uranium mining must be considered carefully (MEM104, p. 6).

Social concerns

The JBRA noted that the question of uranium industry development is "an entirely legitimate question for social debate". However, as it also noted:

[...] the worrying aspect here is not the position of certain groups in favour of or against uranium industry development, but the somewhat premature nature of that position, based more on emotion than on factual information.

(MEM101, p. 8, free translation from the original French)

The social acceptability of uranium industry development in the eyes of the population was mentioned on many occasions during the sessions in James Bay and in the rest of Québec. The Cree Nation Council of Mistissini noted that one of the Cree Nation's major concerns was the lack of social acceptability with regard to uranium (MEM25, p. 10). Several participants said that the uncertainty and scientific shortcomings were not helpful in reassuring the population (James Bobbish, MEM48, p. 4; Thomas Neeposh, MEM51, p. 3; Daisy House, MEM61, p. 2). One participant in the Mistissini sessions pointed out that her main worry was the unknown aspects of uranium mining (Sophie Gunner, TRAN22, p. 48). The CMEB also said it would not be responsible for a population to accept a project or for a government to authorize it until certain crucial questions had been answered (MEM104, p. 15). In the opinion of the Cree Nation Council of Mistissini, social acceptability must be based on free and informed consent (MEM25, p. 10).

The Cree communities' risk tolerance was also mentioned during the sessions. The Grand Council of the Crees wondered how the local population could be expected to accept such a risk when its scope was not known (MEM205, p. 12). As noted by the CMEB, although prior experience with uranium mining in Canada and elsewhere in the world has certainly not been catastrophic, other examples of poor uranium tailings management clearly show that prudence is required. The CMEB recommended that the environmental and health risks of uranium mining should be examined carefully (MEM104, p. 6). The Grand Chief of the Crees was clear in his conclusion at the end of the third consultation phase:

Our rights must be respected, particularly when we make an informed, community-led decision that a particular form of development is incompatible with our culture, with our values and with our way of life. I will leave you with this message: our people have informed ourselves about uranium development and the legacies such activities will leave on our lands. We have considered the long-term risks and the potential short-term benefits; we do not like what we have learned, and we do not consent. (Matthew Coon-Come, TRAN74, p. 22)

Other participants were afraid that the social, environmental and health-related risks of uranium industry development would be borne by the local communities, and in particular by the Crees of Eeyou Istchee (James Bobbish, MEM48, p. 4; Thomas Neeposh, MEM51, p. 2; Cree First Nation of Waswanipi, MEM78, p. 1), and that these impacts would affect both present and future generations (Cree Nation of Chisasibi, MEM49, p. 4; Daisy House, MEM61, p. 4). The Grand Council of the Crees referred to the principle of inter-generational equity, which is an important aspect of Cree culture and plays a fundamental role in decisions. "Our sense of moral and cultural obligation to future generations of Crees is a fundamental aspect of our identity" (MEM205, p. 17).

One participant, in his brief, said the Cree people should have the right to choose, and that the decision to allow or refuse uranium mining in Québec should reflect the opinions of the people who will be directly affected by it (Thomas Neeposh, MEM51, p. 2). Several other participants noted that the right to choose is clearly rooted in the JBNQA (George M. Shecapio, MEM54; Cree Nation of Chisasibi, MEM49, p. 7; Nishiiyuu Council of Elders, MEM26, p. 6).

Two James Bay residents came to support the Crees' opposition to uranium mining. One thanked the Crees for their vigilance and concern for public well-being, and noted that they "have taught us a lesson on the notion of respect, participation, mutual help and sharing" (Yvan Croteau, MEM42, p. 2, free translation from the original French). Another said that "imposing uranium mining on the James Bay Crees, despite their objections, would be a mark of tremendous disrespect by Québecers towards the Nation" (Frédéric Fortier, MEM29, p. 8, free translation from the original French).

Economic aspects

The CMEB identified a number of positive impacts from mining project development in James Bay, regardless of the ore that is mined. These impacts include the economic development of a Northern region where possibilities are limited, job creation, business opportunities for local companies, and economic spin-offs from potential agreements (MEM104, p. 15). As the JBRA pointed out, uranium exploration has made sporadic contributions to the regional economy since the early 1970s. However, it also had this to say: "One of the region's major economic concerns is to make sure our communities are the primary beneficiaries of the direct and indirect economic spin-offs from our industries" (MEM101, p. 18, free translation from the original French).

Despite the potential economic spin-offs from uranium industry development in the James Bay region, the Cree Outfitting and Tourism Association spoke of the negative impacts such projects were likely to have for tourism. The tourism industry in Eeyou Istchee is dependent on the region's intact natural ecosystems. Uranium mining may have a direct impact on these ecosystems, and may also modify the perceptions of potential visitors, both of which could trigger a decline in tourism (MEM27, p. 3 and 4).

Governance

Long-term management of tailings and uncertainties regarding technologies were both mentioned several times by Cree participants, who noted the uncertain nature of the technologies used to contain mine tailings and the fact that there are no guarantees regarding long-term impacts (James Bobbish MEM48, p. 5; Thomas Neeposh, MEM51, p. 3; Cree Women of Eeyou Istchee Association, MEM52, p. 3 and 4). Although the JBRA acknowledged the CMEB's experience with regulating and monitoring the uranium mining industry, it nevertheless noted that:

[...] we feel there is still room for improvement and that it would be appropriate to maintain and support research and development efforts focusing on the storage and management procedures used for the aggregate and mine tailings produced by uranium mines.

(MEM101, p. 12)

In addition to technological uncertainties, the Cree Nation was also concerned about responsibility for sites in the case of a technological breakdown or accident, once the mining company has left and the project is no longer active. There were fears that long-term responsibility would fall on society in general and local communities in particular, among other things because financial guarantees were considered insufficient (Grand Council of the Crees, MEM205, p. 25 and 35).

The Jamesian residents thought the industry still needed to earn trust, not only by researching the issues thoroughly, but also by introducing specific measures and guarantees. Before supporting uranium industry development within its territory, the JBRA set a number of conditions that would require follow-up from the Québec Government, including a specific regulatory framework for open-pit mining, sponsorship of studies and research to improve knowledge, the creation of a research and development investment program applicable exclusively to the uranium industry, environmental compensatory measures proportional to the damage done, and stronger regulations and special certifications for the transportation of radioactive material (MEM101, p. 14 and 19).

13.5.2 Nunavik participants

The participants' positions

The Inuit were virtually unanimous in their firm opposition to uranium exploration and mining. As the Makivik Corporation and the KRG pointed out in their joint brief, there is strong consensus among Nunavik residents and their regional and local organizations to the effect that uranium industry development in Nunavik is currently considered unacceptable (MEM161, p. 12).

Based on the concerns expressed by the Inuit, the Makivik Corporation and the KRG have taken a common stance:

Based on the current state of knowledge concerning the effects and risks associated with uranium exploration, exploitation and waste management and particularly given the fact that Nunavik Inuit continue to rely on country food (including migratory species such as caribou) Makivik Corporation and the Kativik Regional Government are opposed to any such activity in Nunavik. (MEM161, p. 8)

The Makivik Corporation acknowledges the importance of economic development in Nunavik, and believes the mining industry may be an important economic and social development instrument, provided its activities are carried out in a socially and ecologically responsible way. It has published the *Nunavik Inuit Mining Policy*, providing guidelines for mining development. However, as noted by the Makivik Corporation and the KRG in their brief, uranium is a controversial metal with its own particular features, and uranium mining activities must therefore be treated differently from activities involving other types of ore (MEM161, p. 5).

In his presentation at the Kangiqsualujjuaq session, the representative from the Nunavik Public Health Branch of the Regional Board of Health and Social Services noted that:

Many uncertainties remain as to the effect a uranium mine would have on the physical, psychological, social and spiritual health of Inuit. These uncertainties call for the greatest caution and scientific rigour in the pursuit of research documenting the impacts of this type of project on the northern population. (Serge Déry, TRAN72, p. 41)

The Public Health Branch, in its brief, expressed concerns and makes recommendations about specific aspects of uranium industry development in Nunavik, including economic impacts, impacts on the population's health, worker protection and social acceptability.

A more qualified position was expressed by Chief Noah Swappie, of the Naskapi Nation, during the session in Kawawachikamach. In his brief, he noted that:

In light of the foregoing and given the lack of available scientific information, coupled with the extent of unknown risks, the Nation does not feel that a position can be presented at this time concerning the uranium industry in northern Québec. (Naskapi Nation of Kawawachikamach, MEM185, p. 1)

Repercussions for the environment and human health

The land and traditional lifestyle are vital to the health and well-being of the Inuit. The Inuit of Nunavik rely on traditional country food for the majority of their diet and to maintain their cultural identity (Makivik Corporation and KRG, MEM161, p. 9). One participant mentioned the fact that the Inuit consume traditional country foods (Kitty Annanack, TRAN72, p. 48) while two others said that both the Inuit and the Naskapi consume every part of the animal (Lucassi Amnaq Etok, TRAN72, p. 51; Noah Swappie, TRAN71, p. 7).

Some participants were concerned about the potential impacts of a uranium mine on wildlife, especially caribou, which is a migratory species that feeds off lichen (Johnny Etok, TRAN72, p. 56; Lucassi Amnaq Etok, TRAN72, p. 50). And as indicated by a representative of the Kuujjuaq community:

I would be afraid, I mean, if there is ever in the future that there will be uranium mining in our region, in Nunavik or in Québec [...] that my kids or my grand-children are not going to be eating geese and caribou meat that are contaminated, because they have gone through that one area where there is mining. (Claude Gadbois, TRAN54, p. 35)

In addition to the potential for wildlife contamination, the Public Health Branch noted in its brief that:

Uranium mining exploration is likely to disturb animals, especially caribou, and cause them to move away from mineral extraction sites, access roads, port facilities, and from communities located nearby.

(Nunavik RBHSS, MEM199, p. 23)

Because the Inuit depend on wildlife for their food security, any contamination or disturbance would have a significant impact on their lifestyle and on their general health (Nunavik RBHSS, MEM199, p. 22 to 24). One participant raised the following question: "What are we going to eat if all the traditional food, the food that is so important to us, this part of our culture, disappears?" (Davidee Annanack, TRAN72, p. 49). Another said the Inuit must have access to foods from nature and be certain that they are of good quality (Willie Etok, TRAN72, p. 53). As the Makivik Corporation and the KRG pointed out, the population is so dependent on food and the land that its fears are often amplified (MEM161, p. 10).

In their brief, the Makivik Corporation and the KRG explained that Arctic populations are currently extremely vulnerable to chemical contamination, especially by polychlorinated biphenyls (PCBs) and mercury. They noted that uranium mining activities located close to Inuit communities would be an additional source of contaminants and would play a role in exacerbating existing health problems (MEM161, p. 10). Because the interactions and additive effects of existing substances and substances emitted by uranium mines are poorly documented or not documented at all, the Public Health Branch "stresses the need to clearly characterize the environmental background noise and current state of health of the people of Nunavik before any uranium mining projects are launched" (Nunavik RBHSS, MEM199, p. 20 and 21).

The territory of Nunavik is also important from a cultural, spiritual and educational standpoint. As noted by the Kangiqsualujjuaq Education Committee, the land is used during classroom hours to teach Inuit culture to the students (MEM226, p. 1). In addition, the Public Health Branch expressed concern about the future of archaeological sites in general and burial sites in particular, if mine exploration and extraction activities (especially for uranium) were to take place in Nunavik. It stressed "the importance to consider archaeological sites, including burial sites, during impact assessments carried out prior to a mining project" (Nunavik RBHSS, MEM199, p. 27 and 28).

In addition to the potential impacts for Inuit land, lifestyles and health, the Public Health Branch was also concerned about the psychosocial impacts of exploration and mining activities in Nunavik. Given that such problems are already prevalent, it was afraid that a uranium mine would exacerbate the situation, and recommended that the psychosocial impacts for Inuit populations should be documented throughout the mine deployment process, beginning at the exploration phase (Nunavik RBHSS, MEM199, p. 28).

The Public Health Branch also noted some uncertainty regarding the potential impacts of a uranium mine on the physical, psychological, social and spiritual health of the Inuit. For the sake of prudence and scientific rigour, it suggested "the pursuit of research documenting the impacts of this type of project on northern populations" (Nunavik RBHSS, MEM199, p. 35).

Information quality

As mentioned earlier, some participants said it was difficult to take a stance regarding uranium industry development because there was not enough information, or the available information was too fragmented, to allow for an informed choice (Naskapi Nation of Kawawachikamach, MEM185, p. 1; Maggie Suzie Annanack, TRAN72, p. 55). For the time being, the Naskapi Nation does not feel able to assess the potential impacts of uranium exploration and mining in Northern Québec, express concerns or make comments regarding the industry, or take a definitive stance on the issue (Naskapi Nation of Kawawachikamach, MEM185, p. 1).

In their brief, the Makivik Corporation and the KRG noted that the available information was insufficient and unsuitable. Although the efforts made by the BAPE and the KEAC throughout the mandate were appreciated, the information was nevertheless incomplete. In addition, information should be made available to the Nunavik Inuit in their own language (Inuktitut), and in a format that they can understand and use to make an informed decision (MEM161, p. 11). The Public Health Branch, for its part, noted that the "ability [of Inuit] to make informed decisions [...] must be reinforced by the application of the principles of transparency and openness" (Nunavik RBHSS, MEM199, p. 35). One participant also noted, during the sessions, that one of the aims of the Nunavik Inuit Mining Policy was precisely to create a clear line of communication and ensure the transparency of all projects (Jean-Marc Séguin, TRAN72, p. 25). The Policy stipulates that:

The development of mineral exploration and mining activity in Nunavik must be built on a relationship of trust among all stakeholders, including Nunavik Inuit, the communities, the Makivik Corporation, the Québec government and mining companies. Stakeholders must be kept fully informed about all issues based on solid communication processes.

(PREMNAT19, p. 15)

The Naskapi Nation pointed out that the lack of information was exacerbated by the lack of financial resources to hire experts who could help them understand the issues associated with uranium exploration and mining within their territory. To remedy this situation and help educate, inform and raise awareness among the population on all aspects of uranium mining, it suggested, in its brief, that the Government should introduce a program specifically for Northern communities. In the Nation's view, the BAPE's report on uranium industry issues should be regarded not as an exhaustive catalogue of Northern population concerns, but as a preliminary step towards an indepth analysis of the subject, via an education and awareness program (Naskapi Nation of Kawawachikamach, MEM185, p. 2).

The Public Health Branch placed the Inuit right to choose in perspective, noting that Inuit should have the freedom to choose which type of economic potential they wish to develop in their territory, and which type of ore should be mined. If projects are to be socially acceptable in the eyes of the population, such choices must be based on fair, adapted information (Nunavik RBHSS, MEM199, p. 36 and 37).

Economic aspects

Very few participants from Nunavik expressed concerns or opinions regarding the potential positive or negative economic impacts of uranium exploration or mining activities. In its brief, the Public Health Branch noted that:

[...] better access to employment and business opportunities and receiving financial compensations for the local population are significant additional sources of income for Nunavik residents overwhelmed by high unemployment and low income. (Nunavik RBHSS, MEM199, p. 15)

On the other hand, despite these potentially positive effects for the Inuit community, there are still some obstacles preventing Inuit from obtaining employment in mines that are currently active in Nunavik. Moreover, the jobs held by Inuit do not seem to be the best-paid. To mitigate this situation, the Public Health Branch "would expect measures to be implemented to promote training, employment and business opportunities for Inuit" (Nunavik RBHSS, MEM199, p. 15).

In their brief, the Northern Village of Kangiqsualujjuaq and the Qiniqtiq Landholding Corporation observed that the community of Kangiqsualujjuaq places high value on tourism and on economic development through fishing and the new Ulittaniujalik National Park. However, some of Nunavik's uranium potential appears to be located close to the fishing camps and park. Uranium exploration and mining activities in these areas could therefore have significant negative repercussions for tourism in the region (MEM184).

Governance

Although uranium mining activities are regulated by the CNSC, the Makivik Corporation and the KRG are concerned about the lack of supervision and intervention measures for uranium exploration activities, which fall under the authority of the Province of Québec, not the CNSC. At the present time, the Government lacks the resources to guide and oversee the industry's practices, and relies instead on the good faith of the exploration companies (MEM161, p. 10 and 11). In addition to their concerns regarding the Québec Government's capacity to oversee exploration activities, the Makivik Corporation and KRG also questioned the emergency intervention capacities of the institutions concerned:

Nunavik is a very remote area which is difficult and expensive to access. Even with adequate regulatory measures, it is not at all clear if the capacity of governmental authorities exists to actually properly monitor uranium mining activities and enforce regulations in Nunavik. Equally unclear is the capacity of agencies to respond to an accident or emergency in an effective and timely manner. (Makivik Corporation and KRG, MEM161, p. 11)

Similarly, the Public Health Branch questioned the rigour with which regulations designed to protect uranium sector workers are applied, especially for exploration activities in areas as remote as Nunavik (Nunavik RBHSS, MEM199, p. 31).

The Public Health Branch was also concerned about long-term management of tailings. In its brief:

[it is] concerned about the ability of managers to ensure long-term environmental monitoring and to measure health impacts associated with the presence of these waste products in the region, particularly in view of the fact that they will remain contaminated for several thousands of years.

(Nunavik RBHSS, MEM199, p. 30)

13.6 Uranium Industry Development in Northern Québec: Potential Impacts and Spin-offs

In the next few pages, the commissions begin by considering the impacts that the industry's development could have on the natural environment and on physical and psychological health in Northern Québec's communities, in order to assess the extent to which the lifestyle of the region's residents would be compatible with uranium industry development. This is followed by a brief analysis of potential spin-offs from the development.

13.6.1 Uranium: some basic notions

This section summarizes information presented elsewhere in the report. Readers are invited to consult previous chapters for further details of the basic notions relating to uranium, its properties and its uses, and details of the uranium potential in Québec and the different stages of the uranium exploration and mining process.

Uranium is a heavy metal that has always been naturally present in the environment since the Earth was first created. It is found in small but variable quantities in rocks, water, air, plants, animals and human beings.

In its natural state, uranium takes three different forms, known as isotopes: uranium-238 (U-238), uranium-235 (U-235) and uranium-234 (U-234), which account respectively for 99.28 %, 0.71 % and 0.0054 % of the total resource. These three isotopes are radioactive, meaning that they have an unstable nucleus and decay until they achieve stability. These radioactive isotopes are commonly known as radionuclides. Every time a nucleus decays, energy is released in the form of ionizing radiation, which is referred to as radioactivity. There are three common types of ionizing radiation for radionuclides of natural origin: alpha, beta and gamma radiation. As they decay, uranium isotopes generate a series of products. For example, U-238 is a precursor of radium (Ra-226) and radon (Rn-222). The chain ends with lead (Pb-206), which is a stable element (GEN2, p. 2 to 10; PR3, p. 23 to 29 and 39; SAN3, p. 23 to 26; SAN6, p. 2 to 10).

A particular feature of uranium is its long half-life (the time taken by half a given quantity of radioactive nuclei to decay). Each radioactive isotope has its own half-life, which can vary from a fraction of a second to several thousand years. The half-life of U-238 is 4.5 billion years, that of U-235 is 0.7 billion years and that of U-234 is 0.25 billion years (*ibid.*).

There are different sources of exposure to uranium. Because it is present naturally in the environment, one of the main so-called chronic sources of exposure comes from daily intake of air, drinking water and food. Generally speaking, human beings ingest between 1 and 2 µg (where 1 microgram equals 1 thousandth of a milligram) of uranium in their food and a further 1.5 µg in their water and other drinks. However, humans are exposed to uranium not only naturally, but also artificially, for example through medical applications (x-rays, diagnostic procedures, treatments) or through industrial or military activities. Mining waste left behind by uranium mining activities, and the waste generated at each step in the life cycle of nuclear fuel, can also contaminate the environment and increase the exposure of local populations (*ibid.*).

U-235 is the only fissile uranium isotope that is naturally present in the environment and releases large quantities of energy in the form of heat and gamma rays. Uranium's energy potential is considerable, compared to the world's other energy sources, and it is for this reason that it is used in some countries to support electricity production. In

addition, uranium is also used in the fields of medicine, agriculture and food, and for some maritime and military applications (*ibid.*).

In Québec, there are several geological environments containing concentrations of uranium, two of which stand out, namely prospects associated with the sedimentary basins composed of sedimentary rocks, and prospects associated with granitic rocks. Currently, the available geological data suggest that one-third of Québec's entire uranium potential may be located in the Côte-Nord administrative region, and the remainder in the Nord-du-Québec administrative region.

In James Bay, the Otish Mountain sector is known for its uranium potential, with uranium prospects¹² demonstrating the same kinds of unconformities as those found in Saskatchewan. Other sectors of James Bay are also known for their uranium potential, including the sector north-east of Chisasibi, the so-called Apple sector near La Grande 4, and the Mistassini Lake sector. Several showings have been identified on either side of the Transtaïga Road, east of the James Bay Road and north-east of Mistassini Lake. Roughly 15 worked prospects¹³ are situated between the north of the Chisasibi community and the LG1, LG2 and LG4 reservoirs in the La Grande complex. There are two assessed tonnage deposits, located respectively at LG2 and near the Matoush deposit (MERN, 2009: online; Roch Gaudreau TRAN26, p. 115 and 116; CMEB, MEM104, p. 10 and 11).

In Nunavik, uranium potential is located mainly in the Labrador Trough, between Kawawachikamach to the south and Kangirsuk to the north, as well as south of Ungava Bay (Churchill Province), in the northern portion of the region (Ungava Trough), near the community of Kangiqsualujjuaq, and along Hudson Bay (Figure 13.2) (Roch Gaudreau, TRAN26, p. 115 and 116; MERN, 2009: online).

♦ The commissions note that Québec's uranium potential is located for the most part in the territory of Northern Québec subject to land claims agreements.

In the last 40 years, several uranium exploration projects have been carried out by mining companies in James Bay and Nunavik to confirm the existence of this potential. All uranium exploration work is currently suspended due to the moratorium imposed by the Québec Government in 2013.

As is the case for all types of ore, the development process leading to uranium extraction is divided into several steps. The first of these steps, mining exploration, aims to identify and locate mineral prospects by means of field surveys and sampling,

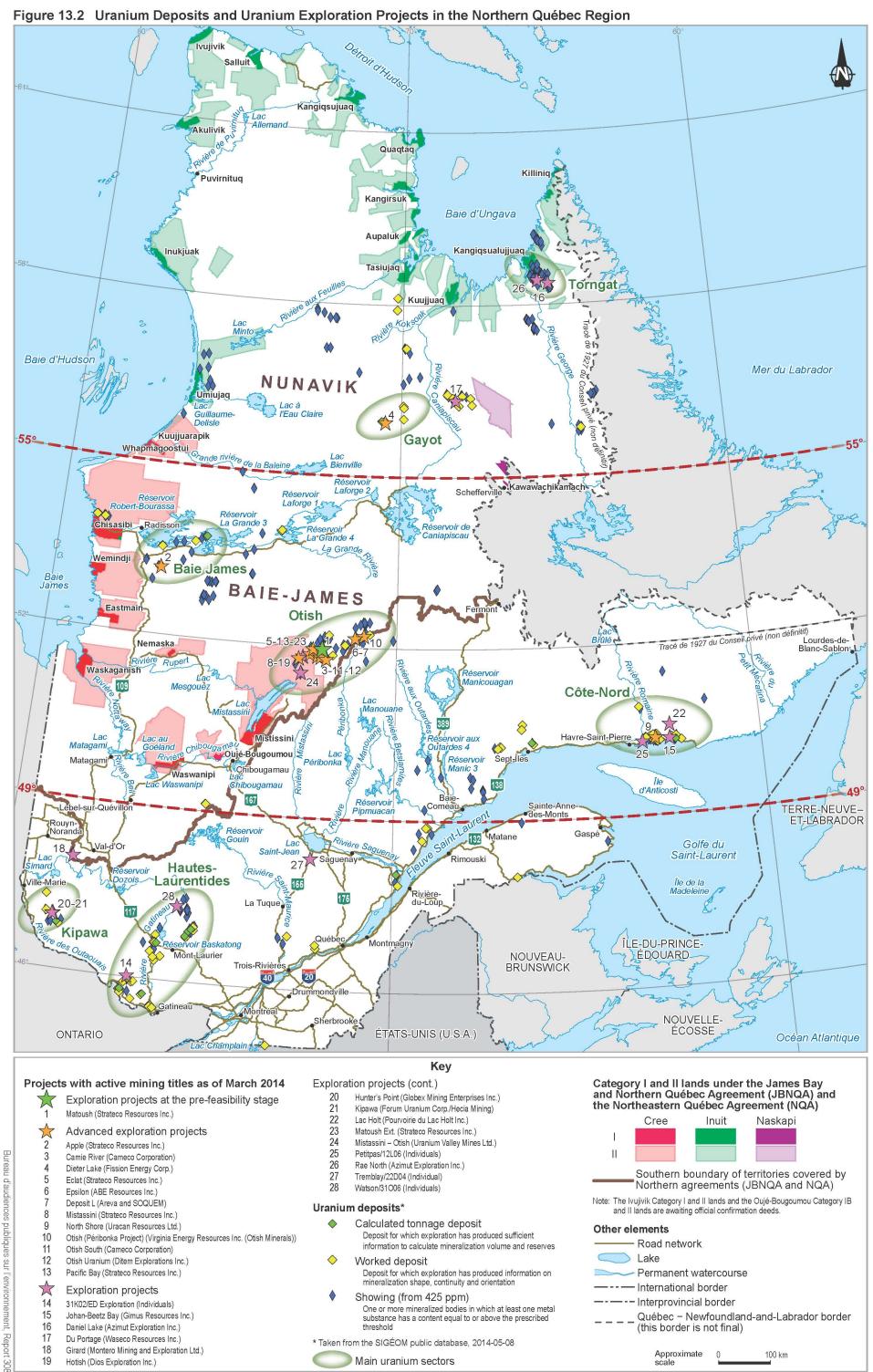
^{12.} A place at which there is a natural concentration of one or more mineral substances. This generic term does not reflect the level of advancement of exploration work, and covers the following terms: showing, prospect and ore deposit (EXPLO3).

^{13.} Deposit for which exploration work such as drilling has been carried out to identify the geological context and check the continuity and extent of the mineralized area (EXPLO3).

including geophysical analysis and drilling (Government of Canada et al., 2013, p. 2, 10, 28 and 54).

A map is produced, showing sites of interest in a given region, and if the findings are encouraging, the next step (development) is undertaken. The purpose of this step is to check whether or not a prospect is mineable. It involves a great deal of field work, additional drilling and collection of larger rock samples. Wells and access ramps must often be built to facilitate the work, and lodging and transportation infrastructures are usually needed (*ibid.*).

Subsequently, if the deposit is big enough and exploitation is profitable enough, the company will continue its work by developing the site, building access infrastructures (e.g. roads, railways, airports or port facilities), planning water and energy supplies, and constructing service buildings, a crushing plant and a concentration plant. Mining of the uranium ore then begins; this involves extracting ore that has economic value. There are two types of mines: underground and open-pit. When the ore has been mined, it must undergo a variety of physical and chemical operations so that the uranium can be used. A mine's useful life depends on the quantity of ore and the prevailing economic conditions. The final steps in the process are site restoration and mine closure (*ibid.*).



13.6.2 Impacts on the natural environment

Direct impacts associated with uranium mines

The impacts on the natural environment were documented extensively in Chapter 9, and this section will focus instead on the potential impacts of uranium exploration and mining on the natural environment in Northern Québec, and by extension on the communities that live there.

Every mining project is likely to impact the environment, and uranium mines are no exception. Uranium exploration, and especially uranium mining, may have consequences for the environment by contaminating surface water, soils, air or ecosystems.

The main potential sources of contamination from uranium mining activities for aquatic and terrestrial organisms are airborne emissions and liquid effluents. Dust and particles released into the air are carried by the wind and deposited on plants, soils and water. Effluent contaminants are transported by surface water, where they may remain suspended until ingested by aquatic wildlife, or until they become sedimented.

The main concern is the dispersal of radionuclides and chemical substances such as sulphur and heavy metals, which may be present in the industrial solutions used to process ore, and in mine waste. In addition to uranium itself and its products (radon, lead, polonium and thorium), waste from uranium mines may contain varying quantities of chemical reagents and substances such as molybdene, vanadium, selenium, iron and arsenic. These contaminants are likely to be released into the environment, or to remain in mine waste. In both cases they are likely to pose a risk to ecosystems and human health (SAN6, p. 6; INFO3.1, p. 4 and 5).

Uranium activities differ from other mining activities in that, in addition to chemical risks, they also generate radiation-related risks. The IAEA notes that the ecological impacts of uranium activities are usually the result of the chemical toxicity of heavy metals and other harmful substances, and may be much more significant than the impacts caused by ionizing radiation. However, as the MDDELCC representatives pointed out: "The scientific community believes, *a priori*, that the radionuclides which may induce non-negligible impacts on wildlife and plants are those with a half-life of more than ten days," including uranium and some of its decay products (IAEA, 2005, p. 7; INFO3.1, p. 5; Nathalie Paquet, TRAN37, p. 10).

Also, and as shown previously in this chapter, traditional country food is still an extremely important part of everyday life for the Cree, Inuit and Naskapi. Although these communities have access to commercial foods, hunting, fishing, trapping and berry gathering are still major sources of food and a way for them to live in harmony with their culture and identity. The individual identities of these Aboriginal communities have been shaped over time through their relationship with the land and nature. In addition to the

physical and spiritual importance of the land, food-related activities also play a major role in their economic balance.

Water contamination is a major issue for Aboriginal communities in Northern Québec because they generally take their water supplies directly from lakes and rivers, which are therefore both a source of drinking water and a source of life for aquatic animals, terrestrial animals and plants. Uranium mining activities may increase concentrations of many radiological and chemical substances in surrounding aquatic environments (National Academy of Sciences, 2012, p. 146).

Potential water contamination would derive mainly from the effluents released by uranium mining facilities. Generally speaking, these facilities are managed so as to ensure that drinking water supply sources are not contaminated. Canada has a variety of recommendations and criteria to help protect aquatic life and human health. For example, the CNSC has set a performance target of 0.1 mg/l for effluent, to reduce discharges of uranium into watercourses and hence minimize the impacts for aquatic life. Health Canada, in its recommendations on drinking water quality, established a maximum admissible uranium concentration of 0.02 mg/l for drinking water. These recommendations were subsequently included in Québec's *Regulation respecting the quality of drinking water* as a standard (INFO29, p. 13; NAT24, p. 27, 28; QUES4.1, p. 3 and 4).

According to monitoring data collected since 2010 in active uranium mines in Saskatchewan, the average concentration of uranium in surface water is below Health Canada's admissible maximum of 0.02 mg/l for drinking water. The CNSC ordered improvements to the treatment system in the late 2000s, and as a result, uranium concentrations in surface water located more than 2 km¹⁴ from the effluent discharge point fell to an average of just 0.0073 mg/l, which is similar to the natural concentration of roughly 0.001 mg/l. The CNSC also noted that if a proposal was presented for a uranium mine or concentration plant near a watershed used as a source of drinking water, specific restrictions would be imposed to protect the water (INFO29, p. 8 and 12; NAT24, p. 27 and 28).

Another major concern shared by the Northern Québec communities is the possibility of contaminating aquatic wildlife. Aquatic wildlife is in direct and permanent contact with water, making this the main source of exposure to contaminants. As a result, if the water becomes contaminated it will have an impact on a variety of fish and invertebrate species. Chemical and radiological substances can accumulate in their organs and contaminate the food chain (Isabelle Guay, TRAN37, p. 18; INFO3.1, p. 32 and 39).

The basic monitoring applied to all uranium mining facilities includes monitoring of chemical and radiological substances in the flesh of fish living in watersheds receiving

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^{14.} The 2 km distance, measured in a straight line from the effluent discharge point, is considered representative of the limits of cleanliness of authorized facilities, and as being a reasonable distance for the local footprint of a mining site.

mine effluents. According to data from Saskatchewan, uranium concentrations in the flesh of fish sampled at all monitoring stations downstream of uranium mine facilities were within the range of natural concentrations, and below the reference toxicity level. As a result, they did not present a danger to human health if consumed (NAT24, p. 49; NAT33, p. 5). Care is required here, however, since the data also indicate that "selenium is the one demonstrated to increase in flesh as a result of effluent releases, to levels of potential risk to humans" (NAT24, p 51).

Potential contamination of plants is also of concern to the Aboriginal communities, since many of them still gather plants and harvest berries. Plants also form the basis of the food chain, in that they serve as fodder for many animal species. Since uranium is naturally present in soil, it can be absorbed and accumulated by plants, but will only be present in very small quantities in fruits. Generally speaking, the impacts of uranium on plants vary from one species to another, and according to the characteristics of the soil and the age of the plant at the time of exposure (NAT2, p. 21). It is therefore difficult to draw any general conclusion (Canadian Council of Ministers of the Environment, 2007, p. 24 and 25; NAT2, p. 14 to 16; PR3, p. 86).

Given that traditional country food is still consumed extensively by Northern Québec's Aboriginal communities, mammal contamination is extremely important to them. There are several channels through which terrestrial mammals can be contaminated: orally (by ingestion), cutaneously (through the skin) or by inhalation (respiratory apparatus). However, oral exposure appears to be the most common, since the presence of uranium and other chemical or radiological substances in animal flesh is due mainly to consumption of contaminated plants or animals. Exposure can also derive from contaminated water, either by ingestion or by direct contact during immersion. Radionuclides can accumulate in mammals, mainly in the bones, kidneys, liver and spleen. There is usually little or no accumulation in the muscles (INFO3.1, p. 14, 17 and 21; NAT2, p. 49).

The example of the lichen-caribou-human food chain is typical of Northern areas. It has been shown that lichen is more likely than other plants to accumulate radionuclides. Since lichen is also the primary source of fodder for caribou in winter, this may well alter the food chain of the local population that consumes caribou. The caribou in northeastern Saskatchewan that live near uranium mining facilities are especially likely to accumulate uranium by eating lichen (Thomas *et al.*, 1999). However, these caribou can still be consumed today "without danger, since the dose from that source is below the doses acknowledged to trigger harmful effects for health" (NAT33, p. 6, free translation from the original French). Nevertheless, the CNSC notes that it is vital to monitor this link in the food chain very carefully, since the fact that lichen is able to accumulate such large quantities of radionuclides may constitute an additional risk of contamination for both caribou and humans in areas where uranium is mined (NAT33, p. 6 and 8; Thomas *et al.*, 1999).

Saskatchewan is the only Canadian province in which uranium is currently mined. Clearly, the communities living in the vicinity of the uranium mining facilities are concerned about the potential contamination of wildlife and plants used for food, including small fruits, fish and large mammals. In 2011, to gather more information on this subject, the Saskatchewan Government, Cameco Corporation and AREVA Resources Canada Inc. set up the Eastern Athabasca Regional Monitoring Program (EARMP). The program relies among other things on the local communities, and monitors the safety of traditional harvested foods by chemically testing for the presence of contaminants from uranium mines in water, fish, small fruits and mammals (moose and caribou) (NAT24, p. 56 and 57; NAT33, p. 5). The program's goals are to:

- establish the safety of traditional foods harvested for local consumption;
- initiate long-term monitoring in the communities' sampling areas, to assess variability and potential changes during those periods;
- create mutually beneficial relationships, involve community members and include them in the data collection process for the program;
- communicate the results of the monitoring process to community members and other stakeholders.

The seven communities concerned participate actively in the program by gathering specimens for analysis. They also selected the sites to be monitored, based on their use for traditional activities. As the communities pointed out: "This is where we collect the berries, this is where we fish, this is moose and caribou that they have hunted." (Malcom McKee, TRAN37, p. 52). The 2012-2013 program report concludes that:

The evaluation of the country foods data shows that most chemical concentrations are below available guidelines and similar to concentrations expected for the region.

(Canada North Environmental Services, 2014, p. iv)

In other words, the results show compliance with reference values for most of the substances analyzed.

- ◆ The commissions note that, for the Cree, Inuit and Naskapi people in Northern Québec, hunting, fishing, trapping and gathering activities are still of paramount importance in meeting their physical, psychological, economic, spiritual and cultural needs.
- ♦ The commissions note that the impacts of contamination of plants, terrestrial wildlife and aquatic wildlife as a result of uranium mining are highly variable from one place to the next and from one species to the next, that they depend on a number of factors, and that research has not yet produced sufficient information.

 Opinion – In view of the many scientific and technological deficiencies and uncertainties, the commissions are of the opinion that it is imperative for research to be intensified in order to provide clear answers concerning the impacts of uranium mining on the natural environment.

Emergency intervention capacity

There are currently a number of federal and provincial measures applicable in Québec which structure the response to uranium mining emergencies.

Every application to the CNSC for a licence to operate a uranium mine must be accompanied by "satisfactory proof that the uranium mine has an adequate emergency intervention and response capacity (personnel, facilities, emergency equipment, etc.) and information on outside, off-site resources to address every emergency situation" (EXPLO17, p. 1, free translation from the original French). The emergency preparedness program must comply with the CNSC's requirements and guidelines, presented in the document entitled *Nuclear Emergency Preparedness and Response*.

When a situation is likely to damage or degrade the environment, the MDDELCC's *Urgence-Environnement* (Emergency-Environment) service is available throughout Québec, at all times, to intervene or give advice that will help mitigate the environmental impacts (Marthe Côté, TRAN31, p. 16, 17, 39, 45 et 51).

James Bay and Nunavik are fairly remote, and access is both difficult and costly. One of the concerns expressed at the public hearings, despite the existence of regulatory measures, related to the intervention capacity of Government authorities in case of an emergency in these regions. How would the authorities react in an emergency (accident during transportation, spillage of radioactive materials, etc.) in James Bay or Nunavik, and how long would it take them to intervene? The MDDELCC representative had this to say:

Obviously, an intervention in the North would be more complex. The territory is huge, and specialized resources would have to be available quickly. The weather might make interventions difficult. It's a challenge. And then logistics support may be limited, and sometimes it's a sensitive area. So it would clearly require more [...]. (Marthe Côté, TRAN32, p. 53, free translation from the original French)

The MDDELCC noted that the *Urgence-Environnement* service could also be deployed in Northern regions (Marthe Côté, TRAN31, p. 60). Moreover, discussions are underway with local authorities to set up intervention measures and plans, so that, in an emergency, the *Urgence-Environnement* service would work closely with local authorities (Marthe Côté, TRAN32, p. 53). If the situation is beyond the capacities of local first responders and the MDDELCC, Québec's Public Security could become involved.

A risk assessment and preliminary emergency plan must be prepared as part of the environmental review process. The plan must then be finalized with local stakeholders

once the project has been accepted (Marthe Côté, TRAN32, p. 53 and 54). As the MERN representative noted:

If a mine were to be developed in a specific area, we'd examine the risk [...] with the mining company, with the community, and so on. Basically, we'd assess the intervention needs and times, which could be adjusted, so we make sure everything is taken into account and the people in the area are safe. (Bruno Faucher, TRAN32, p. 53, free translation from the original French)

The MDDELCC also carries out risk assessments. However, for radiological risks, it waits for priorities to be set by two of the *Organisation de sécurité civile du Québec's* subcommittees: one on radiological and nuclear risks and one on incidents involving chemical, biological, radiological, nuclear and explosive agents. The MDDELCC's preparedness for potential accidents involving radioactive materials will depend on the priority level (Marthe Côté, TRAN31, p. 39).

 Opinion – The commissions are of the opinion that, before committing to the development of the uranium industry, it is essential for the Québec Government to establish a plan of action stipulating the measures that must be taken to ensure rapid emergency intervention in Northern Québec, including adequate human and financial resources.

The indirect effects of mining

Because the northern regions are comparatively isolated from the rest of Québec, a new mine would require not only its own functional facilities, but also extensive transportation infrastructures, for access to the facilities and for transportation of the ore. Generally speaking, implementation of a new mine may cause loss of natural environments, fragmentation of forest stands and disturbances to wildlife due to increased noise and the presence of humans (François Martin, TRAN38, p. 6, 7, 42 and 43). However, according to the MFFP, there are currently no empirical studies specific to Québec which measure the impacts on wildlife caused by opening up the territory. In addition to these potential impacts: "the fact of opening access to new areas may increase the pressure from hunting and fishing. The risk of over-exploitation will vary according to the lakes concerned, the density of the game populations, the number of users and, obviously, whether or not the regulations are enforced" (NAT14, free translation from the original French). The question of access is especially important to the Aboriginal people, and the potential negative impacts, such as the opening up of the territory, poaching and loss of peace and quiet, must be set against the fact that the roads, lanes and trails created for the mine will often make it easier for the communities to use their land.

Currently, in the territories under agreement, access infrastructures (roads, landing strips and docks) are limited or non-existent in some cases. The existing infrastructures in both Nunavik and James Bay were developed with no real territorial planning, solely with the aim of supporting the needs of the mining companies. As noted by the KEQC,

"coherent development of access infrastructures in Nunavik and their status as private or public facilities has been and is still a cause for concern to the Commission" (PREMNAT4, p. 15; PREMNAT14, p. 24, free translation from the original French).

Since any future development of the uranium industry in Northern Québec would require numerous access infrastructures that are likely to have impacts on the natural environment, it must be planned from a comprehensive, integrated standpoint, with due consideration given to all the proposed development projects in the territory. This approach would be in keeping with the principle of sustainable development relating to the carrying capacity of ecosystems, ¹⁵ by which human activities must ensure the survival of ecosystems.

In Nunavik, for example, ore could be shipped to Southern Québec by land, sea or air. The 2014 *Parnasimautik* Consultation Report, which addressed this issue extensively, noted this:

Air, sea and land transport are strategic issues for regional development. Decisions regarding this infrastructure are too often driven by economic factors deriving from the mining and hydroelectric sectors, leading to a proliferation of infrastructure and leaving the communities with little or no input. As industrial development advances, the feasibility and strategic importance of integrated air, sea and land transport issues must be studied in terms of their impacts on wildlife, habitats, employment and economic development, and priority must be given to the orientations set by the communities.

A policy regarding the construction, maintenance and shared use of land, air and sea transport infrastructure is necessary to ensure coordination between the Québec government and the region, and ultimately produce spinoffs for and improved living conditions in the communities. At all stages, close monitoring and correction of the environmental and social impacts of this infrastructure must be mandatory.

(Makivik, 2014, p. 153)

In addition, given the scope of the Plan Nord, which aims to develop the economic, mining, energy, social, cultural and tourism potential of Northern Québec, and in view of the multi-sector aspect of the resulting development projects, it is important to consider the possibility of a strategic environmental assessment for all such projects (Gouvernement du Québec, 2014: online). As recommended to the Government by the JBACE in 2010, an assessment would be useful in analyzing the cumulative impacts from all initiatives planned in Northern Québec, and in assessing the potential impacts for the land and for the way of life of its occupants (JBACE, 2010, p. 3). The KEAC also produced an opinion in 2009, recommending that a strategic environmental assessment be carried out (KEAC, 2009, p. 10).

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^{15.} The maximum pressure that humans can place on an ecosystem through their activities without damaging its integrity, in order to ensure its survival.

As for how the cumulative effects of different projects in Northern Québec would be taken into consideration, the MDDELCC, the MERN and MFFP, which all have a role to play in mining development and impact management, are each saying that the others would be responsible for carrying out the assessment. At the present time, projects are usually considered individually, and no integration mechanism is yet available.

• Opinion – In view of the importance of issues relating to access and opening up of Northern territories, the commissions are of the opinion that the access infrastructures required for mining projects in general, and uranium mining projects in particular, should be planned and developed coherently, from a general territorial perspective, with due consideration for other development projects. Accordingly, an analysis such as a strategic environmental assessment should be carried out beforehand, to ensure that the cumulative impacts of development are taken into account.

Uncertainties and background noise

Despite the research done so far, there are still many uncertainties, and further work is still required to clarify all the potential environmental impacts of uranium mining activities. For example, little has been written about the long-term toxic impacts of chemical and radioactive substances on terrestrial and aquatic animals living in the vicinity of uranium mines. As one participant from Nunavik pointed out:

People can't pretend there won't be an impact, because there will be one. And if it has an impact on them, then it will also have an impact on us. And the animals migrate to other places; they don't stay in the same place. They aren't limited to a single place, they go to other places. So not only will there be repercussions for our community, but it will also have an impact on the entire region. (Kenny Agnatok, TRAN55, p. 47, free translation from the original French)

As noted by several experts at the public hearings, it is difficult to assess potential environmental impacts without having a specific uranium mining project on the table, because some aspects will vary according to each individual project, and must be considered separately. For an accurate assessment of the environmental, health and social aspects, basic information is required on the project's surrounding environment and on its baseline status before the project is implemented. A MDDELCC representative pointed out that the regions with uranium potential, especially Northern Québec, may have different background noise levels in different localities, as has been the case elsewhere in Canada (Isabelle Guay, TRAN37, p. 20).

With regard to the impact assessment for a specific project, the MDDELCC points out that:

- [...] A more detailed and precise description of potential impacts specific to the Nunavik region can only be given with respect to a real, advanced exploration project or uranium mining project that is subjected to an impact assessment and review, during which its potential impacts on wildlife, plants and ecosystems in the host environment would be studied rigorously and extensively. In this particular field, the response depends on the nature of the project and on the physical, biological, socio-cultural and economic context in which it will take place. (QUES14.1, p. 2, free translation from the original French)
- ◆ Opinion The commissions are of the opinion that, before authorizing a uranium exploration or mining project, characterization must first be performed in order to establish the baseline status of all environmental components.

13.6.3 Impacts for human health

Impacts for human health were addressed in detail in Chapter 10, and this section will therefore focus specifically on potential exposure of Aboriginal populations living in Northern Québec and the ensuing risks to their health. The general profile of Cree, Inuit and Naskapi population health, along with the importance of traditional country food, will be considered first, in order to understand the scope of this issue for Northern communities.

Aboriginal population health and diet

Although hunting, fishing, trapping and berry gathering no longer as significant in scope as they used to be for Northern Québec's Aboriginal populations, traditional country foods¹⁶ are still part of their diet for the Cree, Inuit and Naskapi. Depending on the season, their daily dietary intake is completed by commercial foods, usually processed, that are purchased in grocery stores. These commercial foods are often very expensive.

Here, in Kangiqsualujjuaq, for example, everything is very, very expensive. If you have to pay in terms of dollars, every breath you make is a dollar sign. So we are trying to survive and what helps us to survive is being able to harvest wildlife in this country. We have, in the sea, belugas, walrus, seals of different kinds, there's fish of all kinds, caribous. There are many wildlife in our region that we harvest. (Bobby Baron, TRAN54, p. 70)

Traditional country foods are exceptionally rich in vitamins and nutrients of all kinds, including protein, iron, magnesium and zinc, and they play an important role in Aboriginal health. The shift in diet that has occurred in Northern Aboriginal populations in recent decades, towards more of the commercial foods that are increasingly present in the region, has generated some serious health problems including diabetes, obesity and cardiovascular disease. The Aboriginal populations seem vulnerable to the nutritional deficiencies caused by the lack of traditional country foods in their daily diets. These traditional foods are not only associated with a healthy lifestyle because they are

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In other words, "animal and plant species culturally identified as food and harvested from the local environment" (RBHSS, MEM199, p. 1).

the products of hunting and fishing, but they are also agents of cultural identity and social cohesion in the Aboriginal communities. Traditional country foods have many benefits for the health and well-being of Aboriginal populations, and health organizations working in Northern Québec, including the Nunavik RBHSS and the CBHSSJB, now actively promote them (CBHSSJB, MEM80, p. 19; Nunavik RBHSS, 2008: online and MEM199, p. 21 to 23; Riva et al., 2012, p. 110).

Even today, there is still a considerable difference between the health of Northern Aboriginal populations and the health of the Québec population in general. According to a study published by the MSSS in 2011 (p. 46), life expectancy at birth is more than 80 years for the general Québec population, 78 years in James Bay, but barely 66 years in Nunavik. This difference is explained by a number of factors, including the high cost of living, limited access to a healthy diet, overcrowded housing, high unemployment rates and so on (CBHSSJB, MEM80, p. 10; Riva et al., 2012, p. 109).

The commissions note that traditional country foods form an important part of the daily diet of the Cree, Inuit and Naskapi of Northern Québec, and are essential in maintaining their health and well-being.

Exposure to chemical and radioactive substances associated with uranium mines

Like all other mining projects in Québec and throughout the world, uranium mining projects may pose certain risks to human health – risks that depend on the level of exposure to the chemical and radioactive substances generated by mining activities. The main sources of exposure for Aboriginal populations in Northern Québec are connected with their way of life, and more specifically with the fact that they consume traditional country foods (mammals, game, fish, birds, berries and drinking water often drawn directly from lakes or rivers). If any of these products are contaminated, the populations that consume them will necessarily be exposed to a greater degree.

This concern was mentioned on many occasions during the hearings in Northern Québec. Participants spoke of it frequently, and their interventions can be summarized in two questions: Could the fact of living near a uranium mine have an impact on my health and the health of my family? And will we still be able to eat traditional country foods from our land and drink water directly from lakes and rivers?

To consider the situation within a real-life framework, the BAPE commission asked the Institut national de santé publique du Québec (INSPQ) to perform an assessment based on the Cree communities' diet (QUES22). Despite a rigorous approach, it was not possible, using the INSPQ's assessment, to measure the contribution of modern uranium mines to the exposure of populations with a mostly traditional diet (QUES22.1, p. 15). This is explained mainly by limited current knowledge of the situation in the regions

concerned, in particular with regard to background noise.¹⁷ As is the case for the natural environment, information on regional background noise is essential to assess the additional level of exposure that would be generated by a uranium mine.

The EARMP monitoring program applied in Saskatchewan in the vicinity of functioning uranium mines assesses the risk to human health from uranium mining activities. The EARMP report conclusions show that:

[...] the non-radiological exposures to residents as a result of country food consumption are similar to those of members of the general Canadian population and are below values that are considered to be protective of health effects and therefore do not represent a cause for concern. Similarly, the radiological doses are below the public dose limit and as such are not a concern from a human health perspective.

(NAT24, p. 50)

Based on this, the results indicate that the harvesting of country foods in the region does not present health risks to Athabasca basin residents.

Concerning the connection between health problems and the fact of living near a uranium mine, research so far has unfortunately not reached a firm conclusion, and there are many limiting factors. For example, some studies estimate that the population is "exposed" at distances ranging from 800 metres or less to 50 metres or less, while others describe a population as "not exposed" if it lives anywhere between 30 km to 50 km away. Health risk assessments for nearby populations also show that the presence of a uranium mine can result in additional exposure and may pose a real risk to health. However, it is currently impossible to determine the area of influence of a uranium mine due to variations in the research data (SAN6, p. 156 to 160).

- ◆ The commissions note that the findings from the uranium region located east of the Athabasca basin in northern Saskatchewan, concerning the safety of traditional foods harvested near mines, are generally reassuring. However, the commissions also note that the assessment performed by the Institut national de santé publique du Québec (INSPQ) did not reach the same conclusion, due to the absence of data on natural levels in the environment (background noise).
- The commissions note that research to date does not reliably show a connection between the fact of living near a uranium mine and the development of health problems, and that, at this time, it is impossible to establish the area of influence of a uranium mine for resident populations.
- Opinion The commissions are of the opinion that characterization of background noise is essential and necessary in order to assess the additional exposure generated by a uranium mine.

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^{17. &}quot;Background noise" refers to the normal, natural amount of uranium in a given environment.

Psychological health

In addition to the direct effects of chemical and radiological substances from uranium mines, fears and concerns about contaminants can also impact health. The most harmful consequences of actual or feared contamination, for the Aboriginal people, are related more to the negative effects of worry and anxiety than to the actual toxic effects of the contaminants (Usher *et al.*, 1995, p. 201).

As mentioned by the Nunavik RBHSS and the CBHSSJB, fears that traditional country foods have been contaminated, even if contamination cannot be proved, are likely to change the hunting, fishing, trapping and gathering habits of the Cree, Inuit and Naskapi populations in Northern Québec. This may encourage them to become more sedentary, cause them to eat more processed foods and hence affect their physical health (CBHSSJB, MEM80, p. 14; Nunavik RBHSS, MEM199, p. 24).

Although uranium exploration and mining activities can affect the psychological and social health of neighbouring populations, not all communities are affected in the same way. For example, the effects could be greater in a more remote, demographically smaller community or in a community where psycho-social characteristics are already unfavourable (INFO32, p. 17; INFO39, p. 21). The remote communities of Northern Québec, which are mostly demographically small and, in some cases, faced with psycho-social problems, are especially vulnerable to the potential psychological and social impacts of uranium industry development within their territory. Not only do uranium mine projects cause anxiety, but they may also change the social climate and cause the local population to lose trust in the authorities (SAN6, p. 210), especially if the information, communication and community participation process is not activated from the initial stages of a project.

In addition to these vulnerability factors, the impacts of uranium development on the quality of life of neighbouring populations appears to be greater in Aboriginal communities because they are so strongly attached to the natural environment, and also because of their values and way of life. For example, a uranium mine could trigger a change of values and potentially diminish mutual support and sharing within the community. This effect is likely to be exacerbated in Aboriginal communities with very strong social ties (SAN6, p. 211; Geneviève Brisson, TRAN42, p. 20).

In addition to these potential effects, there are also the known, well-documented impacts of other types of mining activity. Post-project studies performed in small communities show that increased household incomes often lead to more drug and alcohol use, which in turn generates a variety of psychological and physical impacts. There may also be other effects, such as social inequities, problems with access to housing, overcrowding, and even a gradual loss of cultural identity (INFO32; INFO39; INFO45; Thierry Rodon, TRAN45, p. 19 and 20).

The World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (2003: online)¹⁸. This definition reflects a holistic view of health, based on the human being as a whole. As The Aboriginal concept of health is also based on a similar holistic model in which mental, emotional and spiritual health are just as important as physical health (Darlene Kitty, TRAN57, p. 34). For example, the Cree language does not have the equivalent of the English term "health". The term used to express this is *miyupimaatisiiun*, which translates as "well-being" or "being alive and well". The meaning of this word encompasses every aspect of Cree life, including the individual's affinity with hunting, the Earth and food, protection from the cold, and physical activity (Adelson, 1998, p. 10 and 11). Health therefore depends on a host of interrelated factors operating at different levels in time and space, including the social cultural, economic and political context, the natural environment, lifestyles and housing conditions (Riva *et al.*, 2012, p. 107 and 108).

- ♦ The commissions note that fears to the effect that traditional country foods will be contaminated by chemical and radiological substances generated by uranium mines may lead to changes in the hunting, fishing, trapping and gathering activities of Aboriginal people, and that such changes may eventually be harmful to their health.
- Opinion The commissions are of the opinion that the Aboriginal communities may experience psychological and social impacts from uranium development, due to their remote locations, small demographic size, attachment to the natural environment, and their values, cultures and way of life.
- Opinion The commissions are of the opinion that, before considering the development
 of uranium mines in Northern Québec, it would be appropriate to document social and
 psychological issues specific to Northern populations, due to their community, cultural
 and spiritual context.

13.6.4 Potential spin-offs for the communities

During the hearings, several participants questioned whether the economic spin-offs and revenues generated by uranium mining were worth its potentially major impacts for society. Some felt the spin-offs and revenues were insufficient to produce an overall benefit for society, or to compensate for the social, environmental and health-related impacts of uranium industry development. The question was of particular interest to the Northern Québec communities; because of the high uranium potential in their territory, they may be the only ones to suffer the negative consequences, and may also be among the main beneficiaries.

In this report, the BAPE commission attempted a cost-benefit analysis of uranium exploration and mining, but was unable to do so because of the fragmentary nature of

^{18.} Preamble to the Constitution of the World Health Organization, as adopted by the International Conference on Health, New York, June 19-22, 1946; signed on July 22, 1946, by representatives from 61 states. (Official Proceedings of the World Health Organization, No. 2, p. 100) and came into force on April 7, 1948.

the available data, among other things. The potential spin-offs from a given activity cannot realistically be assessed without an assessment of its social and environmental costs. In the specific case of the uranium mining sector, a number of elements must be considered, including the nuisance effects for nearby communities, site restoration and financial guarantees covering long-term maintenance and monitoring.

Following its analysis, the BAPE commission has concluded that it is currently impossible to estimate the environmental and social costs of uranium industry development because the necessary information is either not available or is too fragmented. The MERN produced a set of mining industry indicators that it was supposed to use for an exhaustive analysis of mining activity in the province. This analysis, to be completed before the summer of 2013, was to present the main economic, social and environmental costs, benefits and impacts of mining activity (Auditor General of Québec, 2013, p. 22). However, the document actually produced by the MERN, in collaboration with Québec's Ministère des Finances, simply described the economic and tax-related spin-offs from the mining sector in Québec, and like the report mentioned earlier, was still not available in April 2015 (QUES30.1, p. 2).

In this respect, the Auditor General of Québec, in a follow-up report to an audit of resource optimization in Government interventions in the mining sector, raised the following points:

The Government, as the trustee of mineral resources, must verify whether the positive spin-offs from the sector are sufficient to justify its short-term and long-term economic, social and environmental costs. [...] Progress in this respect is unsatisfactory. The MRN has not performed any analysis to see whether the benefits derived from mining activities are sufficient to compensate for the associated costs. Without this, it is impossible to assess the net spin-offs from mining for Québec society. [...] The MRN is presently preparing a log composed of indicators that will reflect the development of the mining sector.

(Auditor General of Québec, 2013, p. 10 and 11, free translation from the original French)

♦ **Opinion** – The commissions are of the opinion that a cost-benefit analysis of the uranium industry, taking into consideration the impacts on local communities and the environment, would be a relevant and necessary tool to support decision-making.

The aim of Québec's new mining taxation system, published in May 2013, is to establish a competitive business environment that will stimulate investments in Québec's mining sector, in line with sustainable development principles, and will allow the population as a whole to receive a fair share of the benefits from mineral resource exploitation. Following its analysis, the BAPE commission acknowledges that the new system could increase the economic and tax-related spin-offs from mining activity for Québec society as a whole. However, the commission also feels that the high level of uncertainty will make it extremely difficult to produce a cost-benefit analysis of the uranium industry, and without this, it is impossible to assess its true economic value for Québec society.

13.7 Social Acceptability in Northern Québec

Although social acceptability is addressed from a variety of standpoints in Chapter 14, this section is designed to help understand the issue within the specific context of James Bay and Nunavik.

13.7.1 The importance of social cohesion in the communities

The notion of social cohesion is extremely important for social development and in understanding the issue of social acceptability. The term is a synonym for social solidarity. It increases or recedes within a given population according to the nature and intensity of the commercial, political or community-based relationships between the component individuals and groups (Donzelot, p. 13).

According to some theories, social cohesion should result in balance and functional coexistence between the groups sharing a territory. This balance may be achieved when every citizen is given the chance to play an active role in society and be recognized for it. Public participation is therefore regarded as a vector of social cohesion (Donzelot, p. 14 to 16). In the context of Aboriginal communities, it is important not to confuse the relationship-based aim of social cohesion with the assimilatory policies and practices of recent decades, designed to level out identities.

In the territory subject to land claims agreements, social cohesion has become a necessary aspect of development. Today, local actors demand to be involved in decisions affecting the environment in which they live. This requires appropriate mechanisms to promote participation, including information and consultations.

In other cases, social cohesion is measured by the level of trust in the institutions and organizations that represent citizens' rights (Soroka *et al.*, p. 8). For example, the Cree people trust the system of traplines and tallymen, the band councils, the Grand Council of the Crees and other authorities (JBACE, CBHSSJB, Cree Trappers' Association, etc.). Indeed, thanks to these stewardship structures, more than 175 agreements and acts have been signed with the governments of Canada and Québec, Crown corporations, Government agencies and private industries.

Another key feature of social cohesion specific to James Bay is the sharing of the territory by the Cree Nation and the non-Aboriginal Jamesian population. This joint occupation, which has persisted for many decades, creates a specific context and raises a number of challenges that do not exist in Nunavik, where the Inuit account for 90 % of the resident population. Over time and as it gains experience, the new EIJBRG should facilitate the expression of social cohesion between the Cree and Jamesian populations.

The familiarity and experience that the Jamesian population has developed in the area of natural resource use may be seen as factors conducive to social cohesion.

In the case of the Inuit, the Makivik Corporation, Government agencies, the committees created by the JBNQA, the development agreements signed with private companies and the collaboration agreements ratified by the Governments have also helped improve the level of trust among Inuit and their representatives with regard to major decisions for their future. The recent *Parnasimautik* consultation process is an excellent example of the way in which the Inuit, individually, as families and as a society, have been able to join forces and adopt a shared vision for the future by identifying a series of goals to be achieved collectively. The practice of sharing food among family members and within the community, still common in Inuit communities, is another example of social cohesion.

The commissions note that the social cohesion of Cree, Inuit and Naskapi communities is obvious, since it is based on their own institutions, and because the communities acknowledge and use its benefits at both the individual and collective levels.

13.7.2 Social unacceptability in Northern Québec

The concept of social acceptability is based, among other things, on productive exchanges of information. The JBNQA, through committees that ensure the participation of Aboriginal peoples in project assessment processes, plays an integral role in the development of natural resource-based projects in the territory covered by it. It is thanks to these committees that the Cree, Inuit and Naskapi can send and obtain information and ask questions, thereby promoting informed decisions and, ultimately, social acceptability or unacceptability. There is no other place in Québec that offers such a structured context for inclusion, appreciation and assessment of Aboriginal values and interests in the natural resource development review process. The notion of social acceptability in this territory has therefore developed within a framework that is completely different from what exists elsewhere in Québec. As noted by the Cree Nation Council of Mistassini: "We also have treaty rights under the JBNQA. This regulatory framework ensures that the Cree of Mistissini have the right to participate in decision-making processes on issues impacting them" (MEM25, p. 6).

The agreements, characterized by real, functional relationships between promoters and communities for the lifespan of a project, are important indicators of social acceptability. Although they do not guarantee social acceptability, the promoters' integrity and methods during projects are not only important, but essential. The presence of a working relationship between a promoter and the community is an indication of social acceptability, and the absence of such a relationship would therefore be a cause for concern, and a sign that social acceptability was lacking or absent.

In the North, social acceptability is a combination of several elements. First, it must be built on a relationship of trust with governments and the industry, and must also be supported by credible scientific notions and proven technologies. For Aboriginal peoples, social acceptability depends on relationships, communications, reliable information available in their own language, and honesty. This was confirmed by several Aboriginal participants who came to the public consultations:

And so, from then on, we want to be told the honest truth, because this is our hunting ground you are playing with. This part of the country from the shore to the inland, we have been living in it for over four hundred (400) years. (Johnny Sam Annanack, TRAN54, p. 47)

The lack of knowledge and information concerning uranium within our communities is – we don't know anything about uranium except the fact that it is dangerous, and when you don't have that information the fear of the issue is very strong. So, our first reaction will be we don't want uranium. That will be the first reaction. The lack of information is just so strong on this subject, and I think that is something, as an individual I know I have the right to get the information on my own, but when the province of – when the provincial Government is seeking feedback on the subject I think it is the responsibility of the provincial Government of provide more extensive feedback on the subject.

(Tunu Napartuk, TRAN16, p. 24)

So as they said before, our leaders that spoke before addressed some of the issues that this community had to go through, had to deal with. There are still some impacts that are left unresolved as of today which we know. So, there is really, to me there isn't anybody that can say, address this community and say I am an expert at this and that, and it is going to have a minimum impact on your way of life, unless they fully understand our way of life. (Abraham Rupert, TRAN9, p. 24)

At the present time, the Aboriginal people are certain of just one thing: uranium is dangerous. As noted on numerous occasions by participants, there is still too much uncertainty surrounding the substance, its potential interactions and impacts in the Northern environment, and the technologies available to manage the mining process and stored waste. The experts who spoke at the hearings were unable either to give convincing answers to the questions raised, or to reassure the communities.

In addition, the Northern regions are remote and isolated, and the capacity of the agencies concerned to regulate and monitor activities or intervene in emergencies remains doubtful. Although legislation and regulations would be updated and adapted to cover activities such as uranium exploration and mining, they would be of limited value if they were not applied effectively in the North.

In the territory of Eeyou Istchee, the Matoush project constitutes a real example of how important an accurate reading of social acceptability in the host community can be. As noted by the Grand Chief of the Crees at the opening session of the BAPE hearings:

The concerns and opinions of the population directly affected by uranium mining must be at the core of any decision regarding the uranium sector. Social acceptability cannot be treated as an afterthought. [...] The views of the people who live near the uranium deposits, the people who must bear the real risks, must be at the forefront of your work over the next year. (Matthew Coon-Come, TRAN1, p. 8 and 11)

In Nunavik, the discussion of social acceptability in connection with the uranium sector is purely "conceptual" for the time being, since there is no real project on the table. Social acceptability only becomes real when there is an actual project within which people can build a relationship directly with the promoter, through or after the environmental and social impact assessment and review, in compliance with the *Nunavik Inuit Mining Policy*, and in which questions are expressed and information is shared so that any decisions made are properly informed.

In the specific case of the uranium sector, it would appear, for the time being, that the conditions for social acceptability in the eyes of Northern Québec's communities are not present. The testimony heard and briefs submitted during the consultations lead to one unquestionable conclusion: uranium sector development is considered socially unacceptable by the communities, and this opinion is generalized. Given the complexity of the uranium sector itself, and the uncertainty surrounding its impacts on health and the environment, the Northern Québec communities, both collectively and individually, have massively expressed their sense of mistrust, fear and refusal.

- Opinion Given the strength of social cohesion in the territory under agreement, the commissions are of the opinion that social acceptability must be a priority consideration for uranium sector development.
- ◆ The commissions note the lack of social acceptability for uranium sector development in the territory under agreement, among the Cree, Inuit and Naskapi.
- The commissions note that the complexity of the uranium sector and the many scientific and technical uncertainties surrounding it significantly limit the social acceptability of uranium exploration and mining activities in the areas under agreement.
- Opinion The commissions acknowledge that compliance with the provisions of and obligations created by the James Bay and Northern Québec Agreement and the Northeastern Québec Agreement encourage informed collective decision-making, which is reflected by social acceptability or unacceptability with respect to projects in the territory subject to these agreements.

13.8 Conclusion

As they conclude their work, the BAPE, JBACE and KEAC commissions note that the Aboriginal communities in the territories of Québec covered by the agreements are virtually unanimous in their rejection of uranium development.

This massive popular rejection is based mainly on the radioactive nature of uranium and the many uncertainties that persist and that constitute the dominant factors in this social choice. The Aboriginal communities' fears regarding radioactivity have been amplified by the uncertainty surrounding contamination of the environment and the food chain, the potential impacts on health, incident management in remote areas, and waste management in the medium and longer term.

The commissions feel that a political choice to impose uranium exploration and mining in Québec would considerably weaken the trust and relationship between the Government and the communities in these territories, and would also adversely affect social cohesion and peace. Accordingly, the three commissions advise the Québec Government to proceed with the utmost prudence, since any decision made without informed consent is likely to have a social and political cost.

For the COMMISSION OF THE BUREAU D'AUDIENCES PUBLIQUES SUR L'ENVIRONNEMENT

Louis-Gilles Francoeur Chair, BAPE Commission

In Québec City, on this 20th day of May, 2015

For the COMMISSION OF THE JAMES BAY ADVISORY COMMITTEE ON THE ENVIRONMENT

Paul John Murdoch Chair, JBACE Commission

In Québec City, on this 20th day of May, 2015

For the COMMISSION OF THE KATIVIK ENVIRONMENTAL ADVISORY COMMITTEE

Michael Barrett

Chair, KEAC Commission

In Québec City, on this 20th day of May, 2015

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Conclusion

Uranium exploration and mining involve risks similar to those associated with other metals, plus the risk of radioactivity, which raises a number of very specific concerns and issues.

Experience acquired in uranium mines over several decades has led to the development of operating and emission control technologies and strategies for waste confinement. On the other hand, there are still a many residual uncertainties and unanswered questions concerning the risks to human health and ecosystem integrity.

These uncertainties are exacerbated by the fact that uranium mine waste is radioactive, meaning that it can cause problems for thousands of years. In addition, the most recent confinement technique recommended in Canada was introduced roughly 30 years ago. Older technologies are now considered obsolete, even though they were regarded as lasting solutions when they were first introduced. The long-term effectiveness of the technologies we are using today has not been tested, and it is therefore legitimate to wonder how future generations will judge them.

The uncertainties, gaps and sometimes major limitations in scientific knowledge have divided the experts. Some regard the current state of knowledge about uranium as grounds for moving forward, while others do not. Clearly, opinions are far from unanimous and there is no substantial scientific or social consensus. In Québec, this situation has generated a very low level of acceptability among the population and other social stakeholders. The inquiry commission found that the uranium industry was rejected almost unanimously by the Aboriginal communities in territories subject to land claims agreements in James Bay and Nunavik, and in Southern Québec.

As a result of this situation, described in detail in the different chapters of this report, the inquiry commission has concluded that it would be premature to authorize uranium industry development in Québec.

The Government could decide to suspend uranium mining in Québec either temporarily or permanently. However, because of its legal and economic impacts, such a decision should not be made in haste, so as to minimize its costs.

On the other hand, if the Government decides to open the door to uranium mining in Québec, it must satisfy three requirements.

First, it must ensure that social acceptability is present with regard to uranium industry development. This will not be possible without an extensive information and coordination campaign.

Second, it will have to work hard, over a long period, to generate enough reliable knowledge to overcome existing scientific gaps and technological uncertainties.

These two aspects go hand-in-hand, and affect every level of society. A straightforward information campaign designed to sell a positive image of the uranium industry may well have the opposite effect, given the population's skepticism and fears. Years of work, awareness-raising and coordination will be required.

Third, the Québec Government must take the time it needs to develop a legal framework more compatible with the respective missions of its departments, and must enter into a federal-provincial agreement that will allow it to control uranium mine operations by means of rules that are harmonized with federal legislation. The agreement should include the best aspects of the experience acquired by the Canadian Nuclear Safety Commission and the model developed by Saskatchewan, which is the only Canadian province that currently mines uranium resources. The Québec Government authority should also acquire expertise in the field of radioactivity, so that the Canadian Nuclear Safety Commission is able to delegate the application of certain regulations.

Realistically, it will take several years to create conditions conducive to uranium industry development in Québec. Accordingly, the inquiry commission feels it would be inappropriate to give the green light to uranium mining in Québec in the current context.

Made in Québec City,

Louis-Gilles Francœur Chair, Inquiry Commission

Michèle Goyer

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