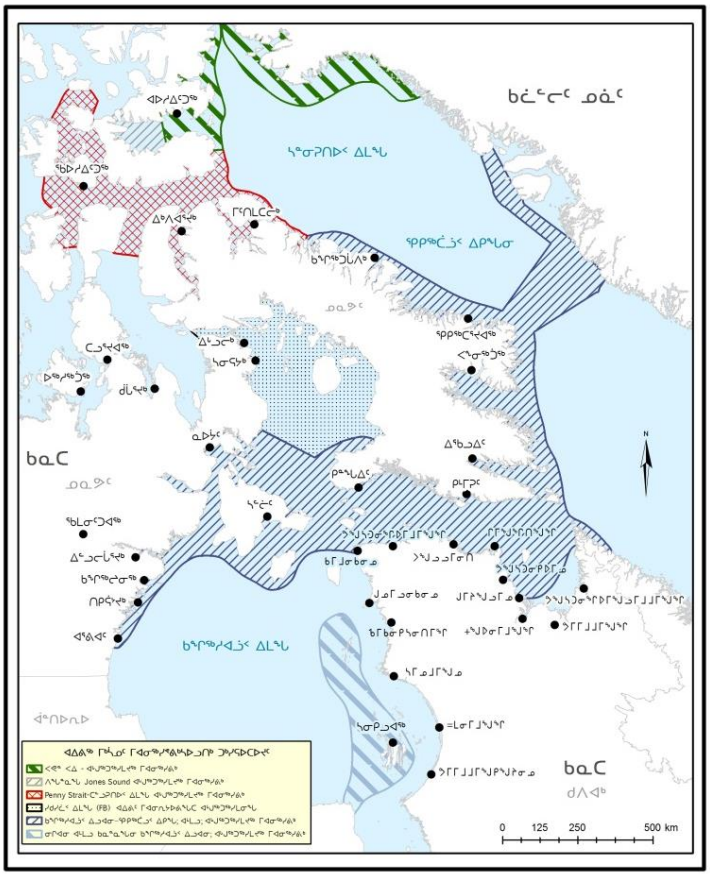
Fisheries and Oceans Canada | Pêches et Océans Canada
Ecosystems and Oceans Science | Sciences des écosystèmes et des océans

ᑲᓇᑕᒥᐅᑦ ᑭᒃ ᓕᓯᓂᐊᖅᑎᑦ ᐅᖃᐅᔾ ᓗᒋᐊᖅᑎᑦ ᑎᑎᕋᕐ ᕕᖓᒐ
ᑲᓇᑕᐅᑉ ᕿᑎᐊᓂᐊᒻᒪ ᒪ ᐅᑭᐅᖅᑕᖅᑐᕐ ᒥᐅᑦ ᑭᒃ ᓕᓯᓂᐊᖅᑎᑦ ᐅᖃᐅᔾ ᓗᒋᐊᖅᑎᑦ ᐅᓂᒃ ᑳᓕᐊᖕᒋᒃ **2016/007**

ᒥᒃᓴᐅᓴᒃᑕᐅᓂᖕᒋᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᒻᒪ ᑲᑎᓐᖓᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᐃᕕᖕᒋᓐᓂ ᐊᑦᑿᓐᑎᒃ ᐃᑭᕋᓴᖓᓕ (*Odobenus rosmarus rosmarus*) ᓯᑯᓯᑿᑉ ᐃᒪᖓᓂ

ᐊᑦᑿᓐᑎᒃ ᐊᐃᕕᖕᒋᑦ (Odobenus rosmarus rosmarus) ©ᔭᐃᓴᓐ ᐄᐊᑦᒪᑕᓐ, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ, DFO


ᑲᑿᑦᓕᑦ ᓄᓇᑦ
ᓴᓐᓂᕈᑎᐅᑉ ᐃᒪᖓ
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ᐊᓐᓂᑎᑕᐅᓐ
ᐃᑭᕐᓂᖅᑐᑦ
ᐃᑭᕐᓂᖅᑐᑦ
ᐃᑭᕐᓂᖅᑐᑦ

*ᐅᖃᐅᔨᓴᒋᐊᖅᑎᑦ ᐅᓂᒃᑳᓕᐊᖏᑦ ᓴᓇᔭᐅᓚᐅᖅᓯᒪᔪᑦ 2013-ᖑᑎᓪᓗᒍ (DFO 2013) ᐱᖃᓯᐅᔨᓴᓯᒪᓚᐅᖅᑐᑦ ᑲᑎᓐᖓᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ (TAR) ᐊᐃᕕᖏᓐᓄᕐ, ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ ᐊᑐᕐᓗᑎᒃ ᑕᐃᔭᐅᔪᓂᒃ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᐃᓐᓇᓇᐊᖃᖅᑐᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᐱᓕᓇᔾᔪᓯᐅᔪᒥᒃ. ᑐᓐᖓᕕᖃᕐᓗᑎᒃ ᑭᒡᓕᓯᓂᐊᖅᑎᑦ ᐅᖃᐅᔨᓴᒋᐊᕈᑎᖏᓐᓂᒃ, ᒫᓐᓇᐅᔪᖅ ᐊᐃᕕᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᐅᓄᕐᓂᖏᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ ᐅᖓᑖᓄᐊᖓᖓᒪᑕ ᑲᑎᓐᖓᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ. ᒫᔨᒃ 2015−ᖑᑎᓪᓗᒍ, ᑐᓴᖅᑎᑕᐅᓚᐅᖅᑐᑦ ᐃᒪᕐᒥᐅᑕᓕᓇᔨᒃᑯᑦ ᐃᓚᖏᑦ ᑐᓴᒐᒃᓴᐅᔪᑦ ᐱᔭᐅᓯᒪᖓᑕ ᐃᓱᓕᓕᖅᑎᓪᓗᒍ 1980−ᖏᓐᓂ ᑐᓴᒐᒃᓴᐅᓚᐅᖅᓯᒪᔪᓂᒃ ᐊᑑᑎᖃᕈᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐊᐃᕕᑦ ᖃᐅᔨᔭᐅᒐᓱᐊᖅᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᖏᑦ ᖃᓄᖅ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᖓᖓᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ, ᐊᒻᒪ ᐊᒃᑐᐃᔪᓐᓇᖅᐸᓪᓚᐃᔪᖅ ᐅᑎᕐᔪᒥᑎᑕᐅᓂᒃᓴᖏᓐᓄᑦ (FR) ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᐋᖅᑭᒃᓯᐃᓕᖅᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᓇᔪᓐᓇᖅᑕᖏᓐᓂᒃ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᑐᐃᓐᓇᓇᐊᓕᑦ ᑕᐃᑲᓐᖓᖅᑐᑦ.

ᑐᕌᒃᓴᖅ: ᖃᐅᔨᓴᐃᓗᑎᒃ ᑭᖑᓂᑦᑎᓐᓂ ᓈᓴᖅᑕᐅᖃᑦᑕᖅᑐᕕᓂᑦ ᑐᓴᒐᒃᓴᖅᑯᑎᖏᓐᓂᒃ ᐊᔾᔨᒌᖏᓐᓂᖏᑦ ᖃᐅᔨᓴᖅᑕᐅᓗᑎᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐊᑐᖅᑕᐅᕙᓚᐅᖅᑐᓂᒃ ᑐᓴᒐᒃᓴᓂᒃ ᐊᓯᔾᔨᖅᐸᓪᓚᐊᓂᖏᓐᓄᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ, ᖃᐅᔨᓴᐊᕐᓗᑎᒃ ᐊᒃᑐᐃᔪᓐᓇᖅᐸᓪᓚᐃᔪᖅ ᐅᑎᕐᔪᒥᑎᑕᐅᓂᒃᓴᖏᓐᓄᑦ ᐅᓇ FR = 0.5 ᐊᑲᐅᓛᖑᔭᕐᒪᖔᑦ ᐊᑐᖅᑕᐅᒃᐸᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᑲᐅᖓᖔᑦ ᐋᖅᑭᒃᓯᓇᓯᓕᖅᑎᓪᓗᒋᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᑭᒡᓕᒃᓴᖏᓐᓂᒃ ᐊᑐᕐᓗᑎᒃ ᐊᓯᖓᓂᒃ ᐊᒃᑐᐃᔪᓐᓇᖅᐸᓪᓚᐃᔪᖅ ᐅᑎᕐᔪᒥᑎᑕᐅᓂᒃᓴᖏᓐᓄᑦ (FR) ᐅᓄᕐᓂᖏᓐᓂᒃ ᓄᑖᕈᓇᐊᖅᑕᐅᓗᑎᒃ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ TAR ᑖᒃᑯᓄᖓ ᐊᐃᕕᕐᓄᑦ.

ᓇᐃᓈᖅᓯᒪᔪᖅ

- ᐊᐃᕕᑦ ᓈᓴᒐᕐᓂᖏᒻᒪᑕ ᓯᐊᒻᒪᒃᑎᖅᓯᒪᐅᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᑲᑎᓐᖓᐅᖃᑦᑕᖅᑑᒐᓗᐊᑦ ᐅᓪᓕᕕᖏᓐᓂ ᐅᓄᕐᓂᖅᓴᐅᔪᑦ ᓇᔪᖃᑦᑕᖅᐸᓪᓚᐃᔫᒐᓗᐊᑦ ᐅᓪᓕᕕᖏᓐᓂ ᐊᑕᐅᓯᒃᑯᑦ ᐱᐅᓯᓇᔭᖏᑦ ᒪᓕᒃᓗᑎᑦ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᑎᑦ.
- ᐅᓄᑲᓪᓚᒃᑐᓂᒃ ᐱᐅᓯᐅᔪᓂᒃ ᐊᑐᖃᑦᑕᖅᓯᒪᔪᑦ ᒥᒃᓴᐅᓴᒃᓯᒐᓱᐊᖅᑎᓪᓗᒋᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ. ᐱᐅᓯᐅᔪᑦ ᐊᑐᖅᑕᐅᔪᑦ ᐃᓘᓐᓇᖏᑦ ᒥᒃᓴᐅᓴᒃᓯᔾᔪᑕᐅᕙᒃᐳᑦ ᐊᐃᕕᖅᓂᒃ ᓄᓇᒦᑎᓪᓗᒋᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓯᑯᒦᑎᓪᓗᒋᑦ ᑕᒻᒪᖅᓯᒪᓂᖓ ᐋᖅᑭᒋᐊᖅᑕᐅᕙᒡᓗᓂ ᐅᓄᕐᓂᓇᔭᖏᓐᓄᑦ ᓈᓴᖅᑕᐅᖃᓯᐅᔾᔭᐅᓯᒪᖏᑦᑐᑦ ᐃᒪᓃᑦᑐᑦᖅ ᑕᑯᒃᓴᐅᖏᑦᑐᑦ ᐱᖃᓯᐅᔾᔭᐅᖓᓯᐊᕐᓗᑎᒃ ᓈᓴᐃᓂᖅ ᐱᔭᕇᖓᑦ.
- ᐅᒃᑐᕋᕈᑎᐅᔪᖅ ᖃᐅᔨᓴᕈᑎ, ᓈᓴᐃᓪᓚᓇᖕᓂᕐᒧᓪᓗ ᐱᐅᓯᐅᔪᖅ, ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᓈᓴᖅᑕᐅᓂᑯᑦ ᑕᑎᒋᔭᐅᔪᓐᓇᖅᑐᑦ ᐊᒻᒪ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᖏᑦ ᐊᐃᕕᑦ ᐅᓪᓕᕕᖏᑦᑐᑦ.
- ᐅᓄᕐᓂᖏᓐᓄᑦ ᑐᓴᒐᒃᓴᑦ ᓈᓴᖅᑕᐅᓂᑯᓂᑦ ᐱᔭᕇᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᐊᕐᕌᒍᖏᓐᓂ 1983, 1988, ᐊᒻᒪᓗ 1989 ᐊᑑᑎᖃᒻᒪᕆᒃᑐᓂᒃ ᑐᓴᒐᒃᓴᖃᓚᐅᖅᑐᑦ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖏᓐᓂᒃ ᐅᓄᕐᓂᖏᑕ ᐊᐃᕕᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ.
- ᐅᓄᕐᓂᖏᓐᓄᑦ ᑐᓴᒐᒃᓴᑦ ᐱᔭᐅᓚᐅᖅᓯᒪᔪᑦ ᓈᓴᐃᓂᖃᖅᑎᓪᓗᒋᑦ ᖃᖓᑕᓪᓗᑎᒃ ᐊᕐᕌᒍᖏᓐᓂ 2010 ᐊᒻᒪ 2011 ᖃᐅᔨᓴᖅᑕᐅᒃᑲᓐᓂᓚᐅᖅᑐᑦ ᓈᓴᐃᓪᓚᓇᖕᓂᖃᕐᓗᑎᒃ. ᑕᐃᒪᓐᓇ ᒥᒃᓴᐅᓴᒃᓯᔾᔪᓐᓇᓚᐅᖅᑐᑦ ᐅᓄᕐᓂᖃᖅᑐᒋᔭᐅᓪᓗᑎᒃ 10,400−ᓂᒃ (SE=4,500) ᐊᕐᕌᒍᐊᓂ 2010 ᐊᒻᒪᓗ 14,100−ᖑᓯᓇᔭᐅᓪᓗᑎᒃ (SE=6,700) ᐊᕐᕌᒍᐊᓂ 2011.
- ᐊᒥᐊᒃᑯᖏᑦ ᓴᓇᔭᐅᓯᒪᔪᑦ ᓈᓴᐃᔾᔪᑎᑦ ᐱᖃᓯᐅᔾᔭᐅᓯᒪᓚᐅᖅᑐᖅ ᐅᓂᒃᑳᓕᐊᓇᔭᐅᓯᒪᔪᓂ ᐊᐃᕕᖅᑕᐅᔪᑦ ᑐᓴᒐᒃᓴᖏᓐᓂ ᐃᓕᔭᐅᓚᐅᖅᑐᖅ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ ᖃᖓᒃᑯᑦ ᐅᓄᕐᓂᓇᔭᖏᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᖓᒪᖔᑕ, ᐊᑐᕐᓗᑎᒃ Bayesian ᐱᐅᓯᓇᔭᖓᓂᒃ. ᐃᓚᖓᑦ ᓴᓐᖏᓂᖃᖅᑐᖅ ᐱᐅᓯᐅᔪᖅ Bayesian ᐊᑐᖅᑕᐅᑎᓪᓗᒋᑦ ᐊᑐᕈᓐᓇᕐᒪᑕ ᐋᖅᑭᒃᓯᖅᓯᒪᓂᓇᔭᖓᓂᒃ ᖃᐅᔨᒪᓇᖕᖏᑎᓪᓗᒋᑦ ᐃᔾᔪᐊᖅᑕᐅᔪᓐᓇᖅᑐᓄᑦ ᐅᓄᕐᓂᖏᑦ ᐃᓕᔭᐅᔭᓇᐊᖃᖅᑐᑦ.
- ᓈᓴᐃᔾᔪᑎᓂ ᖃᐅᔨᔭᐅᔪᑦ ᑕᑯᒃᓴᐅᑎᑦᑎᓚᐅᖅᑐᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᖏᑦ ᓱᕐᕌᒍᐊᕋᔭᖏᓐᓂᖏᓐᓂᒃ ᐅᖓᑖᓄᑦ 60+ ᐊᕐᕌᒍᑦ ᑎᑭᓪᓗᒋᑦ.

- ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᓈᓴᐃᔾᔪᑎᒥᑦ ᐱᔭᐅᓯᒪᔪᑦ ᐊᕐᕌᒍᖕᒐᓂᑦ 1954 ᐅᓄᕐᓂᖃᓚᐅᖅᑐᑦ 11,900−ᓂᒃ (95% Bayesian Credible Intervals ᐱᐅᓯᖕᒐ ᐊᑐᖅᑕᐅᓪᓗᓂ (BCI) =10,200-17,900) ᐊᒻᒪᓗ ᐊᕐᕌᒍᐊᓂ 2014 ᐅᓄᕐᓂᖃᕋᓱᒋᔭᐅᓪᓗᑎᒃ 12,500−ᓂᒃ (95% BCI=8,600-18,500). The ᐅᓂᒃᑳᓕᐊᖑᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᕕᓂᑦ ᐅᓄᕐᓂᓇᔭᖕᒋᑦ ᐊᒃᑐᐃᓂᖃᖅᐸᓪᓚᐃᓚᐅᖕᒋᑦᑐᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖕᒋᓐᓂᒃ ᓱᕐᕌᓇᑎᒡᓗ ᐅᓄᕐᓂᖕᒋᑦ. ᑭᓯᐊᓂᓕ, ᖃᐅᔨᒪᓂᖅᓴᐅᒐᔭᖅᐳᒍᑦ ᓄᖑᐸᓪᓕᐊᓕᕐᒪᖔᑕ ᐊᑯᓚᐃᑦᑐᒃᑯᑦ ᓈᓴᐃᖃᑦᑕᕈᑎᒃ.

- ᑲᑎᓐᖓᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᕗᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᐊᐅᕕᖅᑕᐅᓪᓗᐊᕈᓐᓪᓇᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ ᐱᐅᓯᐅᔪᒥᒃ. ᑭᖑᓂᑦᑎᓐᓂ ᖃᒥᕐᕈᓇᒃᑎᓪᓗᒋᑦ, ᐅᓄᕐᓂᖅᐹᖑᔪᒃᑯᑦ ᐅᓄᖅᓯᕙᓪᓕᐊᓚᐅᖅᑐᑦ ᓱᒃᑲᓂᖃᖅᑎᑕᐅᓐᖑᐊᕐᓗᑎᒃ (Rmax) = 0.07−ᒥᒃ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᓯᒪᕗᖅ ᑕᒪᓐᓇ. ᖃᒥᕐᕈᓂᐅᔪᖅ ᑕᒪᑐᒪᓂ ᐊᑐᓚᐅᖅᑐᑦ ᓱᒃᑲᓂᖃᖅᑎᑕᐅᔪᒥᒃ Rmax 0.08−ᒥᒃ ᑕᒪᓐᓇᓗ ᐊᑲᐅᓂᖅᓴᐅᓚᐅᖅᑐᖅ ᑕᐃᒪᓐᓇ.

- ᑭᖑᓂᑦᑎᓐᓂ ᖃᒥᕐᕈᓇᒃᑎᓪᓗᒋᑦ, ᐊᑐᖅᑕᐅᖃᑦᑕᓚᐅᖅᑐᖅ ᐅᑎᕐᔫᒥᒐᔭᕐᓂᖕᒋᓐᓄᑦ ᐅᓄᕐᓂᖃᖅᑎᑕᐅᓪᓗᑎᒃ (FR) 0.5. ᑕᕝᕙᓂ ᖃᒥᕐᕈᓇᖕᓂᖃᖅᑎᓪᓗᒋᑦ ᐅᖃᐅᔾᔨᒋᐊᓚᐅᖅᑐᑦ ᐊᑐᖅᑕᐅᖕᒑᕐᑯᔭᐅᓪᓗᓂ FR=1−ᒥᒃ ᐅᑎᕐᔫᒥᑎᑕᐅᓂᖕᒋᓐᓄᑦ ᐅᓂᕐᓂᖃᖅᑐᑦ.

- ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᓇᔪᓐᓇᖅᑕᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᓯᒪᔪᑦ ᑐᓐᖓᕕᖅᑲᓚᐅᖅᑐᑦ 2014−ᒥ ᐅᓄᕐᓂᓇᔭᖕᒋᓐᓄᑦ ᐊᐃᕕᑦ ᓈᓴᐃᔾᔪᑎᓕᐊᖑᓪᓗᓂ 211−ᒥᒃ ᐅᓄᕐᓂᖃᖅᑎᑕᐅᓪᓗᑎᒃ ᐅᕝᕙᓘᓐᓃᑦ 422−ᖑᓪᓗᑎᒃ ᐅᑎᕐᔫᒥᓂᖕᒋᓐᓄᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ 0.5 ᐅᕝᕙᓘᓐᓃᑦ 1.0, ᑭᖑᓕᓈᒃᑕᕐᓗᑎᒃ ᑕᐃᒪᓐᓇ.

- ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ ᐊᐃᕕᑦ ᑭᖑᓪᓕᖅᐹᒥ ᓈᓴᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ 2011−ᖑᑎᓪᓗᒍ. ᓈᓴᐃᔾᔪᑎᑦ ᓇᓗᓈᕿᖕᒪᑕ ᐅᓄᖅᓯᕙᓪᓕᐊᓂᓇᒐᔭᓐᖑᐊᖅᑕᖕᒋᓐᓂᒃ ᐊᑯᓂᐅᕙᓪᓕᐊᑎᓪᓗᒍ ᑭᖑᓪᓕᖅᐹᒥ ᓈᓴᖅᑕᐅᓂᓇᓚᐅᖅᓯᒪᔭᖕᒋᑦ, ᑕᐃᒪᓐᓇ ᐊᒃᑐᐃᓂᖃᕈᓐᓇᕐᒪᑦ ᖃᒥᕐᕈᓇᖕᓂᓇᔭᑎᓐᓄᑦ ᐊᒃᑐᐃᓂᖃᕈᓐᓇᕐᓂᖕᒐᓂᒃ ᐊᐃᕕᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ.

- ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐋᖅᑭᒃᓯᖅᑕᐅᑎᓪᓗᒋᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᓚᐅᖅᑐᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᓕᒪᓂᑦ ᑭᓯᑐᐃᓐᓇᕐᓄᑦ ᑐᕐᑯᕋᕈᓐᓇᕐᓂᒋᔭᖕᒋᓐᓄᑦ. ᒫᓐᓇᐅᔪᕐᓕ ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᐊᐃᕕᖅᑕᐅᕙᒃᑐᑦ ᑕᐅᕙᓐᖓᑦ 170−ᓂᒃ ᐊᐃᕕᖃᑦᑕᖅᑐᑦ ᐊᕐᕌᒍᑕᒫᓐ, ᑲᑎᓪᓗᒋᑦ ᐊᐃᕕᑦ ᑐᕐᑯᑕᐅᒐᔭᓐᖑᐊᖅᑐᑦ 243−ᖑᓪᓗᑎᒃ, ᐃᑭᓕᖅᑕᐅᔪᑦ ᐊᒻᒪ ᐊᓯᐅᔾᔨᔭᐅᔪᑦ 30%−ᒋᓗᓂᒋᑦ ᐃᓱᒪᒋᔭᐅᑎᓪᓗᒍ.

- ᐅᔾᔨᖅᑐᕐᓗᓕᑎᒃ ᐱᐅᓯᖃᖅᐳᑦ ᐋᖅᑭᒃᓯᒪᓂᖕᒐᓂᒃ ᐋᖅᑭᒃᓯᐃᑎᓪᓗᒋᑦ ᓇᓗᓇᖕᒋᑦᑎᐊᖅᑐᓂᒃ ᒥᐊᓂᖅᓯᔾᔪᑎᖕᒋᑦ ᑐᕋᒐᖃᑦᑎᐊᕆᐊᖃᕐᒪᑕ. ᑕᐃᒪᓐᓇ ᐱᕕᖃᖅᑎᑦᑎᓂᖅᓴᐅᒐᔭᕐᒪᑦ ᐊᑦᑕᕐᓇᕐᓂᖕᒋᓐᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᖃᕐᓗᑎᒃ. ᒫᓐᓇᐅᓂᖕᒐᓂᓕ, ᓄᑖᕈᕆᐊᖅᑕᐅᓗᑎᒃ ᓈᓴᐃᔾᔪᑎᕐᑯᑎᒋᔭᐅᔪᑦ ᓄᑖᓂᒃ ᓈᓴᖅᑕᐅᓯᒪᔪᓄᑦ ᑐᓴᒃᓴᖃᓕᖅᐸᑕ ᐊᑐᕐᓗᑎᒃ ᓈᓴᐃᔾᔪᑎᒥᒃ ᓴᖅᑭᑦᑎᔪᓐᓇᕋᔭᖅᑐᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᓯᒪᔪᓂᒃ ᐊᑐᖅᑕᐅᔪᐃᓐᓇᐅᓗᑎᒃ ᑭᒡᓕᓯᓂᐊᖅᑎᒃᑯᑦ ᑐᓴᒐᒃᓴᕐᑯᑎᖕᒋᑦ ᑐᓂᓯᔪᓐᓇᕋᔭᖅᑐᑦ ᒥᐊᓂᖅᓯᔾᔪᑎᒃᓴᐅᓂᐊᖅᑐᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᒃᓴᓂᒃ.

ᐱᒋᐊᕐᓂᖓᓂ ᐅᓂᒃᑳᖅ

ᐊᐃᕕᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᖓᓃᑦᑐᑦ ᐊᕕᒃᓯᒪᕗᑦ ᒪᕐᕉᓕᖅᑲᖓᓪᓗᑎᒃ ᐊᔾᔨᒌᖕᒋᑦᑐᑦ ᐊᐅᖕᒋᑎᒍᑦ ᐊᒻᒪ 7−ᖑᓪᓗᑎᒃ ᐊᐃᕕᑦ ᓇᔪᒐᖕᒋᑦ (ᐊᔾᔨᓐᖑᐊᖅ 1) ᑕᑯᓗᒍ, ᒪᓕᒃᑕᐅᓯᒪᔪᑦ ᐊᐅᖕᒋᑦ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᕐᓂᓇᔭᖕᒋᑎᒍᑦ, ᖁᒻᒧᐊᒃᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᓈᓚᐅᓯᖅᑕᐅᓯᒪᓪᓗᑎᒃ, ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᖅᓯᒪᔪᑦ ᖃᒥᕐᕈᔭᐅᓪᓗᑎᒃ. ᒪᕐᕈᐃᓕᖕᒐᔪᑦ ᐊᐃᕕᑦ, ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓃᑦᑐᑦ,

ᒥᐊᓂᕆᔭᐅᔾᔪᑎᖃᖅᐳᑦ ᐊᑕᐅᓯᐅᓪᓗᒍ ᐊᐃᕝᕕᐊᕐᕕᐅᔪᖅ. ᐃᒪᕐᒥᐅᑕᑦ ᕿᒡᓕᓯᓂᐊᖅᑎᕐᑯᑎᖕᒋᑦ ᑐᓂᓯᓯᒪᓕᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒍᑎᖕᒋᓐᓂᒃ ᐊᒻᒪᓗ ᓄᖑᑦᑎᕙᓪᓕᐊᖕᒋᓪᓗᑎᒃ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᕋᔭᓐᖑᐊᖅᑐᓂᒃ ᐸᕙᓐ ᐸᐃᒥ, ᐱᖓᖕᓇᖕᒐᓂᓗ Western Jones Sound (WJS) ᐊᒻᒪᓗ Penny Strait-Lancaster Sound ᑕᓪᓗᕈᑎᑦ ᐃᒪᖕᒐᓂ (PS-LS) ᐊᐃᕝᕕᖕᒋᑦ ᖁᑦᓯᒃᑐᕐᒥᐅᑕᑦ (DFO 2013). ᐅᖃᐅᔾᔨᒋᐊᕈᑎᑦ ᑐᓂᔭᐅᓯᒪᓕᖅᑐᑦ ᐊᐃᕝᕕᖕᒋᓐᓄᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ ᐊᒻᒪᓗ ᓂᒋᐊᓂ ᕿᑭᖅᑖᔫᑉ ᐃᓚᖕᒐᓂ ᑕᓯᐅᔭᔪᐊᑉ ᐊᒻᒪ ᑕᐃᕝᕕᔅ ᓯᑐᕋᐃᑦ ᐊᐃᕝᕕᖕᒋᓐᓄᑦ, ᕿᑎᐊᓂ ᐅᑭᐅᖅᑕᖅᑐᑉ ᐊᐃᕝᕕᖕᒋᑦ (DFO 2016a, DFO 2016b).

ᐊᐃᕝᕕᑦ ᓯᐊᒻᒪᒃᑎᖅᓯᒪᐅᒻᒪᕆᖕᒪᑕ ᑲᓇᖕᓇᖕᒐᓂ ᑲᓇᑕᒥᐅᑦ ᐅᑭᐅᖅᑕᖅᑐᖕᒐᓂ ᐊᒻᒪ ᑲᑎᓐᖕᒐᐅᖅᑐᑦ ᑕᑯᔭᐅᔪᓐᓇᖃᑦᑕᖅᑐᑦ ᑕᔭᑕᐅᓴᖕᒋᓐᓃᑦᑐᑦ. ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖕᒐ ᐅᑦᓕᕝᕕᖕᒋᓐᓃᑎᑦᓗᒋᑦ ᓈᓴᐃᑦᓗᑎᒃ ᒥᒃᓴᐅᓴᓯᔪᓐᓇᕐᑯᑦᓗᒋᑦ ᐅᓄᕐᓂᕆᔭᖕᒋᓐᓂᒃ ᐊᐃᕝᕕᑦ ᐊᑯᐅᓂᖅᐹᖑᓇᓱᒋᔭᐅᕗᖅ ᑕᐃᒪᓐᓇ ᓈᐃᖃᑦᑕᖅᑎᑦᓗᒋᑦ ᑭᓯᐊᓂᓕ ᓱᓕ ᐋᖅᑭᒡᑕᐅᑦᑎᐊᖅᓯᒪᖕᒋᑦᑐᖅ ᓱᓕ ᓈᓴᐃᔾᔪᓯᐅᔪ. ᐅᓄᑲᑦᒪᒃᑐᓂᒃ ᐱᔾᔪᑎᖃᖅᑐᑦ ᐱᐅᓯᐅᔪᑦ ᐊᑐᖅᑕᐅᖃᑦᑐᕐᓂᖕᒋ ᓇᓕᖅᑯᑦᑎᓯᒪᓂᖅᓴᐅᔪᒪᓪᓗᑎᒃ ᑐᓴᒐᒃᓴᖅᑎᒋᔭᖕᒋᑦ ᓄᐊᑕᐅᓯᒪᔪᑦ. ᑐᓴᒐᒃᓴᑦ ᐱᔭᐅᓯᒪᔪᑦ ᖁᒻᒧᐊᒃᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᓈᓚᐅᓯᖅᑐᐃᓂᒃᑯᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᒥᔪᑦ ᐋᖅᑭᒋᐊᖅᑕᐅᓪᓗᑎᒃ ᓈᓴᖅᑕᐅᓂᑯᑦ ᐅᓪᓕᕝᕕᖕᒋᓐᓂ ᐱᖃᓯᐅᔾᔭᐅᓂᐊᕐᒪᑕ ᑕᐃᒃᑯᐊ ᓈᓴᖃᓯᐅᔾᔭᐅᓯᒪᓐᓂᖕᒋᑦᑐᑦ.

ᐱᔾᔪᑎᒋᓪᓗᒍ ᑭᒡᓕᖃᕐᓂᖕᒋᓐᓄᑦ ᓈᓴᖅᑕᐅᓯᒪᔪᓄᑦ ᑐᓴᒐᒃᓴᖅᑎᒋᔭᐅᔪᑦ, ᐃᓱᒪᒋᔭᐅᕗᑦ ᐊᐃᕝᕕᕐᓄᑦ ᑐᓴᒐᒃᓴᑭᓗᐊᖅᑐᒋᓪᓗᑎᒃ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐊᑐᖃᑦᑕᖅᑐᑦ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᕆᔪᓐᓇᖅᑕᖕᒋᓐᓂᒃ ᐱᐅᓯᐅᔪᒥᒃ ᓴᓇᔭᐅᓯᒪᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᑎᒍᑦ ᑲᑎᓐᖕᒐᔪᑦ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ ᐃᒪᕐᒥᐅᑕᐅᔪᓄᑦ ᐊᑐᖅᑕᐅᕙᖕᒪᑦ ᑐᓴᒐᒃᓴᑭᓗᐊᖅᑐᓄᑦ. ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᑕᐃᓯᓯᒪᕗᑦ ᐱᖃᓯᐅᔾᔨᓪᓗᑎᒃ ᐃᓘᓐᓇᖕᒋᓐᓂᒃ ᑐᖁᕋᓐᓇᕐᓂᕆᔭᖕᒋᑕ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ ᒥᒃᓴᐅᓴᒃᑕᐅᑎᓪᓗᒋᑦ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᑭᒡᓕᖕᒋᑦ ᑭᒡᓕᓕᐅᕆᖃᑦᑕᖅᐳᑦ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐃᓄᖕᓄᑦ ᑐᖁᑕᐅᓗᑎᒃ ᑕᐃᒪᓐᓇ ᐱᕕᖃᖅᑎᑦᑎᔪᓐᓇᕐᒪᑕ ᓱᕋᖕᒋᓐᓂᖅᓴᐅᖁᓪᓗᒋᑦ ᐊᐃᕝᕕᑦ ᐅᓄᕐᓂᕆᔭᖕᒋ ᐅᑎᕐᔫᒥᖃᑦᑕᖁᓪᓗᒋᑦ ᐅᓄᕐᓂᕆᓚᐅᖅᑕᖕᒋᓐᓄᑦ. ᐱᔾᔪᑎᖓ ᐅᑯᐊ ᑎᑎᕋᖅᓯᒪᔪᑦ ᕿᒥᕐᕈᓇᒍᓐᓇᕐᓂᐊᕐᒪᑕ ᒫᓐᓇᔪᖅ ᐊᒻᒪᓗ ᑭᖑᓂᑦᑎᓐᓂ ᖃᖓᑕᓯᒃᑯᑦ ᓈᓴᐃᓂᐅᕙᓚᐅᖅᑐᓂᑦ ᑐᓴᒐᒃᓴᑭᑎᖕᒋᓐᓂᒃ ᐊᕐᕌᑎᒃ ᒥᒃᓴᐅᓴᒃᓯᔪᓐᓇᕐᓂᐊᕐᒪᑕ ᑲᑎᓐᖕᒐᔪᑦ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᕆᔭᖕᒋᓐᓂᒃ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ.

ᐊᐃᕝᕕᑦ ᑲᒪᒋᔭᐅᓪᓗᐊᑕᕐᒥᔪᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ ᐊᒻᒪ ᐅᖃᐅᑕᐅᓯᒪᓪᓗᑎᒃ ᐊᖅᑯᑎᒋᔭᐅᓪᓗᑎᒃ ᑲᓇᑕᒥ ᓄᖑᑦᑎᕙᓪᓕᐊᖕᒋᓪᓗᑎᒃ ᖃᐅᔨᓴᕈᑕᐅᔪᓄᑦ. ᐃᓚᒋᓪᓗᓂᐅᒃ ᐱᒋᐊᖅᑎᑕᐅᔪᑦ, ᐊᐃᕝᕕᑦ ᒥᐊᓂᕆᔭᐅᔾᔪᑎᒃᓴᖕᒋᑦ ᓴᓇᔭᐅᓕᖅᑐᑦ ᐊᑐᕐᓗᑎᒃ ᑲᑎᓐᖕᒐᔪᑦ ᐃᒪᕐᒥᐅᑕᑦ ᒥᐊᓂᕆᔭᐅᓂᖕᒋᓐᓄᑦ ᐸᕐᓇᐅᑎᖕᒋᓐᓂᒃ ᐊᐃᕝᕕᖕᒋᓐᓄᑦ ᐊᑦᓛᓐᑎᒃ ᐃᒪᖕᒐᓂ ᓄᓇᕗᑦ ᐃᓗᐊᓂ. ᑕᒪᓐᓇᓗ ᐃᑲᔪᖅᓯᓂᖃᕐᓂᐊᖅᑐᖅ ᑲᓇᑕᐅᑉ ᒐᕙᒪᒃᑯᖕᒋᓐᓂᒃ ᑭᐅᓇᓱᐊᓕᕋᖕᒐᑕ ᑲᓇᑕᒥ ᐊᒻᒪ ᓄᓇᕐᔪᐊᕐᒥ ᐊᐃᕝᕕᕋᓱᐊᕐᓂᕐᒧᑦ ᐃᒃᐱᒍᓱᒃᑎᐅᔪᓂᒃ ᖃᓄᖅ ᐊᐃᕝᕕᑦ ᒥᐊᓂᕆᔭᐅᔾᔪᑎᖕᒋᑦ ᐊᑐᖅᑕᐅᓗᑎᒃ ᑭᐅᖃᑦᑕᕐᓂᐊᕐᒪᑕ.

ᑭᒡᓕᓯᓂᐊᖅᑎᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᖕᒋᓐᓄᑦ ᐅᖁᓂᒃᑳᓕᐊᖕᒐᑦ ᑎᑎᕋᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ 2013−ᖑᑎᓪᓗᒍ (DFO 2013) ᐱᖃᓯᐅᔾᔨᓯᒪᓪᓗᑎᒃ ᑲᑎᓐᖕᒐᔪᓂᒃ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ ᐅᓄᑲᑦᓚᒃᑐᓄᑦ ᒥᐊᓂᖅᓯᕝᕕᐅᔪᓄᑦ, ᐱᖃᓯᐅᑎᓯᒪᓪᓗᓂ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐ. ᑐᓐᖕᒐᕝᕕᒋᔭᐅᓪᓗᑎᒃ ᑭᒡᓕᓯᓂᐊᖅᑎᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᑦ ᓴᓇᔭᐅᓚᐅᖅᑐᑦ, ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᒫᓐᓇᐅᔪᖅ ᐊᐃᕝᕕᖅᑕᐅᕙᒃᑐᑦ ᐅᓄᕐᓂᖕᒋᑦ ᓯᑯᓯᓛᒥ ᐅᖓᑖᓄᐊᖅᓯᒪᖕᒪᑕ ᑲᑎᓐᖕᒐᔪᑦ ᐊᐃᕝᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᑕ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᓄᓇᓕᖕᓂᑦ ᑐᓴᕋᓱᐊᖅᓂᖃᓕᖅᑐᑦ ᐊᒻᒪᓗ ᑐᓂᓯᓯᒪᓕᖅᑐᑦ ᑐᒃᓯᕋᐅᑎᒥᒃ ᐃᓱᒪᓕᐅᕐᑯᓪᓗᒋᑦ ᓄᓇᕗᒥ ᐅᒪᔪᓕᕆᔨᔪᐊᑦ ᑲᑎᒪᔨᖕᒋᑦ ᓴᓇᔪᓐᓇᕐᓂᐊᕐᒪᑕ ᓄᖑᑦᑎᕙᓪᓕᐊᖕᒋᓪᓗᑎᒃ ᐊᖑᔭᐅᔪᓐᓇᖅᑐᑦ ᑭᒡᓕᒃᓴᖕᒋᓐᓂᒃ. ᑐᓴᕋᓱᐊᕐᓂᖃᖅᑎᓪᓗᒋᑦ, ᐅᖃᐅᑎᔭᐅᓚᐅᖅᑐᑦ ᐃᒪᕐᒥᐅᐃᑕᓕᕆᔨᒃᑯᑦ ᑐᓴᒐᒃᓴᑦ ᐃᓚᖕᒋᑦ ᐱᔭᐅᓯᒪᓂᖕᒋᓐᓂᒃ ᐃᓱᓕᓕᖅᑎᓪᓗᒍ 1980 ᑐᓴᒐᒃᓴᑦᑎᑎᒋᓚᐅᖅᑕᖕᒋᓐᓂᒃ ᑖᒃᑯᐊᓗ ᐊᑑᑎᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖕᒋᓐᓂᒃ ᕿᒥᕐᕈᓇᓕᖅᐸᑕ ᐊᐃᕝᕕᑦ ᐅᓄᕐᓂᖕᒋᑦ ᖃᓄᐃᓕᕙᓪᓕᐊᖓᖕᒐᑕ ᓯᑯᓯᓛᒥ, ᐊᒻᒪᓗ ᑕᐃᒪᐃᒻᒪᑦ ᐊᒃᑐᐃᓂᖃᑐᐃᓐᓇᕆᐊᖃᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᑕ ᐅᑎᕐᔫᒥᑎᑕᐅᔭᕆᐊᖃᕐᓂᖕᒋᓐᓄᑦ, ᐊᑐᖅᑕᐅᓚᐅᖅᑐᓂᒃ

ᐅᖃᐅᔾᔨᒋᐊᕈᑎᖏᓐᓂ (DFO 2013) ᐋᖅᑭᒡᓱᐃᓕᖅᑎᑦᑐᒋᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓐᓚᐃᔪᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᑕᐃᕙᓐᖓᖅᑐᓂᑦ ᐊᐃᕕᕐᓂᑦ.

ᑲᑎᒪᔨᕋᓛᖏᑦ ᑲᒪᔪᑦ ᓄᖑᓐᓂᐊᖅᑐᒋᔭᐅᓕᖅᑐᑦ ᐅᒪᔪᑦ ᑲᓇᑕᒥ (COSEWIC–ᑯᕐ) ᐊᑐᓕᕐᑯᔭᓕᐅᓚᐅᖅᓯᒪᔪᑦ 2006–ᖑᑎᑦᑐᒍ ᐊᑦᓛᓐᑎᒃ ᐃᒪᖓᓂ ᐊᐃᕕᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᕐᑯᑦᑐᒋᑦ "ᐱᑐᐃᓐᓇᐅᖏᑦᑐᒃᑯᑦ ᐃᓱᒫᑐᒍᑕᐅᔪᑦ" ᑎᑎᕋᖅᑕᐅᒪᕕᖏᓐᓂᑦ. ᑖᒃᑯᐊ ᑲᑎᒪᔨᕋᓛᖏᑦ ᑲᒪᔪᑦ ᓄᖑᓐᓂᐊᖅᑐᒋᔭᐅᓕᖅᑐᑦ ᐅᒪᔪᑦ ᑲᓇᑕᒥ (COSEWIC–ᑯᕐ) ᒫᓐᓇᐅᔪᖅ ᕿᒥᕐᕈᓇᒃᑲᓐᓂᓕᖅᑐᑦ ᐊᐃᕕᖏᓐᓂᒃ ᐊᑦᓛᓐᑎᒃ ᐃᒪᖓᓂ. ᐋᑦᓛᓐᑎᒃ ᐃᒪᖓᓂ ᐊᐃᕕᑦ ᒫᓐᓇ ᑎᑎᕋᖅᑕᐅᕕᖕᒧᑦ ᐃᓕᔭᐅᓯᒪᔪᑦ ᐅᐃᒍᖓᓂ III-ᒥ ᐊᖏᕐᑲᑎᑏᒍᑎᑎᒍᑦ ᓄᓇᕐᔪᐊᕐᒥ ᓂᐅᕐᕈᑕᐅᔪᓐᓇᕐᓂᖏᑦ ᓄᖑᓐᓂᐊᖅᑐᒋᔭᐅᓕᖅᑐᑦ ᐅᒪᔪᑦ (CITES)-ᑯᑦ. ᑕᐃᒪᐃᒻᒪᑦ, ᑭᓇᑐᐃᓐᓇᖅ ᐊᐅᓚᖅᑎᑦᑎᔪᒪᔪᖅ ᐊᐃᕕᐅᑉ ᑭᓯᑯᑦᑎᕕᓂᖏᓐᓂᒃ ᑲᓇᑕᒥ ᐱᖅᑳᕆᐊᖃᖅᐳᖅ ᐱᔪᓐᓇᐅᑎᒥᒃ ᐊᐅᓚᖅᑎᑦᑕᐅᔪᓐᓇᕐᓂᐊᕐᒪᑕ ᑖᓐᓇ ᐱᔪᓐᓇᐅᑎ ᐱᔭᐅᔪᓐᓇᖅᑐᖅ ᑲᓇᑕᒥᐅᑦ ᑎᑎᕋᕐᕕᖓᓐᓂᑦ CITES-ᑯᓐᓂᑦ. ᑭᓯᐊᓂᓕ, ᖃᐅᔨᖅᑕᐅᒋᐊᑐᖏᑦᑐᑦ ᓂᐅᕐᕈᑕᐅᔪᓐᓇᕐᒪᖔᑕ ᓄᖑᓐᓂᐊᖅᑐᒋᔭᐅᓕᖅᑐᑦ ᐅᒪᔪᑦ ᑎᑎᕋᖃᓯᐅᔭᐅᓯᒪᔪᑦ ᐅᐃᒍᒐᓂ III-ᒥ ᐊᑐᕐᓗᒋᑦ ᐊᖏᕐᑲᑎᑏᒍᑎᑦ ᓄᓇᕐᔪᐊᕐᒥ ᓂᐅᕐᕈᑕᐅᔪᓐᓇᕐᒪᖔᑕ ᓄᖑᓐᓂᐊᖅᑐᒋᔭᐅᓕᖅᑐᑦ ᐅᒪᔪᑦ CITES-ᑯᓐᓂᑦ. 2009-ᖑᑎᑦᑐᒍ ᐊᒻᒪᓗ ᓱᓕ 2012-ᖑᑎᑦᑐᒍ, ᐊᒥᐊᓕᖃᒥᐅᑦ ᑐᓴᕋᓱᐊᕐᓂᖃᓚᐅᖅᑐᑦ ᐃᓕᔭᐅᔪᓐᓇᕐᒪᖔᑕ ᖁᕝᕙᓯᖕᓂᖅᓴᒧᑦ ᑎᑎᕋᖅᑕᐅᖁᒪᕕᖕᒧᑦ ᐊᐃᕕᑦ ᐅᐃᒍᖓ II-ᒧᑦ, ᐅᖃᕐᓗᑎᒃ ᓄᖑᑦᑎᕙᓪᓕᐊᔪᓂᒃ ᐊᐃᕕᕋᓱᐊᕐᓂᖏᓐᓂᒃ, ᐱᑕᖃᖏᓐᓂᖓᓄᓪᓗ ᑭᒡᓕᓯᓂᐊᖅᑎᑦ ᑐᓴᒐᒃᓴᕐᑯᑎᖏᑦ ᖃᓄᑎᒋ ᐅᓄᕐᓂᖃᕐᒪᖔᑕ, ᒥᐊᓂᖅᓯᔾᔪᑎᖃᖏᒻᒪᑕᓗ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ, ᓄᓇᕐᔪᐊᕐᒥᓗ ᓂᐅᕐᕈᑕᐅᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᐊᐃᕕᑦ ᑐᒫᖏᑦ, ᐊᒻᒪ ᓇᓗᓇᕐᒪᑦ ᓇᓗᓇᐃᖅᓯᔭᕆᐊᒃᓴᖅ ᑐᒫᑐᖃᐅᒋᐊᖏᑦ ᐅᕝᕙᓘᓐᓃᑦ ᑐᒫᑦ ᓄᑖᖑᖕᒪᖔᑕ ᑕᐃᒪᓐᓇᒍᖅ ᓴᐳᒻᒥᔭᐅᔾᔪᑎᒃᓴᒃᑲᓐᓂᖏᓐᓂᒃ ᕿᓂᕈᑎᒋᔭᖓᑦ. ᑎᑎᕋᖅᑕᐅᒪᕕᖕᒧᑦ ᖁᕝᕙᓯᖕᓂᖅᓴᒧᑦ ᐃᓕᔭᐅᒃᐸᑕ ᐅᐃᒍᖓ II-ᒧᓐ, ᖃᐅᔨᓴᐃᔭᕆᐊᖃᓕᓂᐊᖅᑐᑦ ᓄᖑᑦᑎᕙᓪᓕᐊᖏᓪᓗᑎᒃ ᓂᐅᕐᕈᑕᐅᔪᓐᓇᕋᔭᕐᒪᖔᑕ ᑲᔪᓯᓂᖃᕐᓂᐊᖅᐸᑦ ᓂᐅᕐᕈᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐊᐃᕕᑦ ᑑᒫᖏᑦ.

ᐊᐃᕕᐅᑉ ᒥᒃᓵᓄᑦ

ᐊᐃᕕᕐᒥᒃ ᑕᐃᔭᐅᕙᒃᑐᑦ ᐃᓄᒃᑎᑐᑦ, ᑲᓇᑕᒥ ᐊᖏᓂᖅᐹᖑᕐᑲᑕᐅᔪᖅ ᐊᒫᒪᒃᑎᐅᓪᓗᑎᒃ ᐃᒪᕐᒥᐅᑕᓂ ᓂᕿᑐᖅᑎᐅᔪᓂ. ᑕᒪᕐᒥᒃ ᐊᖑᑎᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐊᕐᓇᐅᓂᖏᑦ 125 cm-ᒥᒃ ᑕᑭᓂᕐᑲᖅᑐᑦ ᐃᓅᕋᑖᖅᑎᓪᓗᒋᑦ ᑭᓯᐊᓂᓕ ᐊᖑᑕᐅᓂᖏᑦ ᑕᑭᓂᖅᓴᐅᕙᒃᑐᑦ ᑕᑭᓂᕐᑲᕐᓗᑎᒃ (315 cm-ᒥᒃ) ᐊᕐᓇᓂᑦ ᑕᑭᓂᖅᓴᐅᓪᓗᑎᒃ (277 cm). ᑕᒪᕐᒥᒃ ᐊᐃᕕᑦ ᐊᕐᓇᐅᖓᓗᐊᕈᑎᑦ ᐊᖑᑕᐅᒐᓗᐊᕈᑎᒃᓗ ᑐᓗᓇᐊᖃᕐᓗᑎᒃ ᑭᒍᑎᖃᖅᐸᒃᑐᑦ ᑕᑭᒡᓕᔭᕋᖕᒐᒥᒃ ᑐᒫᓐᖑᖃᑦᑕᖅᑐᑦ ᑐᒫᖅᑖᖅᐸᓪᓕᐊᓕᖃᑦᑕᖅᑐᑦ ᐅᑭᐅᖃᓕᕋᖕᒐᒥᒃ ᒪᕐᕉᖕᓂᒃ. ᐃᓂᕋᖕᒐᒥᒃ ᐊᖑᑕᐅᓂᖏᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ, ᑐᕋᖃᓕᖅᐸᒃᑐᑦ 28.5 cm-ᒥᒃ ᑕᑭᓂᓕᖕᒥᒃ ᐊᒻᒪ ᓯᓕᖕᓂᖃᕐᓗᑎᒃ ᐃᓱᐊᓂ 16.7 cm-ᒥᒃ. ᑐᒫᖏᑦ ᐊᕐᓇᐅᓂᖏᑕ ᐊᕐᕕᑦ ᑕᑭᓂᖃᕈᓐᓇᖅᑐᑦ (~28.1 cm-ᒥᒃ) ᑭᓯᐊᓂᓕ ᑐᐊᓐᓂᖅᓴᐅᓪᓗᑎᒃ, ᐃᓱᐊᓂ ᓯᓕᖕᓂᖃᖃᑦᑕᖅᑐᑦ 13.2 cm-ᒥᒃ. ᐊᐃᕕᓕᒫᑦᑎᐊᑦ ᐅᓪᓕᕕᖕᒧᐊᖅᐸᒃᑐᑦ ᓯᑯᒥ ᓄᓇᒥᓗ ᖃᖓᑐᐃᓐᓇᒃᑯᑦ ᐊᒻᒪᓗ ᑖᑦᓱᒥᖓᑦᑕᐃᓐᓇᖅ ᐊᐃᑉᐸᖃᖅᐸᒃᑐᑦ ᐅᓪᓕᕕᖏᓐᓂ ᐊᒻᒪ ᓂᕆᕕᒋᕙᒃᑕᖏᓐᓂ. ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᕐᓇᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐊᐃᕕᐊᓛᑦ ᐅᑎᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᑕᕝᕗᒐᑦᑕᐃᓐᓇᐅᓂᖅᓴᐅᓪᓗᑎᒃ ᐃᓐᓇᐅᔪᓂᑦ ᐊᖑᑎᓂᑦ ᐊᐃᕕᕐᓂᑦ. ᐃᓚᖏᓪᓗ ᐅᓪᓕᕕᖏᑦᑐᑦ ᐅᑭᐅᖃᑎᑏᖃᑦᑕᖏᑦᑐᑦ ᐊᖑᑎᓪᓗ ᐊᕐᓇᓪᓗ ᓇᔫᑎᓪᓗᑕᒃ, ᐊᐃᕕᑦ ᐊᕕᒃᑐᖅᓯᒪᒐᔪᒃᑐᑦ ᐅᑭᐅᖏᑦ ᒪᓕᒃᓱᖏᑦ ᐊᒻᒪ ᐊᖑᑕᐅᓂᖏᑦ ᐊᕐᕌᒍᑉ ᐃᓗᐊᓂ. ᐊᐃᕕᑦ ᓯᐊᒻᒪᒃᑎᖅᓯᒪᓱᒋᔭᐅᓪᓗᑎᒃ ᐃᓱᒪᒋᔭᐅᕗᑦ ᐅᓪᓕᕕᖏᑎᒍᑦ ᒪᓕᒃᓯᒪᓪᓗᑎᒃ, ᑭᓯᐊᓂᓕᑦᑕᐅᖅ ᐅᐸᒍᑎᕙᒃᑐᑦ ᐃᒃᑲᑦᑐᒧᑦ ᓂᕆᔭᖅᑐᖅᓯᒪᓪᓗᑎᒃ ᐊᒻᒨᒪᔪᕐᓂᒃ, ᐊᓯᖏᓐᓂᒃᓗ ᐃᖅᑲᕐᒥᐅᑕᐅᓂᒃ. ᓂᕆᖃᑦᑕᖅᓱᒋᔭᐅᔪᑦ ᐃᒫᓂ ᐃᑎᓂᖃᖅᑐᒥᒃ 100 m-ᒥᒃ ᑭᓯᐊᓂᓕ ᐊᖅᑲᐅᒪᔪᓐᓇᕋᓗᐊᕐᓗᑎᒃ ᐃᓚᖏᑦ ᐊᐃᕕᑦ ᓇᑦᑎᖅᑐᖅᑎᐅᔪᑦ, ᐱᐅᓯᕆᔭᖏᑦ ᐊᔾᔨᒌᕐᓚᖃᑦᑕᖅᑐᑦ ᐃᒃᑲᑦᑐᒥᒃ ᐃᒪᕐᒥᒃ ᐊᑐᐃᓐᓇᖅᑕᖃᓐᖏᑎᓪᓗᒍ. ᐊᖑᓇᓱᒃᑎᑦ ᓇᓗᓇᐃᖅᓯᔪᓐᓇᖅᑐᑦ ᓇᑦᑎᖅᑐᖅᑎᐅᔪᓂᒃ ᐊᐃᕕᕐᓂᒃ ᖁᖅᓱᖅᑕᐅᓂᖅᓴᐅᕙᖕᒪᑕ ᑐᒫᖏᑦ. ᓄᓕᐊᕐᓇᐅᓕᖅᑎᓪᓗᒍ ᐊᐃᕕᑦ ᐊᖑᑕᐅᓂᖏᑦ ᐊᑭᑦᑐᕋᐅᑎᖃᑦᑕᖅᑐᑦ ᐊᕐᓇᐅᓂᒃ ᐱᓇᓱᐊᕐᓗᑎᒃ ᑎᑭᓪᓗᒍ ᐅᓪᓗᓄᓂᑦ ᑕᓪᓕᒪᓄᑦ. ᓄᓕᐊᓕᖅᐸᒃᑐᑦ ᔮᓐᓄᐊᓇᒥᑦ ᐃᐸᐳᒧᑦ.

ᐃᓪᓚᐅᖅᑖᖅᐸᓪᓕᐊᓕᖅᑲᑦᑕᖅᑐᑦ ᑕᑯᒃᓴᕈᕐᓗᓂ ᐃᓱᓕᓕᖅᑎᓪᓗᒍ ᑕᖅᑭᖓ ᔫᓂᐅᑉ ᐊᒻᒪ ᐱᒋᐊᕐᓂᖓᓂ ᔪᓚᐃ ᐊᒻᒪ ᐃᓅᕙᒃᓗᑎᒃ ᐊᐃᕕᐊᓛᑦ ᒪᐃᒥ ᔫᓂᒧᑦ. ᐊᔾᔨᒌᖅᑲᑦᑕᖏᑦᑐ ᓇᔾᔨᓕᖅᑲᑦᑕᕐᓂᖏᑦ ᐅᑭᐅᖏᑦ ᐊᐃᑉᕕᑦ ᐅᑭᐅᖅᑲᓕᖅᑲᖓᒥᒃ 5-10 ᓇᔾᔨᓕᒐᔪᒃᑐᑦ. ᕿᑐᕐᖏᐅᖅᑲᑦᑕᖅᑐᑦ ᐊᕐᕌᒍ ᐱᖓᓱᑦ ᐊᓂᒍᑕᒫᓐ. ᐅᓄᕐᓂᖏᑦ ᓇᔾᔨᓕᖅᐸᒃᑐᑦ ᐊᕐᓇᐅᓂᖏᑦ 35%-ᖏᑦ.

ᕿᒥᕐᕈᓇᒃᑕᐅᔾᔪᑎᖏᑦ

ᕿᒥᕐᕈᔭᐅᓂᖏᑦ ᐊᔾᔨᒌᖏᑦᑐᑦ ᐱᐅᓯᐅᔪᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᑎᓪᓗᒋᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖏᑦ

ᐊᐃᕕᑦ ᓈᓴᒐᕐᓂᖏᒻᒪᑕ ᓯᐊᒻᒪᒃᑎᖅᓯᒪᐅᖅᑲᑦᑕᕐᓂᖏᓐᓄᑦ ᑲᑎᓐᖓᐅᖅᑲᑦᑕᖅᑑᒐᓗᐊᑦ ᐅᓪᓕᕕᖏᓐᓂ ᐅᓄᕐᓂᖅᓴᐅᔪᑦ ᓇᔪᖅᑲᑦᑕᖅᐸᓪᓚᐃᔫᒐᓗᐊᑦ ᐅᓪᓕᕕᖏᓐᓂ ᐊᑕᐅᓯᒃᑯᑦ ᐱᐅᓯᓇᔭᖏᑦ ᒪᓕᒃᓗᒋᑦ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ. ᐅᓄᑲᓪᓚᒃᑐᓂᒃ ᐱᐅᓯᐅᔪᓂᒃ ᐊᑐᖅᑲᑦᑕᖅᓯᒪᔪᑦ ᒥᒃᓴᐅᓴᒃᓯᒐᓱᐊᖅᑎᓪᓗᒋᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ. ᐱᐅᓯᐅᔪᑦ ᐊᑐᖅᑕᐅᔪᑦ ᐃᓘᓐᓇᖏᑦ ᒥᒃᓴᐅᓴᒃᓯᔾᔪᑕᐅᕙᒃᐳᑦ ᐊᐃᕕᕐᓂᒃ ᓄᓇᒦᑎᓪᓗᒋᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓯᑯᒦᑎᓪᓗᒋᑦ ᑕᒻᒪᖅᓯᒪᓂᖓ ᐋᖅᑭᒋᐊᖅᑕᐅᕙᒐᓗᓂ ᐅᓄᕐᓂᓇᔭᖏᓐᓄᑦ ᓈᓴᖅᑕᐅᖅᑲᓯᐅᔾᔭᐅᓯᒪᖏᑦᑐᑦ ᐃᒪᓃᑦᑐᖅ ᑕᑯᒃᓴᐅᖏᑦᑐᑦ ᐱᖅᑲᓯᐅᔾᔭᐅᖓᓯᐊᕐᓗᑎᒃ ᓈᓴᐃᓂᖅ ᐱᔭᕇᖓᑦ. ᑕᕝᕙᓂ ᕿᒥᕐᕈᓇᖕᓂᕐᒥ, ᐅᒃᑐᕋᐅᑎᓂᒃ ᐊᑐᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᐃᓪᓗᑎᒃ ᐊᔾᔨᒌᖏᑦᑐᓂᒃ ᓈᓴᐃᔾᔪᓯᐅᔪᓂᒃ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ ᑕᒪᓐᓇ ᐊᑐᖅᑕᐅᖅᑲᑦᑕᖅᓯᒪᕗᖅ ᑭᖑᓂᑦᑎᓐᓂ ᐊᒻᒪᓗ ᓄᑖᓂᒃ ᒥᒃᓴᐅᓴᒍᑎᓂᒃ ᐊᑐᕐᓗᑎᒃ. ᑕᐃᒪᓕ ᐱᔭᕇᖓᑕ ᑕᑯᔭᐅᖏᑦᑐᑦ ᐱᖃᓯᐅᔾᔭᐅᓂᐊᕐᒪᑕ ᓈᓴᖅᑕᐅᓯᒪᔪᑦ ᐊᑯᓐᓂᖓ ᐊᑐᖅᑕᐅᓪᓗᓂ ᓈᓴᐃᔾᔪᑎᕕᓂᕐᓂᒃ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ ᐅᓄᖅᑐᐃᖅᓯᕐᓗᑎᒃ ᓈᓴᐃᒃᑲᓐᓂᓚᐅᖅᑎᓪᓗᒋᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ. ᑕᐃᒪᓐᓇ ᓈᓴᐃᔾᔪᓯᐅᔪᑦ ᑕᐃᔭᐅᔪᑦ ᓈᓴᐃᑐᐃᓐᓇᕐᓂᕐᒥᒃ (SC). ᓈᓴᐃᑐᐃᓐᓇᕐᓂᐅᔪᒃᑯᑦ ᓈᓴᖅᑕᐅᔪᕕᓂᑦ ᐋᖅᑭᒋᐊᖅᑕᐅᖅᑲᑦᑕᖅᐳᑦ ᐱᖃᓯᐅᔾᔭᐅᓕᕐᓂᐊᕐᒪᑕ ᐃᒫᓃᑦᑐᕕᓂᑦ ᓈᓴᐃᑎᓪᓗᒋᑦ ᐊᑐᖅᑕᐅᓪᓗᓂ ᕿᑎᐊ ᓈᓴᖅᑕᐅᓂᑯᑦ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ. ᓄᑖᒥᒃ ᐱᐅᓯᐅᔪᒥᒃ ᕿᒥᕐᕈᓇᓕᖅᑐᑦ ᐱᖃᓯᔾᔭᐅᔪᓐᓇᕐᓂᐊᕐᒪᑕ ᐊᐃᕕᑦ ᐅᓄᕐᓂᖏᑕ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖏᑦ ᐅᓪᓕᕕᖏᓐᓃᑦᑐᐃᓐᓇᐅᑎᓪᓗᒋᑦ, ᓱᕐᓗ, ᐱᖃᓯᐅᔾᔭᐅᓪᓗᑎᒃ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ ᐊᐃᕕᑦ ᐱᐅᓯᓇᔭᖏᑦ, ᑕᒪᓐᓇ ᐃᖅᑲᓇᐃᔭᖅᑕᐅᒃᑲᓐᓂᓇᐊᖅᑲᖅᑐᖅ ᐱᐅᓯᐅᔪᖅ ᐊᑐᓕᖅᑎᑕᐅᓚᐅᖏᓐᓂᖓᓂ.

ᓈᓴᐃᓂᖅᑎᒍᑦ/ᓈᓴᖅᑕᐅᔪᑦ

ᑐᓴᒐᒃᓴᑦ ᐱᔭᐅᓯᒪᔪᑦ ᐊᖑᓇᓱᒃᑎᓂᑦ, ᑭᖑᓂᑦᑎᓐᓂ ᐊᒻᒪᓗ ᑲᔪᓯᑎᑕᐅᑎᓪᓗᒍ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᐊᑐᖅᑕᐅᖅᑲᑦᑕᓚᐅᖅᑐᑦ ᕿᓂᖅᑎᓪᓗᒋᑦ ᐊᐃᕕᑦ ᐅᓪᓕᕕᖏᓐᓂᒃ ᓯᕗᖅᓴᒍᑦ ᓈᓴᐃᓚᐅᖏᓐᓂᖏᓐᓂ. ᓈᓴᐃᓂᐅᔪᑦ ᖃᖓᑕᓱᒃᑯᑦ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᖅ ᐅᓪᓕᕕᖏᓐᓂ ᔪᓚᐃᒥᑦ ᓯᑎᐱᕆᒧᑦ ᐊᕐᕌᒍᖏᓐᓂ 1983, 2010 ᐊᒻᒪᓗ 2011. ᒪᕐᕉᒃᑲᓐᓃᒡᓂᒃ ᑐᑭᓕᐊᖅᑐᒃᑯᑦ ᖃᖓᑕᓂᖅᑲᓚᐅᖅᑐᑦ ᓈᓴᐃᓪᓗᑎᒃ ᑕᖅᑭᖏᓐᓂ ᔪᓚᐃ-ᐋᒡᒋᓯ 1988, ᐊᒻᒪᓗ 1989-ᒥ.

ᓄᑖᑦ ᕿᒥᕐᕈᓇᒍᑎᐅᔪᑦ ᖃᐅᔨᓴᐃᔾᔪᑎᕕᓂᕐᓂᒃ

ᐱᐅᓯᐅᔪᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᐊᔾᔨᒌᖏᒃᑲᓗᓕᐊᖅᑎᓪᓗᒋᑦ, ᓈᓴᐃᓂᐅᔪᑦ ᕿᒥᕐᕈᓇᒃᑕᐅᓚᐅᖅᑐᑦ ᐊᔾᔨᒌᖏᓐᓂᖏᑦ ᐊᑑᑎᖃᖅᑐᓂᒃ ᑐᓴᒐᒃᓴᖃᕐᑯᓪᓗᒋᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ. ᒥᒃᓴᐅᓴᒃᑕᐅᓂᑯᑦ ᐊᕐᕌᒍᖏᓐᓂ 1982, 1988, ᐊᒻᒪᓗ 1989 ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᓱᓕᓂᕋᖅᑕᐅᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐊᓯᔾᔨᓚᐅᖏᑦᑐᑦ. ᐊᕐᕌᒍᐊᓂ 2010 ᐊᒻᒪᓗ 2011 ᓈᓴᐃᔾᔪᑎᕕᓂᐅᔪᑦ ᐊᑐᖅᑕᐅᓚᐅᕐᒥᔪᑦ ᐅᓄᖏᓐᓂᖅᐹᓂᒃ ᓈᓴᐃᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᓇᔭᖏᑦ ᐋᖅᑭᒋᐊᖅᑕᐅᓪᓗᑎᒃ ᐃᓱᒪᓪᓗᒋᑦ ᐃᓚᖏᑦ ᐊᐃᕕᑦ ᑕᑯᔭᐅᓚᐅᖏᓐᓂᖏᓐᓂ ᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ (p=0.74). ᑐᓐᖓᕕᒋᓪᓗᒋᑦ ᖃᐅᔨᔭᐅᔪᑦ ᐅᒃᑐᕋᐅᑎᒥᑦ ᖃᐅᔨᓴᕈᑎᓄᑦᖅ, ᑐᓴᒐᒃᓴᑦ ᓄᐊᑕᐅᓯᒪᒧᑦ ᕿᒥᕐᕈᓇᒃᑕᐅᒃᑲᓐᓂᓚᐅᖅᑐᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᓈᓴᐃᔾᔪᓯᐅᔪᖅ

ᐊᒻᒪᓗ ᐋᖅᑭᒋᐊᖅᑕᐅᓪᓗᑎᒃ ᐃᓱᒪᒋᓪᓗᒍ ᐅᓄᕐᓂᓇᔭᖕᒋᑕ ᐊᑯᓐᓂᐊ ᐅᓪᓕᕕᖕᒋᓐᓃᑎᓪᓗᖕᒋᑦ. ᕐᑯᒻᒧᐊᒃᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᓈᓚᐅᑎᓂᒃ ᐃᓕᓯᐅᖅᑲᐃᖃᑦᑕᓚᐅᖅᑐᑦ ᒥᒃᓴᐅᓴᒃᓯᔪᒪᓪᓗᑎᒃ ᖃᔅᓯᐅᓂᖕᒋᑦ ᐊᐃᕕᑦ ᐅᓪᓕᕕᖕᒋᓐᓃᒻᒪᖔᑕ ᐊᑕᐅᑦᑎᒃᑯᑦ ᐊᕐᕌᒍᖕᒋᓐᓂ 2010 ᐊᒻᒪᓗ 2011 ᓈᓴᐃᑎᓪᓗᒋᑦ. ᐊᕐᕌᒍᖕᓄᑦ ᒪᕐᕉᖕᓄᓂᑦ, ᓈᓴᖅᑕᐅᔪᑦ ᐊᐃᕕᑦ ᐅᓪᓕᕕᖕᒋᓐᓂ ᓈᓴᖅᑕᐅᓂᖕᒋᑎᒍᑦ ᐅᓄᕐᓂᖃᓚᐅᖅᑐᑦ ᐃᒪᓐᓇ 0.37 (SE=0.16) ᑐᓐᖓᕕᒋᓪᓗᒋᑦ ᑐᓴᒐᒃᓴᑦ ᓄᐊᑕᐅᓯᒪᔪᑦ 19-ᓂᑦ ᕐᑯᒻᒧᐊᒃᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᓈᓚᐅᓯᖅᑕᐅᓯᒪᓂᖕᒋᑎᒍᑦ. ᐃᓚᖕᒋᑦ ᐱᖃᓯᐅᔾᔭᐅᓯᒪᖕᒋᓐᓇᓱᒋᔭᐅᓚᐅᖅᑐᑦ ᐃᓕᔭᐅᓚᐅᖅᑐᑦ ᐃᓘᓐᓇᖕᒋᓐᓄᑦ ᓈᓴᐃᓂᕐᓄᑦ.

ᐊᒥᐊᒃᑯᖕᒋᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᖃᐅᔨᓴᕈᑎᓄᑦ ᓈᓴᐃᔾᔪᑎᑎᒍᑦ, ᐃᒪᓐᓇᐃᓕᓚᐅᖅᑐᑦ ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᒪᓕᒃᓗᒋᑦ ᐊᐃᕕᖅᑕᐅᔪᓄᑦ ᑐᓴᒐᒃᓴᑦ ᐃᓕᔭᐅᓪᓗᑎᒃ ᓯᑯᓯᓛᑉ ᐃᒪᖔᓂ ᐅᒃᑐᕋᕈᑕᐅᔪᓄᑦ ᐅᓄᕐᓂᖕᒋᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓪᓗᑎᒃ ᐊᕐᕌᒍᖕᒋᓐᓂ (1983-2011) ᐊᒻᒪ ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᐊᐃᕕᖅᑕᐅᓂᑯᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᕐᕌᒍᖕᒋᓐᓂ (1954-2014), ᐊᑐᓚᐅᖅᑐᑦ ᑕᐃᔭᐅᔪᒥᒃ Bayesian ᓈᓴᐃᔾᔪᖓᓂᒃ. ᐃᓚᖓ ᑕᒪᑐᒧᖓ ᐊᑐᖅᑎᓪᓗᒋᑦ ᓴᓐᖕᒋᓂᐅᔪᖅ ᐋᖅᑭᒃᓱᐃᔪᓐᓇᕐᒪᑦ ᐱᖃᓯᐅᔾᔭᐅᔪᓐᓇᕐᓗᑎᒡᓗ ᖃᐅᔨᒪᔭᐅᑦᑎᐊᖕᒋᑦᑐᑦ ᐃᓗᐊᓄᑦ ᓈᓴᐃᔾᔪᑎᓄᑦ ᐅᓄᕐᓂᐅᔪᑦ ᐃᓕᔭᐅᑎᓪᓗᒋᑦ.

ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᓂᖕᒋᑦ ᐊᒃᐸᓯᓗᐊᕐᒪᑕ ᐊᐃᕕᑦ ᑐᕐᑯᑕᐅᓂᖕᒋᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐃᑭᓕᖅᑕᐅᔪᑦ ᐊᒻᒪ ᑭᕕᔨᐊᓇᔭᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᑦ ᐱᑕᕐᖃᐅᕐᓂᖕᒋᓐᓂ ("ᐃᑭᓕᖅᑕᑦ ᐊᒻᒪ ᐊᓯᐅᔨᔭᑦ") ᐃᓗᐊᓂ, ᐊᒻᒪᓗ ᐱᑕᕐᖃᓚᐅᖕᒋᒻᒪᑕ ᐊᖑᔭᐅᔪᓄᑦ ᐅᓂᒃᑳᓕᐊᑦ ᐃᓚᖕᒋᓐᓂ ᓄᓇᓕᖕᓂ ᐊᕐᕌᒍᓂ ᐊᔾᔨᒌᖕᒋᑦᑐᓂ. ᐊᐅᔭᐅᔪᓄᑦ ᑐᓴᒐᒃᓴᑦᑯᑎᒋᔭᐅᔪᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐊᕐᕌᖑᒧᑦ ᐊᑐᓂ ᐊᑐᖅᑕᐅᖃᑦᑕᓚᐅᖅᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᖃᐅᔨᓴᐃᓗᑎᒃ ᓈᓴᐃᔾᔪᑎᕐᑯᑎᖕᒋᓐᓂ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᐊᐃᕕᖅᑕᐅᔪᕕᓂᑦ ᐊᖑᔭᔪᑦ ᐃᒃᓗᓕᖕᒥ ᐊᒻᒪᓗ ᓴᓂᕋᔭᖕᒥ. ᐱᑕᖃᖕᒋᑦᑐᑦ ᑐᓴᒐᒃᓴᑦ ᐊᑐᓂ ᓄᓇᓕᖕᓂ ᐱᖃᓯᐅᔾᔭᐅᓚᐅᖅᑐᑦ ᐊᕐᕌᒍᓄᑦ ᑕᓪᓕᒪᑲᓴᖕᓄᑦ ᐱᑕᖃᓚᐅᖕᒋᒻᒪᑕ ᐊᑐᓂ ᓄᓇᓕᖕᓂ. ᑖᒃᑯᐊ ᐊᐃᕕᑦ ᑐᕐᑯᑕᐅᓯᒪᔪᑦ ᑭᓯᐊᓂᓕ ᐊᓯᐅᔨᔭᐅᓂᑯᑦ ᐱᔭᐅᓐᖕᒋᓴᐃᓐᓇᕐᓗᑎᒃ, ᐃᑭᓕᖅᑕᐅᔪᑦ ᐊᒻᒪ ᐊᓯᐅᔨᐅᓂᑯᓄᑦ ᐅᓄᕐᓂᖕᒋᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓚᐅᖅᑐᑦ ᐊᑐᖅᑎᓪᓗᒋᑦ ᓈᓴᐃᔾᔪᑎᒥ ᐊᑐᖅᑕᐅᔪᒥ.

ᐊᐃᕕᑦ ᐃᓱᒪᒋᔭᐅᕗᑦ ᑐᓴᒐᒃᓴᑭᓗᐊᕐᓂᖕᒋᓐᓂᒃ. ᐱᐅᓯᔪᑦ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᑦ ᖃᔅᓯᐅᔭᕆᐊᖃᕐᓂᖕᒋᓐᓂᒃ ᐋᖅᑭᒃᓱᐃᑎᓪᓗᒋᑦ ᑲᑎᓐᖓᔪᑦ ᐅᒪᔪᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᑭᒃᓕᖕᒋᓐᓂᒃ ᐃᒪᐃᓕᖓᓚᐅᖅᑐᑦ:

$$TAR = PBR = N_{min} \cdot R_{max} \cdot 0.5 \cdot F_R$$

ᐃᒪᐃᓕᖓᓪᓗᓂ: PBR ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ

Nmin ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ ᐃᓄᐃᓴᖕᓂᖅᐹᖑᓪᓗᑎᒃ ᐅᓄᕐᓂᓇᔭᖕᒋᑦ.

Rmax ᐅᓄᕐᓂᖅᐹᑦ ᖃᔅᓯᐅᓂᖕᒋᑦ ᐅᓄᖅᓯᕙᓪᓕᐊᓂᖕᒋᑕ.

FR ᐅᑎᕐᔫᒥᑎᑕᐅᓂᖕᒋᑕ ᐅᓄᕐᓂᖕᒋᑦ ᑖᒃᑯᐊᓗ ᐅᓄᕐᓂᖕᒋᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᓪᓗᑎᒃ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᐅᓄᕐᓂᖕᒋᑕ ᖃᔅᓯᐅᓂᖕᒋᑦ.

ᒥᒃᓴᐅᓴᒃᑕᐅᓂᖕᒋᑦ ᐃᓄᐃᓴᖕᓂᖅᐹᖑᓗᑎᒃ ᐅᓄᕐᓂᓇᔭᖕᒋᑦ Nmin ᐋᖅᑭᒃᓱᖅᑕᐅᓚᐅᖅᑐᑦ ᐅᓄᕐᓂᓇᔭᖕᒋᓐᓂᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᓂᑦ ᐊᑐᖅᑕᐅᓪᓗᓂ ᓈᓴᐃᔾᔪᐅᓯᔪᖅ, ᐃᓱᒪᒋᖃᓯᐅᑎᓪᓗᒋᑦ ᖃᐅᔨᒪᓇᖕᒋᑦᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ.

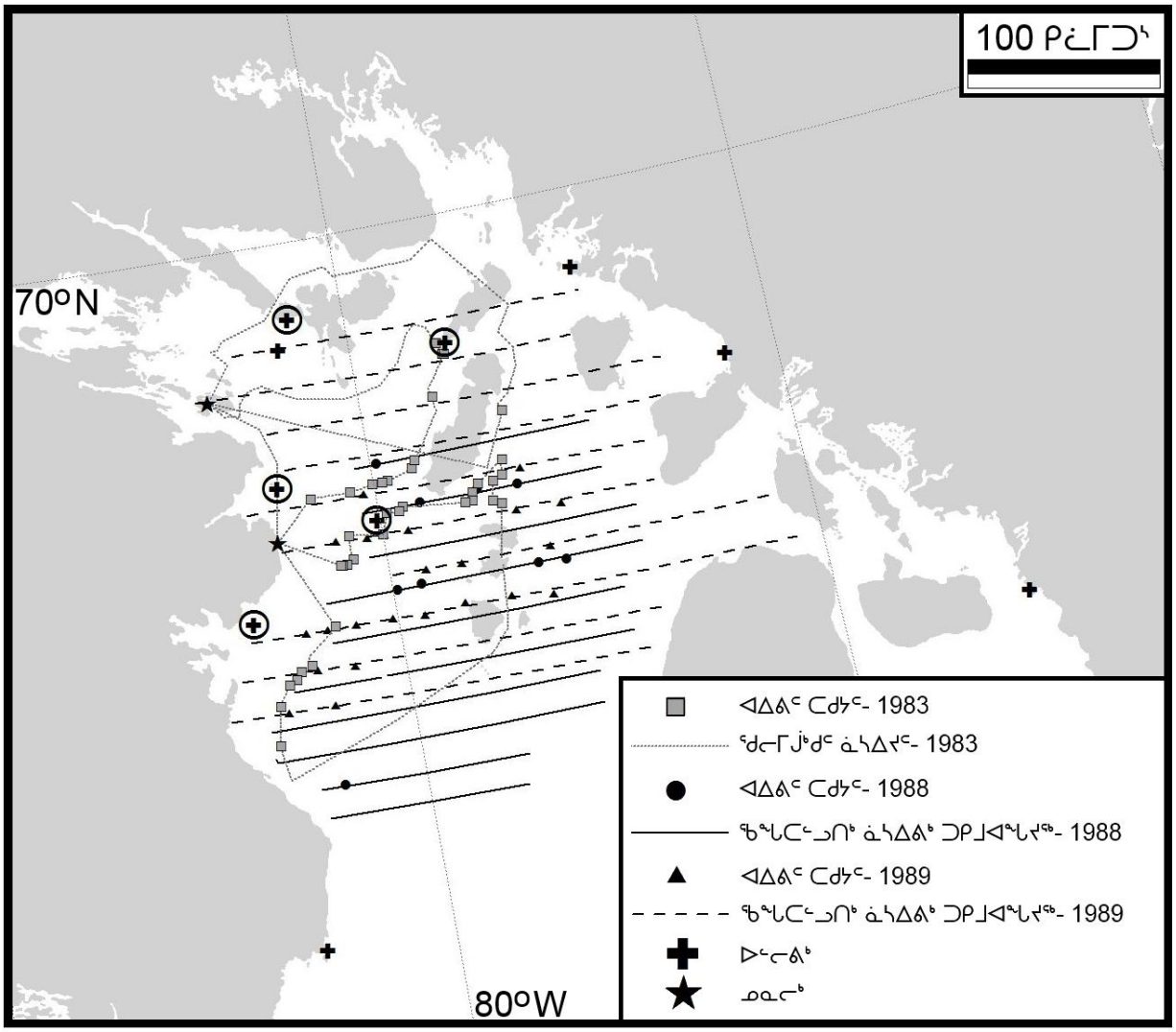
ᑭᖑᓂᑦᑎᓐᓂ ᕿᒥᕐᕈᓇᖕᓂᐅᔪᓂ, ᕐᑯᕝᕙᓯᖕᓂᖅᐹᖑᔪᑦ ᐅᓄᖅᓯᕙᓪᓕᐊᓂᖕᒋᑕ ᓱᒃᑲᓂᖓ (Rmax) = 0.07 ᐊᑐᖅᑕᐅᖃᑦᑕᓚᐅᖅᐳᑦ. ᑭᓯᐊᓂᓕ ᐅᑯᓇᓂ ᕿᒥᕐᕈᓂᕐᓂ ᐋᖅᑭᒃᓱᓚᐅᖅᑐᑦ Rmax = 0.08 ᓇᓕᖅᑯᑦᑎᓂᖅᓴᐅᓯᒪᓂᖓᓂᒃ ᑖᓐᓇ (ᐊᒥᐊᓕᒃᑲᓐ ᓄᓇᖓᓐᓂ ᒐᕙᒪᒃᑯᖕᒋᑕ ᑎᑎᕋᖅᑕᐅᒪᔪᓄᑦ ᓄᐊᑦᑎᕕᒃ 2013).

ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᒫᓐᓇᕈᓘᓚᐅᖅᑐᖅ ᐃᓕᓴᖅᓯᓚᐅᕐᒪᑕ ᒪᕐᕉᖕᓂᒃ ᒪᓕᒐᐅᔫᖕᓂᒃ ᐅᑎᕐᔫᒥᑎᑕᐅᓂᖕᒋᓐᓄᑦ ᐊᐃᕕᑦ ᓱᒃᑲᓂᖓᓂᒃ FR ᐊᑐᖅᑕᐅᕐᑯᔭᐅᓪᓗᓂ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ ᐋᖅᑭᒃᓱᐃᑎᓪᓗᒋᑦ. ᑖᓐᓇ ᓯᕗᓪᓕᖅ, FR = 0.5 ᐊᑐᖅᑕᐅᔭᕆᐊᖃᖅᑐᑦ ᐊᐃᕕᕐᓄᑦ ᓇᓗᓇᕈᓐᓃᖅᑐᓄᑦ

ᐃᓄᐃᓴᒡᓕᕝᓕᐊᓂᖏᓐᓂᒃ – ᐅᓇᖕᒫᖅ FR = 1.0 ᐊᑐᖅᑕᐅᔪᓐᓇᕋᔭᕐᒪᑦ. ᑐᒡᓕᐊᓂ, FR = 0.5 ᐊᑐᕋᔭᖅᑐᑦ ᐊᐃᕕᕐᓂᒃ ᐱᐅᖅᓱᐊᕆᐊᖃᕐᓂᕋᖅᑕᐅᓗᑎᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓕᖅᐸᑕ ᐃᓄᐃᓴᓗᐊᕆᐊᖏᑦ ᐊᑦᑕᕆᔭᐅᓕᖅᐸᑕ ᐅᕝᕙᓘᓐᓃᑦ ᓄᖑᓐᓂᐊᖅᑐᒋᔭᐅᓕᖅᐸᑕ– ᐅᓇᖕᒫᖅ FR = 1.0 ᐊᑐᖅᑕᐅᓗᓂ.

ᓴᖅᑭᑦᑐᑦ

ᐊᔾᔨᒌᖏᑦᑐᑦ ᓈᓴᐃᔾᔪᓯᐅᔪᑦ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᑦ ᐅᐊᖕᓇᖕᒐᓂ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ. ᐃᓘᓐᓇᖏᓪᓗ ᓈᓴᐃᓂᐅᔪᑦ ᐸᔭᕐᓗᒃᓯᒪᑎᑕᐅᓚᐅᖅᑐᑦ ᐃᒫᓂ (ᐊᔾᔨᓐᖑᐊᖅ 2) ᐊᒻᒪᓗ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᓇᔭᖏᑦ ᐅᖃᐅᑕᐅᓯᒪᓪᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᔾᔪᑎᒥ 1-ᒥ.



ᐊᔾᔨᓐᖑᐊᖅ 2. ᐊᔾᔨᒌᖏᓐᓂᖏᑦ ᓈᓴᐃᕝᕕᐅᔪᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ ᐊᐃᕕᕐᓄᑦ ᓈᓴᐃᑎᓪᓗᒋᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐊᕐᕌᒍᐊ 1983 (Orr et al. 1986), 1988 ᐊᒻᒪᓗ 1989 (Richard unpubl. rep.; Richard et al. unpubl. rep.), ᐊᒻᒪᓗ 2010 ᐊᒻᒪᓗ 2011 (Stewart et al. 2013). ᐅᓪᓕᕕᖕᒋᓐᓂ ᐱᖃᓯᐅᔾᔨᓪᓗᑎᒃ ᐊᕐᕌᒍᖕᒋᓐᓂ 2010-2011 ᓈᓴᐃᕝᕕᕕᕐᓂᑦ ᓇᓗᓇᐃᒃᑯᑦᑎᖅᓯᒪᕗᑦ ᐊᖕᒪᓗᖅᑕᓂᒃ. ᐅᓄᕐᓂᖏᑦ ᐱᔭᐅᓯᒪᔪᑦ ᐅᕙᓐᖑᑦ Stewart ᐊᒻᒪ Higdon unpubl. rep.

ᓇᓗᓇᐃᖅᓯᔾᔪᑦ 1. ᐊᕐᕌᒍᐊ ᓈᓴᐃᕕᐅᔪᑦ, ᓈᓴᖅᑕᐅᔪᕐᒥᒃᓴᐅᓴᒃᑕᐅᔪᑦ, ᐃᓚᖏᑦ ᐊᐃᕕᑦᐅᓪᓕᕕᖏᓐᓃᑎᓪᓗᒋᑦ, ᐊᒻᒪᓗ ᐋᖅᑭᒋᐊᖅᑕᐅᓯᒪᔪᑦ ᓈᓴᖅᑕᐅᓂᑯᑦᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ. ᐱᔭᐅᓯᒪᔪᑦ ᓈᓴᐃᔾᔪᑎᕕᓂᓪᓚᓇᖕᓂᒃ ᑐᓴᒐᒃᓴᓂᑦ ᓇᓂᔭᐅᔪᓐᓇᖅᑐᓂᑦ, ᑭᓯᐊᓂᓕ ᓈᓴᖅᑕᐅᔪᕕᓂᐅᔪᑦ ᐋᖅᑭᒋᐊᖅᑕᐅᓯᒪᔪᑦ ᑕᑯᔭᐅᓯᒪᖕᒋᑦᑐᑦ ᐱᖃᓯᐅᔾᔭᐅᓕᕐᓂᐊᕐᒪᑕ 0.37.-ᒥᒃ. ᒥᒃᓴᐅᓴᒃᑕᐅᓚᐅᖅᑐᑦᔨᐅᒧᑦ ᖃᓂᓐᓂᖅᐸᒨᑦ ᐃᓕᔭᐅᓪᓗᓂ 100-ᒧᑦ.

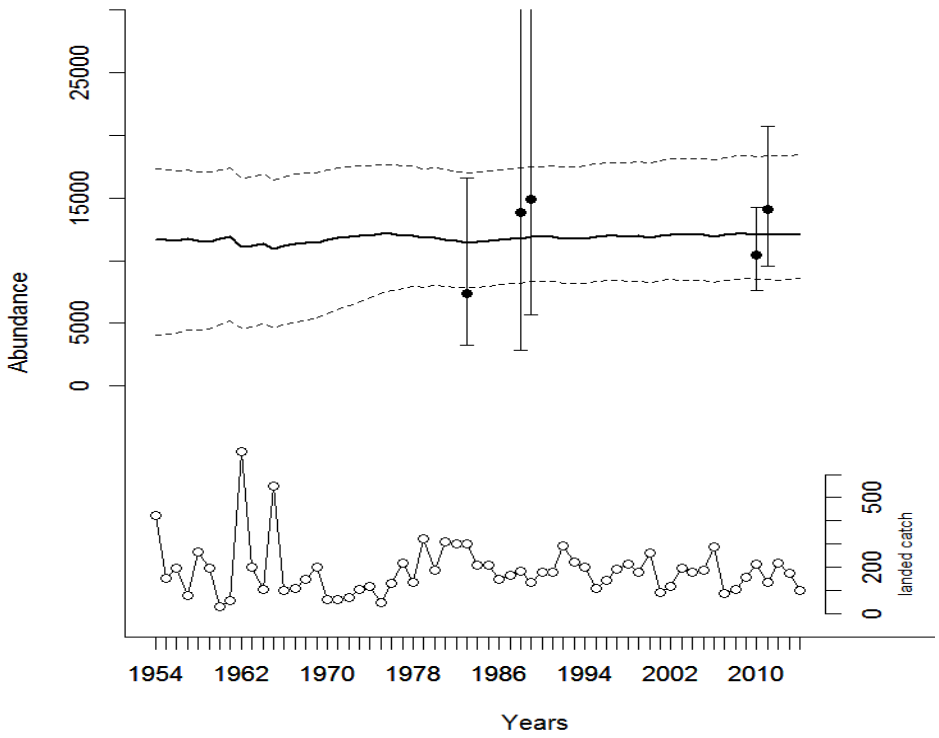
ᐊᕐᕌᒍᐊ	ᐅᓄᕐᓂᖏᑦ (N)	SE (N)	ᐃᓚᖏᑦ ᐅᓪᓕᕕᖕᒥᑦᑐᑦ	SE (P)	ᐋᖅᑭᒋᐊᖅᓯᒪᔪᑦ ᓈᓴᐅᑎᑦ	SE	ᑐᓴᒐᒃᓴᑦ ᐱᔭᐅᔪᑦ ᐅᑯᓇᓐᖓᑦ
1983	2700		0.37	0.16	7400	3200	Orr et al. 1986
1988	5100	4400	0.37	0.16	13900	13300	Richard unpubl. rep.
1989	5500	1600	0.37	0.16	14900	7800	Richard unpubl. rep.
2010	3900		0.37	0.16	10400	4500	Stewart et al. 2013a
2011[a]	5200	1000	0.37	0.16	14100	6700	2011 ᑐᓴᒐᒃᓴᑦ ᑲᑎᓪᓗᒋᑦ

[a]ᐊᕐ ᕌᒍᐊᓂ 2011 ᒥᒃ ᓴᐅᓴᒃ ᑕᐅᓯᒪᔪᑦ ᐊᑯᓐᓂᖓᓐᕐ ᕈᐊᖅᑎ ᓈᓴ ᐃᓚᐅᖅᑎᓪᓗᒋᑦ [(4484+5945)/2 ᖃᓂᒋᓂᖅᐸᖕᒐᒃ ᐊᑐᖅᑐᑦ 100.

ᐅᓄᕐᓂᖏᓐᓄᑦ ᓈᓴᐃᔾᔪᑎ

ᐱᖃᓯᐅᔾᔭᐅᓯᒪᓪᓗᑎᒃ ᑭᖑᓂᑦᑎᓐᓂ ᐅᓄᕐᓂᖏᓐᓄᑦ ᓈᓴᐃᔾᔪᓯᐅᔪᖅ ᒥᒃᓴᐅᓴᒃᓯᑎᓪᓗᒋᑦ ᑐᑭᒃᓯᒪᔭᕗᑦ ᐊᑐᕐᓗᒋᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐊᐃᕕᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᐅᓄᕐᓂᖏᓐᓄᑦ ᓈᓴᐃᔾᔪᑎ ᓇᓗᓇᐃᖅᓯᓚᐅᖅᑐᖅ ᐊᐃᕕᑦ ᐅᓄᕐᓂᖏᑦ ᓱᕐᕌᓗᐊᖃᑦᑕᖅᓯᒪᖏᓐᓂᖏᓐᓂᒃ ᐅᖓᑖᓄᑦ 60+ ᐊᕐᕌᒍᑦ. (ᓇᓗᓇᐃᖅᓯᔾᔪᑦ 1, ᐊᔾᔨᓐᖑᐊᖅ. 3). ᓈᓴᐃᔾᔪᑎᒥᒃ ᐊᑐᕐᓗᑎᒃ ᒥᒃᓴᐅᓴᒃᓯᓚᐅᖅᓯᒪᔪᑦ ᐊᕐᕌᒍᐊᓂ 1954 ᐅᓄᕐᓂᖃᓚᐅᖅᑐᑦ 11,900-ᓂᒃ (95% BCI=10,200-17,900). ᐅᓄᕐᓂᖏᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓚᐅᖅᑐᑦ ᐊᕐᕌᒍᐊᓂ 2014 ᐅᓄᕐᓂᖃᓚᐅᖅᑐᑦ 12,500-ᓂᒃ (95% CI = 8,600-18,500). ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᑦ ᐅᓄᕐᓂᖏᑦ ᐊᒃᑐᐃᓯᒪᕙᓪᓚᐃᖏᑦᑐᑦ ᐊᐃᕕᑦ ᐅᓄᕐᓂᕆᔭᖏᓐᓄᑦ ᓱᕐᕌᖏᓐᓂᖏᓐᓄᑦ. ᑭᓯᐊᓂᓕ, ᖃᐅᔨᒪᔾᔪᑎᒃᓴᕗᑦ ᐊᒥᒐᕐᒪᑕ ᓇᓗᓇᐃᒃᑯᑕᐅᒐᔭᖅᑐᑦ ᐊᐃᕕᑦ ᐃᓄᐃᓴᒡᓕᕙᓪᓕᐊᓕᕐᓂᖏᓐᓂᒃ.

ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᐊᐃᕕᖅᑕᕕᓂᐅᔪᑦ ᑕᐃᒪᓐᖓᓂᑦ ᐊᕐᕌᒍᖓᓂᑦ 1954 ᐊᔾᔨᒌᓗᐊᖃᑦᑕᖅᓯᒪᖏᒻᒪᑕ, ᐱᑕᖃᓐᖏᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᖏᑕ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖏᑦ. ᐃᒪᓐᓇ ᑖᒃᑯᐊ ᑐᑭᖃᖅᑐᑦ ᐊᓂᒍᖅᑐᑦ ᐊᕐᕌᒍᑦ 25 (1989-2014) ᐃᒪᐃᑦᑑᖃᑦᑕᖅᓯᖅᒪᓂᖏᓐᓂᒃ 178 (SE=12) ᐊᕐᕌᒍᑕᒫᓐ. ᐊᕐᕌᒍᑦ ᑕᓪᓕᒪᓐ ᐊᓂᒍᕋᑖᖅᑐᑦ ᐃᓗᐊᓂ (2010-2014), ᐊᕐᕌᒍᑕᒫᓐ ᐊᐃᕕᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᐊᑯᓐᓂᖃᖅᓯᒪᕗᖅ ᐅᓄᕐᓂᖃᖅᑐᓂᒃ 170 (SE=25) ᐊᕐᕌᒍᑕᒫᓐ.



ᐊᔾᔨᓐᖑᐊᖅ 3. ᓈᓴᐃᔾᔪᑎ ᐊᑐᖅᑕᐅᓪᓗᓂ ᒥᒃᓴᐅᓴᒃᑕᐅᔾᔪᑎᖕᒋᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ ᐊᐃᑉᕕᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ (ᐋᖅᑭᒋᐊᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐃᓚᖕᒋᑦ ᐊᐃᕕᑦ ᐅᓪᓕᕕᖕᒋᓐᓃᓚᐅᖕᒋᓐᓂᖕᒋᓐᓄᑦ 0.37). ᑎᑎᑯᑖᒃᓯᒪᔪᖅ: ᓈᓴᖅᑕᐅᓂᑯᑦ: ᑎᑎᖅᓯᒪᓂᖓ ᓇᑲᑎᖅᓯᒪᐅᖅᑐᑦ: 95% Bayesian Credible Interval ᓈᓴᐃᔾᔪᓯᖅ. ᓈᓴᐃᔾᔪᑎ ᐃᓕᔭᐅᓪᓗᓂ ᐋᖅᑭᒋᐊᖅᑕᐅᓪᓗᑎᒃ ᖃᖓᑕᓱᒃᑯᑦ ᓈᓴᐃᓚᐅᕐᓗᑎᒃ ᒥᒃᓴᐅᓴᖅᑕᐅᓯᒪᔪᓄᑦ (ᐊᖓᒪᓗᒐᓛᒃᑐᑦ ᕿᓂᖅᑕᑦ: ± 95% ᐅᒃᐱᓇᔭᐅᔪᓐᓇᖅᑐᑦ ᐊᑯᓐᓂᖕᒋᑦ ᐃᓱᒪᒋᓪᓗᒍ ᓯᐊᒻᒪᒃᑎᖅᓯᒪᐅᕐᓂᖕᒋᓐᓄᑦ ᐊᔾᔨᒌᒥᒃ ᑕᒻᒪᖅᓯᒪᓂᖃᕐᓂᖕᒋᓐᓄᕐ). ᑕᓕᖅᐱᐊᓂ y-axis: ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᐊᐃᕕᖅᑕᐅᓂᕋᖅᑕᐅᓪᓗᑎᒃ ᐃᒡᓗᓕᖕᒥ ᐊᒻᒪᓗ ᓴᓂᕋᔭᖕᒥ (ᖃᑯᖅᑕᑦ ᐊᖓᓗᖅᑕᕐ). (ᓄᑖᕈᓇᐊᖅᑕᐅᓯᒪᔪᓂ ᐅᓂᒃᑳᓕᐊᖕᒋᓐᓂ Stewart et al. 2014)

ᑲᑎᓐᖓᔪᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᑭᒡᓕᖕᒋᑦ

ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᕗᑦ 2014-ᒥᓐ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᓂᒃ ᐊᑐᕐᓗᑎᒃ ᐊᑐᖅᑕᐅᓪᓗᓂ ᓈᓴᐃᔾᔪᓯᐅᔪᖅ ᐃᒪᐃᑦᑑᒐᔭᖅᐳᖅ 211 ᐅᕝᕙᓘᓐᓃᑦ 422 ᐅᑎᕐᔫᒥᑎᑕᐅᓂᖕᒋᓐᓄᑦ ᐅᓄᕐᓂᖃᕐᓗᓂ FR 0.5-ᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ 1-ᒥᒃ ᑕᐃᒪᓐᓇ ᑭᖑᓕᕆᒃᑕᕐᓗᑎᒃ. ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐋᖅᑭᒃᓯᖅᑕᐅᓯᒪᔪᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᕗᑦ ᑲᑎᓐᖓᓪᓗᒋᑦ ᐊᐃᕕᖅᑕᐅᔪᕕᓂᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐱᖃᓯᐅᔭᐅᓯᒪᓪᓗᑎᒃ ᖃᓄᑐᐃᓐᓇᖅ ᑐᖁᔪᑦ. ᒫᓐᓇᐅᔪᖅ ᐅᖃᐅᑕᐅᓯᒪᔪᖅ ᐊᐃᕕᖅᑕᐅᕙᒃᑐᑦ 170 ᐊᕐᕌᒍᑕᒫᓐ. ᑕᐃᒪᓕ ᐃᓱᒪᒋᓗᒍ ᐃᑭᓕᖅᑕᐅᔪᑦ ᐊᒻᒪᓗ ᐊᓯᐅᔾᔭᐅᔪᑦ ᐅᓄᕐᓂᖃᖅᐸᑕ 30%-ᒥᒃ, ᐅᓄᕐᓂᖃᓕᕋᔭᖅᑐᑦ ᐊᐃᕕᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᓐᓇ 243.

ᖃᐅᔨᒪᓇᖕᒋᔭᔪᑎᖕᒋᑦ

ᐊᐃᕕᑦ ᓯᐊᒻᒪᒃᑎᖅᓯᒪᐅᒻᒪᕆᖕᒪᑕ. ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖕᒋᑦ ᐅᓪᓕᕕᖕᒋᑕ ᐊᓯᔾᔨᖃᑦᑕᕐᒪᑦ ᐊᕐᕌᒍᓂ ᐊᓂᒍᖅᑐᓂ. ᐅᒥᐊᒃᑯᓪᓗ ᐸᒡᕕᓴᒃᑕᐅᓐᓂᕌᖓᑕ ᐅᓪᓕᕕᖕᒋᓐᓂ ᐊᐃᕕᑦ ᕿᒪᕈᑎᔭᒻᒪᑕ, ᑕᐃᒪᓐᓇ ᓇᓚᒍᖕᒋᑦᑐᖅ ᐊᒃᑐᐃᓂᖃᕈᓐᓇᕐᒪᑦ ᐅᓄᕐᓂᖕᒋᑕ ᒥᒃᓴᐅᓴᒃᑕᐅᓂᓇᔭᖕᒋᓐᓂᒃ.

ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᑐᓐᖓᕕᖃᖃᑦᑕᖅᑐᑦ ᑕᒻᒪᖅᓯᒪᔪᓐᓇᕐᓂᖓ ᐱᖃᓯᐅᔾᔨᐅᓪᓗᓂ ᐱᔭᐅᓯᒪᔪᑦ ᖁᒻᒧᐊᒃᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᓈᓚᐅᓯᖅᑐᐃᓂᖅ ᐅᓄᖕᒋᑉᑦᑐᓂᐅᒐᓗᐊᖅ ᐊᐃᕕᕐᓂ

ᐅᓄᖏᑦᑐᓂ ᑕᐃᒪᐃᓕᐅᕐᕕᐅᔪᓂ. ᐃᓚᖏᓪᓗ ᓇᓗᓇᐃᖅᓯᖃᑦᑕᖅᑐᑦ ᐅᓪᓕᕕᖏᓐᓂ ᐱᐅᓯᕆᔭᖏᓐᓂᒃ, ᑭᓯᓂᐊᓕ ᑕᒪᓐᓇ ᖃᐅᔨᒪᔭᐅᓗᐊᖏᑦᑐᖅ ᓱᓕ.

ᐃᓱᒪᓚᐅᖅᑐᑦ ᓈᓴᖅᑕᐅᓂᑯᑦ ᓯᑯᓯᓛᑉ ᐃᒪᖕᒐᓂ ᐊᐃᕕᖅᑕᐅᔪᑦ ᑕᐅᕙᓂᕐᒥᐅᑕᐅᑐᐃᓐᓇᐅᓂᖏᓐᓂᒃ ᐊᒻᒪ ᐊᐃᕕᕋᓱᐊᖅᑕᐅᕙᖕᒪᑕ ᑭᓯᐊᓂ ᐃᒡᓗᓕᖕᒥᐅᓄᑦ ᐊᒻᒪᓗ ᓴᓂᕋᔭᖕᒥᐅᓄᑦ. ᖃᐅᔨᒪᖏᑦᑐᑦ ᐊᐃᕕᑦ ᐊᓯᖏᓐᓂᓐᖓᖅᑐᑦ ᑕᐃᕙᓂ ᐊᐃᕕᖅᑕᐅᕙᖕᒪᖕᖓᑕ.

ᐅᓄᖏᑦᑐᓂᒃ ᓈᓴᐃᓯᒪᓕᖅᑐᑦ ᖃᐅᔨᓴᐃᓪᓗᑎᒃ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ ᐊᒻᒪ ᑕᒪᒃᑯᐊ ᐱᓕᕆᔭᐅᓯᒪᔪᑦ ᑖᒃᑯᓂᖓᑦᑕᐃᓐᓇᖅ ᐅᓪᓕᕕᖕᒥ ᐱᓕᕆᔭᐅᖃᑦᑕᖏᒻᒪᑕ, ᑕᐃᒪᓐᓇ ᓇᓗᓈᕿᒃᑲᓐᓂᓗᐊᕈᑎᒋᕙᐅᒃ ᒥᒃᓴᐅᓴᒃᓯᔭᕆᐊᒃᓴᖅ ᐊᒻᒪ ᐊᑐᕆᐊᒃᓴᖅ ᓈᓴᐃᔾᔪᓯᐅᔪᓂᒃ ᐅᓄᕐᓂᖏᑦ ᖃᓄᑎᒋ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᖕᒪᖕᖓᑕ ᖃᐅᔨᓴᖅᑕᐅᓗᑎᒃ.

ᒫᓐᓇᕋᑖᖑᓚᐅᖅᑐᖅ ᐅᓄᕐᓂᖏᓐᓄᑦ ᐊᒡᒍᖅᑐᖅᓯᒪᐅᕐᓂᖏᑎᒍᑦ ᑐᓴᒐᒃᓴᕐᑯᑎᖏᑦ ᐃᑭᓕᖅᑕᐅᔪᑦ ᐊᒻᒪᓗ ᐊᓯᐅᔨᔭᐅᔪᑦ ᐊᒥᒐᖅᑐᒻᒪᕆᐅᖕᒪᑕ, ᐊᒻᒪᓗ ᑐᓴᒐᒃᓴᑦ ᐊᖑᓇᓱᒃᑎᓂᑦ ᐱᔭᐅᕙᒃᑐᑦ ᖃᐅᔨᒪᓇᕋᑎᒃ. ᐃᓚᖏᓐᓂ ᐊᕐᕌᒍᓂ ᑐᓴᒐᒃᓴᑦ ᐊᑐᐃᓐᓇᐅᔫᒐᓗᐊᑦ, ᑭᓯᐊᓂᓕ ᐃᖅᑲᓇᐃᖅᓯᒪᑦᑎᐊᖃᖅᑐᓂᒃ ᐱᑕᖃᖏᓐᓂᖓᓄᑦ ᖃᐅᔨᒪᔭᐅᓐᖏᓚᕿᕗᑦ. ᐊᖑᔭᐅᔪᓄᑦ ᑐᓴᒐᒃᓴᑦ ᐱᒻᒪᕆᐅᔪᑦ ᐱᔭᐅᒃᐸᑕ ᐊᒃᑐᐃᓂᖃᕈᓐᓇᕐᒪᑕ ᓴᖅᑭᑦᑐᓂᒃ ᐊᑐᖅᑕᐅᓚᐅᖅᑎᓪᓗᒍ ᓈᓴᐃᔾᔪᑎᐅᔪᖅ ᐊᒻᒪ ᑐᑭᓯᒪᓂᓪᓕᔭᕗᑦ ᐅᓄᕐᓂᖏᓐᓄᑦ ᐊᐃᕕᑦ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖏᓐᓄᑦ.

ᐃᓚᒃᑲᓐᓂᖏᑦ ᐊᒃᑐᖅᑕᐅᓯᒪᔪᓄᑦ ᐃᓱᒪᒋᔭᑦ

ᐊᐃᕕᑦ ᐱᒻᒪᕆᐅᕗᑦ ᐊᒻᒪ ᓂᕿᒋᔭᐅᓂᖏᑦ ᐱᒻᒪᕆᐅᓪᓗᑎᒃ ᐃᓄᖕᓄᑦ ᓄᓇᕗᒥᐅᑕᐅᔪᓄᑦ ᐊᒻᒪᓗ ᓄᓇᕕᖕᒥᐅᑕᐅᔪᓄᑦ ᐊᔾᔨᒌᖏᑦᑐᓄᑦ ᐃᓕᖅᑯᓯᕐᒧᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ, ᑮᓇᐅᔭᓕᐅᕋᓱᐊᕐᓂᕐᒧᑦ, ᖃᓄᐃᖏᑦᑎᐊᕋᓱᐊᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓅᓱᕐᒧᑦ ᐱᔾᔪᑎᒋᔭᐅᓪᓗᑎᒃ. ᐃᓄᒋᐊᒃᓯᕙᓪᓕᐊᒐᓗᐊᖅᑎᓪᓗᒋᑦ ᐃᓄᐃᑦ, ᐊᐃᕕᕋᓱᐊᖅᐸᒃᑐᑦ ᐃᓄᐃᓴᒡᓕᕙᓪᓕᐊᕗᑦ 1980-ᒥᓂᑦ, ᐱᔾᔪᑎᖃᓗᐊᓐᖑᐊᖅᑐᖅ ᐃᓚᖓ ᐊᑐᖃᑦᑕᕈᓐᓃᕐᓂᖏᓐᓂᒃ ᕿᒻᒥᓂᒃ ᕿᒧᒃᓯᐅᑎᒋᓗᒍ. ᐃᓄᐃᑦ ᐅᖃᐅᓯᖃᑦᑕᓕᕐᒥᔪᑦ ᐅᓄᖏᓐᓂᖅᓴᓂᒃ ᐃᑭᓕᖅᓯᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᐊᒻᒪ ᐊᓯᐅᔨᖃᑦᑕᕐᓂᖏᓐᓄᑦ, ᐊᒃᐸᕆᐊᖅᓯᒪᓪᓗᓂ 5 ᐳᓴᓐᒧᑦ, ᑖᓐᓇ ᐊᒃᓱᒃᑦᓚᒃ ᐊᑦᑎᖕᓂᖅᓴᐅᔪᖅ ᐅᖃᐅᑕᐅᓯᒪᔪᓂ ᑎᑎᖅᑲᖃᑦᑎᒋᔭᐅᔪᓂ.

ᐃᓱᒫᓗᒍᑎᖃᕐᒪᑕ ᐃᒡᓗᓕᖕᒥ ᐊᒻᒪᓗ ᓴᓂᕋᔭᖕᒥ ᐋᓐᓂᐊᖃᕐᓂᖏᓐᓄᑦ ᐊᐃᕕᑦ ᐊᒻᒪ ᓱᕈᕐᓇᖅᑐᖃᕐᓂᖏᓐᓄᑦ, ᐱᓗᐊᖅᑐᒥ ᖃᓂᒋᔭᖓᓃᑦᑐᑦ ᓈᓚᐅᑎᖃᕐᕕᕕᓂᐅᔪᑦ. ᐊᖑᓇᓱᒃᑎᑦ ᐊᐃᕕᕋᓱᓗᐊᖅᐸᖏᑦᑐᑦ ᑕᒪᒃᑯᐊ ᖃᓂᒋᔭᖏᓐᓂ. ᐃᓱᒫᓗᒍᑎᖃᕐᒥᔪᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓂᒃ ᐊᒃᑐᐃᓂᖓᓂᒃ ᓇᔪᖓᖑᖏᓐᓂᒃ ᐊᐃᕕᑦ ᐊᒻᒪᓗ ᐊᓯᖏᑕ ᐃᒪᕐᒥᐅᑕᑦ.

ᐃᓱᓕᒋᐊᕐᓂᖓ ᐊᒻᒪᓗ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᑦ

ᐅᓄᕐᓂᖏᓐᓄᑦ ᐅᒃᑐᕋᐅᑎᐅᔪᖅ ᓈᓴᐃᔾᔪᑎ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᓈᓴᖅᑕᐅᓂᑯᓄᑦ ᑐᓴᒐᒃᓴᓄᑦ ᐊᑐᖅᑕᐅᓂᐊᕐᓗᓂ ᐊᒻᒪ ᐃᓱᒪᒋᖃᓯᐅᑎᓪᓗᒋᑦ ᐊᐃᕕᖅᑕᐅᕙᒃᑐᑦ ᐅᓄᕐᓂᖏᑦ ᓯᑯᓯᓛᐃᑉ ᐃᒪᖓᓂ ᓱᕐᕋᓗᐊᖅᓯᒪᖏᑦᑐᑦ ᐊᕐᕋᒍᓂ ᐊᓂᒍᖅᑐᓂ 60-ᓂ. ᐊᒃᒍᖅᑐᖅᓯᒪᐅᕐᓂᖏᑕ ᐃᓗᐊᓂ ᐊᐃᕕᑦ ᐃᓱᒪᒋᔭᐅᖏᑦᑐᑦ ᐊᑦᑕᕐᓇᕆᐊᖏᑦ ᐊᒻᒪᓗ ᓄᖑᓐᓂᐊᕆᐊᖏᑦ. ᓇᓗᓇᐃᖅᓯᓯᒪᔪᑦ ᐅᓄᕐᓂᖏᑕ ᐅᑎᕐᔫᒥᑎᑕᐅᓂᖏᓐᓄᑦ ᓈᓴᐅᑎᖃᖅᑎᑕᐅᓪᓗᓂ FR =1.0 ᐊᑐᖅᑕᐅᔪᓐᓇᕐᓂᖓᓂᒃ ᒥᐊᓂᖅᓯᔨᐅᖃᑕᐅᔪᓄᑦ ᐊᖅᑭᒃᓱᐃᓕᕋᖓᑕ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓕᐃᔪᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ ᐊᒻᒪᓗ ᑭᖑᕐᖓᒍᑦ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓕᐃᔪᑦ ᐅᓄᕐᓂᖏᑦ ᑕᒪᒃᑮᖕᓄᑦ ᐅᑎᕐᔫᒥᑎᑕᐅᓂᖏᓐᓄᑦ ᐅᓄᕐᓂᖃᖅᑎᑕᐅᓗᑎᒃ FR=0.5 ᐊᒻᒪᓗ FR=1 ᐊᑐᖅᑕᐅᖓᔭᕐᓗᑎᒃ. ᐃᓚᒃᑲᓐᓂᖏᑦ ᐃᖅᑲᕼᓇᐃᔭᖅᑕᐅᔭᕆᐊᖃᖅᑐᑦ ᓇᓗᓇᐃᖅᑕᐅᔭᕆᐊᖃᕐᒪᑕ ᒪᓕᒐᖓᓐᓂᒃ ᐋᖅᑭᒃᓱᓇᓱᐊᖅᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᐅᑎᕐᔫᒥᑕᐅᓂᖏᑕ ᓇᓕᐊᖕᓂᒃ ᐊᑐᕋᔭᕐᒪᖔᑕ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓕᐃᔪᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᐋᖅᑭᒃᓱᐃᓂᐊᖅᑎᓪᓕᑦ ᓯᕗᓂᒃᓴᒥ ᕿᒥᕐᕈᓇᓚᐅᕐᓗᑎᒃ.

ᐊᓯᖏᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᒃᓴᑦ

ᒥᐊᓂᖅᓯᔾᔪᑎᒃᓴᓄᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᒃᓴᑦ

ᓯᑯᓯᓛᑉ ᐃᒪᖓᓂ ᑭᖑᓪᓕᖅᐹᒥ ᓈᓴᐃᓚᐅᖅᓯᒪᕗᑦ 2011-ᖑᑎᓪᓗᒍ. ᓈᓴᐃᔾᔪᑎᐅᔪᓪᓗ ᐊᑐᖅᑕᐅᒐᓗᐊᕐᓗᑎᒃ ᖃᐅᔨᒪᓇᖏᒻᒪᑦ ᖃᓄᑎᒋ ᐅᓄᖅᓯᕙᓪᓕᐊᖓᒻᒐᑕ ᑕᐃᒪᓐᖓᓂᑦ ᑭᖑᓪᓕᖅᐹᒥᑦ ᓈᓴᐃᓚᐅᖅᑎᓪᓗᒋᑦ, ᑕᒪᓐᓇ ᐊᒃᑐᐃᓂᖃᕐᒪᑦ ᕿᒥᕐᕈᓇᒍᓐᓇᕐᓂᑦᑎᓐᓂᒃ ᐊᐃᕕᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᐊᒃᑐᐃᓂᓇᔭᖏᓐᓂᒃ ᐊᐃᕕᑦ ᐅᓄᕐᓂᓇᔭᖏᓐᓂᒃ. ᖃᒃᑲᓐᓂᐊᒍᑦ ᓈᓴᐃᖃᑦᑕ ᖅᐸᑕ, ᓯᕗᓂᑦᑎᓐᓂ, ᐊᑐᖏᓐᓂᖅᓴᐅᓕᕈᓐᓇᖅᑐᑦ ᑕᑎᖃᖏᓐᓂᖅᓴᐅᓗᑎᒡᓗ 'ᑭᖑᓂᑦᑐᑎᓐᓂ' ᓈᓴᑦᑕᐅᓂᑯᓂᒃ ᐱᖃᓯᐅᔾᔭᐅᓯᒪᓕᕋᔭᕐᒪᑕ ᓈᓴᐃᔾᔪᓯᓇᔭᑦᑎᓐᓄᑦ.

ᐃᒪᐃᑦᑐᒪᒐᔭᓐᖑᐊᖅᑐᑦ ᐅᔾᔨᖅᑐᕐᓗᑎᒃ ᐱᐅᓯᖃᕐᓗᑎᒃ ᐋᖅᑭᒡᓱᐃᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᒪᑦᑎᐊᖅᑐᓂᒃ ᒥᐊᓂᖅᓯᔾᔪᑎᒃᓴᑦ ᑐᕋᒐᒃᓴᖃᕐᓗᑎᒃ ᑕᐃᒪᐃᑦᑐᓂᒃ ᓴᓇᕐᑯᓪᓗᒋᑦ ᐊᐃᕕᑦ ᒥᐊᓂᓇᔭᐅᔾᔪᑎᒃᓴᖏᓐᓄᑦ. ᑕᐃᒪᓐᓇ ᐱᐅᓯᖃᖅᐸᑕ ᓇᓗᓇᐃᖅᓯᔪᓐᓇᕋᔭᖅᑐᑦ ᐊᓯᖏᓐᓂᒃ ᐊᑦᑕᕐᓇᕈᑕᐅᔪᓂᒃ ᕿᒥᕐᕈᓇᒃᓗᑎᒃ ᐊᑐᖅᑕᐅᔪᓐᓇᕋᔭᖅᑐᓂᒃ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᓕᐅᓕᖅᑎᓪᓗᒋᑦ. ᒫᓐᓇᐅᓂᖓᓂᓕ, ᓄᑖᕈᓇᐊᖅᑕᐅᓂᖓ ᓈᓴᐃᔾᔪᓯᐅᑉ ᓄᑖᓂᒃ ᓈᓴᖅᑕᐅᓯᒪᔪᓄᑦ ᐅᓄᕐᓂᖏᓐᓄᑦ ᑐᓴᒐᒃᓴᖃᓕᕐᓗᑎᒃ ᐊᑐᕐᓗᑎᒡᓗ ᖃᐅᔨᔭᐅᔪᓂᒃ ᓈᓴᐃᔾᔪᓯᐅᔪᒥᑦ ᐊᑐᕐᓗᑎᒃ ᑐᓂᓯᔪᓐᓇᕐᓂᐊᕐᒪᑕ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᒥᒃᓴᐅᓴᒃᓯᓗᑎᒃ ᑕᐃᒪᓐᓇ ᐊᔾᔨᒌᖕᓂᖅᓴᒥᒃ ᐊᐃᕕᖅᑕᐅᔪᓐᓇᖅᐸᓪᓚᐃᔪᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᔪᑦ.

ᑐᓴᒐᒃᓴᓂᑦ ᐱᕝᕕᐅᔪᑦ

ᑭᒡᓕᓯᐊᖅᑎᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑎᑦ ᐅᓂᒃᑳᓂᓕᐊᖏᑦ ᐱᔭᐅᓯᒪᕗᑦ ᐊᒃᑑᕙ 20-23, 2015-ᒥ ᐊᕐᕌᒍᑕᒫᖅᓯᐅᒻᒥᒃ ᑲᑎᒪᑎᓪᓗᒋᑦ ᑲᓇᑕᒥ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᑦ ᐱᓕᕆᖅᑎᒌᑦ ᕿᒥᕐᕈᓇᒃᑎᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ (NMMPRC). ᑐᓴᖓᒃᓴᒃᑲᓐᓂᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᑖᒃᑯᓇᓐᖓᖅᑐᑦ ᑲᑎᒪᓂᕐᓂᑦ ᓴᖅᑭᔾᔪᑎᑕᐅᓂᐊᖅᑐᑦ ᖃᕆᑕᐅᔭᒃᑯᑦ ᐅᕙᓂ ᑐᕋᕈᑎᖓᓂ DFO Science Advisory Schedule ᐊᑐᐃᓐᓇᕈᖅᑎᑕᐅᕙᓪᓕᐊᓂᖏᑦ ᒪᓕᒃᓗᑎᑦ.

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ᐅᑯᓇᓂ ᑕᒻᒪᖅᓯᒪᔪᑦ ᐋᖅᑭᒡᓱᖅᑕᐅᓯᒪᕗᑦ ᐅᑯᐊ:

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