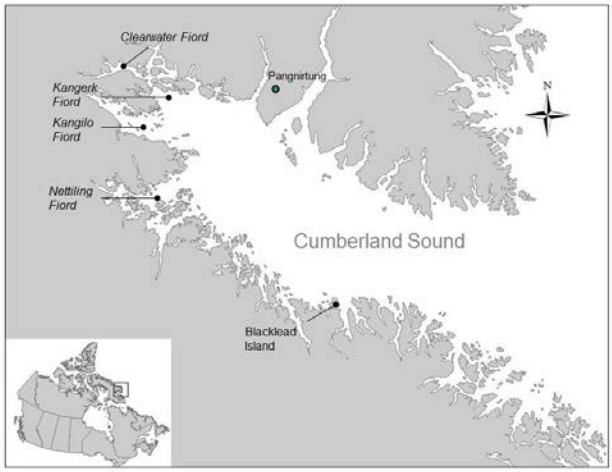
Fisheries and Oceans Canada | Pêches et Océans Canada
Ecosystems and Oceans Science | Sciences des écosystèmes et des océans

ᑲᓇᑕᒥ ᑭᒃᑕᓯᓂᐊᕐᓂᕐᒧᑦ ᐅᖃᐅᔾᔨᒋᐊᕐᑎᑦ
ᕿᑎᐊᓂ ᐊᒻᒪᓗ ᖁᑦᑎᒃᑐᒥ ᐅᑭᐅᕐᑕᕐᑐᒥ ᑭᒃᑕᓯᓂᐊᕐᓂᒃᑯᑦ ᐅᖃᐅᔾᔨᒋᐊᕐᓂᖅ ᐅᓂᒃᑳᖕᒋᑦ **2016/037**

ᖃᓄᐃᓕᖓᓕᕐᒪᖔᒐᑕ ᖃᑯᒃᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ (*Delphinapterus leucas*) ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓱᐊᓗᐊᓂ, ᓄᓇᕗᑦ

ᖃᑯᒃᑕᖅ ᕿᓚᓗᒐ (Delphinapterus leucas) ᑑᒧᖔ G. Kuehl.



ᑎᑎᕋᐅᔭᒐᖅ 1. ᓄᓇᖑᐊᖅ ᖃᐅᔨᓴᕕᐅᔪᒥ..

ᐃᓗᓕᖏᑦ ᐱᔾᔪᑎᖏᑦ:

ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᑦ ᐊᒻᒪᓗ ᑭᒃᑕᓯᓂᐊᕐᑎᑦ ᖃᐅᔨᓴᕐᓂᖏᑦ ᓇᓗᓇᐃᕐᓯᓯᒪᒃᒪᑕ ᐅᓄᕐᓂᕐᓴᐃᑦ ᖃᑯᕐᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓱᐊᓗᐊᓂ ᑕᕝᕙᖏᓐᓇᖅᑲᑦᒪᑕ ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓱᐊᓗᐊᓂ ᐊᕋᒍᓕᒫᖅ (ᑎᑎᕋᐅᔭᒐᖅ 1). ᐊᐅᖏᑎᒍᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᓱᓕ ᑐᑭᓯᓇᕐᓯᖏᒻᒪᑕ ᐊᓯᖏᓐᓄᑦ ᕿᓚᓗᒐᐅᔪᓄᑦ ᐅᑭᐅᕐᑕᕐᑐᒥ ᐊᔾᔨᒌᔭᐅᖏᒻᒪᖔᑕ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᐸᖕᓂᕐᑑᑦ ᑲᖏᓪᓗᐊᓗᐊᓂ ᕿᓚᓗᒐᐃᑦ ᖃᑯᕐᑕᑦ ᐊᐅᓚᑕᐅᓂᖏᑎᒍᑦ ᓱᓕ ᑕᐃᔭᐅᓯᒪᒃᒪᑕ ᑖᒃᑯᑐᓂᖏᓐᓂᒃ. ᑕᐃᒪᖔᑦ 1998, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐊᒻᒪᓗ ᐸᖕᓂᕐᑑᒥ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᖃᐅᔨᓴᖃᑦᑕᕐᓯᒪᒃᒪᑕ ᖃᓄᐃᓕᖓᓕᕐᒪᖔᑕ ᑐᑭᓯᔭᐅᓇᓱᒃᓗᑎᒃ ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓱᐊᓗᐊᑕ ᐃᓗᐊᓃᑦᑐᑦ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᐸᓗᒃᒪᖔᑕ. ᑖᒃᑯᐊ ᕿᓚᓗᒐᐃᑦ ᖃᑯᕐᑕᐃᑦ ᑕᐃᔭᐅᓯᒪᒃᒪᑕ ᐅᓗᓇᐊᓇᕐᑐᒦᓐᓂᖏᓐᓂᒃ ᑲᑎᒪᔨᕐᔪᐊᓄᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᐅᓗᓇᐊᓇᕐᑐᒦᑦᑐᑦ ᑑᒪᔪᐃᑦ ᑲᓇᑕᒥ (COSEWIC) ᐊᒻᒪᓗ ᐅᓄᕐᓯᒋᐊᕈᑕᐅᔪᓐᓇᕐᑐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᐱᔭᕆᕐᑕᐅᓚᐅᕐᑐᖅ 2005. ᐅᓄᕐᓂᖏᑦ ᖃᐅᔨᓴᕈᑕᐅᔪᑦ ᑕᑯᔭᐅᖃᑦᑕᕐᓯᒪᖏᑎᒍᑦ ᖃᖓᑕᑲᑦᑲᓗᑎᒃᓗ 1990-ᒥᑦ 1999-ᒧᑦ ᐃᓄᕐᓂᖃᕐᓱᒋᔭᐅᓂᖏᑦ, ᕿᓚᓗᒐᕐᓱᒃᑕᐅᕙᖏᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᖃᓚᐅᕐᑐᑦ 8,500, ᐅᓄᕐᓂᖃᕐᓱᒋᔭᐅᓕᕐᑐᑦ 2,000 (ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ 2005) ᐊᕋᒍᖓᓂ 2002 (100-ᒧᑦ ᓈᓴᐅᑎᒃᑯᑦ ᑎᑭᒪᑎᓪᓗᒋᑦ). ᐅᖃᐅᓯᐅᑲᑕᖃᑦᑕᓚᐅᕐᑎᓪᓗᒍ ᑎᒍᒥᐊᕐᑎᐅᔪᓄᑦ ᓇᓗᓇᐃᕐᓯᓚᐅᕐᑐᑦ ᑐᕋᒐᖃᕈᒪᓪᓗᑎᒃ ᐅᓄᕐᓯᑎᒋᓗᑎᒃ 5,000 ᐊᕋᒍ 100 ᐊᓂᒍᖏᓐᓂᖏᓐᓂ.

ᖃᖓᑕᑲᑦᑲᓗᑎᒃ ᖃᐅᔨᓴᓚᐅᕐᑐᑦ ᐊᒋᓯ 2005, ᑭᓯᐊᓂ ᓱᓚᕈᔪᒃᒧᑦ ᑕᑯᔪᓐᓇᓚᐅᖏᒻᒪᑕ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᐸᓗᒃᒪᖔᑕ ᐅᖃᐅᓯᐅᓚᐅᖏᑦᑐᖅ. ᖃᖓᑕᑲᑦᑲᓗᑎᒃ 2009 ᐅᓄᕐᓂᖃᕐᓱᒋᔭᐅᓚᐅᕐᑐᑦ 800 ᐃᓱᒪᒋᖃᓯᐅᑎᓪᓗᒋᑦ ᐊᖅᑲᐅᒪᔪᑦ. ᓄᑕᒥᒃ ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᓚᐅᕐᑐᑦ 2014. ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᕐᑎᓂᕐᒧᑦ ᐱᔪᒪᓯᒪᒃᒪᑕ ᑭᒃᑕᓯᓂᐊᕐᓂᕐᒧᑦ ᐋᕿᒃᓯᕐᑯᓪᓗᒋᑦ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᓂᖏᓐᓂᒃ ᓇᓚᐅᑦᑖᕈᑕᐅᓂᐊᕐᑐᒥᒃ ᐱᖃᓯᐅᑎᓗᒍ 2014 ᖃᖓᑕᑲᑦᑲᓗᑎᒃᓗ ᑕᑯᔭᐅᓯᒪᔪᑦ ᑭᖑᓂᐊᓂ, ᐊᒻᒪᓗ ᐊᑲᐅᓈᕈᓂ ᐅᖃᐅᔾᔨᒋᐊᕐᓗᑎᒃ ᓄᑕᓂᒃ ᐅᓄᕐᑎᒋᓇᓱᒋᔭᐅᔪᓂᒃ ᖃᓄᕐᓗ ᐅᓄᐃᓐᓇᕈᑕᐅᔪᓐᓇᕐᑐᓂᒃ ᐊᖑᓇᓱᒃᑎᑦ ᐃᓚᖓᐃᕙᓪᓕᐊᑎᓪᓗᒋᑦ.

ᓇᐃᓈᕐᓯᒪᔪᖅ ᐅᕐᑲᐅᓯᒃᓴᐃᑦ

- ᐸᒃᓂᕐᑑᕐᒥ ᑲᖏᕐᓱᐊᓗᐊᓂ ᖃᑯᕐᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ ᐊᐅᓚᑕᐅᒃᒪᑕ ᐊᔾᔨᐅᖏᑦᑐᓪᓗᑎᒃ ᑖᑯᑐᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᓯᒪᒃᒪᑕ ᑕᕝᕙᓂ ᑲᖏᕐᓱᐊᓗᒃᑳᖏᓐᓇᕐᓂᖏᓐᓂᒃ. ᑕᐃᔭᐅᓯᒪᓪᓗᑎᒃᓗ ᐅᓗᕆᐊᓇᕐᑐᑳᓐᓂᖏᓐᓂᒃ ᑲᑎᒪᔨᖏᓄᑦ ᐆᒪᔪᐃᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᕐᑐᑳᑦᑐᑦ ᑲᓇᑕᒥ (COSEWIC).

- ᖃᑯᒃᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᑐᑦ ᐸᖕᓂᕐᑑᕐᒥᐅᓄᑦ. ᑕᐃᒪᖓᓪᓗ 2002 ᑭᒃᓕᖃᕐᑎᑕᐅᔪᑦ 41 ᐱᔭᐅᔪᓐᓇᕐᑐᑦ.

- ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᓚᐅᕐᑐᑦ ᐊᒋᓯ 2014 ᖃᓄᑎ ᐅᓄᕐᑎᒋᒃᒪᖓᑕ. ᐋᕿᒃᑕᐅᓚᐅᕐᑎᓪᓗᒍ ᐊᖅᑲᐅᒪᔪᑦ ᐱᖃᓯᐅᑎᓗᒋᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᑐᑦ ᐅᓄᕐᑎᒋᓂᖏᑦ 1,200 (ᑕᒻᒪᕈᓐᓇᕐᓂᖓ 200, ᖃᒋᓕᓚᖓᓄᑦ 100 ᕿᓚᓗᒐᐃᑦ).

- ᐅᓄᕐᑎᒋᓂᖏᑦ ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐱᖃᓯᐅᑎᓯᒪᓪᓗᓂ ᐊᖑᓇᓱᒃᑕᐅᓯᒪᔪᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ,ᓗ ᐃᓚᖃᓯᐅᑎᓚᐅᕐᑐᖅ ᐅᓄᕐᑎᒋᓇᓱᒋᔭᐅᓂᖏᓐᓄᑦ ᑲᖏᕐᓱᐊᓗᒃᒥ ᕿᓚᓗᒐᐃᑦ ᐊᑐᕐᓱᒍ ᖃᐅᔨᓴᐅᑎ ᖃᓄᑎᒋ ᒫᓐᓇ ᐅᓄᕐᑎᒋᓇᓱᒋᔭᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐅᓄᕐᓯᕙᓪᓕᐊᒃᒪᖓᑕ. ᐊᔾᔨᒋᖏᑦᑐᑦ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐊᑐᕐᑕᐅᓪᓗᑎᒃ ᑕᑯᔭᐅᓯᒪᔪᑦ ᑎᑎᕋᕐᑕᐅᓯᒪᔪᑦ ᑕᐃᒪᖓᑦ 1980-2014 ᐊᒻᒪᓗ ᐊᖑᓇᓱᒃᑕᐅᓯᒪᔪᑦ 1960-2015 ᐱᔭᕆᕐᑕᐅᓚᐅᕐᑐᑦ. ᑕᒪᕐᒥᒃ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐊᔾᔨᒋᐸᓗᒃᒥᒃ ᐅᖃᕐᓯᒪᓚᐅᕐᑐᑦ ᐅᓄᕐᓂᕋᐃᓯᒪᓪᓗᑎᒃ 1,000 ᐊᒻᒪᓗ ᓇᓗᓇᐃᕐᓯᓯᒪᓪᓗᓂ ᐅᓄᕈᓐᓂᕐᐸᓪᓕᐊᓂᖏᓐᓂᒃ. ᑖᒃᑯᐊ ᐅᓄᕐᓂᕋᐃᓯᒪᔪᑦ ᐅᓄᖏᓐᓂᕐᓴᐅᔪᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᑐᒥᑦ ᐱᔭᐅᔪᓐᓇᕐᑐᑦ ᐋᕿᒃᑕᐅᑎᓪᓗᒋᑦ.

- ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐊᑐᕐᑕᐅᔪᖅ ᐊᖑᓇᓱᒃᑕᐅᓯᒪᔪᑦ 1960-2015 ᐊᒻᒪᓗ ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓯᒪᔪᑦ 1990 ᐊᒻᒪᓗ 2014 ᑲᑎᑕᐅᓪᓗᑎᒃ. ᒫᓐᓇ ᐅᓄᕐᓂᓇᓱᒋᔭᐅᔪᑦ 1,000 (95% ᓱᓕᓂᖓᓂᒃ : 500-2000, ᐊᑯᓐᓂᖓᓂ, ᖃᓂᒋᓚᖓᓄᑦ 100) ᕿᓚᓗᒐᐃᑦ.

- ᒫᓐᓇ ᐊᐅᓚᑕᐅᓂᖓᓄᑦ ᑐᕋᒐᐅᔪᑦ ᕿᓚᓗᒐᐃᑦ ᐅᓄᕐᓯᒋᐊᕈᓐᓇᕐᑯᓪᓗᒋᑦ ᑎᑭᓪᓗᒍ 5,000 ᐊᖃᒍᒥ 2091. ᐱᑕᖃᓕᕆᖃᕐᒪᑕ ᐊᐅᓚᓂᖓᓄᑦ ᑐᕋᒐᐅᔪᖅ ᐃᒪᓐᓇᑎᒋ 1,235 ᕿᓚᓗᒐᐃᑦ ᑎᑭᓪᓗᖑ ᐊᖃᒍᖓ 2025.

- ᕿᓚᓗᒐᐃᑦ ᐅᓄᕐᓯᒋᐊᕐᓂᐊᕈᑎᒃ ᓇᓗᓇᐃᕐᑕᐅᓯᒪᔪᒧᑦ ᐊᐅᓚᓂᖓᓄᑦ ᑐᕋᒐᐅᔪᒧᑦ, ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐅᓄᕈᓐᓂᕆᐊᖃᕐᒪᑕ. ᑭᓯᐊᓂ, ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᒪᓕᒃᓗᒍ, ᐅᓄᕐᓯᕙᓪᓕᐊᒐᔭᕐᒪᖓᑕ ᐊᕋᒍ 10 ᐃᓗᐊᓂ ᒥᑭᑑᒃᒪᑦ, ᐊᖑᓇᓱᒃᑕᐅᖏᒃᑲᓗᐊᕈᑎᒃᓘᓐᓃᑦ ᓱᓕ ᒥᑭᓗᐊᕋᔭᕐᒪᑦ. ᑕᑯᓪᓗᒋᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᒧᓐᓇᕐᓂᖏᑦ ᑐᕋᒐᐅᔪᖅ ᒪᓕᒃᓗᒍ ᐃᓱᒪᒋᔭᐅᔪᑦ 10%, 21%, 26% ᐊᒻᒪᓗ 32% ᑲᑎᓪᓗᒋᑦ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᑦ ᐅᓄᕐᑎᒋᓂᖏᑦ ᑎᑭᐅᑎᓇᓱᒃᓂᐊᕈᑎᒃ 25, 10, 5 ᐊᒻᒪᓗ 0 ᕿᓚᓗᒐᐃᑦ.

- ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᒋᐊᕐᑕᐅᓚᐅᕐᒥᔪᑦ ᐊᑐᕐᓱᒍ ᐆᒪᔪᐃᑦ ᐱᑕᖃᕈᓐᓂᕐᑎᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᐅᑎ. ᒪᓕᒃᓗᒍ ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐅᓄᕐᑎᒋᓂᖏᓐᓄᑦ, ᐊᑐᕐᓗᒍᓗ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᕆᒐᔭᕐᑕᖏᑦ 0.5 ᐆᒪᔪᐃᑦ ᐱᑕᖃᕈᓐᓂᕐᑎᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᐅᑎ ᐅᓄᕐᑎᒋᔭᕆᖃᕐᑐᑦ 8 ᐱᔭᐅᔪᓐᓇᕐᑐᑦ ᕿᓚᓗᒐᐃᑦ. ᐆᒪᔪᐃᑦ ᐱᑕᖃᕈᓐᓂᕐᑎᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᐅᑎ ᐱᖃᓯᐅᑎᓯᒪᓪᓗᑎᒃ ᐃᓄᒃᓄᑦ ᑐᕐᑯᑕᐅᔪᑦ, ᑕᒪᕐᒥᒃ ᑭᕕᔨᔭᐅᔪᓪᓗ ᐊᓯᐅᔨᔭᐅᔪᓪᓗ ᐊᒻᒪᓗ ᐱᔭᕆᓇᑎᒃ ᑐᕐᑯᑕᐅᔪᑦ ᐊᓯᖏᓐᓂᒃ ᐱᓇᓱᒃᑎᓪᓗᒋᑦ.

- ᐱᔭᐅᔪᓐᓇᕐᑐᑦ ᐊᑐᕐᓗᒍ ᖃᐅᔨᓴᐅᑎ ᐃᓚᖓᕐᓗᒍ ᐅᓄᕐᓂᖓ ᐊᓯᖏᓐᓂᑦ ᑐᕐᑯᔾᔪᑕᐅᔪᓐᓇᕐᑐᓂᑦ ᐱᖃᓯᐅᑎᓯᒪᖏᑦᑐᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᓂᑦ. (ᓱᕐᓗ ᐃᑭᓕᕐᑕᐅᔪᑦ, ᐊᓯᐅᔨᔭᐅᔪᓪᓗ, ᐅᖃᐅᓯᐅᓯᒪᖏᑦᑐᓪᓗ ᐊᓯᖏᓐᓄᓪᓗ ᐃᓄᒃᓄᑦ ᐱᔭᐅᓯᒪᔪᑦ). ᐊᓯᖏᑦ ᑐᕐᑯᔾᔪᑕᐅᔪᓐᓇᕐᑐᑦ ᐃᓚᓐᓇᑎᒋᕐᐸᑕ 42% ᐱᔭᐅᔪᓂᑦ, ᑕᐃᒪ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᑦ 5-ᖑᒐᔭᕐᐳᖅ ᕿᓚᓗᒐᐃᑦ..

- ᐊᒃᑐᐊᖃᑎᒌᒃᓂᖏᑦ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᑐᑭᓯᔭᐅᓚᐅᕐᒥᔪᑦ. ᓱᕋᐅᑎᔾᔨᐊᖏᑦᑐᖅ ᐅᓄᕐᑎᒋᓇᓱᒋᔭᐅᓂᖏᓐᓄᑦ ᑭᓯᐊᓂ ᓇᓗᓇᐃᕐᑐᑦ ᐃᒪᓐᓇᑎᒋᕋᓱᒋᔭᐅᔪᑦ ᐅᓄᓗᐊᕐᑎᑕᐅᖏᑦᑐᑦ. ᐊᑯᓂᐅᓂᕐᓴᖅ ᖃᖓᑕᖃᑦᑕᕐᓗᑎᒃ ᐅᓄᕐᑐᐃᕐᓱᕐᓂᕐᓴᐅᓗᑎᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐋᕿᒋᐊᐊᕐᑕᐅᓗᑎᒃ ᐊᒻᒪᓗ ᐅᖃᐅᓯᐅᖃᑦᑕᕐᓂᖏᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᑦ (ᐱᖃᓯᐅᑎᓗᒋᑦ ᐃᑭᓕᕐᑕᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᓪᓗ) ᐱᔭᕆᐊᖃᕐᑐᑦ ᓇᓗᓇᕈᓐᓂᕐᑎᐊᕋᓱᒃᓗᒍ ᐅᓄᕐᑎᒋᓂᖏᑦ ᐃᓚᓗᒐᐃᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖏᑦ ᐅᓄᕈᓐᓂᕐᐸᓪᓕᐊᓂᖏᓪᓗ.

ᖃᓄᐃᓕᖓᓂᑰᓂᖓ

ᑭᓇᐅᔭᒃᓴᐅᑕᐅᓕᓚᐅᕐᓯᒪᔪᑦ ᐊᕋᒍᖏᓐᓂ 1800 ᑲᔪᓯᓪᓗᓂᓗ ᑎᑭᓪᓗᒍ 1920, ᑭᓇᐅᔭᓕᐅᕋᓱᒃᑐᑦ ᐊᕐᕙᒃᓂᐊᕐᑎᑦ ᕿᓚᓗᒐᕐᑲᑦᑕᓚᐅᕐᒪᑕ , ᒪᒃᑖᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐅᕐᓱᖏᓐᓄᑦ ᑮᓇᐅᔭᕐᑕᕈᑕᐅᕙᒃᓗᓂ (ᑎᑎᕋᐅᕐᓯᒪᔪᖅ 2). ᐊᓂᒍᕐᑎᓪᓗᒍ 1920, ᐊᔾᔨᒌᖏᑦᑐᑦ ᓂᐅᕕᕐᕕᒃᑲᐅᕐᑐᑦ ᑮᓇᐅᔭᒃᓴᐅᑎᕐᑲᐃᓐᓇᓚᐅᕐᑐᑦ ᐅᕐᓱᖏᓐᓄᑦ ᒪᒃᑕᖓᓄᓪᓗ ᑎᑭᓪᓗᒍ 1966 (ᓱᑎᕗᐸᑦ 2004 ᐅᕐᑲᓕᒪᒐᓕᐅᕐᑕᖓ ᓴᕿᑕᐅᓯᒪᖏᑦᑐᖅ). ᑕᐃᒪᖓᑦ 1970, ᑖᒃᑯᐊ ᕿᓚᓗᒐᐃᑦ ᖃᐅᔨᓴᕐᑕᐅᕐᑲᑦᑕᕐᓯᒪᔪᑦ ᓇᓗᓇᐃᕐᑕᐅᓯᒪᓪᓗᓂᓗ ᐅᓄᕈᓐᓃᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐅᓄᕐᓯᓇᓱᒃᓗᒋᑦ ᖃᓲᓐᓇᓂᒃ ᐱᕐᑲᑦᑕᕐᑯᔨᓪᓗᑎᒃ. ᐱᒋᐊᕐᓂᖓᓂ 1980, ᕿᓚᓗᒐᐃᑦ ᖃᑯᕐᑕᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᑐᑦ ᐅᓄᖏᓐᓂᖏᓐᓂᒃ 500 ᑐᖕᒑᓂ ᐊᒻᒪᓗ ᑭᒃᓕᖃᓕᕐᑎᑕᐅᓪᓗᑎᒃ ᖃᓯᓂᒃ ᕿᒪᓗᒐᕈᓐᓇᕐᒪᖕᒑᑕ. ᑕᐃᒪᖓᑦ 1990, ᑕᓪᓕᒪᐃᑦ ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᑦ. ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᑲᑦᑕᕐᓯᒪᔪᑦ ᑭᓯᐊᓂ 2005 ᓯᓚᕈᔫᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᔾᔨᓕᐅᕈᑎᖏᑦ ᐱᐅᖏᓐᓂᖏᓐᓄᑦ ᑲᔪᓯᓚᐅᖏᑦᑐᖅ. ᑎᓴᒪᐃᕐᓱᕐᓗᑎᒃ ᖃᖓᑕᒃᑕᓚᐅᕐᑐᑦ 1990,1999,2009 ᐊᒻᒪᓗ 2014. ᑖᓐᓇ ᑎᑎᕋᕐᓯᒪᔪᖅ ᖃᓄᐃᓕᖓᓚᐅᕐᒪᖓᑕ ᖃᐅᔨᓴᕐᑎᓪᓗᒋᑦ ᖃᖓᑕᓪᓗᑎᒃ 2014 ᐅᓂᑳᕐᓯᒪᔪᖅ, ᖃᓄᑎᒋ ᐅᓄᕐᑎᖏᓕᕐᒪᖓᑕ ᖃᐅᔨᓇᓱᒃᓗᑎᒃ ᑲᖏᕐᓱᐊᓗᐊᓂ ᐸᖕᓂᕐᑑᑦ ᐊᒻᒪᓗ ᐋᕿᒋᐊᖃᕐᒪᖓᑕ ᐅᓄᕐᓂᖏᑦ ᕿᓚᓗᒐᕐᑕᐅᔪᓐᓇᕐᑐᑦ.

ᐆᒪᔪᓂᖏᑦ ᖃᓄᐃᑦᑐᓂᖏᑦ

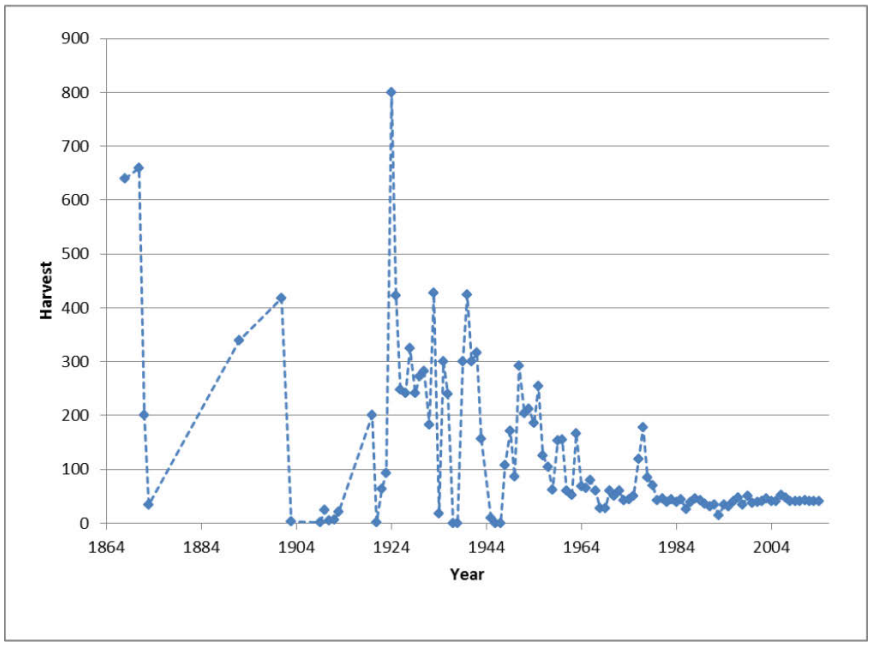
ᖃᑯᕐᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ ᐅᑭᐅᕐᑕᕐᑐᓕᒫᒥ ᐱᑕᖃᕐᑐᑦ. ᐊᑯᓂᓐᓂᕐᓱᕐᑐᑦ ᑭᒍᑎᖃᕐᑐᑦ ᕿᓚᓗᒐᐅᓪᓗᑎᒃ ᐅᕿᖏᓐᓂᖃᕐᑐᑦ ᑎᑭᓪᓗᒍ 1,900 ᑭᓚᒍᓛᒻ. ᖃᑯᕐᑕᑦ ᕿᓚᓗᒐᐃᑦ ᑐᓄᐊᒍᑦ ᑎᑳᒍᑎᖃᖏᑦᑐᑦ, ᐱᔾᔪᑎᒋᔭᐅᓇᓱᒋᔭᐅᔪᖅ ᓯᑯᖃᕐᑐᕐᒥᐅᑕᐅᓂᖏᓐᓄᑦ. ᓄᓕᐊᖃᑦᑕᕋᓱᒋᔭᐅᔪᑦ ᐅᑭᐅᒃᑯᑦ ᐅᕙᓘᓐᓃᑦ ᐅᐱᖓᒃᑳᒃᑯᑦ. ᐅᒋᐊᖏᑦ ᐃᓄᖃᑦᑕᕐᑐᑦ ᓇᔾᔨᐊᖑᓚᐅᕐᓗᑎᒃ ᑕᕿᓄᑦ 14 ᐊᒻᒪᓗ ᐊᒫᒪᖃᑦᑕᕐᑐᑦ ᑕᕿᓄᑦ 18. ᐅᒋᐊᑦ ᓇᔫᑏᓐᓇᖃᑦᑕᕐᑐᑦ ᐊᓇᓇᖓᓂᒃ ᐊᕋᒍᓄᑦ ᒪᕈᒃ ᐱᖓᓱᓪᓘᓐᓃᑦ, ᐊᒻᒪᓗ ᓇᒧᖓᐅᕈᓘᔭᖃᑦᑕᕐᑐᑦ ᖃᖓᖑᕋᖓ ᐊᕋᒍ ᐃᓗᐊᓂ. ᐃᓱᒪᒋᔭᐅᓯᒪᔪᖅ ᐊᑯᓂᐅᔪᒧᑦ ᐅᒋᐊᖏᑦ ᐊᓈᓇᖓᓂᖃᑦᑕᕐᓂᖏᑦ ᐃᓕᕕᐅᔪᓐᓇᒪᒐᑕ ᓇᒧᖓᐅᖃᑦᑕᕐᓂᖏᑦ ᖃᐅᔨᔭᐅᓇᓱᒃᓗᑎᒃ. ᐊᕋᒍ ᐱᖓᓱᑦ ᐊᓂᒍᕋᖓᑕ ᐃᕐᓂᐅᖃᑦᑕᕐᑐᑦ. ᐃᓈᓵᕐᓂᖏᓐᓂ, ᐅᒋᐊᖏᑦ ᑲᔫᓪᓗᑎᒃ ᐅᕙᓘᓐᓃᑦ ᑐᖑᔪᐊᖓᓪᓗᑎᒃ ᕿᕐᓈᖓᓪᓗᑎᒃ. ᒪᒃᑖᖓ ᖃᐅᓪᓗᕐᓯᕙᓪᓕᐊᓪᓗᓂ ᐃᓇᕈᕐᐸᓪᓕᐊᓪᓗᑎᒃ, ᓯᐊᕐᓇᖑᓚᐅᕐᓗᑎᒃ ᖃᑯᕐᓯᓪᓗᑎᒃ. ᓄᓕᐊᕈᓐᓇᕐᓯᕐᖃᑦᑕᕐᑐᑦ ᐊᕋᒍᖃᓕᕋᖓᑕ 8-ᒥᑦ 14-ᒧᑦ ᐊᒻᒪᓗ ᐃᓈᔅᓱᔭᕐᑎᒋᖃᑦᑕᕐᑐᑦ ᐊᕋᒍᓄᑦ 60 ᐅᖓᑕᓄᓪᓗ.

ᐅᐸᖃᑦᑕᕐᑕᖏᑦ, ᕿᓚᓗᒐᐃᑦ ᖃᑯᕐᑕᐃᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᑲᖏᕐᓱᒃᓄᐊᕐᕐᖃᑦᑕᕐᑐᑦ ᐊᒻᒪᓗ ᑰᒋᐊᓄᑦ ᐊᐅᔭᒃᑯᑦ, ᐃᓱᒪᒋᔭᐅᓯᒪᔾᔪᑎᒋᔭᖓ ᐃᒃᑲᑦᑐᕐᒥᐅᑕᐅᓂᖏᓐᓂᒃ. ᑭᓯᐊᓂ, ᖃᖓᑦᑕᕐᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᔾᔨᓕᐅᒐᒃᑯᑦ ᖃᖓᑕᓱᒃᑯᓪᓗ ᑕᑯᔭᐅᖃᑦᑕᕐᓯᒪᔪᑦ ᖃᖏᕐᓱᓄᖓᐅᔪᑦ ᐅᑎᒧᓪᓗ, ᐃᓛᓐᓂᓪᓗ 100 ᐅᖓᑕᓂ ᑭᓛᒥᑕ ᐅᖓᓯᒃᑎᒋᔪᒥᒃ ᓇᒧᖓᐅᖃᑦᑕᕐᑐᑦ ᐊᐅᔭᒃᑯᑦ.

ᖃᐅᔨᓴᕐᑕᐅᓂᖓ

ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ

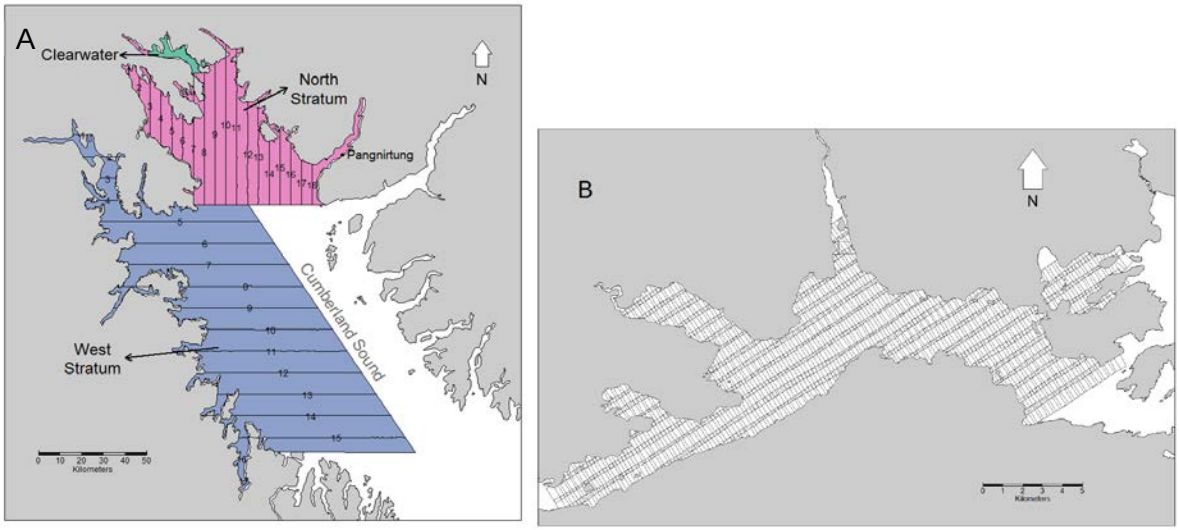
ᑎᑎᕋᕐᓯᒪᔪᑦ ᑮᓇᐅᔭᒃᓴᐅᑕᐅᑎᓪᓗᒋᑦ (1868-1966) ᐊᒻᒪᓗ ᓂᕿᒋᔭᐅᓪᓗᑎᒃ (1956-2015), ᑭᓯᐊᓂ ᐊᑯᓐᓂᖃᐅᓗᐊᕐᒪᑕ ᑎᑎᕋᕐᓯᒪᔪᑦ, ᑖᒃᑯᐊ ᑎᑎᕋᕐᑕᐅᓯᒪᔪᑦ ᒥᑮᓚᖑᔪᒃᑯᑦ ᑕᐃᒪᐃᓐᓂᕋᕐᑕᐅᓯᒪᔪᑦ (ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 2). ᐊᒻᒪᓗ ᑎᑎᕋᕐᑕᐅᕙᓪᓕᐊᓯᒪᒃᒪᑕ ᐊᖑᓇᓱᒃᑕᐅᔪᑦ ᐊᕋᒍᑕᒫᖑᖏᑦᑐᖅ ᐊᕋᒍ 10 ᐃᓗᐊᓂ. ᑖᓐᓇ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᐅᕐᖃᐅᓯᐅᓯᒪᔪᑐᐊᑦ ᒪᓕᒃᑕᐅᓪᓗᑎᒃ 1960-ᒥᑦ 2015-ᒧᑦ.



ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 2. ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐊᖑᓇᓱᒃᑕᐅᓯᒪᔪᑦ ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓗᐊᓗᐊᓂ ᖃᑯᕐᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ 1864-2014. ᑎᑎᕋᕐᑕᐅᖃᕐᑕᕈᓐᓂᓚᐅᕐᒪᑕ ᐊᑯᓐᓂᖓᓂ 2003 ᐊᕋᒍᓴᒃᓄᑦ ᐃᓱᒪᒋᔭᐅᓪᓗᓂᓗ ᐱᔭᕆᐊᖃᕐᑕᖏᑦ ᐅᓄᕐᓂᖏᑦ ᐱᔭᐅᓯᒪᓂᕋᐃᓪᓗᑎᒃ.

ᐱᑕᕐᑲᕐᑎᒋᓂᖏᑦ ᐊᒻᒪᓗ ᐃᒃᐱᒃᓇᐅᑎᓯᒪᓂᖓ ᐊᖑᓇᓱᒃᑕᐅᓂᖏᓐᓄᑦ ᐅᓄᕐᓂᖏᑦ

ᖃᐅᔨᓴᕈᑕᐅᓯᒪᔪᑦ ᖃᖓᑕᓪᓗᑎᒃ ᐱᑕᕐᑲᕐᑎᒋᔭᖏᓐᓂᒃ ᑕᐃᒪᖓᑦ 1980, ᑭᓯᐊᓂ ᑕᐃᒃᑯᐊ ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᐅᔪᑦ ᑐᖔᓂ 1990 ᖃᐅᔨᒪᓇᖏᓗᐊᕐᒪᑕ ᐱᔾᔪᑎᒋᓪᓗᒍ ᓯᒃᔭᒥᓐᓂᕐᓴᐅᓂᖏᓐᓄᑦ (ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 1). 2014-ᒥ, ᐊᔾᔨᓕᐅᑕᐅᓪᓗᓂ ᖃᖓᑕᓪᓗᑎᒃ ᑲᖏᕐᓗᓕᒪᖓᓂ ᓯᓚᑕᓄᓪᓗ (ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 3).



ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 3. A) ᓄᓇᖑᐊᖅ ᐊᕋᒍᖓᓂ 2014 ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᖏᑦ ᐱᖓᓱᑦ ᖃᐅᔨᓴᕐᓂᖏᑦ ᑐᑭᓕᐊᕐᑐᒃᑯᓪᓗ. B) ᓄᓇᖑᐊᖅ 2014 ᐊᔾᔨᓕᐅᕐᑕᐅᕝᕙᓪᓕᐊᓗᓂ ᖃᖓᑕᓱᒃᑯᑦ ᐊᑐᓂ ᐊᔾᔨᐅᓕᐅᕐᑕᐅᔪᑦ ᑕᑯᒃᓴᐅᓪᓗᑎᒃ.

ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 1. ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᔭᐅᔾᓱᒋᔭᐅᔪᑦ ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓱᐊᓗᐊᓂ ᖃᑯᕐᑕᑦ ᕿᓚᓗᒐᐃᑦ ᐃᓗᐊᓂ (ᐱᑕᖃᑦᓚᕿᒃᓂᐅᔪᓂ), ᓯᓚᑖᓂ ᑲᖏᕐᓱᑦ, ᐊᒻᒪᓗ ᒪᓱᒃ ᑲᑎᑕᐅᓪᓗᑎᒃ (Marcoux and Hammill 2016). ᖃᓄᑎᒋ ᐱᑕᖃᕐᑎᒋᓂᖏᑦ ᐳᔅᖏᑦ (% ᓯᓚᑕᓂ) ᐊᒻᒪᓗ ᖃᓄᑎᒋ ᐊᔾᔨᒌᖏᑎᒋᓂᖏᑦ ᖃᐅᔨᔅᐅᑕᐅᔪᑦ ᑎᑎᕋᕐᓯᒪᔪᑦ ᐃᒪᓐᓇᑎᒌᒐᓱᒋᔭᐅᓂᖏᑦ. ᖃᐅᔨᒪᓗᒍ ᖃᓄᑎᒋ ᐊᔾᔨᒌᖏᑎᒋᓂᖏᑦ ᑲᒪᒋᔭᐅᓚᐅᖏᑦᑐᖅ ᑭᖑᓂᐊᓂ 1990. ᐊᑦᔨᓕᐅᒐᐃᑦ ᑲᖏᕐᓱᐊᓗᒃᒥᑐᐊᖑᔪᑦ.

ᐊᕋᒍᖓ	ᑲᖏᕐᓱᐊᓗᒃᒥ	ᓯᓚᑕᒥ ᑲᖏᕐᓱᐊᓘᑦ	ᑲᑎᑦᓗᒋᑦ ᐊᔾᔨᒌᖏᓐᓂᓂ ᓇᔭᖏᑦ %	ᐊᔾᔨᒋᖏᓐᓂᓇᔭ ᖏᑦ	% ᑎᓚᑕᓂ ᑲᖏᕐᓱᐊᓘᑦ	ᖃᐅᔨᓴᕈᑕᐅᔪᖅ	ᖃᐅᔨᓴᕐᑕᖏᑦ ᓇᒧᑎᒋ
1980	178	637	815		78	ᐋᕿᒃᓯᒪᖏᑦᑐᒥᒃ ᒪᓕᒃᓱᑎᒃ ᖃᖓᑕᓪᓗᑎᒃ ᐊᔾᔨᓕᐅᒐᒃᑯᓪᓗ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ
1981	919	50	969		5	ᐋᕿᒃᓯᒪᖏᑦᑐᒥᒃ ᒪᓕᒃᓱᑎᒃ ᖃᖓᑕᓪᓗᑎᒃ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐊᑭᓐᓇᖓ ᓯᒃᔭᖓᓂ ᑲᖏᐸᓱᐊᓘᑦ
1982	1054	177	982		18	ᐋᕿᒃᓯᒪᖏᑦᑐᒥᒃ ᒪᓕᒃᓱᑎᒃ ᖃᖓᑕᓪᓗᑎᒃ ᐊᔾᔨᓕᐅᒐᒃᑯᓪᓗ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐅᐊᖕᓇᖓᓂ ᓇᑦᑎᓕᒃ ᑲᖏᕐᓱᒃ, ᐊᑭᓐᓇᖓ ᓯᒃᔭᖓ ᑲᖏᕐᓱᐊᓘᑦ
1985	1775	0	1775		0	ᐋᕿᒃᓯᒪᔪᒥᒃ ᒪᓕᒃᓱᑎᒃ ᐊᔾᔨᐅᒐᒃᑯᓪᓗ ᐊᒻᒪᓗ ᑕᑯᔭᐅᓪᓗᓂ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐊᑭᓐᓇᖓ
1986	1102	5	1107		0	ᐋᕿᒃᓯᒪᔪᒥᒃ ᐋᕿᒃᓯᒪᖏᑦᑐᒥᒃᓗ ᒪᓕᒃᓱᑎᒃ ᐊᔾᔨᐅᒐᒃᑯᓪᓗ ᐊᒻᒪᓗ ᑕᑯᔭᐅᓪᓗᓂ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐅᐊᒃᓇᖓ
1990	1180	0	1180	0.10	0	ᐋᕿᒃᓯᒪᔪᒥᒃ ᐊᔾᔨᓕᐅᒐᒃᑯᑦ ᑕᑯᔭᐅᓗᑎᒃᓗ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐅᐊᒃᓇᖓ
1999	1924	347	2270	0.09	15	ᐋᕿᒃᓯᒪᔪᒥᒃ ᐊᔾᔨᓕᐅᒐᒃᑯᑦ ᑕᑯᔭᐅᓗᑎᒃᓗ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐅᐊᒃᓇᖓ ᐊᒻᒪᓗ ᐊᑭᓐᓇᖓ
2009	303	546	849	0.38	64	ᐋᕿᒃᓯᒪᔪᒥᒃ ᐊᔾᔨᓕᐅᒐᒃᑯᑦ ᑕᑯᔭᐅᓗᑎᒃᓗ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐅᐊᒃᓇᖓ ᐊᒻᒪᓗ ᐊᑭᓐᓇᖓ
2014	603	548	1151	0.21	48	ᐋᕿᒃᓯᒪᔪᒥᒃ ᐊᔾᔨᓕᐅᒐᒃᑯᑦ ᑕᑯᔭᐅᓗᑎᒃᓗ	ᑲᖏᕐᓱᐊᓗᒃ, ᑲᖏᕐᓱᒃ ᐅᐊᒃᓇᖓ ᐊᒻᒪᓗ ᐊᑭᓐᓇᖓ

ᕿᓚᓗᒐᐃᑦ ᐊᖃᐅᒪᓂᖅᓴᐅᖃᑦᑕᕐᒪᑕ ᓈᓴᕐᑕᐅᖃᑦᑕᖏᒻᒪᑕ, ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓱᑎᒃ ᐱᖃᓯᐅᔾᔭᐅᖃᑦᑕᕐᑐᑦ ᐃᓚᔭᐅᓪᓗᑎᒃ ᐊᖃᐅᒪᒐᔭᕐᑐᑦ. ᖃᖓᑦᑕᕐᑎᑕᐅᓯᒪᔪᒃᑯᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᔪᑦ ᐃᓕᐅᖃᑦᑕᐅᓚᐅᕐᑐᑦ ᕿᓚᓗᒐᕐᓄᑦ ᑲᖏᕐᓱᐊᓗᒃᒥ ᐊᒻᒪᓗ ᖃᓄᑎᒋ ᐳᐃᖓᑎᒋᖃᑦᑕᕐᒪᖓᑕ ᖃᐅᔨᓴᕐᑕᐅᓚᐅᕐᑐᑦ ᑕᑯᒃᓴᐅᒐᔭᕐᓂᖏᑦ. ᐋᕿᒋᐊᕈᑕᐅᓪᓗᓂ ᐅᓄᕐᓂᖏᓐᓄᑦ ᑕᑯᒃᓴᐅᔪᓄᑦ ᐊᔾᔨᓕᐅᒐᒃᑯᑦ ᖃᖓᑕᑲᑕᒃᓱᑎᒃ. ᐋᕿᒋᐊᕈᑎᖓ ᐊᔾᔨᒌᖏᑦᑐᑦ ᐃᒪᐅᑦ ᐃᕐᓇᒃᓇᕐᓂᖓ ᒪᓕᒃᓱᒍ ᓈᓴᐅᑎᒃᑯᑦ ᐊᑦᑎᓛᖅ 2.06 ᖁᑎᑦᓛᖅ 4.46.

ᐋᕿᒋᐊᕐᑕᐅᓚᐅᕐᓱᓂ ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᐊᖅᑲᐅᒪᔪᑦ ᕿᓚᓗᒐᐃᑦ, ᐃᓱᒪᒋᔭᐅᓚᐅᕐᑐᑦ ᐅᓄᕐᑎᒋᓂᖏᑦ ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᖏᑎᒍᖅ 2014-ᒥ ᐅᓄᕐᑎᒋᓚᐅᕐᑐᑦ 603 ᑲᖏᕐᓱᐊᓗᒃᒥ ᐊᒻᒪᓗ 548 ᓯᓚᑖᓂ ᑲᖏᕐᓱᐊᔫᑦ ᑲᑎᓪᓗᒋᑦ 1,200 (95% ᐊᑯᓐᓂᖃᕐᓂᖓ ᐅᒃᐱᒃᓇᕐᓂᖓ: 800–1700,ᖃᓂᓛᖓᓄᑦ 1001 ᐋᕿᒃᓯᒪᓪᓗᓂ) ᖃᑯᕐᑕᐃᑦ ᕿᓚᓗᒐᐃᑦ (Marcoux ᐃᓚᖏᓪᓗ 2016).

ᐅᓄᕐᓂᖃᕐᓂᕋᐃᓂᖏᑦ ᒪᓕᒃᓯᒪᔪᑦ ᑲᑎᑕᐅᓪᓗᑎᒃ ᑐᑭᓯᐅᒪᔭᐅᔪᑦ ᕿᓚᓗᒐᐃᑦ ᖃᓄᐃᓕᐅᕐᖃᑦᑕᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐱᑕᖃᕐᓂᖏᑦ ᑎᑎᕋᕐᑕᐅᓯᒪᔪᑦ ᐊᕋᒍᓂ 1960-2015 ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐱᖃᓯᐅᑎᓯᒪᓪᓗᑎᒃ ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᖏᓐᓄᑦ (ᑎᑎᕋᕐᓯᒪᔪᖅ 1, ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 2).

ᐃᒃᐱᒃᓴᐅᑎᓯᒪᓂᖏᑦ ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᑕᑯᓇᒃᑕᐅᓚᐅᕐᑐᖅ ᐱᖓᓲᓪᓗᒍ. ᓯᕗᓪᓕᖅ, ᑎᑎᕋᕐᑕᐅᓯᒪᔪᑦ *ᐆᒪᔪᐃᑦ ᐊᑦᑕᕐᓇᕐᑐᒥᑦᑐᑦ ᐱᕐᑯᔭᐃᑦ* ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖏᓐᓄᑦ ᐸᕐᓇᐅᑎ ᖃᑯᕐᑕᓄᑦ ᕿᓚᓗᒐᓄᑦ ᓇᓗᓇᐃᕐᓯᓚᐅᕐᑐᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᑐᕋᒐᐅᔪᑦ ᐅᓄᕐᓯᒋᐊᕈᓐᓇᕐᑯᓪᓗᒋᑦ ᑎᑭᓪᓗᒍ 5,000 ᐊᕋᒍᖓᓂ 2091. (ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᓴᕿᓯᒪᖏᑕᖏᑦ ᐅᓂᒃᑲᖏᑦ). ᒫᓐᓇ ᕿᓚᓗᒐᐃᑦ ᐅᓄᕐᑎᒋᒃᐸᑕ 1,000, ᑕᐃᒪ ᑎᑭᐅᑎᓂᐊᕐᐅᒍ ᑐᕋᒐᐅᔪᒧᑦ ᐊᕋᒍᑦ 75 ᐊᓂᒍᕐᐸᑕ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖃᕐᓗᑎᒃ 2.1% ᐊᕋᒍᑕᒫᑦ (ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ5). ᐃᓱᒪᖃᕐᐅᒍᓪᓕ, ᓯᕗᓂᒃᓴᒧᑦ 75-ᓄᑦ ᑕᑯᖏᖕᒫᕐᓗᑕ, ᑐᕋᒐᖃᕐᓗᑕ ᓇᓗᓇᐃᕐᑕᐅᓯᒪᓗᓂ ᖃᐅᔨᒪᓇᕐᓂᕐᓴᒃᑯᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᒃᒪᖓᑕ ᐊᑐᕐᓗᒋᑦ. ᒪᓕᒃᑯᑦᑎᒍ ᐅᓄᕐᓯᕙᓪᓕᐊᒐᔭᕐᓂᖏᑦ 2.1% ᐊᕋᒍᒧᑦ, ᑕᐃᒪ ᐊᓂᒍᕐᐸᑕ ᐊᕋᒍᑦ 10 ᐅᓄᕐᓯᕚᓪᓕᕋᔭᕐᑐᑦ 1,235 ᕿᒪᓗᒐᐃᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᓯᕗᓪᓕᕐᒥ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ, ᑕᑯᒋᐊᕈᑎᒋᓚᐅᕐᑕᕗᑦ ᑎᑭᐅᑎᒐᔭᕐᒪᖓᑕ ᐅᓄᕐᓂᖃᓕᕐᓗᑎᒃ 1,235 ᐊᓯᐊᓂᒃ ᐊᖑᓇᓱᒃᓂᐅᔪᒥᒃ ᐱᖃᑦᑕᕋᔭᕐᑕᖏᓐᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐊᑐᕐᑕᐅᒍᓂ ᐊᖃᒍᓄᑦ 10-ᓄᑦ.

ᐱᖃᑕᓂ ᖃᐅᔨᓴᐅᑎᒥ, ᐱᑕᖃᐃᓐᓇᕈᓐᓇᕐᓂᖓᓂᒃ ᐃᓱᒪᖃᕐᓱᑎᒃ ᐋᕿᒃᓯᐃᓪᓗᑎᒃ. ᐱᑕᖃᐃᓐᓇᕈᓐᓇᕐᓂᖏᓐᓂᒃ ᐋᕿᒃᑕᐅᓪᓗᓂ ᑲᑎᓪᓗᒋᑦ ᐱᔭᐅᔪᓐᓴᕐᑐᑦ, ᐊᕋᒍᓄᑦ 10-ᓄᑦ, ᐅᓄᕐᓂᖏᓪᓗ ᑕᐃᒪᐃᓐᓇᑦᑕᐃᓇᐅᓗᑎᒃ. ᐊᔾᔨᒌᖏᑕᖏᓐᓂᒃ ᐊᖑᓇᓱᒃᑕᐅᓂᖏᑦ ᐅᓄᕐᑎᒋᓂᖏᑦ ᒪᓕᒃᓗᒋᑦ ᐃᒃᐱᒃᓇᐅᑎᒐᔭᕐᓂᖏᓪᓗ ᐅᓄᕈᓐᓂᕈᑕᐅᕙᓪᓕᐊᒐᔭᕐᓂᖓᓂᒃᓗ.

ᐱᖓᔪᖓᓐᓂ ᖃᐅᔨᓴᕈᑕᐅᔪᖅ, ᐲᔭᕐᑕᐅᓂᖏᑦ ᐆᒪᔪᐃᑦ ᐅᓄᕐᑎᒋᓂᖏᑦ. ᐃᓱᒪᒋᔭᕗᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖓ ᐃᒪᓐᓇᑎᒋ 0.5 ᐊᑐᕐᑕᐅᖃᑦᑕᕐᓯᒪᓪᓗᓂᓗ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ ᐆᒪᔪᓄᑦ ᑕᐃᔭᐅᓯᒪᔪᓄᑦ ᑲᑎᒪᔨᔪᐊᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᕐᑐᒦᑦᑐᓄᑦ ᐆᒪᔪᓄᑦ.

ᐱᔭᕐᑕᐅᓂᖏᑦ ᐆᒪᔪᐃᑦ ᐅᓄᕐᑎᒋᓂᖏᑦ ᑭᒃᓕᒋᔭᖏᑦ ᐋᕿᒃᑕᐅᓪᓗᓂ ᐃᒪᓐᓇ:

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

ᐅᓇ R_{max} ᐅᖓᑖᓄᖏᓪᓗᓂ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᓇᒐᔭᕐᑕᖏᑕ. ᓈᓴᐅᑎᒃᑯᑦ ᐳᐃᔨᓄᑦ ᐊᑐᕐᓗᒍ 0.04,

F_R ᐅᓄᕐᓯᕙᓪᓕᐊᑎᒋᓂᖏᑦ (ᐊᑯᓐᓂᖓᓂ0.1 ᐊᒻᒪᓗ 1), ᐊᒻᒪᓗ

N_{min} ᓈᓴᐅᑎᒃᑯᑦ ᐳᓴᖓ 20 ᑎᑎᕋᕐᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖏᑦ (Wade 1998).

ᐃᔭᕐᑕᐅᓂᖏᑦ ᐆᒪᔪᐃᑦ ᐱᔾᔪᑎᕐᑲᒋᔭᖓ ᐃᓄᐃᑦ ᑐᕐᑯᓴᐃᒐᔭᕐᓂᖏᑦ ᐱᑕᕐᑲᕈᓐᓂᕐᓂᖏᑦ ᕿᓚᓗᒐᐃᑦ ᓱᕐᓗ ᐊᖑᓇᓱᒃᑕᐅᓂᖏᑎᒍᑦ, ᐃᑭᓕᕐᑕᐅᔪᑦ ᐱᔭᐅᓇᑎᒃ ᐊᓐᓇᐃᔭᐅᔪᑦ, ᐊᒻᒪᓗ ᐊᓯᖏᓐᓄᑦ ᐃᓄᐃᑦ ᐱᓕᕆᓂᖏᓐᓄᑦ ᑐᕐᑯᑕᐅᔪᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᐊᑯᓐᓂᕐᓱᕐᑐᒃᑯᑦ ᓇᓚᐅᒃᑕᕋᓱᒃᓗᒍ ᐅᓄᕐᑎᒋᓂᖏᑦ ᐱᔭᐅᒧᓐᓇᕐᑐᑦ ᑲᑎᑦᓗᒋᑦ, ᐃᓚᔭᐅᔭᕆᐊᕐᑲᕐᒪᑕ ᐱᕐᑕᐅᔪᑦ ᐆᒪᔪᐃᑦ ᑐᕐᑯᑕᐅᔪᑦ ᐱᑦᓗᒋᑦ.

ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᖃᓄᐃᓕᓂᖏᑦ

ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐊᑐᕐᑕᐅᑦᓗᓂ ᐱᖃᓯᐅᑎᑦᓗᒋᑦ ᖃᖓᑕᓲᒃᑯᑦ ᑕᑯᔭᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᖃᕐᓂᕋᐃᓯᒪᔪᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᕙᑦᓕᐊᓂᖏᑦ ᐊᕋᒍᓂ 1960-2015. ᐅᓄᕐᑎᒋᓂᕋᐃᓯᒪᔪᑦ ᐋᔭᕈᖏᑦᑐᑦ ᐊᑐᓂ ᖃᐅᔨᓴᐅᑎᑦ ᒪᓕᒃᑐᒋᑦ. ᐱᔾᔪᑎᖃᕋᓱᒋᔭᐅᒧᖅ ᐅᓄᖏᓗᐊᕐᓂᖏᓐᓄᑦ ᕿᓚᓗᒐᐃᑦ ᖃᐅᔨᓴᕐᑕᐅᔪᑦ ᑲᑎᖓᐅᕐᒪᑕ. ᕿᓚᓗᒐᐃᑦ ᐃᓄᑐᓗᐊᕈᓐᓇᖏᒻᒪᑕ ᑲᑎᖓᔪᓂᒻᔪᒃᑐᑎᒃᓗ, ᖃᐅᔨᒪᓇᖏᔾᔪᑕᐅᓪᓗᓂᓗ ᐅᓄᕐᑎᒋᓂᖏᓐᓄᑦ. ᖃᐅᔨᓴᐅᑎ ᐊᑐᕐᑕᐅᔪᑦ ᑐᕐᑯᑕᐅᔪᑦ ᐊᓐᓇᐃᔭᐅᒧᓪᓗ, ᐊᒻᒪᓗ ᐅᓄᕐᑎᒋᓂᖏᑦ, ᐊᓯᓪᓕᓗᐊᓚᐅᖏᑦᑐᑦ ᑎᑎᕋᕐᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐅᓄᕐᑎᒋᓴᓯᒋᔭᐅᓂᖏᑦ. ᐃᓚᖏᓪᓗ ᐊᒃᑐᐊᖃᑎᒋᓚᐅᕐᒪᑕ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ (ᑐᕐᑯᑕᐅᔪᑦ, ᐊᓯᐅᔨᔭᐅᔪᓪᓗ, ᐱᑕᖃᕋᔭᕐᓂᖏᑦ, ᐊᒻᒪᓗ ᐅᓄᕐᑎᒋᓇᓱᒋᔭᐅᓂᖏᑦ). ᑖᒃᑯᐊ ᐃᓗᐊᖏᓐᓂᐅᔪᑦ ᐃᒃᐱᒃᓇᐅᑎᖃᓗᐊᖏᑦᑐᑦ ᐅᓄᕐᑎᒋᓂᖏᓐᓄᑦ, ᑭᓯᐊᓂ ᐅᓄᖏᓐᓂᕐᓴᐅᑎᑦᑎᔭᑦᑐᑦ ᖃᐅᔨᒪᓇᖏᑦᑐᓂᒃ ᓱᕐᓗ ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐅᖃᕐᓯᒪᕐᑰᔨᓪᓗᓂ ᑎᑎᕋᕐᓯᒪᔪᑦ ᐅᓄᖏᓗᐊᕐᓂᖏᓐᓄᑦ ᐱᔾᔪᑎᖃᕐᓂᖓᓂᒃ. ᑕᐃᒪᐃᒃᑲᓗᐊᕐᑎᓪᓗᒍ, ᐱᔾᔪᑎᒋᓪᓗᒍ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᑐᑭᓯᔾᔪᑕᐅᕙᓪᓕᕐᓯᒪᔪᑦ ᕿᓚᓗᒐᐃᑦ ᒥᒃᓵᓄᑦ ᖃᓄᐃᓕᐅᖃᑦᑕᕐᓂᖏᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖏᓐᓄᓪᓗ, ᐊᖑᓇᓱᒃᑕᐅᖃᑦᑕᕐᓂᖏᓐᓄᓪᓗ ᐊᒻᒪᓗ ᐊᔾᔨᒌᖏᑦᑐᓄᑦ ᖃᐅᔨᓴᐅᑕᐅᔪᓄᑦ ᖃᓄᑎᕐᓂᖏᓐᓂᒃ, ᑖᒃᑯᐊ ᐅᓄᕐᓂᖃᕐᓂᕋᐃᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐅᒃᐱᕐᓇᕐᓂᕐᓴᐅᓂᖏᓐᓂᒃ ᐊᑕᐅᓯᕐᒥᑐᐊᖑᖏᑦᑐᖅ ᖃᐅᔨᓴᐅᑕᐅᔪᒥᑦ.

ᐃᓚᖏᑦ ᐊᔾᔨᒋᖏᓐᓂᖏᑦ ᖃᐅᔨᔭᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐅᓄᓂᕋᐃᓯᒪᓂᖏᑦ ᐊᕋᒍᖓᓂ 1960, ᑭᓯᐊᓂ ᑕᒪᕐᒥᒃ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐊᔾᔨᒌᐸᓗᒃᒥᒃ ᓇᓗᓇᐃᕐᓯᓯᒪᓪᓗᑎᒃ ᐅᓄᕈᓐᓃᕐᐸᓪᓕᐊᓂᕋᐃᓯᒪᔪᐃᓐᓇᐅᓪᓗᑎᒃ ᐅᓄᕐᓂᖃᓕᕐᓗᑎᒃ 1,000 ᐊᖃᒍᖓᓂ 2015 (ᑎᑎᕋᕐᓯᒪᔪᖅ 2).

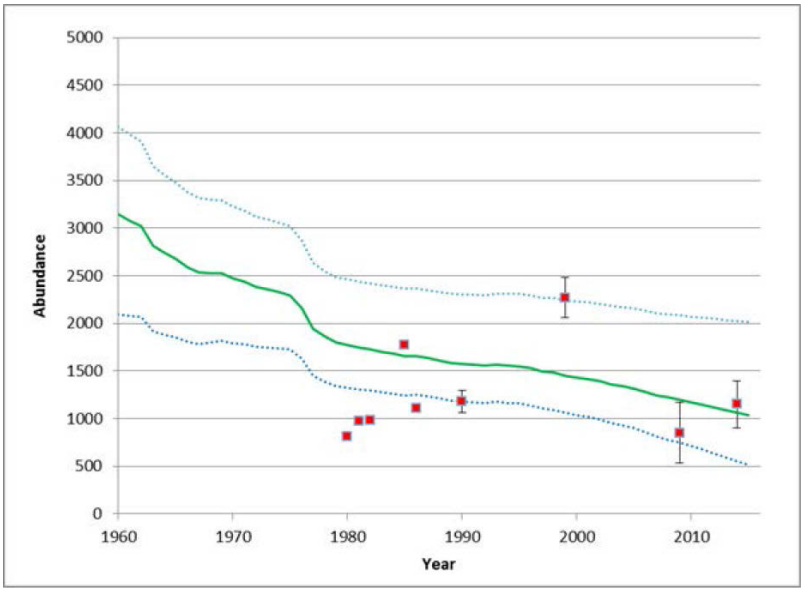
ᑎᑎᕋᕐᓯᒪᔪᖅ 2. ᖃᐅᔨᓴᐅᑎ ᐅᓄᓂᖃᕐᓂᕋᐃᓯᒪᔪᖅ ᒫᓐᓇ ᕿᓚᓗᒐᐅᔪᓂᒃ (ᐊᑯᓐᓂᕐᑐᓯᕐᑐᒥᒃ), ᐊᔾᔨᒌᖏᓐᓂᖓ ᐱᖃᓯᐅᑎᓪᓗᒍ (CV), 95% ᐅᒃᐱᒃᓇᕐᑎᒋᓂᖓ, ᒥᑮᓚᖓᔪᒃᑯᑦ ᐊᑐᕐᑕᐅᓪᓗᑎᒃ ᐲᔭᕐᑕᐅᓂᖏᑦ ᐆᒪᔪᐃᑦ ᖃᐅᔨᓴᐅᑎᖓᒍᑦ (N_{min}) ᐊᒻᒪᓗ ᐲᔭᕐᑕᐅᓂᖏᑦ ᐆᒪᔪᐃᑦ ᖃᐅᔨᓴᐅᑎ ᐊᔾᔨᒌᖏᑦᑐᓄᑦ ᐊᑐᕐᑕᐅᓪᓗᓂ ᖃᐅᔨᓴᐅᑎᒍᑦ.

ᖃᐅᔨᓴᐅᑎ ᑎᑎᕋᕐᓯᒪᔪᑦ ᐱᖃᓯᐅᑎᓪᓗᒋᑦ	2015 ᐃᒪᓐᓇᑎᒋᕋᓱᒋᔭᐅᓂᖏᑦ	SE	CV	95% Credibility Interval	N_{min}	PBR
1980–2014	1,000	310	0.31	500–1,700	704	7
1980–2014 + 25%*	1,000	310	0.31	500–1,800	788	8
1985–2014	1,000	340	0.34	500–1,800	774	8
1990–2014	1,100	450	0.41	500–2,200	763	8
1990–2014†	1,000	390	0.39	500–2,000	765	8

ᑕᕙᓂ ᖃᐅᔨᓴᐅᑎᒥ, ᑭᖑᓂᐊᓂ 1990 ᐃᒪᓐᓇᑎᒋᕋᓱᒋᔭᐅᓂᖏᑦ ᐅᓄᕐᓯᒋᐊᓚᐅᕐᑐᑦ 25% ᐱᔾᔪᑎᒋᓪᓗᒍ ᕿᓚᓗᒐᐃᑦ ᓯᓚᑖᓃᑦᑐᑦ ᑲᖏᑉᐸᓗᐊᓘᑦ.

† *ᑕᕙᓂ ᖃᐅᔨᓴᐅᑎᒥ, ᐋᕿᒃᓯᒪᔾᔪᑕᐅᔪᖅ (θ) ᐅᖃᕐᓯᒪᔪᖅ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᓂᖏᑦ- ᐊᒃᑐᐊᖃᑎᒋᒃᑲᓂᖏᑦ ᐊᒃᑐᐊᓂᖃᕐᒪᖔᑦ ᐱᕈᕐᐸᓪᓕᐊᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖏᓐᓄᑦ ᐋᕿᒃᑕᐅᓗᓂ 1 ᐊᑐᕐᓗᒍ. ᑖᓐᓇ ᐊᑐᕐᑕᐅᓂᕐᓴᐅᔪᖅ..*

ᖃᐅᔨᓴᐅᑎ ᐊᑐᕐᑕᐅᔪᒪᓂᕐᓴᖅ ᐋᕿᒃᑕᐅᓯᒪᔪᖅ ᒪᓕᒃᑐᒍ ᐊᖃᒍᓄᑦ 1990-2014 ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᕐᓯᒪᔪᑦ, ᐋᕿᒍᑎᒋᓪᓗᒍ ᐊᑐᕐᓗᒍ (θ = 1) ᓇᓗᓇᐃᕐᓯᒪᓂᖓ ᖃᓄᑎᒋ ᐱᑕᖃᕐᑎᒋᓂᖓ-ᐊᒃᑐᐊᖃᑎᒋᒃᑲᓂᖓᓗ ᐱᕈᕐᐸᓪᓕᐊᓂᖓᓄᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᓂᖏᓐᓄᓪᓗ. ᐅᓄᕐᓂᖃᕐᓂᕋᓱᒋᔭᐅᓂᖓ ᐱᒋᐊᕈᑎᒋᓪᓗᒍ (100-ᒧᑦ ᑎᑭᐅᑎᑎᓪᓗᒍ) 1960-ᒥ ᐅᓄᕐᓂᖃᕐᓂᕋᓱᒋᔭᐅᓚᐅᕐᑐᑦ 3,400 , ᒫᓐᓇᐅᔪᖅ (2015) ᐅᓄᕐᓂᖃᕐᓂᕋᓱᒋᔭᐅᓪᓗᑎᒃ 1,000 (100-ᒧᑦ ᑎᑭᐅᑎᑎᓪᓗᒍ); ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 4).



ᑎᑎᕋᕐᒪᔪᖅ 4. ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐅᓄᕐᓂᕋᐃᓯᒪᔪᖅ ᐸᖕᓂᕐᑑᒥ ᑲᖏᕐᓱᐊᓗᐊᓂ ᖃᑯᕐᑐᑦ ᕿᓚᓗᒐᐃᑦ ᐊᑐᕐᑕᐅᓂᕐᓴᐅᔪᒪᔪᖅ ᐃᓚᖃᓯᐅᑎᓯᒪᓪᓗᓂ ᖃᖕᒐᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᔪᕕᓃᑦ 1990,1999,2009 ᐊᒻᒪᓗ 2014. ᐊᐅᐸᕐᑐᑦ ᑭᐸᐸᓇᒃᑐᑦ ᐃᓚᓐᓇᑎᒋ ± 95% ᐅᒃᐱᓇᕐᑎᒋᓪᓗᑎᒃ ᑭᒃᓕᖕᒐ). ᑖᒃᑯᐊ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᑎᒋᓂᕋᐃᓯᒪᓂᖕᒋᑦ ᐋᕿᒋᐊᕐᓯᒪᔪᑦ ᕿᓚᓗᒐᐃᑦ ᑕᑯᒃᓴᐅᔪᑦ ᐳᐃᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐃᓱᒪᒋᓪᓗᒋᑦ ᖃᐅᔨᓴᐅᑎ ᐋᕿᒃᓯᒪᓂᖕᒐᓄᑦ ᓈᓴᐅᑎᒃᑯᑦ (θ =1). ᑎᑎᒐᓛᒃᓯᒪᖕᒋᑐᑦ ᑎᑎᕋᓯᒪᓂᖕᒐ ᑕᑯᒃᓴᐅᔪᖅ ᐊᑯᓐᓂᕐᓯᕐᕐᑐᒃᑯᑦ ᐃᒪᓐᓇᑎᑏᕐᓱᒋᔭᐅᓂᖕᒐ ᑎᑎᒐᓛᒃᓯᒪᔪᕐᓗ ᐅᒃᐱᒃᓇᕐᑎᒋᓂᖕᒐ ᑭᒃᓕᖕᒐ. ᖃᐅᔨᓴᕈᑕᐅᓂᑯᑦ ᑭᖑᓂᕐᑎᓐᓂ (1980-1986) (ᐊᐅᐸᕐᑐᑦ ᑭᐸᐸᓇᒃᑐᑦ) ᑲᖏᕐᓱᐊᓗᒃᒥ ᐃᓚᖕᒐᓗ ᓯᓚᑖᓂᑦ. ᑕᐃᒪᐃᑎᓪᓗᒍ ᐊᑐᕐᑕᐅᓚᐅᖏᑦᑐᑦ ᖃᐅᔨᓴᐅᑎᒧᑦ.

ᐊᕋᒍᒥ 2015 ᐅᓄᕐᑎᒋᓂᕋᐃᓯᒪᔪᑦ ᕿᓚᓗᒐᕐᓄᑦ ᐅᓄᖕᒋᓗᐊᕐᒪᑕ ᐊᑐᕐᑕᐅᔪᒥᑦ ᐆᑕᐅᓂᖕᒋᓐᓄᑦ ᐆᒪᔪᐃᑦ ᖃᐅᔨᓴᐅᑎ (ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ 2005). ᑕᕝᕙᓂ ᐱᓕᒻᒪᒃᓴᐅᑎᒥ, ᐊᔾᔨᐸᓗᖕᒋᓐᓂᒃ ᐅᓄᕐᓂᖕᒋᑦᓂᒃ ᖃᐅᔨᓴᐅᑎᓂᒃ ᐋᕿᒃᑕᐅᓪᓗᓂ ᐊᕋᒍᒃᓄᑦ ᒪᕈᒃᓄᑦ ᖃᖕᒐᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᔪᓂᒃ ᐊᑐᕐᓱᑎᒃ (1990 ᐊᒻᒪᓗ1999) ᐊᖑᓇᓱᒃᑕᐅᓂᖕᒋᑦ ᑎᑎᕋᕐᓯᒪᔪᑦ ᑎᑭᓪᓗᒍ ᑭᖑᓂᑦᑎᓐᓄᑦ 1852. ᐊᕋᒍᖕᒐᓂ 1999 ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐅᓄᕐᑎᒋᓂᕋᐃᓯᒪᓂᖕᒋᑦ ᐅᓄᕐᓂᓴᐅᓚᐅᕐᑐᖅ ᑕᐃᒪᖕᒐᑦ 1990 ᖃᐅᔨᓴᕐᓂᕐᒥᑦ, ᐅᓄᕐᓂᓴᐅᓪᓗᓂᓗ ᑕᐃᒪᖕᒐᑦ ᖃᐅᔨᓴᕐᑕᐅᖃᑦᑕᕐᓯᒪᔪᓂᑦ (ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 4). ᑕᐃᒪᐃᑎᓪᓗᒍ, ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐆᑕᐅᕙᓪᓕᐊᓂᖕᒋᑦ ᐆᒪᔪᐃᑦ ᐅᓄᕐᑎᒋᓂᕋᐃᓯᒪᓂᖕᒐ 2002 ᐅᓄᕐᑎᒋᓪᓗᑎᒃ 2000 ᕿᓚᓗᒐᐃᑦ (95% ᐅᒃᐱᕐᓇᕐᓂᖕᒐ = 1,500–2,600 ᖃᓂᓇᖑᓂᖕᒐᓄᑦ 100 ᑎᑭᓪᓗᒍ). ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᓇᓗᓇᐃᕐᓯᓚᐅᕐᑐᖅ ᕿᒪᓗᒐᐃᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᓐᓇᕐᑐᑦ ᐅᓄᕐᓂᖃᕐᓗᑎᒃ 41 ᐊᕋᒍᑕᒫᑦ, ᐃᓚᓐᓇᑎᒋ 60% ᑎᑭᐅᑎᒐᔭᕐᓂᖕᒐ ᐅᓄᕐᓯᒋᐊᕋᓱᒃᓂᕐᒧᑦ ᑐᕋᒐᐅᔪᒥᒃ ᑎᑭᓪᓗᒋᑦ 5,000 ᕿᒪᓗᒐᐃᑦ ᐅᓄᕐᓂᖃᓕᕐᓗᑎᒃ ᐊᕋᒍᖕᒐᓂ 2095 (ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ 2005.) ᑕᐃᒪᖕᒐᓪᓗ, ᒪᕈᒃᓂᒃ ᖃᖕᒐᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓯᒪᒃᒪᑕ ᐊᒻᒪᓗ ᑕᒪᕐᒥᒃ ᐅᓄᕐᓂᕋᐃᓯᒪᓂᖕᒋᑦ ᐅᓄᖕᒋᓐᓂᕋᐃᓯᒪᔪᒃ ᑎᑎᕋᕐᓯᒪᔪᓂᑦ 1999 ᖃᐅᔨᓴᕐᓂᒃᑯᑦ. ᐃᓚᖃᓯᐅᑎᓇᓱᒃᓗᒍ ᑎᑎᕋᕐᑕᐅᒃᑲᓐᓂᕐᑐᑦ ᒥᑭᒃᓕᒋᐊᕈᑎᓚᐅᕐᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓄᑦ ᑕᕝᕙᖕᒐᑦ 2002-ᒥᑦ ᑕᕗᖕᒐ 1,400 (CI = 1,000–2,200;ᖃᓂᒋᓛᖕᒐᓄᑦ 100 ᑎᑭᓪᓗᒍ). ᑕᓐᓇ ᒥᑭᓐᓂᕐᓴᐅᔪᖅ ᐃᓚᓐᓇᑎᒋ 30% ᐅᓄᕐᓂᕋᐃᓯᒪᒪᐅᕐᓂᖕᒐᓂᑦ, ᑭᓯᐊᓂ ᐃᓗᐊᓃᖕᒋᓐᓇᕐᑐᖅ 95% ᐅᒃᐱᕐᓇᕐᓂᖕᒐᑕ ᖃᓄᑎᒌᕐᓂᖕᒐᓂᑦ ᐆᑕᐅᔪᑦ ᐆᒪᔪᐃᑦ ᖃᐅᔨᓴᐅᑎ (ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ2005).

ᑲᑎᑦᓗᒋᑦ ᐱᔭᐅᔪᓐᓇᕐᑐᑦ ᐊᖑᓇᓱᒃᑕᐅᓗᑎᒃ

ᒫᓐᓇᐅᔪᖅ ᐋᕿᒃᓯᒪᒃᒪᑦ 41 ᐱᔭᐅᒧᓐᓇᕐᓗᑎᒃ ᑭᒃᓕᒋᑦᓗᒍ ᐅᓄᕐᓂᖏᑦ ᕿᒪᓗᒐᐃᑦ ᒪᓕᒃᓗᒍ ᖃᓄᐃᓕᕙᑦᓕᐊᒐᔭᕐᓂᖏᑦ ᒪᕈᐃᕐᓱᕐᓗᑎᒃ ᖃᖓᑕᕙᒃᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᒃᑯᑦ 1990 ᐊᒻᒪᓗ 1999. ᖃᐅᔨᓴᐅᑎᑦ ᐃᓚᔭᐅᑦᓗᑎᒃ ᒪᕈᒃᑲᓐᓃᖕᓄᑦ ᖃᐅᔨᓴᕐᓂᐅᓚᐅᕐᑑᒃᓄᑦ (2009 ᐊᒻᒪᓗ 2014) ᐊᓯᑦᓕᕈᑕᐅᓚᐅᕐᒪᑎᒃ ᑐᑭᓯᐅᒪᔭᕐᑎᓐᓄᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᕐᓯᒪᑦᓗᓂ ᐅᓄᕈᓐᓃᕐᐸᑦᓕᐊᓂᖏᓐᓂᒃ (ᑎᑎᕋᐅᔭᕐᓯᒪᔪᖅ 4). ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᑐᕋᒐᐅᔪᖅ ᐱᑕᕐᑲᐃᓐᓇᕐᑎᕐᑎᓇᓱᒃᑯᓂ ᕿᓚᓗᒐᕐᓂᒃ ᐱᔭᐅᕐᑲᑦᑕᕋᓗᐊᕐᑎᑦᓗᒋᑦ, ᐅᓄᕈᓐᓂᕐᐸᑦᓕᐊᒐᔭᕐᑐᑦ ᐃᒪᓐᓇᑎᒋ ᐊᕋᒍᓄᑦ 10-ᓄᑦ 0%, 48% ᐊᒻᒪᓗ 95% ᑲᑎᑦᓗᒋᑦ ᐱᔭᐅᔪᓐᓇᕐᑐᑦ ᐊᖑᓇᓱᒃᑕᐅᓗᑎᒃ 0, 3 ᐊᒻᒪᓗ ᕿᒪᓗᒐᐃᑦ 5 , ᑐᖏᓕᓈᒃᓗᑎᒃ.

ᑎᑎᕋᕐᓯᒪᔪᖅ 3 ᐱᔭᒃᓴᐅᒐᔭᕐᓂᖓ ᑎᑭᐅᑎᓇᓱᒃᓗᒋᑦ ᑐᕋᒐᐅᔪᑦ ᐅᓄᕐᓯᕙᑦᓕᐊᔪᓐᓇᕐᑯᑦᓗᒋᑦ ᑎᑭᑦᓗᒍ 1,235 ᐊᕋᒍᑦ 10 ᐃᓗᐊᓂ, ᐊᔾᔨᒌᖏᑕᖓᓂᒃ ᐊᖑᓇᓱᒃᑕᐅᒍᑎᒃ.

ᑎᑎᕋᕐᓯᒪᔪᖅ 3. ᐱᔭᒃᓴᐅᒐᔭᕐᓂᖓ ᑲᔪᓯᑦᑎᐊᕐᓗᓂ ᑎᑭᓐᓇᓱᒃᓗᒍ ᑐᕋᒐᐅᔪᑦ ᐅᓄᕐᓂᖃᑦᓕᕐᓗᑎᒃ 1,235 ᕿᒪᓗᒐᐃᑦ ᐊᕋᒍᑦ 10 ᐃᓗᐊᓂ ᐊᔾᔨᒌᖏᑕᖓᓂ ᐊᖑᓇᓱᒃᑕᐅᓗᑎᒃ, ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐱᔭᐅᖃᑦᑕᕐᓯᒪᓂᖏᑦ ᐊᖑᓇᓱᒃᑕᐅᑦᓗᑎᒃ.

ᑲᑎᑦᓗᒋᑦ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᑦ	ᑲᔪᓯᑦᑎᐊᕋᔭᕐᓂᖏᑦ (%)
0	32
5	27
10	22
15	16
25	10

ᒪᓕᒃᓗᒍ ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᖃᓄᐃᓕᖓᓂᖓ, ᐄᕐᑕᐅᔪᑦ ᐆᒪᔪᐃᑦ ᖃᐅᔨᓴᐅᑎ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᓂᕋᕐᑕᐅᓂᖏᑦ, ᐱᖃᓯᐅᑎᖏᑦᓗᒋᑦ ᐊᓯᖏᑦ ᐃᓄᒃᓄᑦ ᑐᕐᑯᑕᐅᔪᑦ, 7 ᐅᕙᓘᓐᓂᑦ 8 ᕿᓚᓗᒐᐃᑦ (ᑎᑎᕋᕐᓯᒪᔪᖅ 2), ᐃᓱᒪᒋᑦᓗᒋᑦ ᐅᓄᕐᓯᕙᑦᓕᐊᒐᔭᕐᓂᖏᑦ ᐃᓚᓐᓇᑎᒋ 0.5, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐊᑐᖃᑦᑕᕐᓯᒪᔭᖓ ᐱᔾᔪᑕᐅᑦᓗᑎᒃ ᐆᒪᔪᐃᑦ ᐅᓗᕆᐊᓇᕐᑐᒦᑦᑐᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ COSEWIC.ᑲᑎᑦᓗᒋᑦ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᑦ ᐊᖑᓇᓱᒃᑕᐅᓗᑎᒃ ᐋᕿᒃᓯᒪᒐᔭᕐᑐᖅ ᑕᑦᓕᒪᐃᑦ (5) , ᐃᓱᒪᒋᓗᒍ ᐃᑭᓕᕐᑕᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᑦᓗ ᐊᒻᒪᓗ ᐃᓄᒃᓄᑦ ᑐᕐᑯᑕᐅᔪᑦ ᐊᓯᖏᑎᒍᑦ 42% ᐱᔭᐅᔪᑦ ᑲᑎᑦᓗᒋᑦ.

ᓇᓗᓇᕐᓂᖓᓄᑦ ᐱᔾᔪᑕᐅᔪᑦ

ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᐊᑐᕐᑕᐅᔪᖅ ᓇᓗᓇᐃᕐᓯᖃᑦᑕᕐᒪᑦ ᓇᓗᓇᕐᓯᕙᒃᓗᓂᓗ ᐊᑐᕐᑕᐅᒐᖓᒥ ᐊᓯᖏᓐᓄᑦ ᐅᓄᕐᑐᓄᑦ ᐱᖃᓯᐅᑎᑦᓗᒋᑦ ᑭᖑᓂᑦᑎᓐᓂ ᐱᔭᐅᖃᑦᑕᕐᑐᕕᓐᑦ 1920 ᑎᑭᑦᓗᒍ. ᑖᓐᓇ ᓇᓗᓇᕐᓂᓇᔭᖓ ᐋᕿᒋᐊᕐᑕᐅᓚᐅᕐᑐᖅ ᐊᑐᕐᓗᑎᒃ ᖃᖓᒃᑯᖓᓂᖏᑦ ᒪᓕᒃᓗᒋᑦ ᑕᐃᒪᖓᑦ ᐱᔭᐅᖃᑦᑕᓕᕐᑎᑦᓗᒋᑦ ᑎᑎᕋᕐᓯᒪᔪᑦ (1960-2015), ᑭᓯᐊᓂ ᐱᒋᐊᕈᑕᐅᔪᓐᓴᕐᓂᖏᑦ ᓈᓴᐅᑎᑦ ᓱᕐᓗ: ᐅᓄᕐᓂᖏᑕ ᐱᒋᐊᕐᓂᖓ. ᒫᓐᓇᐅᔪᖅ ᐅᓄᕐᓂᖏᑦ, ᐃᑭᓕᕐᑕᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᓐᓗ ᐊᒻᒪᓗ ᐊᕙᑎᑦᑎᓐᓄᑦ ᐊᒃᑐᐊᔪᑦ. ᐱᔾᔪᑎᖃᕐᑐᖅ ᖃᐅᔨᒪᔭᐅᖏᓗᐊᕐᓂᖏᓐᓄᑦ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒋᓯᒪᓂᖏᓐᓄᑦ, ᐊᒻᒪᓗ ᖃᐅᔨᒪᔭᐅᖏᓐᓂᖏᓐᓄᓐᓗ ᐅᓄᕐᑎᒋᓂᖏᑦ ᖃᖓᑕᓐᓗᑎᒃ ᓈᓴᕐᑕᐅᔪᑦ, >ᐃᓯᒪᔪᓐᓗ, ᐊᖑᓇᓱᒃᑕᐅᓯᒪᔪᓐᓗ, ᐊᒻᒪᓗ ᐅᖃᐅᓯᐅᓯᒪᖏᓗᐊᕐᓂᖏᑦ ᐃᑭᓕᕐᑕᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᓐᓗ ᐊᖑᓇᓱᒃᑎᓐᓗᒋᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐅᓄᕐᓂᕋᐃᓯᒪᔪᑦ ᓇᓗᓇᕈᑎᒋᒃᒪᑕ. ᖃᐅᔨᓴᕐᓂᐅᔪᑦ ᐊᓯᖏᓐᓂ ᓇᓗᓇᐃᕐᓯᒪᔪᑦ ᐅᓄᖏᑎᓐᓗᒋᑦ ᕿᓚᓗᒐᐃᑦ ᑕᑯᔭᐅᔪᑦ ᐊᔾᔨᒌᖏᑦᑐᒥᒃ ᐅᓄᕐᓂᕋᐃᔾᔪᑕᐅᔪᓐᓇᕐᒪᑕ ᓇᓗᓇᕐᓂᕐᓴᐅᓐᓗᑎᒃᓗ. ᐊᑕᐅᓯᐅᖏᑦᑐᖅ ᖃᐅᔨᓴᕐᓂᐅᔪᑦ ᖃᖓᑕᖃᑦᑕᓚᐅᕐᑐᑦ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒌᒃᒪᖓᑕ ᖃᐅᔨᓴᕐᑕᐅᓗᑎᒃ

ᑭᖑᓂᐊᓂ 1990, ᑭᓯᐊᓂ ᑖᒃᑯᐊ ᐅᓄᕐᓂᕋᐃᓯᒪᓂᖏᑦ ᐊᑐᕐᑕᐅᓚᐅᖏᒻᒪᑕ ᖃᐅᔨᓴᐅᑎᒧᑦ ᐊᑐᕐᑕᐅᔪᒧᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐃᓚᐃᓐᓇᕐᓯᐅᕐᒪᑕ ᐃᓚᐅᓐᓇᖓᓂᒃ ᖃᐅᔨᓴᐅᑕᐅᓯᒪᒃᒪᑕ ᐱᔭᕇᕐᓯᒪᖏᒻᒪᑕ ᑲᖏᕐᓱᓕᒪᖓᓂᒃ (1980, 1982) ᐊᒻᒪᓗ ᐅᕙᓘᓐᓃᑦ ᓱᓚᑕᓂᑦᑐᑦ ᑲᖏᕐᓱᐊᓘᑦ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᖏᓗᐊᕐᓂᖏᓐᓄᑦ.

ᐅᓄᕐᑐᑦ ᖃᐅᔨᓴᕐᓂᐅᔪᑦ ᓇᓗᓇᕐᓂᖏᑦ ᐃᓱᒪᒋᔭᐅᖃᑦᑕᕐᓯᒪᖏᒻᒪᑕ ᒫᓐᓇᐅᔪᖅ ᐊᒻᒪᓗ ᑭᖑᓂᑦᑎᓐᓂ ᐊᖑᓇᓱᒃᑕᐅᕙᒃᑐᑦ ᖃᓄᑎᒌᕐᒪᖔᑕ. ᖃᐅᔨᓴᐅᑎ ᐊᑐᕐᓗᒍ, ᓇᓗᓇᐃᕐᓂᖓ ᐱᖃᓯᐅᑎᓪᓗᒍ ᐃᑭᓕᕐᑕᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᓪᓗ. ᑎᑎᕋᕐᓯᒪᒐᓗᐊᕐᑎᓪᓗᒋᑦ ᐃᑭᓕᕐᑕᐅᓯᒪᔪᑦ ᑐᕐᑯᑕᐅᓯᒪᔪᓪᓗ (ᐊᓯᐅᔨᔭᐅᓯᒪᔪᑦ), ᑭᓯᐊᓂ ᐱᔭᐅᓯᒪᖏᑦᑐᑦ, ᐅᖃᐅᓯᐅᓯᒪᖏᓐᓂᖏᓐᓂᒃ ᑕᐃᔭᐅᒋᓪᓗᑎᒃ. ᐱᔾᔪᑎᒋᓪᓗᒍ ᕿᓚᓗᒐᐃᑦ, ᖃᐅᔨᒪᓇᖏᑦᑐᑦ ᓇᓗᓇᕐᑐᓪᓗ ᐊᖑᓇᓱᒃᓂᕐᒨᖓᔪᑦ ᐱᑕᖃᕐᒪᑕ. ᐊᕋᒍᑦ 10 ᐊᓂᒍᕐᑐᑦ ᐅᖃᐅᓯᐅᖃᑦᑕᕐᓯᒪᖏᓗᐊᕐᒪᑕ ᐊᖑᓇᓱᒃᑕᐅᔪᑦ ᐅᑯᓄᖓ ᐊᕋᒍᓄᑦ (2004,2005, 2008 ᐅᕗᖓ 2010, 2012 ᐅᕗᖓ 2015), ᐃᒪᐃᓐᓇᓱᒋᔭᐅᔪᖅ ᑲᑎᓪᓗᒋᑦ ᐱᔭᐅᔪᓐᓇᕐᑐᑦ 41 ᕿᓚᓗᒐᐃᑦ ᐱᓂᕋᕐᑕᐅᓯᒪᑐᐃᓐᓇᕐᒪᑕ ᐊᕋᒍᑕᒫᑦ. ᖃᓄᑎᒋ ᓱᓕᖏᑎᒋᒃᒪᖓᑦ ᐊᔾᔨᐅᖏᑎᒋᒃᒪᖔᓪᓗ ᖃᐅᔨᒪᔭᐅᖏᒻᒪ ᓇᓗᓇᕐᒪᑦ. ᖃᐅᔨᓴᐅᑕᐅᔪᖅ ᒪᓕᒃᓗᒍ, ᐊᖑᓇᓱᒃᓂᕐᒧᑦ ᐅᖓᑖᓂ 1960 ᑭᖑᓂᐊᓂ ᐱᖃᓯᐅᑎᓯᒪᔪᑦ, ᐃᓗᐊᖏᓕᐅᕈᑎᖃᓚᐅᕐᒥᔪᑦ ᑭᖑᓂᑦᑎᓐᓂ ᐊᖑᓇᓱᒃᑕᐅᔪᑦ ᖃᓄᑎᒌᕐᓂᕐᒪᖔᑕ, ᐅᕙᓘᓐᓃᑦ ᐊᑕᐅᓯᑐᐃᓐᓇᖅ ᐃᑭᓕᕐᑕᐅᔪᖅ ᐊᓯᐅᔨᔭᐅᔪᕐᓗ ᐊᑐᕐᑕᐅᒍᓗᐊᕈᒥ ᓱᓕᒐᔭᖏᒻᒪ.

ᑭᖑᓪᓕᐸᖓᓂ ᐊᒻᒪᓗ ᐅᖃᐅᔾᔨᒋᐊᕈᑎ

ᑕᒪᕐᒥᒃ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ ᐊᑐᕐᓗᑎᒃ ᐊᔾᔨᒌᖏᑦᑐᓂᒃ ᖃᖓᑕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᔪᑦ ᐅᖃᕐᓯᒪᒃᒪᑕ ᐅᓄᕐᓂᕋᐃᓯᒪᓪᓗᑎᒃ 1,000 ᕿᓚᓗᒐᕐᓂᒃ. ᐊᑐᕐᑕᐅᔪᖅ ᖃᐅᔨᓴᐅᑎ ᒪᓕᒃᓗᒍ ᖃᖓᑕᖃᑦᑕᕐᑎᓪᓗᒋᑦ ᑎᓴᒪᐃᕐᓱᕐᓗᑎᒃ ᐊᑯᓐᓂᖓᓂ 1990 ᐊᒻᒪᓗ 2014 ᓴᕿᑦᑎᔾᔪᑕᐅᓚᐅᕐᑐᖅ ᐊᕋᒍᖓᓄᑦ 2015 ᐅᓄᕐᓂᕋᐃᓯᒪᓪᓗᑎᒃ 1,000 ᕿᒪᓗᒐᐃᑦ (100-ᒧᑦ ᑎᑭᓪᓗᒍ) ᕿᓚᓗᒐᐃᑦ ᐅᓄᕐᓂᖏᑦ (95% ᓱᓕᒐᔭᕐᓂᖓ CI = 500 ᑎᑭᓪᓗᒍ to 2,000).

ᑲᔪᒍᓐᓴᕐᐸᑕ ᐅᓄᕐᑎᖏᔪᓂᒃ 41 ᐱᖃᑦᑕᕐᓗᑎᒃ ᐅᓄᕈᓐᓂᕐᐸᓪᓕᐊᔾᔪᑕᐅᓂᐊᕐᑐᖅ ᕿᓚᓗᒐᕐᓄᑦ. ᐅᓄᕐᓯᒋᐊᕋᓱᒃᓗᒋᑦ ᕿᓚᓗᒐᐃᑦ ᓇᓗᓇᐃᕐᓯᒪᔪᑦ ᑐᕋᒐᐅᔪᑦ ᑎᑭᑕᐅᓇᓱᒃᓗᑎᒃ, ᐊᖑᓇᓱᒃᑕᐅᓂᖏᑦ ᐅᓄᕈᓐᓂᕐᑎᑕᐅᔭᕆᐊᖃᕋᔭᕐᑐᑦ. ᐊᑯᓂᐅᓂᕐᓴᕐᓗ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᔪᑦ ᐊᑐᕐᑕᐅᓗᑎᒃ, ᖃᐅᔨᓴᕐᑕᐅᓂᖏᑎᒍᑦ ᑎᑎᕋᕐᓯᒪᔪᑦ ᐱᐅᓯᒋᐊᕐᓗᑎᒃ, ᐊᒻᒪᓗ ᐊᖑᓇᓱᒃᑎᓪᓗᒋᑦ ᐅᖃᐅᓯᐅᖃᑦᑕᕐᓂᕐᓴᐅᓗᑎᒃ (ᐱᖃᓯᐅᑎᓗᒋᑦ ᐊᓐᓇᐃᔭᐅᔪᑦ, ᐃᑭᓕᕐᑕᐅᔪᑦ ᐊᓯᐅᔨᔭᐅᔪᓪᓗ) ᓇᓗᓇᕐᓂᖏᑦ ᐱᑕᖃᖏᓐᓂᕐᓴᐅᓕᕐᑎᓪᓇᓱᒃᓗᒋᑦ ᖃᓄᑎᒋ ᐅᓄᕐᑎᒌᒃᒪᖔᑕ ᓱᓕᓂᕐᓴᐅᓗᑎᒃ ᐅᖃᕐᑕᐅᒧᓐᓇᕐᓂᐊᕐᒪᑦ ᖃᓄᐃᓕᕙᓪᓕᐊᑎᒋᒃᒪᖔᑕ.

ᓇᑭᑦ ᖃᐅᔨᒋᐊᕐᑕᐅᓯᒪᒃᒪᖔᑕ ᑐᑭᓯᒋᐊᕈᑕᐅᔪᑦ

ᑖᓐᓇ ᑭᒃᓕᓯᓂᐊᕐᓂᒃᑯᑦ ᐅᓂᒃᑳᓕᐊᖑᔪᖅ ᓴᕿᑕᐅᓚᐅᕐᑐᖅ ᐃᐳᓗ 6, ᐃᐳᓗ 20, ᒪᐃ 10, 2016 ᑲᓇᑕᒥ ᐳᐃᔾᑦ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᐃᕐᑲᓇᐃᔭᕐᑲᑎᒌᑦ ᕿᒥᕈᓪᓗᑎᒃ ᑲᑎᒪᓪᓗᑎᒃ: ᐸᖕᓂᕐᑑᑦ ᑲᖏᕐᓱᐊᓗᐊᓂ ᕿᓚᓗᒐᐃᑦ ᑲᑯᕐᑕᑦ. ᑎᑎᕋᕐᓯᒪᔪᓂᒃ ᐱᒃᑲᓐᓂᓚᐅᕐᑐᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᓴᕿᑕᐅᓂᐊᕐᒥᔪᑦ ᑕᕙᓂ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑭᒃᓕᓯᓂᐊᕐᓂᒃᑯᑦ ᐅᕐᑲᐅᔾᔨᒋᐊᕐᓂᕐᒧᑦ ᐊᑐᕐᓂᐊᕐᑕᖏᑦᓂ ᐱᑕᖃᓕᕐᐸᓪᓕᐊᓂᖏᑦ ᒪᓕᒃᓗᒋᑦ.

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ᐅᑯᓇᓂ ᑕᒻᒪᖅᓯᒪᔪᑦ ᐋᖅᑭᒡᓱᖅᑕᐅᓯᒪᕗᑦ ᐅᑯᐊ:

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