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

ᑯᐯᒃᒥᓗ ᐅᑭᐅᕐᑕᑐᒥᓗ ᕿᑎᕐᒥᐅᓂ ᑲᓇᑕᒥ ᓱᑯᐃᔪᔫᑦ ᐃᒫᖕᒐᐊᕐᓂᓄᑦ ᐊᐅᓚᑕᐅᕕᖕᒐᑦ
ᐅᑭᐅᕐᑕᑦᓗ ᓄᓇᖕᒋᓐᓂ ᓱᑯᐃᔪᔫᑦ ᐃᒫᖕᒐᐊᕈᑎᒥᓐᓂᒃ ᑐᓴᕐᑕᐅᑎᑦᓯᒍᑎᖕᒋᑦ 2015/063

ᒥᑦᓴᐅᓵᕐᑕᐅᒪᔪᑦ ᐊᒥᓲᓂᖕᒋᑦ ᐁᑉᑕᐅᒍᓐᓇᑐᑦᓗ ᑕᓯᐅᔭᕐᔪᐊᒥᑦ–ᑕᑦᓗᕈᑎᐅᑉ ᐃᑭᕋᓴᖓᓂᑦ ᐊᖓᓗ ᓱᕐᕿᓂᐊᓂᑦ ᓱᕐᕿᓂᐅᑦᓗ ᓄᐃᕕᐊᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᒥ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᔪᐊᑉ ᐁᕕᕐᑯᑎᖕᒋᓐᓂᑦ (*ODOBENUS ROSMARUS ROSMARUS*)

ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᐅᑉ ᐁᕕᖕᒋᑦ Odobenus rosmarus rosmarus *(Jason Hamilton, ᐃᒪᕐᐱᓕᓇᔨᕐᔪᐊᑯᑦ)*

Figure 1. ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᒥ ᓱᕐᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ ᑲᓇᑕᐅᑉ ᐅᑭᐅᕐᑕᖓᓂ ᓱᑯᑦᓱᒥᓐᓂᖕᒋᑦ ᐁᕖᑦ. ᑖᑯᐊ ᐁᕖᑦ ᐅᑯᐊᖑᓂᕐᑕᐅᔪᑦ ᕿᑭᕐᑕᔫᑉ ᑲᖏᕐᓱᖓᓂᒥᐅᑦ (BB), West Jones Sound-ᒥᐅᑦ (WJS), Penny Strait-Lancaster Sound-ᒥᐅᑦ (PS-LS), ᑕᕐᕋᒥᓗ ᕿᑎᖓᓂᓗ ᐊᒥᕐᑐᕐᒥ ᐁᕕᕐᑯᑕᐅᔪᑦ (ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᑦᓗᕈᑎᐅᑦᓗ ᐃᑭᕋᓴᖓᑕ ᐁᕕᖕᒋᑦ ᓱᕐᕿᓂᕐᒥᓗ ᓱᕐᕿᓂᐅᑦᓗ ᓄᐃᕕᐊᓂ ᑕᓯᐅᔭᕐᔪᐊᒥ (SEHB).

ᐃᓗᓕᖕᒋᑦ:

ᓯᑕᒪᐅᔪᖕᖕᒋᒪᕐᑐᐃᖕᒍᕗᑦ ᐁᕖᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᕐᑕᖓᓂ ᓱᕐᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᐅᓂᕐᓴᖅ. ᑲᓇᑕᓕᒫᒥᓗ ᓱᓚᕐᔪᐊᓕᒫᒥᓗᒐᓴᒃ ᐃᑉᐱᒥᔭᐅᒪᓯᓇᓚᐅᔪᑎᑦᓗᒍ ᖃᓄᐃᓘᓇᒍᑎᖃᓲᖕᒍᓂᖓ ᑲᓇᑕᐅᑉ ᑲᒪᔨᒥᔭᐅᓂᒃᑯᑦ ᑕᒪᒃᑯᓄᖓ ᐁᕕᕐᑯᑕᐅᔪᓄᑦ ᐃᒪᕐᐱᓕᓇᔨᕐᔪᐊᑯᑦ ᐱᑦᔪᔨᕕᖓᑦ ᓄᐃᑦᓱᒍᑎᖃᕈᓐᓇᓱᕐᑯᑦᓗᒍ ᑲᔪᓱᑦᓱᐊᓗᑎᒃ ᓄᖕᒍᐃᓐᓇᑎᑦᓱᒋᒃᑯᑎᓂᒃ ᐅᑦᑦᓗᓐᓃᑦ ᖃᓄᐃᓘᓇᒍᑎᖃᕈᓐᓇᓗᑎᒃ ᐁᕖᑦ ᐊᓐᓂᑐᕐᑕᐅᖃᑦᑕᓗᑎᒃ ᓄᖕᒍᐃᓐᓇᑎᑕᐅᔪᓇᐅᔾᔭᓕᕐᔪᑕ.

ᑲᒪᒋᔭᐅᓂᖕᒋᑦ ᑕᑦᓗᕈᑎᐅᑉ ᐃᑭᕋᓴᖓᓂᓗ ᑕᓯᐅᔭᕐᔪᐊᒥᓗ ᐊᒻᒪᓗ ᓱᕐᕿᓂᐊᓂ ᓱᕐᕿᓂᐅᑦᓗ ᓄᐃᕕᐊᓂ ᑕᓯᐅᔭᕐᔪᐊᒥᐅᑦ ᐁᕖᑦ ᐁᑉᑯᓂᐊᕐᕕᐅᓲᖕᒍᕗᑦ ᕿᑎᕐᒥᐅᓄᑦᓗ ᐅᑭᐅᕐᑕᒥᐅᓄᑦᓗ ᑯᐯᒃᓗ ᓄᓇᕐᑯᑎᖓᓂᒥᐅᓄᑦ, ᐃᓚᐅᒪᒥᑎᑦᓗᒋᑦ ᒪᕐᕈᐃᒃ

ᓄᓇᑕᕐᐱᐅᓯᒪᔪᒃ (ᓄᓇᕗᑦ ᐊᒻᒪ ᓄᓇᐱᒃ). ᐊᑯᑭᑦᑐᒥᐅᑦ ᑖᒃᑯᓇᖕᖓᑦ ᐅᑯᑦᓂᐊᕐᑉᒥᔪᑦ.

ᑲᑎᖕᖓᓱᑦ ᐃᓕᖓᔪᑦ ᓂᕐᔪᑎᓄᑦ ᑲᓇᑕᒥ ᓄᖑᑐᐃᓐᓇᓇᐊᖃᓕᕐᓂᕋᕐᑕᐅᔪᓄᑦ (COSEWIC-ᑯᑦ) ᐊᑑᑎᔭᐅᕐᑯᓱᔪᑦ ᑖᒃᑯᓂᖓ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᖓᑕ ᐅᐱᕐᑯᑎᖏᓐᓂᒃ ᐃᓕᔭᐅᕐᑯᓱᑦᓱᑎᒃ "ᐃᓱᒫᓗᓐᓇᑐᒦᓕᕐᑐᓄᑦ ᓂᕐᔪᑎᓄᑦ" ᐃᓕᔭᐅᕐᑯᓚᐅᕐᓱᒪᔭᖏᑦ 2006-ᖑᑎᓪᓗᒍ. ᑕᒪᑕᒪᓕ ᑖᒃᑯᐊ ᑲᑎᖕᖓᓱᑦ ᕿᒥᕐᕈᒥᐊᑦᓱᐊᕗᐅᑦ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᒃ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᐅᑉ ᐅᐱᕐᑯᑎᖏᑕ.

ᑕᒪᑕᒪᓕ, ᑳᓇᑕᒥ ᐃᒪᕐᐱᓕᓇᓱᒃᔪᐊᑯᑦ ᐱᑦᓴᑕᕐᐱᓴᓂᒃ ᑲᒪᓱᒻᒪᓇᖏᑦ ᐱᓇᓱᑦᑕᖃᕐᕗᑦ ᓄᐃᑦᓱᒪᓱᑦᓱᑎᒃ ᐃᓚᐅᓕᕐᑎᓱᒪᔪᓂᒃ ᐃᖃᓐᓂᐊᓂᓕᓇᓂᕐᒥᒃ ᑲᒪᓱᒻᒪᓇᐅᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᑦᓴᓂᒃ ᐃᓕᖓᑦᓱᑎᒃ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᐅᑉ ᐅᐱᕐᑯᑎᖏᓐᓄᑦ ᓄᓇᕗᒻᒥ ᑐᑲᓂᓗ ᓈᒻᒪᑐᓂᒃ ᑐᑭᓯᒪᒍᑎᑦᓴᓂᒃ ᐱᓯᒪᓕᕈᑎᒃ ᐊᑦᓚᓯᒪᔪᖕᖑᐃᒍᑎᖃᓛᕐᓱᑎᒃ ᖃᑦᓱᑦ ᐊᓐᓂᑐᐊᖑᖃᑦᑕᑐᐊᕐᑉᑕ ᓈᒻᒪᒐᔭᕐᓂᓄᒍᑎᒥᓐᓂᒃ.

ᐊᒥᓲᓂᖏᓐᓂᒃ ᒥᑦᓴᐅᓵᕈᑏᑦᓗ ᑲᔪᓯᑎᐅᒐᑦᓯᐊᑐᐃᓐᓇᓂᐊᕐᒪᖔᑕᓗ ᖃᐅᔨᒪᓇᓱᒍᑏᑦ ᓱᓕ ᐱᑕᖃᓇᐊᖃᕐᕗᑦ ᓯᕿᓂᕐᒦᑐᓄᑦ ᓯᕿᓂᐅᑦᓗ ᓄᐃᕕᐊᓂᑦᑐᓄᑦ ᑭᖑᖑᒫᓇᓕᕐᕗᓗ ᑭᓯᑕᐅᒪᒍᑎᖏᑕ ᓄᑕᐅᓯᓕᔭᐅᓂᑦᓴᖏᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖓᓃᑦᑐᑦ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᑭᕋᓴᖓᓂ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐅᐱᕐᑯᑎᖏᓐᓂ. ᑖᒃᑯᐊ ᑐᑭᓯᔭᐅᒍᑎᖏᑦ ᑐᓂᔭᐅᓛᕐᑐᑦ ᓄᓇᕗᑦ ᓂᕐᔪᑎᓂᒃ ᑲᒪᒋᔭᖃᕐᑎᐅᓂᕐᒥᒃ ᑲᑎᖕᖓᓱᖏᓐᓄᑦ ᓄᓇᐱᒻᒥᓗ ᐃᒪᕐᐱᓕᓇᓱᕐᔪᐊᑯᓐᓄᑦ ᑖᒃᑯᓄᖓ ᐃᓱᒪᓕᐅᑎᑦᓴᐅᓗᑎᒃ ᓇᓗᓇᓇᒍᑎᐅᓗᑎᓪᓗ ᖃᑦᓱᓂᒃ ᐅᐱᕐᓂᒃ ᐊᓐᓂᑐᐊᖃᖃᑦᑕᑐᑦᓴᐅᒪᖔᕐᒥᒃ ᐅᑯᓐᓂᖃᖃᑦᑕᑐᑦᓴᐅᒪᖔᑕ ᐊᓐᓂᑐᐊᖑᔪᑦ.

ᐱᑦᓴᑕᕐᐱᓴᓂᒃ ᑲᒪᔨᐅᔪᑦ ᐊᑕᓐᓂᐅᕈᑎᖃᕐᓯᒪᔪᑦ ᖃᓄᐃᓕᖓᒋᐊᕐᑯᔭᐅᒍᑎᑦᓴᒥᓐᓂᒃ ᐃᓕᖓᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᓇᓕᕐᑕᖏᓐᓄᑦ ᑲᔪᓯᐅᒪᑦᓯᐊᓂᑦᓴᖏᓐᓄᓗ ᑕᓯᐅᔭᕐᔪᐊᒥ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᖓᑕ ᐅᐱᕐᑯᑎᖏᓐᓈᓕᖓᓗᑎᒃ.

ᓄᓪᓕᑎᕐᓯᒪᔪᑦ

- ᐅᐱᑦ ᖃᑦᓯᐅᓕᕐᓂᖏᑦ ᑭᓯᒪᓯᒋᐊᖏᑦ ᐱᔭᕐᓃᑐᒻᒪᓇᐅᕗᑦ ᑲᑎᖕᖓᓱᑎᒃ ᐃᕐᐸᖓᓂᕐᒥᓄᑦ ᓄᓈᕐᓯᒪᓱᑎᓪᓗ ᐱᐅᓯᓇᓲᒻᒥᓄᑦ ᑐᒻᒪᑦ ᐅᓄᕐᓂᐅᔪᑦ ᓄᓈᕐᓯᒪᔪᓂ ᐊᑦᔨᒌᓕᓚᐅᕐᓯᒪᕝᖕᖏᓚᑦ.
- ᐊᒥᓱᑦ ᐊᑦᔨᒌᑦᑎᖏᑦᑐᑦ ᒥᑦᓴᐅᓵᓇᓂᕐᒥᒃ ᐱᓇᓱᑎᐅᖃᑦᑕᓯᒪᓕᕐᑐᑦ. ᑖᒃᑯᐊ ᐃᓘᓐᓇᑎᒃ ᐅᓄᕐᓂᐅᓕᕐᑐᓂᒃ ᒥᑦᓴᐅᓵᓇᑎᐅᔪᑦ ᓄᓈᕐᓯᒪᔪᓂᒃ ᓯᑯᓐᑦᑐᓂᓪᓗᓐᑦ, ᐱᑕᖃᑦᓴᓇᓇᐊᖃᓲᖑᕗᑦ ᐋᕐᕿᒋᐊᓇᓂᕐᒥᒃ ᖃᑦᓯᐅᔪᓇᑦᓯᑎᐅᓕᕐᑐᓂᒃ ᐅᐱᕐᓂᒃ ᐃᒫᓂᑦᑐᓂᒃ (ᑕᑯᑦᓴᐅᖏᑦᑐᓂᒃ) ᖃᐅᔨᓴᕐᓂᒥᒃ ᐱᓇᓱᑦᑕᐅᔪᖃᓕᑐᐊᕐᒪᑦ.
- ᑐᖕᖓᐃᒋᑦᓱᒋᑦ ᖃᐅᔨᓴᕐᓂᒥᒃ ᐃᒣᓕᖓᕐᕐᑯᒪᑖᕈᑕᐅᒪᔪᑦ, ᑭᓯᑦᓯᑐᐃᓐᓇᓂᖅ ᐊᑐᕐᑕᐅᕝᑦᑐᖅ ᐊᑐᕐᓱᒋᑦ ᑭᓯᑦᓯᒍᑎᐅᔪᑦ ᐱᑕᖃᕐᑎᑕᐅᔪᑦ ᓱᕐᕐᑯᐃᑐᓄᑦ ᒥᑦᓴᐅᓵᓇᑎᐅᓲᖑᕗᑦ ᐅᐱᕐᓂᒃ ᓄᓈᕐᓯᒪᔪᓂᒃ.
- ᖃᖓᑦᑕᔫᑎᒍᑦ ᑭᓯᑦᓯᓂᑦ ᐊᑑᑎᔭᐅᓚᐅᔪᒻᒥᔪᑦ ᓯᑉᑎᒻᐱᓇ 2014-ᖑᑎᓪᓗᒍ ᑭᓯᑦᓯᓂᐅᑦᓱᑎᒃ ᐅᐱᕐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᖏᑦᑕ ᑕᕐᕋᖓᓃᑦᑐᑦ ᐃᓚᖏᓐᓂᒃ ᐊᒻᒪᓗ ᓯᕿᓂᕐᒦᑐᓂᒃ ᓯᕿᓂᐅᓪᓗ ᓄᐃᕕᐊᓃᑦᑐᓂᒃ ᐅᐱᕐᓂᒃ (ᓯᕿᓂᕐᒥ ᓯᕿᓂᐅᓪᓗ ᓄᐃᕕᐊᓂ ᑕᓯᐅᔭᕐᔪᒥ).
- ᑭᓯᑦᓯᓯᒪᒍᑏᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᓯᒪᖕᖏᑐᑦ ᖃᐅᔨᓴᕈᑎᕐᓂᐅᑦᓱᑎᒃ ᐃᓚᖏᓐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐅᕐᖏᓐᓂ ᐊᒻᒪᓗ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᕿᓂᐊᓂ ᓯᕿᓂᐅᓪᓗ ᓄᐃᕕᐊᓃᑦᑐᑦ ᐅᓄᕐᓂᖃᕐᓂᓇᒍᑎᐅᒪᖔᑦ 2,144-ᓂᓪᓗ ᐊᒻᒪᓗ 58-ᓂᒃ.
- ᑖᒃᑯᐊ ᑭᓯᑕᐅᒪᔪᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᓚᐅᔪᖔᑦ ᐅᓄᓂᖃᕐᓂᐊᖑᓇᔭᐅᓕᕐᓱᑎᒃ ᒥᑦᓴᐅᓵᓇᑎᐅᓯᒪᔪᓂᒃ ᓄᓈᕐᓯᒪᔪᓂᒃ ᐅᐱᕐᓂᒃ 0.3-ᒥᑦ ᐱᑦᓱᑎᒃ. ᑖᒃᑯᐊ ᒥᑦᓴᐅᓵᓇᑎᐅᒪᔪᑦ ᐱᔭᐅᓯᒪᖔᑦ ᓄᓈᕐᓯᒪᔪᑦ ᐅᓄᕐᓂᓇᒍᓪᓕᓇᓲᖏᓐᓂᒃ ᓯᑕᒪᐅᔪᖕᖏᒐᕐᑐᑦ ᑭᓯᑕᐅᓯᒪᔪᑦ ᐱᕕᐅᑎᓪᓗᒋᑦ.
- ᑭᓯᑕᐅᒪᔪᓂᒃ ᐋᕐᕿᒋᐊᓇᒍᑎᕕᓃᑦ ᒥᑦᓴᐅᓵᓇᑎᐅᓯᒪᓕᕐᕐᑯᑦ ᐅᐱᑦ ᐅᓄᕐᓂᖃᓕᕋᔭᕐᑎᓗᒋᑦ ᒥᑦᓯᑎᓐᓂ 7,100 (95%-ᒥᒃ ᓱᕐᕐᑯᐃᑐᒥᒃ ᑭᓯᑦᓯᓯᒪᒍᑏᑦ 2,500-20,400) (ᐅᓄᕐᓂᐅᒐᔭᕐᑐᑦ 100-ᒦᑦᑐᓄᑦ ᖃᓂᓐᓂᔪᓄᑦ ᐃᓚᖏᔪᑦ) ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᖏᓐᓂᒥᐅᑦ ᐊᒻᒪᓗ 200 (95%-ᒥᒃ ᓱᕐᕐᑯᐃᑐᒥᒃ ᑭᓯᑦᓯᓯᒪᒍᑏᑦ 70-570) (ᐅᓄᕐᓂᐅᒐᔭᕐᑐᑦ 10-ᒦᑦᑐᓄᑦ ᖃᓂᓐᓂᔪᓄᑦ ᐃᓚᖏᔪᑦ) ᐱᔭᐅᒪᑦᓱᑎᒃ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐅᐱᖏᓐᓂᑦ.

- 2007-ᒥ ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᑦ ᕿᑭᕐᑕᓘᑉ ᓯᕿᓂᖕᒐᑕ ᓄᐃᕕᐊᓃᑦᑐᓂᒃ ᐃᓚᒋᔭᐅᑦᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐅᕕᖕᒋᓐᓄᑦ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᕗᑦ ᐅᓄᕐᓂᖃᕐᓂᐊᖕᒍᓇᔭᐅᑎᓪᓗᒋᑦ 2,500-ᓂᒃ (95%-ᒥᒃ ᓱᕐᑯᐃᑐᑦ ᑭᓯᑦᓯᓯᒪᒍᑏᑦ ᒥᑦᓯᑎᓐᓃᑎᓪᓗᒋᑦ 1,800 - 3,500-ᓗ) ᑎᒃᓂ ᓄᓇᒥ.
- 85% ᐅᖕᒐᑖᓂᑦᑐᑦ ᐃᕕᑦ ᑭᓯᑕᐅᒪᔪᑦ ᖃᐅᔨᔭᐅᕐᖃᑦᑕᓯᒪᑦᓱᑎᒃ ᓄᓈᕐᓯᒪᕕᒋᓲᒥᓃᑎᓪᓗᒋᑦ ᐊᒥᓱᐃᓂ ᕿᑭᕐᑕᓂ ᒥᑦᓯᑎᓐᓃᑐᓂ ᓴᓪᓕᓂᓗ ᐊᒻᒪᓗ ᐊᑉᐸᕐᔪᐊᒥ ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖕᒐᓂ ᐊᒻᒪᓗ ᕿᑭᕐᑕᓂ ᐊᑯᓪᓕᓂᓗ/ᑐᑦᔮᓂᓗ ᓯᕿᓂᐅᑉ ᓂᐱᕝᕕᐊᓂᐅᓂᕐᓴᖅ ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᖕᒐᓂ. ᑕᒪᒃᑯᐊ ᑭᓯᑦᓯᓯᒪᒍᑎᐅᔪᑦ ᐊᑦᔨᒐᓚᒋᔭᐅᔪᑦ ᐊᓯᖕᒋᓐᓄᑦ ᖃᐅᔨᓴᕈᑎᐅᓯᒪᔪᓄᑦ ᑖᒃᑯᓇᓂ ᕿᑭᕐᑕᓂ ᐱᓇᓱᑦᑕᐅᖃᑦᑕᓯᒪᑦᓱᑎᒃ ᐊᕐᕌᒍᓂ ᐊᑦᔨᒐᓚᒋᔭᐅᑦᓱᑎᒃ ᑭᖕᒍᓂᕐᒥᒃ ᖃᐅᔨᓴᕈᑎᐅᕐᖃᑦᑕᓯᒪᔪᓄᑦ ᑕᒫᓂ ᓄᓇᒥ. ᖃᐅᔨᓴᕐᑐᑦ ᑎᑭᐅᑎᓚᐅᔪᖕᒋᑐᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐹᖕᒐᓄᓪᓗ ᐊᒥᓯ ᐯᒧᓪᓗ, ᑖᕝᑯᐊ ᐃᕕᕐᓯᕕᐅᕐᖃᑦᑕᓯᒪᒐᓗᐊᕐᒥᑎᓪᓗᒋᑦ ᐊᕐᕌᒍᓂ ᐊᓂᒍᕐᓯᒪᓕᕐᑐᓂ.
- ᐅᓄᕐᓯᒋᐊᕐᓂᐅᒐᔭᕐᑐᓂᒃ ᒥᑦᓴᐅᓵᕈᑏᑦ ᐋᕐᕿᑕᐅᒪᔪᑦ, ᐃᓚᐅᑎᑦᓯᓂᖃᕐᓱᑎᒃ ᑐᓴᕐᑎᓯᒍᑎᓕᐊᖕᒍᒪᔪᓂᒃ ᐊᓐᓂᑐᐊᖃᕐᓂᒥᒃ ᑐᑭᓯᒪᑎᑦᓯᒍᑎᑦᓴᓂᒃ ᐋᕐᕿᑕᐅᓚᐅᔪᕗᑦ ᐃᓕᖕᒐᓚᖕᒐᓕᕐᑎᓗᒋᑦ ᐅᓄᕐᓂᐅᓕᕐᑐᓂᒃ ᒥᑦᓴᐅᓵᕈᑎᓄᑦ ᐱᓯᒪᔪᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᑕᕐᕋᖕᒋᑕ ᓄᓇᖕᒋᓐᓂᑦ ᐊᑐᕐᓱᑎᒃ ᑭᓯᑦᓯᓂᕐᒥᒃ ᒥᑦᓴᐅᓵᕈᑎᑦᓴᔭᓂᒃ ᖃᓪᓗᓈᕐᑎᑐᑦ Bayesian-ᖕᒍᓂᕋᕐᑕᓂᒃ. ᑖᒃᑯᑎᒍᓇ ᑭᓯᑦᓯᓂᐅᔪᑦ ᐱᑕᖃᕐᑎᓯᒍᑎᐅᓲᖕᒍᒻᒪᑕ ᑐᖕᖓᕕᑦᓴᓂᒃ ᑭᓯᑦᓯᔪᓄᑦ ᓱᕐᑯᐃᖃᔭᓪᓚᓇᖕᒋᑐᓂᒃ.
- ᑭᓯᑦᓯᒋᐊᒥᒃ ᐱᓇᓱᒍᑎᓕᐊᖕᒍᒪᔪᑦ ᑐᑭᓯᒍᑎᐅᓯᒪᕗᖅ ᐃᕕᑦ ᐅᓄᕐᓂᖕᒋᑦ ᑲᑕᑦᑐᒪᓇᐅᓯᒪᒋᐊᖕᒋᑦ 10,400 (ᑐᖕᖓᕕᒋᑦᓱᒋᑦ 95%-ᒥᒃ ᓱᕐᑯᐃᑐᒥᒃ ᑭᓯᑦᓯᒍᑎᐅᔪᑦ ᐊᑐᕐᓱᒋᑦ Bayesian-ᓂᒃ ᑐᖕᖓᕕᕐᖃᕐᓱᑎᒃ ᑭᓯᑦᓯᓂᐅᓯᒪᔪᑦ ᒥᑦᓯᑎᓐᓃᑐᓂᒃ 6,400-19,800-ᓗ ᐊᑯᓐᓂᖕᒋᑕ ᒥᑦᓯᑎᓐᓃᑐᕕᓂᐅᑦᓱᑎᒃ ᐊᕐᕌᒍᖅ 1954-ᖕᒍᑎᓪᓗᒍ ᑎᑭᐅᑎᑦᓱᑎᒃ 3,600ᓄᑦ ᑭᓯᑕᐅᑦᓱᑎᒃ 1993-ᒥ ᐅᓄᕐᓯᒋᐊᕐᓯᒪᓕᕐᒥᔪᑦ 7,000-ᒦᓕᕐᓱᑎᒃ (ᑐᖕᖓᕕᒋᑦᓱᒋᑦ95%-ᒦᑦᑐᑦ BCI 4,100-10,700) ᐃᕕᑦ ᑭᓯᑕᐅᑦᓱᑎᒃ 2014 ᐊᕐᕌᒍᖕᒐᓂ.
- ᐅᕝᕙᑕᐅᒍᓐᓇᑐᑦ ᐅᓄᕐᓂᖕᒋᑦ ᑕᓯᐅᔭᕐᔪᐊᒥ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒐᑕ ᑕᕐᕋᖕᒐᓂ ᑖᒃᑯᓇᖕᖕᒐᑦ ᐱᓯᒪᔪᓂᒃ ᒥᑦᓴᐅᓵᕐᑕᐅᓂᖃᕐᓯᒪᕗᑦ ᐊᑐᕐᑕᐅᑎᓪᓗᒋᑦ ᐅᕝᕙᑦᓚᐅᒐᔭᕐᑐᓇᔭᐅᔪᓂᑦ. ᓯᕗᑦᓚᓂᑦ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᖃᑦᑕᓯᒪᔪᓂᑦ ᐅᕝᕙᑦᓚᐅᒐᔭᕈᓇᖅᑯᑕᐅᔪᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᑦ. ᓯᕗᑦᓚᓂ ᐅᕕᕐᓂᒃ ᑭᓯᑦᓯᓇᓱᓐᓂᐅᖃᑦᑕᓯᒪᔪᓂ, ᐅᓄᕐᓯᒋᐊᕈᑎᖃᕐᑐᓇᔭᐅᖃᑦᑕᓯᒪᕗᑦ ᓱᕐᓗ 0.07 ᑐᖕᒐᕕᐅᑎᓪᓗᒋᑦ. ᑖᒃᑯᐊ ᕿᒥᕐᕈᓂᐅᔪᑦ ᑐᑭᓯᒍᑕᐅᒪᔪᑦ ᐅᓄᕐᓯᒋᐊᕐᓃᑦ ᑐᖕᖓᕕᖃᖕᒐᕐᑐᕕᓂᐅᒋᐊᖕᒋᑦ 0.08-ᒥᒃ. ᐊᓐᓂᑐᐊᖃᕐᖃᑦᑕᓃᑦ ᑐᖕᖓᕕᒋᓗᒋᑦ 0.5-ᓗ 1.0-ᓗ ᐱᑕᖃᕐᒥᔪᑦ.
- ᐊᓐᓂᑐᐊᖕᒍᒐᔭᕐᓂᐊᖕᒍᓇᔭᐅᑦᓱᑎᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᒪᔪᑦ ᑐᖕᖓᕕᖃᕐᐳᑦ 2014-ᒥ ᐅᓄᕐᓂᐅᔪᕕᓂᕐᓂᒃ ᐊᑐᕐᑕᐅᓯᒪᔪᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒋᓐᓂᒥᐅᓂᒃ ᑭᓯᑦᓯᔪᖃᕐᑎᓗᒍ ᐅᓄᕐᓂᐅᓚᐅᔪᔪᓂᒃ 114-ᖕᒍᑦᓱᑎᒃ ᐊᒻᒪᓗ 228 ᐅᓄᕐᓯᕙᓪᓕᐊᒋᐊᓪᓚᒍᑎᐅᒐᔭᕐᑎᓗᒋᑦ ᑐᖕᖓᕕᒋᓗᒋᑦ 0.5 ᐊᒻᒪᓗ 1.
- ᑭᓯᑦᓯᓂᐅᓯᒪᔪᑦ 2013-ᒥ, ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓃᓐᓂᓴᓂᒃ ᕿᑭᕐᑖᓗᖕᒥᐅᑕᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᒋᓐᓃᓯᑎᒃ ᐅᕝᕙᑦᓚᐅᒐᔭᕈᓇᐅᓯᒪᕗᑦ ᐅᓄᕐᓂᓕᓐᓂᒃ 38-ᓂᒃ ᑭᓯᐊᓂᓕ ᑖᒃᑯᐊ ᑐᖕᖓᕕᐅᔪᑦ 0.07-ᒦᖕᖓᕐᓯᒪᔪᑦ. ᐅᕝᕙᑦᓚᐅᒐᔭᕈᓇᐅᔪᓇᔭᐅᔪᑦ ᐅᓄᕐᓯᒋᐊᕐᓯᒪᔪᑦ 44-ᓂᑦ 88-ᓄᑦ ᐅᓄᕐᓯᒋᐊᓇᐊᓪᓕᒐᔭᕈᑎᒃ ᑐᖕᖓᕕᖃᕐᓗᑎᒃ 0.5-ᒥᓪᓗ 1.0-ᒦᓪᓗ ᑭᓯᑕᐅᒋᐊᑦᓯᐊᓕᕋᒥᒃ ᐊᑐᕐᑕᐅᑎᓪᓗᒋᑦ ᐅᓄᕐᓯᒋᐊᕐᓂᐅᒐᔭᕐᑐᓇᔭᐅᔪᑦ 0.08 ᐊᑐᕐᑕᐅᑎᓪᓗᒋᑦ.
- ᐅᕝᕙᑕᐅᔪᕕᓃᑦ ᑭᓯᑕᐅᓯᒪᔪᑦ ᐃᓚᐅᑎᑦᓯᕗᑦ ᐃᓅᓐᓇᖕᒋᓐᓂ ᐅᕕᕐᓂᒃ ᐱᕕᑦᓴᐅᔪᓚᒫᓂᒃ. ᐊᓐᓂᑐᐊᕕᓃᑦ ᑐᓴᕐᑕᐅᑎᑕᐅᒍᑐᑎᒋᖃᑦᑕᓯᒪᓕᕐᑕᖕᒋᑦ ᐊᕐᕌᒍᓂ ᑕᓪᓕᒪᓂ ᐊᓂᒍᕐᑐᓂ ᐱᔭᐅᑦᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒐᓂᑦ ᐊᕐᕌᒍᑕᒫᑦ 85-ᖕᒍᖃᑦᑕᓯᒪᓕᕐᒪᑕ. ᑕᒪᒃᑯᐊ ᑐᑭᖃᕐᑐᑦ ᒥᑦᓯᑎᓐᓃᑎᓪᓗᒋᑦ 121 ᐊᓐᓂᑐᐊᕕᓂᐅᔪᑦ ᐃᓚᐅᑎᑦᓱᒋᑦ ᑎᒃᑯᐊ ᐊᓐᓄᔭᐅᓯᒪᔪᑦ ᒥᑦᓯᑎᓐᓃᒐᔭᓇᐊᖕᒋᑦ 30% ᐃᓚᐅᑎᓐᓇᒋᑦ ᐅᕝᕙᑕᐅᔪᕕᓃᑦ ᑐᓴᕐᑎᓯᒍᑎᐅᓯᒪᖕᖕᒋᑐᑦ ᐅᕝᕙᓗᓐᓃᑦ ᑐᕐᑯᑕᐅᖃᑦᑕᓯᒪᔪᑦ ᐃᓛᓂᕐᑕᐅᓇᑎᒃ ᓱᕐᓗ ᐅᒥᐊᕐᔪᐊᓄᓪᓗ ᐊᓯᖕᒋᓐᓄᓗ.

- ᐅᓄᕐᓂᐅᓕᕐᑐᓂᒃ ᑭᓯᑦᓯᓂᕐᒨᓕᖓᔪᖅ ᑐᖓᕕᑦᓴᖅ ᑰᕐᕿᑕᐅᓚᐅᔪᖏᓚᖅ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᓐᓂᓴᓄᑦ ᑕᓯᐅᔭᕐᔪᐊᒦᑦᑐᓄᑦ ᐱᑦᔪᑎᒋᑦᓯᒋᑦ ᐅᓄᕐᓂᐅᓂᕋᕐᑕᐅᔪᓂᒃ ᑐᓴᐅᒪᒍᑎᑦᓴᑕᕐᓂᓴᐅᔪᑦ ᐱᕕᑭᓐᓂᓴᐅᓂᖏᑦ. ᐁᕝᕕᑕᐅᒍᓐᓇᑐᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᓂᖏᑦ ᑖᒃᑯᓄᖓ ᐁᕕᕐᓄᑦ ᐃᓕᖓᓚᐅᔪᒻᒪᑕ ᒪᕐᕈᐃᓄᓪᓗ ᓯᑕᒪᐅᓈᕐᑎᑐᓄᓪᓗ ᐁᕕᕐᓄᑦ ᐅᓄᕐᓯᒋᐊᕐᓂᖃᕈᓇᕐᑯᑕᐅᔪᓄᑦ 0.5-ᒥᓪᓗ ᐊᒻᒪᓗ 1-ᒥ. ᑐᓴᕐᑎᓯᒍᑎᐅᓯᒪᔪᑦ ᐱᐅᓯᑐᐃᓐᓇᐅᓲᑎᒍᑦ ᐁᕝᕕᑕᐅᔪᑦ ᐅᓄᕐᓂᓇᓲᑐᖃᕐᒋᓐᓂᒃ ᑐᓴᕐᑕᐅᑎᑕᐅᖃᑦᑕᓯᒪᑦᓱᑎᒃ ᐊᕐᕌᒍᓂ ᑕᓪᓕᒪᓂ 5-ᓂ ᐊᓐᓂᑐᐊᖑᕝᕕᑦᑐᓂᑦ ᐊᕐᕌᒍᑕᒦᑦ ᓯᑕᒪᐅᖓᕐᐸᓕᕐᒪᑕ 4, ᑐᑭᓯᓇᕐᑎᓯᒍᑎᕐᖃᓕᕐᓱᑎᒃ ᓲᕐᓗ 6 ᐊᕐᕌᒍᑕᒦᑦ ᐁᕝᕕᑕᐅᕝᕕᓕᕐᑎᓗᒋᑦ, ᐃᓱᒪᒋᓗᒋᑦ S&L-ᖑᓂᕋᕐᑕᐅᔪᑦ 30%-ᖏᑦ ᐃᓚᐅᑎᓐᓇᒋᑦ ᐁᕝᕕᑕᐅᔪᕕᓃᑦ ᑐᓴᕐᑎᓯᒍᑎᐅᓯᒪᖕᖏᑐᑦ ᐅᕝᕝᓗᓐᓃᑦ ᐃᓄᓐᓄᑦ ᐱᔭᐅᑦᓱᑎᒃ ᐁᕐᑦ ᑐᕐᑯᑕᐅᓯᒪᔪᑦ.
- ᖃᐅᔨᓴᕈᑎᑦᓴ ᑭᖑᓘᒪᓇᖏᓐᓇᓲᑦ ᓱᕐᕐᑯᐃᓯᑦᓯᐊᕈᑎᑦᓴᐅᑎᓪᓗᒋᑦ ᐁᕐᑦ ᐱᓯᒪᒐᓗᐊᕐᒪᖔᑕ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᒥᑦ ᑖᒃᑯᐊᓗ ᓱᕐᕐᑯᐃᑐᒥᒃ ᐊᓯᒋᔭᐅᖕᖏᒃᓗᐊᕐᒪᖔᑕ ᐅᕝᕝᓗᓐᓃᑦ ᐊᐅᒥᑎᒍᑦ ᐱᑐᑦᓯᒪᓂᖃᕐᒪᖔᑕ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᑕ ᐁᕕᖏᓐᓄᑦ.
- ᐃᓚᒋᔭᐅᑎᓪᓗᒋᑦ ᖃᐅᔨᓴᕐᓂᓄᑦ ᐁᕐᑦ ᓇᓪᓕᖏᓐᓂᑦ ᐱᓯᒪᒐᓗᐊᕐᒪᖔᑕ, ᖃᐅᔨᓴᕐᓂᒋᐊᓪᓗᑦ ᐊᑑᑎᔭᐅᒋᐊᖃᕐᐳᑦ ᓇᐅᑦᓯᑐᕐᓂᐅᓗᑎᒃ ᐁᕐᑦ ᐅᓄᕐᓂᓇᓕᕐᑕᖏᓐᓂᒃ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓃᑦᑐᑦ ᑕᓯᐅᔭᕐᔪᐊᒥ.
- ᑲᑉᐱᐊᓇᕐᑐᒧᑦ ᐅᓄᕐᓂᐅᔪᑦ ᑎᑭᐅᑎᖕᖏᓂᖏᓐᓂ ᐱᓇᓯᒍᑎᐅᒐᔭᕐᑐᑦ ᑐᖓᕕᓕᕐᑕᑕᐅᔪᑦᓴᐅᕗᑦ ᑐᑭᓯᓇᑦᓯᐊᑐᓂᒃ ᑲᒪᔨᒋᔭᐅᓂᕐᓄᑦ ᓯᕗᓂᑦᓴᓕᐅᕐᑕᐅᒪᓗᑎᒃ. ᑎᒣᓕᖓᒍᑎᒃ ᐱᒍᓐᓇᕈᑎᐅᒐᔭᕐᒪᑕ ᓱᔪᖃᕐᓂᐅᒍᓐᓇᑐᓂᒃ-ᑐᖓᕕᕐᖃᓕᕐᑐᑦ ᐃᒣᓕᖓᖓᓇᐊᕐᖃᓕᕐᐳᓲᕈᑎᑦᓴᖏᓐᓂᒃ. ᑕᒪᒃᑯᐊ ᐃᓂᓪᓚᑕᐅᓚᐅᖕᖏᓂᖏᓐᓂ, ᐊᑐᕋᑦᓴᐅᓂᕋᕐᑕᐅᔪᑦ ᓄᑕᐅᓯᓕᔭᐅᒋᐊᖏᓐᓇᖃᑦᑕᑐᑦᓴᐅᕗᑦ ᑐᖓᕕᕐᖃᕐᓗᑎᒃ ᓄᑖᓂᒃ ᖃᐅᔨᓴᕐᓂᒥ ᑐᑭᓯᔭᐅᒪᔪᓂᒃ ᐊᑐᕋᑦᓴᓕᐊᖑᓂᕋᕐᑕᐅᒪᔪᓂᓪᓗ ᐱᑕᖃᕐᑎᓯᒍᑎᐅᕝᕕᓐᓂᐊᓗᑎᒃ ᐁᕝᕕᑕᐅᒐᔭᕐᑐᓇᔭᐅᔪᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ.

ᑐᑭᓯᓇᕐᑎᓯᒍᑏᑦ

ᐁᕝᕕᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᑦᑕᑐᖓᓂ ᐊᕕᑦᑐᓯᒪᑎᑕᐅᕝᕝᑉᐳᑦ ᒪᕐᕈᐃᓴᔭᐅᑎᓪᓗᒋᑦ ᐊᐅᖃᑎᒌᑦᓴᔭᐅᖕᖏᑐᑦ ᓯᑕᒪᐅᔪᕐᑐᐃᖑᑦᓯᑎᒃ (ᑕᑯᓗᒍ ᑐᑭᓯᓇᕐᑎᓯᒍᑎ 1) ᑐᖓᕕᐅᑎᓪᓗᒋᑦ ᐊᐅᖃᑎᒌᖕᖏᓂᖏᑦ, ᖁᒪᒧᐊᑎᓯᒪᔪᑎᒍᓪᓗ ᓇᓗᓐᒃᑯᓯᕐᑐᑕᐅᒪᓂᖏᑦ, ᖃᓄᐃᑦᑐᒥᓐᓂᓇᓲᖏᑕᓗ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᖑᑎᖏᑦ. ᒪᕐᕈᐃᖑᔪᑦ, ᓄᓇᑐᕐᓕᖃᕐᓱᑎᒃ ᐊᒥᑦᑐᕐᒥᐅᑦ ᐃᒪᕐᐱᖓᓐᓂᒃ, ᑖᒃᑯᐊ ᐊᐅᓚᑕᐅᒍᑎᖃᕐᐸᑦ ᓲᕐᓗ ᐊᑕᐅᓯᐅᓕᖓᑎᓪᓗᒋᑦ. ᐃᒪᕐᐱᓕᓇᔨᕐᔪᐊᑯᑦ ᓱᑯᐃᔪᔨᖏᑦ ᐱᑕᖃᕐᑎᓯᒍᑎᖃᕐᑲᑦᑕᓯᒪᓕᕐᑯᑦ ᐅᓄᕐᑐᓂᒃ ᒥᓴᐅᓵᕈᑎᓂᒃ ᑲᔪᓯᐅᒐᑦᓯᐊᑎᑦᓯᒍᑎᐅᒍᓐᓇᑐᓂᓪᓗ ᐃᒫᖕᕐᓇᐊᕈᑎᓂᒃ ᓄᐃᑦᓯᒍᑎᖃᕐᐸᓱᑎᒃ ᓯᑕᒥᓄᑦ ᐁᕝᕕᑦ ᐃᓕᖓᔪᓂᒃ ᐊᑕᐅᓯᕐᒧᓗ ᐃᓗᓐᓇᖏᓐᓄᑦ. ᑖᒃᑯᐊ BB-ᒥᓗ WJS-ᒥᓗ ᐊᒻᒪᓗ PS-LS-ᒦᑦᑐᑦ ᐁᕝᕕᑦ ᐃᓚᒋᔭᐅᒻᒪᑕ ᖁᑦᓯᑐᒦᑦᑐᓄᑦ ᐁᕝᕕᑦ ᐊᒻᒪᓗ ᐊᒥᑦᑐᕐᒥᐅᓃᑦᑐᓄᑦ ᕿᑭᕐᑖᓗᓪᓗ ᓯᕿᓂᐊᓂ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᐅᓂᕐᓴ ᐃᓚᒋᔭᐅᑦᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᒥᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖓᓂᒥᐅᓄᑦ, ᐅᑭᐅᑦᑕᑐᒥ ᕿᑎᕐᒥᐅᖑᑦᓯᑎᒃ.

ᐁᕝᕕᑦ ᐃᕐᐸᖓᒻᒪᓇᒻᒪᑕ ᑲᓇᑕᐅᑉ ᐅᑭᐅᑦᑕᑐᖓᓂ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ ᑕᑯᑦᓴᐅᕝᓪᓗᓲᖑᕗᓪᓗ ᐅᓄᕐᑐᒪᓇᐅᑦᓯᑎᒃ ᐃᓚᖓᓂᒃ ᑕᐅᓴᓐᑎᐅᒍᓐᓇᓯᑎᒃ. ᐅᐱᖕᖓᒥ/ᐊᐅᔭᒥ, ᐁᕝᕕᑦ ᐆᑦᑐᖑᕐᓯᒪᓗᐊᖕᖑᐊᓲᑦ ᓯᑯᓂ ᐃᖏᕐᕋᔪᓂ, ᓯᑯᖃᖕᖏᑐᐊᕐᒪᓗ ᓄᓈᕐᓯᒪᓲᖏᑦᓯᑎᒃ. ᑕᒪᓐᓇ ᐆᑦᑑᑎᓪᓗᒋᑦ ᑭᓯᑦᓯᖃᑦᑕᓂᖅ ᒥᑦᓴᐅᓵᓇᓂᑐᐃᓐᓇᐅᓲᖅ ᐁᕝᕕᑦ ᐅᓄᕐᓂᓇᒍᓇᓇᕐᑕᖏᓐᓂᒃ ᓈᒻᒪᒋᐊᖓ ᐃᓱᒪᒋᔭᐅᔪᖅ ᑭᓯᐊᓂ ᐋᕐᕿᓱᕐᓯᒪᑦᓱᐊᖏᑦᑐᕋᑦᑕᖅ. ᐃᒥᒻᒪᑦ, ᐊᓯᖏᓐᓂᒃ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓯᒍᑎᖃᕋᓱᐸᒥᔪᑦ. ᐊᓪᓚᓯᒪᔪᖕᖑᑕᐅᔪᑦ ᖁᒻᒧᐊᓯᒪᔪᑎᒍᑦ ᒪᓕᒍᑎᒧᑦ ᐊᑐᕐᑕᐅᓲᖑᒻᒥᔪᑦ ᓄᓈᕐᓯᒪᔪᕕᓂᕐᓂᒃ ᑭᓯᑦᓯᓕᑐᐊᕐᒪᑕ ᐃᒫᓂᑦᑐᕕᓂᕐᓂᒃ ᑭᓯᑦᓯᒍᑎᐅᑦᓱᑎᒃ.

ᐃᒪᓕ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓯᑦᑕᖃᕋᓱᒋᐊᖅ ᐱᔭᕐᓃᑐᕕᖕᖓᐅᑎᓪᓗᒍ, ᐁᕝᕕᕐᓂᒃ ᖃᑦᓯᓗᑐᒐᓗᐊᕐᒪᖔᑕ ᖃᐅᔨᒪᒍᓐᓇᖏᓪᓚᒍᑦ. ᐃᒪᕐᐱᓕᓇᔨᕐᔪᐊᑯᑦ ᐊᑐᕐᐸᑐᒐᓗᐊᑦ ᐁᕝᕕᑕᐅᔪᕕᓂᕐᓂᒃ ᖃᐅᔨᓴᕈᑎᖃᕐᓱᑎᒃ ᓄᐃᑦᓯᓱᖑᒐᓗᐊᑦ ᐃᒣᓕᖓᒋᐊᖓᖃᕐᑯᔨᒍᑎᒥᓐᓂᒃ ᓄᖑᑎᑦᓯᒐᓕᓇᓱᑎᒃ ᐃᒪᕐᒥᐅᑕᓂᒃ ᓂᕐᔪᑎᓂᒃ ᑭᓯᒋᐊᖏᑦ ᐱᔭᓐᓃᑐᓂᒃ. ᐁᕝᕕᑕᐅᔪᕕᓃᑦ ᓚᔪᖅ ᐃᓚᐅᑎᑦᓯᓂᖃᕐᒪᑦ ᐃᓅᓐᓇᖏᓐᓂᒃ ᐃᓄᓐᓄᑦ-ᐱᔭᐅᑦᓱᑎᒃ ᑐᕐᑯᑕᐅᔪᓕᒫᓂᒃ ᒐᒥᒻᒪᑦ ᒥᑦᓴᐅᓵᓇᓃᑦ ᑐᕐᑯᑕᐅᒍᓐᓇᓂᕋᕐᑕᐅᒪᔪᓂᒃ ᐱᑕᖃᕐᑎᓯᒍᑎᐅᕝᕝᑉᐳᑦ ᑲᔪᓯᒍᓐᓇᒍᑎᐅᒋᐊᖃᕐᐳᓗ ᓄᖑᓚᕿᑎᑦᓯᒐᓕᓂᕐᓄᓗ ᐅᓄᕐᓯᕝᓕᐊᓂᕐᓄᓗ. ᑖᒃᑯᐊ ᐊᓪᓚᓯᒪᔪᖅᖑᑕᐅᔪᑦ

ᐊᑐᕈᑎᑦᓴᓕᐊᖑᒪᕗᑦ ᖃᒻᒥᐅᓂᕐᔫᖅ ᖃᖓᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᓯᔪᑦ ᑐᑭᓯᒪᑎᑦᓯᒍᑎᑦᓴᓕᐊᕕᓂᖏᓐᓂᒃ
ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓗᑎᓪᓗ ᖃᑦᓯᓂᒃ ᐅᕕᕐᓂᒃ ᐱᔭᐅᒍᓐᓇᑐᖃᕐᒪᖔᑦ ᑖᒃᑯᓈᖅᖓᑦ ᒪᕿᐃᖑᑦᓱᑎᒃ ᐅᕕᕐᓂᑦ.

ᐅᕖᑦ ᐆᒪᔫᑎᓪᓗᒋᑦ ᑲᒪᒋᔭᐅᔪᒻᒪᓇᐅᕗᑦ ᐃᒪᕐᐱᓕᓇᓱᕐᔪᐊᑯᓐᓄᑦ ᑐᓴᕐᑎᓯᒍᑎᐅᕙᑉᐳᓗ ᑲᓇᑕᓕᒫᒥ
ᓄᖑᐃᓐᓇᑎᑕᐅᑦᒐᓕᔪᑦ ᐊᓪᓚᓯᒪᔪᕐᑯᑎᖏᓐᓂ. ᐃᒪᕐᐱᓕᓇᓱᕐᔪᐊᑯᑦ ᑲᔪᓯᔪᒥᒃ ᐱᕙᓪᓕᐊᑎᑦᓯᒍᑎᖃᕐᑐᑦ
ᓄᖑᐃᓐᓇᒐᓕᒋᐊᓕᓐᓂᒃ ᐃᖃᓗᓐᓂᐊᓂᒃᑯᑦ ᑐᖕᖓᕕᑦᓴᓂᒃ ᐃᓕᖓᓕᖓᑎᓪᓗᒋᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ
ᒪᓕᒐᖃᕐᑎᓯᒍᑎᒋᔭᒥᓄᑦ ᑕᒪᒃᑯᐊ ᑲᒪᒋᔭᐅᑦᓯᐊᕈᓐᓇᕐᑯᓪᓗᒋᑦ ᑐᑭᑕᕈᑎᐅᑦᓯᐊᖃᑦᑕᓗᑎᓪᓗ
ᐱᕙᓪᓕᐊᑎᑦᓯᒍᑎᓕᐅᕐᒥᓗᑎᓪᓗ ᓄᑖᓂᒃ ᒪᓕᒐᖃᕐᑎᓯᒍᑎᓂᒃ ᐃᓕᖓᓂᐊᕐᑐᓂᓪᓕ ᐆᒪᔪᐃᑦ ᓄᓇᖏᓐᓄᑦ
ᐱᓂᕐᓗᐃᑐᓕᒍᑎᓕᐊᖑᒪᔪᓪᓗ ᐃᓱᒪᒋᔭᐅᑦᓯᐊᖏᓐᓇᕐᑯᓪᓗᒋᑦ. ᑲᓇᑕᓕᒫᒥᓗ ᓯᓚᕐᔪᐊᓕᒫᒥᓗ
ᐃᑉᐱᒋᔭᐅᓇᓱᑦᑐᒪᓇᐅᒻᒪᑦ ᖃᓄᖅ ᑲᓇᑕ ᑲᒪᒋᔭᖃᑦᓯᐊᕐᓗᐊᕐᒪᖔᑦ ᐅᕕᕐᓂᒃ ᑐᒥᒻᒪᑦ ᐃᒪᕐᐱᓕᓇᓱᕐᔪᐊᑯᑦ
ᑕᑯᑦᓴᐅᑎᑦᓯᒍᓐᓇᖏᓐᓇᓇᐊᖃᕐᑐᑦ ᓄᖑᐃᓐᓇᑎᑦᓯᑐᓕᓂᖃᑦᓯᐊᓱᑎᒃ ᐅᑦᑦᓂᐊᕐᑉᒥᐊᖏᑦ, ᐅᑦᑦᓘᓐᓃᑦ
ᐱᐅᓯᖃᓯᑦᓴᐅᑎᒋᓲᖑᑦᓯᑎᒃ ᑕᒪᑕᒪᐅᓕᕐᑐᖅ ᐅᕕᕐᓂᒃ ᐊᓐᓂᑐᐊᖃᑦᑕᓂᒃᑯᑦ ᓄᖑᑐᐃᓐᓇᓇᐊᖃᕐᓂᕐᑕᐅᓕᑐᐊᕐᒪᑕ.
ᑕᒪᑕᒪᓕ ᐃᓚᐅᑎᑦᓯᓂᕐᑕᓖᑦ ᐃᖃᓗᓐᓂᐊᓂᓕᓇᓂᕐᓂᒃ ᑲᒪᔾᐅᓂᕐᓄᑦ ᐊᑐᐃᓐᓇᕈᕐᑎᓯᒪᔪᓂᒃ ᐃᓕᖓᑦᓯᑎᒃ
ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᖓᑕ ᐅᕕᖏᓐᓄᑦ ᓄᓇᕗᑦ ᓄᓇᑕᕐᓯᒪᓂᕐᒧᑦ ᓄᓇᕐᑯᑕᐅᔪᒦᑦᑐᓄᑦ ᐃᓕᖓᓛᕐᑐᑦ
ᐱᐅᓪᓕᐊᑎᑦᓯᒍᑕᐅᕗᑦ. ᖃᐅᔨᓴᕐᓃᑦ, ᐅᓄᕐᓂᐅᒍᓇᐅᔪᓇᔭᐅᓕᕐᑐᓂᓪᓗ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐃᓄᓐᓄᑦ
ᐅᕕᕐᑕᐅᒍᓐᓇᑎᑕᐅᔪᑦ ᒥᑦᓴᐅᓵᓇᒍᑕᐅᒪᒍᑎᖏᑦ ᐱᔭᕇᕐᑕᐅᓂᖃᕐᓯᒪᓕᕐᕐᑯᑦ ᐃᓕᖓᑦᓯᑎᒃ ᐅᑭᐅᕐᑕᑐᒥ
ᕐᑯᑦᓯᑐᒥᐅᓄᓪᓗ ᐊᒥᑦᑐᕐᒥᐅᓄᓪᓗ ᐅᕕᕐᓄᑦ. ᑎᒥᒃᑲᓗᐊᕐᑎᓗᒋᑦ, ᐅᕕᕐᓄᑦ ᐅᓄᕐᓂᐅᒍᓇᕐᑯᑕᐅᔪᑦ
ᒥᑦᓴᐅᓵᓇᒍᑕᐅᒪᒍᑎᖏᑦ ᐊᒻᒪᓗ ᓄᖑᐃᓐᓇᑎᑦᓯᒍᑎᖏᑦ ᐊᓐᓂᑐᐊᖃᕐᓂᐅᑦᑐᑦ
ᖃᓄᐃᓕᖓᒋᐊᕐᑯᔨᒍᑕᐅᓂᖏᑦ ᓱᓕ ᐱᑕᖃᑦᓯᐊᖏᓐᓇᓇᐊᖃᕐᑐᑦ ᐃᓕᖓᑦᓯᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᕿᓂᐊᓃᑦᑐᓄᑦ
ᓯᕿᓂᐊᑕᓗ ᓄᐃᕕᐊᓃᑦᑐᓄᑦ ᐃᓕᖏᓐᓄᓗ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᑕ ᐅᕕᖏᓐᓄᑦ. ᑖᒃᑯᐊ
ᖃᓄᐃᓕᖓᒋᐊᕈᑎᐅᕐᑯᔭᐅᓂᖏᑦ ᐃᓱᒪᑦᓴᓯᐅᕈᑕᐅᓛᕐᑐᑦ ᑕᒪᖏᓐᓄᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᓇᓱᕐᔪᐊᑯᓐᓄᓗ ᐊᒻᒪᓗ
ᓄᓇᕕᒻᒥ ᐃᒪᕐᐱᓕᓇᓱᕐᔪᐊᑯᓐᓄᑦ ᐃᓂᓪᓗᒍᑎᖃᑐᐃᓐᓇᓇᐊᖃᕐᓗᑎᒃ ᖃᑦᓯᓂᒃ ᐅᑭᕈᓐᓇᓂᓗᒍᑎᐅᓛᕐᑐᓂᒃ.
ᑲᒪᒋᔨᖃᕐᓂᖏᑦ ᑕᓯᐅᔭᕐᔪᐊᒥ ᓯᕿᓂᐅᑦ ᓄᐃᕕᐊᓃᑦᑐᑦ ᐊᖓᓗ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖓᓃᑦᑐᑦ
ᐅᑭᑦᓂᐊᕐᕕᐅᔫᖑᒻᒪᑕ ᕿᑎᕐᒥᐅᓂᕐᓗ ᐅᑭᐅᑦᑕᑐᒥᐅᓂᕐᓗ ᐊᒻᒪᓗ ᑯᐯᒃᒥ ᓄᓇᖃᕐᑐᓂᑦ, ᐃᓚᐅᒻᒥᑎᓪᓗᒋᒃ ᒪᕿᐃᒃ
ᓄᓇᓂᒃ ᐃᓐᓄᐃᓯᒪᒍᑎᖃᕐᓂᓂᒃ ᐊᖏᖃᑎᒌᒍᑎᑖᕐᓯᒪᔪᑦ (ᓄᓇᕗᒻᒥᐅᓗ ᓄᓇᕕᒻᒥᐅᓗ). ᑲᓇᑕᒥ ᓄᓇᓖᑦ
ᐋᓐᓂᑐᐊᖃᕐᐸᑐᑦ ᑖᒃᑯᓇᖅᖓᑦ ᐅᕕᕐᓂᑦ ᑭᓇᒃᑰᒪᖔᑕ ᐊᓪᓚᓯᒪᔪᖅᖑᐃᒍᑎᐅᒪᕗᑦ Table 1-ᒥ. ᐊᑯᑭᑦᑐᒥᐅᑦ
ᑖᒃᑯᓇᖅᖓᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐅᕕᕐᑯᑎᖏᓐᓂᑦ ᐅᑦᑦᓂᐊᕐᕕᖃᕐᐸᒥᔪᑦ.

ᑲᓇᑕᒥ ᑲᑎᖅᖓᔨᑦ ᐃᓕᖓᔪᑦ ᓄᖑᐃᓐᓇᓇᐊᖃᕐᓂᕋᕐᑕᐅᒪᓕᕐᑐᓄᑦ ᓂᕐᔪᑎᓄᑦ ᑲᓇᑕᒥ (COSEWIC)-ᑯᑦ
ᐊᑑᑎᔭᐅᕐᑯᔨᓚᐅᕐᓯᒪᕗᑦ 2006-ᖑᑎᓪᓗᒍ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᔪᐊᑉ ᐅᕕᕐᑯᑎᖏᓐᓂᒃ
ᐊᓪᓚᓯᒪᔪᖅᖑᐃᒍᑕᐅᕐᑯᔨᑦᓯᑎᒃ ᓱᕐᓗ "ᓄᖑᐃᓐᓇᓇᐊᖃᓕᕋᒥᒃ ᐃᓱᒫᓗᓐᓇᑐᒦᓕᕐᑐᓄᑦ ᓂᕐᔪᑎᓂᒃ
ᐊᓪᓚᓯᒪᕕᒻᒧᑕᐅᕐᑯᔨᑦᓯᑎᒃ." ᑖᒃᑯᐊ ᑲᑎᖅᖓᔨᑦ COSEWIC-ᑯᑦ ᑕᒪᑕᒪ ᕿᒥᕐᕈᒋᐊᓪᓛᔭᖃᕐᑐᑦ ᐊᑦᓛᓐᑎᒃ
ᐃᒪᕐᐱᔪᐊᑉ ᐅᕕᕐᑯᑎᖏᓐᓂᒃ. ᑖᒃᑯᐊ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᐅᑉ ᐅᕕᕐᑯᑎᖏᑦ ᑕᒪᑕᒪ ᐊᓪᓚᑕᐅᓯᒪᒻᒪᑕ ᐃᓚᒋᐊᕈᑎ III-ᒥ
ᐊᕕᑦᑐᓯᒪᓂᕐᒦᑎᑕᐅᑦᓯᑎᒃ ᐊᓪᓚᕐᑯᑎᓂ Convention on International Trade in Endangered Species
(CITES)/ᑲᑎᖅᖓᓂᕐᔪᐊᖃᕐᓂᐅᓯᒪᔪᒥᑦ ᓯᓚᕐᔪᐊᒥᐅᑦ ᐊᕐᑯᕕᕋᐅᑎᒍᑎᖃᕐᓂᖏᓐᓄᑦ ᓂᕐᔪᑎᓂᒃ
ᓄᖑᓯᓐᓇᐅᓂᕐᕋᑦᐅᓯᒪᓕᕐᑐᓂᒃ. ᑎᒥᓕᖓᑎᓪᓗᒋᑦ ᑭᓇᑐᐃᓐᓇᖅ ᐅᕕᕐᓂᔭᓂᒃ ᑲᓇᑕᒥᑦ ᐱᓯᒪᔪᓂᒃ ᓄᓇᓕᕐᔪᐊᑉ
ᐊᓯᐊᓄᑦ ᐊᐅᓪᓚᑎᑦᓯᓂᐊᕈᓂ ᑎᒥᓗᕈᓐᓇᐅᑎᑕᕐᑕᐅᒪᑦᓯᐊᓇᐊᖃᕐᕐᑯᑦ ᑲᓇᑕᐅᑉ ᑲᑦᒪᖓᓂᑦ ᑖᒃᑯᐊ Convention
on International Trade in Endangered Species (CITES) ᑲᑎᖅᖓᔨᑦ ᐊᐅᓚᑦᓯᕕᖓᓐᓂᒃ ᐱᓯᒪᔪᒥᒃ.
ᑎᒥᒃᑲᓗᐊᕐᑎᓗᒋᑦ ᓱᕐᕋᑕᐅᓂᕐᓂᓂᖃᕐᓂᐊᑎᓐᓇᒋᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐊᓪᓚᑕᐅᓯᒪᕗᑦ ᐃᓚᒋᐊᕈᑎ III-ᒥ ᑖᒃᑯᓇᓂ
ᑲᑎᖅᖓᔨᒃᑯᓂ. 2009-ᖑᑎᓪᓗᒍ ᐊᒻᒪᓗ ᒋᐊᓪᓚ 2012-ᒥ, ᐊᒥᓇᑲᒥᐅᑦ ᑲᑭᒪᒃᑯᖏᑦ ᖃᐅᔨᒋᐊᕐᕕᖃᓚᐅᔪᔪᑦ
ᖃᓄᐃᓕᖓᔪᒦᓕᕐᒪᖔᑕ ᑐᒋᓯᒋᐊᕐᓯᒋᑦᓯᓗ ᐊᓪᓚᓯᒪᔪᕐᑯᑎᓂ ᓱᑯᑦᓯᒦᑎᑕᐅᓂᖏᑦ ᐃᓕᔭᐅᖔᕈᓐᓇᖏᒻᒪᖔᑕ
ᐃᓚᒋᐊᕈᑎᒍᑦ II-ᒍᑦ, ᐅᖃᐅᓯᖃᕐᓯᑎᒃ ᐱᔪᖃᑐᐃᓐᓇᓇᐊᖃᓕᓇᐊᖏᑦ ᓄᖑᐃᓐᓇᓚᕐᕿᓂᕐᒥᒃ
ᐅᕕᕐᓂᐊᑕᐅᒃᑯᓗᓪᓗᑎᒃ, ᑐᕈᓯᒪᔭᐅᓪᓗᐊᖏᓐᓂᑯᖏᓐᓄᓗ ᓱᑯᐃᕐᔨᓄᑦ ᖃᓄᐃᓕᖓᓂᐅᓕᕐᑐᑦ,
ᐱᑕᖃᖅᖏᓗᐊᕐᓯᑎᓪᓗ ᑲᒪᔨᒋᔭᐅᔪᑦ ᐊᑐᐃᓐᓇᕈᕐᓯᒪᒋᐊᓕᖏᑦ, ᐊᕈᑐᔪᔭᒻᒪᓇᐅᒋᐊᖏᑦ ᐋᕖᑦ ᑐᒦᖏᑦ,
ᓇᓗᓇᕐᐸᒋᐊᖏᓪᓗ ᐅᑦᑦᑕᐅᖃᒥᐅᓐᓂᒪᖔᓗ ᖏᒃᑲᓗᐊᕐᒪᖔᓗ ᑐᒐᕕᓃᑦ ᐆᒪᒃᑲᒥ
ᓴᐳᑎᔭᐅᒪᒍᑎᖃᓇᐊᓪᓚᒋᐊᖃᓇᐊᖏᑦ. ᐊᓪᓚᓯᒪᔪᖅᖑᐃᒍᑎᐅᒪᒍᑎᒃ ᐃᓚᒋᐊᕈᑎ II-ᒥ,
ᑲᑉᐱᐊᓇᕐᑐᒥᖅᖏᓂᕐᕋᑦᐅᒐᔭᕐᐳᑦ ᑲᔪᓯᑎᑕᐅᓚᖓᑉᐸᑕ ᐊᕐᑯᕕᕋᐅᑎᒍᑎᐅᓂᖏᑦ.

ᐅᐃᑦ ᕐᖃᓄᐃᑦᑑᓂᖏᑦ

ᐅᐃᑦ ᑲᓇᑕᐅᑉ ᐃᒪᕐᐱᖓᓂ ᐊᖏᓂᕐᑉᖑᐅᑦ ᓯᕐᕐᑯᓕᑦᓴᔭᓂ ᐆᒪᔪᓂ. ᑕᒪᕐᒥᒃ ᐊᕐᓈᓗᖏᓪᓗ ᐊᖑᑎᐊᓗᖏᓪᓗ ᐃᓄᓕᓱᑦ ᑕᑭᓂᖃᓱᑦ ᒥᑦᓯᑎᓐᓂ 125cm ᑭᓯᐊᓂ ᐱᕈᓐᓂᐅᓕᕐᑐᑦ ᐊᖑᑎᐊᓗᖏᑦ ᑕᑭᓂᕐᓴᐅᓱᑦ (315 cm)-ᓂᒃ ᑕᑭᓂᖃᕐᓱᑎᒃ ᐊᕐᓈᓗᖏᑦ ᓐᓂᓴᐅᑎᓪᓗᒋᑦ (227 cm)-ᓂᒃ ᑕᑭᓂᖃᕐᓱᑎᒃ. ᑕᒥᓐᓂ ᕿᓚᖓᓃᑦᑐᑦ ᑐᓗᓇᐊᖏᑦ ᑕᑭᓕᓱᑦ ᑐᒫᕈᕐᓱᑎᒃ ᑐᒫᕐᑖᕝᕙᓪᓕᐊᓯᓯᖑᑦᓱᑎᒃ 2-ᓂᒃ ᐊᕐᕋᒍᖃᓕᑐᐊᕐᒥ. ᐱᕈᓇᕐᓂᐅᓕᕐᑐᑦ ᐊᖑᑎᐊᓗᖏᑦ ᐱᓯᒪᔪᑦ ᐊᒥᕐᑐᕐᒥᐅᓂᑦ, ᑐᒫᖏᑦ ᑕᑭᓂᖃᕈᓪᓕᐅᓱᑦ 28.5 cm-ᓂᒃ ᓯᓕᓐᓂᐹᒥᒍᑦ ᓯᓕᓐᓂᖃᕐᓱᑎᒃ 16.7 cm-ᓂᒃ. ᐊᕐᓈᓗᖏᑕ ᑐᒫᖏᑦ ᑕᑭᓂᕐᑖᕈᓐᓇᒥᔪᑦ (28.5-ᖑᒻᒥᔪᓂᒃ) ᑭᓯᐊᓂᓕ ᐊᒥᑦᑐᒃᖑᓂᕐᓴ, ᓯᓕᓐᓂᐹᒥᒍᑦ ᓯᓕᓐᓂᖃᕐᓱᑎᒃ 13.2-ᓂᒃ. ᐅᕕᓕᒫᑦ ᓄᓈᕐᓯᒪᓚᐅᕐᑐᓱᖏᓐᓇᐅᔪᑦ ᓯᑯᓂᓗᓐᓃᑦ ᓄᓇᒥᓗᓐᓃᑦ ᐊᕐᕋᒍᑉ ᐅᓪᓗᖏᓐᓂ ᐃᓗᓐᓂᓂ ᐅᑎᕐᕕᖃᖏᓐᓇᓱᖑᑦᓱᑎᒃ ᓄᓈᕐᓯᒪᕕᒋᓱᒥᓐᓄᓗ ᓂᓇᓇᓱᕝᕕᒋᓱᒥᓐᓄᓗ. ᐃᓱᒪᒋᔭᐅᓱᑦ ᐊᕐᓈᓗᐃᑦ ᕿᑐᕐᖓᒥᓐᓂᒃ ᐅᑎᖃᑎᖃᓱᖑᒋᐊᖏᑦ ᑌᒃᑯᓴᓐᓇᓄᑦ ᓄᓈᕐᓯᒪᕕᒋᓱᒥᓐᓄᑦ ᐊᖑᑎᐊᓗᐃᑦ ᐅᑎᕐᑕᖏᓐᓂᓴᐅᑎᓪᓗᒋᑦ. ᑌᒪᓕ ᓄᓈᕐᓯᒪᖃᑎᒌᑦᑐᑦ ᖃᑦᓯᑐᐃᓐᓇᓂᒃ ᐅᑭᐅᖃᕈᓐᓇᕋᓗᐊᕐᑎᓗᒋᑦ ᐊᖑᑏᓪᓗ ᐊᕐᓐᓄᕐᓗᑎᓪᓗᓄᑎᓪᓗ, ᑌᒥᓕᖓᒍᓐᓇᐸᒃᑲᓗᐊᕐᓱᑎᒃ ᐅᐃᑦ ᐊᕕᑦᑐᓯᒪᓂᖃᓱᖑᒋᕗᑦ ᐅᑭᐅᒥᑎᒍᓪᓗ ᓇᓪᓕᖓᐅᓂᕐᒥᒍᓪᓗ, ᑌᒥᓕᖓᓂᕐᓴᐅᓱᑦ ᐊᕐᕋᒍᑉ ᐃᓚᖓᓂ ᑕᑭᓂᕐᓴᒥ. ᐅᐃᑦ ᐊᕕᑦᑐᓯᒪᓂᖏᑦ ᐃᓱᒪᒋᔭᐅᓱᖑᔪᑦ ᑐᖕᖓᕕᑐᐊᖃᖕᒋᒋᐊᖏᑦ ᓄᓈᕐᓯᒪᕕᑦᓴᓂᒃ ᐃᓚᒋᔭᐅᒪᒪᓕ ᐃᒃᑲᑑᔭᒥᒐᓱᓐᓂᓴᖏᑦ ᐊᒻᒨᒪᔪᓂᓪᓗ ᐊᓯᖏᓐᓂᓗ ᐃᒪᕐᐱᒥᐅᑕᓂᒃ ᓂᓇᓇᓱᕝᕕᒋᓐᓂ. ᓂᓇᓇᓱᖑᓂᐊᖕᖑᓇᔭᐅᕙᑦᑐᑦ ᐃᒪᕐᒥ ᐃᑎᓂᕐᓴᐅᖏᑦᑐᒥ 100 ᑖᑕᓂᒃ, ᐃᑎᓂᕐᓴᒍᑦ ᐊᕐᕐᖃᓇᐊᓪᓛᒍᓐᓇᕋᓗᐊᕐᓱᑎᒃ. ᐅᐃᑦ ᐃᓚᖏᑦ ᓇᑦᓯᑑᒪᓱᖑᒻᒥᔪᑦ, ᑕᒪᓐᓇᓕ ᐱᐅᓯᓇᔭᐅᓂᕐᓴᐅᓂᐊᖕᖑᓇᔭᐅᔪᖅ ᐃᑎᔪᐊᓘᓪᓗᐊᖏᑦᑐᒥ ᓂᓇᓇᓱᕝᕕᓴᓐᓂᐊᑐᓄᑦ. ᐊᖑᑏᑦ ᐅᕝᕙᓂᐊᓱᑦ ᖃᐅᔨᒪᔭᖃᑦ ᓇᑦᓯᑑᒪᓱᖑᒻᒪᖔᑕ ᓇᓪᓕᖏᑦ ᐅᐃᑦ, ᑌᒃᑯᐊ ᖁᕐᓯᑕᓂᒃ ᑐᒪᖃᓱᖑᒻᒪᑕ ᓇᑦᓯᕕᓂᕐᑑᒪᓱᖑᑐᐊᕐᒥᒃ. ᐅᐃᑦ ᕿᑐᕐᖏᐅᓇᕐᓯᐅᓕᑐᐊᕐᒥᒃ ᐊᖑᑎᐊᓗᖏᑦ ᐊᕐᓇᓕᖕᖑᑎᓯᓱᑦ ᐊᕐᓴᑕᐅᑦᑌᓕᑦᓯᐊᓯᑦᓱᑎᓪᓗ ᐊᕐᓇᓕᔭᐅᑎᑕᑐᐊᕐᒥᒃ ᐅᓪᓗᓄᑦ ᑕᓪᓕᒪᓄᑦ ᑎᑭᐅᑎᓗᑎᒃ ᓂᐱᑕᖃᑦᑕᓂᐊᓕᕐᓱᑎᒃ. ᐊᕐᓇᓕᖕᖑᑎᓐᓇᖃᓱᑦ ᔭᓄᐊᓇᒥᑦ ᐅᓇᓕ ᑎᑭᑦᓱᒍ. ᐃᓪᓕᐅᑖᕈᓇᕐᑯᑎᐅᓱᖑᑐᓪᓗ ᔫᓂᐅᑉ ᑕᕐᕿ ᐊᑐᕐᑐᑐᖃᐅᓕᕐᑎᓗᒍ ᐊᒻᒪᓗ ᔪᓗᑉ ᑕᕐᕿᖓ ᐱᒋᐊᕐᕐᖃᒥᐅᑎᓪᓗᒍ ᐅᕕᐊᕐᕖ ᐃᓄᓕᕐᑎᓗᒍ ᐊᕐᕋᒍᑐᐊᕐᒪᑦ ᒥᒥᓗᓐᓃᑦ-ᔫᓂᒥᓗᓐᓃᑦ. ᖃᑦᓯᓂᒃ ᐅᑭᐅᖃᓕᖃᒥᒃ ᕿᑐᕐᖏᐅᓇᐊᕐᓂᓇᖏᑦ ᐊᑦᔨᒋᖕᖏᑐᑦ, ᑭᓯᐊᓂ ᐱᐅᓯᖃᕝᓪᓗᖏᑦ ᐅᑭᐅᖃᓕᑐᐊᕐᒥᒃ ᒥᑦᓯᑎᓐᓂ 5-10 ᐊᕐᕋᒍᓂᒃ. ᐊᕐᕋᒍᐃᑦ 3 ᐊᓂᒍᑐᐊᕐᒪᑕᑕᒫᑦ ᕿᑐᕐᖏᕈᓐᓇᓱᑎᒃ. ᐱᕈᓇᕐᓂᐅᓕᕐᓱᑎᒃ ᐊᕐᓈᓗᐃᑦ ᕿᑐᕐᖏᓱᑦ ᒥᑦᓯᑎᓐᓃᑐᑦ 35%.

ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑎ/Table 1. ᓄᓇᕗᒻᒥᓗ ᓄᓇᕕᐅᓪᓗ ᓄᓇᓕᖏᓐᓂ ᐊᓐᓂᑐᐊᖃᕐᑉᑐᑦ ᐅᕕᕐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᓐᓂ ᐊᒻᒪᓗ ᑕᓯᐅᔭᕐᔪᐊᒥ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ.

ᐅᓄᕐᓂᖏᑦ	ᐅᐃᑦ ᓄᓇᑐᕐᓕᖏᑦ ᑲᒪᒋᔭᐅᕕᖏᓪᓗ	ᓄᓇᕗᒻᒥ ᐅᕝᕙᓂᐊᕐᑉᑐᑦ ᓄᓇᓕᖏᑦ	ᓄᓇᕕᒻᒥ ᐅᕝᕙᓂᐊᕐᑉᑐᑦ ᓄᓇᓕᖏᑦ
ᕿᑎᕐᒥᐅᑦ	ᑕᓪᓗᕈᑎᒌᑦᑐᑦ ᐅᐃᑦ	ᑲᖏᕐᑐᒫᐱᒃ ᕿᑭᕐᑕᕐᔪᐊᖅ ᐃᕐᑲᓗᐃᑦ ᑉᖕᓂᕐᑑᖕ	
	ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖓᓂᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖓᓃᑦᑐᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐅᕕᕐᑯᑎᖏᑦ	ᐊᕐᕕᐊᑦ ᑭᖕᖕᕿᑦ ᐃᓪᓗᒫᕐᔪᒃ ᓴᓪᓃᑦ ᑭᖕᒥᕈᑦ ᑲᖏᕐᓯᓂᖅ ᓇᐅᔫᑦ ᑎᑭᕋᕐᔪᐊᖅ	ᐳᕕᕐᓂᑐᖅ ᐊᑯᓕᕕᒃ ᐃᐳᔨᕕᒃ ᓴᓪᓗᐃᑦ ᑲᖏᕐᓱᐊᓗᒃᔪᐊᖅ ᑰᒃᔪᐊᖅ ᑕᓯᐅᔭᖅ ᐊᐅᐸᓗᒃ ᑲᖏᕐᓯᒃ ᕐᑯᐊᕐᑕᖅ ᑲᖏᕐᓯᔪᐊᖅ

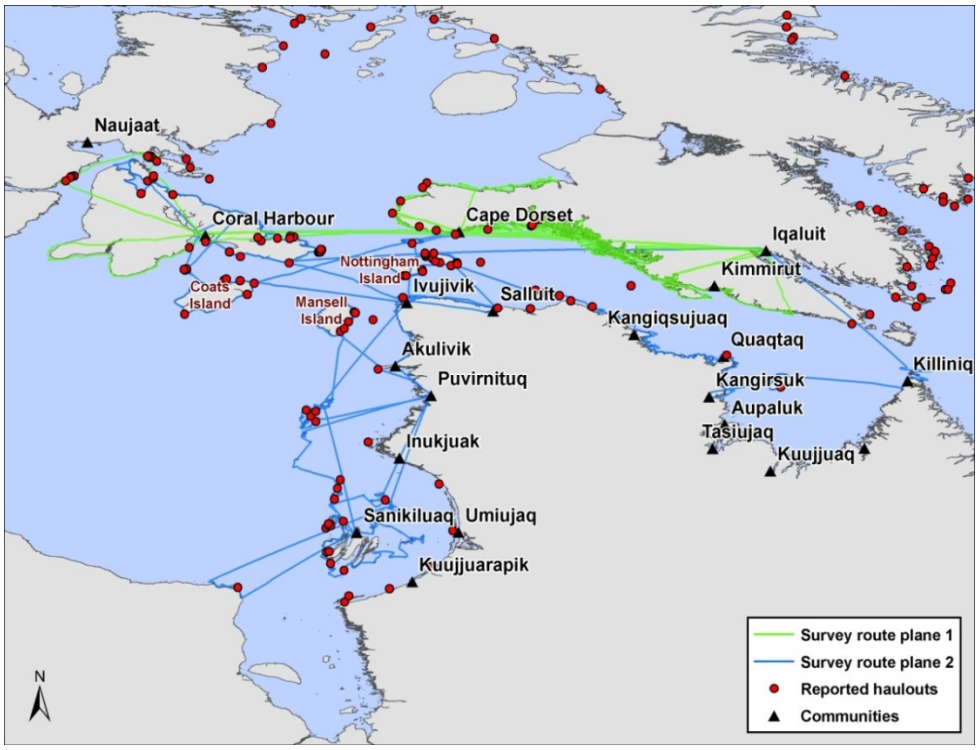
ᐅᓄᕐᓂᖕᒋᑦ	ᐅᐃᑦ ᓄᓇᑐᕐᓕᖕᒋᑦ ᖃᒪᒋᔭᐅᕕᖕᒋᓪᓗ	ᓄᓇᕗᒻᒥ ᐅᑯᑯᓂᐊᕐᐸᑐᑦ ᓄᓇᓕᖕᒋᑦ	ᓄᓇᕕᒻᒥ ᐅᑯᑯᓂᐊᕐᐸᑐᑦ ᓄᓇᓕᖕᒋᑦ
ᖃᐅᔨᒪᔭᐅᖕᖕᒋᑐᑦ	ᓯᕐᑭᓂᐅᑉ ᓄᐃᕕᐊᓂ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐃᒪᕐᐱᖓᓃᑦᑐᑦ	ᓴᓂᑭᓗᐊᖅ	ᐃᓄᑦᔪᐊᖅ ᑰᒃᔪᐊᕋᐱᒃ ᐅᒥᐅᔭᖅ

ᑐᑭᓯᓂᐊᕐᑕᐅᓂᖕᒋᑦ

ᐅᕕᐊᓗᐃᑦ ᑭᓯᒐᓱᒋᐊᖕᒋᑦ ᐱᔭᕐᓃᑐᖕᒍᐊᒻᒪᓇᐅᕗᑦ ᓄᐊᓯᒪᑲᓪᓕᓱᖕᒍᒃᑯᐊᓗᒍᑦ ᓄᓈᕐᓯᒪᓕᕋᒥᓪᓗ ᐱᐅᓯᓇᓲᖕᒋᑦ ᑖᒃᑯᓴᓐᓇᐅᓚᐅᕐᓯᒪᒐᑎᒃ ᐅᓄᕐᑐᖕᒍᐊᖕᒍᓂᖕᒋᑦ. ᐊᒥᓱᓂᒃ ᐱᓇᓱᒍᑎᑦᓴᓕᐊᖕᒍᒪᔪᓂᒃ ᐊᑐᕐᓯᒪᓕᕐᑐᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᑦᓯᐊᖕᒍᓂᕐᐹᓂᒃ ᕿᓂᕐᓱᑎᒃ ᐆᑦᑑᓂᖕᒋᓐᓂ. ᑖᒃᑯᐊ ᑭᓯᑕᐅᒪᔪᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᒋᐊᕐᖃᓲᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᒋᐊᑦᓯᐊᖃᑕᑦᓯᑎᒃ ᐃᓚᐅᑎᑕᐅᓕᕐᑎᓗᒋᑦ ᐅᐃᑦ ᑭᓯᑦᓯᔪᖃᕐᑎᓗᒍ ᐃᒫᓂᑦᑐᕕᓃᑦ. ᑎᒫᒃ ᖃᐅᔨᓴᕐᓂᒥᒃ ᐱᓂᐊᕐᓂᖃᕐᓂ ᓯᕗᓂᓇᔭᐅᑎᓪᓗᒍ ᐅᑦᑐᕋᖕᖕᒍᐊᖃᑦᑕᓃᑦ ᐊᑐᕐᑕᐅᖃᑦᑕᓚᐅᔪᕗᑦ ᓇᓗᓐᓴᒍᑎᐅᑦᓯᑎᒃ ᓇᓪᓕᖕᒋᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑏᑦ ᐱᐅᓂᕐᐹᖕᒍᒐᓗᐊᕐᒪᖔᑕ. ᐃᓱᓕᒍᑎᖃᓕᓚᐅᔪᔪᑦ ᑕᒃᑯᐊ ᓄᓈᕐᓯᒪᕝᑦᑐᑦ ᑭᓯᑕᐅᒋᐊᕐᑐᐸᑦᑐᑦ ᐅᑎᕐᑕᕕᐅᓂᐊᕐᑎᓗᒋᑦ ᐊᒥᓱᕕᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᓂᖃᓇᐊᕐᑐᑲᑕᓪᓗᑎᒃ. ᑕᒪᒃᑯᐊ ᑭᓯᑦᓯᓂᑐᐃᓐᓇᒥᒃ ᐅᖃᕐᑕᐅᓲᑦ. ᑭᓯᑦᓯᓂᑐᐃᓐᓇᕕᓂᐅᓂᕐᑕᐅᔪᓪᓗ ᐋᕐᕿᒋᐊᕐᑕᐅᓲᖕᒍᑦᓯᑎᒃ ᐃᑦ ᐃᒫᓂᑦᑐᕕᓃᑦ ᓄᓈᑐᐊᕐᒪᑕ (ᑐᑭᓯᔭᐅᕝᑦᓯᑎᒃ ᖁᒻᒧᐊᑎᓯᒪᔪᓄᑦ ᐱᑐᑦᓯᒪᔪᓂᒃ ᓂᕕᖓᑖᖃᕐᑎᑕᐅᒍᑎᒥᒍᑦ) ᐃᓚᐅᖃᑎᐅᑎᑕᐅᒻᒥᑎᓪᓗᒋᑦ ᐃᑦ ᑲᑎᖕᖕᓯᑎᒃ ᐆᑦᑑᕈᕐᓯᒪᓲᖕᒍᓂᖕᒋᑦ. ᐅᓄᕐᓂᐅᒍᓇᐅᔪᓇᔭᐅᔪᑦ ᑭᓯᑕᐅᒍᑎᒥᒍᑦ 100-ᒧᑦ ᖃᓂᓐᓂᐸᐅᑎᑕᐅᖃᑦᑕᑎᓪᓗᒋᑦ.

ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖓᑕ ᐃᕕᕐᑯᑎᖕᒋᑦ

ᓄᓇᓖᑦ ᖃᓂᑦᑐᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖓᓄᓪᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖓᓄᑦ ᐅᑯᑯᓂᐊᓲᑦ ᑖᒃᑯᐊ ᐃᒪᕐᐲᒃ ᐃᕕᕐᑯᑎᖕᒋᓐᓂᒃ ᖃᐅᔨᒋᐊᕕᐅᓚᐅᔪᕗᑦ ᑐᑭᓯᒪᒍᑎᑦᓴᓂᒃ ᐱᕕᐅᑦᓯᑎᒃ ᓄᓇᐅᑉ ᓱᑯᑦᓯᐊᓂ ᐆᑦᑑᓱᖕᒍᒻᒪᖔᑕ ᓄᓈᕐᓯᒪᓲᖕᒍᒻᒪᖔᑕᓗ ᓄᓪᓕᐅᑎᒥᐊᕐᕕᐅᓚᐅᔪᕗᑦ (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑎ 2-ᒦᑦ). ᖃᖓᑦᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᕐᑐᑦ ᐊᑐᓚᐅᔪᔪᑦ ᒪᕐᕿᓕᐊᕿᑦᓯᓂ 300-ᓕᒻᒥᒃ. ᒪᕐᕉᒃ ᑭᓯᑦᓯᒍᒫᕐᓂᐊᓯᑎᒃ ᓯᑦᔭᒧᑦ ᓵᖕᖕᒐᓂᕐᓴᒥ ᐃᑦᓯᐊᖓᑎᓪᓗᒋᒃ ᐱᖓᔪᖓᑦ ᐊᕐᕐᑯᓯᓂᐅᒋᐊᓕᒻᒥᒃ ᖃᐅᔨᒪᐅᑦᓯᓂᓗ ᐊᑦᔨᓕᐅᓇᔨᐅᑦᓯᓂᓗ ᐱᑎᓪᓗᒍ ᐃᒫᓄᖕᒐᖕ ᓵᖕᖕᒐᔪᒥ ᑭᓯᑦᓯᒍᒫᕐᓂᐊᓯᓂ ᐃᑦᓯᐊᖓᑎᓪᓗᒍ. ᐆᑦᑑᑦ ᓄᓈᕐᓯᒪᔪᐃᓪᓗ ᓯᑯᓖᑦᑐᓗ ᑖᒃᑯᑐᐊᖕᒍᑦᓯᑎᒃ ᑭᓯᑕᐅᓚᐅᔪᔪᑦ ᑭᓯᑕᐅᖃᑕᐅᑎᓪᓗᒋᑦ ᐆᑦᑑᑦ ᓄᓈᕐᓯᒪᕕᐅᔫᑉ ᑭᓪᓕᐊᓂ ᐃᒫᓂᑦᑐᑦ. ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᑦᑐᑦ ᑕᒪᒋᓐᓂᒃ ᑕᑯᓐᓇᑐᐃᓐᓇᓂᕐᒥᓂᓪᓗ ᐊᑦᔨᖕᒍᐊᓂᓪᓗ ᐊᑐᕐᓯᑎᒃ ᑭᓯᑦᓯᓚᐅᔪᕗᑦ.



ᑕᑯᑦᓴᐅᑎᑦᓯᒍᒍᑏᑦ 2. ᖃᐅᔨᒪᔭᐅᔪᑦ ᐅᐃᕐᓄᑦ ᓄᓇᕐᐃᐅᒪᓱᑦ ᑐᑭᓯᒪᔭᐅᑦᓱᑎᒃ ᐊᕐᕐᑯᑎᒋᑦᓱᒋᑦ ᐊᓪᓚᓯᒪᔪᓪᓗ ᐅᖃᖃᑎᒌᓐᓂᐅᖃᑦᑕᓯᒪᔪᓪᓗ ᐅᖃᖃᑎᒋᑦᓱᒋᑦ ᐊᖑᓇᓱᑦᑏᑦ ᖃᖓᑦᑕᔫᒃᑯᓗ ᒪᓕᖃᑦᑕᓃᑦ ᒪᕐᕉᐃᑦᓱᒋᑦ ᐊᑐᑦᔭᐅᓚᐅᔪᔪᑦ ᓯᑉᑎᒻᐱᓇ 2014-ᒥ.

ᑕᑯᓐᓇᑐᐃᓐᓇᓱᒋᑦ ᖃᐅᔨᓴᕐᓯᒪᓃᑦ ᐊᑦᔨᓕᐊᖑᒪᔪᓂᓪᓗ ᐅᑦᑐᕋᐅᑎᖃᑎᒌᑦᑎᓯᓃᑦ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᑦ ᑖᒃᑯᓴᓐᓇᐅᑎᑦᑐᓕᑦᓱᒋᑦ. ᑖᒃᑯᓴᓐᓇᓂᒃ ᓄᓈᕐᓯᒪᔪᓂᒃ ᐅᑎᕐᑕᕕᓕᕕᓂᐅᑐᐊᕐᒪᑕ ᒪᕐᕈᕕᑦᓱᑎᓪᓗᓃᑦ ᐊᒥᓱᕕᓐᓂᓴᐅᑦᓱᑎᓪᓗᓃᑦ, ᑭᓯᑕᐅᖃᑦᑕᓯᒪᔾᑦ ᖃᑦᓯᐅᒪᖔᑕ ᑖᒃᑯᓴᓐᓇᐅᖕᒋᑦᑐᑦ. ᑭᓯᑕᐅᒪᔪᑦ ᐊᓱᐃᓛ ᑕᒻᒪᓯᒪᔪᐃᔭᕐᑕᐅᓱᑎᒃ ᐲᔭᕐᓱᒋᑦ ᐊᓪᓚᑕᐅᒪᑏᕐᑐᑦ ᐅᐃᑉ ᐆᑦᑐᕕᒻᒥᓃᑎᓪᓗᒋᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᖃᕐᓱᑎᒃ ᖃᑦᓯᐅᒪᒐᑕ ᐆᑦᑐᐃᑦ. ᐆᑦᑐᕈᕐᓯᒪᔪᓂᒃ ᑭᓯᑦᓯᖃᑦᑕᓚᐅᔪᕗᒍᑦ ᐊᑐᕐᓱᑕ 0.3 (SE=0.187)-ᓂᒃ, ᐱᔭᑦᑎᓂᒃ 7-ᓂᑦ ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᓂᑦ ᐃᓚᖃᕐᑎᓗᒋᑦ ᐊᑕᖕᒋᕐᓱᑎᒃ 58-ᓂᒃ ᒪᓕᒍᑎᓂᒃ ᐅᕕᕐᓈᔭᕐᓯᒪᔪᓂᒃ. ᓱᕐᕐᑯᐃᓯᓯᒪᓇᖕᖕᒋᑐᑦ ᐃᓚᐅᑦᓱᓂ ᐃᓚᖕᒋᓐᓄᑦ ᐅᕕᕐᓄᑦ ᐃᓚᐅᑎᑕᐅᓚᐅᔪᒋᕗᑦ ᑕᒻᒪᓯᒪᔪᐃᔭᕐᑕᐅᓕᕐᑎᓗᒋᑦ ᐅᓄᕐᓂᐅᓂᐊᖕᖕᒍᓇᔭᐅᔪᑦ.

ᐃᓚᒋᔭᐅᑎᓪᓗᒋᑦ ᑕᒐᑕᒐ ᖃᐅᔨᓴᕐᓂᓄᑦ, ᖃᖓᑦᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᕐᓃᑦ ᐊᑐᕐᓱᒋᑦ ᐊᑦᔨᒐᓚᒋᔭᐅᔪᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑏᑦ ᐊᑑᑎᔭᐅᓚᐅᔪᕗᑦ ᓴᑦᓖᓗ ᑐᑦᔮᓗ ᕿᑭᕐᑕᓂ ᐱᓂᐊᕐᓂᐅᓯᒪᔪᑦ ᐊᕐᕌᒍᓂ 1950-ᓂ 1970-ᓂ ᐊᖕᒪᓗ 1980-ᓂ. ᑖᒃᑯᓇᓂ ᓄᓇᓃᑦᑐᑦ ᑭᓯᑕᐅᖃᑦᑕᓯᒪᔪᑦ 85% ᐅᖓᑖᓂᑉᐳᑦ ᑭᓯᑕᐅᓯᒪᓂᖕᒋᑦ 2014-ᖕᒍᑎᓪᓗᒍ. ᐊᓯᖕᒋᑦ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᒪᔪᑦ ᐊᑐᐃᓐᓇᐅᒥᔪᑦ ᐱᔭᐅᓯᒪᑦᓱᑎᒃ ᒪᕐᕈᐃᓂᑦ ᑲᔪᓯᑯᑖᑦᑐᒥᒃ ᑐᑭᓕᓈᓂᒃ ᑭᓯᑦᓯᓂᐅᓯᒪᔪᓂᑦ 2012 ᐅᐱᕐᖓᓴᖓᓂ (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᒍᑏᑦ 2-ᒦᑦᑐᑦ).

ᑕᒪᒃᑯᐊ ᐊᓪᓚᓯᒪᔪᖕᖕᒍᐃᒍᑎᐅᖃᑦᑕᓯᒪᔪᑦ ᐃᓚᐅᑎᑕᐅᕗᑦ ᐃᒣᓪᓗᐊᑐᓂᒃ ᐅᓄᕐᓂᖃᕐᕐᑯᒪᑕᕈᑕᐅᒪᔪᓄᑦ, ᓱᕐᕐᑯᐃᓯᓯᒪᓇᑎᒃ ᖃᑦᓯᓗᑐᒐᓗᐊᕐᒪᖔᑕ ᑭᓯᐊᓂ ᑐᖕᖓᕕᖃᕐᓱᑎᒃ ᕿᑐᕐᖕᒋᐅᐸᓐᓂᖕᒋᓐᓂ. ᑖᒃᑯᐊ ᐱᓇᓱᑦᑕᐅᓯᒪᕗᑦ ᐊᑐᑦᑕᐅᑎᓪᓗᒋᑦ Bayesian-ᖕᒍᓂᕐᕐᑕᐅᔪᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑏᑦ ᐃᓚᖕᒐᑦᓱᑎᒃ 1983-2011 ᐊᕐᕌᒍᖕᒋᓐᓂ ᖃᖓᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᓯᓂᐅᖃᑦᑕᓯᒪᔪᑦ ᐃᓚᖃᕐᒥᓱᑎᒃ ᑐᑭᓯᒪᒍᑎᐅᔪᓂᒃ ᑐᓴᕐᑎᑕᐅᒍᑎᐅᕝᑦᑐᓂᑦ ᐊᓐᓂᑐᐊᖕᒍᖃᑦᑕᓯᒪᔪᓂᒃ ᐊᕐᕌᒍᐃᑦ (1954-2014) ᐊᓂᒍᕐᐸᓕᐊᑎᓪᓗᒋᑦ.

ᐊᕕᑦᑐᓯᒪᒍᑏᑦ 2 ᐅᕕᑦ ᑭᓯᑕᐅᓯᒪᔪᑦ ᐊᑦᔨᑏᑦᑎᖕᒋᑦᑐᓂ ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᓂ ᑕᓪᓗᕈᑎᐅᓪᓗ ᑕᓯᐅᔭᕐᔪᐊᓗ ᐅᕕᕐᑯᑎᖕᒋᓐᓂ.

ᓱᑯᑦᓯᒥ	ᓇᐅᒃᑯᑦ	ᐅᓪᓗᖕᒋᑦ	ᐅᓄᕐᓂᖕᒋᑦ	ᖃᐅᔨᓴᕐᓃᑦ
ᑕᓯᐅᔭᕐᔪᐊ ᑕᓪᓗᕈᑎ/ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖓ	ᖃᖓᑕᔪᒃᑯᑦ	ᓯᑉᑎᒻᒪᑉ 2014	2144[1]	ᑕᒐᑕᒐ ᖃᐅᔨᓴᕐᑕᐅᔪᑦ
ᑕᓪᓗᕈᑎᐅᑉ ᐃᑭᕋᓴᖓ	ᖃᖓᑕᔪᒃᑯᑦ	ᒫᑦᔨ/ᐅᓇᓕ 2012	5254[2]	Elliot et al. 2013
ᐅᕕᑦ-ᐊᑉᐸᑑᕐᔪᐊᒥᓗ-	ᖃᖓᑕᔪᒃᑯᑦ	ᓯᑉᑎᒻᒪᑉ 2014	1859[3]	ᑕᒐᑕᒐ ᖃᐅᔨᓴᕐᑕᐅᔪᑦ
ᓴᑦᓖᓗ ᕿᑭᕐᑕᖕᒋᓐᓂ	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 1990	1373	Richard 1993
	ᖃᖓᑕᔪᒃᑯᑦ	ᔪᓗ 1989	1231	Richard 1993
	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 1988	757	Richard 1993
	ᖃᖓᑕᔪᒃᑯᑦ	ᔪᓗ-ᐊᐅᒃᒍᓯ 1977	6-2171	Mansfield and St Aubin 1991
	ᖃᖓᑕᔪᒃᑯᑦ	ᔪᓗ-ᐊᐅᒃᒍᓯ 1976	254-1491	Mansfield and St Aubin 1991
	ᖃᖓᑕᔪᒃᑯᑦ / ᐅᒥᐊᒃᑯᓗ	ᐊᐅᒃᒍᓯ 1961	2650	Fisher 1961
	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 1954	2900	Loughrey 1959
ᑐᑦᔭᑦ/ᐊᑯᓪᓕᖅ	ᖃᖓᑕᔪᒃᑯᑦ	ᓯᑉᑎᒻᒪᑉ 2014	445[3]	ᑕᒐᑕᒐ ᖃᐅᔨᓴᕐᑕᐅᔪᑦ
	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 2010	714	Gosselin pers. Comm.
	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 1990	461	Richard 1993
	ᖃᖓᑕᔪᒃᑯᑦ	ᔪᓗ 1989	97	Richard 1993
	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 1988	92	Richard 1993
	ᖃᖓᑕᔪᒃᑯᑦ	ᐊᐅᒃᒍᓯ 1952	0	Loughrey 1959

[1] ᐅᕕᑦ 86%-ᖕᒋᑦ ᑕᑯᔭᐅᓯᒪᔪᑦ ᑐᑦᔭᓂᓗ/ᐊᑯᓪᓕᓂᓗ ᐊᒻᒪ ᓴᓪᓕᓂᓗ/ᐊᑉᐸᑑᕐᔪᐊᒥᓗ/ᐅᕕᓕᓐᓂᓗ ᕿᑭᕐᑕᓂ. ᑖᒃᑯᐊ ᐅᕕᕐᑕᖃᑦ ᒪᕐᕈᕕᑦᓱᒋᑦ ᑭᓯᑦᓯᒋᐊᕐᑐᕕᐅᑲᑕᓚᐅᔪᔪᑦ, ᐅᓄᕐᓂᐅᓂᕐᓴᐅᖃᑦᑕᓚᐅᔪᔪᑦ ᑐᓴᕐᑕᐅᑎᑦᓯᒍᑎᐅᔪᑦ

[2] ᑕᑭᑦᑐᑲᐅᓕᖓᓈᕐᓯᒪᔪᓂᒃ ᑭᓯᒪᑦᓴᓂᒃ ᖃᐅᔨᓴᕐᕕᐅᖃᑦᑕᓚᐅᕐᑎᓗᒋᑦ, ᐅᓄᕐᓃᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᕗᑦ ᐃᓕᖓᑦᓱᑎᒃ ᐅᕕᕐᓄᑦ ᓄᓈᕐᓯᒪᔪᕕᓂᕐᓄᑦ

[3] ᐃᓚᐅᑎᑕᐅᔪᑦ ᑭᓯᑕᐅᔪᕕᓂᕐᓄᑦ ᐅᑯᓇᓂ [1]

ᑐᓴᕐᑎᓯᒍᑎᐅᖃᑦᑕᓯᒪᔪᑦ ᐊᓐᓂᑐᐊᕕᓃᑦ ᑎᑭᐅᑎᓂᐅᔭᖕᖕᒋᓚᑦ ᐅᕕᕐᓄᑦ ᑐᕐᑯᑕᐅᓪᓗᑐᕐᓯᒪᔪᓄᑦ ᑎᒣᓚᕿᑦᓱᑎᒃ ᑮᑕ ᐅᕕᑦ ᐃᑭᑕᕐᑕᐅᔪᓪᓗ ᐊᓯᖕᒋᓪᓗ ᑐᕐᑯᑕᐅᒐᓗᐊᕐᓱᑎᒃ ᑎᒍᔭᐅᕐᖃᔭᕐᑐᑦ ᑭᓯᑕᐅᖃᓯᔭᐅᓲᖕᒍᖕᖕᒋᒪᑕ, ᐃᓚᖃᕐᒥᓱᑎᒃ ᐊᓐᓂᑐᐊᓕᕕᓂᐅᒐᓗᐊᕋᒥᒃ ᐊᖑᓇᓱᑦᑏᑦ ᑐᓴᕐᓴᕈᑎᓱᖕᒍᖕᖕᒋᓂᖕᒋᓐᓂᒃ ᓄᓇᓖᑦ ᐃᓚᖕᒋᓐᓂ, ᑕᒪᓐᓇᓗ ᐱᐅᓯᓇᔭᐅᖃᑦᑕᓯᒪᑦᓱᓂ ᑕᒃᑯᓴᓐᓇᐅᖕᒋᑦᑐᓂ ᐊᕐᕌᒍᕐᓂ. ᑐᒃᑯᐊ ᐊᓐᓂᑐᐊᕕᓂᕐᒥᓂᒃ ᑐᓴᕐᑕᐅᑎᑦᓯᒍᑎᖃᓚᐅᕐᓯᒪᖕᖕᒋᑐᑦ ᐱᑦᓱᒋᑦ, ᒥᑦᓴᐅᓵᓇᒍᑎᖃᕐᓯᒪᕗᒍᑦ ᐊᓐᓂᑐᐊᕕᓂᐅᒍᓇᕐᓂᒃ ᐊᑐᕐᓱᒋᑦ ᐊᕐᕌᒍᓂ ᐊᑦᑎᖕᒋᓐᓃᑐᓂ ᑭᓯᑕᐅᒍᑎᕕᓃᑦ. ᐅᕕᑦ ᑐᕐᑯᑕᐅᔪᓕᒫᑦ ᐱᔭᐅᑦᖕᖕᒋᒪᑕ. ᐅᕕᑦ ᑐᕐᑯᑕᐅᑦᓴᑐᐃᓐᓇᓱᑎᑦᓪᓗ ᐱᔭᐅᓚᐅᕐᓯᒪᖕᖕᒋᑐᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᒍᑎᖃᓚᐅᔪᕗᑦ ᑐᖕᖓᕕᐅᑎᑦᓪᓗᒋᑦ ᐊᑐᕋᑦᓴᐅᓂᕋᕐᑕᓕᐊᖑᒍᔪᑦ, ᐅᕐᑲᕐᑕᐅᒍᑎᖃᕐᐳᓗ ᓱᕐᓗ ᐃᑭᓕᑦᑕᐅᓱᓂ-ᐊᓯᐅᔨᔭᐅᔪᕕᓂᕐᓂᒃ.

ᑭᓯᑦᓯᒋᐊᒥᒃ ᐱᓇᓱᒍᑎᑦᓴᓕᐊᖑᒍᔪᑦ ᐊᑐᕐᑕᖃᕐᐳᑦ ᑭᓯᑦᓯᒍᑎᓐᓂᐅᑎᑎᒍᑦ ᐅᓄᕐᓂᓂᒃ ᐅᕝᕙᑕᐅᒍᓐᓇᑐᓂᒃ ᑑᖕᖓᕕᓕᓐᓂᒃ ᑲᒃᑯᐊ ᑭᓯᑦᔪᑎᓐᓂᐅᑏᑦ ᑭᓯᑦᓯᒍᑎᐅᒪᑎᑦᓪᓗᒋᑦ:

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

ᐃᒣᑦᑐᖅ : N_{min} ᑐᑭᖃᕐᑎᑕᐅᑎᑦᓪᓗᒍ ᓱᕐᓗ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᑦᓱᓂ ᐃᑭᓐᓂᔫᖕᒋᓐᓂ ᐅᓄᕐᓂᓇᒐᔭᕐᑕᖕᒋᑕ ᐅᕕᓕᒫᑦ.

R_{max} ᑐᑭᕐᑲᕐᑎᑕᐅᑎᓪᓗᒍ ᓱᕐᓗ ᐅᐃᑦ ᕿᑐᕐᖕᒋᐅᓂᒃᑯᑦ ᐅᓄᕐᓯᕝᓪᓕᐊᓂᖕᒋᑕ ᓱᑲᓐᓂᖕᒋᓐᓄᑦ.

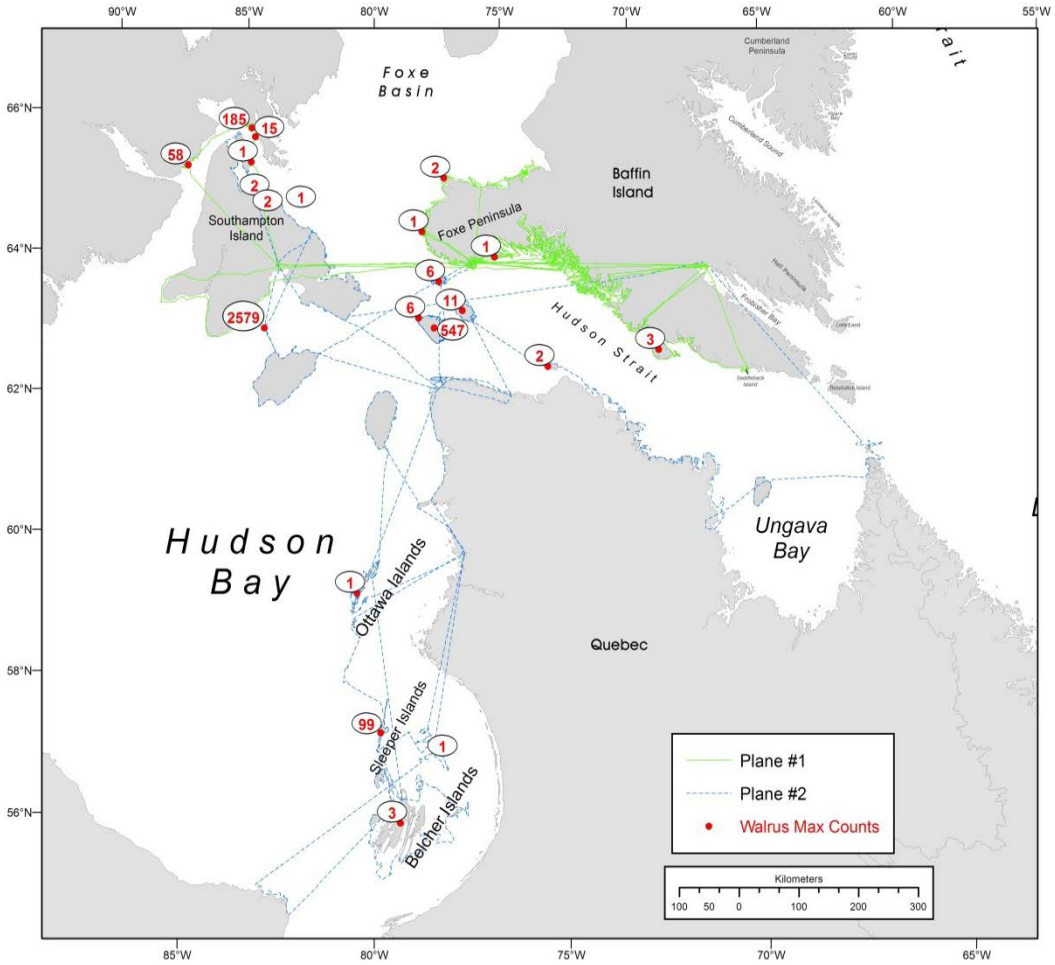
F_R ᑖᓐᓇᓕ ᐃᓕᖕᒐᔪᖅ ᓄᖕᒍᓯᓐᓇᐅᒍᓐᓂᑐᒍᑦ ᑎᑭᐅᑎᓂᓇᓱᖕᒋᓐᓄᑦ ᑐᖕᖓᕕᕐᑲᕐᓱᑎᒃ ᑕᒐᑕᒐᐅᓕᕐᑐᖅ ᐅᐃᑦ ᐅᓄᕐᓂᓇᓕᕐᑕᖕᒋᓐᓂᒃ.

ᒥᑦᓴᐅᓵᓇᒍᑕᐅᒪᔪᑦ N_{min}-ᑯᑦ ᑭᓯᑦᔪᑎᓐᓂᐅᑎᑎᒍᑦ ᑐᑭᑖᕐᑕᐅᓚᐅᔪᕗᑦ ᐱᔭᐅᑦᓱᑎᒃ ᐅᕕᕐᓄᑦ ᐅᓄᕐᓂᓇᔭᐅᒍᓇᕐᑯᑕᐅᓕᕐᑐᓂᑦ ᒥᑦᓵᐅᓵᕐᑕᐅᒪᑦᓱᑎᒃ ᐅᓄᕐᓂᐅᒍᓇᕐᑯᑎᒥᔭᐅᔪᓂᒃ ᐱᓇᓱᒍᑎᓕᐊᖕᒍᒪᔪᓄᑦ (ᐃᓕᖕᒐᑦᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐅᕕᕐᑯᑎᖕᒋᓐᓄᑦ), ᐅᑯᑦᓗᓐᓃᑦ ᕐᑲᖕᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᓯᓂᕐᑲᕐᓱᑎᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᑖᕕᓂᕐᓄᑦ (ᑕᓯᐅᔭᕐᔪᐊᑉ ᐃᒪᕐᐱᖕᒐᑕ ᓱᕐᑭᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᓂᒃ), ᑭᓯᑕᐅᔪᓄᑦ ᐃᓚᐅᕐᑲᑎᐅᑎᑕᐅᑎᓪᓗᒋᑦ ᓱᕐᑯᐃᓯᒪᓇᖕᒋᑐᓂᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᔪᑦ.

ᓯᕗᓪᓕᓂ ᕐᑲᐅᔨᓴᕐᓂᐅᕐᑲᑦᑕᓯᒪᔪᓂ ᐅᓄᕐᓂᐸᖕᒍᑎᓪᓗᒋᑦ ᐅᓄᕐᓯᒋᐊᕈᑎᐅᓂᕐᕐᑕᐅᔪᑦ ᑭᓯᑕᐅᕐᑲᑦᑕᓯᒪᕗ ᐊᑐᕐᓯᒍ (R_{max}) = 0.07. ᑖᒃᑯᐊᓗ ᕿᒥᕐᕈᔭᐅᔪᑦ ᐃᓱᓕᒍᑎᐅᓯᒪᕗᑦ ᓱᕐᓗ R_{max} = 0.08 ᓈᒻᒪᓈᕐᓂᓴᐅᑎᓪᓗᒍ (ᐊᒥᓇᑲᒥᐅᑦ ᑲᑦᒪᒃᑯᖕᒋᑕ ᐊᓪᓚᓯᒪᔪᖕᖕᒍᐃᒍᑎᒋᓯᒪᔭᖕᒋᑦ 2013-ᒥ).

ᑕᒐᑕᒐᓕ ᐱᑕᕐᑲᖕᖕᒋᑐᑦ ᐋᕐᕐᑮᓯᒪᒍᑏᑦ ᓱᕐᓗ F_R.ᒥᓐᓂᕋᕐᑕᐅᔪᓂᒃ, ᐃᒪᕐᐱᓕᓇᔨᕐᔪᐊᑯᑦ ᐊᖕᒋᕈᑎᕐᑲᕐᓯᒪᔫᒐᓗᐊᑦ, F_R = 0.5 ᐊᑐᕐᑕᐅᔪᑦᓴᐅᒋᐊᖕᒐ ᐃᕕᕐᓂ ᐃᑭᓕᕝᓪᓕᐊᒋᐊᖕᒋᑦ ᐃᑉᐱᓇᓯᕐᑐᓂ – ᑐᒃᓕᖕᒐᑎᑕᐅᖕᖕᒋᑐᐊᕐᐸᑕ F_R =1.0 ᐊᑐᕐᑕᐅᒍᓐᓇᒥᔪᖅ ᐅᕝᔭᓗᓐᓃᑦ F_R = 0.5-ᖕᒐᖅ ᐊᑐᕐᑕᐅᓗᓂ ᑐᒃᑯᓄᖕᒐ ᐃᓕᖕᒐᓗᓂ ᐃᕕᕐᓄᑦ ᓄᖕᒍᓯᖕᒋᓐᓇᑎᑕᐅᑦᑐᓕᓂᕐᑲᓕᕐᑐᓄᑦ ᐃᓱᒪᒋᔭᐅᔪᓄᓪᓗ ᓱᕐᓗ ᑲᑉᐱᐊᓇᕐᑐᒦᓕᕐᑐᑦ ᓄᖕᒍᑐᐃᓐᓇᓇᐊᕐᑲᓕᕐᑐᓗ - ᑐᒃᓕᖕᒐᓚᖕᒐᖕᖕᒋᑐᐊᕐᐸᑕ ᐅᓇᖕᒐᖅ F_R =1.0 ᐊᑐᕐᑕᐅᒍᓐᓇᒥᑎᓪᓗᒍ.

ᑖᒃᑯᐊ ᕐᑲᐅᔨᓴᕐᓃᑦ ᕿᑭᕐᑕᓄᑦ ᐊᕐᕕᑕᓚᐅᔪᔪᑦ ᑭᓯᑦᓯᓂᐅᑦᓯᑎ ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖕᒐᓂ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒐᑕ ᓯᓂᖕᒋᓐᓂ (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑎ 2) ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᕐᕋᖕᒐᓂ ᓴᑦᓕᓂᓗ, ᐅᕕᓕᒻᒥᓗ ᐊᒻᒪᓗ ᐊᑉᐸᑑᕐᔪᐊᒥ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒐᑕ ᓯᕿᓂᐊᑕ ᓂᐱᕝᕕᐊᓂ ᕿᑭᕐᑕᓂ ᐊᑯᓪᓕᓂᓗ ᑐᑦᔮᓂᓗ ᑖᒃᑯᐊ ᑭᓯᑕᖕᒋᑦ 86%-ᒋᐅᑎᓪᓗᒋᑦ 2,144-ᓄᑦ ᑭᓯᑕᐅᓯᒪᔪᓄᑦ. ᑭᖕᒍᓂᖕᒐᒍᑦ ᑭᓯᑕᐅᒪᔪᑦ ᐋᕐᕐᑭᒋᐊᕐᑕᐅᓕᕐᒪᑕ ᐃᒫᓂᑦᑐᕕᓂᕐᓂᒃ ᐃᓚᔭᐅᑦᓱᑎᒃ 2014-ᒥ ᐅᐃᑦ ᑭᓯᑕᐅᒪᔪᑦ ᐅᓄᕐᓂᖃᓚᐅᔪᕗᑦ 7,147-ᓂᒃ (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ=4,122) (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑎ 2).



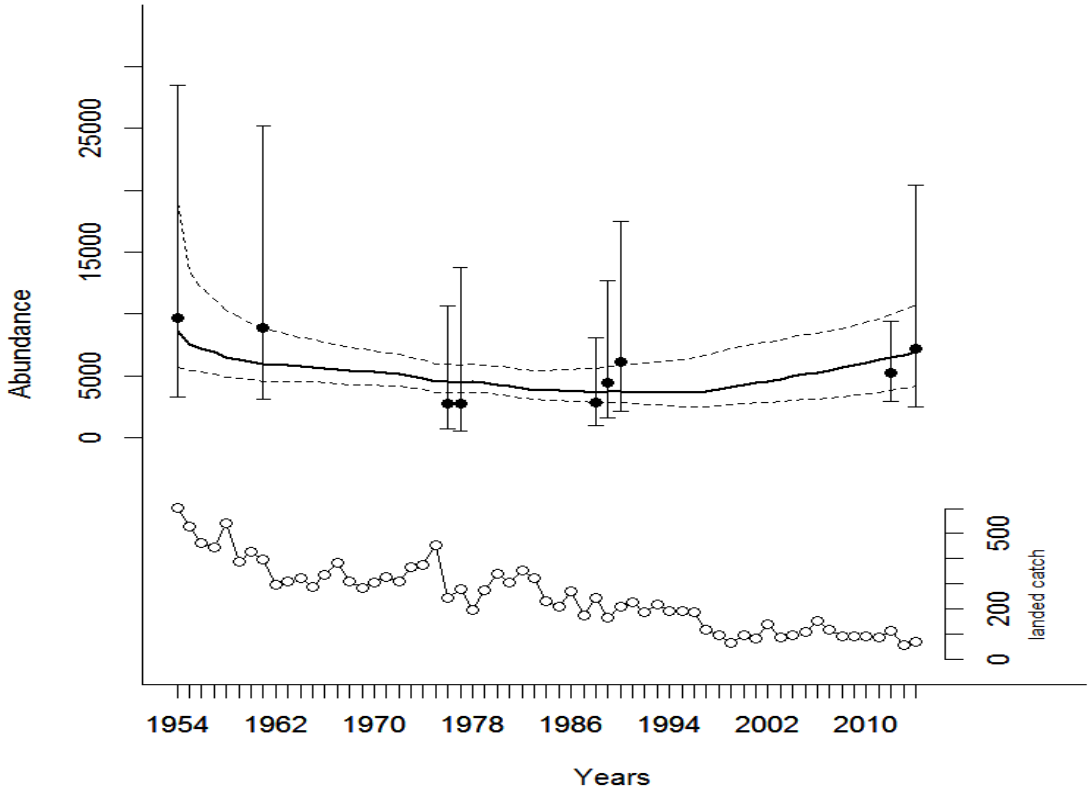
ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑏᑦ 3 ᑭᓯᑕᐅᔪᕕᓃᑦ ᐅᓄᕐᓂᔫᖏᑦ ᐊᑦᓱᔨᐅᕐᑕᐅᒪᔪᓂᑦ ᐅᕕᕐᓂᒃ ᓄᓈᕐᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᕐᕕᐅᕙᑦᑐᓂ ᓄᓇᓂ.

ᑖᒃᑯᓇᓂ ᑭᓯᑦᓯᓂᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᓂ ᐅᐸᑦᑕᐅᓚᐅᔪᖅᖅᒥᓚᑦ ᕿᑭᕐᑕᓘᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊ ᑕᒫᓃᑦᑐᑦ ᐅᕕᑦ ᐃᓚᒋᔭᐅᒐᓗᐊᕐᒥᑎᓪᓗᒋᑦ ᑕᓯᐅᔭᕐᔪᐊᒥᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖅᒋᑕ ᐅᕕᖅᒋᓐᓄᑦ. ᕿᑭᕐᑕᓘᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓂ ᖃᐅᔨᓴᕐᓂᖃᕐᓯᒪᒻᒪᑕ 2007-ᖅᑎᓪᓗᒍ ᑐᑭᓯᓚᐅᕐᓯᒪᔾᓪᓗ ᒥᑦᓴᐅᓵᓇᒍᑎᖃᕐᓱᑎᒃ ᐅᕕᑦ ᑖᕝᕙᓃᑦᑐᑦ ᐅᓄᕐᓂᖃᓇᐊᖅᒋᑦ 2,533-ᓂᒃ (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ=420) ᐅᕕᑦ ᑭᓯᑕᐅᒪᔪᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᒌᑐᐊᕐᒪᑕ ᐅᓄᕐᓂᐅᔪᑦ ᐱᔭᐅᑦᓯᑎᒃ ᓄᓈᕐᓯᒪᔪᓂᑦ (ᖃᐅᔨᓴᕐᑎᓗᒋᒃ Stewart-ᓗ Hamilton-ᓗ 2013-ᒥ). ᐊᐅᖃᑎᒌᖅᖅᒋᑐᒐᓚᐅᓯᒪᔪᑦ ᐅᕕᑦ ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᕐᐱᖅᒐᓃᑦᑐᓗ ᐊᒻᒪᓗ ᐅᕕᑦ ᕿᑭᕐᑕᓘᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ ᑭᓯᐊᓂ ᒐᒃᑲᓗᐊᕐᓱᑎᒃ ᑲᑎᐅᑎᓂᓂᐅᕙᓗᒋᓱᑎᒃ ᑕᓪᓗᕈᑎᒌᑦᑐᐃᓗ ᕿᑭᕐᑖᓗᓪᓗ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ, ᑖᒃᑯᐊ ᑕᒐᑕᒐ ᑐᑭᓯᒪᔭᐅᑦᓯᐊᕋᑕᖅᖅᒋᑐᑦ ᖃᓄᐃᓕᖅᒐᓪᓗᑐᕋᓗᐊᕐᒪᖔᑕ.

ᐅᓄᕐᓂᐅᓕᕐᑐᓄᑦ ᑰᑦᑐᕋᐅᑏᑦ

ᐱᓇᓱᒍᑏᑦ ᐋᕐᕿᑕᐅᖃᑦᑕᓯᒪᔪᑦ ᓲᕐᓗ ᐃᓂᓪᓚᑕᐅᒪᑦᓱᑎᒃ ᐊᕐᕌᒍᑎᒍᑦ (1954-2014), ᐃᓚᐅᑎᑕᐅᑎᓪᓗᒋᑦ ᐊᓐᓂᑐᐊᖃᕐᓂᕕᓂᕐᓂᒃ ᑐᓴᕐᑎᓯᒍᑏᑦ (1954-2014) (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑏᑦ 2, ᑭᓯᑦᔪᑎᓖᑦ. 4-ᒥᒃ). ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᓕᐊᖅᒍᒪᔪᑦ ᑐᑭᓯᒍᑎᐅᓕᕐᓯᒪᔾᑦ ᐅᑏᑦ ᐃᑭᓕᒋᐊᕐᑐᕕᓂᐅᒋᐊᖅᒋᑦ ᐅᓄᕐᓂᓕᕕᓂᐅᑦᓱᑎᒃ 10,400-ᓂᒃ (95% BCI 6,400 ᑎᑭᑦᓱᒋᑦ 19,800 ᐅᑏᑦ ᐅᓄᕐᓂᖅᒋᑦ) 1954-ᖅᑎᓪᓗᒍ, ᐃᑭᓐᓂᔫᖃᓕᕐᓱᑎᒃ 3,600-ᓂᒃ

(95% BCI 2,600 ᑎᑭᑦᓱᒋᑦ 6,100) 1993-ᖕᒍᑎᓪᓗᒍ, ᐅᓄᕐᓯᒋᐊᕐᓯᒪᓕᕐᒥᔪᑦ ᑭᓯᐊᓂ ᑎᑭᐅᑎᑦᓱᒋᑦ 7,100 (95% BCI 4,100 to 10,700) ᐅᓄᕐᓂᓇᓕᓚᐅᔪᔭᖕᒋᑦ ᐃᐃᑦ 2014-ᖕᒍᑎᓪᓗᒍ (ᑭᓯᑦᔪᑎᓖᑦ. 4-ᒥᒃ).



ᑕᑯᑦᓴᐅᑎᑦᓯᒍᒍᑦ 4. ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᓕᐊᖕᒍᒪᔪᑦ ᒥᑦᓴᐅᓵᓇᒍᑕᐅᒪᒍᑎᖕᒋᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒋᑕ ᐃᕕᕐᑎᖕᒋᑕ ᐅᓄᕐᓂᓇᓕᕐᑕᖕᒋᓐᓂᒃ. ᑐᑭᒍᐊᑯᑖᑦᑐᓕᐊᖕᒍᒪᔪᑦ ᑎᑎᕐᑐᐃᒪᒍᑎᑦ: 95%-ᒥᑦᑐᓂᒃ ᑕᑯᑦᓴᐅᑎᑦᓯᕗᑦ. ᑖᒃᑯᐊ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᓕᐊᖕᒍᒪᔪᑦ ᓈᒻᒪᓈᕐᑎᑕᐅᓯᒪᔪᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᓯᒪᔪᓄᑦ ᖃᖕᒐᑦᑕᔫᑎᒍᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᔪᕕᓂᕐᓂᒃ (ᖃᐅᔨᒪᔭᐅᔪᑐᐊᑦ± 95%-ᖕᒋᓐᓃᑐᑦ ᓱᕐᕕᐃᑐᑦ) ᐋᕐᕿᒋᐊᕐᑕᐅᓂᖃᓚᐅᔪᑦᓱᑎᒃ ᒥᑦᓴᐅᓵᕐᑕᐅᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᐅᔪᕕᓃᑦ ᓄᓈᕐᓯᒪᔪᓂ ᐆᑦᑑᓱᑎᒃ ᑖᒃᑯᐊ 0.30-ᒥᓚᐅᔪᔪᑦ Right y-axis: ᑐᓴᕐᑕᐅᑎᑕᐅᔪᕕᓃᑦ ᐃᐃᑦ ᐊᓐᓂᑐᐊᕕᓂᐅᔪᑦ ᓄᓇᓕᓐᓂ ᑖᒃᑯᓇᖕᖕᒐᑦ ᐃᕕᕐᓂᑦ ᐊᖕᒍᓇᓱᕝᕕᖃᕐᑉᑐᓂᑦ (ᐊᓪᓚᓯᒪᔪᐃᑦ 1-ᒥᑦᑐᑦ).

ᓯᕿᓂᕐᒥᓗ ᓯᕿᓂᐅᓪᓗ ᓄᐃᕕᐊᓃᑦᑐᑦ ᑕᓯᐅᔭᕐᔪᐊᒥ ᐃᐃᑦ

ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᓐᓂᐅᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᕿᓂᖕᒐᑕ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ ᒪᓕᓚᐅᔪᕗᑦ ᐱᓇᓱᒍᑎᐅᓚᐅᔪᔪᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᕕᖕᒋᓐᓂᒃ ᑭᓯᑦᓯᔪᓄᑦ. ᓄᓐᒃ ᑭᓯᑦᓯᕕᐅᔪᕕᓃᑦ ᑕᑯᑦᓴᐅᑎᑕᐅᔪᑦ 2-ᒥ. ᐃᐃᑦ ᑕᑯᔭᐅᓚᐅᔪᔪᑦ ᐊᕐᕕᓚᓐᓂᓗ ᖁᒻᒥᐅᑐᓂᓗ ᐊᒻᒪᓗ ᕿᑭᕐᑕᒥ ᑎᑦᔭᓗᓚᒻᒥ ᕿᑭᕐᑕᓂᓗ ᓯᕿᓂᕐᒥᓂᕐᓴᓂ. ᑕᒪᕐᒥᒃ ᐊᕐᕕᓚᓐᓃᑐᑦᓗ ᖁᒻᒥᐅᑐᓂᑦᓗ ᐊᒻᒪᓗ ᕿᑭᕐᑕᓃᑦᑐᑦ ᓇᑦᓯᓚᓐᓂ ᕿᑭᕐᑕᓂᓗ ᓯᕿᓂᕐᒥᓂᕐᓴᓂ. ᑕᒪᕐᒥᒃ ᐊᕐᕕᓚᑦᓗ ᖁᒻᒥᐅᑐᑦᓗ ᒪᕐᕈᕕᑦᓱᒋᒃ ᑭᓯᒃᓯᕕᐅᓚᐅᔪᔪᒃ. ᓯᕗᑦᓚᒥ ᖃᖕᒐᑦᓱᑎᒃ ᖁᓚᐅᓚᐅᔪᔪᑦ ᓯᐸᑎᒻᐱᓇ 13-ᒥ. ᖃᖕᒐᑕᓚᐅᔪᒻᒥᓱᑎᑦᓗ ᓴᓂᑭᓗᐊᑉ ᕿᑭᕐᑕᖕᒋᓐᓂ ᓯᐸᑎᒻᐱᓇ 14-ᒥ, ᑭᖕᒍᓂᐊᒍᑦᓗ Cape Henrietta Maria-ᒧᑦ ᓄᕗᓕᐊᕐᓱᑎᒃ ᓴᒥᓯ ᐯᐸ ᓄᕗᖕᒐᓄᑦ, ᖁᒻᒥᐅᑕᓄᑦᓗ ᐅᑎᕐᒥᓱᑎᒃ. ᐊᕐᕕᓖᑦ ᐅᐸᑦᑕᐅᒥᐊᑦᓚᓕᓚᐅᔪᒻᒥᔪᑦ ᓯᐸᑎᒻᐱᓇ 15-ᒥ. ᐃᐃᑦ ᑭᓯᑕᐅᔪᑦ 112-ᖕᒍᓚᐅᔪᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᒥ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓃᓐᓂᓴᑦ. 99-ᕋᓗᑦᓱᑎᒃ ᓄᓈᕐᓯᒪᖃᑎᒌᑦᑐᑦ ᐊᑦᕈᓕᐊᖕᒍᓚᐅᔪᒻᒥᔪᑦ ᖁᒻᒥᐅᑕᓂ ᓯᐸᑎᒻᐱᓇ 14-ᒥ ᖃᖕᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᓯᔪᓄᑦ ᖁᓚᐅᑕᐅᓚᐅᔪᔪᑦ.

ᑭᓯᑕᐅᔪᕕᓂᐅᓕᕐᑎᓗᒋᑦ ᑖᒃᑯᓴᓐᓈᓗᓐᓂᓗ ᐃᓚᐅᑎᑦᓯᓕᕐᕿᑐᓕᓂᖃᕐᓱᑎᒃ, ᑐᑭᓯᓚᐅᔪᕗᑦ ᓄᓈᕐᓯᒪᖃᑎᒋᓲᑦ 58-ᖑᖏᓐᓇᕝᓗᓯᖑᒋᐊᖏᑦ. ᑭᓯᑕᐅᒪᔪᑦ ᐅᓄᕐᓂᖏᑦ ᐋᕐᕿᒋᐊᕐᑕᐅᔪᑦ ᑐᖕᖓᕕᖃᓚᐅᔪᕗᑦ ᐅᓄᕐᓂᐅᓂᐊᖕᖑᓇᔭᐅᑎᓪᓗᒋᑦ 200 (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ=60) ᐃᐋᑦ (100-ᓄᑦ ᖃᓂᓐᓂᐹᑦ ᑭᓯᑕᐅᑎᓪᓗᒋᑦ). ᑖᒃᑯᐊ ᑭᓯᑦᓯᓂᕐᒥᒃ ᓯᕗᓪᓕᐹᖑᓚᐅᕐᕐᑯᑦ ᑖᒃᑯᓂᖓ ᐃᕕᕐᓂᒃ ᑭᓯᑦᓯᓂᐅᑦᓱᑎᒃ, ᑐᒥᒐᓗᐊᕐᓱᑎᒃ ᐱᑕᖃᕐᒥᔪᑦ ᐱᔭᐅᒍᓐᓇᑐᑦ ᐊᓯᖏᓐᓂᒃ ᑭᓯᑦᑕᖃᕐᓱᒪᒍᑎᐅᔪᑦ (ᑕᑯᑦᓴᐅᑎᑕᐅᔪᑦ 3-ᒥ).

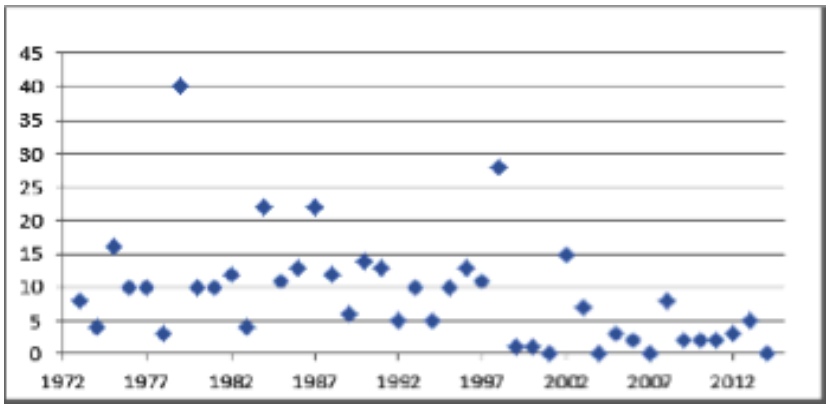
ᐊᓪᓚᓯᒪᔪᖑᒍᐃᒍᑎᐅᒪᔪᑦ ᐊᕕᑦᑐᓯᒪᔪᓂ ᑭᓯᑦᔪᑎᓖᑦ 3-ᒥᒃ. ᐃᐋᑦ ᑭᓯᑕᐅᒪᔪᑦ ᑐᓴᕐᑕᐅᑎᑕᐅᒍᑎᖏᑦ ᐱᓯᒪᑦᓯᑎᒃ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᒥᑦ

ᓯᑯᑦᓯᒥ	ᓇᐅᒃᑯᑦ	ᐅᓪᓗᖏᑦ	ᐅᓄᕐᓂᖏᑦ	ᖃᐅᔨᓴᕐᓃᑦ
		ᓯᐸᑎᒻᐸ 2014	58[1]	ᑕᒪᑕᒪ ᖃᐅᔨᓴᕐᑕᐅᔪᑦ
ᓴᓂᑭᓗᐊᑉ ᕿᑭᕐᑕᖏᓐᓂᓗ/ᕐᑯᒻᒥᐅᑎᓂᓗ	ᖃᖓᑦᑕᔫᒃᑯᑦ (ᕿᓚᓗᕐᒥᑦ)	ᐊᐅᒃᒍᓯ 2011	57	Gosselin pers. Comm.
	ᖃᖓᑦᑕᔫᒃᑯᑦ (ᕿᓚᓗᕐᒥᑦ)	ᐊᐅᒃᒍᓯ 2008	14	Gosselin pers. Comm.
	ᖃᖓᑦᑕᔫᒃᑯᑦ	ᐊᐅᔭᖅ/ᐅᐱᕐᖓᖅ 1993	30	Desrosier-ᒥᓗ Stewart-ᒥᓗ Higdon-ᒦᑦᓱᓂᓗ, ᐊᓪᓚᓯᒪᔪᖑᒍᑕᐅᒪᖕᖏᑦ
	ᐅᒥᐊᒃᑯᑦ	ᐊᐅᔭᖅ/ᐅᐱᕐᖓᖅ 1971	100	Manning 1976
	ᐅᒥᐊᒃᑯᑦ	1930	400	Twomey-ᒥᓗ Herrick-ᓗ (1942) Stewart-ᒥᓗ Higdon-ᒦᑦᓱᑎᓪᓗ, ᐊᓪᓚᓯᒪᔪᖑᒍᑕᐅᒪᖕᖏᑦ.
Cape Henrietta Maria-ᒥ		2007	147	COSEWIC-ᑯᑦ 2006-ᖑᑎᓪᓗᒍ
Cape Henrietta Maria-ᒥ		ᐅᐱᕐᖓᓴᖅ 1955	1000	Loughrey 1959

[1] ᑐᖕᖓᕕᐅᑎᓪᓗᒋᒃ ᒪᕐᕈᐃᑦ ᑭᓯᑕᖃᕐᓂᐅᓯᒪᔪᑦ

ᑕᓯᐅᔭᕐᔪᐊᒥᑦ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ ᐊᒻᒪᓗ ᑕᓯᐅᔭᕐᔪᐊᒥᓪᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᓐᓂᒃ ᐃᕕᕐᑕᐅᔪᕕᓂᕐᓂᒃ ᑭᓯᑦᓯᓯᒪᒍᑎᑦ ᑐᑭᓯᒍᑎᐅᔪᑦ ᐃᕝᕙᑕᐅᕙᑦᑐᑦ ᐃᑭᓕᒥᐊᕐᓯᒪᓕᓇᐊᖏᑦ, ᑭᓯᐊᓂ ᖃᓄᐃᓕᖓᓕᕐᒪᖔᑕ ᑐᑭᓯᓯᒪᑦᓯᐊᖃᔭᕐᓇᕋᑕᖕᖏᑐᖅ ᐱᑦᔪᑎᒋᑦᓱᒋᑦ ᓄᓇᓖᑦ ᐃᓚᖏᑦ ᑐᓴᕐᑎᓯᒍᑎᖃᖕᖏᑐᕝᕙᓐᓂᖏᑦ. ᑐᓴᕐᑕᐅᑎᑕᐅᒪᖕᖏᑐᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᓯᑎᒃ ᐃᓚᐅᑎᑕᐅᓯᑐᐃᓐᓇᓲᖑᒻᒪᑕ ᑐᖕᖓᕕᐅᑎᓪᓗᒋᑦ ᐊᕐᕌᒍᐃᑦ 5 ᖃᓂᓐᓂᐹᑦ ᐊᑐᓂᑦ ᓄᓇᓕᓐᓄᑦ ᑐᓴᕐᑎᓯᖕᖏᑐᓄᑦ. ᐅᕝᕙᑕᐅᔪᕕᓃᑦ ᑐᓴᕐᑕᐅᑎᑕᐅᒍᑎᖏᑦ ᐃᓘᓐᓇᖏᓐᓂᑦ ᑲᓇᑕᐅᑉ ᓄᓇᓕᖏᓐᓂᑦ ᐱᓯᒪᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᓐᓂᑦ ᐅᕝᕙᑕᐅᔪᕕᓃᑦ ᐅᓄᕐᓂᖃᕐᑲᑦᑕᓚᐅᔪᕗᑦ 130-ᓂᒃ (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ=52 ᑕᕐᕋᒥᑦ=25) ᐅᕝᕙᑕᐅᖃᑦᑕᓯᒪᔪᑦ ᐊᕐᕌᒍᑕᒦᑦ 1989-ᒥᑦ ᑎᑭᑦᓱᒍ 2014, ᑭᓯᐊᓂ ᐃᑭᓕᒥᐊᕐᓯᒪᓕᕐᑐᑦ ᐊᕐᕌᒍᑕᒦᑦ ᐅᓄᕐᓂᖃᓕᕐᓱᑎᒃ 85-ᓂᒃ (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ =10.5, ᑕᕐᕋᒥᓪᓗ=5) ᐊᕐᕌᒍᓂ 5-ᓂ ᐊᓂᒍᕐᑐᓂ (ᑕᑯᑦᓴᐅᑎᑕᐅᔪᑦ 1-ᒥ ᑭᓯᑦᔪᑎᖃᕐᓱᑎᒃ 4-ᒥᒃ).

ᐅᕝᕙᑕᐅᔪᕕᓂᕐᓂᒃ ᑐᓴᕐᑕᐅᑎᑦᓯᒍᑏᑦ ᐱᑕᖃᑦᓯᐊᖏᓐᓇᖃᑦᑕᓚᐅᔪᔪᑦ ᑭᓯᑦᓯᓂᖅ ᐱᐅᓯᖑᒍᓯᒪᓕᕐᓂᒪᓂᑦ (1973-1998) 12-ᖑᒍᕝᕙᓪᓗᓯᖑᒍᑦᓱᑎᒃ (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ = 1.62 ᑕᕐᕋᒥᑦ =26) ᐅᕝᕙᑕᐅᔪᕕᓃᑦ ᐊᕐᕌᒍᑕᒦᑦ ᑐᓴᕐᑎᑕᐅᒍᑎᐅᖃᑦᑕᓯᒪᔪᑦ. 2009-ᒥᓂᑦ, ᐃᑭᓐᓂᓴᓂᒃ ᐅᕝᕙᑐᕕᓃᑦ ᑐᓴᕐᓴᕈᑎᖃᑦᑕᓕᓚᐅᔪᒻᒥᔪᑦ ᐊᕐᕌᒍᑕᒦᑦ 2-ᓄᑦ ᑲᑕᒥᐊᕐᓱᑎᒃ (ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ = 0.9 ᑕᕐᕋᒥᑦ =5) (ᑭᓯᑦᔪᑎᓖᑦ 5).



ᑕᑯᑦᓴᐅᑎᑦᓯᒍᒍᑦ 5. ᑐᓴᕐᑎᓯᒍᑎᐅᖃᑦᑕᓯᒪᔪᑦ ᐊᓐᓂᑐᐊᓂᒃ ᓄᓇᓕᓐᓂᑦ ᐊᖑᓇᓱᑦᑐᕕᓂᕐᓂᑦ ᓯᕿᓂᕐᒥᓗ ᐊᒻᒪᓗ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐃᕕᖕᒋᓐᓂᑦ.

ᐃᑦᑕᑕᐅᒍᓐᓇᑎᑕᐅᔪᑦ ᐅᓄᕐᓂᖕᒋᑦ

ᐃᑦᑕᑕᐅᓗᑎᒃ ᐃᑭᓕᒋᐊᕈᑎᐅᔪᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᒍᑎᒋᓯᒪᔭᖕᒋᑦ 2014-ᒥ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᔪᑦ ᐱᔭᐅᓚᐅᔪᔪᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᑎᒍᑦ ᐅᓄᕐᓂᖃᕐᑐᕕᓂᐅᒐᔭᕐᐳᑦ 114-ᓂᒃ ᐅᑦᑕᓘᓐᓃᑦ 228-ᓂᒃ ᐊᑐᓂᑦ Fr=0.5 ᒥᓗ ᐊᒻᒪ Fr=1.0-ᒥᓗ ᐊᑐᓂᑦ ᐃᓕᖓᑦᓱᑎᒃ ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᕐᐱᖓᓄᑦ/ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᕐᕋᖓᓃᒃᑐᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒋᑕ ᐃᕕᕐᑯᑎᖕᒋᓐᓂᑦ.

ᐃᑦᑕᑕᐅᓗᑎᒃ ᐃᑭᓕᒋᐊᓇᒍᑎᐅᒍᓐᓇᑐᑦ ᑭᓯᑕᐅᒪᒍᑎᖕᒋᑦ ᐃᓚᖃᕐᐳᑦ ᐃᑦᑕᑕᐅᔪᕕᓂᕐᓂᒃ ᐃᓘᓐᓇᖕᒋᓐᓂᑦ ᐃᕕᕐᑯᑕᐅᔪᓂᑦ. ᑐᓴᕐᑕᐅᑎᑕᐅᒍᓪᓕᐅᓲᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᓐᓂᑐᐊᕕᓃᑦ ᐊᕐᕌᒍᓂ 5-ᓂ ᐊᓂᒍᕐᑐᓂ ᐱᔭᐅᑦᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖕᒋᓐᓂ ᑖᒃᑯᓇᖕᖓᑦ ᐃᕕᕐᓂ ᐊᕐᕌᒍᑕᒫᑦ ᐅᓄᕐᓂᖃᕐᑕᓯᒪᕐᑦ 85-ᓂᒃ. ᐊᓪᓚᓯᒪᔪᖕᖑᐃᒍᑎᐅᒪᔪᖃᖕᖕᒋᑐᖅ ᑐᓴᕐᑎᑕᐅᒍᑎᐅᒪᖕᖕᒋᑐᑦ ᐅᓄᕐᓂᖑᐊᖕᒋᓐᓂᒃ ᑐᓴᕐᑕᐅᑎᑕᐅᒪᒐᑎᓪᓗ ᐃᑭᓕᕐᑕᐅᑐᐃᓐᓇᓱᑎᒃ ᐊᓯᐅᔾᔭᐅᖃᕐᑕᓯᒪᔪᑦ ᖃᑦᓯᐅᓂᖕᒋᓐᓂᒃ. ᐊᑐᕐᓗᒋᑦ ᐃᑭᓕᕐᑕᐅᑐᐃᓐᓇᓱᑎᒃ ᐊᓯᐅᔾᔭᐅᔪᕕᓃᑦ ᓱᕐᓗ 30%-ᖑᒐᔭᕐᐸᑖᕈᑏᑦ ᑖᒃᑯᐊ ᐊᑐᕐᓗᒋᑦ ᐊᑐᕐᑕᐅᖃᑦᑕᓯᒪᔪᑐᖃᐅᔪᑦ, ᑕᒐ ᑐᓴᕐᑕᐅᑎᑦᓯᓕᕋᔭᕐᐳᒍᑦ ᓱᕐᓗ 85-ᓂᒃ ᐃᑦᑕᑐᕕᓂᐅᑉᐸᑕ ᑲᑎᑦᓯᑎᒃ 121-ᖑᓕᕋᔭᕐᑎᓗᒋᑦ. ᑖᒃᑯᐊ ᐊᑕᖕᒋᕐᓯᔪᒥᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᔪᑦ ᐃᓚᖃᖕᖕᒋᓚᑦ ᑐᓴᐅᒪᑎᑦᓯᒍᑎᐅᖕᖕᒋᑐᓂᓪᓗ ᐊᓯᖕᒋᓐᓂᓗ ᐃᓄᓐᓄᑦ ᐃᕕᕐᑕᐅᔪᕕᓂᕐᓂᒃ ᐊᓯᖕᒋᓐᓂᓗ ᑐᕐᑯᑕᐅᒪᔪᓂᒃ ᓱᕐᓗ ᐅᒥᐊᕐᔪᐊᓄᑦ ᐊᐳᕐᑕᐅᓯᑎᒃ.

ᕿᑭᕐᑕᓘᑉ ᓯᕿᓂᖓᑕ ᓄᐃᕕᐊᓂ ᑖᒃᑯᐊ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᕕᕐᑯᑎᖕᒋᓐᓂ ᐱᔪᑦ ᐃᑦᑕᑕᐅᓗᑎᒃ ᐃᑭᓕᒋᐊᓇᒍᑎᐅᒍᓐᓇᑐᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᒪᐳᑦ 38-ᖑᒍᑎᓪᓗᒋᑦ ᑐᓴᕐᑎᓯᒍᑎᐅᓯᒪᑦᓯᑎᒃ (ᐃᒪᕐᐱᓕᓇᕈᕐᔪᐊᑯᑦ 2013-ᒥ) ᑖᒃᑯᐊ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᒪᔪᑦ ᐱᔭᐅᓚᐅᔪᕗᑦ ᐊᑐᕐᑕᐅᑎᓪᓗᒋᑦ R_{max}-ᖕᒋᑦ 0.07-ᖕᒋᑕ. ᑖᒃᑯᐊ ᐃᑦᑕᑕᐅᓗᑎᒃ ᐃᑭᓕᒋᐊᓇᒍᑎᐅᒐᔭᕐᑐᑦ ᒥᑦᓴᐅᓵᕐᑕᐅᒪᒍᑎᖕᒋᑦ ᐅᓄᕐᓯᒋᐊᓚᐅᔪᔪᑦ 44-ᒥᑦ 88-ᒧᑦ ᐃᓕᖓᑦᓱᑎᒃ Fr-ᖕᒋᓐᓄᑦ 0.5 ᐊᒻᒪᓗ 1.0, ᒐᒪ ᑭᓯᑕᐅᒋᐊᑦᓯᐊᓕᑐᐊᕐᒪᑕ ᐃᑦᑕᑕᐅᓗᑎᒃ ᐃᑭᓕᒋᐊᓇᒍᑎᐅᒍᓐᓇᑐᑦ ᐅᓄᕐᓂᑖᓕᕐᒥᓯᑎᒃ R_{max}-ᖕᒋᑦ 0.08-ᖕᒋᑕ.

ᑐᒃᑯᓄᖓ ᑖᓯᐅᔭᕐᔪᐊᒥ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓃᑦᑐᓄᑦ ᐃᓚᖃᑦᓱᑎᒃ ᐃᑦᑕᑕᐅᓗᑎᒃ ᐃᑭᓕᒋᐊᓇᒍᑎᐅᓂᕋᕐᑕᐅᔪᑦ 2-ᖑᒐᔭᕐᑐᑦ 4-ᖑᓗᑎᓪᓗ, ᐅᓄᕐᓯᒋᐊᕐᓂᓴᖕᒋᑦ ᑐᖕᖓᕕᖃᕐᑎᓗᒋᑦ 0.5-ᒥᓪᓗ ᐊᒻᒪᓗ 1.0-ᒥᒃ.

ᓱᕐᕐᑯᐃᓯᒪᓇᖕᖕᒋᑐᑦ ᐱᔭᐅᓯᒪᔪᑦ

ᐃᑦ ᐃᕐᐸᖓᔪᒻᒪᓇᐊᓘᕐᑐᑦ. ᓄᓇᕐᓯᒪᕕᒋᓱᒥᓂᑦᑐᑦ ᐅᓄᕐᓂᖕᒋᑦ ᐊᓯᑦᔨᑦᑐᒪᓈᑦ. ᖃᐅᔨᓴᕐᑕᐅᓯᑎᒃ ᐅᒥᐊᓄᓪᓗ ᖃᔭᓇᐊᓄᓪᓗ ᐅᓚᐱᑕᐅᑐᐊᕐᒥᒃ ᓄᓈᕐᓯᒪᕕᒻᒥᓃᑎᓪᓗᒋᑦ ᕿᕐᓯᖓᒍᓐᓄᑦ ᑐᒥᓕᔭᐅᑐᐊᕐᒥᒃ ᑭᓯᒋᐊᖕᒋᑦ ᐃᓱᐃᓪᓕᑦ ᒥᑦᓴᐅᓵᕐᓯᒋᐊᖕᒋᑦ.

ᐅᓄᕐᓂᐅᔪᓂᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᔪᑦ ᑐᓴᕐᑎᓯᒍᑎᐅᔪᑦ ᑖᒃᑯᑎᒍᓇ ᓱᖕᒋᕐᑑᑎᖃᕐᖃᕐᑐᑦ ᐋᕐᕐᑭᒋᐊᓇᖃᑦᑕᕈᑎᐅᓲᓂᒃ ᓄᐃᑕᐅᒪᑦᓱᑎᒃ ᐊᓯᖕᒋᓐᓂᑦ ᖃᐅᔨᓴᕐᓂᕕᓂᕐᓂ ᐊᓯᖕᒋᓐᓂ ᓄᓇᓂ. ᑐᒪᓕ ᓱᓇᐅᓂᖕᒋᑦ ᐆᒪᔪᑦ

ᑕᒻᒪᓯᒪᔪᐃᔭᕐᑕᐅᖃᑦᑕᕋᓗᐊᕐᑎᓗᒋᑦ ᐊᓯᖏᓐᓂᑦ ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᓂᑦ ᐊᑐᕐᑕᐅᖃᑦᑕᓯᒪᕗᑦ ᐊᓯᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᓂᑦ ᓱᕐᓗ ᕿᓚᓗᒐᕐᓂᒃ, ᐅᓄᕐᑐᐊᓗᓐᓂᒃ ᑭᓯᑦᓯᓂᒃ ᐋᕐᕿᒋᐊᓇᒋᐊᕐᖃᓱᖑᒐᓗᕐᑐᒍ ᐃᓕᖓᑎᓪᓗᒋᑦ ᐅᕕᕐᓄᑦ, ᑭᖑᓂᐊᒍᑦ ᐱᑦᔪᑕᐅᑎᓪᓗᒋᑦ ᓱᕐᕐᑯᐃᖏᑦᑐᑦ ᐅᓄᕐᓂᓴᐅᓱᖑᕗᑦ. ᐊᒻᒪᓗᒋᐊᓪᓚᒃ ᓱᓕ, ᖃᐅᔨᔭᐅᖃᑦᑕᓯᒪᒻᒥᔪᑦ ᐅᕖᑦ ᓄᓈᕐᓯᒪᕕᒋᓱᖏᑦ ᐊᓯᖏᓐᓄᑦ ᓂᕐᔪᑎᓄᑦ ᐅᐸᑦᑕᐅᓱᖑᒋᕗᑦ, ᑭᓯᐊᓂ ᖃᓄᑎᒋᒃ ᓇᔪᕐᑕᐅᓱᖑᒻᒪᖔᑕ ᖃᐅᔨᒪᔭᐅᑦᓯᐊᖏᑦᑐᑦ.

ᐅᕖᑦ ᐱᓯᒪᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖓᓂᑦ ᐊᓐᓂᑐᐊᖑᓱᖑᒋᕗᑦ ᐊᑯᑭᑦᑐᒥᐅᓄᑦ. ᐅᕖᑦ ᑕᓪᓗᕈᑎᐅᑉ ᐃᒪᕐᐱᖓᓂᒥᐅᑦ ᐊᒻᒪᓗ ᕿᑭᕐᑕᔫᑉ ᓯᕐᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ ᖃᐅᔨᔭᐅᖃᑦᑕᓯᒪᓕᕐᑐᑦ ᐊᐅᕐᖃᑎᒌᑦᑎᖏᑦᑐᖃᓪᓛᖑᒋᐊᖏᑦ, ᑎᒣᒃᑲᓗᐊᕐᑎᓗᒋᑦ ᖃᐅᔨᒪᔭᐅᒻᒥᔪᑦ ᑕᓪᓗᕈᑎᐅᓪᓗ ᕿᑭᕐᑖᓗᓪᓗ ᓱᕐᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ ᑲᓱᑎᑲᓪᓛᖑᒋᐊᖏᑦ ᐃᓚᐅᒻᒥᑎᓪᓗᒋᑦ ᕿᑭᕐᑕᔫᓪᓗ ᓱᕐᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ ᑲᓱᑎᑲᓪᓛᖑᒋᐊᖏᑦ. ᑖᒃᑯᐊ ᑲᓱᑎᑲᓪᓛᓂᖏᑦ ᑐᕿᓯᒪᔭᐅᓂᖃᑦᓯᐊᖏᑦᑐᑦ. ᑖᒃᑯᓇᓂ ᖃᐅᔨᓴᕐᓂᓂ, ᐃᓱᒪᒋᔭᐅᓚᐅᔪᔪᑦ ᐊᑯᑭᑦᑐᒥᐅᑦ ᐊᖑᓇᓱᑦᑎᖏᑦ ᐅᕝᕙᓂᐊᓚᐅᕐᓯᒪᖕᖏᒋᐊᖏᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ-ᑕᓪᓗᕈᑎᐅᓪᓗ ᑕᕐᕋᖓᓃᑦᓱᑎᒃ ᑖᒃᑯᐊ ᐃᒪᕐᐲᒃ ᐅᐃᕐᑯᑎᖏᓐᓂᑦ.

ᐊᒥᓱᐃᒐᑎᒃ ᖃᐅᔨᓴᖃᑦᑕᓯᒪᒻᒪᑕ ᐅᕖᑦ ᐅᓄᕐᓂᖏᓐᓂ ᑌᒃᑯᐊᓗ ᖃᐅᔨᓴᕈᑎᒥᓐᓂᒃ ᐱᔭᕇᕐᑐᐃᓂᐅᒐᓗᐊᑦ ᑌᒃᑯᓴᓐᓇᓄᑦ ᓄᓇᓄᑦ ᐅᑎᖃᑦᑕᓯᒪᒐᑎᒃ, ᐃᓘᓐᓇᖏᓐᓂᓗ ᑭᓯᑕᖃᓚᐅᕐᓯᒪᓇᑎᒃ, ᑕᒪᒃᑯᐊ ᐃᓱᒪᒋᑦᓱᒋᑦ ᓱᕐᕐᑯᐃᓯᓯᒪᓇᖏᑐᖅ ᐃᓘᓐᓇᖏᓐᓂᓗ ᒥᑦᓴᐅᓵᕈᓐᓇᓇᓂ ᐱᓇᓱᒍᑎᓕᐊᖑᔪᓪᓗ ᑖᒃᑯᓴᓐᓇᓗᑐᖃᑦᑕᓯᒪᒐᑎᒃ.

ᖃᒻᒥᑯᑦ ᐅᕖᕐᓂᑦ-ᐃᒃᑯᓂᖓᓪᓗᑐᖅ ᑐᕐᑯᑕᐅᑦᓱᑎᒃ ᐊᓯᐅᔨᔭᐅᓯᒪᔪᓂᒃ ᑐᕈᓯᒪᒍᑎᐅᔪᑦ ᐊᕗᖓᐅᓕᓯᒪᖏᖏᑐᒻᒪᓇᐅᕗᑦ, ᑐᕈᓯᒪᒍᑎᑦᓴᐅᑎᓪᓗᒋᓪᓗ ᑐᓴᕐᑎᑕᐅᒍᑎᑕᖏᕐᖃᑦᑕᓯᒪᔪᑦ ᐊᓐᓂᑐᐊᕕᓂᕐᓈᓕᖓᔪᑦ ᓱᕐᕐᑯᐃᓯᒪᓇᑦᓯᐊᒥᒐᑎᒃ. ᐃᓗᐃᑦᑐᓯᐊᓂᒃ ᐊᓐᓂᑐᐊᕕᓂᕐᓂᒃ ᐊᓪᓚᓯᒪᔪᖏᖏᒍᐃᒍᑎᐅᔪᖃᓚᐅᕐᓯᒪᒐᓗᐊᕐᒪᖔᑦ ᖃᐅᔨᒪᓇᖏᖏᑐᖅ. ᓱᕐᕐᑯᐃᑕᐅᒪᖏᖏᒃᑲᓗᐊᕐᓯᑎᒃ ᐊᓐᓂᑐᐊᕕᓂᐅᔪᓂᒃ ᑐᓴᕐᑎᑕᐅᒍᑎᑖᖏᒍᕝᕙᑦᑐᑦ ᓱᕐᓄᓂᒃᑯᑦ ᐱᒻᒪᓇᐅᒋᕗᑦ ᖃᓄᐃᓕᖏᖏᒐᑕᐅᒍᑎᓂᒃ ᖃᐅᔨᒪᒍᑎᐅᑦᓱᑎᒃ ᑐᕈᓯᒪᓂᑦᑎᓂᓪᓗ ᐋᕖᑦ ᐅᓄᕐᓂᖏᑕ ᖃᓄᐃᓕᑦᑕᓂᖏᓐᓂᒃ.

ᑕᐅᓯᔭᕐᔪᐊᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ ᐋᕖᑦ ᐊᐅᖏᑦ ᖃᐅᔨᓴᕐᑕᐅᓚᐅᕐᓯᒪᖏᖏᑐᑦ. ᐊᖏᔪᒻᒪᓇᒻᒥᒃ ᓱᕐᕐᑯᐃᓯᓯᒪᓇᖏᖏᑐᑦ ᐊᑕᐅᓱᑦᓴᔭᐅᒻᒪᖔᑕᓘᓐᓃᑦ ᐅᕝᕙᓘᓐᓃᑦ ᑕᓪᓗᕈᑎᐅᓪᓗ ᓄᕗᐊᓘᓪᓗ ᐃᑭᕋᓴᖓᑕ ᓯᕿᓂᐊᑕ ᐃᓱᐊᓂᑦ ᐱᓯᒪᒐᓗᐊᕐᒪᖔᑕ.

ᐃᓱᒪᒋᔭᖃᕐᐸᑐᒍᑦ ᐃᓄᑦᔪᐊᒥᐅᑦ ᐊᖑᓇᓱᑦᑎᖏᑦ ᐊᓐᓂᑐᐊᖃᓱᖑᒋᐊᖏᑦ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐅᕖᑦ ᐅᓄᕐᓂᖏᑕ ᑕᓯᐅᔭᕐᔪᐊᒥ ᐅᓄᕐᓯᒋᐊᖓᕐᑎᓗᒋᑦ ᐊᓐᓂᑐᕐᑕᐅᒪᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᑕ ᐅᕖᕐᓂᖏᑦ.

ᐊᓯᖏᑎᒍᑦ ᑐᕐᑯᑕᐅᔪᑦ ᐃᓄᓐᓄᑦ (ᓱᕐᓗ ᐅᒥᐊᕐᔪᐊᓄᓪᓗ ᓄᓗᐊᓄᓪᓗ) ᖃᑦᓯᐅᓯᒪᒐᓗᐊᕐᒪᖔᑕ ᑐᓴᕐᑎᓯᒍᑎᐅᓚᐅᕐᓯᒪᖏᖏᑐᑦ.

ᐱᒐᓱᖃᑕᐅᓂᖃᕐᑐᑦ ᑕᐅᑐᑦᑕᖃᕈᓯᖏᑦ

ᓴᓪᓕᓂ, ᐊᖑᓇᑉᐸᑐᑦ ᐅᖃᕐᓯᒪᕗᑦ ᐋᕖᑦ ᑕᑯᔭᐅᕙᑦᑐᑦ ᐊᒥᓱᖕᖑᓯᒪᓂᕐᓴᐅᓕᓇᐊᖏᑦ ᓄᓇᓕᒻᒧᑦ ᖃᓂᓐᓂᓴᐅᓕᕐᓯᑎᓪᓗ ᐊᕐᕌᒍᓕᒫᕐᓗ ᓈᑦᓱᒍ ᑕᑯᔭᐅᕙᓕᕐᑐᓂᒃ ᓴᓪᓖᑦ ᕿᑭᕐᑕᖏᑕ ᖃᓂᒋᔭᖏᓐᓂ. ᐅᕙᓂᐊᕐᓂᐅᓯᒪᔪᑦ ᐊᕐᕌᒍᑦ ᖁᓕᑦ ᐊᓂᒍᕐᑎᓗᒋᑦ ᖃᓂᓐᓂᓴᐅᕐᖃᑦᑕᓯᒪᓕᕐᖁᑦ ᓴᓪᓗᓄᑦ (ᐅᖓᓯᓐᓂᕐᖃᕐᓱᑎᒃ ᒥᑦᓯᑎᓐᓂ 40-50 ᑭᓚᒦᑕᓂᒃ). ᐊᖑᓇᓱᒃᑏᑦ ᐅᑉᐱᕈᓱᒍᑎᕐᖃᓕᕐᑐᑦ ᐅᕙᑕᐅᕙᑦᑐᑦ ᐃᑭᓐᓂᓴᐅᓕᓇᐊᖏᑦ ᐱᔭᑦᐅᓯᑎᒃ ᐅᕖᕖᓂᓕᕐᑭᔪᑦ ᐃᑭᓐᓂᓴᐅᓕᓂᕐᖏᓐᓄᑦ ᕿᒻᒥᕐᖃᐅᑎᑦᓴᕐᖃᓇᐊᕐᖃᕈᓐᓂᕐᒥᓪᓗ ᐱᒻᒪᑕ.

ᐊᖑᓇᓱᒃᑏᑦ ᑭᖑᖑᓕᕐᓂ ᑐᓴᕐᑕᐅᑎᑦᓯᓯᒪᔪᑦ ᐊᑯᓗᓕᐅᒥᓯᒪᒋᐊᖏᑦ ᐅᕖᕐᓂᒃ ᑕᑯᓂᕐᕐᐸᑐᑦ ᓄᓇᓕᒻᒥᓄᑦ ᐅᖓᓯᑑᖏᑦᑐᓂᒃ. ᑕᒫᓂ ᐅᕝᕙᑕᐅᕙᑦᑐᑦ ᐅᑭᐊᒥᓗ ᐅᑭᐅᒥᓗ ᐱᔭᐅᓗᐊᖑᖑᓇᓱᖑᔪᑦ ᐃᒪᐅᑉ ᓱᓈᓂᑦ ᐅᑭᐊᕐᑐᑐᓄᑦ ᑐᕙᖑᖏᓂᕐᓂ. ᐅᑭᐊᖑᒍᑎᓪᓗᒍ ᐋᕖᑦ ᑕᑯᔭᐅᓱᑦ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓄᑦ ᐃᖏᕐᕋᔪᑦ ᓯᑯᑎᒍᑦ. ᐅᑉᐱᕈᓱᒍᑕᐅᔪᑦ ᑖᒃᑯᐊ ᓂᕐᔪᑏᑦ ᐱᓯᒪᒋᐊᖏᑦ ᐊᒥᕐᑐᕐᒥᐅᑦ ᐃᒪᕐᐱᖓᓂᓪᓗ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᕐᕋᖓᓂᑦ. ᐃᒪᐅᑉ ᓱᓈ ᐋᕖᖃᖏᓐᓇᓱᖑᒻᒪᑦ ᐅᑭᐅᖅ ᓈᑦᓱᒍ.

ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᐊᖑᓇᓱᒃᑏᑦ ᑐᓴᕐᑕᐅᑎᑦᓯᖃᑦᑕᓯᒪᓕᕐᒥᔪᑦ, ᐊᒥᓲᕝᓚᐅᓇᐊᖏᑦ ᐃᓈᑦ ᓄᓇᓕᒻᒧᑦ ᖃᓂᑦᑐᑦ ᖃᓂᑦᑐᓂᓗ ᕿᑭᕐᑕᓃᓱᖑᑦᓱᑎᒃ. ᑕᒐᑕᒐᓕ ᐃᑭᑦᑐᒪᓇᐊᓗᓕᕐᑐᑦ ᓴᓂᑭᓗᐊᒧᑦ ᖃᓂᑦᑐᐃᑦ. ᐃᕕᕐᓯᐅᓇᐊᓇᐊᖃᓲᖑᓕᕐᐳᓗ ᖁᒻᒥᐅᑎᓄᑦ ᓯᑉᑎᒻᐱᓇᐅ ᑕᕐᕿᖓ ᐊᑐᓕᑐᐊᕐᒪᑦ.

ᓄᓇᕕᒻᒥᐅᑦ ᐊᖑᓇᓱᒃᑏᒃ ᑐᓴᕐᓴᐅᒍᑎᖃᖃᑦᑕᓯᒪᓕᕐᑐᑦ ᐃᑉᑯᓂᐊᕐᓂᖅ ᐊᓐᓂᑭᓕᓯᒪᓕᓇᐊᖓ ᐱᑦᔪᑎᖃᕐᓯᓂ ᐃᑭᓐᓂᓴᐅᓕᕐᑐᓂᒃ ᕿᒻᒥᖃᐅᑎᑦᓴᑕᐊᓕᓐᓂᒃ ᐱᑕᖃᓕᓇᐊᖓ. ᐃᓱᒫᔭᒍᑎᖃᕐᓯᑎᓪᓗ ᖁᒻᒥᓇᕐᑐᑕᖃᓲᓂᒃ ᐱᓗᐊᕐᑐᒥ ᐃᑭᑦ ᓄᓇᖁᑎᖏᑕ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓃᑦᑐᓂᒃ. ᐃᓄᑐᐃᓐᓄᑦ ᐃᓱᒫᓗᒍᑎᖃᕐᒪᑕ, ᐱᓗᐊᕐᑐᒥ ᓯᑕᒪᓂ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓂ ᓄᓇᓕᓐᓂ, ᐃᓱᒫᓗᒍᑎᖃᕐᓯᑎᒃ ᐃᖁᒪᓕᐅᕈᑎᑦᓴᓂᒃ ᐱᓇᓱᑦᑐᑦ ᓱᕐᓄᓂᓇᓂᐊᕐᑕᖏᓐᓂᒃ ᐃᒪᕐᐱᐅᑉ ᓂᕐᔪᑎᖏᓐᓂᒃ.

ᐃᓱᓕᒍᑏᑦ

ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐅᕕᕐᑯᑎᖏᑦ ᐊᖏᔪᐊᓗᒻᒥᒃ ᓄᓇᖃᕐᒪᑕ, ᐱᒋᐊᕐᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᕐᕋᖓᓂᑦ, ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᖓᓂᒃ ᕿᑭᕐᑖᓗᓪᓗ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓂ ᐃᒪᐅᑉ ᓱᓈᓂᒃ (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑎ 1.). ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᑦ 2014-ᒥ ᐊᒻᒪᓗ ᐅᕕᑦ ᐅᓄᕐᓂᓇᓕᕐᕐᑯᑕᖏᓐᓃᓯᒪᒍᑏᑦ ᐱᓇᓱᑦᑕᐅᓯᒪᕗᑦ ᑕᓯᐅᐅᔭᕐᔪᐊᒥ/ᑕᓪᓗᕈᑎᐅᑉ ᓄᓇᖓᓂ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐅᕕᕐᑯᑎᖏᓐᓂᒃ (ᑕᑯᑦᓴᐅᑎᑦᓯᒍᑎᑦ 2). ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒃᑕᓯᒪᒻᒥᔪᑦ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂ ᕿᑭᕐᑕᓘᑉ ᓯᑦᔭᖓᓂ (2005-2008) ᐊᕐᕌᒍᖏᓐᓂ, ᑖᒃᑯᐊ ᐱᔪᓐᓇᕈᑎᐅᓯᒪᔪᑦ ᒥᑦᓵᐅᓵᓇᓂᕐᒥᒃ ᐅᓄᕐᓂᖃᕐᑐᓂᒃ ᒥᑦᓯᑎᓐᓂ 2,500-ᓂᒃ ᐅᕕᐊᓗᓐᓂ (ᖃᓂᓐᓂᐹᒧᑦ 100 ᑎᑭᐅᑎᑎᑦᓱᒋᑦ). ᑕᒪᒃᑯᐊ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᓐᓂᐅᔪᑦ ᐃᓚᖏᑦ ᐃᓚᖃᕐᑐᑦ ᓯᕿᓂᐅ ᓄᐃᕕᐊᓂᐅᓂᕐᓴ ᓯᕿᓂᕐᒦᑐᓂᒃ ᕿᑭᕐᑕᓘᒻᒥ, ᐃᓚᐅᑦᓱᑎᒃ ᑕᓪᓗᕈᑎᐅᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᓄᑦ ᑭᓯᐊᓂ ᑕᒫᓂ ᐃᕕᕐᓂᒃ ᖃᐅᔨᓚᐅᔪᖕᒋᑐᑦ. ᑖᒃᑯᐊ ᕿᑭᕐᑕᓘᑉ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓃᑦᑐᑦ ᐊᓐᓂᑐᕐᕕᐅᕙᒻᒥᔪᑦ ᐊᑯᑭᑦᑐᒥᐅᓄᑦ. ᑐᑭᓯᓯᒪᑦᓯᐊᕈᑎᑦᓴᑦ ᐃᓈᑦ ᐊᐅᓚᓂᖏᓐᓂᒃ ᖃᑦᓱᓗ ᑐᕐᑯᑕᐅᓱᖑᓂᖏᓐᓂᒃ ᐱᑕᖃᓇᐊᖃᓪᓚᓇᑦᑐᑦ ᓱᕐᕐᑯᐃᓯᓯᒪᓂᕐᓴᐅᑎᑦᓴᐅᑎᓪᓗᒋᑦ ᑲᔪᓯᐅᒐᕐᑎᑕᐅᒍᓐᓇᓂᖏᓐᓂᒃ ᐊᓐᓂᑐᕐᕕᐅᕙᒃᑲᓗᐊᕐᓗᑎᒃ ᑕᒪᖏᓐᓂ ᓄᓇᓕᕐᓚᐅᔫᓐᓂ.

ᐃᓚᐅᑎᑦᓯᒍᑎᖃᖃᑦᑕᓂᖅ ᐱᑕᖃᓕᕐᑐᓂᒃ ᑐᑭᓯᒪᔭᐅᒍᑎᓂᒃ ᐃᓕᖓᑦᓱᑎᒃ ᐊᓐᓂᑐᐊᖃᕐᓂᓄᓪᓗ ᐊᒻᒪᓗ ᐅᓄᕐᓂᖏᓐᓂᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᔪᑦ ᐊᒥᓱᐃᓂᑦ ᑭᓯᑦᓯᓂᐅᖃᑦᑕᓯᒪᔪᓂᑦ ᐊᕐᕌᒍᑦ 60 ᐅᖓᑖᓄᑦ ᐱᒍᓐᓇᓯᓚᕿᑦᓱᑦ ᑭᓯᑦᓯᒋᐊᒥᒃ ᐱᓇᓱᒍᑎᐅᔪᓄᑦ ᐃᑭᓕᒋᐊᓇᓃᑦ ᓱᕐᕐᑯᐃᓯᓯᒪᓇᖕᖏᑐᓂᒃ ᒥᑦᓴᐅᓵᓇᒍᑎᐅᓯᒪᑦᓱᑎᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᑕ ᐅᕕᖏᓐᓂ ᑖᒃᑯᐊ ᐱᑕᖃᕐᑎᓯᒍᑎᐅᓯᒪᔪᑦ ᐃᒣᓪᓗᐊᕐᑰᓕᕐᒪᑖᓯᒪᒍᑎᐅᒍᓐᓇᑐᓂᒃ. ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᐅᓯᒪᔪᖕᒦᓂᒃ ᑐᖕᖓᕕᓕᓐᓂᒃ ᐃᒣᓕᖓᒋᐊᖓᑭᑎᖃᕐᑐᓴᐅᓕᕐᑯᑎᑦᑕᐅᒍᑎᖃᕐᓂᖅ ᐱᐅᓂᕐᓴᐅᔪᖅ ᐱᑦᔪᑎᖃᕐᓯᓂ ᑐᑭᓯᒪᒍᑎᑦᓴᑕᖑᓯᒪᔪᓕᒫᓂᒃ ᐊᑐᕐᓱᑎᒃ ᑭᓯᑦᓯᓯᒪᒻᒪᑕ. ᑕᒐᑕᒐ ᐃᓱᒫᓗᓐᓇᑐᖃᑦᓴᐅᑎᒋᖕᖏᑐᖅ ᑲᔪᓯᐅᒐᕐᓂᓇᓂᐊᕐᑕᖏᓐᓄᓕᖓᔪᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᓗ/ᑕᓪᓗᕈᑎᐅᓪᓗ ᑕᕐᕋᖓᑕ ᐃᕕᖏᓐᓂ ᑕᒪᑐᒪ ᑕᓯᐅᔭᕐᔪᐊᑉ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᒪᕐᐱᖏᑕ ᐃᕕᖏᓐᓂ.

ᑕᓯᐅᔭᕐᔪᐊᒥ ᓯᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᒥᐅᑦ ᐃᑭᑦ ᐊᒥᓲᒍᓐᓄᑐᑦ ᑕᑯᔭᐅᕕᒋᕝᓚᐅᕐᑕᒥᓂᓗ ᑕᑯᔭᐅᔪᕕᓂᐅᒋᐊᖏᑦ ᑐᓴᕐᓴᐅᓲᖑᒍᓐᓄᓯᒪᓕᕐᓯᑎᒃ ᑕᑯᔭᐅᒐᓗᐊᕐᒥᓪᓗ ᐃᑭᑦᑐᖑᐊᕐᕕᐅᑦᓯᑎᒃ ᑭᓯᐊᓂᐅᕝᓕᕐᓯᑎᒃ. ᑎᒥᒃᑲᓗᐊᕐᑎᓗᒋᑦ, ᑕᒪᒃᑯᐊ ᐃᑭᓕᒋᐊᕐᓯᒪᓂᖏᑦ ᐱᒋᐊᕐᓯᒪᒍᓇᐅᔫᕐᐳᑦ 1950-ᓃᑦᑐᓂ ᐊᕐᕌᒍᕐᓂ. ᐊᒥᓲᖏᑐᒐᓗᐊᑦ, ᓴᓂᐊᓐᓂ ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᐃᕕᖏᑕ ᐅᓄᕐᓂᖏᑐᑦ ᑭᓯᑕᐅᑦᓯᐊᓚᐅᕐᓯᒪᖏᓚᓇᒻᒪᑕᓗ ᖃᑦᓯᓗᑑᓂᕋᕋᓱᒐᔭᓇᐊᖏᑦ ᐊᔪᕐᓇᕕᑉᐳᑦ.

ᑲᒪᔨᒋᔭᐅᔪᑦ ᐃᓱᒫᓗᒍᑎᒋᒋᐊᓕᖏᑦ

ᑕᓯᐅᔭᕐᔪᐊᓗ ᑕᓪᓗᕈᑎᐅᓪᓗ ᕿᑭᕐᑖᓗᓪᓗ ᓯᕿᓂᐊᑕ ᓄᐃᕕᐊᓂ ᐃᒪᕐᐱᒃ ᐊᖏᔪᒻᒪᓇᐊᓘᖅ. ᑕᒪᒃᑯᐊ ᓯᑦᔭᖏᑦ ᐃᓗᐃᑦᑐᓯᐊᓂᒃ ᑭᓯᑦᓯᐃᐅᓚᐅᕐᓯᒪᕋᑕᖕᖏᑐᑦ ᐊᑕᐅᓯᕐᒥ ᐊᕐᕌᒍᒥ. ᑐᑭᓯᒪᒍᑎᐅᔪᓂᒃ ᓄᑕᐅᓯᓕᑎᓇᓃᑦ ᐃᓕᖓᑎᓪᓗᒋᑦ ᐅᑦᑕᓂᖏᓐᓂᒃ ᑖᒃᑯᓇᓂ ᓄᓇᓂ ᐱᔪᓐᓇᕈᑎᐅᒐᔭᕐᑐᓴᐅᔪᖅ ᐊᑦᔨᒋᖕᖏᑕᖏᓐᓂᒃ ᐃᓕᒃᑰᑐᓂᒃ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᐊᕐᓂᒥᒃ, ᐊᐅᓚᑕᐅᑎᓪᓗᒋᒃ ᒪᕐᕈᐃᓕᖓᑎᑕᐅᓗᑎᑦ ᐅᕕ, ᐅᕝᕙᓘᓐᓃᑦ ᐱᓇᓱᒍᑎᓕᐅᕐᓗᑎᒃ ᑲᑎᑦᑕᓂᓇᓱᖏᓐᓄᓕᖓᔪᓂᒃ ᑖᒃᑯᓇᓂ ᓄᓇᓂ.

ᓱᒃᑯᐊᕐᑭᓂᕐᒧᑦ ᑎᑭᐅᑎᒋᒃᑯᑎᑦᓴᓂᒃ ᑐᖕᒐᕕᓕᐅᕐᑕᐅᓯᒪᒋᐊᕐᒃᑕᓯᐊᑐᑦ ᒃᒪᕆᒋᔭᐅᔪᓪᓗ ᑐᑭᓕᐅᕐᓯᒪᑦᓯᐊᑐᓂᒃ ᒪᓕᒐᕐᑕᑕᐅᓗᑎᒃ ᐃᓕᖕᒐᔪᓂᒃ ᐅᕕᕐᓄᑦ. ᑐᒥᓕᖕᒐᑐᐊᕈᑎᒃ ᓱᒃᑯᐊᕐᑭᓂᐅᒍᓐᓇᑐᓂᒃ-ᑐᖕᒐᕕᓕᓐᓂᒃ ᐃᒫᖕᒥᕈᑎᓂᒃ ᓄᐃᑦᓯᒍᑎᐅᒐᔭᕐᓗᑎᒃ. ᑕᒪᒃᑯᐊᓕ ᓇᓪᓕᐅᑎᓚᐅᖕᖕᒋᓂᖕᒋᓐᓂ, ᐱᓇᓱᒍᑎᓕᐊᖕᒍᒪᔪᑦ ᓄᑕᐅᓯᓕᔭᐅᕐᑲᑦᑕᑐᑦᓴᐅᕗᑦ ᓄᑖᑦ ᑭᓯᑦᓯᓂᕐᒥᒃ ᐱᓇᓱᒍᑎᕕᓃᑦ ᓄᐃᑕᐅᑐᐊᕐᒪᒐᑕ ᐱᑕᕐᑲᕐᑎᓯᒍᑎᐅᓗᑎᒃ ᐅᑉᐸᑕᐅᒍᓐᓇᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ ᒥᑦᓴᐅᓵᓇᒪᒍᑎᓂᒃ.

ᒪᓕᒐᕐᑕᓴᖕᒋᑦ ᓄᐃᑕᐅᒋᐊᕐᑲᕐᑐᑦ ᐃᓂᓪᓗᒍᑎᐅᓗᑎᒃ Fr factors-ᓂᒃ, ᐃᓚᕐᑲᕐᒥᓗᑎᒃ ᑐᑭᓯᓇᑦᓯᐊᑐᓂᒃ ᒪᓕᒐᕐᑲᕐᑎᓯᒍᑎᓂᒃ ᐅᕝᕙᑕᐅᒍᕐᑯᓐᓇᑐᑦ ᑭᓯᑕᐅᒪᒍᑎᖕᒋᑦ ᐊᑐᕐᑕᐅᑎᑕᐅᓕᕐᐸᑕ ᐊᒻᒪᓗ ᐊᓯᖕᒋᑦ ᓱᒃᑯᐊᕐᑭᓂᐅᒍᓐᓇᑐᓂᒃ ᑐᖕᒐᕕᕐᑲᕐᓱᑎᒃ ᓇᐅᑦᓯᑐᕐᓂᒥᒃ ᐱᓇᓱᒍᑎᐅᔪᑦ ᐊᑐᕐᑕᐅᒐᔭᕐᓂᖕᒋᑦ.

ᑐᓴᐅᒪᔭᑦᓴᓂᒃ ᐱᕕᐅᓯᒪᔪᑦ

ᑖᒃᑯᐊ ᓱᑯᐃᓴᔨᑎᒍᑦ ᐃᒫᖕᒥᕐᑏᑦ ᑐᓴᕐᑎᓯᒍᑎᖕᒋᑦ ᐱᔭᐅᒪᕗᑦ ᐆᒃᑐᐱᓇ 20-23. 2015 ᐅᓪᓗᖕᒋᓐᓂ ᐊᕐᕋᒍᑕᒫᕐᓯᐅᑎᒥᓐᓂᒃ ᑲᑎᖕᒐᓂᕐᑲᕐᑎᓯᓂᓇᓚᐅᔪᔭᖕᒐᓐᓂᒃ ᑲᓇᑕᓕᒫᒥ ᐃᒪᕐᐱᐅᑉ ᓂᕐᔪᑎᖕᒋᓐᓂᒃ ᓇᓪᓕᕐᑯᐊᓈᑎᒍᑦ ᕿᒥᕐᕈᓂᕐᒥᒃ ᑲᑎᖕᒐᔨᑎᒍᑦ (NMMPRC-ᑯᓂ). ᐊᓪᓚᓯᒪᔪᖕᒐᒍᐃᒍᑎᓕᐊᖕᒍᒋᐊᓪᓛᓯᒪᔪᑦ ᑕᒡᒐᖕᒐᑦ ᑲᑎᖕᒐᓂᕐᒥᑦ ᐱᔭᐅᔪᕕᓃᑦ ᑕᑯᑦᓴᖕᒍᕐᑎᑕᐅᓛᕐᕐᑯᑦ ᐅᕝᕙᓂ ᖃᓇᑕᐅᔭᑎᒍᑦ ᑕᑯᓇᓱᑦᑕᐅᕕᒻᒥ DFO Science Advisory Schedule ᑐᖕᒐᕕᕐᑲᕐᓗᑎᓪᓗ ᐊᑐᐃᓐᓇᕈᕐᐸᓕᐊᓂᕐᒥᓂᒃ ᓄᐃᑕᐅᓂᕐᑲᕐᑲᑦᑕᓚᖕᒐᕗᑦ.

ᐅᑯᐊ ᐅᓂᒃᑳᓕᐊᑦ ᐊᑐᐃᓐᓇᕗᑦ ᐅᑯᓂ ᑐᕌᕈᒻᒥ:

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Aussi disponible en français :

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