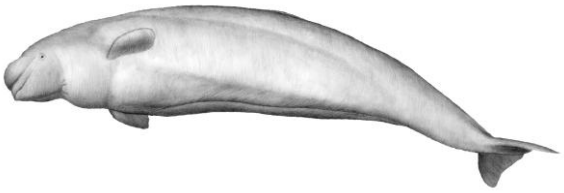
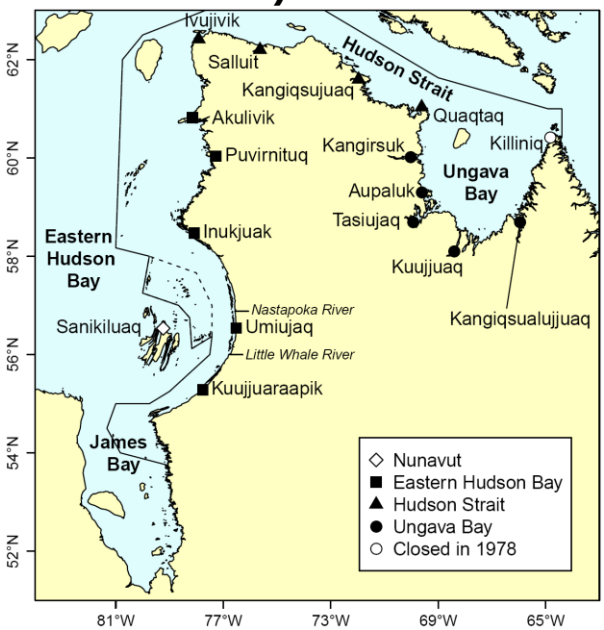
Fisheries and Oceans Canada | Pêches et Océans Canada
Science | Sciences

ᑲᓇᑕᒥ ᐃᓱᒪᑕᑭᑎᓄᑦ ᐃᓱᒪᑦᓴᓯᐅᕐᑏᑦ ᐊᓪᓚᕕᖓᑦ
ᑯᐯᒃ ᓄᓇᖓᓂ ᐃᓱᒪᑕᑭᑎᐅᑉ ᐃᓱᒪᑦᓴᓯᐅᕈᑕᐅᓂᖓᓂᒃ ᑐᓴᕈᑏᑦ **2012/076**

# ᐃᓱᒪᓕᐅᕈᑏᑦ ᓄᓇᕕᐅᑉ ᕿᓚᓗᒐᖏᓐᓂᒃ ᐊᓐᓂᑐᕐᓂᒍᓕᖓᔪᑦ
# (*DELPHINAPTERUS LEUCAS*)



*G. Kuehl*




ᐊᑦᓱᖕᒍᐊᖅ 1. ᓄᓇᖕᒍᐊᖅ ᓄᓇᕕᐅᑉ ᓄᓇᓕᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓄᓇᕕᐅᑉ ᑕᓇᐅᕐᑯᑎᖓᑕ ᑭᓪᓕᖏᓐᓄᑦ (ᑭᐱᑦᑕᖏᑦᑐᒥᒃ ᑎᑎᕐᓯᒪᔪᖅ) ᐊᒻᒪᓗ ᐊᑦᓱᑏᒥᒃ ᐊᑐᕐᑕᐅᔪᑦ ᐊᒻᒪᓗ ᓇᔪᕐᑕᐅᔪᑦ ᑭᓪᓕᖏᓐᓄᑦ (ᑭᐱᑦᑕᑐᒥᒃ ᑎᑎᕐᓯᒪᔪᑦ).

G. Kuehl

## ᕐᑲᓄᐃᓕᖓᑦᓯᐊᓂᖓ

ᓄᓇᕕᐅᑉ ᐃᓄᖏᑦᑕ ᕿᓚᓗᒐᕐᓂᐊᓂᖓᑦ ᐱᒻᒪᕆᐅᕗᖅ ᐃᓗᕐᑯᓯᕐᒥᒃ ᐊᒻᒪᓗ ᐃᓅᒍᑎᑦᓴᓂᒃ ᓂᕿᑦᓴᓂᐊᕐᓂᒥᒃ ᑕᑯᓐᓇᓯᓂ. ᐅᓪᓗᒥ ᐆᒪᔪᕐᓂᐊᓂᖏᑦ ᑐᕋᖓᑦᑐᑦ ᐅᐱᕐᖏᐊᒻᒥᓃᑦᑐᓂᒃ ᐊᒻᒪᓗ ᓂᒪᑦᑐᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐊᑦᓱᑏᖕᖏᑐᓂᒃ ᕿᓚᓗᒐᐅᖅᑎᑏᓂᒃ ᐱᓯᒪᔪᓂᒃ, ᑖᒃᑯᓄᖓ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖓᑕ ᓄᓇᕕᒻᒥ (EHB) ᕿᓚᓗᒐᖏᑦ ᐊᒻᒪᓗ ᐅᖓᑭᐅᑉ (UB) ᕿᓚᓗᒐᖏᑦ ᐃᓚᐅᑎᓪᓗᒋᑦ. ᑮᓇᐅᔭᓕᐅᕈᑎᒋᑦᓯᒋᑦ ᕿᓚᓗᒐᕐᓂᐊᓃᑦ ᐲᕐᓯᒍᑕᐅᓯᒪᔪᑦ ᐃᑭᓈᕐᓗᒋᑦ 1,340-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐅᖓᑭᒥᒃ 1860-ᐅᑉ ᐊᕐᕌᒍᖏᑦᑕ ᐊᒻᒪᓗ 1900 ᐊᕐᕌᒍᖏᓐᓂ ᐱᒋᐊᖅᖓᓂᖏᑦᑕ ᐊᑯᓐᓂᖓᓂ, ᐊᒻᒪᓗ ᐃᒻᒪᖃᐅᑦᓵᓯᒪᒻᒥᓯᓂ ᐱᓯᒪᒋᐊᖏᓐᓂᒃ 7,875-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᕐ ᓯᓂᖓᓂ ᑯᐯᒻᒥ ᐊᕐᕌᒍᐃᑦ 1854 ᐊᒻᒪᓗ 1863 ᐊᑯᓐᓂᖏᓐᓂ. 2004-ᒥ, ᑲᑎᒪᔨᑦ ᓄᖑᑕᐅᓂᐅᔭᔪᓄᑦ ᐆᒪᔪᓄᑦ ᑲᓇᑕᒥ (COSEWIC) ᕿᓚᓗᒐᕐᓂᒃ UB-ᒥᐅᓂᒃ ᐊᒻᒪᓗ EHB-ᒥᐅᓂᒃ ᐃᓕᔭᐅᕐᑯᔨᓚᐅᕐᓯᒪᔪᑦ ᓄᖑᑕᐅᓂᐅᔭᔪᓂᒃ ᓈᓴᒪᒍᑎᓄᑦ.

ᐊᓐᓂᑐᕐᓃᑦ ᓄᓇᕕᒻᒥ ᐊᐅᓚᑕᐅᒍᑎᖃᕐᓯᑐᑦ ᒪᓕᑦᑎᑏᓂᒃ ᕿᓚᓗᒐᕐᓂᐊᕕᑦ ᐅᒃᑯᐊᓯᒪᕕᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᐊᕐᕌᒍᑦ ᐃᓚᖓᓂ ᐊᒻᒪᓗ ᓄᓇᕐᖃᑎᑏᖅᑐᕐᑎᒍᑦ ᐱᒍᑎᑦᓴᖃᕈᑎᓂᒃ. 2006-ᒥ, ᓄᓇᕕᒻᒥ ᐃᓄᐃᑦ ᓄᓇᑖᕐᓂᒍᑦ ᐊᖏᖃᑎᑏᓐᓂᖓᑦ ᐊᑎᓕᐅᕐᕕᐅᓚᐅᔪᔪᖅ, ᒪᑭᑦᓯᒍᑕᐅᓂᐊᓕᕋᒥ ᓄᓇᕕᒻᒥ ᑕᓇᐅᕐᒥᐅᑕᓕᓇᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓂᒃ (NMRWB) ᑲᒪᔨᐅᒍᑎᓕᓐᓂᒃ ᓄᓇᕕᐅᑉ ᕿᓚᓗᒐᖏᓐᓂᒃ ᐊᐅᓚᑦᓯᔨᐅᖃᑕᐅᓂᕐᒥᒃ. ᐅᓪᓗᒥ ᐊᑐᕐᑐᑦ ᐊᐅᓚᑦᓯᒍᑎᑦ ᐸᕐᓇᑕᐅᒪᒍᑎᖏᑦ ᕿᓪᓗᐊᒻᒪᖃᕐᑐᑦ ᓄᖑᑎᓇᑦᑐᓂᕐᒥᒃ EHB-ᒥ ᐊᒻᒪᓗ UB-ᒥ ᕿᓚᓗᒐᕐᓂᒃ ᑭᓯᐊᓂ ᕿᒥᕐᕈᔭᐅᓂᑦᓴᖏᑦ ᓇᓪᓕᐅᑎᒋᐊᖃᓕᕐᒥᔪᑦ 2012-2013-ᒥ. ᑖᒃᑯᐊ ᐊᓪᓚᓯᒪᔪᑦ ᑲᒪᓚᖓᔪᑦ ᐊᑐᓂ ᒪᑯᓂᖓ ᑐᑦᓯᕐᕌᖑᓯᒪᔪᓂᒃ DFO-ᑯᑦ ᐆᒪᕕᓐᓂᒃ ᐊᒻᒪᓗ ᐃᖃᓗᓐᓂᐊᕕᓐᓂᒃ ᐊᐅᓚᑦᓯᔨᒃᑯᖏᓐᓄᑦ:

1) ᑲᖅᖑᓇᕐᕈᓂᖅ ᐅᓄᕐᓂᖏᓐᓂᒃ EHB–ᒥ ᕿᓚᓗᒐᕐᓄᑦ ᐊᒻᒪᓗ ᑕᒪᑐᒥᖓ ᐅᓪᓗᒥ ᐊᓐᓂᑐᕐᓂᐅᑭᑦᑐᑦ ᓱᕐᖑᒍᑎᖏᓐᓂᒃ.
2) ᓇᓗᓐᕐᓯᓂᖅ ᐅᓄᕐᓂᑉᖑᒍᑎᓪᓗᒋᑦ ᖃᑦᓯᕐᕌᕕᐅᒍᓐᓇᓂᖏᓐᓂᒃ ᒪᑭᑦᓯᓚᖓᓗᓂ 25%, 50% ᐊᒻᒪᓗ 75%-ᒥᒃ ᐅᓄᕐᓯᒋᐊᓪᓚᕈᓇᐅᓂᕐᒥᒃ EHB–ᒥ ᕿᓚᓗᒐᕐᓄᑦ, ᐃᓱᒪᓗᓂ ᕿᓚᓗᒐᕐᓂᐊᓂᐅᑉ ᖃᖓᐅᓂᖓᓂᒃ ᐊᒻᒪᓗ ᓇᓃᓐᓂᖓᓂᒃ.
3) ᕿᒥᑦᓯᓂᖅ ᓴᑐᕐᑎᓯᓂᒃᑯᑦ ᑐᕌᕐᑕᐅᔪᑦᓴᒥᒃ ᒪᑲᑦᑕᓕᒪᔪᒥᒃ ᐱᐅᓯᖃᕐᕈᑎᐅᑉ ᐊᑖᒍᑦ ᐊᒻᒪᓗ ᓄᐃᑦᓯᓂᖅ ᖃᓄᐃᓕᖓᓗᑎᒃ ᐅᓄᕐᓂᑉᖓᓄᑦ ᐊᕐᕌᒍᑕᒫᑦ ᐊᓐᓂᑐᖃᑦᑕᕈᓐᓇᓂᖏᓐᓂᒃ EHB–ᒥ ᕿᓚᓗᒃᑦ ᓯᓕ ᐱᕕᖃᕐᑎᓯᖏᓐᓇᓗᓂ ᓴᑐᕐᓂᖏᓐᓂᒃ ᐊᕐᕌᒍᐃᑦ 25 ᐊᒻᒪᓗ 50 ᐊᑯᓐᓂᖓᓂ.

ᐃᐳᓗ2013

Canada

## ᐅᖃᓇᐊᑭᓪᓕᑎᕈᑏᑦ

- ᓄᓇᕗᑦ ᐊᖑᓇᓱᑦᑎᖅᑭᑦ ᖃᓚᓗᒐᓲᖑᕗᑦ ᐅᐊᕈᑎᒌᓂᒃ ᖃᓂᓪᓕᓈᖅᑭᑐᓂᒃ ᖃᓚᓗᒐᕐᓂᒃ ᓇᓗᓄᕐᓯᒪᒍᑎᓕᓐᓂᒃ ᐃᓛᒃᑯᑦ ᐅᐱᖅᑭᕕᒻᒥᓂᒃ: ᑕᓯᐅᔭᕐᔪᐊᑦ ᐊᑭᐊᓂᒥᐅᑦ (WHB), ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐᓂᒥᐅᑦ (EHB) ᐊᒻᒪᓗ ᐅᖅᒐᕝᒥᐅᑦ (UB). ᖃᑕᖅᖑᑎᒌᑦᓴᔭᐅᓂᖅᑭᓐᓂᒃ ᑲᖅᖑᓇᕐᑭᐅᑏᑦ ᑕᑯᑦᓴᕈᐃᓯᒪᔪᑦ EHB-ᒥᐅᕐᑦ ᖃᓚᓗᕐᑦ ᐆᒪᔪᕐᑕᐅᔪᓄᑦ ᐅᐊᕈᑕᐅᓂᖅᑭᑦ ᐊᑦᐳᒌᖅᑭᒥᐊᖅᑭᑕ ᑕᒪᓐᓇ ᐊᐅᓚᑕᐅᑎᓪᓗᒍ ᓇᓃᓐᓂᒧᑦ ᐊᒻᒪᓗ ᐊᕐᕌᒍᒥ ᖃᖅᒐᐅᓂᖅᒐᓄᑦ.

- 2012-ᒥ ᐅᖃᕐᑕᐅᓯᒪᔪᑦ ᐊᓐᓂᑐᕈᑎᐃᓃᑦ ᑕᖅᑭᖃᓚᐅᔪᔪᑦ 13-ᓂᒃ ᖃᓚᓗᒐᕐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐᓂ ᐱᔭᐃᓂᕐᓂᒃ, 12-ᓂᒃ ᐅᖅᒐᕝᒥ ᐱᔭᐃᓂᕐᓂᒃ, 208-ᓂᒃ ᐃᑭᕋᔭᕐᔪᐊᒥ ᐱᔭᐃᓂᕐᓂᒃ ᐅᐱᖅᒐᔭᒃᑯᑦ ᐊᒻᒪᓗ 56-ᓂᒃ ᐅᑭᐊᖑᓕᕐᑎᓗᒍ, 61-ᓂᒃ ᓴᓂᑭᓕᐊᑦ ᒥᑦᓵᓂ (ᓄᓇᕗᑦ) ᐱᔭᐃᓂᕐᓂᒃ, ᐊᒻᒪᓗ 11-ᓂᒃ ᐱᔭᐃᓂᕐᓂᒃ ᕿᑭᕐᑕᔪᐊᑦ/ᐊᒻᔅ ᐯ ᒥᑦᓵᓂ.

- ᓯᓇᒥᑦᓯᔪᑦ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᐅᑎᕐᑕᐃᓕᐅᕐᓯᒪᔪᕐᑎᒍᑦ ᑭᓯᓐᓃᑦ ᐃᒻᒪᖃᐅᑦᓵᕈᑕᐅᓚᐅᔪᔪᑦ ᖃᓚᓗᕐᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᔭᒻᔅ ᐯᒥ ᐊᒻᒪᓗ ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐᓂ ᔪᓐ 19-ᒥᒃ ᐊᐅᒡᒍᔅᑎ 18-ᒧᑦ 2011-ᒥ. ᐊᕐᕌᒍᐃᑦ ᓯᕗᑦᓕᐅᓚᐅᕐᓯᒪᔪᑦ ᐊᑦᐳᒥᒍᓐᓄᓯᒥᑦ, ᓯᑐᔭᕐᑐᒥᒃ ᖃᓂᕐᕕᐅᒥᐊᓕᒃ ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐᑕ ᐊᑯᓗᒐᓂᖅᒐ ᐊᑕᐅᓯᕕᑐᐃᓐᓇᑐᒥᒃ ᑭᓯᑯᕕᐅᓚᐅᔪᔪᖅ ᓯᓚᑦᓯᐊᖑᖃᑦᑕᖅᑭᑦᑐᖅ ᐱᑦᔪᑕᐅᑎᓪᓗᒍ.

- ᐅᖅᒐᑦᒥ ᑭᓯᒍᓐᓇᓚᐅᔪᖅᑭᑐᑦ ᓯᓚᐅᑦ ᐱᐅᖅᑭᓂᑯᖅᒐᓄᑦ. ᓯᕗᑦᓕᓂᑐᑦ ᑲᖅᖑᓇᕐᑭᐅᑕᐅᓕᓃᑦ ᐃᓱᒪᓇᕐᓯᒪᔪᑦ ᖃᑦᓯᓕᒫᓂᒃ UB ᖃᓚᓗᒐᕐᑭᓐᓂᒃ ᐊᓐᓂᑐᕐᓂᖅ ᐊᑦᑕᓇᓇᐊᖅᒐ ᑖᒃᑯᐊ ᓴᑐᕐᓂᐊᓂᖅᒐᓄᑦ.

- ᐳᐃᒪᔪᓂᒃ ᐃᒻᒪᖃᐅᑦᓴᕈᑏᑦ ᓴᒻᔅ ᐯᒥ 7,154-ᖅᑐᓚᐅᔪᔪᑦ. ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓴᕈᑏᑦ ᓴᒻᔅ ᐯᒥ, ᐊᕐᕐᖃᐅᒪᔪᑦ ᖃᓚᓗᕐᑦ ᐋᕐᕐᑭᒥᐊᕈᑕᐅᓕᕐᒪᑕ, 14,967-ᖅᑐᓚᐅᔪᔪᑦ (CV 29.9%).

- ᐳᐃᒪᔪᓂᒃ ᐃᒻᒪᖃᐅᑦᓴᓂᐅᑉ ᓇᓗᓄᕈᑎᖅᒐ EHB-ᒥ ᖃᓚᓗᒐᕐᓄᑦ 1,434-ᖅᑐᓚᐅᔪᔪᖅ. ᐋᕐᕐᑭᒥᐊᕐᑎᓯᒥᑦ ᐊᕐᕐᖃᐅᒪᔪᓄᑦ ᖃᓚᓗᒐᕐᓄᑦ ᐊᒻᒪᓗ ᐃᓚᑦᓯᒥᑦ 354-ᓂᒃ ᖃᓚᓗᒐᕐᓂᒃ ᖃᓚᓗᒐᕐᓯᐅᕕᐅᑉ ᓯᕗᕋᓕᓂᐊᓃᑦᑐᓂᒃ ᓄᐃᑦᓯᓚᐅᔪᔪᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓴᕈᑎᒥᒃ 3,351-ᓂᒃ ᖃᓚᓗᒐᕐᓂᒃ (CV 48.9%) ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐᓂ.

- 2011-ᒥ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓴᕈᑎᕕᐅᓃᑦ ᐊᑐᓚᐅᔪᔪᑦ ᓄᑕᐅᓯᓕᑎᓇᐅᑕᐅᑦᓯᑎᒃ ᖃᑦᓯᐅᓂᖅᑭᓐᓄᑦ ᐆᑦᑐᕋᐅᑎᒥᒃ ᐃᓚᐅᕐᑐᓯᒪᒻᒥᔪᒥᒃ ᐆᒪᔪᕐᑕᐅᔪᓂᒃ ᖃᐅᔾᒪᐅᑎᓂᒃ ᐊᒻᒪᓗ ᑐᑭᓯᒍᑎᓂᒃ ᓇᓪᓕᖅᑭᑦ ᖃᑦᓯᕋᕐᕕᐅᓂᖅᑭᓐᓂᒃ ᑎᒍᓯᒪᔪᓂᒃ ᖃᑕᖅᖑᑎᒌᓐᓂᖅᑭᓐᓂᒃ ᖃᐅᔾᔭᕈᑎᑎᒍᑦ. ᐆᑦᑐᕋᐅᑎᖅᑭᑦ ᐃᓱᒪᓇᕐᑎᓯᔪᑦ EHB-ᒥ ᖃᓚᓗᕐᑦ ᑲᑕᕐᓯᒪᓂᖅᑭᓐᓂᒃ ~4,000 ᒥᑦᓵᓂᒃ 1985-ᒥ ~3,000 ᒥᑦᓵᓄᑦ 2011-ᒥ, ᑎᒪ ᑮᑖᐱᒃ ᐅᓄᕐᓯᐅᒥᔪᕕᓂᐅᓂᖅᑭᓐᓂᒃ ~3,200 ᒥᑦᓵᓃᓕᕐᒥᓯᑎᒃ 2012-ᒥ.

- ᐆᑦᑐᕋᐅᑎᖅᑭᑦ ᑕᑯᑦᓯᒥᑦ, ᐲᕐᓯᑭᓐᓂᖅ 62-ᓂᒃ EHB ᖃᓚᓗᒐᖅᑭᓐᓂᒃ ᖃᕐᔪᓂ ᐊᓐᓂᑐᕐᓂᐅᓛᕐᑐᓂ 50%-ᒥᒃ ᓄᖑᑎᓇᒍᓇᐅᓂᖅᑲᕐᐳᖅ ᑖᒃᑯᓂᖅᒐ ᖃᓚᓗᒐᖅᑭᓐᓂᒃ, ᐃᑭᓐᓂᓴᓂᒃ ᐊᓐᓂᑐᖅᑲᑦᑕᐸᑕ ᑕᒪᓐᓇ ᐱᕕᖅᑲᕐᑎᓯᒪᔭᕈᓇᐅᑎᓪᓗᒍ ᓴᑐᕐᔫᒥᓂᖅᑭᓐᓂᒃ. 2012-ᒥ ᐊᓐᓂᑐᕐᑕᐅᓯᒪᔪᑦ ᐊᑦᐳᐅᓚᐅᔪᔪᑦ 59-ᓄᑦ EHB-ᒥᐅᔭᓂᒃ ᖃᓚᓗᒐᕈᑎᓄᑦ.

- EHB-ᒥ ᖃᓚᓗᒐᖅᑭᑦ ᓄᓇᕗᑦ ᐊᒻᒪᓗ ᓄᓇᕕᒃ ᑭᓪᓕᖅᑭᑦᑕ ᓇᓪᓗᐊᖅᒐᓃᑉᐳᑦ. 2012-ᒥ, ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᐊᓐᓂᑐᕈᑎᖅᑭᑦ 80%-ᖅᒐᓄᑦ ᐊᒥᒐᖅᑭᓂᕐᓴᐅᓚᐅᔪᔪᑦ ᐱᐅᓯᓇᓯᒪᔭᖅᑭᓐᓂᒃ ᓯᕗᑦᓕᓂ ᐊᕐᕌᒍᓂ ᑕᑦᓕᒪᓂ. ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᐊᓐᓂᑐᕐᓂᖅᑭᑦ ᐅᑦᓗᒥ ᐅᒃᑯᐊᓯᒪᕙᒃᑲᓗᐊᕐᑎᓗᒋᑦ ᐅᐱᖅᒐᒥ ᑕᒪᓐᓇ ᐃᑯᑦᓚᒍᑕᐅᑎᓪᓗᒍ EHB-ᒥ ᖃᓚᓗᕐᑦ ᐱᔭᐅᓂᖅᑭᓐᓄᑦ, ᐆᒪᔪᕐᓂᐊᓂᕐᒥᒍᑦ ᐊᓯᑦᐳᕈᑎᖅᑭᑦ ᐊᖅᑭᔪᒥᒃ ᓱᕐᓄᓂᖃᕈᓐᓇᑐᑦ EHB-ᒥᐅᓂᒃ ᖃᓚᓗᒐᕐᓂᒃ.

- ᐱᕙᓪᓕᐊᓂᖅ ᒪᑲᑦᑐᓕᒍᑎᑦᓴᑦ ᐃᓂᓪᓚᖅᒐᐅᑎᖅᒐᓂᒃ ᐃᓱᕐᓇᑎᑦᓯᒪᔭᕐᑐᖅ ᒪᑭᑕᔭᓪᓗᐊᒥᒃ ᐊᐅᓚᑦᓯᒍᑎᖃᕐᓂᑯᑦ ᐊᒻᒪᓗ ᓴᑐᕐᑎᓯᓂᒃᑯᑦ EHB ᖃᓚᓗᒐᖅᑭᓐᓂᒃ. ᒪᑲᓐᓇᖅᑭᓐᓂᐅᑉ ᓇᓗᓄᕐᓯᒪᐅᑎᖅᒐ ᐅᓕᕐᓄᓯᒪᕗᖅ 70%-ᖅᒍᑎᓪᓗᒍ ᐃᓱᒪᓇᕐᑐᒍᑦ ᐅᓄᕐᓂᑉᖅᒐᑎᒍᑦ ᖃᑦᓯᐅᓂᕐᒧᑦ, ᑕᒪᓐᓇᓗ ᐃᒻᒪᖃᐅᑦᓴᑕᐅᓯᒪᑦᓯᓂ 8,000—11,600 ᐊᑯᓐᓂᖅᒐᓐᓂᑦᑎᓗᒋᑦ ᖃᓚᓗᒐᕐᑦ. ᑕᒪᓐᓇ ᒥᑦᓴᐅᓯᓚᖅᒐᓗᒍ, ᕿᒥᑕᐅᒍᒪᔪᖅ ᓴᑐᕐᑎᓯᓂᕐᒧᑦ ᑐᕋᕐᑦ ᐃᒣᓕᖅᒐᔪᑦᓴᐅᑎᓪᓗᒋᑦ T1=5,600 ᐊᒻᒪᓗ T2=8,000.

- ᐊᑯᓂᓇᔪᒧᑦ-ᑕᑯᓐᓇᕈᑏᑦ ᐃᓱᒪᓇᕐᑐᑦ ᐊᓐᓂᑐᕐᓂᐅᑉ ᐃᓂᓪᓚᕈᑎᑦᓴᖅᑭᑦᑕ ᓇᓪᓕᒐᓗᐊᖅᑭᑦ ᓄᐃᑦᓯᖃᔭᕐᓂᖃᖅᖅᑭᓂᖅᒐᓂᒃ ᐃᓐᑕᕐᑐᒥᒃ ᐱᒍᓇᐅᓂᕐᒥᒃ T1 ᑐᕋᒐᖅᒐᓂᒃ ᐊᕐᕌᒍᐃᑦ 50 ᐃᓗᐊᓂ. ᐃᓂᓪᓚᕋᔭᕐᐸᑦ ᐊᓐᓂᑐᕐᑐᖃᑦᔭᖅᑭᒻᒪᓇᑦᑎᓗᒍ ᑕᒪᓐᓇ 58%-ᒨᕐᑐᒥᒃ ᐱᒍᓇᐅᒐᔭᕐᑐᖅ T1 ᑐᕋᒐᖅᒐᓂᒃ ᐊᕐᕌᒍᓂ 25-ᓂ ᐊᒻᒪᓗ 35%-ᒨᕐᑐᒥᒃ ᐱᒍᓇᐅᓗᓂ T2-ᒥᒃ.

- ᐊᓯᐊᒎᕐᑐᑦ ᓴᑐᕐᑎᓯᓂᒃᑯᑦ ᑐᕌᕐᑕᐅᔪᑦᓴᑦ ᑐᖅᖠᕕᖃᕈᓐᓇᕋᔭᕐᑐᑦ ᐃᑭᓐᓂᑦᑕᖅᓄᑦ ᖃᓚᓗᒍᑦ ᐅᓄᕐᓂᓇᒋᐊᓕᖕᒐᓄᑦ ᐱᕕᒋᒍᓐᓇᕋᔭᕐᓗᒋᑦ ᐊᖏᕐᓯᒪᔭᓪᓗᐊᒥᒃ ᐊᓐᓂᑐᕋᑦᓴᖃᕐᓂᒥᒃ ᓇᓗᓐᕐᑕᐅᔪᒥᒃ ᑖᑦᓱᒥᖕᒐ ᐱᑯᓪᓕᕐᑯᑎᒥᒃ ᐊᑐᕐᑎᓄᑦ. 1985-ᒥ ᐅᓄᕐᓂᓇᓚᐅᕐᓯᒪᔭᖅᒋᑦ 4,000-ᖅᒍᑦᓯᑎᒃ ᐅᑉᐱᓇᑦᔭᖅᒋᑦᑐᑦ ᐃᒻᒪᖃᐅᑦᓵᕈᑕᐅᒍᑎᒃ ᐅᓄᕐᓂᑦᖕᒐᓄᑦ ᖃᑦᓯᐅᒍᓇᐅᓂᖅᒋᓐᓂᒃ ᐊᒻᒪᓗ ᐊᑐᓇᐊᖃᖅᖅᒋᓚᑦ ᕿᒥᑦᓯᒋᐊᕈᑕᐅᓂᕐᒧᑦ ᓴᑐᕐᑎᓯᓂᕐᒧᑦ ᑐᕌᒐᑦᓴᓂᒃ.

- ᑭᖅᒍᓂᕐᒥᒃ ᑕᑯᓐᓇᕈᑏᑦ ᐃᓚᐅᕐᑐᓯᒪᖅᒋᑐᑦ ᐱᓕᐅᒥᒍᑕᐅᒐᔭᕐᑐᓂᒃ ᐊᓯᐊᒍᑦ ᐃᓄᐃᑦ ᑐᕐᑯᓴᒍᑎᖅᒋᓐᓄᑦ (ᐆᑦᑑᑎᒋᓗᒍ, ᐅᒥᐊᕐᔪᐊᑦ ᐊᐳᕐᓂᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᓱᕐᕋᔫᑉ ᑭᖅᒍᓂᓕᐊᖅᒋᑦ).

## ᓯᕗᓂᖅᒐ

### ᐆᒪᔪᕐᑕᖅᒋᑕ ᕐᑲᓄᐃᑦᑐᔭᐅᓂᖅᒋᑦ

ᕿᓚᓗᒍᑦ ᓯᓚᕐᔪᐊᑉ ᑕᕐᕋᓕᒫᖅᒐᓄᑦ ᐃᕐᐸᓯᒪᕗᑦ. ᐊᑯᓐᓈᕿᒥᒃ ᐊᖅᒋᓂᓖᑦ ᑭᒍᑎᕐᑲᕐᓯᑎᒃ ᐱᕈᕐᓂᐅᓕᕐᑐᖅ ᑕᑭᓂᕐᑲᓱᖅᒍᑎᓪᓗᒍ 350 cm-ᓂᒃ ᐊᒻᒪᓗ ᐅᕐᑯᒍᓐᓂᕐᑲᓱᖅᒍᑎᓪᓗᒍ 500-600 kg-ᓄᑦ ᑎᑭᒍᓐᓇᒋᒥᒃ. ᕿᓚᓗᒍᑦ ᕐᑯᓖᒥᒍᑦ ᒪᑭᑕᐅᑎᕐᑲᖅᖅᒋᑐᑦ, ᑕᒪᓐᓇᓗ ᑎᒥᑦᑐᕈᕐᓯᒪᔪᓇᔭᐅᑦᓯᓂ ᓯᑯᒪᓱᓂ ᐃᒪᕐᒥᐅᖅᒍᓂᖅᒐ ᐱᑦᔪᑕᐅᑎᓪᓗᒍ. ᓄᓕᐅᓱᖅᒍᔪᓇᔭᐅᔪᑦ ᐅᑭᐅᒥ ᐅᑉᑯᓐᓂᓐᓂᑦ ᐅᐱᖅᒐᓴᓕᕐᑎᓗᒍ. ᕿᑐᕐᖅᒐᖅᒋᑦ ᐃᓅᓕᓱᑦ 14-ᓂᒃ ᑕᕐᕿᓂᒃ ᐃᓪᓕᐊᒦᓚᐅᕐᓯᑎᒃ ᐊᒻᒪᓗ ᐊᒫᒪᑦᑎᑕᐅᓂᖅᒋᑦ 18-ᓂᒃ ᑕᕐᕿᓂᒃ ᒥᑦᓯᐅᓯᒐᓚᑐᐃᓐᓇᓗᒍ ᐊᑯᓂᓇᓂᕐᑲᓱᖅᒍᑦᓯᑎᒃ. ᕿᓚᓗᒍᑦ ᕿᑐᕐᖅᒐᖅᒋᑦ 2-3-ᓂᒃ ᐊᕐᕌᒍᓂᒃ ᐊᓈᓇᒥᓃᓱᑦ, ᑐᒥᓐᓂᒥᓂᓗ, ᐊᑕᐅᓯᐊᕋᑎᒃ ᓯᓚ ᒪᓕᑦᓯᒍ ᐊᐅᓚᖃᑕᐅᓱᖅᒍᑦᓯᑎᒃ. ᐅᖃᕐᑕᐅᓯᒪᔪᖅ ᑕᒪᓐᓇ ᐊᑯᓂᓇᔪᒥᒃ ᕿᑐᕐᖅᒐᓕᐅᑉ-ᕿᑐᕐᖅᒐᐅᑉ ᑲᑎᒪᓂᖅᒐ ᐃᓕᓐᓂᐊᑎᑦᓯᒍᑕᐅᓂᐊᖅᖅᑰᓇᔭᐅᑎᓪᓗᒍ ᐊᐅᓚᓕᕈᑎᒃ ᐊᕐᕌᑎᑦᓯᖃᑦᑕᓂᐊᕐᑕᖅᒋᓐᓂᒃ. ᕿᑐᕐᖅᒋᐅᓂᖅᒋᑦ ᐊᑯᓐᓂᕐᖃᓱᑦ ᐊᕐᕌᒍᓂᒃ ᐱᖅᒐᓯᓂᒃ. ᐃᓅᓕᕐᓯᑎᒃ, ᑕᐅᑦᑐᖅᒋᑦ ᑲᔪᒻᒪᓇᐅᓱᑦ ᐅᑉᑯᓐᓂᓐᓂᑦ ᑐᖅᒍᔪᓪᓕᓇᑦᓯᑎᒃ. ᒪᒃᑕᖅᒐ ᕐᑲᐅᒻᒪᐸᓪᓕᐊᓱᖅ ᐱᕈᕐᑉᓕᐊᓂᖅᒐᓂ, ᓯᕗᓪᓕᒥᒃ ᐃᓱᕐᓯᑉᓪᓕᐊᖑᔭᓚᐅᑲᑦᓯᓂ ᖃᑯᕐᓯᕋᑕᕐᓂᐊᓕᕋᒥ. ᕿᑐᕐᖅᒋᐅᕈᓐᓇᓱᑦ 8 ᐊᒻᒪᓗ 14 ᐊᑯᓐᓂᖅᒋᓐᓂ ᐅᑭᐅᖃᕈᓐᓇᐅᓕᕋᒥᒃ, ᐊᒻᒪᓗ ᐃᓅᓯᖃᕈᓐᓇᓱᑎᒃ 60 ᐊᕐᕌᒍᐃᑦ ᐅᖅᒐᑖᓅᑐᐃᓐᓇᓇᐊᓕᒻᒥᒃ.

ᓇᔪᓱᓕᒪᒥᓂ, ᕿᓚᓗᒍᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᑰᒻᒪᓈᑦ ᓯᕗᕋᓕᓂᖅᒋᓐᓅᓱᖅᒍᒋᐊᖅᒋᑦ ᑰᒐᓗᓪᓗ ᐹᖅᒋᓐᓄᑦ ᐅᐱᕐᖅᒐᖅᒍᓂᖅᒐᓂ, ᑕᒪᓐᓇᓗ ᑐᕌᕈᑕᐅᓯᒪᕗᖅ ᐃᓱᒪᓂᕐᒧᑦ ᐆᒪᔫᑦᓯᑎᒃ ᐃᒃᑲᒥᐅᖅᒍᓂᖅᒋᓐᓂᒃ. ᑭᓯᐊᓂ, ᑕᕐᕿᖅᒍᐊᒃᑯᑦ ᓈᓚᒍᑏᑦ ᖃᐅᔨᒪᐅᑎᖅᒋᑦ ᕿᓚᓗᒐᕐᓯᐅᐃᐅᑉ ᐸᑎᕐᑑᓗ ᑰᖅᒋᓐᓂ ᑕᑯᑦᓴᕈᐃᓯᒪᔪᑦ ᕿᓚᓗᒍᑦ ᐊᒥᓱᐃᖅᒍᓂᖅᒋᓐᓂᒃ ᓯᕗᕋᓕᓂᒐᓚᓐᓄᑦ ᐅᑎᕐᑕᓱᑎᒃ, ᐃᓚᖅᒐᓂᒃ ᐊᕙᑎᑦ ᑕᓪᓕᒪᐅᓈᕐᑎᑐᓂᒃ ᐊᒥᓱᐃᖅᒍᑦᓴᒪᓇᑦᑐᓂᒃ ᒣᓕᓂᒃ ᐅᖅᒐᓯᓐᓂᓕᓐᓈᕐᑲᑦᑕᓱᑎᒃ, ᐅᐱᕐᖅᒐᖅᒍᓐᓇᖅᒐᓂ.

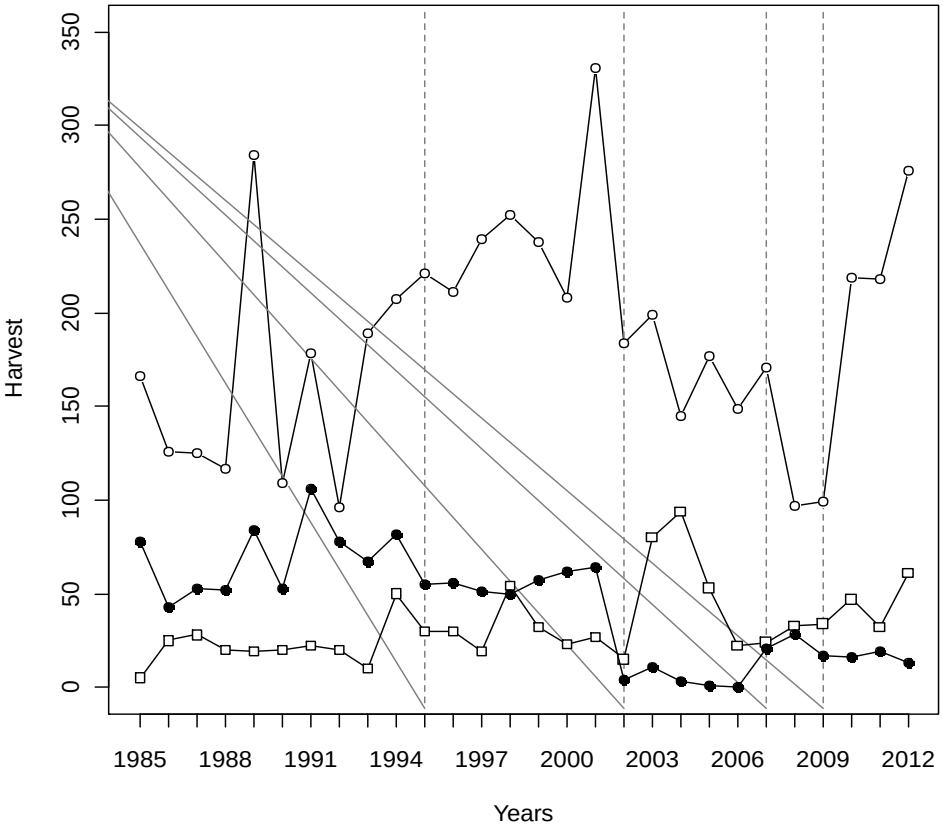
### ᐊᓐᓂᑑᕐᓂᖅᒋᑦ

ᐊᓐᓂᑐᕈᑎᓂᒃ ᑭᓯᒍᑏᑦ ᐊᑐᓕᕐᑐᑦ 1974-ᒥᓂᒃ. ᑕᒪᒃᑯᐊ ᑭᓯᒍᑕᐅᓕᓖᑦ ᓄᐃᑦᓯᒍᑕᐅᕗᑦ ᐃᑭᓐᓂᑦᖕᒐᓈᕐᖅᒐᔪᒥᒃ ᐃᒻᒪᖃᐅᕐᓴᓂᕐᒥᒃ ᑭᓯᐊᓂ, ᓄᓇᓖᑦ ᐆᒪᔪᕐᑕᐅᔪᑦ ᒥᑦᓴᓄᑦ ᖃᐅᔨᒪᐅᑎᓂᒃ ᓄᐃᑦᓯᔪᐃᓐᓇᐅᖃᑦᑕᓯᒪᖅᖅᒋᒪᑕ ᐊᕐᕌᒍᓂ ᐃᓅᓐᓂᓂ, ᐊᒻᒪᓗ ᖃᑦᓯᑦ ᐆᒪᔪᐃᑦ ᐋᓐᓂᑕᐅᑦᓯᑎᒃ ᐊᓯᐅᓐᓂᒪᖕᒐᑕ ᖃᐅᔨᒪᒍᑎᑦ ᐃᓚᑰᒻᒥᒪᑕ. ᐊᕐᕌᒍᐃᑦ 12 ᐃᓗᐊᓂ 1974-1985-ᒥ, ᑲᑎᑦᓯᒋᑦ 5,402-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ (ᕿᑎᕋᕐᓗᒋᑦ 450-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐊᕐᕌᒍᑕᒫᑦ) ᐅᖃᕈᑎᖃᕐᓯᒪᔪᑦ ᐱᔭᕇᓂᕐᓂᒃ ᓄᓇᕗᑦ ᓄᓇᓕᖅᒋᓐᓄᑦ. ᑲᑎᓕᒫᕐᓗᒋᑦ ᐊᖅᒋᕐᑕᐅᒪᔪᓂᒃ ᐱᔪᓐᓇᑎᑦᓯᒍᑏᑦ (TAT) ᓄᐃᑕᐅᓂᖅᒋᑦ 1986-ᒥ ᐊᕐᕌᒍᑕᒫᑦ ᐊᓐᓂᑐᕐᑕᐅᖃᑦᑕᑐᓂᒃ ᐃᑭᓪᓕᓇᓯᒪᔪᑦ ᕿᑎᕋᕐᓗᒍ 258-ᖅᒍᓕᕐᑎᓗᒋᑦ ᕿᓚᓗᒐᕐᑕᐅᔪᑦ ᐊᕐᕌᒍᑕᒫᑦ 1986-ᒥᒃ 2011-ᒧᑦ (ᖃᑦᓯᐅᕙᓐᓂᖅᒋᑦ 162-ᓂᒃ 385-ᓄᑦ ᑎᑭᖃᑦᑕᑎᓪᓗᒋᑦ ᐊᕐᕋᒍᒥ), ᐊᒻᒪᓗ ᕿᑎᕋᕐᓗᒍ 175-ᖅᒍᓕᕐᑎᓗᒋᑦ ᕿᓚᓗᒐᕐᑕᐅᔪᑦ 2001 ᑭᖅᒍᓂᖅᒐᓂ (125-216-ᓂᒃ ᕿᓚᓗᒐᕐᐸᑎᓪᓗᒋᑦ ᐊᕐᕌᒍᑕᒫᑦ). ᐅᒪᖅᖅᒐᓛᓂᒃ ᐅᓄᕐᓂᑦᖕᒐᓂᒃ ᐊᓐᓂᑐᕐᑕᐅᔪᓂᒃ ᐅᖃᕈᑏᑦ ᐱᓱᖅᒍᕗᑦ ᐃᑭᕋᕐᔪᐊᒥᒃ ᐊᒻᒪᓗ ᑕᒪᓐᓇ ᖃᔪᓯᑦᓴᕐᔪᕐᖅ 69-92%-ᖅᒋᑦ ᑲᑎᓕᒫᕐᓯᒋᑦ ᐊᕐᕌᒍᒥ ᓄᓈᕐᑕᐅᔪᑦ ᑕᒫᓂ ᐱᔭᐅᓯᒪᒻᒪᑕ 2005-ᒥᓂᒃ (ᐊᑦᕈᖅᒍᐊᖅ 2).

HBC-ᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓯᑎᒃ ᕿᓚᓗᒐᓯᒪᓂᖅᒐᑦ ᐱᒋᐊᕐᑎᓯᓯᒪᒍᓇᐅᕗᖅ ᕿᓚᓗᒍᑦ ᓄᖅᒍᑎᕐᑕᐅᓂᖅᒋᓐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᐅᖅᒐᕙᒥᓗ, ᐊᒥᒐᖅᖅᒋᑐᓂᒃ ᓂᕿᑦᓴᓂᐊᕐᑐᑦ ᐊᓐᓂᑐᕐᑉᓂᖅᒋᑦ ᐱᕕᑭᓪᓕᑖᕐᑎᓯᒍᓇᐅᒻᒥᑎᓪᓗᒋᑦ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᓴᑐᕈᓐᓇᓯᓂᑦᓴᖅᒋᓐᓂᒃ. ᐊᕐᕌᒍᓂ 1980-ᓂ, ᐃᑭᑦᑐᐊᐱᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᑕᐅᓕᕐᓂᖅᒋᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᐊᒻᒪᓗ ᐅᖅᒐᕙᒥ ᕿᓚᓗᒍᑦ ᓄᐃᑎᑦᓯᒍᑕᐅᓯᒪᔪᑦ ᐊᓐᓂᑐᕈᑕᐅᓂᖅᒋᓐᓄᑦ ᐃᓱᖃᕐᑎᓯᒍᑎᓂᒃ ᐊᑐᕐᓯᓂ ᐅᐊᕈᑎᒦᓂᒃ TAT-ᓂᒃ ᐊᒻᒪᓗ ᐊᕐᕌᒍᑉ ᐃᓚᖅᒐᓂ ᐊᒻᒪᓗ ᓄᓇᑦ ᐃᓚᖅᒋᓐᓂ ᐅᒃᑯᐊᓯᒪᑎᑦᓯᓂᕐᓂᒃ, ᑕᒪᓐᓇ ᐃᓚᖃᕐᒥᑎᓪᓗᒍ ᐱᖅᒍᑎᑦᓯᓂᕐᒥᒃ ᓄᐃᑕᖅᒋᓐᓇᓂᐊᓕᕐᑐᒥᒃ ᐅᖅᒐᕙᐅᑉ ᓯᕿᓂᕙᓯᐊᓂ ᐊᓐᓇᒪᕕᒻᒥᒃ ᐅᖅᒍᓐᓂᐊᕕᐅᑉ, ᒪᕐᕋᓕᐅᑉ, ᑐᒃᑐᓕᐅᑉ ᐊᒻᒪᓗ ᑐᓄᓕᐅᑉ ᑰᖅᒋᓐᓂ (1986), ᐊᒻᒪᓗ ᐊᕐᕌᒍᑉ ᐃᓚᖅᒐᓂ ᐅᒃᑯᐊᓯᒪᒍᑎᓂᒃ ᐸᑎᕐᑑᒥ

(1990) ᐊᒻᒪᓗ ᕿᓚᓗᒐᕐᓯᐅᕕᒻᒥ (1995) ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ. ᐊᓐᓂᑐᕐᓂᖅ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᐅᒃᑯᐊᓯᒪᓚᐅᔪᔪᖅ 2001-ᒥᒃ 2006-ᒧᑦ, ᐊᒻᒪᓗ ᐸᑎᕐᑑᑉ ᑰᖅᒐ (NR) ᕿᓚᓗᒐᕐᓯᐅᕕᐅᓪᓗ ᑰᖅᒐ (LWR) ᐅᒃᑯᐊᓯᒪᖅᑭᓐᓇᒥᑦᓯᑎᒃ ᐊᓐᓂᑐᕈᓐᓇᓯᒋᐊᓪᓚᓚᐅᔪᒐᓗᐊᕐᑎᓗᒋᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ 2007-ᒥ. ᐅᖅᒐᕝ ᐃᓘᓐᓇᓂ ᐅᑯᐊᓯᒪᓚᐅᔪᔪᖅ ᐊᓐᓂᑐᕐᕕᐅᓂᕐᒧᑦ ᐊᕐᕋᒍᓄᑦ ᓯᑕᒪᓄᑦ (2002-2003, 2005-2006) ᐊᒻᒪᓗ ᒪᕐᕋᓕᒃ ᐊᓐᓇᒪᕕᐅᖅᑭᓐᓇᓕᕐᓯᓂ 1986-ᒥᓂᒃ.

2012-ᒥ, ᓄᓇᕕᐅᑉ ᐊᓐᓂᑐᕈᑎᖅᑭᑦ ᑕᖅᑭᕐᑲᓚᐅᔪᔪᑦ 13-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᐱᔭᕕᓂᕐᓂᒃ, 10-ᓂᒃ ᐅᖅᒐᕝᒥ ᐱᔭᕕᓂᕐᓂᒃ ᐅᐱᖅᒐᓴᒥ ᐊᒻᒪᓗ 2-ᓂᒃ ᐅᑭᐊᒥ, 208-ᓂᒃ ᐃᑭᕋᓴᕐᔪᐊᒥ ᐱᔭᕕᓂᕐᓂᒃ ᐅᐱᖅᒐᓴᒃᑯᑦ ᐊᒻᒪᓗ 56-ᓂᒃ ᐅᑭᐊᖅᒍᓕᕐᑎᓗᒍ, 61-ᓂᒃ ᓴᓂᑭᓕᐊᑉ ᒥᑦᓵᓂ (ᓄᓇᕗᑦ) ᐱᔭᕕᓂᕐᓂᒃ, ᐊᒻᒪᓗ 11-ᓂᒃ ᐱᔭᕕᓂᕐᓂᒃ ᕿᑭᕐᑕᔪᐊᑉ/ᕋᒻᒃ ᐯ ᒥᑦᓵᓂ.




*ᐊᑦᑕᖅᒍᐊᖅ 2. ᕿᓚᓗᒐᕐᑕᐅᓯᒪᔪᑦ ᓄᓇᕕᒻᒥ 1985-2012 ᐊᕐᕌᒍᖅᑭᓐᓂ, ᓄᓇᑎᒍᑦ ᐊᕕᑦᑐᓯᒪᑦᓯᑎᒃ. ᐊᒻᒪᓗᑭᑖᑦ ᓯᒥᕐᑲᖅᑭᑐᑦ: ᐃᑭᕋᓴᕐᔪᐊᖅ ᐊᒻᒪᓗ ᐅᖅᒐᕝ. ᐊᒻᒪᓗᑭᑖᑦ ᓯᒥᑦᓯᒪᔪᑦ: ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᑕ ᐊᕝᓗᒪᓂᓕᒫᖅᒐ: ᓯᒃᑭᑐᑦ: ᓴᓂᑭᓗᐊᖅ (ᕿᑭᕐᑕᖅᑭᑦ, ᓄᓇᕗᑦ) ᐊᒻᒧᐊᑐᑦ ᑭᐱᑦᑕᑐᒥᒃ ᑎᑎᕈᑏᑦ ᓇᓗᓐᕐᓯᔪᑦ ᐊᐅᓚᑦᓯᓂᐅᑉ ᐊᕕᑦᑐᓯᒪᒍᑎᒻᒪᓇᖅᑭᓐᓂᒃ. 1985: ᑰᑐᑦ ᓄᐃᑕᐅᒥᐅᕐᑐᑦ; 1995: ᐊᕐᕌᒍᑉ ᐃᓚᖅᒐᓂ ᐅᒃᑯᐊᓯᒪᑎᑦᓯᔪᑦ ᓯᕗᕋᓕᓂᒻᒪᓇᓐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ. ᐳᕕᕐᓂᑐᖅ ᐸᑎᕐᑑᒥᒃ ᐊᓐᓂᑐᕐᐸᓂᕐᒥᓂᒃ ᓴᖅᒍᑎᑦᓯᔪᖅ ᐃᑭᕋᓴᕐᔪᐊᒍᑦ; 2002: ᑕᓯᐅᔭᕐᔪᐊᑉ ᐊᕝᓗᒪᓂᖅᒐᓂᒃ ᐊᒻᒪᓗ ᐅᖅᒐᕝᒥᒃ ᐅᒃᑯᐊᓯᓂᖅ; 2007: ᐊᓐᓂᑐᕈᓐᓇᓯᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐊᕝᓗᒪᓂᖅᒐᑕ ᐃᓗᐊᓂ ᐅᖅᒐᕝᒥᓗ, ᑭᓯᐊᓂ ᐸᑎᕐᑑᑉ, ᕿᓚᓗᒐᕐᓯᐅᕕᐅᑉ ᐊᒻᒪᓗ ᒪᕐᕋᓕᐅᑉ ᑰᖅᑭᑕ ᓯᕗᕋᓕᓂᓕᒫᖅᑭᑦ ᐅᒃᑯᐊᓯᒥᕐᓇᓯᔪᑦ. ᓴᓂᑭᓗᐊᖅ ᐃᑭᓕᑎᓇᔪᖅ ᐅᐱᖅᒐᒥ ᐊᓐᓂᑐᕐᐸᑕᒥᓂᒃ; 2009: ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᕿᓚᓗᒐᕐᓂᐊᓂᖅ ᐊᕕᑦᑐᑐᖅ ᐅᐱᖅᒐᓴᒥ ᐅᑭᐊᒥᓗ ᕿᓚᓗᒐᕐᓂᐊᕕᓐᓄᑦ, ᐅᓄᕐᓂᓴᓂᒃ ᑲᑎᓕᒫᕐᓗᒋᑦ ᐊᓐᓂᑐᕈᓐᓇᓯᒍᑕᐅᑦᓯᓂ.*

ᑲᖅᖅᒍᓇᕐᑭᒍᑎᖅᒐ

## ᐆᒪᔪᐃᑦ ᐃᓂᓪᓚᖅᒐᓂᖅᑭᑦ

ᕐᑲᒻᒥᓂᑕᕐᓂᒃ ᐆᒪᔪᐃᑦ ᕐᑲᑕᖅᒍᑎᒌᓐᓂᖅᑭᓐᓂᒃ ᑲᖅᖅᒍᓇᕐᑭᐅᑕᐅᓯᒪᔪᑦ ᑕᑯᑦᓯᒋᑦ, ᕿᓚᓗᒃᑦ ᐊᒥᓲᓂᕐᓴᖅᑭᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᐃᓚᒋᔭᐅᕗᑦ ᑖᒃᑯᓄᖅᒐᑦᓴᓇᖅ ᕿᑐᕐᖅᑭᐅᑐᓄᑦ ᕿᓚᓗᒐᐅᕐᑲᑎᒌᓄᑦ. ᑭᓯᐊᓂ, ᓱᕐᕐᑯᐃᕈᑕᐅᓯᒪᔪᑦ ᐊᑦᑕᖅᒍᐊᒃᑯᑦ-ᐃᓕᑕᕐᓂᐊᓯᒋᑦ, ᕐᑲᑕᖅᒍᑎᒌᓐᓂᖅᑭᓐᓂᓗ ᐊᒻᒪᓗ ᓱᒃᑯᓇᕐᑐᑐᕐᓯᒪᓂᖅᑭᓐᓂᒃ ᕐᑲᐅᑦᓴᕈᑎᓄᑦ ᑕᑯᑦᓴᕈᕐᓯᓂ ᕿᓚᓗᒃᑦ ᐅᑎᖅᑭᓐᓇᓲᖅᒍᓂᖅᑭᓐᓂᒃ ᑎᒃᑯᓄᖅᒐᑦᓴᓇᖅ ᑲᑎᕐᓯᐊᓐᓄᑦ ᐅᐱᖅᒐᖅᒍᓕᕐᒪᑦ.

ᓈᓚᐅᑕᐅᔭᒃᑯᑦ ᖃᐅᔨᓴᕈᑏᑦ ᓄᓇᕗᑦ ᐊᒻᒪᓗ ᓄᓇᕕᒃ ᓄᓇᖅᑭᓐᓂ ᓴᐳᑎᔭᖃᕐᓯᒪᒻᒥᔪᑦ ᐃᓱᒪᒍᑕᐅᓲᒥᒃ ᓄᓇᕕᒻᒥᐅᑦ ᐊᖑᓇᓱᑦᑎᖏᑦ ᕿᓚᓗᒐᓲᖑᒍᐊᖏᓐᓂᒃ ᐅᐊᕈᑎᒦᓂᒃ ᐊᒥᓱᐃᓂᒃ ᐊᑦᔨᒦᖕᖏᑐᓂᒃ ᕿᓚᓗᒐᐅᖃᑎᒦᓂᒃ, ᓇᓗᓄᒃᑯᑕᓐᓂᒃ ᑕᒪᒃᑯᓂᖓ ᐅᐱᖕᖏᕕᒋᓲᖏᓐᓂᒃ: ᑕᓯᐅᔭᕐᔪᐊᕐ ᐊᑭᐊᓂᒥᐅᓂᒃ (WHB), ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖓᓂᒥᐅᓂᒃ (EHB) ᐊᒻᒪᓗ ᐅᖓᕙᒥᐅᓂᒃ (UB). ᐅᑭᐅᒥ, ᑕᒪᒃᑯᐊ ᕿᓚᓗᕐᑦ ᑕᑯᑦᓴᕈᓲᑦ ᐃᑭᕋᔭᕐᔪᐊᒥ, ᐅᖓᕙᒥ, ᓛᑉᐳᑐᐊ ᑕᓇᐅᖓᓂ ᐊᒻᒪᓗ ᑕᓪᓗᕈᑎᐅᑉ ᑕᓇᐅᖓᓂ, ᑕᒪᒃᑯᓇᓂᓗ ᑲᓱᕐᕕᓂ ᕿᑐᖓᓴᓕᐅᖃᑎᒦᓲᖑᒍᐊᖏᑦ ᐅᑉᐱᓇᔭᐅᑦᓱᑎᒃ.

ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖓ (EHB)

ᐊᑕᐅᓯᐅᓈᕐᑎᑐᑦ ᓄᓇᒥᒃ ᑕᑯᔭᐅᓲᖑᓗᐊᕐᑎᓗᒋᑦ ᒣᖑᓕᕐᒪᑦ, ᐊᒥᓲᓂᕐᓴᑦ EHB–ᒥᐅᑦ ᕿᓚᓗᕐᑦ ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖓᓄᑦ ᑎᑭᓲᖑᕗᑦ ᔫᓂ-ᔪᓐ ᒥᑦᓵᓂ. ᐅᐱᕐᖓᓴᒃᑯᑦ ᐊᐅᓚᓕᕋᒥᒃ ᓇᐅᒃᑰᓂᓇᓲᖓᑦ ᓇᓗᓐᑦᓗᑐᓚᐅᕐᓯᒪᖕᖏᑐᖅ ᑭᓯᐊᓂ ᖃᑕᖕᖑᑎᑦᓴᔭᓈᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᐅᑎᑦ ᐃᓱᒪᓇᕐᑎᓯᓯᒪᔪᑦ ᐃᑭᕋᔭᕐᔪᐊᒥᐅᑦ ᓄᓇᓕᖏᓐᓄᑦ ᕿᓚᓗᒐᕐᑕᐅᔪᑦ 12%-ᖏᑦ ᒥᑦᓵᓂ ᐅᐱᕐᖓᓴᐅᑎᓪᓗᒍ ᐃᓚᒋᔭᓲᖑᓂᖏᓐᓂᒃ EHB-ᒥᐅᓄᑦ ᕿᓚᓗᒐᕐᓄᑦ. ᑕᕐᕿᖑᐊᒃᑯᑦ ᓈᓚᒍᑏᑦ ᓇᓗᓐᕐᓯᓯᒪᔪᑦ ᕿᓚᓗᕐᑦ ᕿᓚᓗᒐᕐᓯᐅᕕᐅᑉ ᐊᒻᒪᓗ ᐸᑎᕐᑑᑉ ᑰᖏᓐᓃᑐᑦ ᕿᒪᑦᓯᓲᖑᓂᖏᓐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖓᑕ ᐊᑉᓗᒪᓂᖓᓂᒃ ᐊᑯᓐᓂᒥ ᐅᒃᑑᐱᓇᐅᑉ ᐱᒥᐊᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᓄᕕᒻᐱᓇᐅᑉ ᕿᑎᖓᓄᑦ ᐊᒻᒪᓗ ᐃᖏᕐᕋᓲᖑᓂᖏᓐᓂᒃ ᐃᑭᕋᔭᕐᔪᐊᑉ ᓯᕿᓂᐊᑰᓂᕐᔭᖅ ᓯᓂᕐᓯᓯᑎᒃ ᐅᖓᕙᒍᑦ ᑎᑭᑦᓯᒍ ᓛᑉᐳᑐᐊᓗ ᑕᓇᐅᖓᓄᑦ ᑭᖑᓂᖓᓂ. ᐃᓚᐅᓂᖏᑦ ᐅᑭᐊᒃᑯᑦ ᐃᑭᕋᔭᕐᔪᐊᒥᐅᑦ ᐊᓐᓂᑐᕐᑕᖏᓐᓄᑦ 21%-ᒥᒃ ᖃᓂᑦᔭᑐᓇᔭᐅᔪᑦ.

ᐅᖓᕙᒍ (UB)

ᕿᓚᓗᕐᑦ ᐊᒥᒐᑦᔭᒐᑎᒃ ᐱᑕᖃᖃᑦᑕᓯᒪᕗᑦ ᐅᖓᕙᒥ. ᐊᒥᓱᐊᓘᑦᓯᑎᒃ ᐅᐱᖕᖓᒥ ᕿᓚᓗᕐᑦ ᑲᑎᕐᓯᑐᑦ ᐅᖓᕙᒥ ᑕᑯᔭᐅᓲᖑᒍᓐᓄᕋᓗᐊᕐᑎᓗᒋᑦ, ᑕᑯᔪᖃᓲᖑᒍᖏᓐᓇᓂᖓ ᐃᓚᖓᓂᑦᓗ ᐊᓐᓂᑐᕐᑕᐅᔪᖃᓲᖑᒍᓂᖓ ᐃᓱᒪᓇᕐᑐᖅ ᓇᑦᓕᐊᓂᒃ ᑎᒃᑯᐊ ᕿᓚᓗᕐᑦ ᐃᑭᑦᑐᐊᐱᐅᓕᕋᓗᐊᕐᓯᑎᒃ ᓄᖑᕋᑕᖕᖏᓂᖏᓐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᑖᕝᕙᓐᓇ ᓇᔪᕐᑕᐅᓲᖑᒍᐊᖓ ᖃᓂᑕᒐᓚᖏᓐᓂᒃ ᐱᓯᒪᔪᓄᑦ ᕿᓚᓗᕐᓄᑦ. EHB ᕿᓚᓗᖏᑕ ᖃᑦᓯᐅᓂᖏᑦ ᐊᓐᓂᑐᕐᑕᐅᔪᑦ ᖃᐅᔨᓴᕈᑎᑕᖏᓐᓂ ᐱᓯᒪᔪᓂ 5-ᓂᒃ ᐅᖓᕙᐅᑉ ᓄᓇᖏᓐᓂᒃ ᐊᒻᒪᓗ ᖁᐊᕐᑕᒥᒃ ᖃᑕᖕᖑᑎᒦᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᐅᑎᑎᒍᑦ ᐃᒻᒪᖃᐅᑦᓵᑕᐅᓯᒪᔪᑦ 4% ± 5%-ᖑᑦᓯᑎᒃ ᐅᐱᕐᖓᓴᒥ, 6% ± 9%-ᖑᑦᓯᑎᒃ ᐅᐱᕐᖓᒥ, ᐊᒻᒪᓗ 28% ± 9%-ᖑᑦᓯᑎᒃ ᐅᑭᐊᒥ. EHB ᕿᓚᓗᖏᑕ ᐊᒥᓲᓂᕐᓴᐅᓕᕐᓂᖏᑦ ᐅᑭᐊᒃᑯᑦ ᐊᓐᓂᑐᕐᑕᐅᔪᓂ ᐊᖏᕐᖃᑕᐅᑦᓯᐊᕐᑐᑦ ᓈᓚᐅᑕᐅᔭᒃᑯᑦ ᖃᐅᔨᒪᐅᑎᓂᒃ ᓄᐃᑦᓯᓯᒪᔪᓂᒃ ᕿᓚᓗᕐᑦ EHB-ᒥᐅᕐᑦ ᐅᖓᕙᒃᑰᓲᖑᓂᖏᓐᓂᒃ ᐅᑭᐊᒃᑯᑦ ᐊᐅᓚᓕᕋᒥᒃ, ᑐᑯᖓ ᑎᑭᑦᓯᑎᒃ ᐅᒃᑑᐱᓇᒥ ᓄᕕᒻᐱᓇᒥᓈᓐᓃᑦ.

ᕐᒻᔅ V (JB)

ᕿᓚᓗᕐᑦ ᐊᒥᓲᓂᕐᓴᖏᑦ ᐊᐅᓚᓲᖑᕗᑦ ᓯᕕᑐᔪᒻᒪᓇᐊᓗᒻᒥᒃ ᐅᑮᕕᖏᑕ ᐊᒻᒪᓗ ᐅᐱᕐᖏᕕᖏᑕ ᐊᑯᓐᓂᖓᓂ. ᑭᓯᐊᓂ, ᖃᐅᔨᒪᒍᑏᑦ ᐱᐅᓯᑐᖃᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐊᒻᒪᓗ ᑕᕐᕿᖑᐊᒃᑯᑦ ᓈᓚᐅᑕᐅᔭᒍᑦ ᖃᐅᔨᒍᑕᐅᓯᒪᔪᑦ ᐃᓱᒪᓇᕐᑎᓯᒻᒥᔪᑦ ᕿᓚᓗᕐᑦ ᐃᓚᖏᑦ ᕐᒻᔅ Vᒥᒃ ᐅᑭᐅᒥ ᓄᓲᖑᖕᖏᓂᖏᓐᓂᒃ. ᖃᑕᖕᖑᑎᒦᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᐅᑎᑦ ᕿᓚᓗᕐᓂᒃ ᕐᒻᔅ Vᒥᐅᔭᓂᒃ ᓱᕐᖁᐃᕈᑕᐅᓯᒪᔪᑦ ᑖᒃᑯᐊ ᕿᓚᓗᕐᑦ ᐃᒻᒥᒍᕐᓯᑎᒃ ᕿᑐᖏᐅᑎᐅᓂᖏᓐᓂᒃ, ᐊᑦᔨᐅᒐᑎᒃ ᐊᓯᖏᓐᓄᑦ ᐊᐅᓚᑦᓯᒍᑕᐅᔪᓄᑦ ᕿᓚᓗᕐᓄᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐃᓗᐊᓂ.

ᓴᓂᑭᓗᐊᑉ ᕿᑭᕐᑕᖏᑦ

ᕿᓚᓗᕐᑦ ᐊᓐᓂᑐᕐᑕᐅᓲᖑᕗᑦ ᐱᓗᐊᕐᑐᒥᒃ ᐅᐱᕐᖓᓴᒥ ᐅᑭᐊᒥᓗ ᓴᓂᑭᓗᐊᑉ ᕿᑭᕐᑕᖏᓐᓂ, ᑖᒃᑯᐊᓗ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖓᓂ ᐊᕝᕙᓗᓂᐅᑉ ᕿᑎᓪᓗᐊᖓᓃᑦᓯᑎᒃ. ᖃᓄᑦᓯᐊᖅ ᐊᑦᑐᐊᓂᖏᑦ ᐊᓯᖏᓐᓄᑦ ᐅᐱᕐᖓᓯᐅᕐᑐᓄᑦ ᕿᓚᓗᕐᓄᑦ ᓱᓕ ᖃᐅᔨᒪᓇᑦᓯᐊᖏᑦᑐᑦ. ᑕᕐᕿᖑᐊᒃᑯᑦ ᓈᓚᐅᑏᑦ ᑕᑯᑦᓴᕈᐃᓯᒪᔪᑦ EHB ᕿᓚᓗᖏᑦ ᕿᓚᓗᕐᓯᐅᕕᐅᑉ ᐊᒻᒪᓗ ᐸᑎᕐᑑᑉ ᑰᖏᓐᓃᑐᑦ ᐊᑐᓲᖑᓂᖏᓐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖓᓄᑦ ᐅᖓᓯᓐᓂᓴᓂᒃ ᐃᒪᕐᐱᓂᒃ ᑎᑭᐅᑎᑦᓯᑎᒃ ᑕᒥᓐᓄᑦ ᓄᓇᕗᑦ ᓄᓇᑖᕐᓯᒪᕕᖓᑕ ᐃᓗᐊᓄᑦ ᐊᒻᒪᓗ ᓄᓇᓄᑦ ᐊᑦᔨᒦᒥᒃ ᐊᑐᕐᑕᐅᔪᓄᑦ ᐊᒻᒪᓗ ᓇᔪᕐᑕᐅᔪᓄᑦ, ᓴᓂᑭᓗᐊᑉ ᕿᑭᕐᑕᖏᑦ ᖃᓗᑦᓯᑎᑦ. ᖃᑕᖕᖑᑎᒦᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᐅᑎᑦ ᑕᑯᑦᓴᕈᐃᓯᒪᔪᑦ ᓴᓂᑭᓗᐊᑉ ᕿᑭᕐᑕᖏᓐᓂ ᕿᓚᓗᕐᑕᐅᔪᑦ ᐅᐊᕈᑎᒦᓂᒃ ᐱᓯᒪᓲᖑᓂᖏᓐᓂᒃ. ᑕᖏᕐᒥᐅᑕᖏᑦ ᓯᓇᓕᑦᑕᐅᓂᖏᑦ ᐆᒪᔪᓂ ᐊᓐᓂᑐᕐᑕᐅᓯᒪᔪᓂ ᐅᐱᕐᖓᓴᒥ/ᐅᐱᕐᖓᓈᒥ ᓇᓗᓄᕐᓯᔪᑦ EHB-ᒥᐅᑦ ᕿᓚᓗᕐᑦ ᓄᐃᑦᓯᓲᖑᓂᖏᓐᓂᒃ ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᕿᓚᓗᕐᑕᖏᑦ 12%-ᖏᓐᓂᒃ.

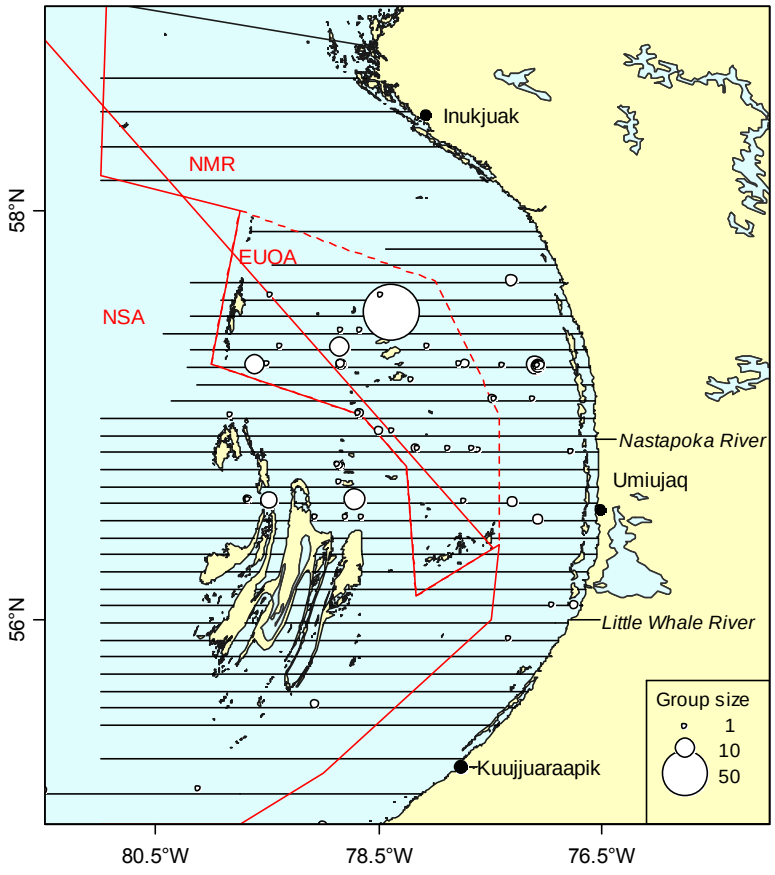
## ᐊᒥᒐᖅᑭᓂᖅᑭᑦ ᐊᒻᒪᓗ ᓱᕐᕋᑕᐅᓂᖅᑭᑦ ᐊᓐᓂᑐᕐᑕᐅᔪᑦ ᐅᓄᕐᓂᖅᑭᓐᓄᑦ

ᓱᓇᒥᑦᓯᔪᑦ ᖃᖓᑦᑕᔫᒃᑯᑦ ᐅᑎᕐᑕᕕᓕᐅᕐᓯᒪᔪᕐᑎᒍᑦ ᑭᓯᓐᓃᑦ ᐃᒻᒪᖃᐅᑦᓵᕈᑕᐅᓚᐅᔪᔪᑦ ᕿᓚᓗᒍᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᕋᒻᒪ ᐊᒻᒪᓗ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᔪᓐ 19-ᒥᒃ ᐊᐅᒡᒍᑦᑎ 18-ᒧᑦ 2011-ᒥ. ᖃᖓᑕᓂᖅᑭᑦ ᓱᕐᕿᓂᐅᑉ ᓄᐃᕕᐊᓂᒃᓂᐱᒃᕕᐊᓄᑦ ᑐᕌᖓᔪᒥᒃ ᐅᑎᕐᑕᕕᖃᓚᐅᔪᔪᑦ ᐊᑯᓐᓂᖃᖃᑦᑕᑎᓪᓗᒍ 18.5 km-ᓂᒃ ᐃᓅᓐᓇᓕᒫᖓᓂ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᑕ ᕿᑎᖅᒐ ᐊᑦᓱᐅᖅᑭᒍᑎᑑᑎᓪᓗᒍ, ᑕᒪᓐᓇ ᓱᑐᔭᕐᓂᓴᒥᒃ ᐅᑎᕐᑕᕕᐅᓚᐅᔪᒻᒪᑦ ᐊᑯᓐᓂᖅᑭᑦ ᕿᑎᕐᕐᖃᓇᔭᖅᑭᓐᓂ, ᐃᒫᒃ, 9.3 km-ᖅᒍᑎᓪᓗᒥᑦ. ᐊᕐᕌᒍᐃᑦ ᓱᕗᓪᓕᐅᓚᐅᕐᓯᒪᔪᑦ ᐊᑦᓱᒥᒍᓐᓄᓱᒥᑦ, ᑕᒪᓐᓇ ᒪᕐᕈᕕᓪᓗᒍ ᑭᓱᑉᕕᐅᒍᓐᓇᓚᐅᔪᖅᖅᑭᑐᖅ ᓱᓚᕐᓂᓗᒃ ᐱᑦᔪᑕᐅᑎᓪᓗᒍ.

### ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐ (EHB)

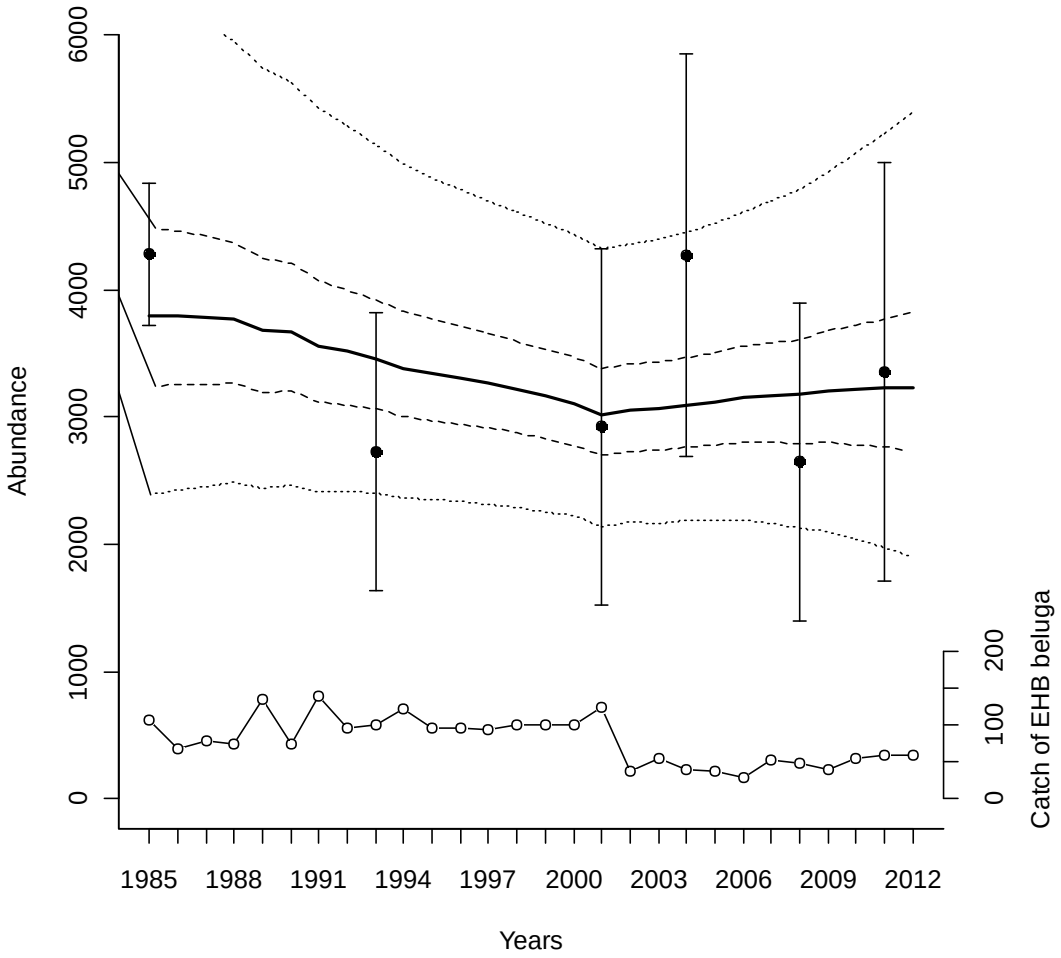
ᕿᓚᓗᒐᕐᒥᒃ ᑕᑯᓚᐅᔪᖅᖅᑭᑐᑦ ᓯᑐᔭᖅᖅᑭᓂᕐᓴᒥᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᑕ ᕿᓂᕐᕕᐅᕕᖅᒐᓂ. 63-ᕕᑦᓱᑎᒃ ᕿᓚᓗᒐᐅᖃᑎᒌᓂᒃ ᑕᑯᖃᑦᑕᓚᐅᔪᔪᑦ ᓱᑐᔭᕐᓂᓴᒥ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᑕ ᕿᓂᕐᕕᐅᕕᖅᒐᓂ (ᐊᑦᓱᖅᒍᐊᖅ 3), ᐅᓄᕐᓂᖅᑭᑦ ᑖᒃᑯᐊ ᐊᑐᓂ ᕿᑎᕐᕋᕐᓗᒥᑦ 3.21-ᖅᒍᖃᑦᑕᑎᓪᓗᒥᑦ, ᑕᒪᓐᓇ ᓄᐃᑦᓱᒍᑕᐅᑎᓪᓗᒍ ᐳᐃᒪᔪᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᑎᒥᒃ 1,434-ᓂᒃ. ᐊᕐᕐᖃᐅᒪᔪᑦ ᐆᒪᔪᐃᑦ ᐋᕐᕐᕿᒥᐊᕈᑎᒥᑦᓱᒥᑦ ᐊᒻᒪᓗ ᐃᓚᐅᕐᑐᓱᒥᑦ 354-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᕿᓚᓗᒐᕐᓯᐅᕕᐅᑉ ᓯᕗᕋᓕᓂᖅᒐᓃᑦᑐᓂᒃ, ᓄᐃᑦᓱᒍᑕᐅᓚᐅᔪᔪᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕐᓂᕐᒥᒃ ᕿᓚᓗᒍᑦ 3,351-ᖅᒍᒍᓇᐅᑎᓪᓗᒥᑦ (CV 48.9%) ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ.

ᐊᒥᓱᓕᓇᓂᕐᓴᒥᒃ CV-ᖃᕐᓂᖅᒐ 2011-ᒥ ᑎᒍᒍᑎᓕᒃ ᐊᑦᓱᒌᖅᖅᑭᑐᒥᒃ ᕿᓚᓗᒍᑦ ᐃᕐᐸᖅᒐᓂᖅᓐᓂᒃ ᑎᑎᕐᑐᓯᒪᔪᑦ ᐃᓗᐊᓂ. ᑕᒪᓐᓇ ᓄᐃᑦᓱᒍᓪᓕᐅᕗᖅ ᓱᕐᕐᑯᐃᓯᐊᖅᖅᑭᒍᑎᒥᒃ ᑭᓯᑦᑐᕐᖃᓕᕐᒪᑦ ᐊᒥᓲᖅᖅᑭᑐᓂᒃ ᐆᒪᔪᓂᒃ ᑲᑐᓇᓂᑲᓪᓛᖅᒍᑦᓱᑎᒃ ᐃᕐᐸᓯᒪᓕᓐᓂᒃ.




ᐊᑦᓱᖅᒍᐊᖅ 3. ᑲᑎᓇᓃᑦ ᑕᑯᔭᐅᓯᒪᔪᑦ ᐃᕐᐸᓯᒪᓂᖅᑭᑦ ᐊᒻᒪᓗ ᑎᑎᕐᓯᒪᔪᑦ ᕿᓯᑉᕕᐅᓚᐅᔪᔪᑦ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ.

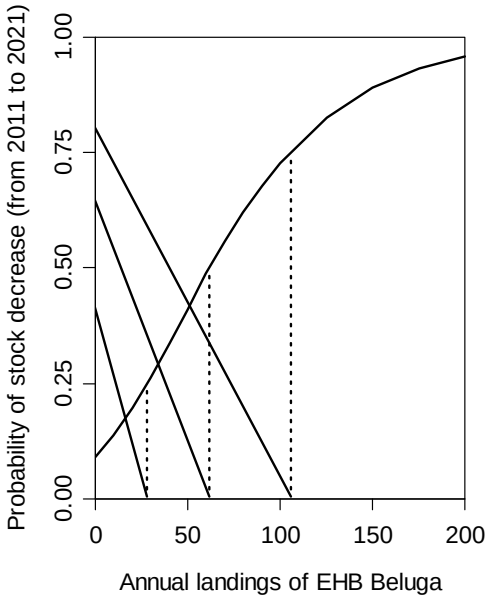
EHB-ᒥᐅᑦ ᕿᓚᓗᒃᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖅᑲᐅᑦᓵᕈᑏᑦ ᓯᕗᓪᓕᓂᑕᕐᓂ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᒍᑎᕕᓂᕐᓂ ᐊᑦᕆᑏᖅᑭᑐᔫᓗᖅᑕᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᐅᓯᖅᑲᓕᓂᐅᑦᓯᑎᒃ ᐊᖅᑭᔪᒥᒃ ᓯᓕᔪᕐᓇᓂᒃᑯᑦ ᑲᓯᖅᖅᑭᒍᑎᖅᑲᕐᓂᒥᒃ (ᐊᑦᕆᖅᒍᐊᖅ 4). ᐅᓄᕐᓂᖅᑭᓐᓄᑦ ᐆᑦᑐᕋᐅᑎᑦᓴᖅ ᐃᓚᐅᕐᑐᓯᒪᑦᓯᓂ ᓄᑕᐅᓯᓕᑎᕐᓯᒪᔪᓂᒃ ᐊᓐᓂᑐᕐᑕᐅᔪᑦ ᑭᓯᒍᑎᖅᑭᓐᓂᒃ ᐊᒻᒪᓗ ᐆᒪᔪᐃᑦ ᓇᐅᒥᐅᔭᐅᓂᖅᑭᓐᓂᒃ ᖃᐅᔨᒪᒍᑎᓂᒃ ᐃᓕᓚᐅᔪᔪᖅ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᒍᑏᑦ ᐃᒻᒪᖅᑲᐅᑦᓵᕈᑎᖅᑭᓐᓄᑦ ᐯᔅᑎᑐᑦ (Bayesian) ᐱᕐᕈᓯᐅᓲᑦ ᐊᑐᕐᓯᒥᑦ. ᑖᑦᓯᒪ ᐆᑦᑑᑎᐅᑉ ᓄᐃᑕᖅᑭᑦ ᐃᓱᒪᓇᕐᑎᓯᔪᑦ EHB-ᒥ ᕿᓚᓗᒃᑦ ᐅᓄᕐᓂᖅᑭᑦ ᑲᑕᑐᕕᓂᐅᒍᓇᐅᓂᖅᑭᓐᓂᒃ ~4,000-ᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ 1985-ᒥ ~3,000-ᓄᑦ 2001-ᒥ, ᑕᒪ ᕐᑯᒻᒧᐊᕐᕌᑦᑐᕕᓂᐅᓂᖅᑭᓐᓂᒃ ~3200–ᓄᑦ ᑎᑭᑦᓯᑎᒃ 2012-ᒥ.




*ᐊᑦᕆᖅᒍᐊᖅ 4. ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐᓂ ᕿᓚᓗᒃᑦ, ᐆᑦᑐᕋᐅᑎ ᐃᒻᒪᖅᑲᐅᑦᓵᕈᑎᓄᑦ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ. ᑭᐱᒪᖅᖅᑭᑐᒥᒃ ᑎᑎᕐᓯᒪᔪᖅ: ᕿᑎᖅᒐᓄᕐᑐᒥᒃ ᐃᒻᒪᖅᑲᐅᑦᓵᕈᑏᑦ. ᕿᐱᑦᑕᑐᒥᒃ ᑎᑎᕐᓯᒪᔪᑦ: 25%-ᒧᑦ ᐊᒻᒪᓗ 75%-ᒧᑦ ᑎᑭᐅᑎᒍᑏᑦ. ᑕᕐᓴᒃᑦᑑᔪᒥᒃ ᑎᑎᕐᓯᒪᔪᑦ: 2.5% ᐊᒻᒪᓗ 97.5%-ᒧᑦ ᑎᑭᐅᑎᒍᑏᑦ (= 95%-ᒧᑦ ᐯᔅᑎᑐᑦ ᓯᓕᔪᕐᓇᓂᐅᑉ ᑲᓯᖅᖅᑭᒍᑎᖅᒐᓄᑦ). ᐆᑦᑑᕋᐅᑎᖅᒐ ᐋᕐᕐᕈᓯᐃᕕᐅᓚᐅᔪᔪᖅ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᕿᓯᒍᑏᑦ ᐃᒻᒪᖅᑲᐅᑦᓵᕈᑎᖅᑭᓐᓂᒃ ᐋᕐᕐᕈᑭᐊᕐᓯᒪᔪᓂᒃ ᐆᒪᔪᓄᑦ ᐊᕐᕐᖃᐅᒪᔪᓄᑦ, (ᓯᒥᑦᓯᒪᔪᑦ ᐊᓪᒪᓗᕈᑖᑦ, ±SE). ᑕᓕᕐᐱᓯᖅ y ᑐᕈᐊ: EHB-ᒥᐅᕋᑦ ᕿᓚᓗᒐᕐᑕᐅᔪᑦ ᑐᖅᖅᒐᐃᖃᕐᓯᓂ ᐱᔭᐅᓕᓂᐅᓂᖅᑭᓐᓂᒃ ᓄᓇᕕᐅᑉ ᓄᓇᕐᑯᑎᖅᑭᓐᓂ ᐊᑦᕆᑏᖅᑭᑐᓂ ᐊᒥᓯᐃᓕᑦᓯᒥᑦ ᐃᒻᒪᖅᑲᐅᑦᓵᕈᑎᓄᑦ EHB-ᒥᐅᕋᑦ ᕿᓚᓗᒃᑦ ᐃᓚᒋᔭᐅᒍᑎᖅᑭᓐᓂᒃ ᐊᑐᓂ ᐊᓐᓂᑐᕐᑕᐅᔪᓄᑦ (ᓯᒥᑦᓯᒪᖅᑭᑐᑦ ᐊᒻᒪᓗᕈᑖᑦ).*

ᐆᑦᑐᕋᐅᑎᖅᒐ ᒪᓕᑦᓯᒍ, ᐲᕐᓯᓂᖅ 62-ᓂᒃ EHB-ᒥᐅᔭᓂᒃ ᐆᒪᔪᓂᒃ ᐊᕐᕋᒍᑕᒫᑦ ᐊᕐᕋᒍᓄᑦ ᕐᑯᓕᓄᑦ ᓄᐃᑦᓯᒪᔭᕐᑐᖅ 50%-ᒥᒃ ᐅᓄᕐᓂᖅᑭᑎᒍᑦ ᑲᑕᑦᔫᒥᒍᓇᐅᓂᕐᒥᒃ ᐆᑦᑐᕋᕐᓗᒋᑦ 2012-ᒥ ᐃᒻᒪᖅᑲᐅᑦᓴᑕᐅᒪᒍᑎᖅᑭᓐᓄᑦ (ᐊᑦᕆᖅᒍᐊᖅ 5). ᐃᓱᖅᑲᕐᑎᓯᓂᖅ EHB-ᒥᐅᕋᑦ ᕿᓚᓗᒃᑦ ᐱᔭᐅᓂᖅᑭᓐᓂᒃ 28-ᓄᑦ ᐆᒪᔪᓄᑦ ᓄᖅᒍᑉᐸᓕᐊᒍᓇᐅᓂᕐᒥᒃ ᒥᑭᓕᑎᑦᓯᒪᔭᕐᑐᖅ 25%-ᒧᕐᓗᒍ. ᒧᒥᐊᒍᑦᑕᐅᖅ, 106-ᓂᒃ EHB ᕿᓚᓗᒐᖅᑭᓐᓂᒃ ᐊᓐᓂᑐᖃᑦᑕᓂᖅ ᓄᐃᑦᓯᒪᔭᕐᑐᖅ 75%-ᒥᒃ ᑐᕌᓚᕿᒍᓇᐅᓂᕐᒥᒃ ᕿᓚᓗᒃᑦ ᓄᖅᒍᑉᐸᓕᐊᓂᖅᑭᓐᓄᑦ. ᐊᓐᓂᑐᕐᑕᐅᖃᑦᑕᖅᑭᑉᐸᑕ, ᓄᖅᒍᑉᐸᓕᐊᓚᖅᒐᒍᓇᐅᓂᖅᒐᑦ 9%-ᖅᒍᓚᖅᒐᔪᖅ. ᐊᓐᓂᑐᕐᓂᓕᒫᑦ ᐊᑦᑐᓂᓪᓚᓇᖅᒐ EHB-ᒥᐅᔭᓄᑦ ᐅᐱᖅᒫᓯᐅᕐᑐᓄᑦ ᒪᓕᓐᓂᐊᑐᖅ ᖃᑦᓯᑦ*

ᐆᒪᔪᕐᑕᐅᓂᖅᑭᓐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᐊᑦᓗᒪᓂᖅᒐᑕ ᐃᓗᐊᓂᒃ ᐊᒻᒪᓗ ᖃᑦᓯᐅᓂᖅᑭᓐᓂᒃ ᐃᓚᒋᔭᐅᓂᕐᒥᒍᑦ ᐃᑭᕋᕐᔪᐊᒥ ᐆᒪᔪᕐᑕᐅᔪᓄᑦ ᐅᐱᕐᖅᒐᔭᒃᑯᑦ/ᐅᒥᐊᒃᑯᓗ (ᐊᑦᔨᖅᒍᐊᖅ 5).



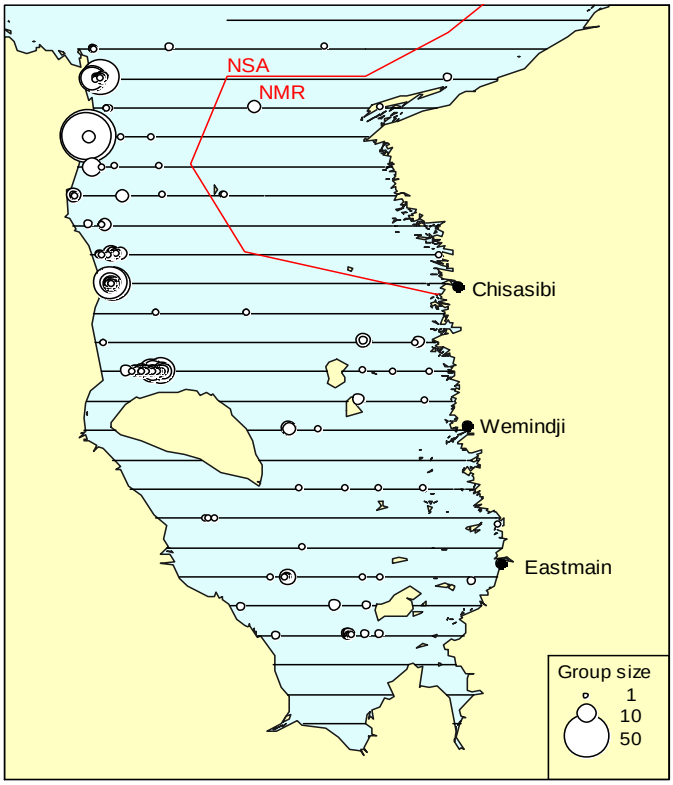

*ᐊᑦᔨᖅᒍᐊᖅ 5. EHB-ᒥᐅᔭᑦ ᕿᓚᓗᒃᑦ ᑲᑕᑦᔫᒥᒍᓇᐅᓂᖅᒐᑦ 2012-ᒥ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᔩᕈᑎᓂᒃ ᐊᕐᕌᒍᓂ 10-ᓂ ᐊᓐᓂᑑᕐᑕᐅᓚᐅᕐᓗᑎᒃ, ᐱᑦᔪᑎᖃᕐᑎᓗᒍ EHB-ᒥᐅᔭᑦ ᕿᓚᓗᒃᑦ ᐲᔭᕐᑕᐅᓂᖅᑭᓐᓂᒃ ᑖᒃᑯᓂᖅᒐ ᐆᒪᔪᓂᒃ ᐊᕐᕌᒍᑕᒫᑦ. ᑕᕐᔭᑲᓪᓗᔪᑦ ᑎᑎᕐᓯᒍᑏᑦ ᓇᓗᓐᕐᓯᔪᑦ ᐊᓐᓂᑑᕐᑕᐅᓂᖅᑭᑕ ᖃᓄᐃᓪᓗᐊᓂᖅᑭᓐᓂᒃ ᐊᑦᔨᐅᒐᔭᕐᑑᓂᒃ 25%-ᒥᒃ, 50%-ᒥᒃ ᐊᒻᒪᓗ 75%-ᒥᒃ ᑲᑕᑦᐸᓕᐊᒍᓇᐅᑎᑦᓯᔪᒧᑦ.*

ᐅᖅᒐᑉ (UB)

ᐅᖅᒐᑉ ᑭᓯᑉᐃᒍᓐᓇᓚᐅᔪᖅᑭᑐᖅ 2011-ᒥ ᓯᓚᕐᓂᓗᒃ ᐱᑦᔪᑕᐅᑎᓪᓗᒍ. ᕿᓚᓗᒐᕐᓂᒃ ᑭᓯᒐᑦᔭᖃᓚᐅᕐᓯᒪᖅᑭᑐᖅ ᐅᑎᕐᑕᐃᓕᐅᖅᒍᒪᔪᓂ ᓯᑕᒪᐃᑦᓯᑎᒃ ᓯᓇᒥᑦᓯᒍ ᐅᖅᒐᑉᒥ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᓐᓂᕐᖃᕐᖃᑦᑕᑎᓪᓗᒍ 1985-ᒥ, 1993-ᒥ, 2001-ᒥ, ᐊᒻᒪᓗ 2008-ᒥ. ᑖᒃᑯᐊ ᓯᕗᓪᓕᐃᓃᑦ ᑲᖅᖅᒍᓇᕐᑭᐅᑏᑦ ᑕᑯᑦᓯᒥᑦ, 100-ᓄᑦ ᐃᓄᕐᓴᕈᓇᐅᓕᕐᑐᑦ ᕿᓚᓗᒃᑦ ᐅᖅᒐᑉᒥ.

ᔭᒻᔅ V (JB)

ᑲᑎᑦᓯᒥᑦ ᕿᓚᓗᒃᑦ ᑲᑎᓂᑯᖅᑭᓐᓂᒃ 173-ᓂᒃ ᕿᑎᕋᕐᓗᒍ ᐆᒪᔪᖅᑭᑦ ᐅᓄᕐᓂᕐᑲᕐᑕᑎᓪᓗᒥᑦ 3.38-ᓂᒃ ᑕᑯᓚᐅᔪᔪᑦ ᔭᒻᔅ Vᒥ (ᐊᑦᔨᖅᒍᐊᖅ 6) ᓄᐃᑦᓯᒍᑕᐅᑎᓪᓗᒥᑦ ᐳᐃᒪᔪᕐᑎᒍᑦ ᐅᓄᕐᓂᖅᑭᑕ ᓇᓗᓐᑯᒃᑯᑕᖅᒐᓂᒃ 7,154-ᓂᒃ. ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᔩᕈᑎ ᔭᒻᔅ Vᒥ, ᐋᕐᕿᒥᐊᓚᐅᕐᓯᒍ ᐊᕐᕌᐅᒪᔪᓄᑦ ᕿᓚᓗᒐᕐᓄᑦ, 14,967-ᖅᒍᓚᐅᔪᔪᑦ (CV 33%).




ᐊᑦᑕᖅᑯᐊᖅ 6. ᓄᓇᖅᖅᑯᐊᑎᒍᑦ ᐃᕐᐸᖅᓂᖅᑭᑦ ᑕᑯᔭᐅᓯᒪᔪᓄᑦ ᑲᑎᕆᓂᕐᓄᑦ ᐊᒻᒪᓗ ᐅᑎᕐᑕᐃᐅᓯᒪᔪᑦ ᕿᒻᒃ ᐯᒥ ᑎᑎᕐᓯᒪᓂᖅᑭᑦ

## ᒪᑲᑦᑐᓕᒪᔪᒥᒃ ᐱᐅᓯᖃᕈᑎ

ᓄᓇᕗᒻᒥ ᐊᓐᓂᑦᑐᕐᓂᒧᓕᖅᒐᔪᓂᒃ ᐃᓱᒪᓕᐅᕈᑏᑦ ᑐᖅᖅᒐᕕᖅᑲᕐᐳᑦ ᖃᐅᔨᒪᒍᑎᑦᓯᐊᖅᒍᓂᕐᐹᖅᒍᓇᓱᑦᑐᓂᒃ EHB-ᒥ ᕿᓚᓗᕐᒥᑦ ᖃᓄᐃᓕᕐᓂᖅᑭᓐᓂᒃ. ᑭᓯᐊᓂ ᓱᕐᕐᑯᐃᓱᖅᖅᑭᓂᕐᒥᒃ ᐱᑕᖃᕐᒥᔪᖅ ᑭᓯᒍᑎᕕᓃᑦ ᐃᒻᒪᖃᐅᑦᓴᑕᖅᑭᓐᓄᑦ, ᕿᓚᓗᕐᒥᑦ ᐊᑕᖅᑭᕐᓯᒪᓗᒥᑦ ᖃᓄᐃᓅᕐᓂᖅᑭᓐᓄᑦ ᐊᒻᒪᓗ ᐊᓐᓂᑦᑐᑕᐅᔪᑦ ᓇᓕᖅᑭᓐᓂᒃ ᐱᓂᖅᑭᓐᓄᑦ. ᐃᓕᑕᕐᓯᒪᖅᖅᑭᓂᖅ ᑕᒪᑐᒪ ᓱᕐᕐᑯᐃᓯᒪᖅᖅᑭᑑᑉ ᐱᒻᒪᕆᐅᓂᖅᒐᓂᒃ ᑐᕋᕈᑕᐅᒍᓐᓇᐳᖅ ᐊᖅᑭᔪᒧᑦ ᐆᒪᔪᓂᒃ ᐅᓄᕐᓂᖅᑭᑎᒍᑦ ᐱᓂᕐᓗᑎᑦᓯᓂᕐᒧᑦ. ᒪᑲᑦᑐᓕᒪᔪᒥᒃ ᐱᐅᓯᖃᕈᑎ (PA) ᐊᔪᐃᓐᓇᕈᑕᐅᐳᖅ ᐃᑉᐱᒍᓱᑦᓯᐊᓂᕐᒥᐊᓕᒥᒃ ᖃᐅᔨᒪᒍᑎᑦᓴᑦ ᓱᕐᕐᑯᐃᖅᑭᓐᓂᓴᐅᓕᕐᑉᑕ ᐊᒻᒪᓗ ᐅᓕᕐᓂᓯᒍᑕᐅᐳᖅ ᑐᑭᑖᖃᑦᑕᓂᕐᒧᑦ ᒪᓕᒐᐅᔪᑦᓴᓂᒃ ᐆᒪᔪᓂᒃ ᐊᐅᓚᑦᓯᓂᐅᑉ ᑐᑭᐊᒍᑦ ᑖᒃᑯᐊ ᐱᑯᑦᓕᕐᑯᑏᑦ ᑎᑭᐅᑎᓕᕐᑉ ᑐᑭᓯᓐᓇᑎᑦᓯᐊᓯᒍ ᓇᓗᓂᕐᓯᒪᔪᒧᑦ ᑎᑭᓴᕐᑐᒐᕐᒧᑦ. ᐊᖅᑮᒡᒋᕕᖅᒐᑕ (ᐅᑯᑦᓗᓐᓃᑦ ᐊᑦᑕᓇᕐᑐᒧᕐᕕᖅᒐᑕ) ᓇᓗᓂᒃᑯᑕᖅᒐ (N$_{lim}$) ᓄᐃᑕᑦᓯᐅᖅ ᐃᒻᒪᖃᐅᑦᓴᓯᒍ ᖃᓄᐃᓕᓗᐊᓂᕐᒥᒃ ᐱᐅᓯᐅᖅᑭᓐᓇᕈᓂ ᐆᒪᔪᓂᒃ ᐲᓴᒍᑕᐅᓗᓂ ᑐᕋᕈᑕᐅᓚᖅᒐᔪᒥᒃ ᐆᒪᔪᓂᒃ ᐅᓄᕐᓂᖅᑭᑎᒍᑦ ᐱᓂᕐᓗᐃᓂᒻᒪᓇᒻᒧᑦ. ᒪᑲᑦᑐᓕᒍᑎᐅᑉ ᓇᓗᓂᒃᑯᑕᖅᒐᑕ ᐅᓄᕐᓂᖅᒐ (PRL) ᓇᓗᓂᕐᓯᐅᖅ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᖅᒐᑕ ᒥᑦᓴᐅᓯᒪᖅᒐᓂᒃ ᑎᒥᓗᐊᓕᕐᑉᑕ ᐊᑦᑕᓇᕐᑐᒦᓇᒃᑯᑏᑦ ᐊᐅᓚᑦᓯᒍᑏᑦ ᐊᑐᓯᕕᓯᖅᒐᓂᒃ ᓱᕐᕐᑯᐃᓚᖅᒐᓗᓂ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᒥᒍᑦ ᑲᑕᓐᓂᐊᖅᑭᓐᓂᖅᒐᓂᒃ ᐊᑦᑕᓇᕐᑐᒦᕕᖅᒐᑕ ᐊᑖᓄᑦ.

PRL–ᖃᕈᑎᖅᒐ, ᑕᒪᓐᓇᓗ ᐅᓕᕐᓂᑕᐅᑦᓯᓂ 70%-ᓇᔭᐅᑎᓪᓗᒍ ᑕᑯᔭᐅᓯᒪᔪᒧᑦ ᐅᑯᑦᓗᓐᓃᑦ ᐃᓱᒪᓇᕐᑐᒧᑦ ᐅᓄᕐᓂᖅᑭᑦᑕ ᖃᓄᐃᓪᓗᐊᓂᖅᒐᓄᑦ, ᓇᓗᓂᕐᑕᐅᓯᒪᕗᖅ ᓴᑐᕐᑎᓯᓂᒃᑯᑦ EHB-ᒥ ᕿᓚᓗᒐᕐᓂᒃ ᑐᕋᕐᒐᐅᔪᑦᓴᐅᑎᓪᓗᒍ (ᐊᑦᓯᑕᐅᒪᔪᖅ N70-ᒥᒃ). ᓱᕐᔪᑑᑦᓯᑎᒃ ᐅᓄᕐᓂᖅᑭᑦᑕ ᖃᑦᓯᐅᓂᕕᓂᖅᑭᑦ (1854 ᓯᕗᓂᖅᒐᓂ) ᖃᐅᔨᒪᔭᐅᖅᖅᑭᑐᑦ, ᐃᒻᒪᖃᐅᑦᓴᓯᒪᒐᓗᐊᕐᓯᑎᒃ 8,000 - 11,600 ᒥᑦᓴᓂᒍᓇᕕᓂᐅᑎᓪᓗᒥᑦ, ᑐᖅᖅᒐᕕᖃᕐᓯᓂ ᑮᓇᐅᔭᓕᐅᕐᑐᑦ ᐊᓐᓂᑦᑐᑕᖅᑭᑕ ᐊᓪᓚᑕᐅᒍᑎᕕᓂᖅᑭᓐᓂᒃ. ᑎᒥᒻᒪᑦ, ᒪᕐᕈᐃᓂᒃ ᓴᑐᕐᑎᓯᓂᒃᑯᑦ ᑐᕋᒐᓐᓂᒃ ᕿᒥᑕᐅᔪᖃᓇᐊᓕᕐᕐᑯᖅ ᑕᒪᑐᒪ ᒥᑦᓴᓅᓇᐊᕐᓂᐊᓗᓂ: T1 = 5,600 ᐊᒻᒪᓗ T2 = 8,000. ᑖᒃᑯᐊ ᑐᕋᕐᑕᐅᔪᑦᓴᑦ ᒪᓕᑦᑐᐳᑦ ᐃᓂᓪᓚᑎᕈᑎᓂᒃ ᕿᒥᑕᐅᒍᒪᓯᔪᒪᓂᒃ ᐊᓯᖅᑭᓐᓄᑦ ᑕᓇᐅᒥ ᐳᐃᔨᒻᒪᓇᓐᓄᑦ ᑳᓇᑕᐅᑉ ᐃᓗᐊᓂ. ᑖᒃᑯᐊ ᐃᓂᓪᓚᑎᕈᑏᑦ ᓇᓗᓂᕐᓯᒥᔪᑦ ᐊᖅᑮᒡᒋᕕᒻᒥᒃ 30%-ᖅᒍᔪᑦᓴᐅᑎᓪᓗᒍ ᐆᒪᔪᐃᑦ ᐱᕕᓕᒫᖅᒐᓄᑦ ᐅᓄᕈᓐᓇᓂᖅᒐᓄᑦ (N$_{lim}$), ᐃᒫᒃ, 2,400 ᒥᑦᓴᓂ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓴᕈᑏᑦ ᐃᑭᓐᓂᓴᑦ ᐊᑐᕐᑕᐅᑐᐊᕐᑉᑕ. ᐱᒍᓇᐅᓂᖅ T1-ᒥᒃ ᐊᒻᒪᓗ T2-ᒥᒃ ᐊᕐᕌᒍᐃᑦ 25 ᐊᒻᒪᓗ 50 ᐊᓂᒍᕐᑉᑕ ᐊᑐᕐᓗᓂ ᐊᒥᓱᐃᓂᒃ ᐊᕐᕌᒍᑕᒫᑦ ᐊᓐᓂᑦᑐᕐᓂᒧᑦ ᐃᓱᓕᕕᖃᕈᑎᓂᒃ ᓄᐃᕗᑦ ᐃᓱᕕᒍᑎᒥ 1-ᒥ.

ᐃᓱᕕᒍᑎ 1: ᐱᒍᓇᐅᓂᖅ ᓴᑐᕐᑎᓱᓂᕐᒧᑦ ᑐᕌᒐᕐᓂᒃ ᐊᕐᕌᒍᐃᑦ 25 ᐊᒻᒪᓗ 50 ᐊᓂᒍᕐᐸᑕ, ᐊᑐᕐᓗᓂ ᐊᒥᓱᐃᓂᒃ ᐊᕐᕌᒍᑕᒫᑦ EHB-ᒥᐅᔭᓂᒃ ᕿᓚᓗᒐᕐᓂᒧᑦ ᐃᓱᓕᕕᖃᕈᑎᓂᒃ.

| ᐊᓐᓂᑐᐊᑦ | T1 = 5,600 | | T2 = 8,000 | |
|---|---|---|---|---|
| | 25 ᐊᕐᕌᒍᐃᑦ | 50 ᐊᕐᕌᒍᐃᑦ | 25 ᐊᕐᕌᒍᐃᑦ | 50 ᐊᕐᕌᒍᐃᑦ |
| 0 | 58% | 78% | 35% | 66% |
| 10 | 53% | 72% | 31% | 61% |
| 20 | 48% | 66% | 28% | 55% |
| 30 | 42% | 60% | 25% | 50% |
| 40 | 38% | 54% | 22% | 44% |
| 50 | 33% | 48% | 19% | 39% |
| 60 | 29% | 42% | 16% | 34% |
| 70 | 25% | 36% | 14% | 29% |
| 80 | 22% | 31% | 12% | 25% |
| 90 | 19% | 26% | 10% | 22% |
| 100 | 16% | 22% | 9% | 18% |
| 125 | 11% | 14% | 6% | 12% |
| 150 | 7% | 9% | 4% | 7% |
| 175 | 4% | 5% | 2% | 4% |
| 200 | 3% | 3% | 2% | 3% |

## ᓱᕐᑯᐃᖅᑭᒍᑎᓂᒃ ᓄᐃᑎᑦᓯᔪᑦ

ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᕐᑲᐅᑦᓴᕈᑏᑦ ᑖᒃᑯᓄᖅᒐ ᐅᐱᕐᖓᓯᐅᕐᑐᓄᑦ ᕿᓚᓗᒐᕐᓄᑦ ᐃᓕᖅᒐᔪᑦ ᐱᕕᑐᐊᕐᑲᕐᓯᒪᕗᑦ ᐱᖅᒐᓱᔪᕐᑐᐃᓂᒃ ᕐᑲᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᒍᑎᕕᓂᕐᓂᒃ. ᓱᕐᕌᑯᐃᖅᑭᒍᑎᕐᑲᕐᐳᖅ ᐊᑦᑐᐊᔪᒥᒃ ᑖᒃᑯᓄᖅᒐ ᑭᓯᒍᑏᑦ ᐃᒻᒪᕐᑲᐅᑦᓴᑕᖅᑭᓐᓄᑦ, ᑕᒪᓐᓇ ᓄᐃᑎᑕᐅᑎᓪᓗᒍ ᕿᓚᓗᑐᕐ ᑲᑎᓂᑯᑲᓪᓛᖅᒍᓱᑎᒃ ᐃᕐᐸᓯᒪᓂᖅᒐᓐᓄᑦ. ᓱᕐᖓᒍᑎᒥᐊᓪᓗᑦ ᐊᓯᖅᑭᑦ ᐃᓚᖅᑲᕐᒥᔪᑦ ᐊᑦᑦᒋᓕᖅᖅᑭᓂᕐᒥᒃ ᕿᓚᓗᑐᑦ ᐳᐃᑲᑦᑕᓂᖅᒐᑕ ᐱᐅᓯᖅᒐᑎᒍᑦ; ᕿᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᑐᑦ ᐃᒻᒪᕐᑲᐅᑦᓴᕈᑎᖅᑭᑦ ᐋᕐᕿᒥᐊᕐᑕᐅᕐᑲᑦᑕᓯᒪᕗᑦ ᕿᖅᒐᑦᑕᔫᖅᑯᓚᐅᑦᑎᓗᒍ ᐊᕐᕌᑲᐅᒪᔪᑦᓴᐅᔪᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐃᓱᒪᒍᑕᐅᑦᓱᑎᒃ, ᑭᓯᐊᓂ ᐅᓄᕐᓂᒥᒃ ᐃᒻᒪᕐᑲᐅᑦᓴᓃᑦ ᐊᐅᓚᑕᒻᒪᓇᐊᓗᐃᑦ ᑕᒪᑐᒪ ᐋᕐᕿᒥᐊᕐᑕᕈᑎᖅᒐᓄᑦ ᑐᖅᒐᐃᑦᓴᑐᐊᓕᒻᒧᑦ ᕐᑲᐅᔨᒪᒍᑎᓂᒃ ᐊᒥᒐᕐᑐᐹᓗᓐᓂᒃ. ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐆᑦᑐᕋᐅᑎᐅᑉ ᐋᕐᕌᑯᐃᐃᐅᓂᖅᒐ ᑕᒪᒃᑯᓂᖅᒐ ᕐᑲᐅᔨᒪᒍᑎᓂᒃ ᐃᑲᔪᕐᓯᓚᐅᔪᔪᖅ ᐃᑯᓪᓚᐅᒥᑎᑦᓯᓂᒃᑯᑦ ᓱᕐᕌᑯᐃᖅᑭᓐᓂᐅᑉ ᐃᓚᖅᒐᓂᒃ ᐅᓪᓗᒥ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᓇᓕᕐᑕᖅᑭᑕ ᑐᑭᐊᒍᑦ.

ᕐᑲᐅᔨᒪᒍᑎᓂᒃ ᐱᑕᕐᑲᓯᐊᖅᑭᑦᑐᒪᓇᐅᕗᖅ ᕐᑲᑦᓯᑦ ᐆᒪᔪᐃᑦ ᐋᓐᓂᑕᐅᑦᓯᑎᒃ ᐋᓐᓇᓯᒪᓂᖅᒐᓂᒃ (ᐃᒫᒃ, ᕐᑯᒃᑭᓕᕐᑕᐅᓯᑎᒃ ᐊᓯᐅᔨᔭᐅᑦᓯᑎᓪᓘᑐᑦ ᓱᕐᖓᒍᑎᖅᒐᓂᒃ). ᑕᒪᑐᒪ 4%-ᖅᒍᓂᕐᕐᑕᐅᓂᖅᒐ ᐆᒪᔪᕐᓂᐊᑎᓄᑦ 2012-ᒥ ᐃᓚᐅᑎᑕᐅᓚᐅᔪᔪᖅ ᐊᑦᑦᒋᖅᖅᑭᑐᓄᑦ ᑕᒪᑐᒥᖅᒐ ᕐᑲᑦᓯᐅᒐᔭᕐᓂᖅᒐᓂᒃ ᐃᓱᒪᒍᑎᓂᒃ ᐆᑦᑐᕋᐅᑎᒧᑦ, ᑭᓯᐊᓂ ᕐᑲᐅᔨᒪᐅᑎᓪᓚᓇᓐᓄᑦ ᓴᐳᑦᔭᐅᓚᐅᔪᖅᖅᑭᑐᖅ. ᐆᑦᑐᕋᐅᑎᓕᐅᕐᓂᖅ ᐃᓱᒪᓇᕐᑎᓯᔪᖅ ᑕᒪᓐᓇ ᓱᕐᖓᒍᑎ, ᑕᒪᑐᒧᓇ ᐅᖃᒻᒥᑐᕐᑲᓱᖅᒍᓂᖅ ᐃᓱᒪᒋᒻᒥᓱᒍ, ᕐᑲᓐᓂᓴᐅᒋᐊᖅᒐ ᓄᓈᕐᑕᐅᓚᓇᑦᑐᑦ 40%-ᖅᑭᓐᓄᑦ.

ᕐᑲᐅᔨᒪᒍᑎᓂᒃ ᐱᑕᕐᑲᖅᖅᒥᒥᔪᖅ ᕐᑲᑦᓯᑦ ᑐᕐᑯᕋᕐᓂᖅᒋᑕ ᑐᕈᐊᒍᑦ, ᑕᒪᓐᓇᓗ ᐱᕕᑭᑦᑑᑎᑦᓯᒋᕗᖅ ᐆᑦᑐᕋᐅᑎᓕᐅᕐᓂᒥᒃ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᓱᕐᕋᑦᓂᖅᒐᓄᑦ. ᑭᓯᒍᐊᕐᓂᓴᐅᓱᖅᒍᐸᑦᑕ ᓱᕐᕌᑯᐃᓱᖅᑭᓂᐅᑉ ᐃᓚᖅᒐ ᒥᑭᓕᐅᒥᒐᔭᕐᑐᖅ, ᑎᒥᒐᔭᕐᒥᓱᓂᓗ ᐃᓚᐅᓂᕐᓴᐅᕙᑦᐸᑦᑕ ᕐᑲᐅᔨᓴᕐᑦᓴᓂᐊᕐᓂᐅᑉ ᐱᓇᓱᑦᑕᐅᓂᖅᒐᓄᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᓇᐊᕐᐸᑕ ᒪᕐᕿᑦᑐᑦ ᐅᕐᑲᕈᑎᒋᕙᑦᑕᖅᒋᑦ ᐋᓐᓂᓯᒋᓪᓗ-ᐊᓐᓂᑕᐅᔪᑦ ᕐᑲᑦᓯᐅᓂᖅᑭᓐᓂᒃ.

ᐊᑕᐅᓯᐅᖅᖅᑭᑐᓂᒃ ᐊᓯᒋᐊᓪᓚᖅᑭᓐᓂᒃ ᐳᕐᕿᐊᓲᑎᑦᓴᕐᑲᕐᒥᔪᖅ ᒪᑲᑦᑐᓕᒪᔪᒥᒃ ᐱᐅᓯᕐᑲᕐᓯᓂ ᑐᕈᓯᓂᐊᕈᑎᐅᑉ ᐃᓗᐊᓂ. ᓯᕗᓪᓕᐹᒥᒃ, ᓴᑐᕐᑎᓯᓂᕐᒧᑦ ᑐᕌᕐᑕᖅᑭᑦ ᒪᓕᐸᑦ ᐃᒻᒪᕐᑲᐅᑦᓴᕈᑎᑦᑎᓂᒃ ᑎᒪᖅᖅᓛᓂᒃ ᐆᒪᔪᐃᑦ ᐱᕕᓕᒫᕐᓯᑎᒃ ᐅᓄᕐᓂᓇᓕᓂᖅᒐᓐᓂᒃ, ᑐᖅᒐᕕᓕᒻᒥᒃ ᐊᕐᕌᒍᓂ 10-ᓂ ᑮᓇᐅᔭᓕᐅᕐᑐᓄᑦ ᐊᓐᓂᑐᕈᑎᕕᓃᑦ ᑐᓴᕐᑎᓯᒍᑎᕕᓂᖅᑭᓐᓂᒃ ᐊᒻᒪᓗ ᐃᓱᒪᒍᑎᕕᓂᕐᓂᒃ ᐅᒪᔪᐃᑦ ᐅᓄᕐᓂᖅᑭᑎᒍᑦ ᕐᑲᓄᐃᓕᕝᕙᓕᐊᓂᖅᒐᑕ ᑐᕈᐊᒍᑦ ᐊᒻᒪᓗ ᕐᑲᑦᓯᓂᒃ ᕿᓚᓗᒐᕐᑲᓕᕐᓂᖅᒐᑕ ᑐᕈᐊᒍᑦ 1864 ᑭᖅᒍᓂᖅᒐᓂ. ᐊᒥᒐᖅᖅᑭᑐᒥᒃ ᐳᕐᕿᐊᓇᕐᑐᕐᑲᕐᕐᑯᖅ ᑕᒪᒃᑯᐊ ᐃᒻᒪᕐᑲᐅᑦᓴᕈᑎᕕᓃᑦ ᐱᑦᔪᑎᒋᓗᒋᑦ. ᓱᓕᒥᐊᓪᓚᒃ, ᐆᒪᕕᓐᓂ ᐱᐅᓯᐅᓯᒪᔪᑦ 1800-ᓂ ᐊᑦᑦᐅᖅᑭᑐᐃᓐᓇᓇᐊᕐᑲᕐᒥᔪᑦ ᐅᓪᓗᒥ ᐆᒪᕕᓐᓂ ᐱᐅᓯᐅᓕᕐᑐᓄᑦ. ᑕᓯᐅᔭᕐᔪᐊᑦ ᓯᓂᖅᒐ ᐊᒥᓱᐃᓂᒃ ᐊᓯᑦᑦᑐᕐᑲᕐᓯᒪᓕᕐᑐᖅ (ᓄᓇᐅᑉ ᑖᓂᓇᑦᓯᓯᓂ ᖃᑭᒫᒥᓂᖅᒐ, ᓯᑯᒪᓱᖅᒍᓂᖅᒐᑕ ᐊᓯᑦᑦᓂᖅᒐ, ᐊᓯᑦᑦᑭᑦ ᐃᖅᑲᐃᑦ ᐊᒥᕐᓐᓂᖅᑭᑎᒍᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᑦᑐᔭᐅᓂᖅᑭᑎᒍᑦ) ᓱᕐᖓᓯᒪᑐᐃᓐᓇᓇᐊᓕᓐᓂᒃ ᖃᑦᓯᓄᑦ ᐆᒪᕕᐅᒍᓐᓇᓂᖅᒐᓂᒃ. ᓯᓚᐅᑉ ᐊᓯᑦᑦᓂᖅᒐᑕ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᓱᕐᕋᑦᓂᖅᒐᑕ ᐊᑦᑐᓂᖅᑭᑦ ᑖᒃᑯᓄᖅᒐ ᐆᒪᔪᓄᑦ ᓱᓕ ᑐᕈᓯᒪᔭᐅᑦᓯᐊᔭᖅᑭᒻᒥᔪᑦ. ᓱᓕᐅᒻᒥᔪᖅ, ᐱᐅᓯᓇᓛᕐᑕᖅᑭᓐᓂᒃ ᑕᑯᓐᓇᕈᑎᑦ ᓴᓇᒻᒥᔪᑦ ᐊᑐᓯᓂ ᐆᑦᑐᕋᐅᑎᒥᒃ ᐋᕐᕿᒥᐊᕈᑎᖃᖅᖅᑐᒥᒃ ᐊᒥᓱᖃᓐᓂᓪᓗᑐᕐᒧᑦ, ᐊᒻᒪᓗ ᑎᒥᒻᒪᑦ ᓄᐃᑦᓯᖅᑭᑐᐃᓐᓇᓇᐊᖃᕐᓯᑎᒃ ᓇᓚᐅᑭᒪᔪᒥᒃ ᐃᒥᑉᐳᓯᒪᒍᑎᒥᒃ ᐅᓄᕐᓂᖅᑭᑕ ᖃᓄᐃᓘᕐᓂᖅᒐᓂᒃ ᐆᒪᕕᐅᑉ ᖃᑦᓯᓂᒃ ᒪᑭᑦᓯᒍᓐᓇᓂᖅᒐᑕ ᒥᑦᓵ ᐃᓱᒪᒋᓗᒍ.

ᑕᕆᐅᒥ ᐳᐃᔨᒪᕆᑦ ᐅᓄᕐᓂᖅᑭᑦ ᓱᕐᕋᑕᐅᓯᒪᓲᖅᒍᐳᑦ ᐊᑦᔨᑏᖅᑭᑐᓄᑦ ᑕᒪᑐᒥᖅᒐ ᐊᐅᓚᑦᓯᔪᓄᑦ ᐊᑦᑐᐊᓱᑎᒃ ᑐᕐᑯᕐᕋᖅᒐᓐᓄᑦ, ᑕᒪᓐᓇ ᐃᓚᖃᕐᑎᓗᒍ ᐱᐅᓯᑐᐃᓐᓇᑯᑦ ᐊᒻᒪᓗ ᐃᓄᓐᓄᑦ ᐅᒥᑕᐅᑦᓯᑎᒃ ᑐᕐᑯᒍᑎᓂᒃ. ᐱᐅᖅᑭᑐᓂᒃ ᑭᖑᓂᓕᐅᕈᑏᑦ ᕿᓚᓗᒐᑦ ᐅᓄᕐᓂᖅᑭᓐᓄᑦ ᓄᐃᑐᐃᓐᓇᓇᐊᖃᕐᒥᔪᑦ ᓱᕐᕿᓗᓕᐊᓂᒃ ᐊᒻᒪᓗ ᐊᐳᕐᑕᐅᑲᑦᑕᓂᕐᒥᒃ ᐅᒥᐊᕐᔪᐊᓄᑦ ᑭᖑᓂᕐᒥ ᐱᓇᓱᓐᓂᒪᓇᑦ ᒪᓕᑦᑎᒥᓛᕐᑕᖅᑭᓐᓄᑦ. ᐆᑦᑑᑎᒥᓗᒍ Mary River-ᒥ ᐱᓇᓱᑦᑕᐅᔪᖅ ᓴᐃᑦᓴᔭᒥᒃ ᐅᔭᕋᓐᓂᐊᐃᒻᒥᒃ ᓄᐃᑦᓯᒍᑕᐅᒍᒪᑦᓱᓂ ᕿᑭᕐᑖᔫᑉ ᑦᕋᕐᓯᐊᓂ, ᓄᓇᕗᑦ ᕿᑭᕐᑕᓂᕐᑯᑎᖅᒐᑕ ᐃᓗᐊᓂ. ᑖᓐᓇ ᐅᔭᕋᓐᓂᐊᐃᒃ ᐃᓚᖃᓚᖅᒐᔪᖅ ᐊᕐᕌᒍᓕᒫᑦᓯᐊᖅ ᓴᐃᑦᓴᔭᒥᒃ ᐅᒥᐊᕐᔪᐊᑯᑦ ᐊᐅᑦᓚᐅᔨᒃᑦᑕᓂᕐᒥᒃ ᔨᐅᕈᑉᒧᑦ ᐊᒻᒪᓗ ᐊᑐᓇᐊᖃᓚᖅᒐᑦᓯᓂ ᐊᒥᓱᓂᒃ ᐅᒥᐊᕐᔪᐊᓂᒃ ᓱᑯᐃᔾᕐᑎᓇᒍᓐᓇᑐᓂᒃ. ᐊᒥᓱᐃᓂᒃ ᐱᓇᓱᑦᑕᐅᒍᒪᔪᓂᒃ ᕿᓐᓗᐊᑕᐅᔪᖅᒥᔪᖅ ᐃᓱᓕᑉᐸᖅᒐᓂ ᓄᐃᑦᓯᓛᕐᓂᐊᑐᓂᒃ ᐱᓕᐅᒥᔫᒻᒪᓇᐊᓗᒻᒥᒃ ᐅᒥᐊᕐᔪᐊᓂᑦᑕᓂᕐᒥᒃ ᓄᓇᕕᒻᒥ ᐊᒻᒪᓗ ᓱᐊᑦᑐᓂ ᑕᓇᐅᓂ. ᖃᐅᔨᓴᕈᑏᑦ ᑕᒪᑐᒪ ᐱᓕᐅᒥᔫᑉ ᐅᒥᐊᕐᔪᖃᕐᓂᐅᑉ ᕿᓚᓗᒐᕐᓄᑦ ᐊᑦᑐᓂᓇᓛᕐᑕᖅᒐᓂᒃ ᒥᑭᔫᓛᖅᖅᓂᓄᔪᑦ, ᑕᒪᓐᓇᓗ ᐃᓱᐊᓂ ᑭᖑᓂᖃᓱᒍᓐᓇᓱᓂ ᐃᑭᓕᐅᒥᔪᓂᒃ ᒪᑭᑕᒍᓐᓇᓚᖅᒐᓗᒋᑦ ᐊᓐᓂᑐᖃᑦᑕᕈᓐᓇᓂᕐᒥᒃ.

## ᐊᓱᒋᐊᓪᓚᖅᑭᑦ ᑯᒻᒪᓲᑎᓖᑦ ᐃᓱᒪᒋᔭᖅᑭᑦ

ᐃᓄᐃᑦ ᑯᐯᒃ ᑕᕐᕋᖅᒐᓂ ᐃᓱᒪᒋᔭᖃᕐᕐᑯᑦ ᕿᓚᓗᒐᕐᓂᒃ ᐱᒻᒪᕆᐅᑦᓯᑎᒃ ᓂᕿᑎᒍᑦ ᐱᕙᓪᓕᕐᑯᑎᐅᑎᓪᓗᒋᑦ. ᓄᓇᓕᓐᓂ ᐃᓱᒫᓗᑦᑐᑦ ᓱᒃᑯᓇᕐᑐᓂᒃ ᐊᒻᒪᓗ ᖃᓂᒻᒪᔭᓕᐅᕐᑐᓂᒃ ᑕᒪᒃᑯᐊ ᓱᕐᖳᓂᐊᖅᖅᒫᓇᓱᒋᑦ ᕿᓚᓗᕐᑦ ᐃᓄᐃᓪᓘᓃᑦ ᑖᒃᑯᓂᖅᒐ ᓂᓇᔪᑦ ᖃᓄᐃᖅᖅᑭᓂᖅᒐᓐᓂᒃ. ᐊᓱᐊᒍᑦ ᐃᓘᓐᓂᓄᑦ ᐃᓱᒫᓗᓐᓇᑦ ᐃᓚᖃᕐᒥᔪᑦ ᓱᓚᐅᑉ ᐊᓱᑦᔨᑉᓪᓕᐊᓂᖅᒐᓂᒃ ᐊᒻᒪᓗ ᑕᒪᑐᒪ ᑭᖑᓂᓕᐊᖅᒐᓂᒃ ᐊᓱᑦᔨᕈᑎᒥᒃ ᑕᓇᐅᑉ ᓯᑯᖅᒐᓄᑦ, ᓱᕐᖳᓴᑐᐃᓐᓇᓇᐊᖃᕐᒥᒪᑕ ᕿᓚᓗᕐᑦ ᓂᒪᓐᓂᖅᑭᓐᓂᒃ, ᓂᕿᖅᑭᓐᓂᓗ ᐊᒻᒪᓗ ᒫᒪᔪᕐᓂᐊᑏᑦ ᕿᓚᓗᒐᕐᓱᒍᓐᓇᓂᖅᒐᓂᒃ. ᓄᓇᓕᓐᓂ ᐃᓱᒪᑦᓴᔭᐅᕈᑏᑦ ᓄᐃᑦᓯᒍᑕᐅᓯᒪᒻᒥᔪᑦ ᐃᓱᒫᓘᑎᓂᒃ ᐱᑦᔪᑎᓕᓐᓂᒃ ᐊᒥᓱᖅᒍᓯᒪᓕᕐᑐᓂᒃ ᑕᒥᓐᓂᒃ ᒥᕈᔪᖅᒍᐊᓂᒃ ᐅᒥᐊᓂᒃ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᒪᓇᓐᓂᒃ, ᐊᒻᒪᓗ ᓱᕐᕿᓗᓕᐅᕐᓂᓴᐅᓕᕐᓂᖅᒐᑕ ᐸᕐᕕᑎᑦᓯᑐᐃᓐᓇᓇᐊᖃᕐᓂᖅᒐᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ, ᐱᓗᐊᕐᑐᒥᒃ ᓄᓇᒧᑦ ᖃᓂᑦᑐᒥ.

ᐊᑦᔨᑭᖅᑭᑐᒻᒪᕆᑦ ᐃᓱᒫᓗᒍᑏᑦ ᐅᖃᕐᑕᐅᓯᒪᔾᑦ ᕿᓚᓗᕐᑦ ᐅᓄᕐᓂᖅᑭᑦ ᐱᑦᔪᑎᒋᑦᓱᒋᑦ. ᐃᓄᐃᑦ ᐃᓚᖅᑭᑦ ᑐᑭᓯᕐᕐᖃᔭᖅᑭᐅᒪᓲᑦ ᐊᖅᑭᒋᓐᓇᖅᑭᓕᐅᒪᑦᓱᑎᓪᓗ ᑭᓯᒍᑕᐅᓯᒪᔪᑦ ᓄᐃᑕᖅᑭᓐᓂᒃ, ᐊᒥᓱᓂᒃ ᕿᓚᓗᕐᑦ ᑕᑯᓯᒪᓂᑯᒥᓄᑦ ᐃᑭᑦᑐᐊᐱᓐᓂᒃ ᕿᓚᓗᕐᓱᐃᐅᓯᒪᔪᓂ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᑐᓄᑦ. ᐊᒥᓱᐃᓂᒃ ᐃᓄᓐᓂᒃ ᐅᖃᕐᑐᖃᕐᓯᒪᔪᖅ ᐃᓱᒫᓗᑎᒥᓂᒃ ᑕᑯᕙᓕᕐᓂᒥᒍᑦ ᐃᑭᑦᑐᐊᐱᓐᓂᒃ ᕿᓚᓗᕐᓱᐃᐅᓯᒪᔪᓂ ᖃᖅᒐᑦᑕᔫᒃᑯᑦ ᑭᓯᑦᑐᓄᑦ. ᐊᒥᓱᐃᓂᒃ ᐃᓄᓐᓂᒃ ᐅᖃᕐᑐᖃᕐᓯᒪᔪᖅ ᐃᓱᒫᓗᑎᒥᓂᒃ ᑕᑯᕙᓕᕐᓂᒥᒍᑦ ᐃᑭᑦᑐᓂᓴᒃ ᐆᒪᔪᓂᒃ ᐅᑦᓱᕐᑕᐅᓂᐅᓯᒪᔪᓂᒃ ᐆᑦᑑᑎᒥᓱᒍ. ᑐᑭᓯᒪᓇᕐᓱᐊᔭᖅᑭᑦᑐᖅ ᑕᒪᓐᓇ ᐊᓱᕐᔨᑭᑎ ᐅᒻᒧᑎᖅᒐᒪᖅᒐᑦ ᕿᓚᓗᕐᑦ ᐃᑭᓕᐅᒥᓂᖅᒐᓂᒃ, ᐅᑦᕿᓐᓂᑦ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᐊᓱᐊᓂᑦ ᓈᓱᒪᓕᕐᓂᖅᒐᓂᒃ. ᓄᓇᓖᑦ ᐃᓚᖅᑭᑦ EHB-ᒥ ᐅᖃᕐᓱᒪᒻᒥᔪᑦ ᕿᓚᓗᕐᑦ ᐅᓪᓗᒥ ᐃᑭᓐᓂᕐᓴᐅᓕᓇᐊᖅᑭᑦ ᐊᕐᕌᒍᓐᓄᑦ ᓱᕐᓕᓕᐅᓯᒪᔪᓐᓄᑦ ᐱᑦᔪᑎᖃᕐᓱᑎᒃ ᐊᒥᕐᓗᐊᕐᑐᓂᒃ ᐊᓐᓂᑐᕐᐱᐅᑦᓐᓂᒥᓂᒃ. ᑭᓱᐊᓂ ᓄᓇᓖᑦ ᐊᓱᖅᑭᑦ ᐃᑭᕋᓴᕐᔪᐊᒥᐅᑦ ᐱᓗᐊᕐᑐᒥᒃ ᐅᑦᐱᓗᑦᓱᐊᒥᔪᑦ ᕿᓚᓗᕐᑦ ᐊᒥᒐᖅᑭᓂᖅᑭᓐᓂᒃ. ᓱᓕᒥᐊᓪᓚᒃ, ᐆᒪᔪᕐᓂᐊᑏᑦ ᐃᓚᖅᑭᑦ ᐊᖅᑭᕐᓱᒪᖅᒥᒥᔪᑦ ᐃᓱᒪᑕᕐᑏᑦ ᐅᖃᐅᓯᖅᒐᓂᒃ ᕿᓚᓗᕐᑦ ᕿᑐᕐᖅᒐᑖᓲᖅᒍᓂᖅᒐᓂᒃ ᐊᕐᕌᒍᐃᑦ ᐱᖅᒐᓱᑦ ᕿᑎᕐᖃᓗ ᑕᒫᑦ ᒥᑦᓵᓂ, ᐅᑉᐱᓇᔭᖃᖅᒐᕐᓱᑎᒃ ᕿᓚᓗᕐᑦ ᐊᕐᓇᖅᑭᑦ ᐊᕐᕌᒍᑕᒫᑦ ᕿᑐᕐᖅᒐᑖᓲᖅᒍᓂᖅᑭᓐᓂᒃ.

## ᑐᑭᓯᒍᑎᖅᑭᑦ ᐊᒻᒪᓗ ᐃᓱᒪᓕᐅᕐᓂᒍᑏᑦ

ᐅᓪᓗᒥ EHB-ᒥ ᕿᓚᓗᕐᑦ ᐅᓄᕐᓂᓇᓕᕐᑕᖅᒐᑦ ᐃᒻᒪᖃᐅᑦᓴᑕᐅᕗᖅ 3,200 ᒥᑦᓵᓐᒋᐊᖅᒐ. ᕿᓚᓗᕐᑦ ᖃᑦᓯᐅᓂᕐᒥᒍᑦ ᑐᕌᕐᑕᖅᒐ ᑕᑯᒍᑕᐅᕗᖅ EHB ᕿᓚᓗᖅᑭᑦ ᓱᒃᑭᓕᐅᒥᑦᔭᒐᑎᒃ ᑲᑕᑉᐸᓕᐊᓯᒪᓂᖅᒐᓐᓂᒃ ᑰᒌᑦ ᐋᕐᕿᑕᐅᒐᓗᐊᕐᒪᑕ 1980-ᓂ ᐊᕐᕌᒍᐃᑦ ᕿᑎᖅᒐᓂ, ᐊᐅᓚᑦᓯᒍᑎᓕᐊᖅᒍᒪᔪᑦ ᓱᓐᓂᔭᖅᑭᒻᒪᑕ ᐃᑭᓪᓕᑎᑦᓯᓂᕐᒥᒃ ᐊᓐᓂᑐᕐᑕᐅᕙᑦᑐᓂᒃ ᑕᓯᐅᔭᕐᔪᐊᑉ ᐊᕙᓗᒪᓂᖅᒐᑕ ᐃᓗᐊᓂ. 1995-ᒥ, ᐊᕐᕌᒎᑉ ᐃᓚᖅᒐᓂ ᐅᑯᐊᓯᒪᑎᑦᓯᓂᖅ ᑕᔭᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ ᓄᓇᓖᑦ ᐃᓚᖅᑭᓐᓂᒃ ᓴᖅᒍᑎᑦᓯᓚᐅᔪᔪᖅ ᐊᓐᓂᑐᕐᓂᓇᓲᖅᒐᑦ ᓈᑎᑦᓯᒍ ᐃᑭᕋᓴᕐᔪᐊᒍᑦ, ᑭᓯᐊᓂ ᑕᕐᕿᑦ ᐃᓗᓐᓇᖅᑭᓐᓂᐅᒥᔪᖅ. ᐅᓄᕐᓂᖅᑭᓐᓄᑦ ᐆᑦᑐᕋᐅᑏᑦ ᐃᓱᒪᓇᕐᑎᓯᔪᑦ ᑖᑦᓯᒪ ᐊᐅᓚᑦᓯᒍᑎᐅᑉ ᐋᕐᕿᑕᐅᓂᖅᒐ ᓱᒻᒥᓂᖅᖅᒥᒥᐊᖅᒐ ᐅᓄᕐᓂᖅᑭᓐᓄᑦ ᑲᑕᑉᐸᓕᐊᓂᐅᑉ ᓱᑲᓐᓂᖅᒐᓂᒃ, ᐃᒻᒪᖅᑳ ᕿᓚᓗᖅᑕᓂᑯᖅᑭᓐᓄᑦ ᐊᕐᕌᒍᓂᖅᒐᓂᒃ ᓱᓐᓂᑦᓴᐅᑎᒥᐊᐱᖅᒐᓂ ᐅᑦᕿᓐᓂᑦ ᑭᖅᒍᓂᖅᒐᓂᒃ. 2002-ᒥ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᑕ ᐊᕙᓗᒪᓂᖅᒐ ᓱᓇᒥᑦᓱᓂ ᐅᑲᐊᓕᓇᓚᐅᕐᓱᒪᑎᓪᓗᒍ ᑭᓯᐊᓂ ᐊᒐᓐᓇᑐᒥᒃ ᐃᑯᓪᓚᐅᒥᓯᒪᒍᓇᐅᕗᑦ EHB-ᒥ ᕿᓚᓗᕐᑦᑕᐅᔪᑦ ᓄᓪᓗᓲᒥᓂᖃᕐᓱᓂᓗ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᖅᑭᑦᑕ ᖃᓄᐃᓕᑦᓚᓕᐊᓂᖅᒐᑎᒍᑦ. 2007-ᒥ, ᐊᓐᓂᑐᐊᓂᖅ ᐱᒥᐊᓪᓚᓚᐅᔪᔪᖅ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓯᓂᖅᒐᓂ, ᑭᓯᐊᓂ ᓯᕗᕐᓂᒻᒪᓇᖅᑭᑦ (ᐸᑎᕐᑑᖅ ᐊᒻᒪᓗ ᕿᓚᓗᕐᑦᓯᐅᕕᒃ) ᐅᒃᑯᐊᓯᒥᓐᓇᓕᕐᑎᓗᒋᑦ, ᐊᒻᒪᓗ ᓄᓇᓖᑦ ᐊᒥᓲᓂᕐᓴᖅᑭᑦ ᐱᔭᑦᓴᖃᕐᑎᒥᓂᒃ ᐱᖃᑦᑕᖅᑭᓐᓇᒥᑎᓪᓗᒋᑦ ᐃᑭᕋᔭᕐᔪᐊᒥᒃ. ᑕᒪᑐᒪ ᐃᓱᒪᐅᓕᕐᓯᒪᐅᑎᐅᑉ ᐊᑐᕐᑐᓕᐊᖅᒍᓂᖅᒐ ᓱᒻᒪᓇᕐᑐᐃᓂᐅᒍᓇᐅᕗᖅ ᒪᑭᑦᓱᓂᒃᑯᑦ EHB-ᒥᐅᔭᓂᒃ ᕿᓚᓗᕐᓂᐅᑉ ᐃᑯᓪᓚᒍᑕᐅᓂᖅᒐᓂᒃ. ᖃᒻᒥᑯᑦ ᐊᓐᓂᑐᕐᓂᐅᑉ ᐃᓱᒪᓕᐅᕐᓯᒪᒍᑎᖅᑭᑦ ᐊᐱᑦᑐᑎᑦᓯᒍᑕᐅᓯᒪᔪᑦ ᐃᑭᕋᔭᕐᔪᐊᒥᐅᑦ ᐊᓐᓂᑐᕐᓂᖅᑭᓐᓂᒃ ᐅᐱᖅᒐᔭᒍᑦ ᐅᑭᐊᓪᓗ ᐱᐃᖃᕐᑎᓯᒍᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᔭᓂᒃ ᑲᑎᓕᒫᕐᓯᑭᑦ ᐊᓐᓂᑐᕐᓂᒥᒃ ᐅᓄᕐᓯᒋᐊᕐᑎᓯᒍᓐᓄᓯᓂ EHB-ᒥᐅᔭᑦ ᕿᓚᓗᕐᑦᑕᐅᖃᑕᐅᓂᖅᑭᓐᓂᒃ. ᖃᒻᒥᐅᓂᕐᓴᓂ ᐊᕐᕌᒍᓂ, ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᓱᒃᑭᕋᐊᐱᒻᒥᒃ ᐅᓄᕐᓯᕙᓕᐊᒥᐊᖅᑭᓐᓂᒃ ᑕᑯᑦᓴᔫᕐᔪᓕᕐᑐᑦ.

2012-ᒥ ᐊᓐᓂᑐᕐᑕᐅᔪᑦ ᐊᑦᔨᐅᓚᐅᕐᑐᑦ 59-ᓂᒃ EHB-ᒥᐅᔭᓂᒃ ᕿᓚᓗᕐᓂᒍᑦ. ᑕᒪᓐᓇ ᐊᕐᕌᓂᒃ ᐅᓂᕐᓯᔫᒥᓂᖅ (55-ᓂᒃ EHB-ᒥᐅᔭᓂᒃ) ᐊᖅᑭᓂᕐᓴᖅᒐᑎᒍᑦ ᐱᑦᔪᑎᖃᓚᐅᔪᔪᖅ ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᐊᓐᓂᑐᕐᑕᖅᑭᑕ ᐊᒥᓲᓂᕐᓴᐅᓕᕐᓂᖅᒐᓂᒃ (61-ᖅᒍᓕᕐᓂᒪᑕ 32-ᐃᓂᐅᔪᑦᓯᑎᒃ 2011-ᒥ). ᖃᑕᖅᒍᑎᑖᑦᓴᔭᐅᓂᖅᑭᓐᓂᒃ ᖃᐅᔨᓴᐅᑏᑦ ᑕᑯᑦᓴᕈᐃᓯᒪᔪᑦ ᕿᓚᓗᕐᑦ 12%-ᖅᑭᑦ ᐊᓐᓂᑐᕈᑕᐅᔪᕐᑎᒍᑦ ᓴᓂᕿᓗᐊᑉ ᕿᑭᕐᑕᖅᑭᓐᓂ ᐃᓚᐅᒥᐊᖅᑭᓐᓂᒃ EHB-ᒥᐅᓄᓐ. 2012-ᒥ ᕿᓚᓗᕐᑕᐅᔪᑦ ᐅᓄᕐᓯᐅᒥᓂᖅᑭᑦ ᓴᓂᕿᓗᐊᑉ ᐊᓐᓂᑐᕈᑎᖅᑭᓐᓂ ᑕᒪ ᓄᐃᑦᓯᒋᐅᑦ 3-ᓂᒃ 4-ᓂᓪᓘᓐᒋᑦ EHB ᕿᓚᓗᖅᑭᓐᓂᒃ. ᑖᒃᑯᐊ ᕿᓚᓗᕐᑦ ᐆᑦᑐᕋᐅᑎᓕᐊᖅᒍᓯᒪᔪᒍᑦ ᐃᓚᐅᕐᑦ ᐊᒻᒪᓗ ᐆᒻᒪᑦ ᓱᕐᖳᖃᑕᐅᕐᑦ ᐊᓐᓂᑐᕐᓂᒨᓕᖅᒐᔪᕐᑎᒍᑦ ᐃᓱᒪᓕᐅᕈᑎᓂᒃ ᐊᕐᕌᒍᓄᑦ ᕿᖅᒍᓪᓕᓄᑦ. ᐅᓪᓗᒥ, ᓴᓂᕿᓗᐊᑉ ᐊᓐᓂᑐᕈᑎᖅᑭᑦ ᐃᑉᐱᒋᔭᐅᓲᑦ ᕿᓂᑎᒻᐱᓇ 30

ᑭᖑᓂᖅᒐᓂ. ᑖᑦᓱᒪ ᑲᑫᒫᐱᐅᑉ ᒪᓕᒐᖅᒐᑕ ᓯᕗᑦᓕᓇᓚᐅᔪᔭᖅᒐ ᐆᒪᔪᕐᓂᐊᓂᕐᒥᒃ ᓄᕐᖃᑎᑦᓱᖅᑐᒧᓚᐅᔪᔪᖅ ᔪᓗ ᐱᒋᐊᕐᓂᖅᒐᓂ, ᑕᒪᓐᓇᓗ ᐃᑯᓚᑎᑦᓱᓚᐅᔪᑦᓱᓂ EHB-ᒥᐅᕋᑦ ᕿᓚᓗᒍᑦ ᐊᑦᑐᑕᐅᓂᖅᒐᓐᓂᒃ EHB-ᒥᐅᕋᑦ ᕿᓚᓗᒍᑦ ᐃᑭᓐᓂᕐᒪᐅᖑᖅᑐᒪᒪᑕ ᐅᐊᕈᑕᐅᓂᕐᒥᒍᑦ ᑐᒃᑯᐊ ᐱᔭᖅᑭᓐᓂ ᐅᐱᖅᒐᕐᔭᒃᑯᑦ ᐅᑭᐊᒃᑯᓗ. ᖃᒻᒥᒐᓚᒃᑯᑦ ᐊᓐᓂᑑᕐᓂᐅᑉ ᐅᑦᓗᖅᑭᓐᓂᒃ ᐊᓱᑦᕈᑐᐃᒍᑎᐃᓂᖅ EHB-ᒥᐅᔭᓂᒃ ᐆᒪᔪᓂᒃ ᒪᓂᔨᓂᕐᓴᐅᓱᒪᑐᐃᓐᓇᓇᐊᓕᒃ.

ᐊᓐᓂᑑᕐᓂᐅᑉ ᑲᑎᓕᒫᕐᓗᒍ ᐊᑦᑐᓂᖅᒐ EHB-ᒥ ᐅᐱᖅᖓᓱᐅᕐᑐᓄᑦ ᕿᓚᓗᒐᕐᓄᑦ ᒪᓕᑉᐳᖅ ᖃᑦᓱᓚᓇᓐᓂᒃ ᑕᓱᐅᔭᕐᔪᐊᑉ ᓱᓂᖅᒐᑕ ᐊᑉᓗᒪᓂᖅᒐᓂ ᐊᒻᒪᓗ ᓴᓂᑭᓗᐊᒥ ᕿᓚᓗᒐᕐᓂᖅᑭᓐᓂᒃ, ᐊᒻᒪᓗ ᖃᑦᓱᐅᓂᖅᑭᓐᓂᒃ ᐃᓚᐅᓂᕐᒥᒍᑦ ᓄᓇᕕᒻᒥ ᕿᓚᓗᒐᕐᑕᐅᔪᓄᑦ ᐅᐱᖅᒐᓴᒃᑯᑦ/ᐅᑭᐊᒃᑯᑦ ᐃᑭᕋᓴᔪᐊᒥ ᐊᒻᒪᓗ ᐅᖅᑭᒥ. ᐲᕐᓱᖃᑦᑕᓂᖅ 62-ᓂᒃ EHB-ᒥᐅᔭᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ 50%-ᖑᑎᑦᓱᒐᔭᕐᑐᖅ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᖅᑭᑎᒍᑦ ᑲᑕᑉᐸᓕᐊᒍᓇᐅᓂᖅᒐᓂᒃ. ᐊᓐᓂᑑᕐᓂᒥᒃ EHB-ᒥᐅᔭᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐃᓱᖃᕐᑎᓱᓂᖅ 28-ᓄᑦ ᑎᒍᒍᓇᐅᓂᖅᒐᓂᒃ ᑲᑕᑦᑎᓱᒐᔭᕐᑐᖅ 25%-ᒫᕐᓗᒍ. ᐅᐱᖅᒐᓴᒃᑯᑦ/ᐅᐱᖅᖓᑯᑦ ᐊᓐᓂᑑᕐᑲᑦᑕᓂᖅ ᐃᑭᕋᓴᔪᐊᒥ, ᐊᓐᓂᑑᕐᑑᖃᓐᓄᑦᓗᒍ ᑕᓱᐅᔭᕐᔪᐊᑉ ᐊᓐᓗᒪᓂᖅᒐᑕ ᐃᓗᐊᓂ ᐃᑯᓪᓚᓂᕐᑉᒥᒃ ᐊᑦᑐᓂᖃᕋᔭᕐᑐᖅ EHB-ᒥᐅᓄᑦ ᕿᓚᓗᒐᕐᓄᑦ, ᒪᓕᑦᑎᖃᕐᑲᑦᑕᓗᓂ ᐅᑭᐊᒃᑯᑦ ᐊᓐᓂᑑᕈᓐᓇᓂᕐᒥᒃ ᐃᑭᕋᓴᔪᐊᒥ ᑭᓱᐊᓂ. ᐊᓐᓂᑑᕐᑲᑦᑕᐸᑕ ᑕᓱᐅᔭᕐᔪᐊᑉ ᓱᓂᖅᒐᓂ, ᐃᑭᕋᓴᔪᐊᒥ ᐱᔭᐅᔪᑦ ᐅᓄᕐᓂᖅᑭᑦ ᐃᑭᓪᓕᒥᐊᕐᓗᒥᑦ ᑭᓱᐊᓂᐅᓕᔭᔭᕐᑐᑦ ᐃᒫᓪᓗᐊᓴᓐᓇᖅ ᐅᑎᕐᔫᒥᒍᓇᐅᑎᓚᖅᒐᓗᒥᑦ, ᑭᓱᐊᓂ ᑕᒪᑐᒪ ᐃᑭᓪᓕᑎᓇᓂᐅᑉ ᖃᓄᐃᓪᓗᐊᓂᖅᒐ ᒪᓕᒐᔭᕐᒥᔪᖅ ᐆᒪᔪᕐᓂᐊᓂᐅᑉ ᐊᑐᖅᑕᓂᖅᒐᓂᒃ ᐅᐱᖅᒐᓴᒥ/ᐅᐱᖅᖓᒥ ᑭᓱᐊᓂ ᐅᑦᑭᓘᓐᓂᒃ ᐅᑭᐊᒥ ᑭᓱᐊᓂ.

ᐅᐊᕈᑎᒌᑦ ᖃᑕᖅᖑᑎᒌᓐᓂᖅᑭᓐᓂᒃ ᐊᒻᒪᓗ ᑕᕐᕿᖅᖑᐊᒃᑯᑦ ᓈᓚᐅᑕᐅᔭᓄᑦ ᖃᐅᔨᓴᐅᑕᐅᓕᓃᑦ ᑐᖅᒐᕕᒋᑦᓱᒋᑦ, ᓴᒻᓴ ᐯ ᕿᓚᓗᒐᖅᑭᑦ ᐃᓱᒪᒋᔭᐅᕗᑦ ᐃᒻᒥᒍᕐᓱᒋᒃ ᐃᓚᒌᖅᑐᓪᓗᒋᑦ. 2011-ᒥ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᑏᑦ ᓴᒻᓴ ᐯᒥ, ᐋᕐᕿᒋᐊᓚᐅᕐᓱᒋᑦ ᐊᕐᕿᖃᐅᒪᔪᓄᑦ ᕿᓚᓗᒐᕐᓄᑦ, 14,967-ᖑᓚᐅᔪᔪᑦ. ᑕᒪᓐᓇ CV-ᖅᒐᑕ 33%-ᒥᓐᓂᖅᒐ ᐆᑦᑑᑎᓪᓗᐊᖑᕗᖅ ᐊᕐᕌᒍᓄᑦ ᓯᕗᑦᓕᓂᑕᕐᓄᑦ (24-30% 1993-2004-ᒥ) ᐊᒻᒪᓗ ᐃᑭᓐᓂᕐᓴᐅᕗᖅ 2008-ᓂᑕᕐᒧᑦ (66%). 2011-ᒥ ᐃᒻᒪᖃᐅᑦᓵᕈᑎᐃᓃᑦ ᐃᓱᒪᓇᕐᑎᓱᔪᑦ ᓱᓕᒍᓇᐅᓂᖅᒐᓂᒃ ᑖᒃᑯᐊ JB ᕿᓚᓗᒐᖅᑭᑦ ᑐᕐᕿᐸᑕ ᐅᓄᕐᓂᕐᓴᓄᑦ ᓯᕗᑦᓕᒥᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᑕᐅᓕᓂᕐᓄᑦ (10,000 ᐅᖅᒐᑖᓃᑦᑐᓂᒃ, ᑕᒪᓐᓇ ᐃᓱᒪᓇᕐᑎᑕᐅᒻᒪᑦ ᑕᒪ 2001, 2008 ᐊᒻᒪᓗ 2011-ᒥ ᑭᓱᒍᑎᐃᓂᕐᓄᑦ) ᑑᑯᖅᒐᐅᖅᖅᑐᖅ ᐃᑭᓐᓂᕐᓴᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᒪᓂᕐᒧᑦ (10,000 ᐊᑖᓃᑦᑐᓂᒃ, ᐃᓱᒪᓇᕐᑎᑕᐅᔪᒧᑦ 1985-ᒥ, 1993-ᒥ ᐊᒻᒪᓗ 2004-ᒥ ᑭᓱᒍᑎᐃᓂᕐᓄᑦ).

ᐅᖅᒐᕙᑦ ᑭᓱᕙᐃᐅᒍᓐᓇᓚᐅᔪᖅᖅᑭᑦᑐᖅ 2011-ᒥ ᓱᓚᑦᓱᐊᖅᒍᖃᑦᑕᖅᑭᓐᓂᑯᖅᒐᓄᑦ. ᓯᕗᑦᓕᓂᑐᑦ ᑲᖅᖑᓇᕐᑭᐅᑕᐅᓕᓃᑦ ᓇᓗᓂᕐᓱᒍᑕᐅᓱᒪᔪᑦ ᖃᑦᓱᓚᒫᓂᒃ ᐊᓐᓂᑑᕐᓂᖅ UB-ᒥᐅᔭᓂᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐊᑦᑕᓇᓇᐊᖅᒐ ᑖᒃᑯᐊ ᓴᑐᕐᓂᐊᓂᖅᒐᓄᑦ. 2012-ᒥ, 10-ᓂᒃ ᕿᓚᓗᒐᓚᐅᔪᔪᑦ ᐅᖅᒐᕙᐅᑉ ᐃᓗᐊᓂ ᐅᐱᖅᖓᖑᑎᓪᓗᒍ. ᐅᐱᖅᖓᑯᑦ ᕿᓚᓗᒐᕐᓂᐊᓂᖅ ᐃᑯᓪᓚᑎᑦᓱᕗᖅ EHB-ᒥᐅᕋᑦ ᕿᓚᓗᒍᑦ ᑐᕐᑯᑕᐅᓂᖅᑭᓐᓂᒃ ᑭᓱᐊᓂ ᐱᓕᐅᒥᑎᑦᓱᒥᔪᖅ ᐅᖅᒐᕙᒥᐅᔭᓂᒃ ᕿᓚᓗᒐᕈᓇᐅᓂᕐᒥᒃ.

ᐊᓐᓂᑑᕈᑎᑦᓴᓂᒃ ᐋᕐᕿᓱᒪᑎᑦᓱᓂᖅ ᐅᓄᕐᓂᖃᕐᑎᓗᒋᑦ 50%-ᒥᒃ ᐱᒍᓇᐅᓂᕐᒥᒃ EHB-ᒥ ᕿᓚᓗᒍᑦ ᒪᑭᒋᐊᓪᓚᓂᖅᒐᓂᒃ ᓲᖅᖅᑭᓂᕐᑉᖅᒐᑎᒍᑦ ᑖᑦᓱᒪ ᐱᕙᓪᓕᕐᑯᑎᐅᑉ ᖃᑦᓱᒪᓛᐱᐅᓂᐊᓂᖅᑭᓐᓄᑦ 1980-ᓂ ᓱᕐᕐᑯᐃᖅᑭᑐᒻᒪᓇᐅᑎᑦᓱᕗᖅ. ᒪᑲᑦᑐᓕᒪᔪᒥᒃ ᐃᓂᓪᓚᑎᕐᓱᒪᐅᑎᓕᐅᕐᓂᖅ ᐃᑲᔪᕐᓱᒪᔭᕐᑐᓴᐅᕗᖅ ᒪᑭᑕᒍᓐᓇᓚᖅᒐᓗᒍ ᐊᐅᓚᑦᓱᒍᑎᖃᕐᓂᒥᒃ ᓄᓇᕕᐅᑉ ᕿᓚᓗᒐᖅᑭᓐᓂᒃ ᐊᒻᒪᓗ ᓴᑐᕐᑎᓱᓂᕐᒥᒃ ᑖᒃᑯᓂᖅᒐ ᐆᒪᔪᓂᒃ. ᒪᕐᕿᐃᓂᒃ ᓴᑐᕐᕌᒥᓂᒃᑯᑦ ᑐᕌᒐᑦᓴᓂᒃ ᕿᒥᑕᐅᔪᖃᕐᓱᒪᔪᖅ ᑐᖅᖅᒐᕕᖃᕐᑎᓗᒋᒃ ᐃᓱᒪᓇᕐᑎᑕᐅᔪᒥᒃ ᐅᓄᕐᓂᐸᖅᒐᓄᑦ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᖅᒐᓂᒃ. ᒪᓕᒃᓗᓂ ᓇᒃᓕᐊᑕ ᐅᓄᕐᓂᐸᖅᒐᓄᑦ ᐆᒪᔪᐃᑦ ᖃᑦᓱᐅᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᑎᐅᑉ ᐊᑐᕐᑕᐅᓂᖅᒐᓂᒃ, T1=5,600 ᐊᒻᒪᓗ T2=8,000. ᑖᒃᑯᐊ ᑐᕌᒐᑦᓴᒃ ᒪᓕᒍᑕᐅᔫᒃ ᐃᓂᓪᓚᖅᒐᒍᑎᓂᒃ ᐊᑐᕐᑐᓕᐊᖑᓯᒪᔪᓂᒃ ᐊᑦᓛᓐᑎᒃ ᐃᒪᕐᐱᖅᒐᑕ ᓇᑦᓱᖅᑭᓐᓄᑦ ᐊᒻᒪᓗ ᕿᒥᑕᐅᒍᒪᒻᒥᔪᓂᒃ ᐊᑐᕐᓂᐊᑎᓪᓗᒋᑦ ᐊᓱᖅᑭᓐᓄᑦ ᑕᓇᐅᒥ ᐳᐃᔨᒻᒪᓇᓐᓄᑦ. ᖃᒻᒥᓂᑎᑦ ᑕᑯᔭᐅᔪᑦ ᐅᓄᕐᓂᖃᕐᑲᕐᓱᒍ 4,000-ᓂᒃ ᐅᑉᐱᓇᔭᑦᓴᐅᔭᖅᑭᑦᑐᑦ ᐃᒻᒪᖃᐅᑦᓵᕈᑎᑦᓱᐊᑎᑐᑦ ᐅᓄᕐᓂᖃᕐᒪᓄᑦ ᐆᒪᔪᐃᑦ ᖃᑦᓱᐅᓂᖅᑭᓐᓂᒃ ᐊᒻᒪᓗ ᐊᑐᕐᑕᐅᔭᓇᐊᖃᖅᖅᑭᓚᑦ ᕿᒥᑦᓱᒋᐊᕈᑕᐅᓗᑎᒃ ᓴᑐᕐᑎᓱᓂᒃᑯᑦ ᑐᕌᕐᑕᐅᔪᑦᓴᒥᒃ.

ᒪᑲᑦᑐᓕᔪᒥᒃ ᐱᐅᓱᖃᕈᑎᐅᑉ ᐊᑐᕐᓂᒪᓇᖅᒐ ᐃᓕᖅᒐᖅ ᐱᕙᓪᓕᕐᑯᑎᒥᒃ ᐱᓂᕐᓗᐃᒪᓇᑦᑐᓕᓂᕐᒧᑦ. ᑐᒥᓕᖅᒐᒻᒪᑦ, ᓱᕐᕐᑯᐃᓱᖅᖅᑭᒍᑎᑦ ᐊᑦᑐᐊᔪᑦ ᐅᓄᕐᓂᖅᑭᓐᓂᒃ ᐃᒻᒪᖃᐅᑦᓵᕈᑎᓄᑦ ᐃᓱᒪᒋᔭᐅᕗᑦ ᓇᓗᓂᕐᓱᒍᑎᓂ ᑎᑭᐅᑎᒍᓇᐅᓂᓪᓗᑐᕐᒥᒃ ᓴᑐᕐᑎᓱᓂᒃᑯᑦ ᑐᕌᕐᑕᐅᔪᑦᓴᒥᒃ. ᑭᒥᑕᐅᒍᒪᔪᑦ ᑕᓇᐅᑉ ᐳᐃᔨᒻᒪᓇᓐᓄᑦ ᐃᓂᓪᓚᖅᒐᒍᑎᑦ ᐊᑖᒍᑦ, 80%-ᒥᒃ ᐱᔪᓇᕐᓂᖃᓇᐊᓕᒃ ᐆᒪᔪᐃᑦ PRL ᖁᓪᓕᓃᓚᖅᒐᓂᖅᒐᓂᒃ ᐃᓱᒪᓚᖅᒐᒍᑦᑕ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᓴᑐᕐᓱᒪᓕᓂᖅᑭᓐᓂᒃ. ᐊᑯᓂᓇᔪᒥ ᖃᓄᐃᓛᕐᓂᖅᒐᓂᒃ ᑕᑯᓐᓇᕈᑎᕗᑦ ᓇᓗᓂᕐᓱᓱᒪᔪᑦ ᐊᓐᓂᑑᕐᓂᐅᑉ ᐃᓂᓪᓚᖅᒐᒍᑎᖅᑭᑦᑕ ᓇᓪᓚᒐᓗᐊᖅᑭᑦ (0-ᓂᒃ ᐊᓐᓂᑑᕐᑲᑦᑕᕐᓗᐊᕐᑉᑕ) ᑎᕈᑎᑦᓱᖅᑲᔭᖅᖅᑭᓂᖅᒐᓐᓂᒃ ᑕᒪᑐᒧᖅᒐ ᓂᐳᕐᑎᕐᑕᓕᒻᒧᑦ ᐊᕐᕌᒍᐃᑦ 50 ᐃᓗᐃᓐᓇᖅᒐᓂ. ᐃᓂᓪᓚᖅᒐᓂᖅᑲᕐᑉᑦ ᐊᓐᓂᑑᕐᓂᖅᑲᑦᔭᖅᑭᒻᒪᓇᑦᑎᓗᒍ ᑕᒪᓐᓇ 58%-ᒥᒃ ᑎᕈᒍᓇᕐᓂᓕᐅᕋᔭᕐᑐᖅ T1-ᒧᑦ ᐊᕐᕌᒍᓂ 25-ᓂ. ᐊᓱᖅᑭᓐᓂᒃ ᓴᑐᕐᑎᓱᓂᒃᑯᑦ ᑐᕌᒐᑦᓴᓂᒃ ᑐᖅᖅᒐᔪᖅᑭᓐᓇᑐᖅ ᐃᑭᓐᓂᑑᕐᒐᑎᒍᑦ ᐆᒪᔪᐃᑦ ᐅᓄᕐᓂᓇᒋᐊᓕᖅᒐᓄᑦ ᐱᕕᐅᒍᓐᓇᓚᖅᒐᑎᓪᓗᒋᑦ ᓈᒻᒪᑐᒥᒃ ᒪᑭᑕᒐᑦᓴᓗᐊᖅᒍᓗᓂ ᐊᓐᓂᑑᕐᓂᒥᒃ ᑕᒪᑐᒪ ᖃᓄᐃᓕᖅᒐᓂᖅᒐ ᐋᕐᕿᑕᐅᑎᓪᓗᒍ ᐱᕙᓪᓕᕐᑯᑎᒥᒃ ᐊᑐᕐᑎᓄᑦ.

## ᐊᓯᖅᑭᑦ ᐃᓱᒪᒋᒋᐊᕐᑲᕐᒥᔪᑦ

ᕿᓚᓗᒐᑦ ᑯᐯᒃ ᑕᕐᕋᖅᒐᓂ ᐊᐅᓚᑦᓱᕐᑲᑎᒌᒍᑕᐅᕗᑦ ᓄᓇᕕᒻᒥ ᑕᓇᐅᕐᒥᐅᑕᓕᓇᔨᒃᑯᑦ ᑲᑎᒪᔨᖅᑭᑦ (NMRWB) ᐃᓚᒋᑦᓱᒋᑦ ᐊᒥᓱᓄᑦ-ᐊᕐᕌᒍᓄᑦ ᐊᐅᓚᑦᓱᒍᑎᓂᒃ ᐸᕐᓇᓱᒪᐅᑎᐅᑉ ᐊᑖᒍᑦ. ᑖᒃᑯᐊ NMRWB-ᑯᑦ ᐊᐅᓚᑦᓱᔨᐅᓂᖃᕋᓗᐊᕐᑎᓗᒋᑦ ᐅᓕᕐᓂᓱᒪᔪᓂᒃ ᓄᓇᕕᐅᑉ ᐃᓄᖅᒋᑦ ᓄᓇᑖᕐᓂᒧᑦ ᐊᖏᕐᖃᑎᒌᓐᓂᖅᒐᓂ, DFO-ᑯᑦ ᑎᒍᒥᐊᑦᓴᓇᕐᑐᑦ ᖁᓪᓕᐸᐅᑦᓱᑎᒃ ᐊᐅᓚᑦᓱᔨᐅᓂᕐᒥᒃ ᑕᓇᐅᕐᒥᐅᑕᓕᒫᓂᒃ ᐆᒪᔪᓂᒃ.

COSEWIC-ᑯᑦ ᓇᓗᓐᕐᓯᓯᒪᔪᑦ ᑖᒃᑯᓂᖅᑕ ᐆᒪᔪᓂᒃ ᓇᖅᑭᐊᕐᓇᑐᒥᓐᓂᕋᕐᓯᒋᑦ, ᑭᓯᐊᓂ ᑐᑭᑖᕐᓂᒥᒃ ᑲᓇᑕᐅᑉ ᑲᑦᒪᖅᑕ ᐋᕐᕿᑎᑦᓯᕋᑕᖅᑭᑐᖅ ᐅᑕᕐᕿᓂᕐᒥᓂ ᐃᓱᒪᑦᓴᓯᐅᕐᓂᐅᑉ ᐃᓂᑦᓚᕈᑎᖅᑕᑕ ᒪᑭᑕᐅᓂᖅᑕᓂᒃ ᓄᓇᕕᒻᒥ ᑕᓇᐅᕐᒥᐅᑕᓕᓇᔨᒃᑯᑦ ᑲᑎᒪᔨᖅᑭᓐᓄᑦ ᑐᕋᖅᑕᑎᑦᓗᒍ SARA-ᓂᒃ ᐊᑦᑐᐊᔪᓄᑦ.

## ᕿᑐᔨᒪᒍᑎᓂᒃ ᐱᕕᐅᓯᒪᔪᑦ

ᑖᒃᑯᐊ ᐃᓱᒪᑕᕈᑎᓄᑦ ᐃᓱᒪᓕᐅᕈᑎᓂᒃ ᑐᓴᕐᑎᓯᒍᑏᑦ ᑎᒍᓯᒪᔾᑦ ᐅᒃᑑᐱᓇ 29-ᒥᒃ ᓄᕕᒻᐱᓇ 2-ᒧᑦ 2012-ᒥ ᐊᕐᕌᒍᑕᒫᑦ ᑲᑎᒪᓂᒻᒪᓇᒻᒥᒃ ᓄᓇᕐᔪᐊᑉ ᑕᓇᐅᒥ ᐳᐃᔨᒻᒪᓇᓕᓇᔨᐅᕐᑲᑎᑏᑦ ᕿᒥᕐᕈᓂᕐᒧᑦ ᑲᑎᒪᔨᖅᒥᑎᒍᑦ (NMMPRC). ᐊᓯᒋᐊᓪᓚᖅᒋᑦ ᐊᓪᓚᓕᐊᒐᓕᐊᖅᒍᔪᑦ ᓄᐃᑦᓱᑎᒃ ᑎᑲᖅᖅᒐᑦ ᑲᑎᒪᓂᕐᒥᒃ ᓄᐃᑕᐅᕐᑲᑦᑕᓚᖅᒐᔪᑦ ᐊᑐᐃᓐᓇᕈᑦᓴᑐᐊᕐᐸᑕ Fisheries and Oceans Canada Science Advisory Schedule-ᖅᑭᓐᓂ ᐅᑦᓂ http://www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm.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ᓇᓚᐅᑦᓯᐊᓗᒋᑦ ᑎᓯᒍᑏᑦ ᑖᒃᑯᓂᖅᒐ ᐊᓐᓚᓂᐊᒐᕐᓂᒃ

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