

HVALATAL „ACOUSTIC TECHNIQUES TO STUDY MARINE MAMMALS“

Rannsókn- og fræðasetur Háskóla
Íslands á Norðausturlandi, Húsavík
Húsavík Research Center
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Markmið - Aim

- ❑ Rannsóknir á sjávarspendýrum
- ❑ Research on marine mammals



The past

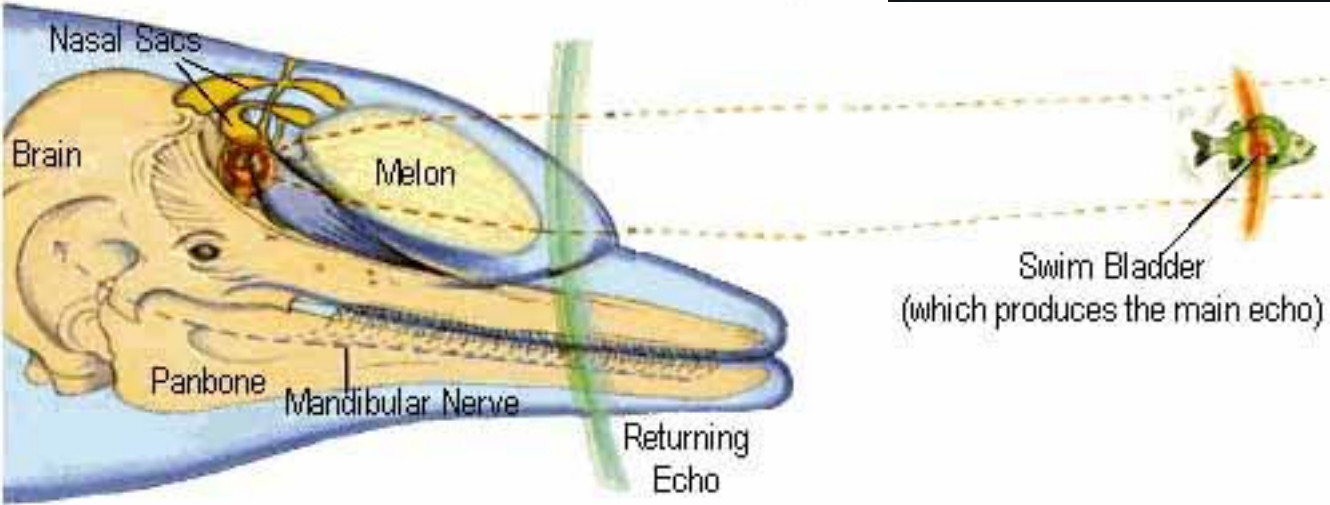
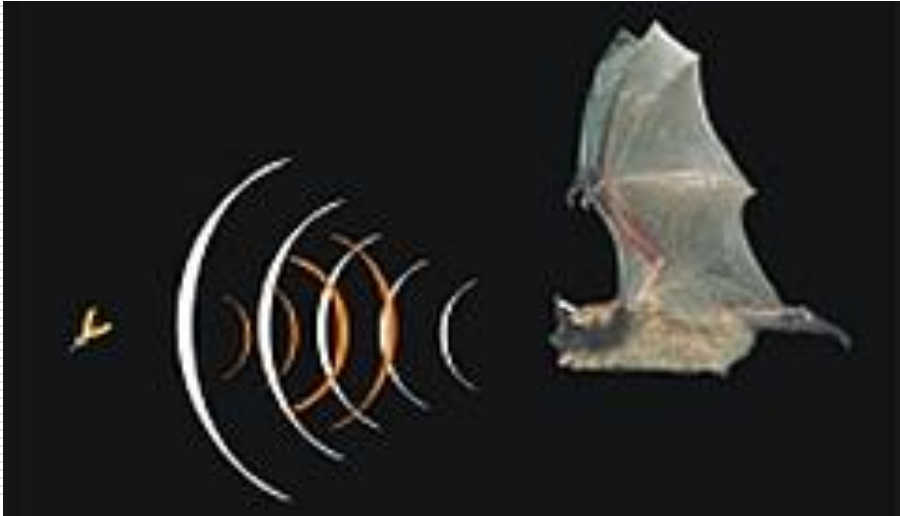
- ❑ Research on white-beaked dolphins
- ❑ Humpback whales singing in Icelandic waters?



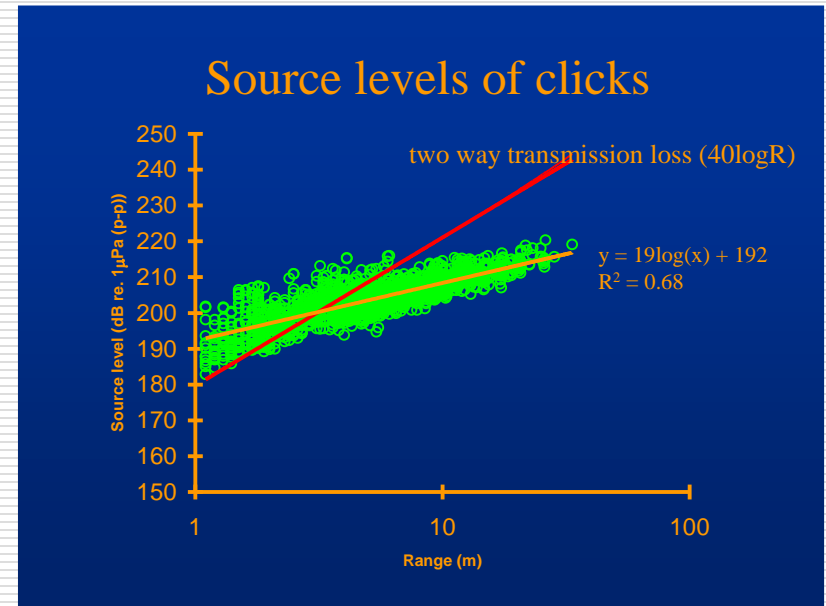
White-beaked dolphins



Echolocation

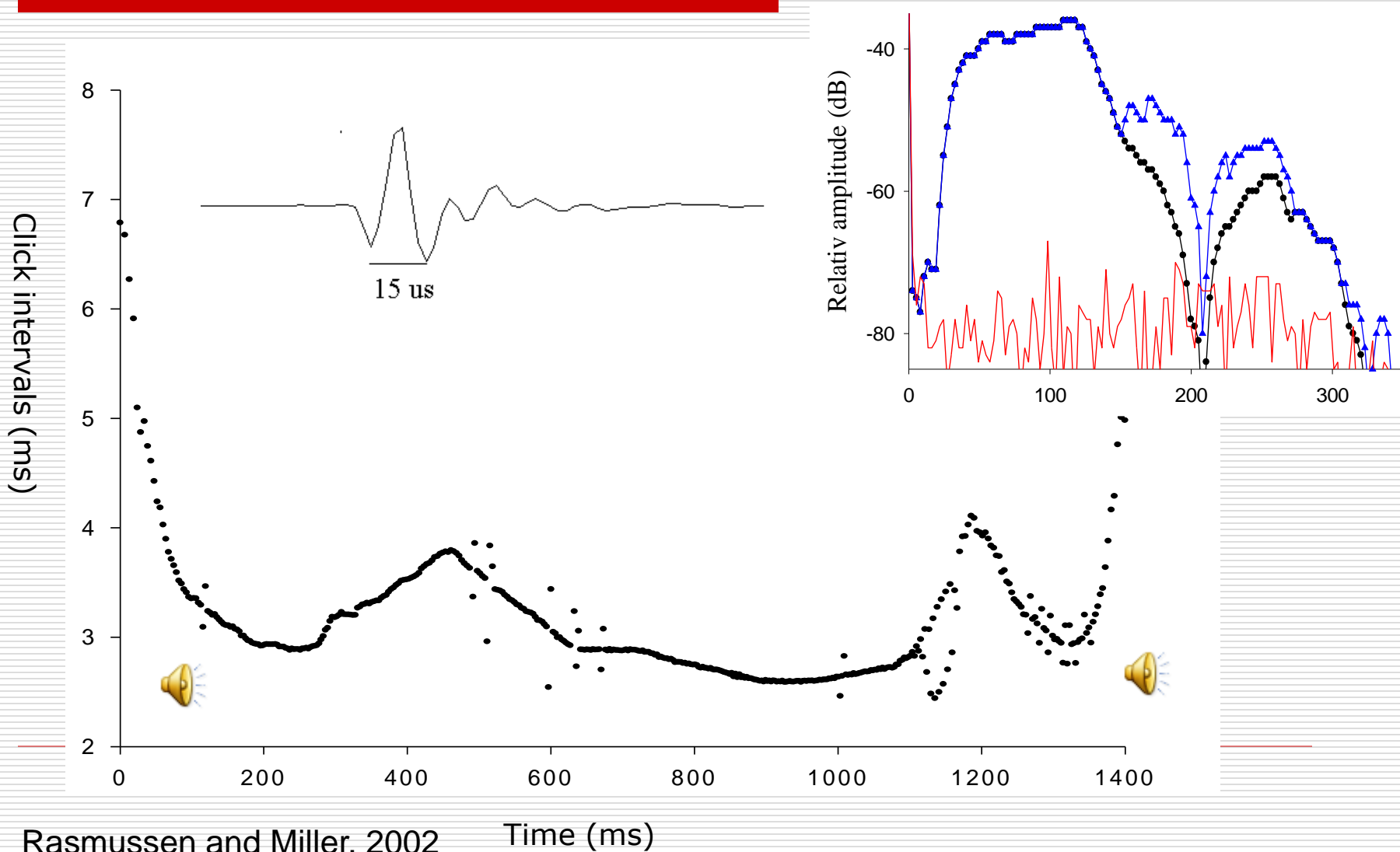


Automatic gain control?



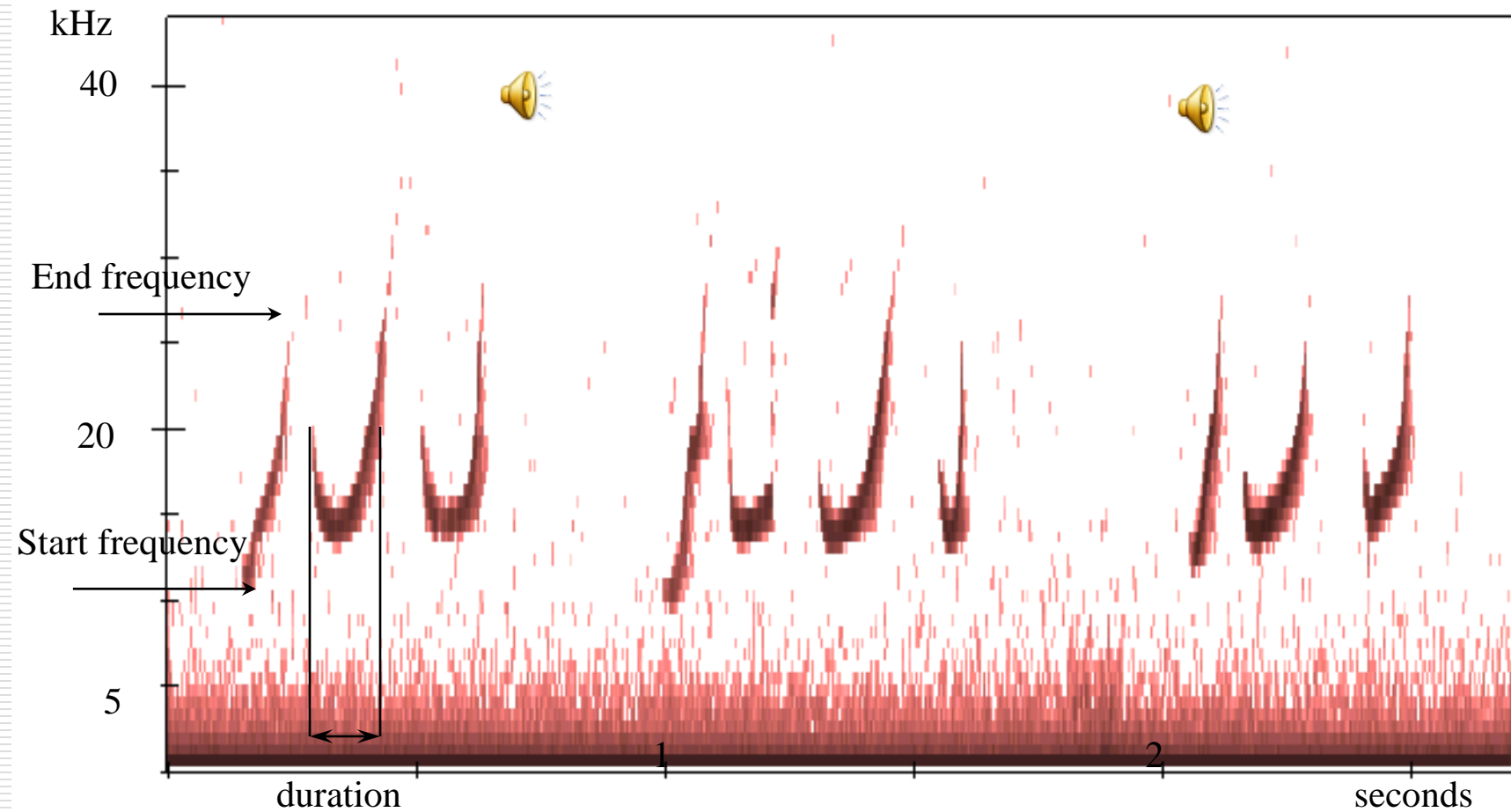
Rasmussen et al., 2002

A click sequence



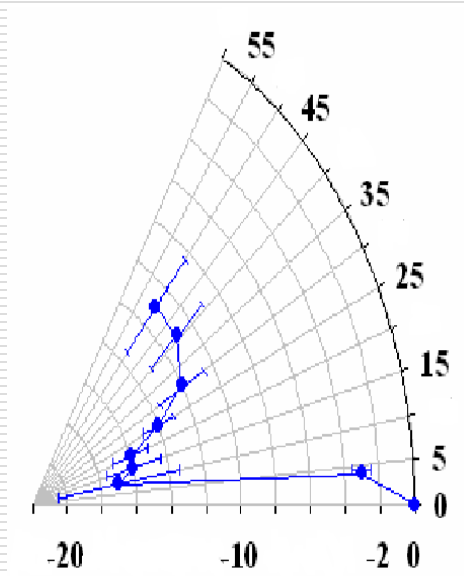
Whistles

Rasmussen and Miller, 2002

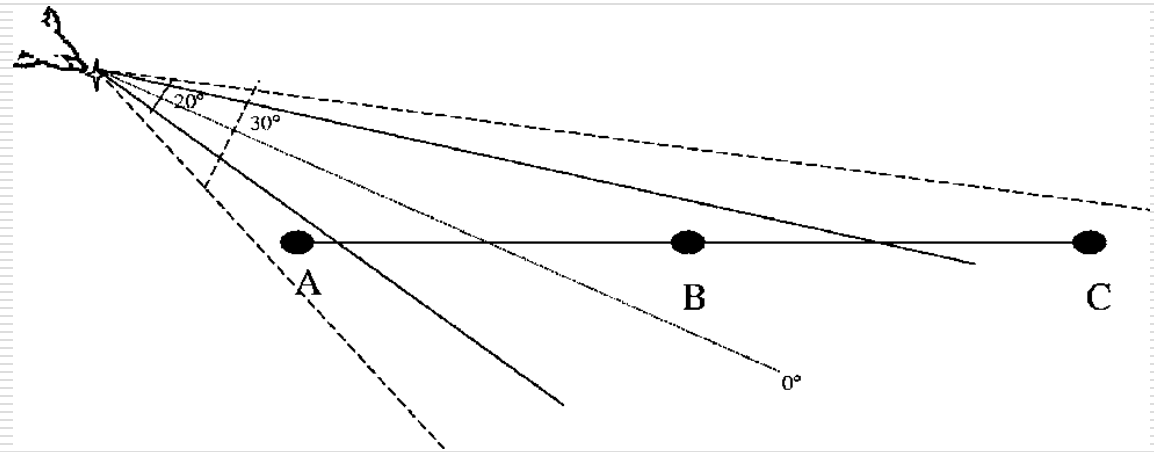


Directionality of the signals?

- Narrow beam for echolocation
- Broad beam for communication

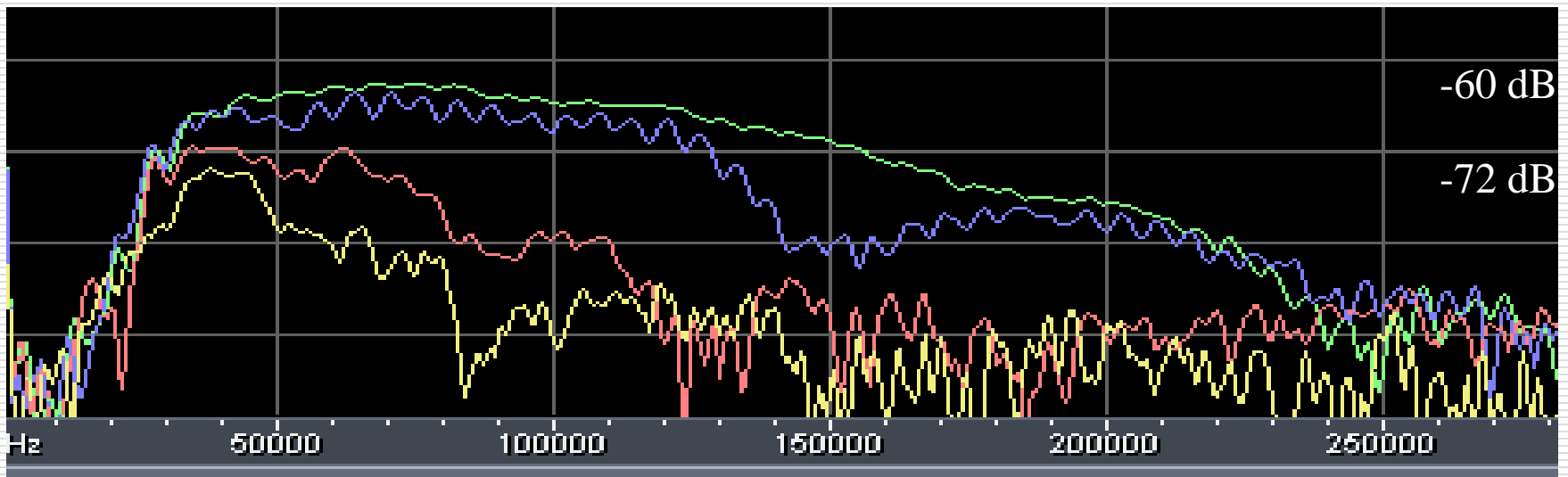
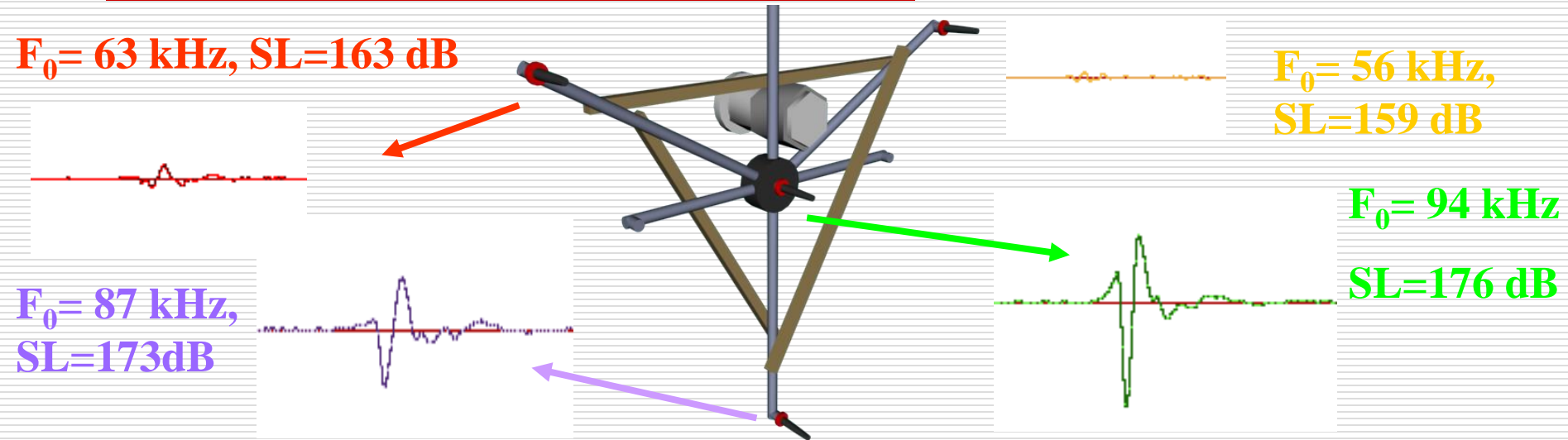


Rasmussen et al., 2004



Rasmussen et al, 2006

High frequency on-axis click



Audiogram of a dolphin?



Audiogram of a dolphin?

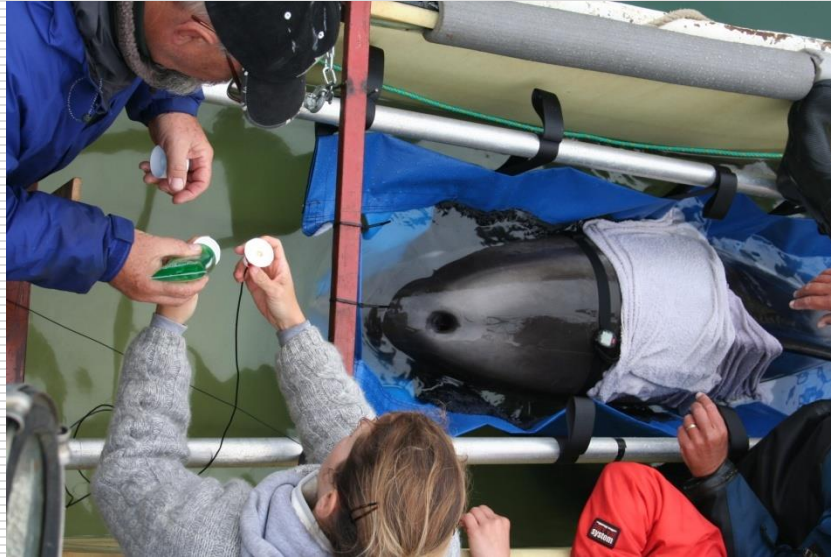
- We netted two dolphins in > 340 hrs on the water



Audiogram of a dolphin?

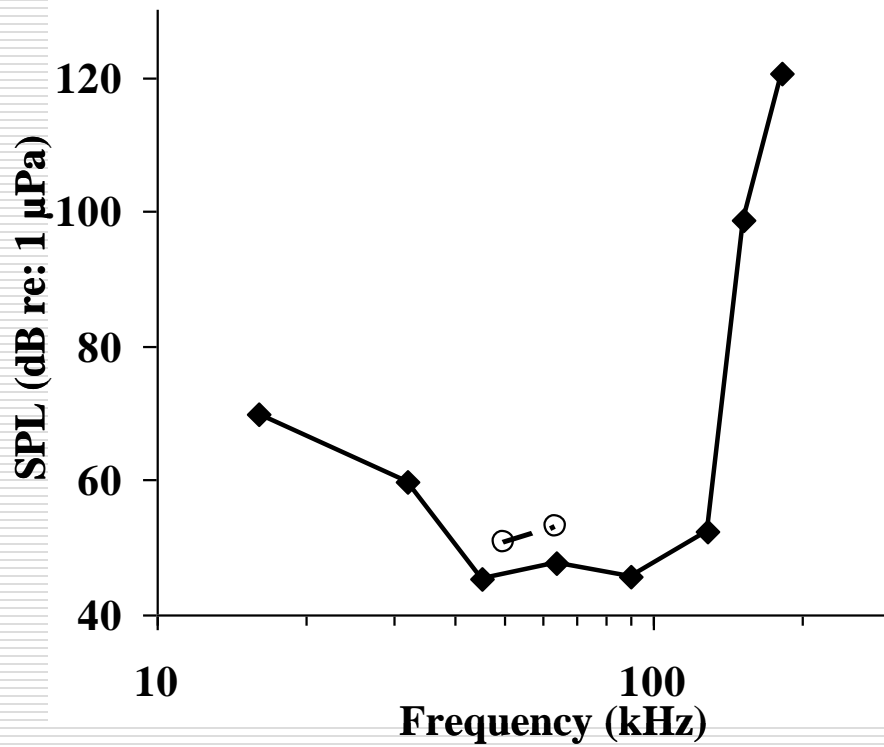


Audiogram of a dolphin?

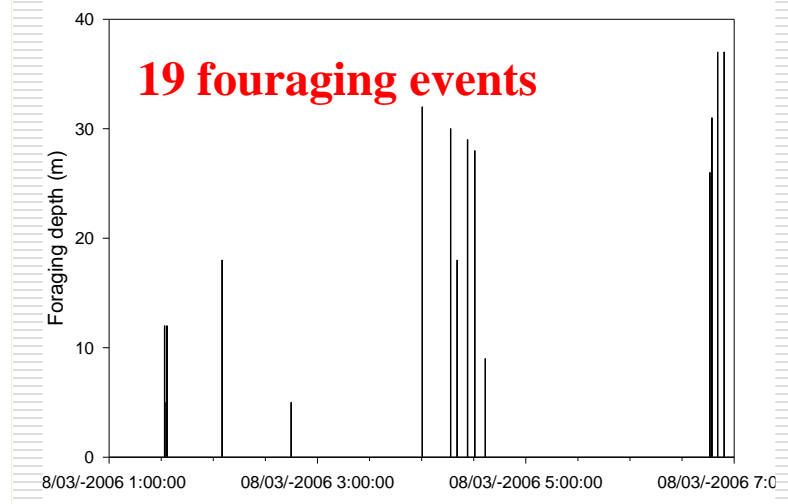
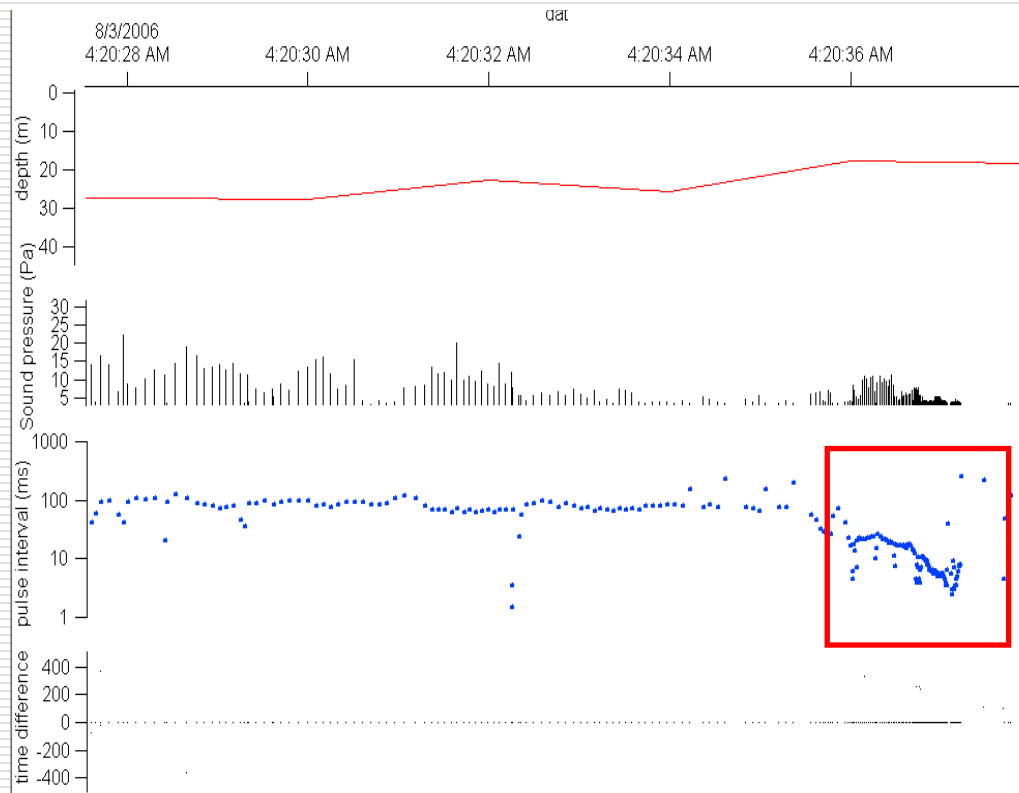


Audiogram of a dolphin?

□ Nachtigall et al., 2008

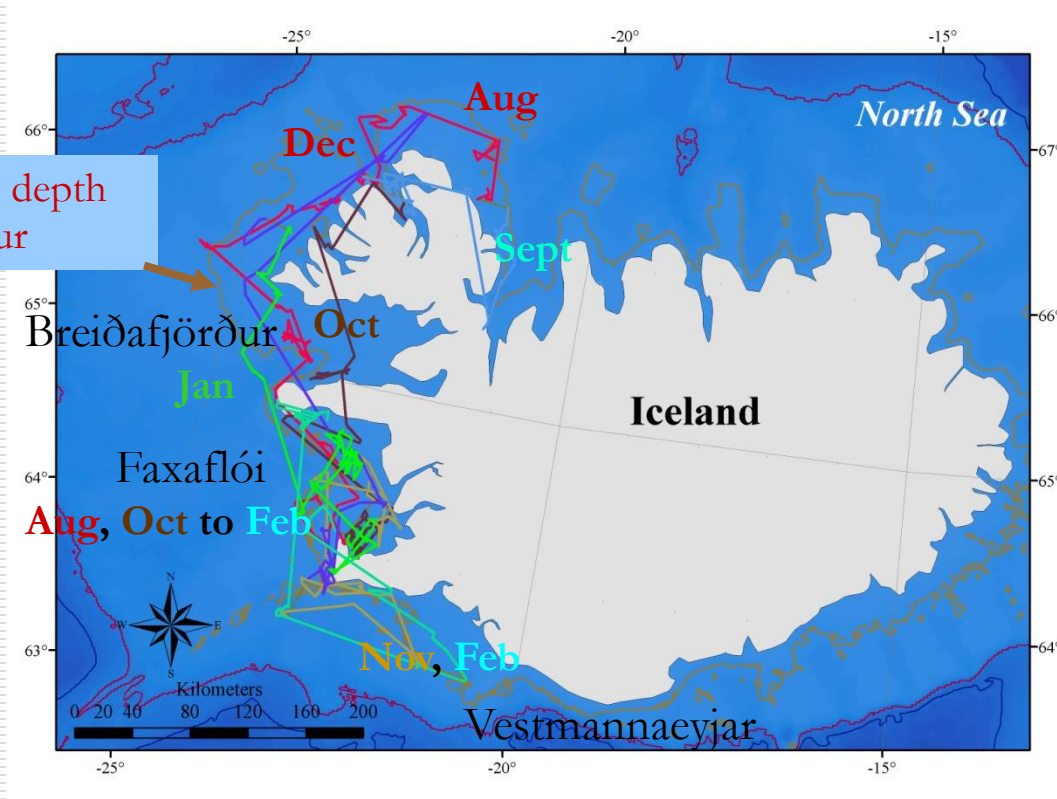


Acoustic tagging and foraging



Migration of a white-beaked dolphin

□ 8 August 2006 to 24 February 2007 (201 days)



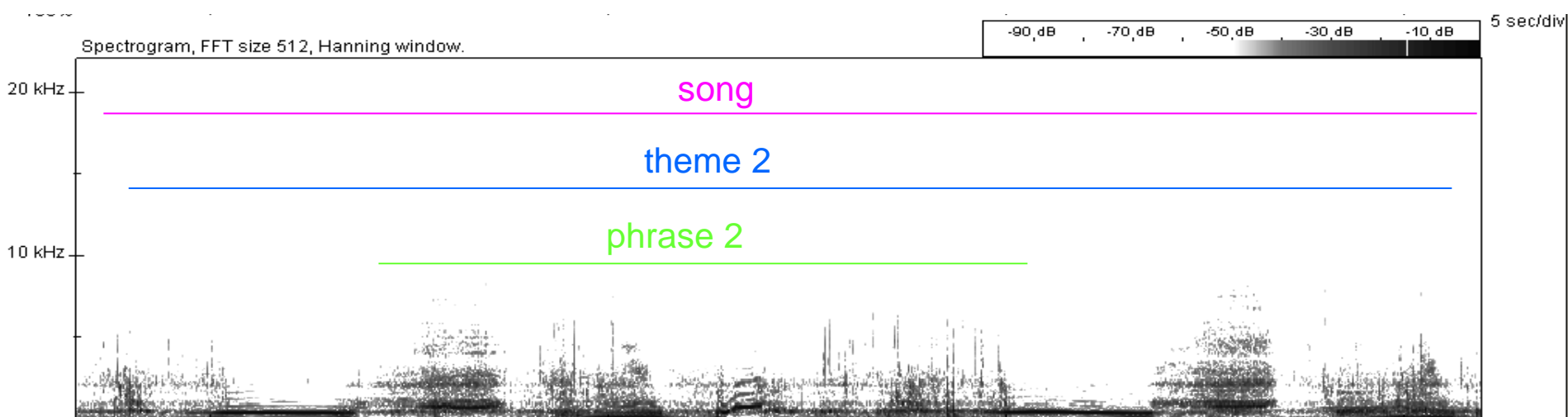
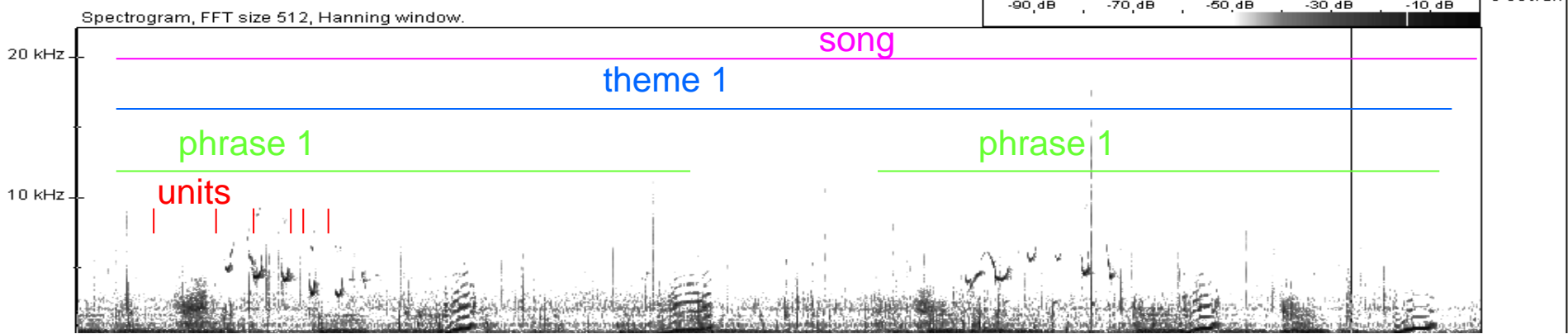
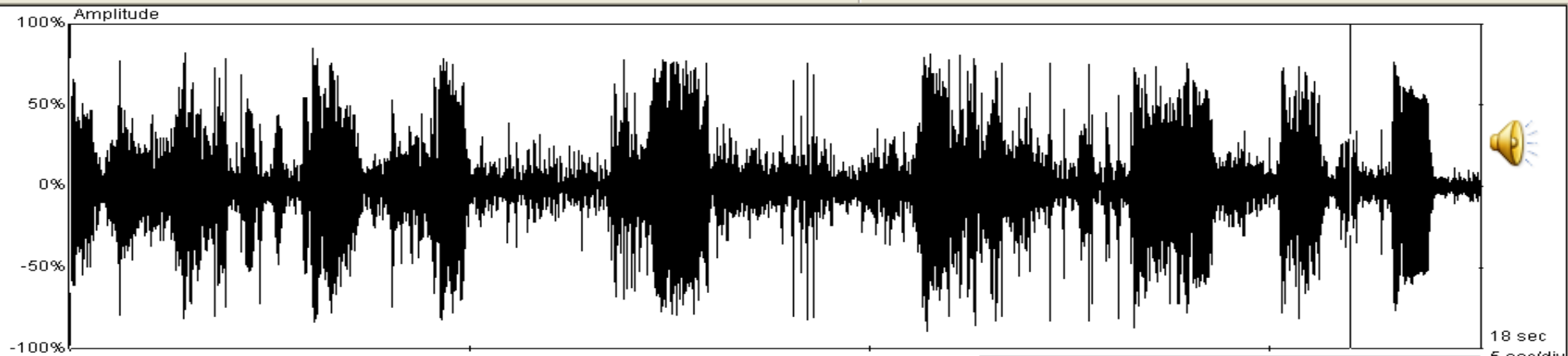
Total distance traveled=5280 km (1090 km in August)
Average speed=4 km/hr
Spent 44% of time in Faxaflói Bay

Release of dolphin

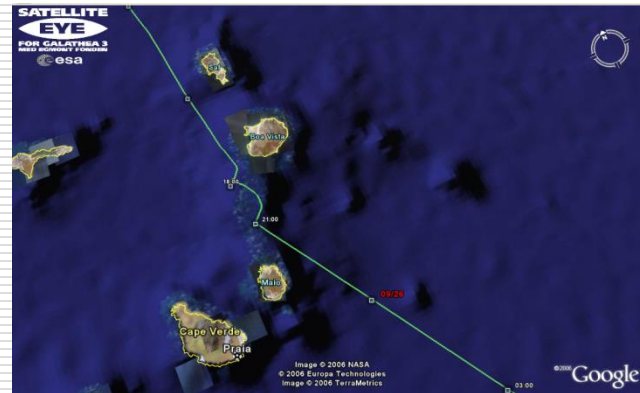
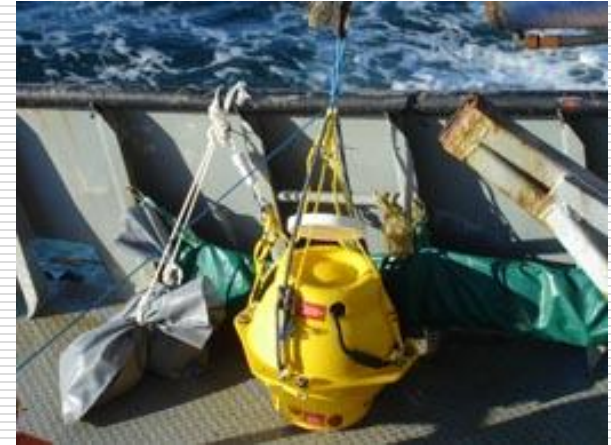
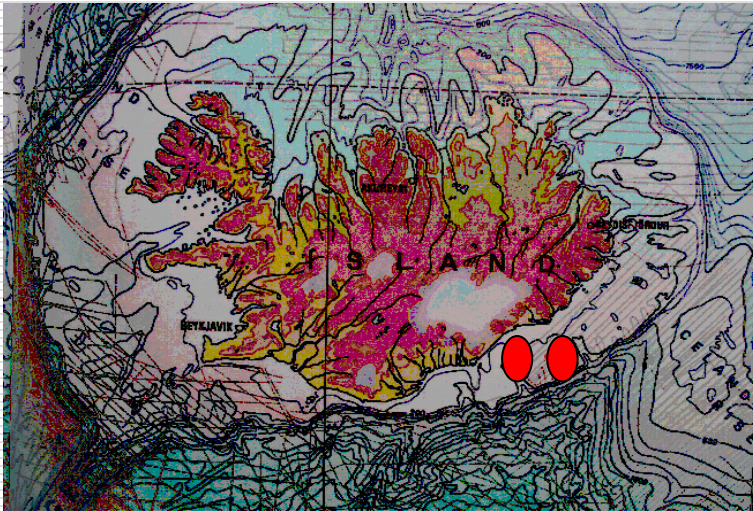


Humpback whale song

- The goal was to compare humpback whale song from the Northeast Atlantic population. Do they sing the same song in Icelandic waters as by the Cap Verde islands?
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Humpback whale song

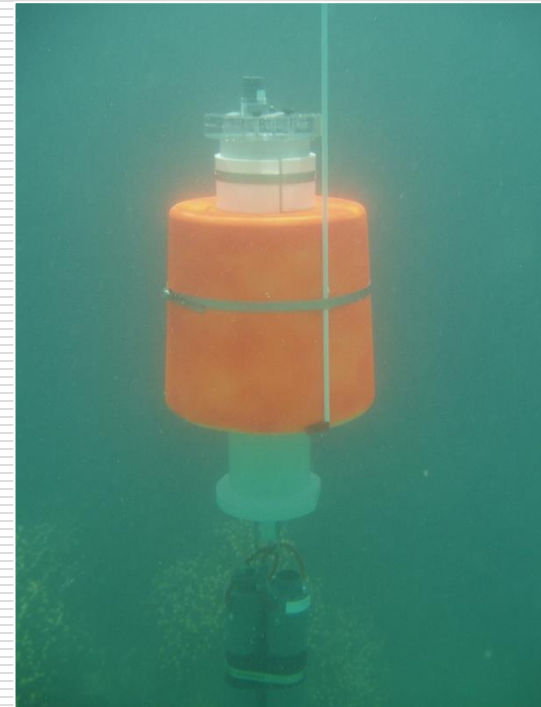


The future

- Deploying Ecological Acoustic Recorders (EAR's) in Skjálfandi Bay in Cooperation with Dr. Marc Lammers, University of Hawaii to study the annual distribution of Cetaceans in the Bay
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EAR's

- Variable bandwidth up to 30 kHz



The future

- ❑ Recordings of Blue whales
- ❑ Recordings of killer whales



Thank you for your attention

