Identifikation af risiko områder ved brug af Elektronisk Monitering

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Dialogforum

The projects have been carried out by the support of The Ministry for Food, Agriculture & Fisheries and the European Fisheries Fund

Oversigt over Danske EM studier

Trial	Objective	Year	Number of vessels
1	**Monitoring of discards under the catch quota system** (Kindt-Larsen et al. 2011)	2008-2009	5 trawlers 1 gillnetter
2	**Test of CCTV to monitor bycatch of marine mammals** (Kindt-Larsen et al. 2012)	2009-2011	6 gillnetters
3	**Monitoring of marine mammal bycatch in inner Danish waters**	2012-2015	12 gillnetters
4	**Monitoring of marine mammal and sea bird bycatch in Danish waters**	2016-2018	11 gillnetters (up to 15 vessels)

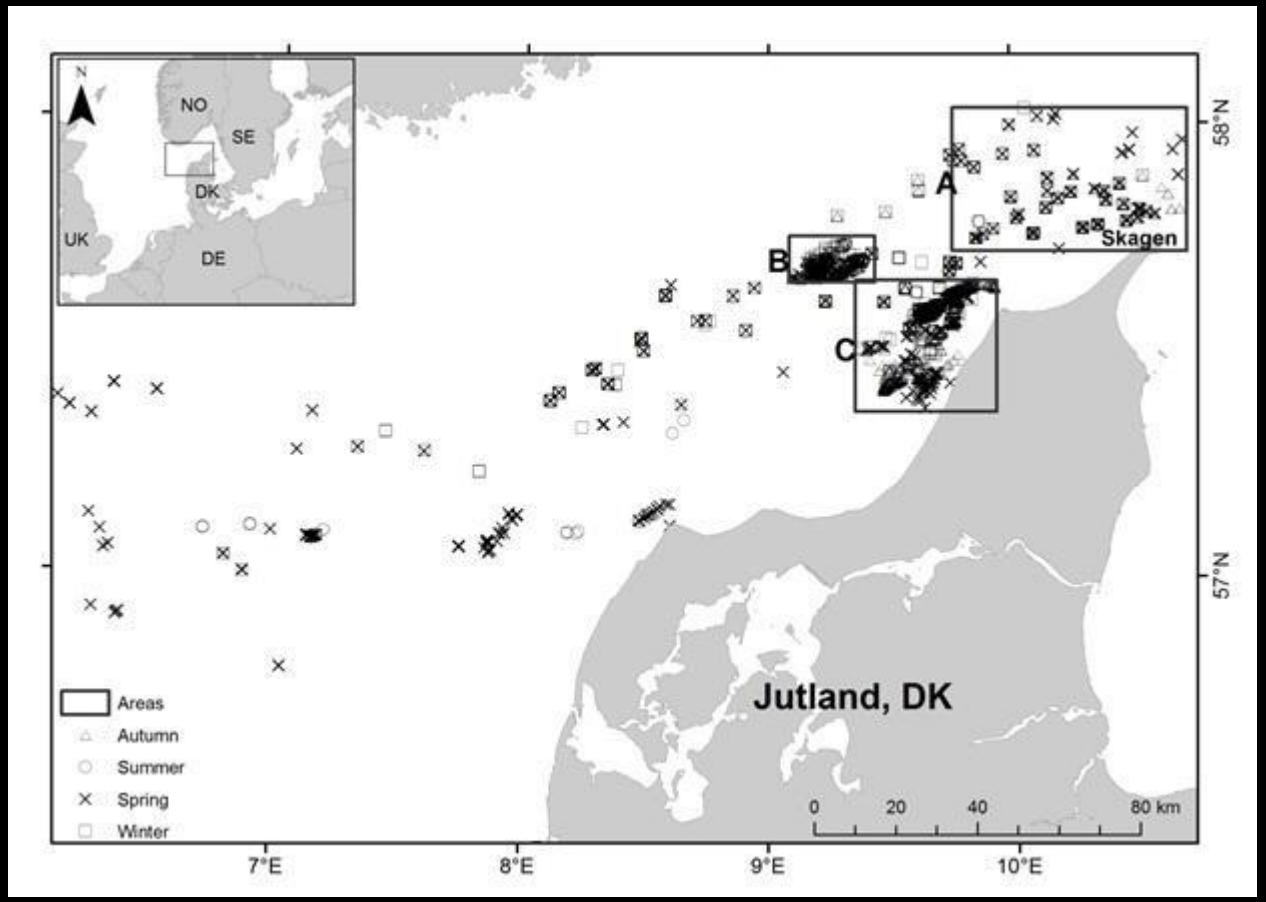
Brug af EM data…

Identifikation af høj risiko for marsvine bifangst

(Kindt-larsen et al., 2016 MEPS)

Identifikation af high risk områder

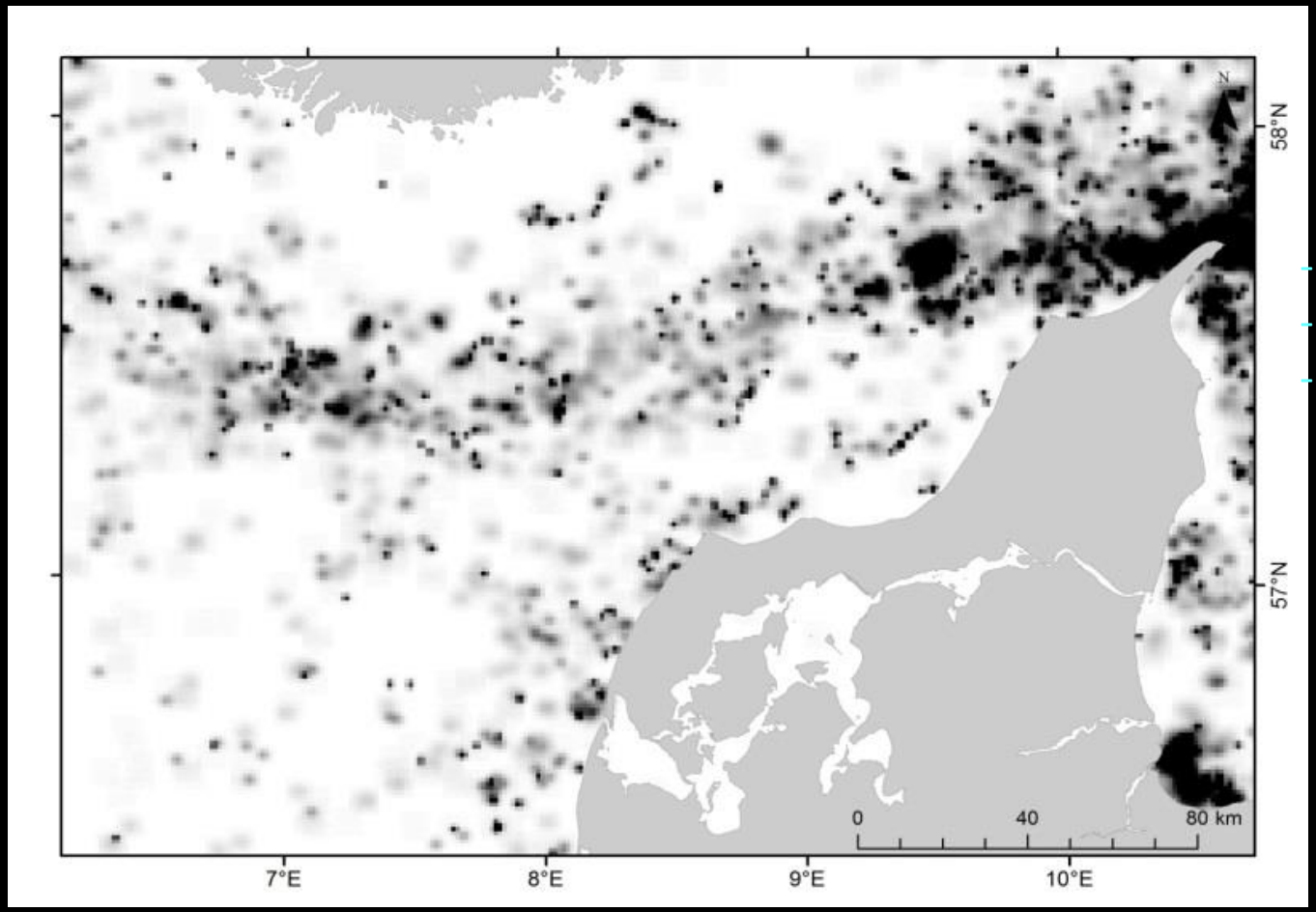
REM effort data, net længde (NL) og fisketid (ST)



(Kindt-larsen et al., 2016 MEPS)

Identifikation af high risk områder

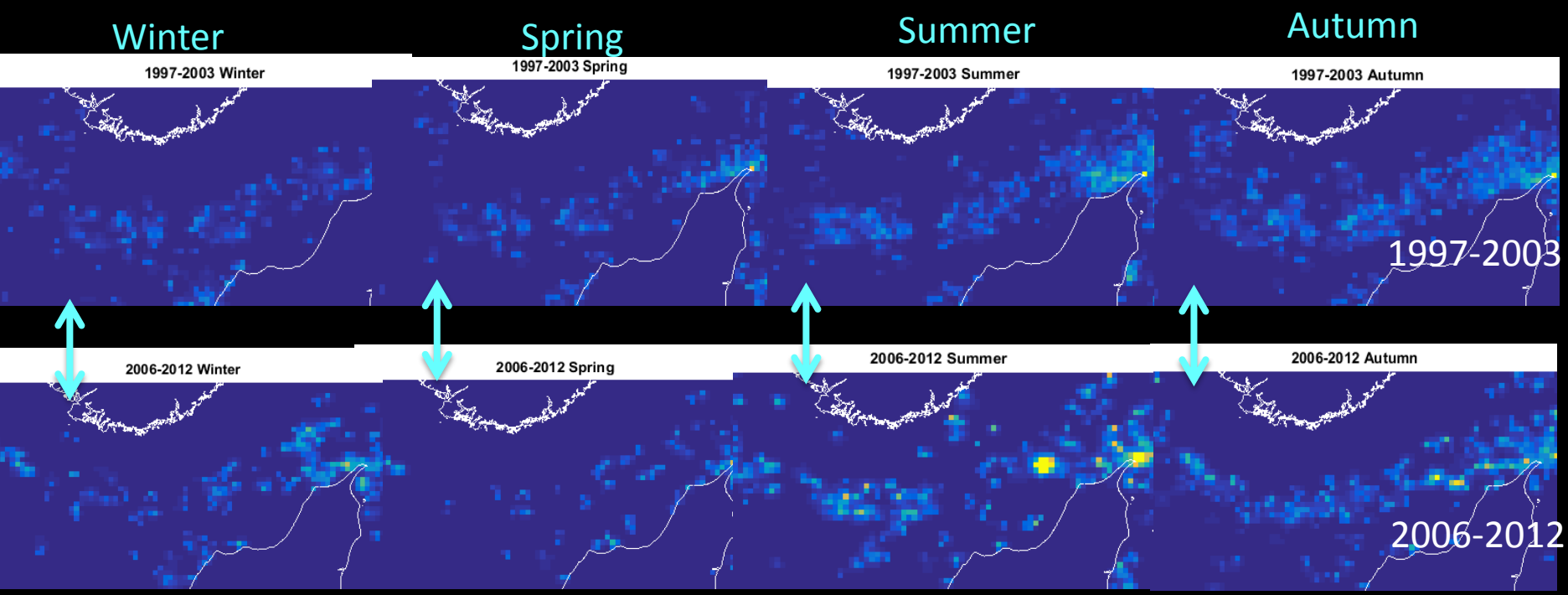
Marsvine satellite data, Marsvine densitet (P)



- Argos transmitters
- 66 marsvin
- 1997-2012

(Sveegaard et al., 2011 & additional data)

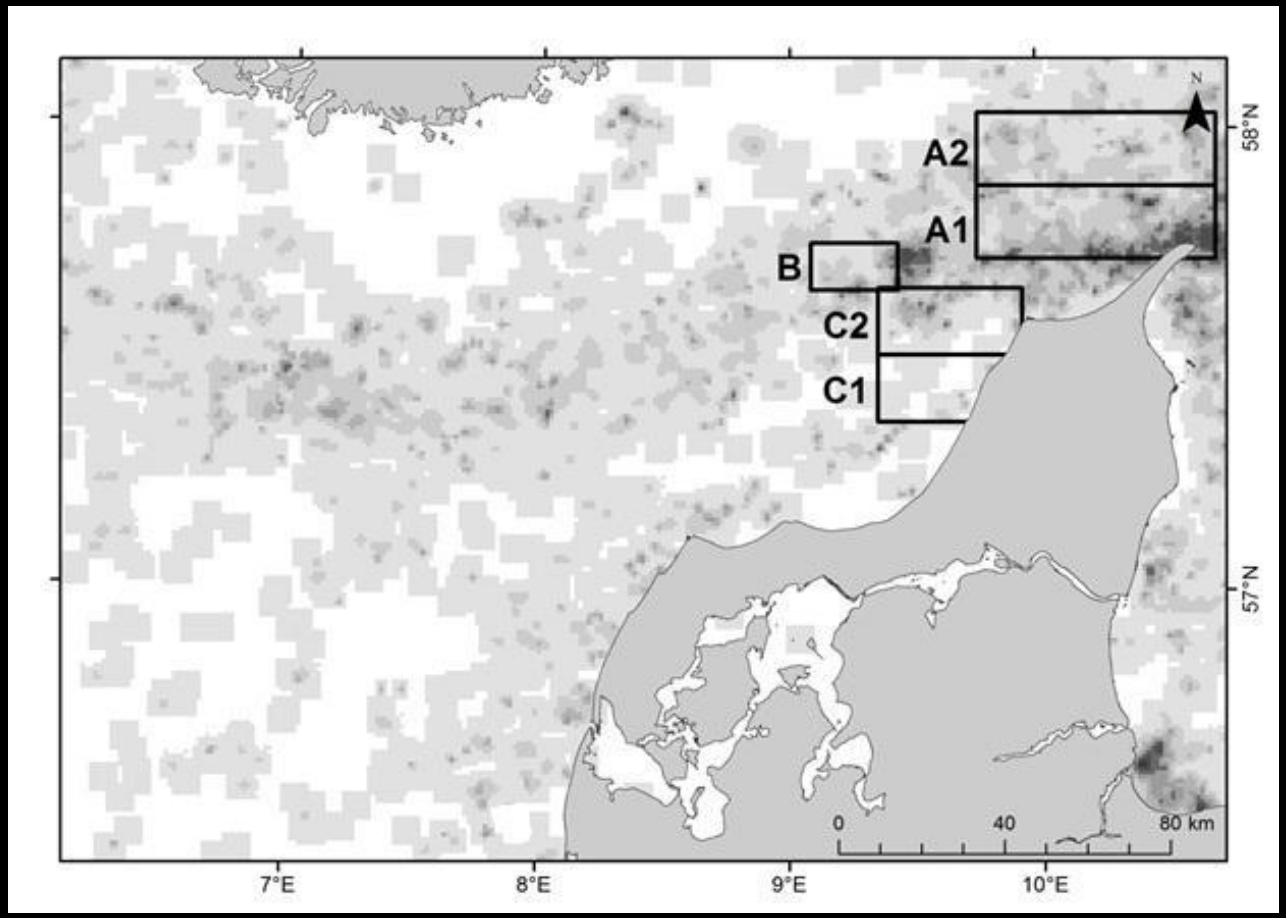
Identifikation af high risk områder



(Kindt-larsen et al., 2016 MEPS)

Identifikation af high risk områder

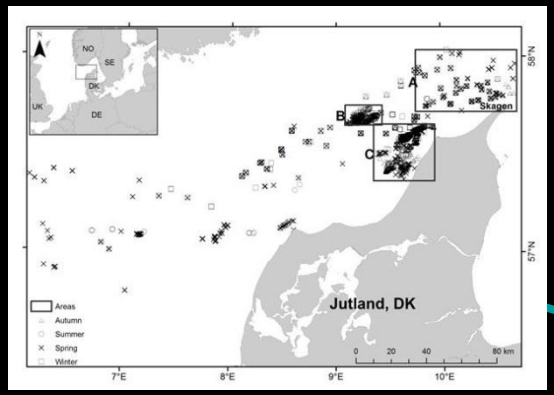
Område valg



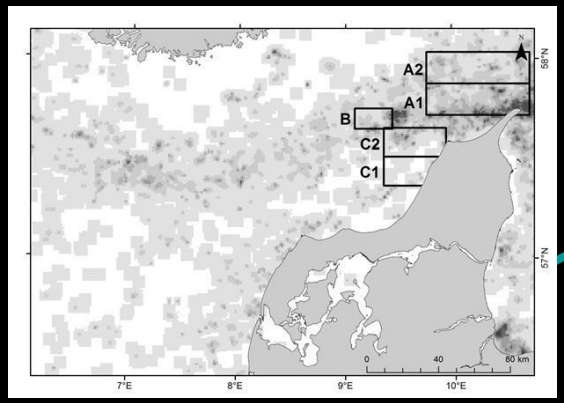
(Kindt-larsen et al., 2016 MEPS)

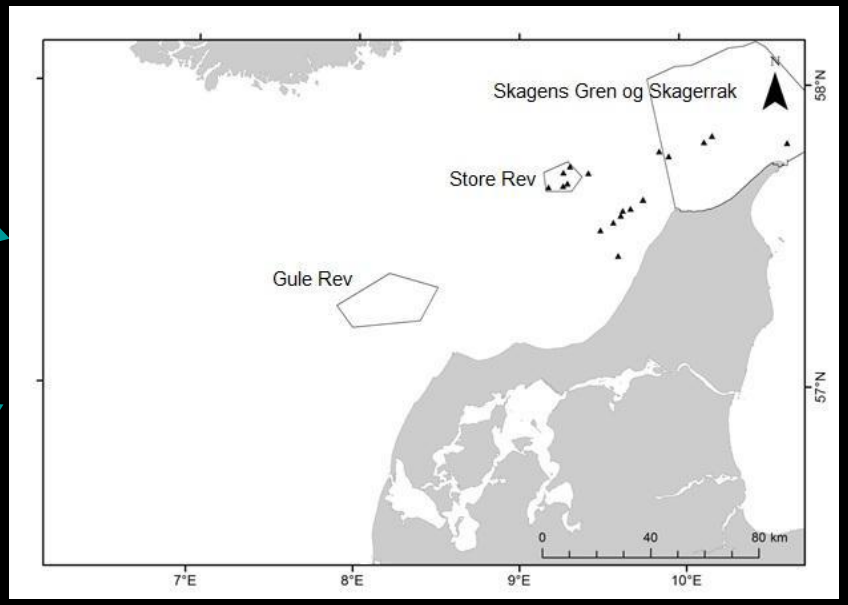
Hypotese

REM effort net længde (NL) og fisketid (ST)



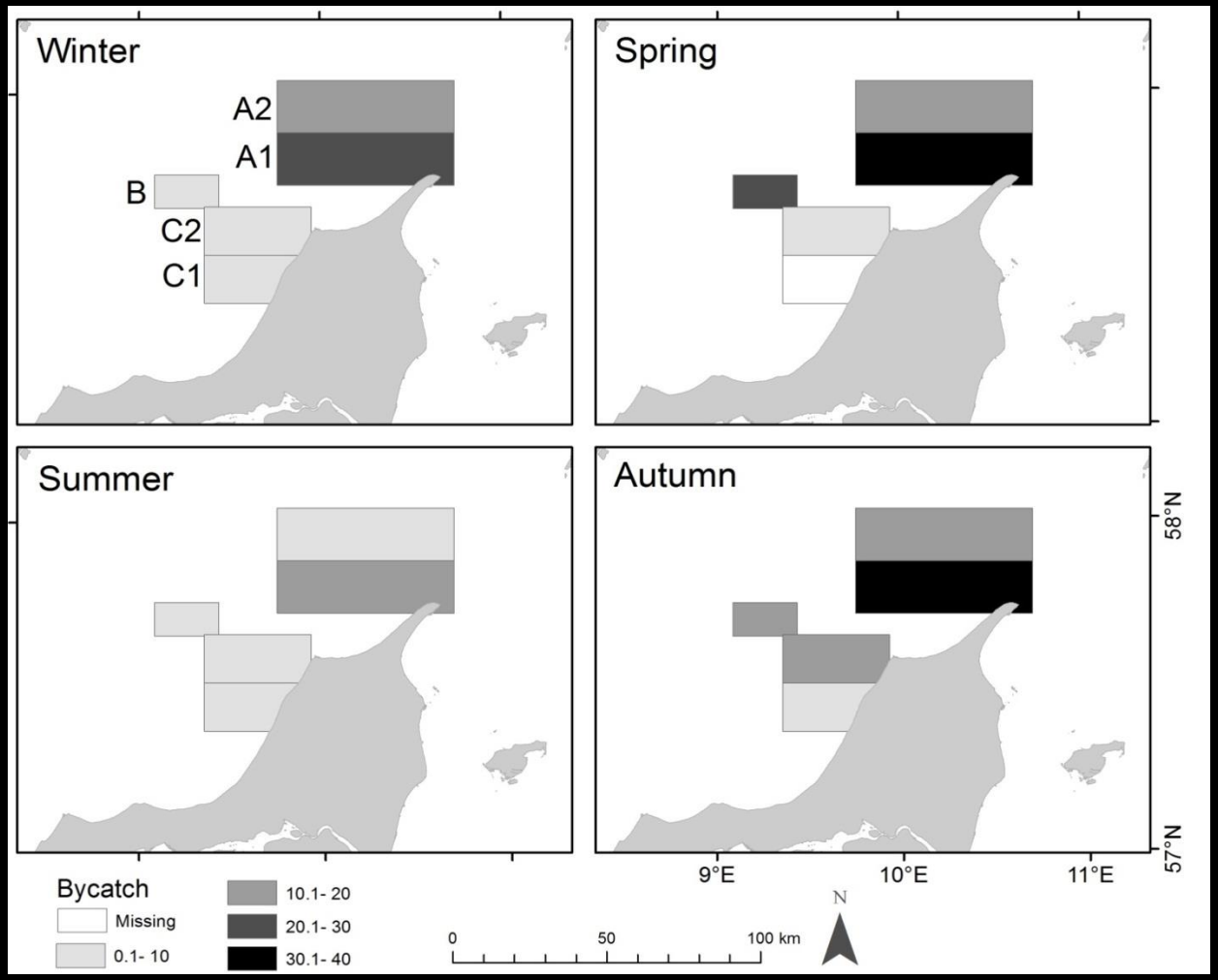
Marsvine satelit data, marsvine densitet (P)





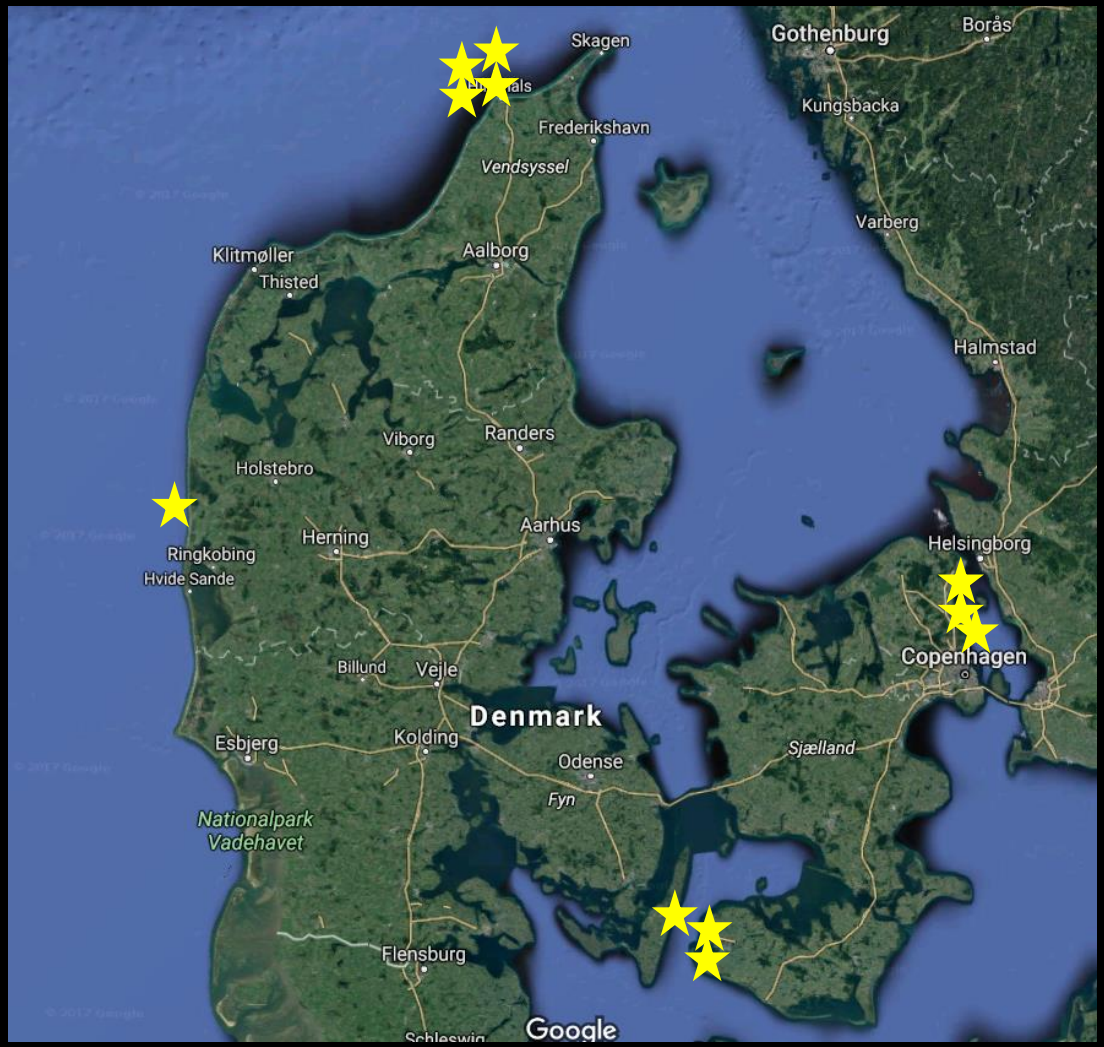
(Kindt-larsen et al., 2016 MEPS)

Identifikation af high risk områder

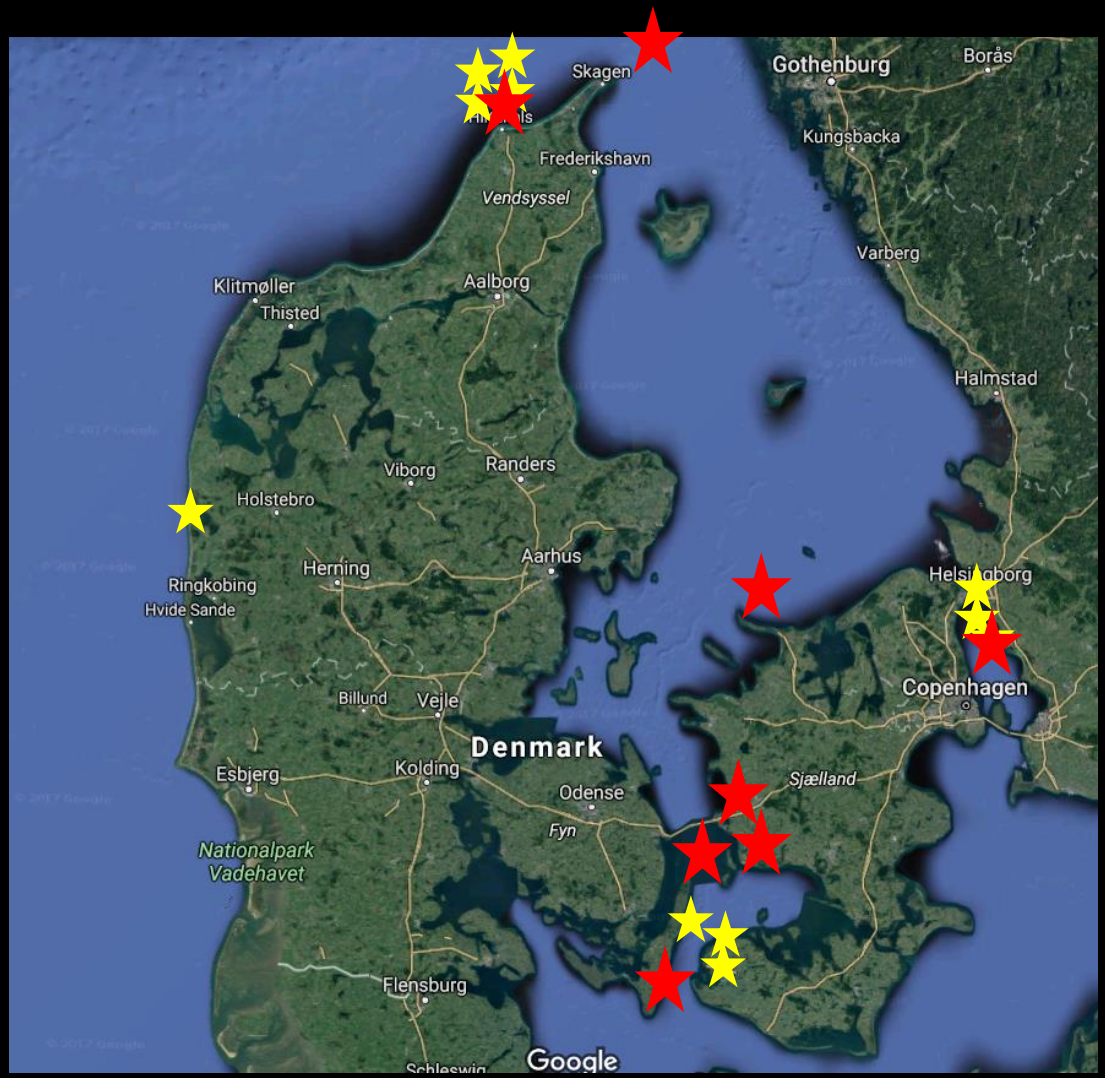


(Kindt-larsen et al., 2016 MEPS)

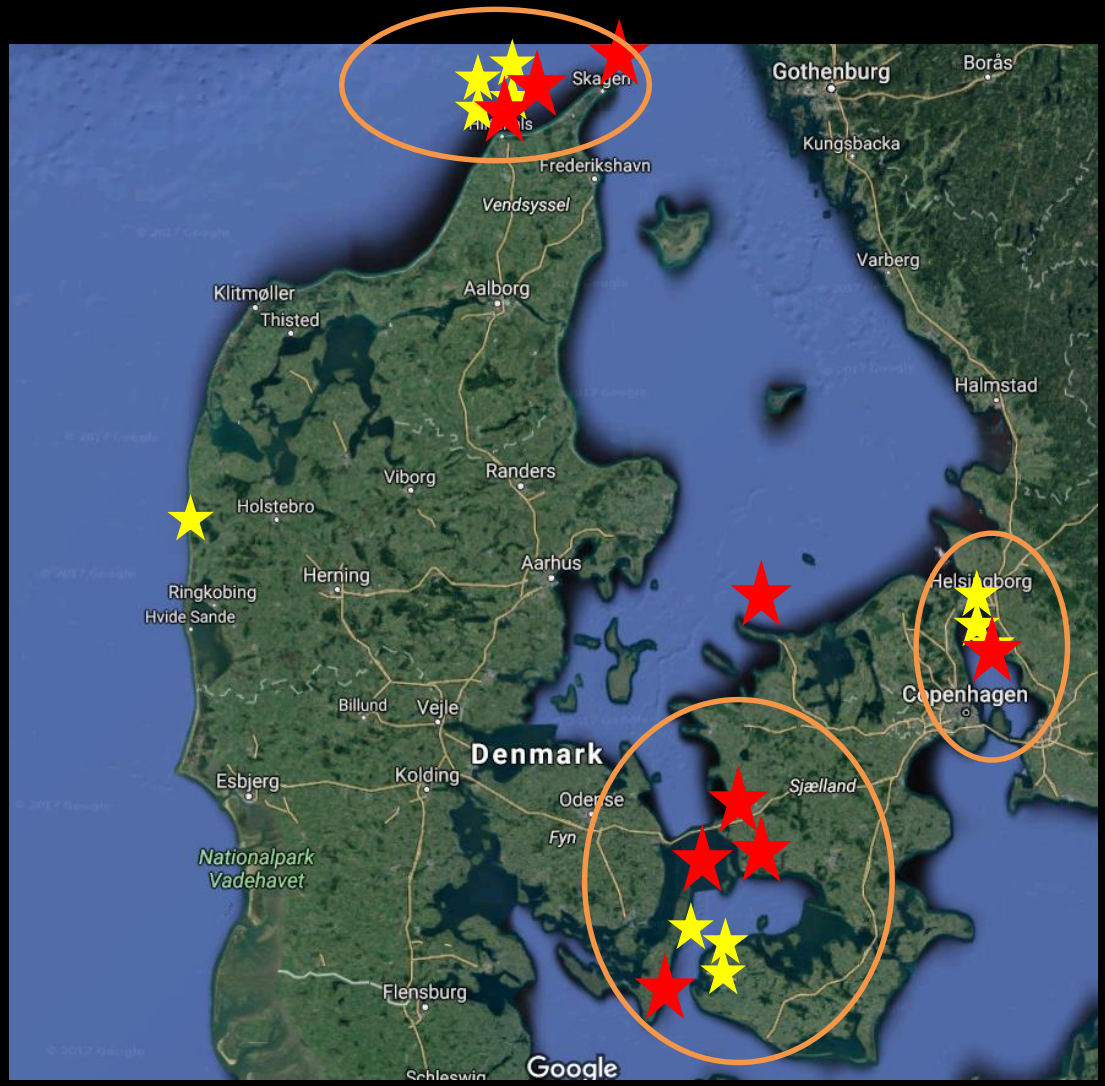
Kamerabåde 2017



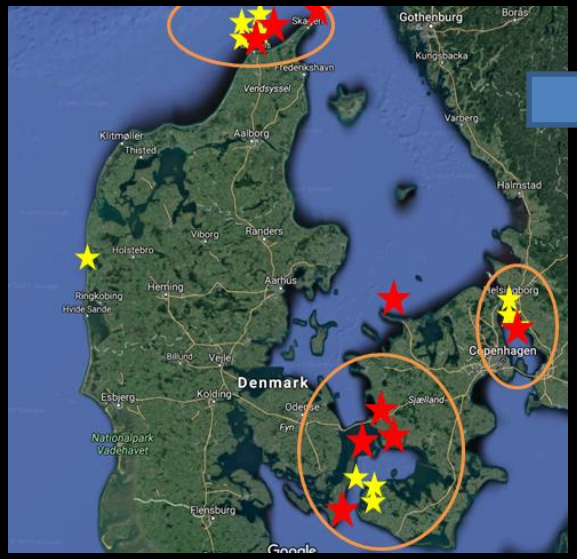
Kamerabåde 2017 og tidligere



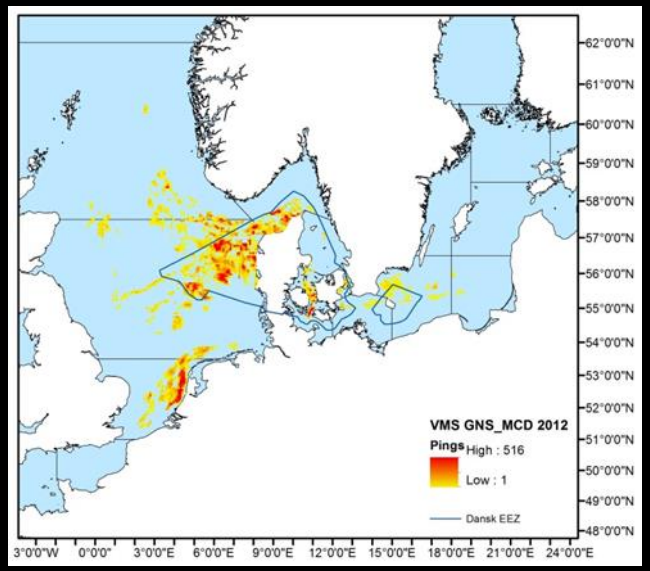
Kamerabåde 2017 og tidligere



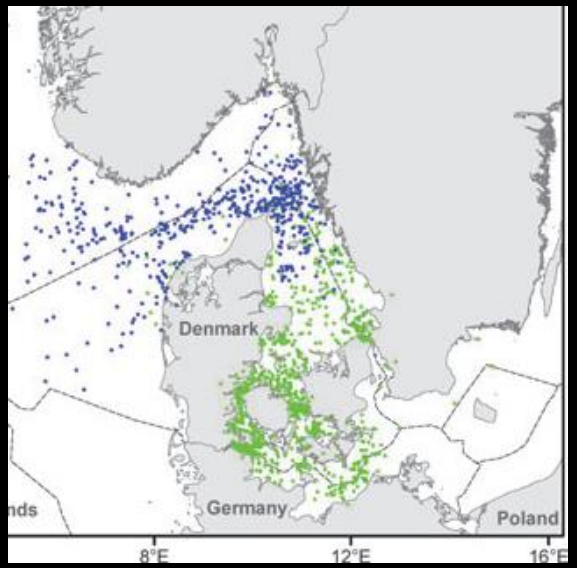
Torsk
Rødspætte
Stenbidder



Model
Art/ maskestørrelse



VMS data samt video



Marsvine data

Effektiv rækkevidde af pingere

1:
AQUAmark100:
20-160kHz
200-300ms
Random intervals
145dB re 1µPa @ 1m peak
23hours on/off

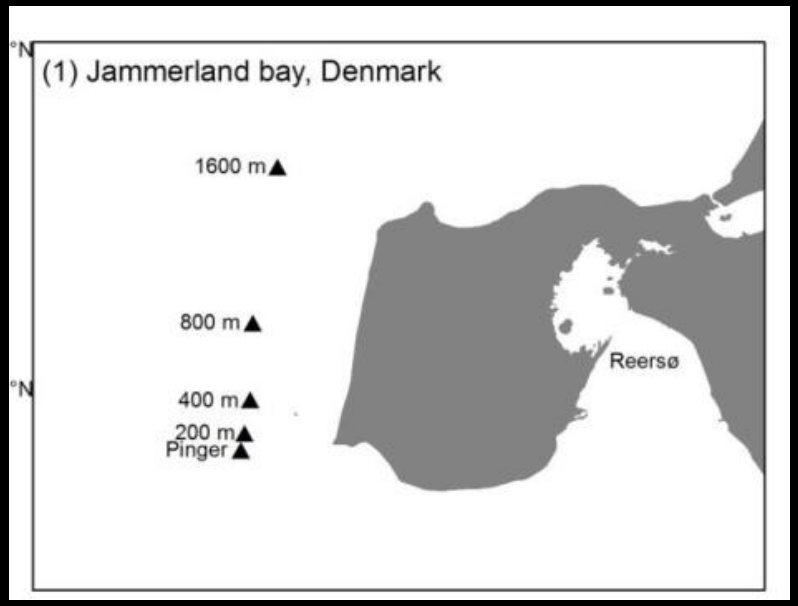
- CPODs (Chelonia Ltd.)

Jammerland Bugt

(AQUAmark 100, 20- 160kHz)

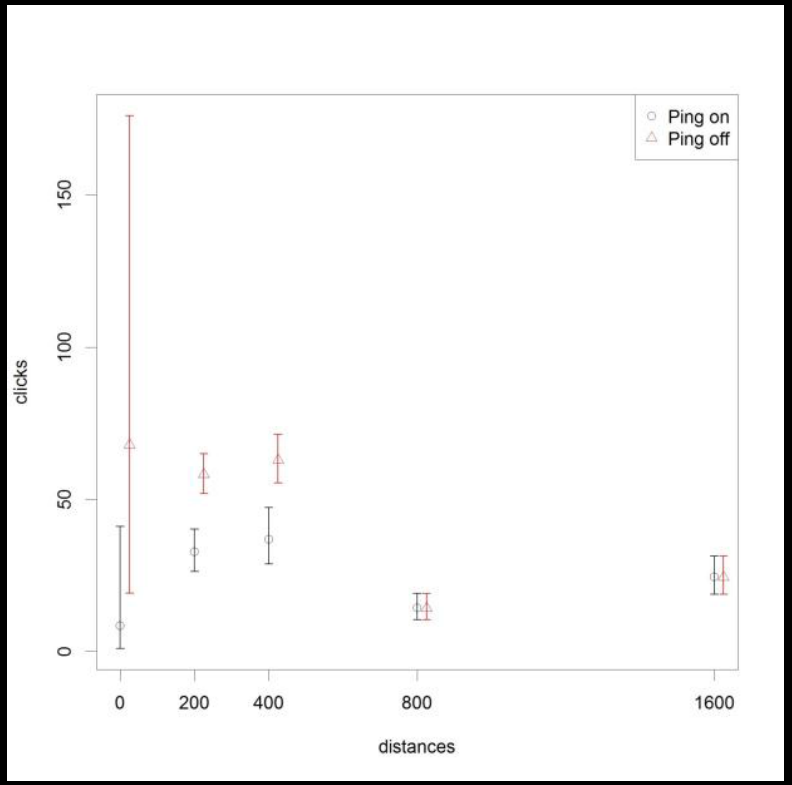
Dato: 23/3-13/7-2010

0m, 200m, 400m, 800m, 1600m



Effekt:

0m, 200m, 400m, 800m, 1600m

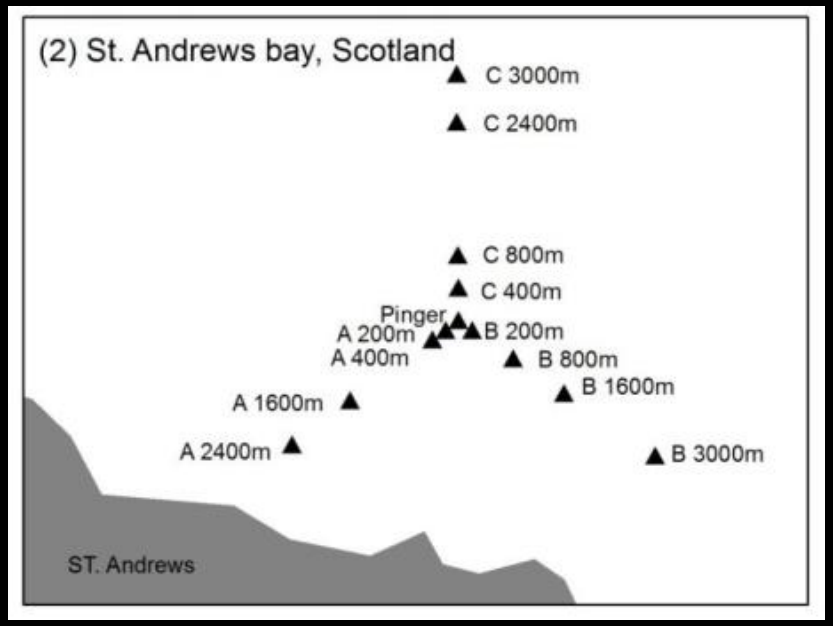


St Andrews bay, Scotland

(AQUAmark 100, 20-160kHz)

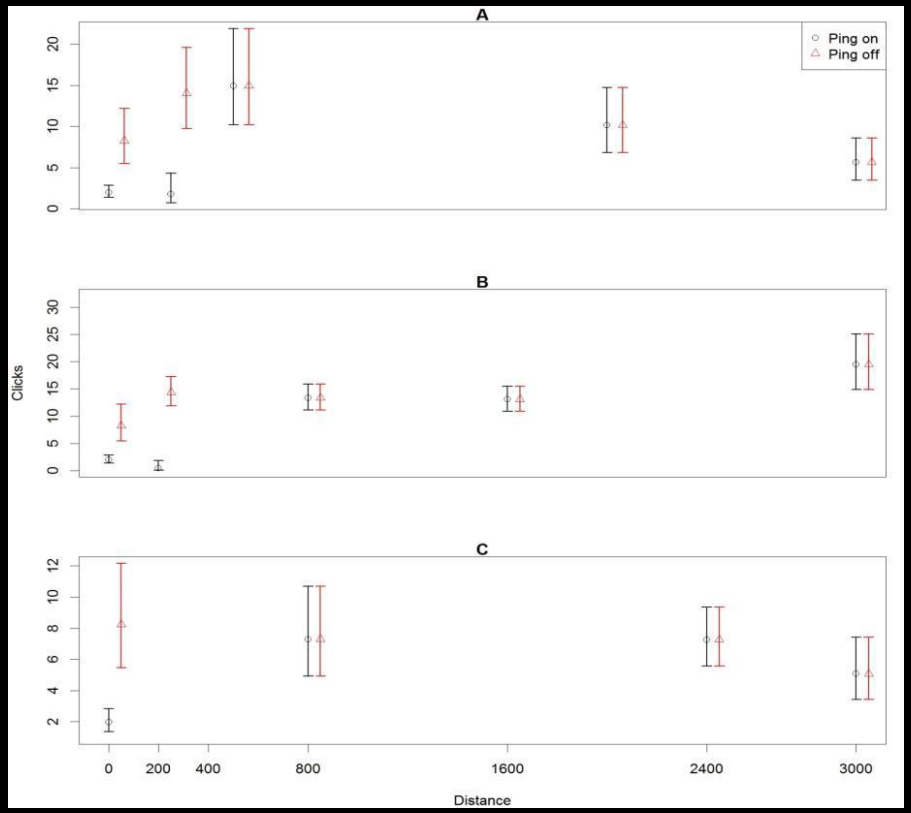
Dato: 20/10-7/12 2010

0m, 2x200m, 2x400m, 2x800m,
2x1600m, 2x2400m, 2x3000m



Effekt:

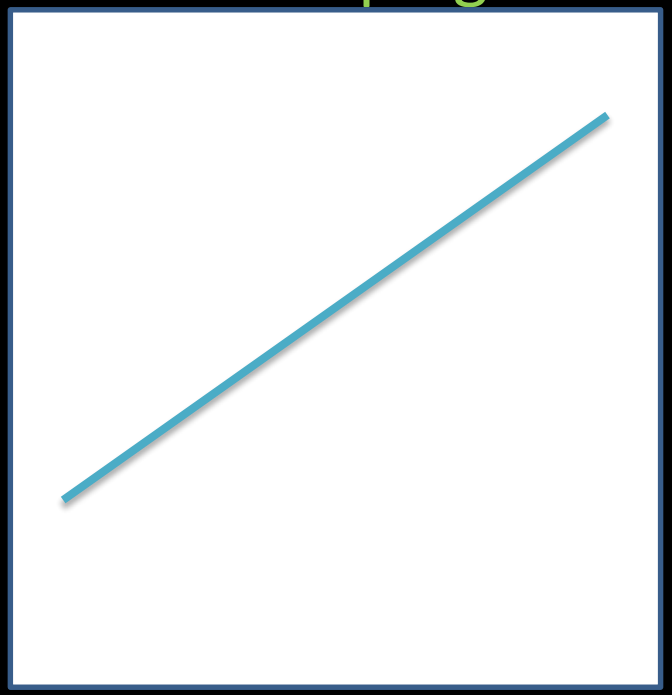
0m, 200m, 400m, 800m, 1600m, 2400m, 3000m



Habituering

Effekt of pinger

Click



Time

Ingen effekt af pinger

Click

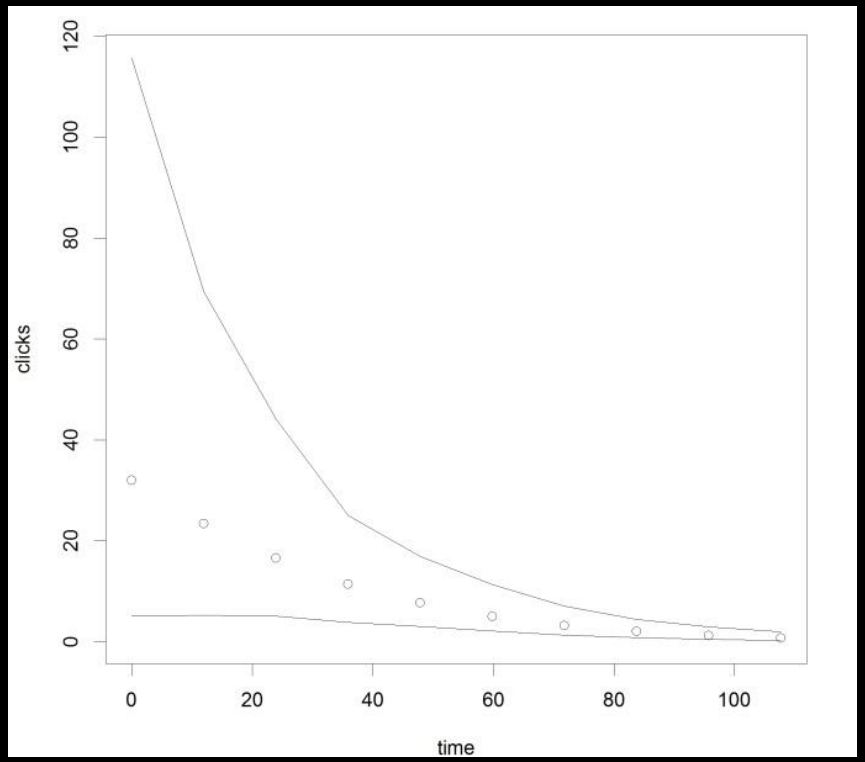
Time

Habituering til AQUAmark100

(20-160 kHz)

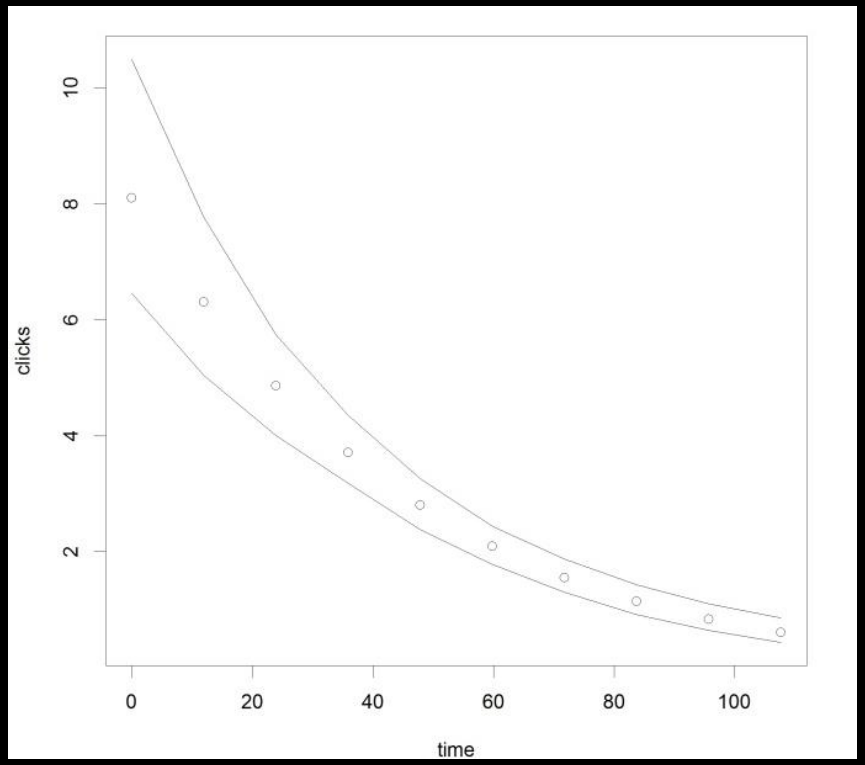
Jammerland Bugt

0 m (effekt of pinger)



Jammerland Bay

800 m (ingen effekt af pinger)

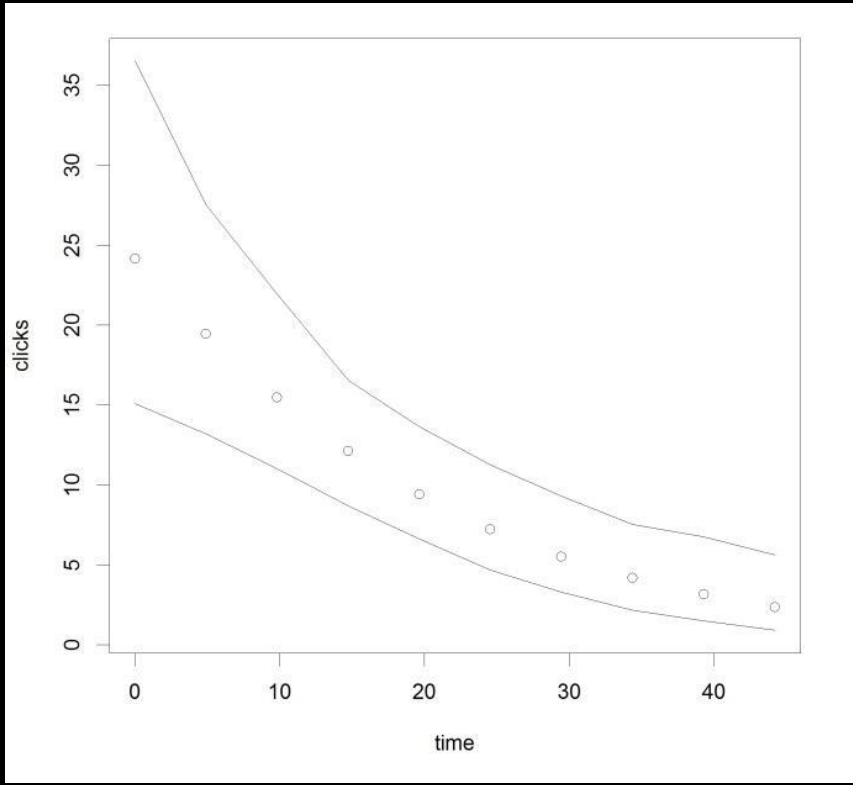


Habituering til AQUAmark100

(20-160 kHz)

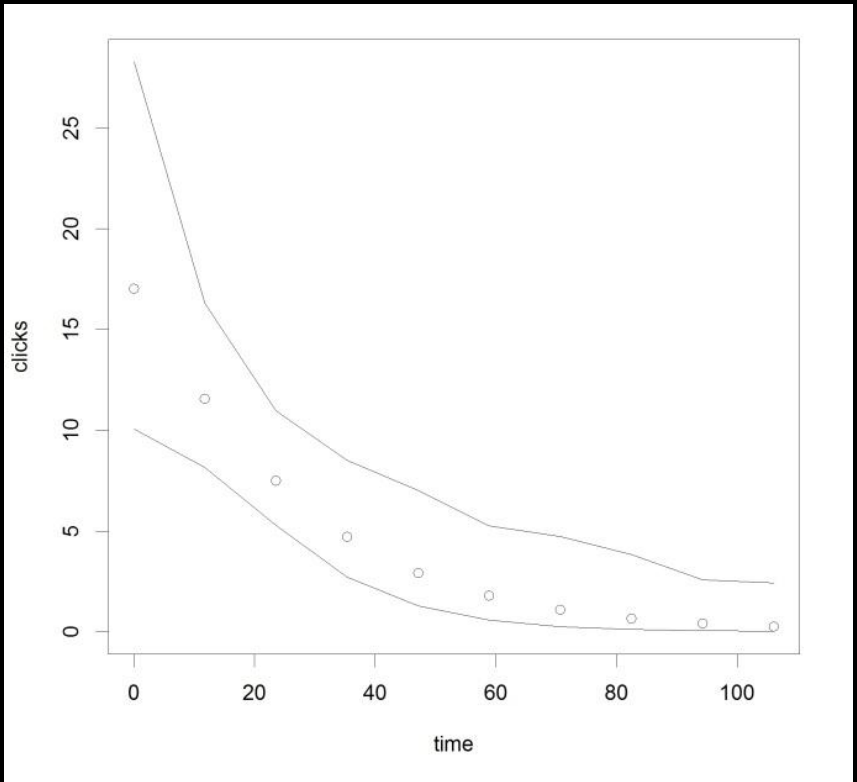
St Andrews Bay

0 m (effekt of pinger)



St Andrews Bay

800 m (ingen effekt af pinger)

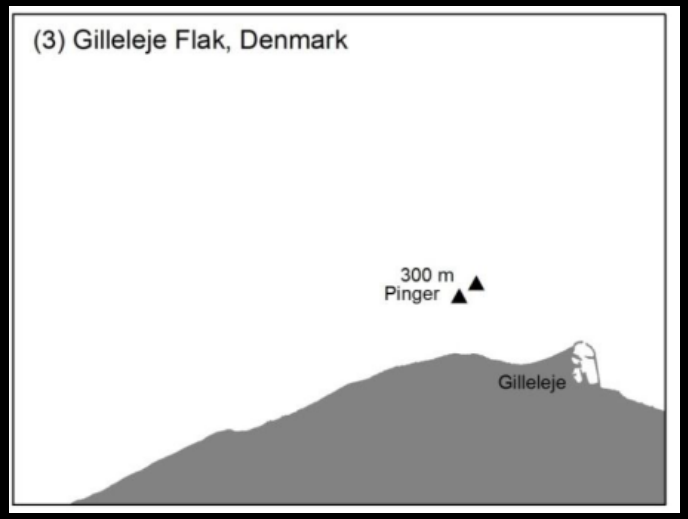


Gilleleje flak, Denmark

(AQUAmark 300, 10kHz)

Dato: 3/10-5/3 2014

0m, 300m



AQUAmark300:

10kHz

300 ms

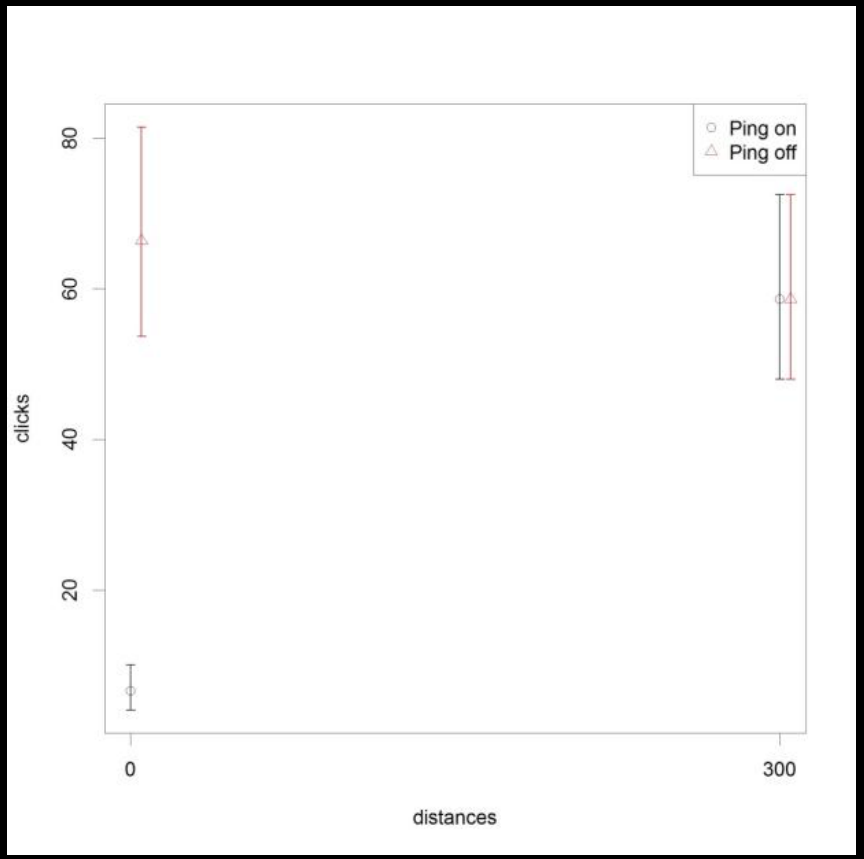
4 sec intervals

132 dB re 1µPa @ 1m peak

23hours on/off

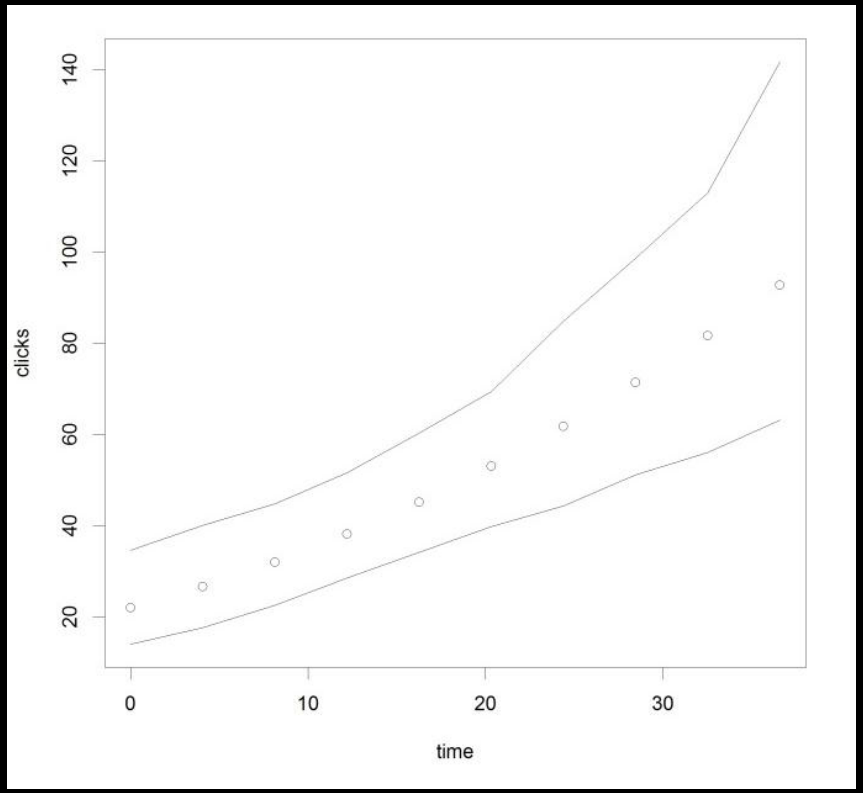
Effekt:

0m, 300m

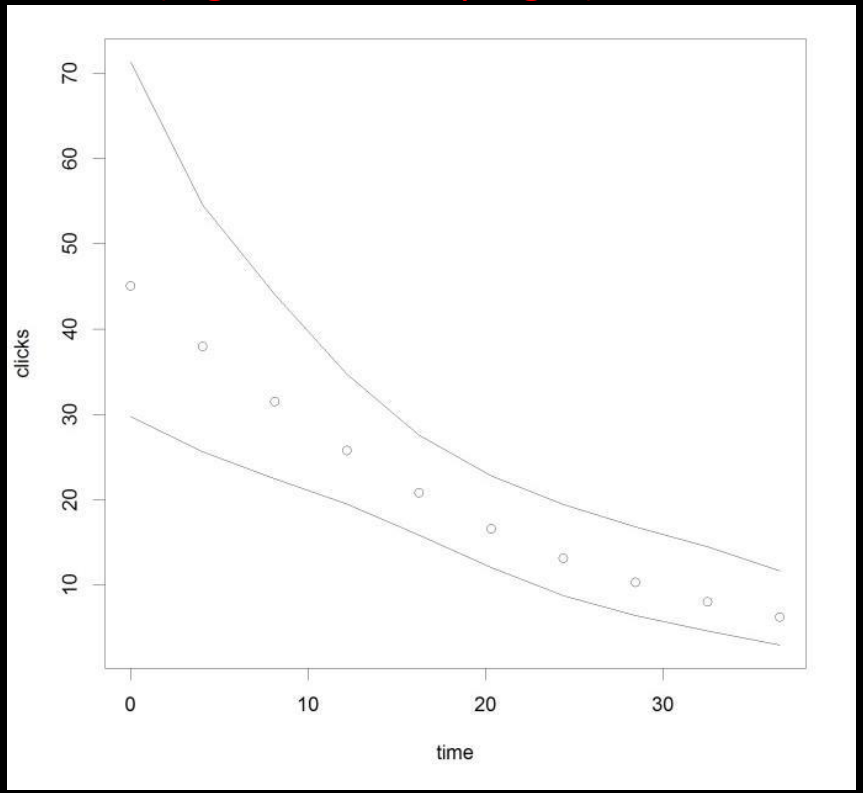


Habituering til AQUAmark300
(10kHz)

Gilleleje Flak
0 m (effket af pinger)



Gilleleje Flak
300 m (ingen effekt af pinger)

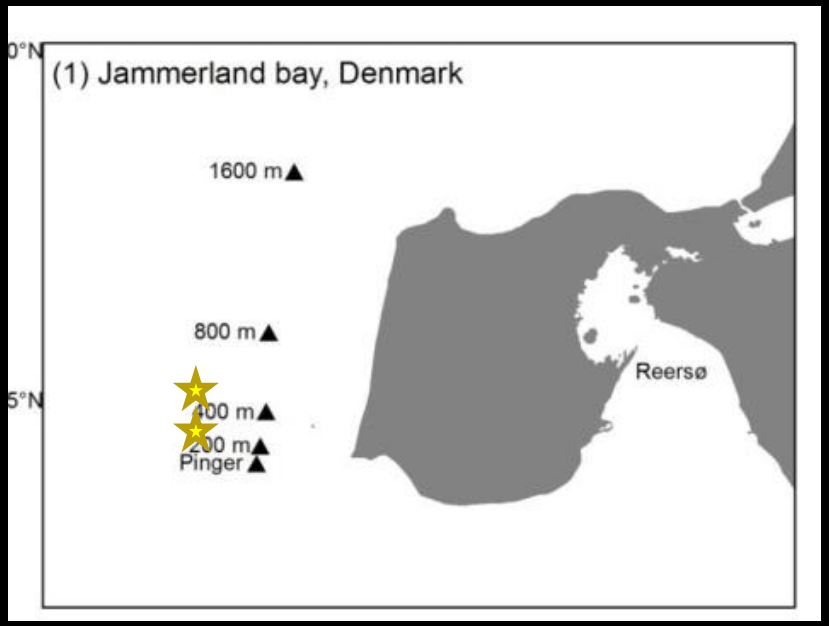


AQUAmark300 i Jammerland

(10kHz)

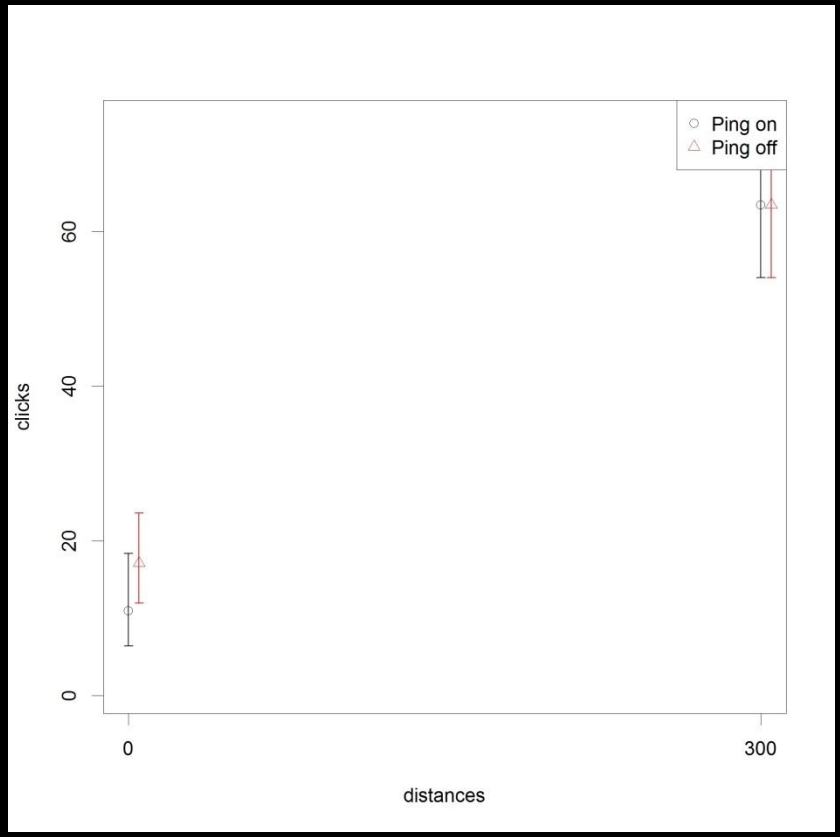
Date:13/3-28/4 2015

0m, 300m



Effect:

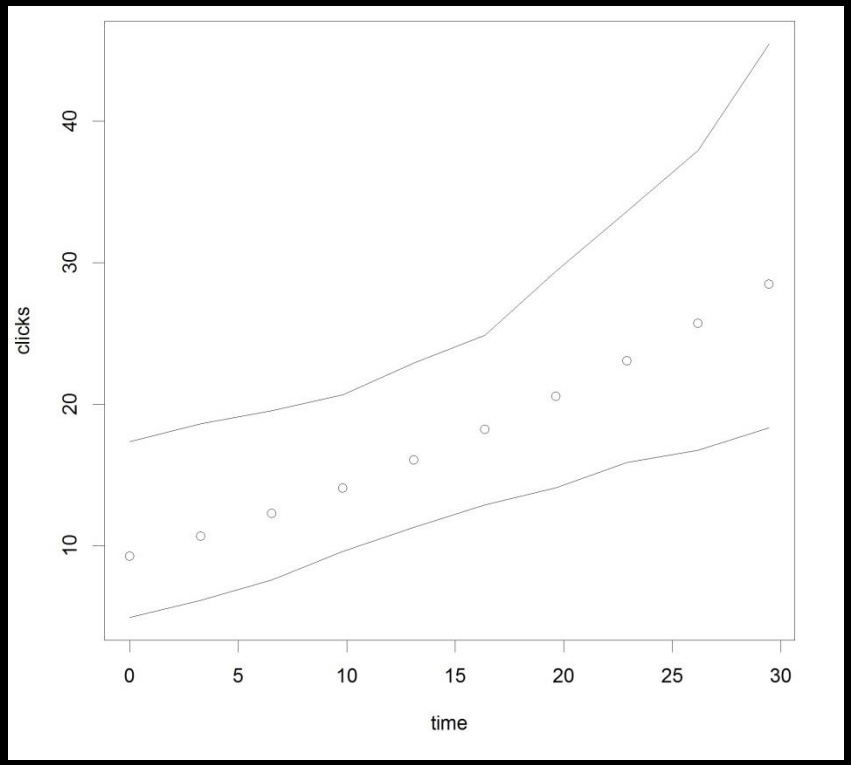
0m, 300m



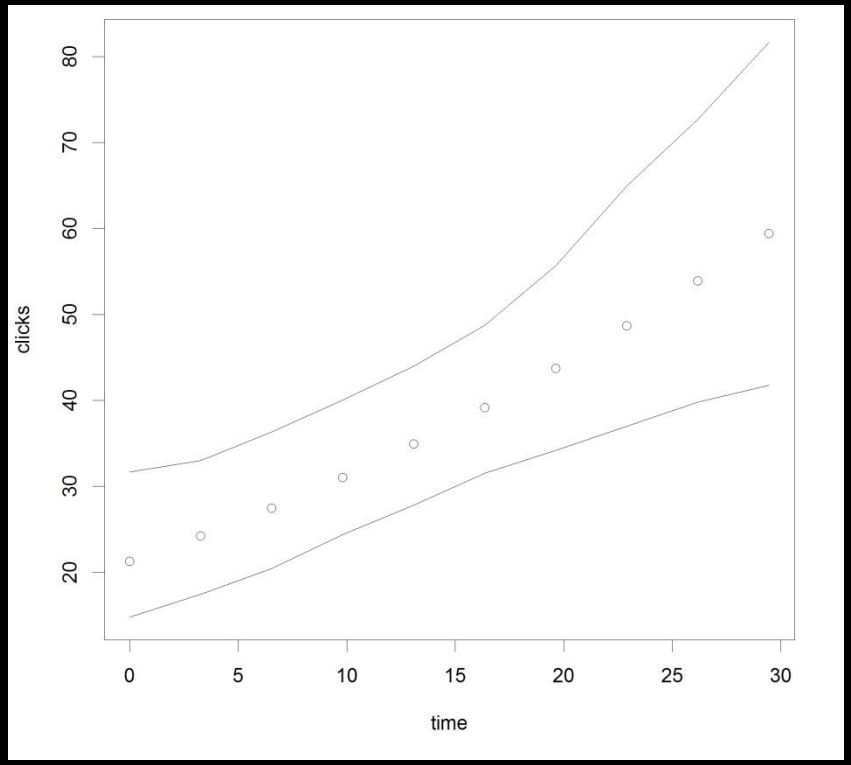
Habituation to AQUAmark300 (10kHz)

Jammerland Bugt forsøg

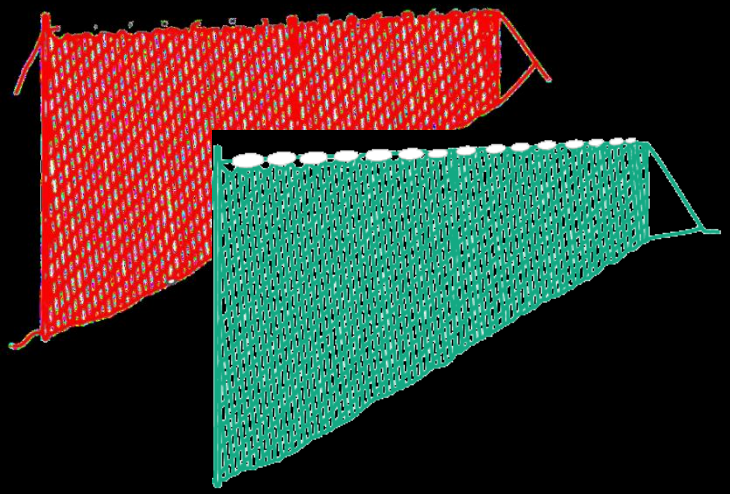
Forsøg
0 m (effekt of pinger)



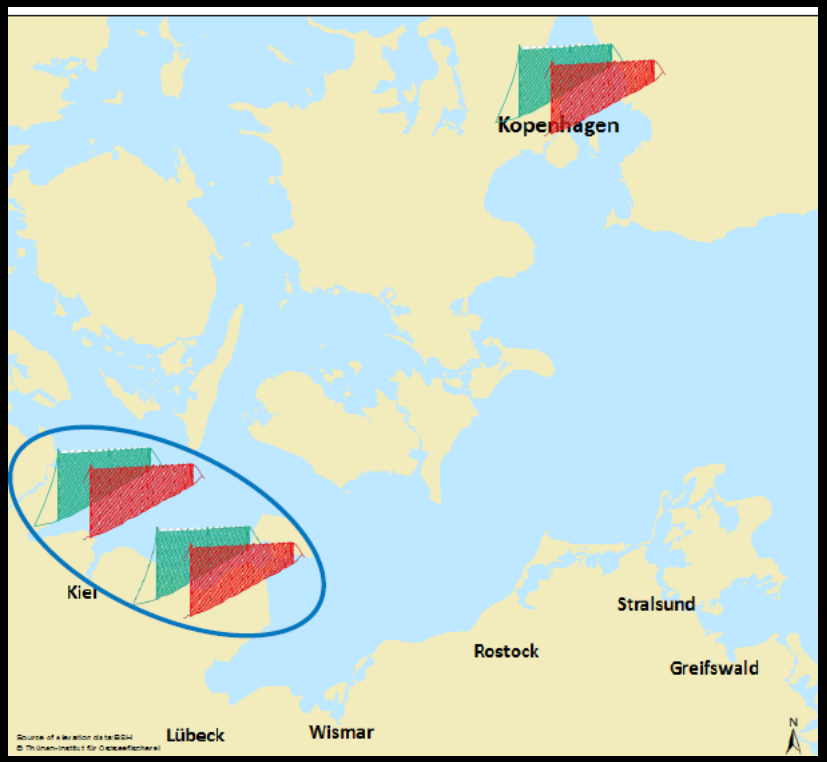
Forsøg
300 m (ingen effekt af pinger)



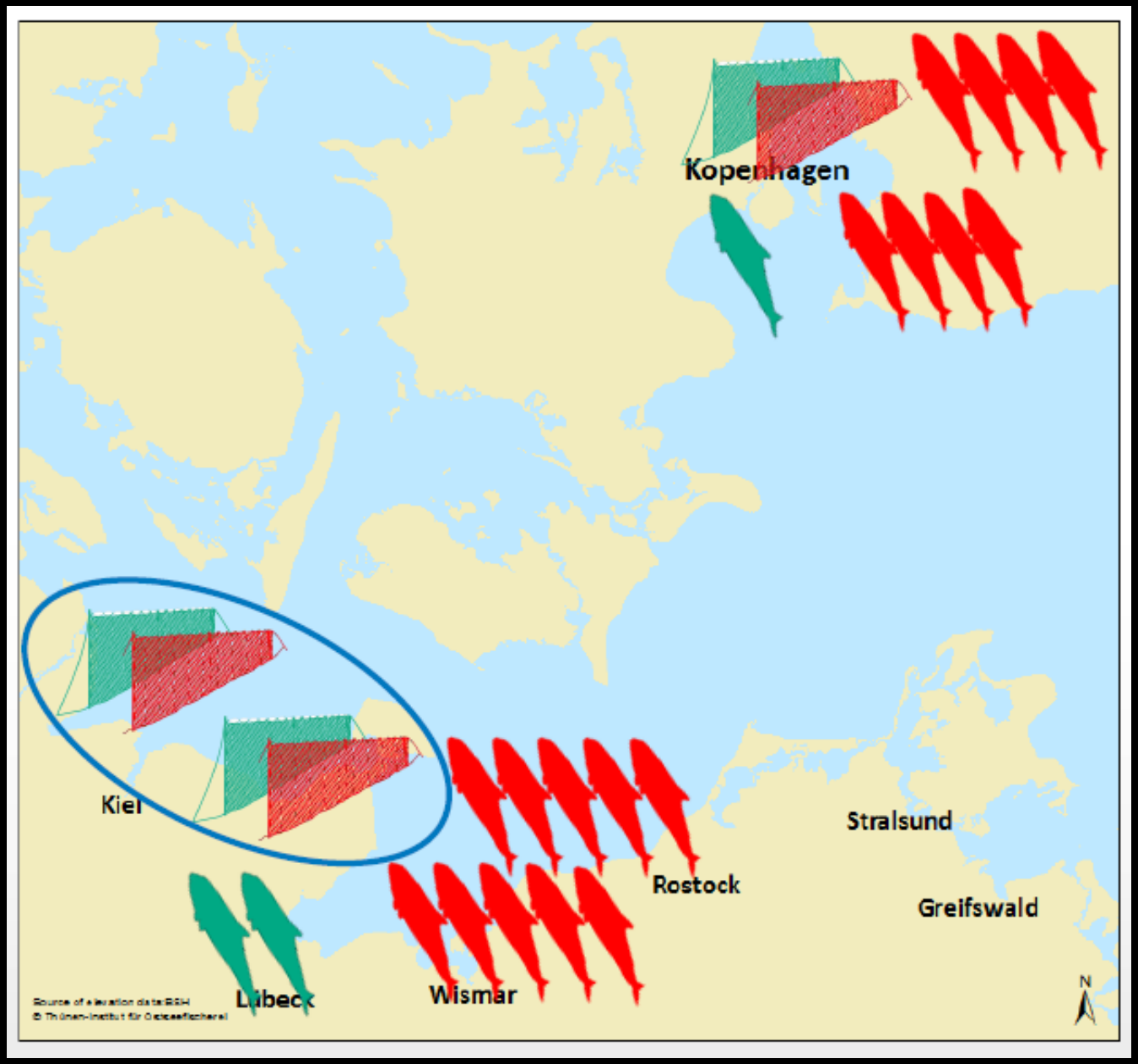
Nye pinger test i samarbejde med tyskland



Fra 2014-2016



Culik et al. 2015 Bioacoustics



85% reduktion

Tak...

Deltagende fiskere, Archipelago Marine Research, Anchor Lab, Jørgen Dalskov, Hans Jakob Olesen, Casper W. Berg,

Lol@aqua.dtu.dk

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