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Do grey seals use
above water stimuli
in foraging?



Master Thesis
in Applied Biology
by
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Introduction

Increasing population of the Baltic grey seal *Halichoerus grypus* causes conflicts with the fishery (damages to the fishing gears and loss of catch). To mitigate results of this conflict, it is highly important to learn more about seals' foraging behaviour, in particular in localising fishing nets.

Data referring to chemoreceptive senses (e.g. olfaction) is quite limited. Almost no information exists on how seals use their olfactory abilities in foraging and navigation.

Thesis Statement

Investigation of possible use of sense of smell in the foraging behaviour of the grey seals.

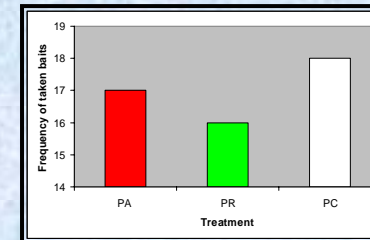
It is expected, that the frequency of taken baits will be higher from attractively smelling buoys.

Method

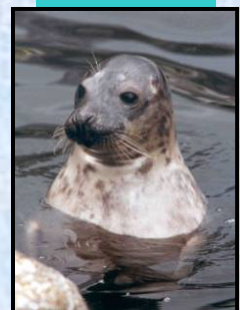
- the study area: the Bothnian Sea
- twelve sphere shaped buoys floating out in the sea
- three treatments:
 - perforated attractive PA (salmon oil)
 - perforated repellent PR (seal oil)
 - perforated control PC (no scent)
- the buoys connected to:
 - the setups with disposable photo cameras
 - the setups without photo cameras
- the bait: herring *Clupea harengus*
- the buoys inspected every day:
 - fish exchanged
 - scent material refilled
 - the buoy relocated
- the results from the inspections of the buoys documented in specially prepared protocols

Results

- the relative frequency of taken baits was used to indicate the effect of the olfaction stimuli; the analysis showed almost no difference in number of taken baits between different treatments



- five pictures were successfully taken by the underwater cameras; in all these could be clearly proven that the baits were taken by seals



Conclusion

the smell is of minor importance in the foraging behaviour of the grey seals