

Diving into darkness: Red-throated Diver diet

Healthy vs sick and oiled birds

Mardik Leopold

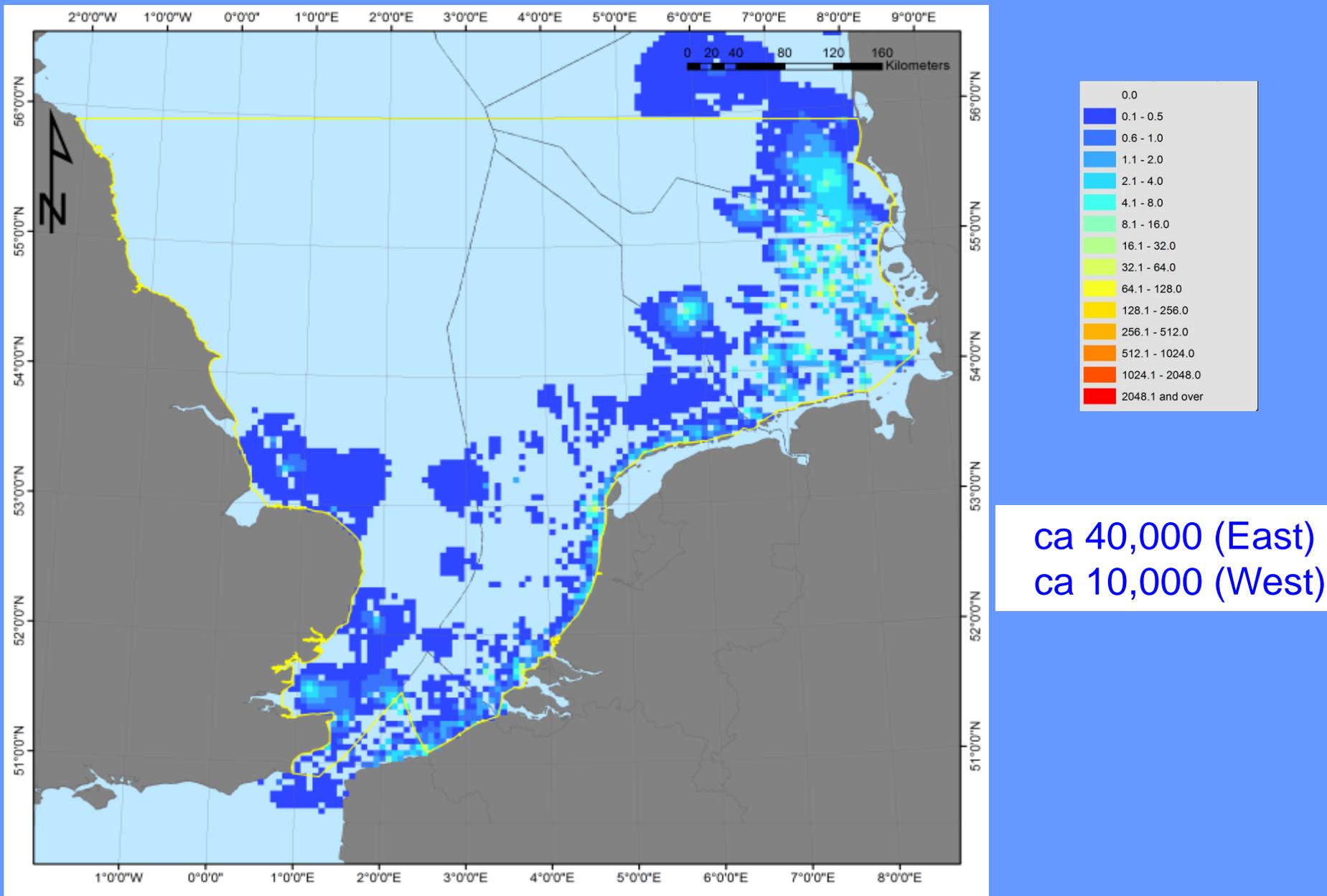


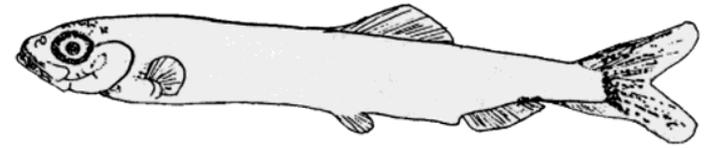
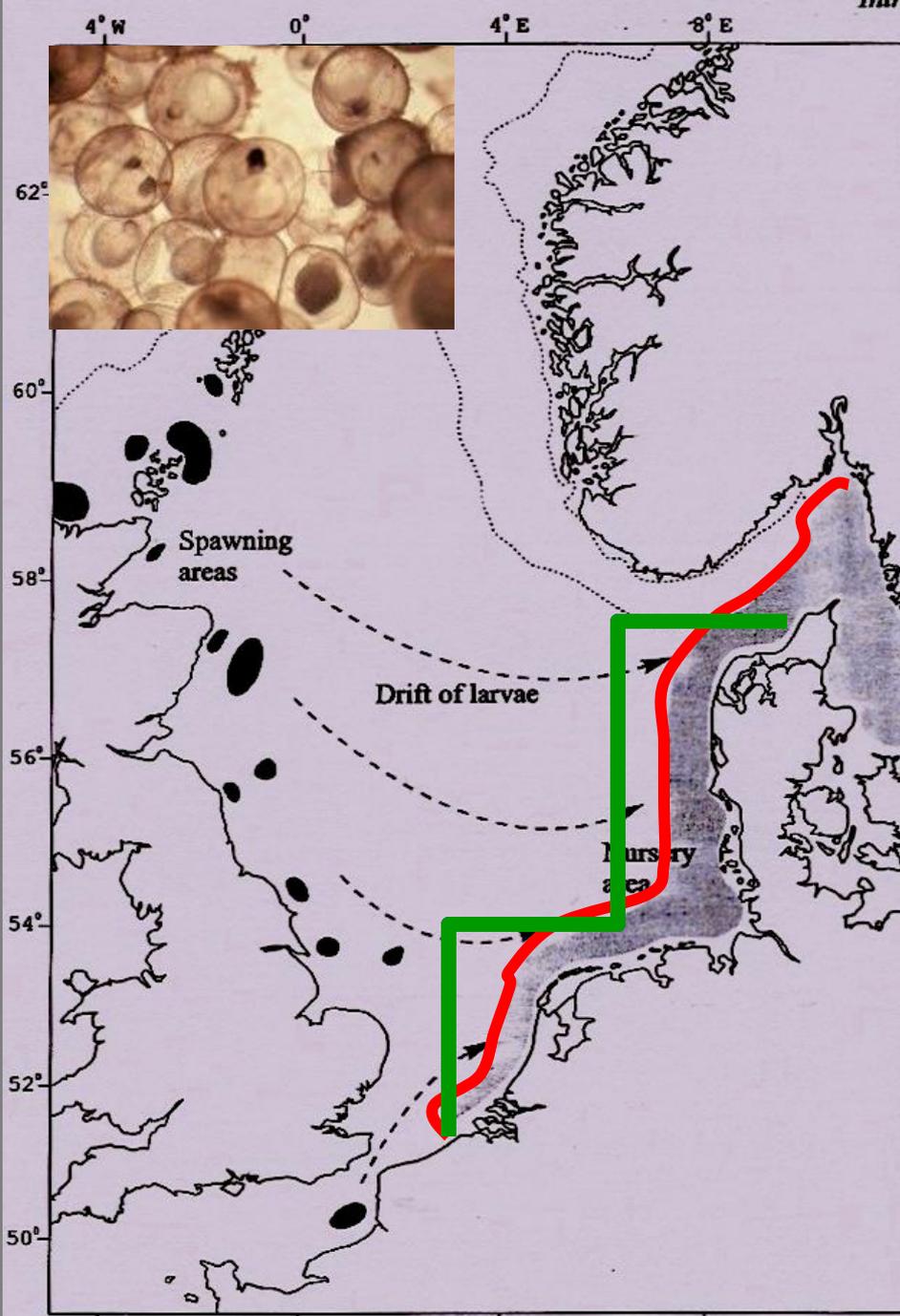


Winter: “seabird”
but only in shallow nearshore waters



Small divers in the southern North Sea in winter





41.0 mm TL

Herring larvae/ juveniles

Juvenile flatfish



Juv. gadoids



Specialist or limited diver?



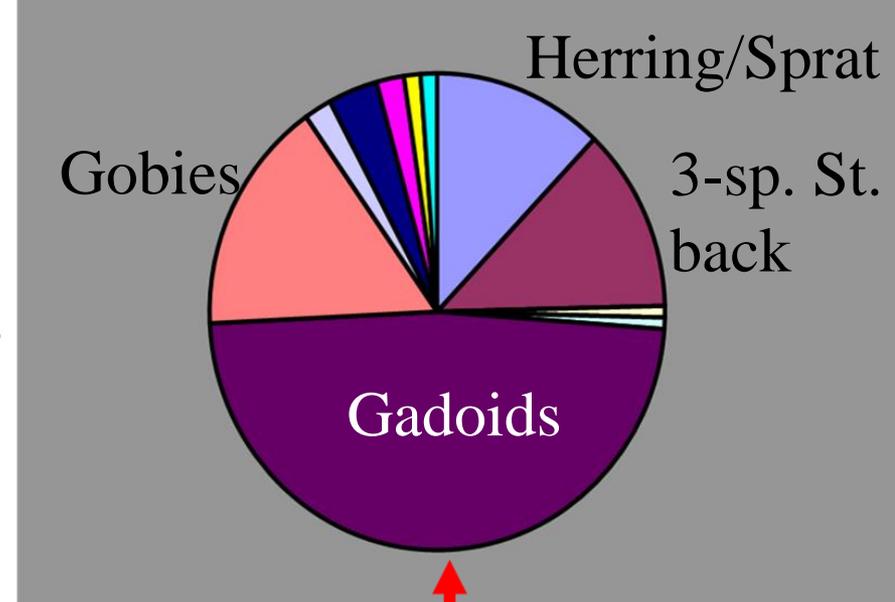
ON THE FOOD HABITS
OF
SOME FISH-EATING BIRDS
IN DENMARK

DIVERS, GREBES, MERGANSERS, AND AUKS

BY

F. JENSENIUS MADSEN

Dan. Rev. Game Biol. 3: 19-83 (1957)



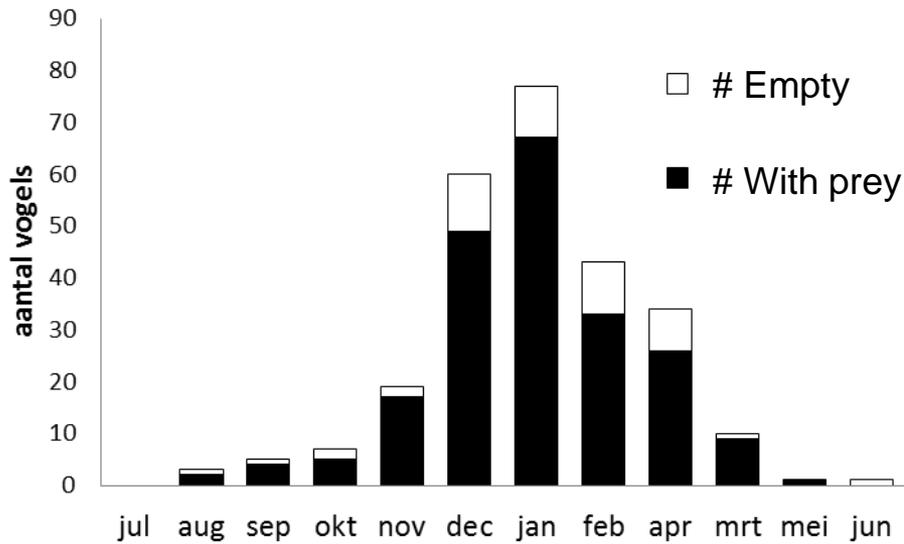
203 R-throated Divers: shot



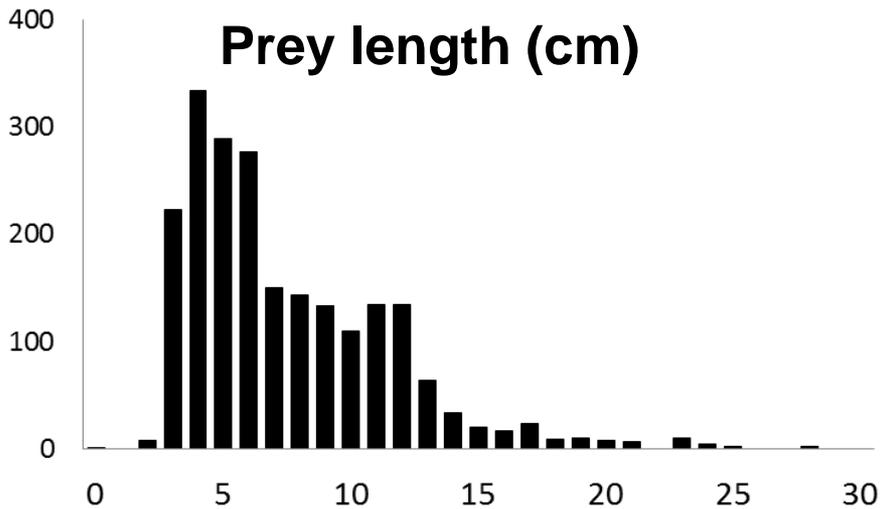
NL: 261 Red-throated Divers:
Found 1991-2014

214 with prey

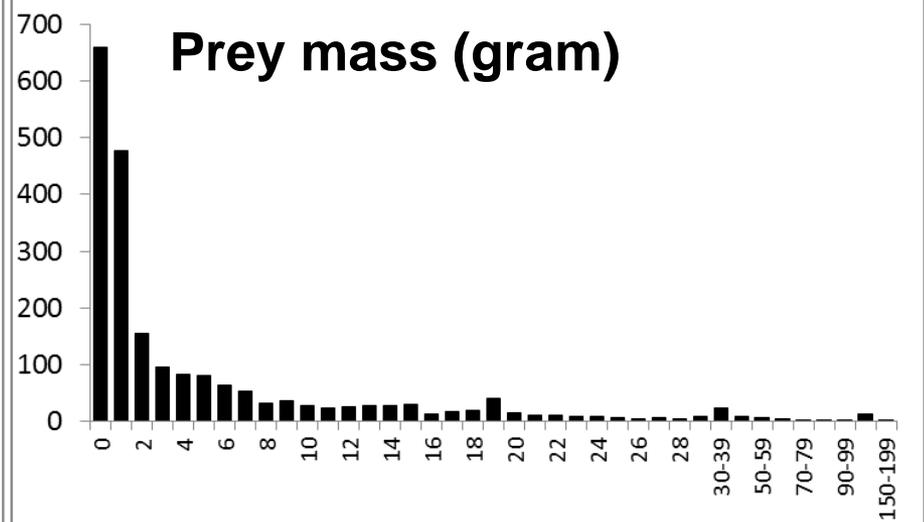
2146 reconstructed prey
35 prey species



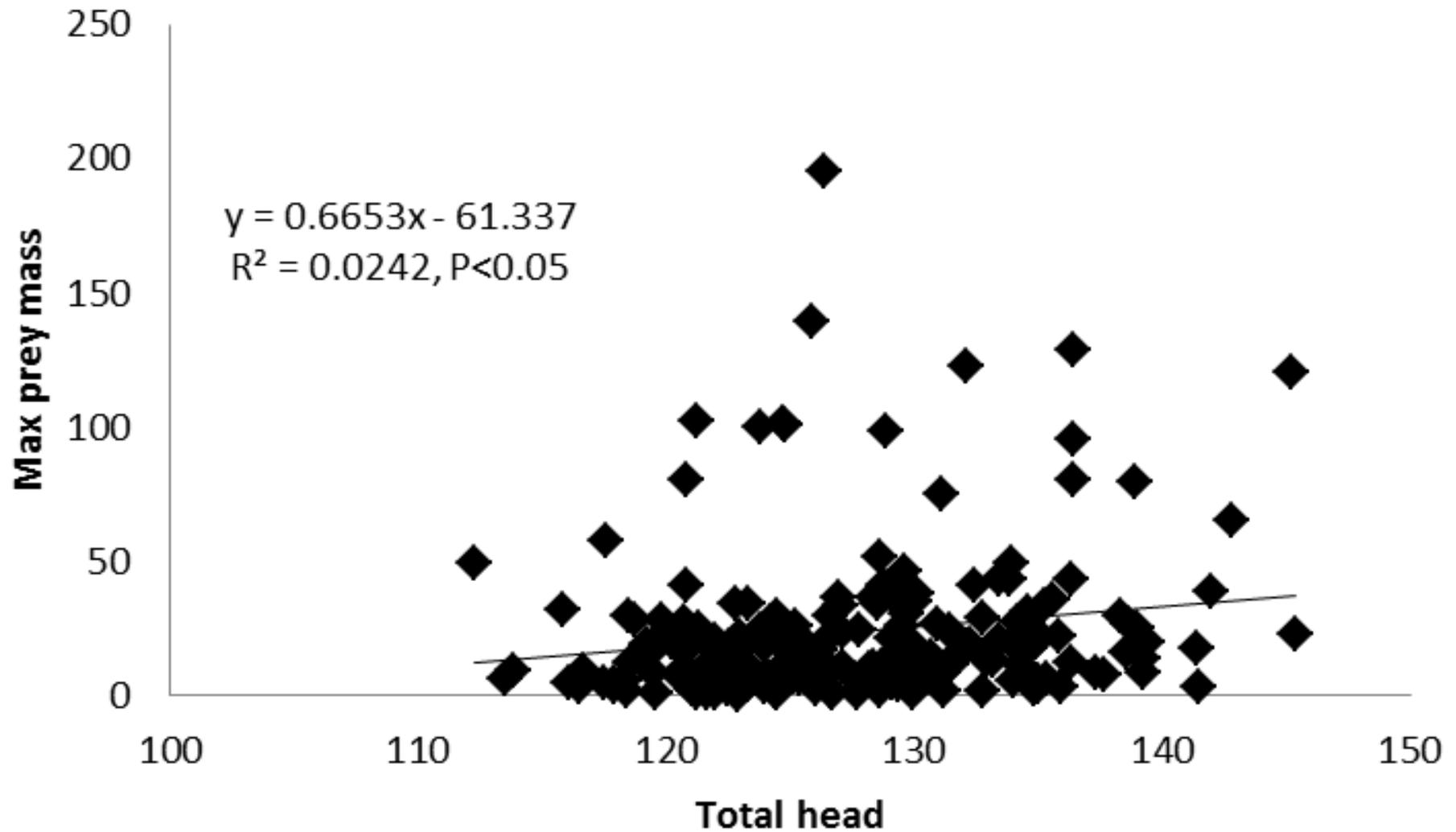
Prey length (cm)



Prey mass (gram)

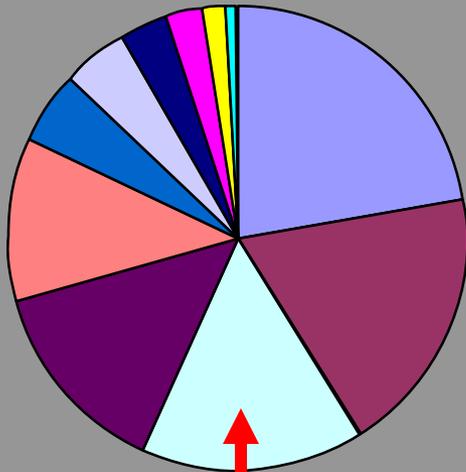


Do larger birds take larger prey?

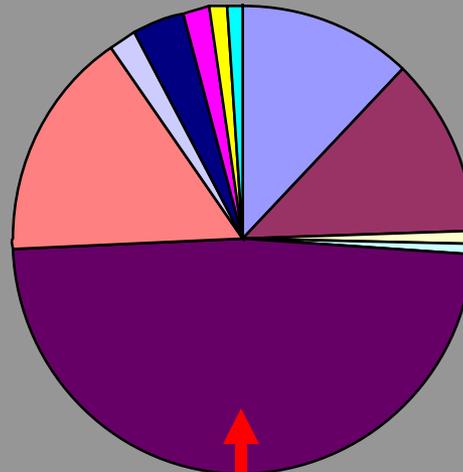


Netherlands vs Denmark

Leopold: SE North Sea



Madsen: around DK

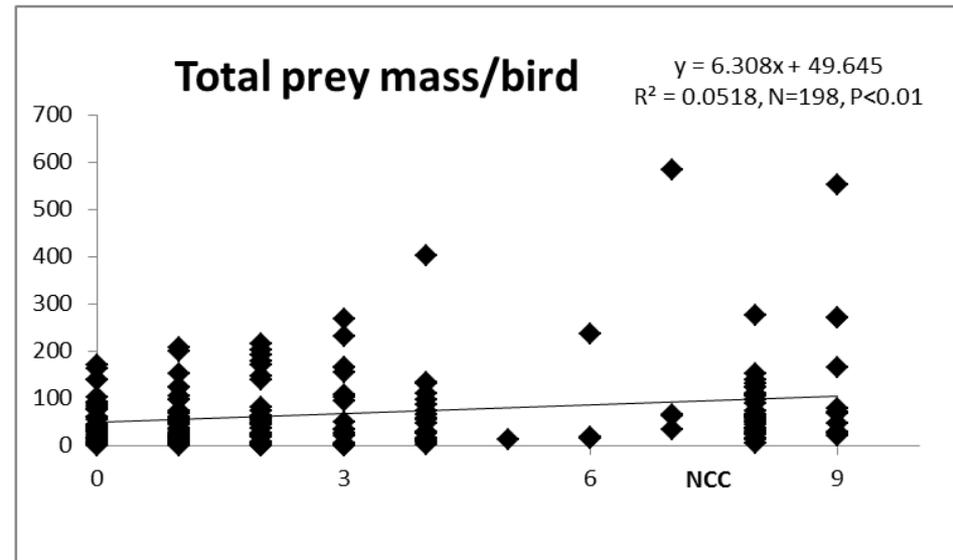
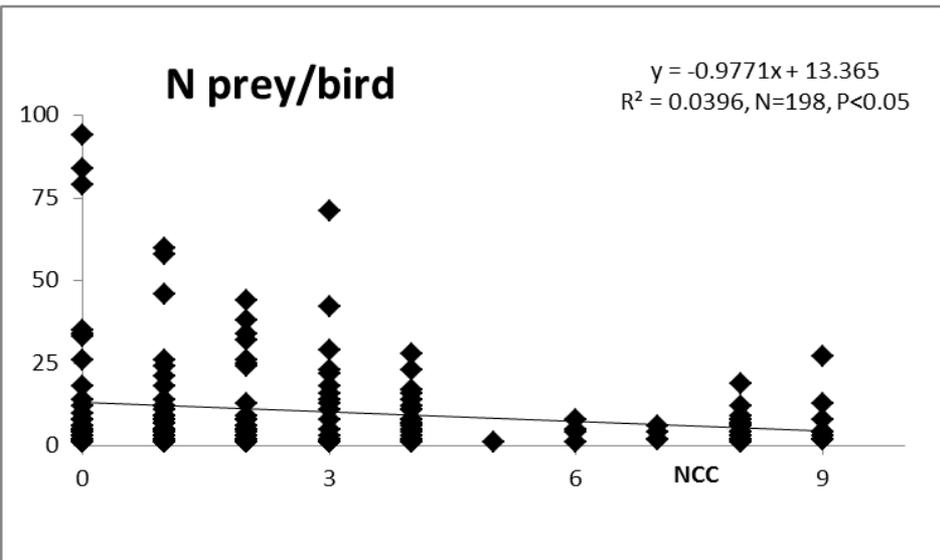
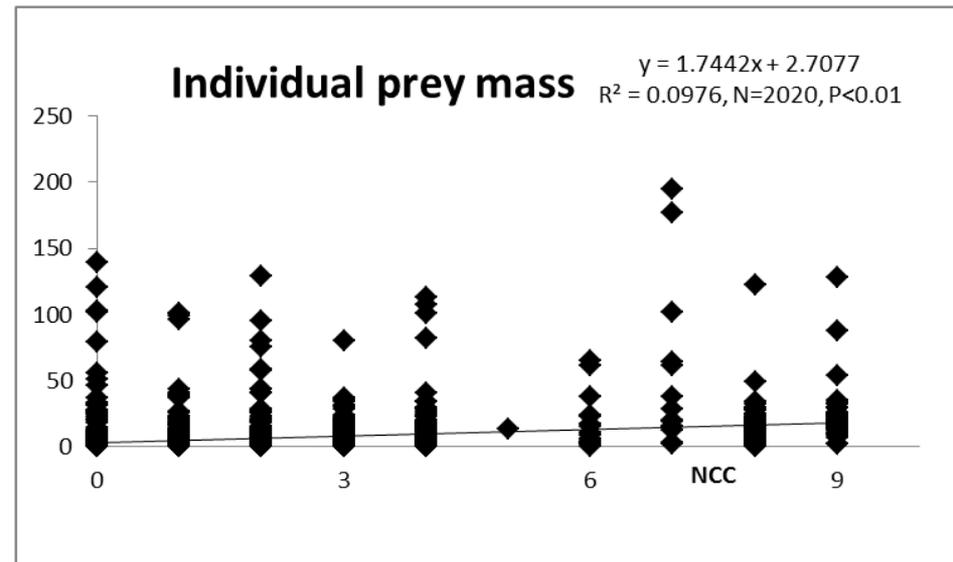
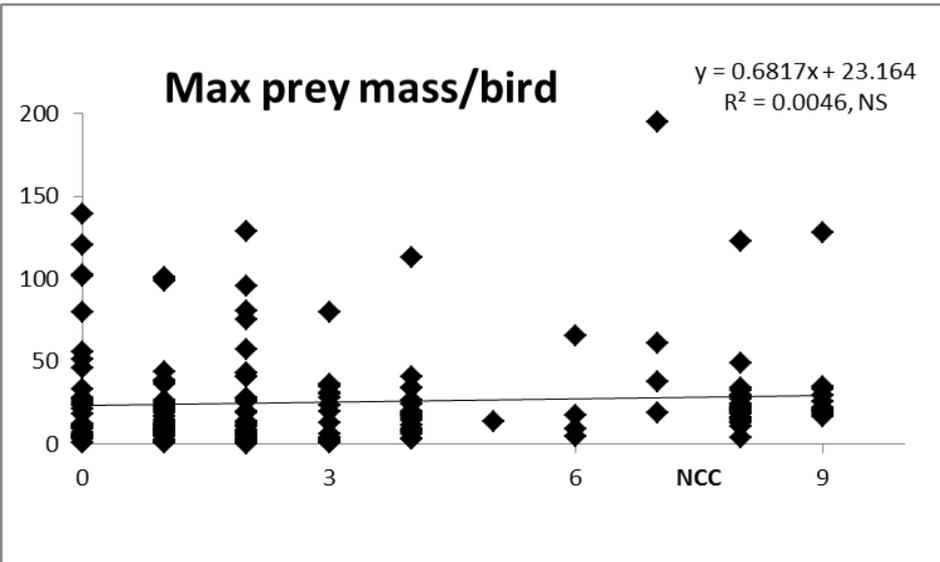


- Herring/Sprat
- 3 sp. Stickleb.
- 15 sp Stickleb
- sandeels
- gadoids
- gobies
- Smelt
- Bull-rout
- flatfish
- freshwater
- eel-shaped
- other

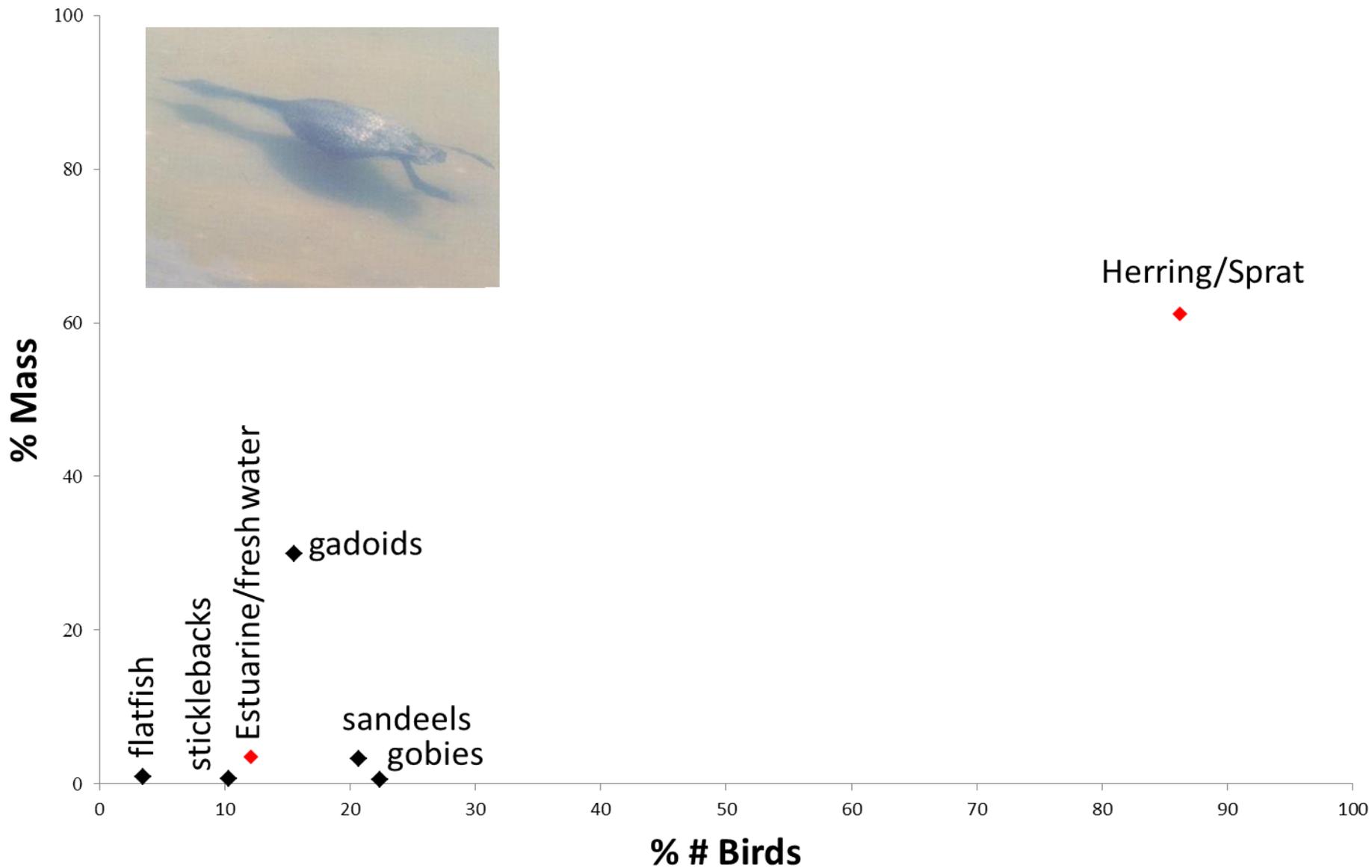




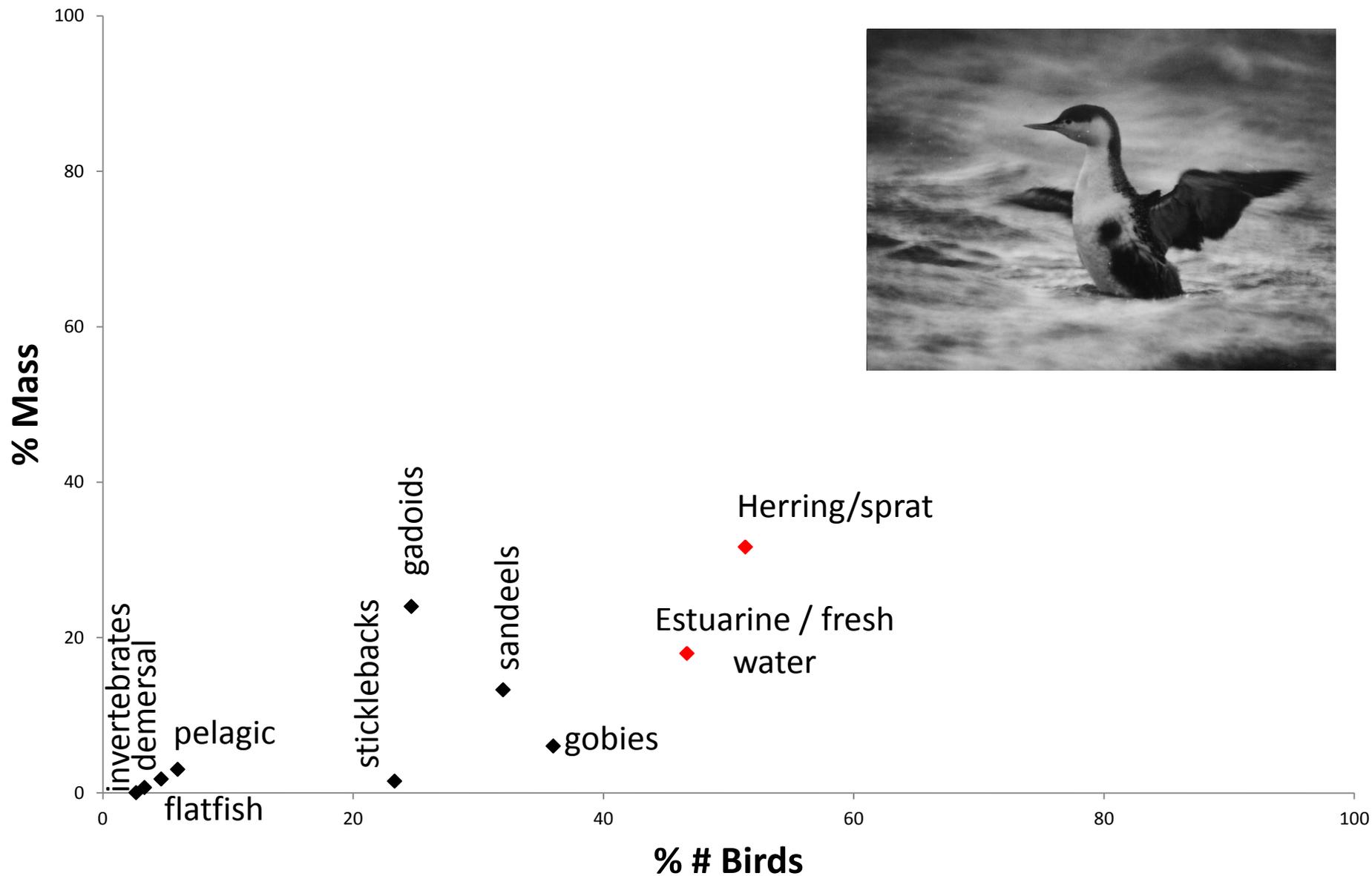
Prey mass vs body condition



Quick deaths (58 birds)



Slow deaths (150 birds)

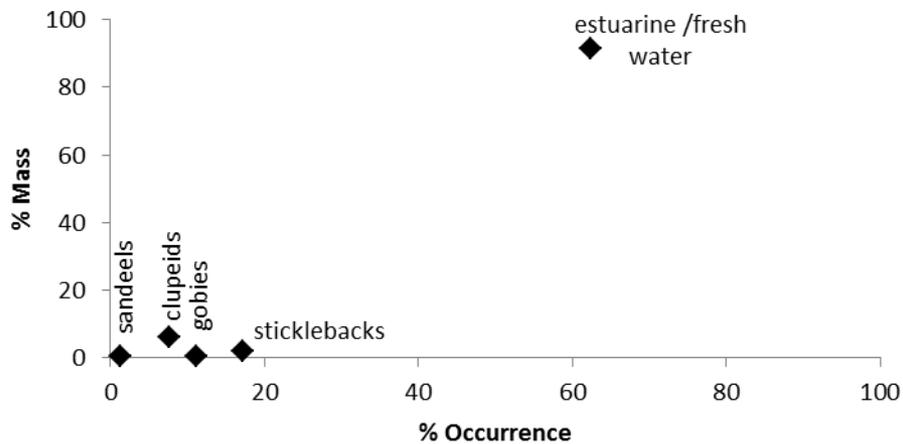




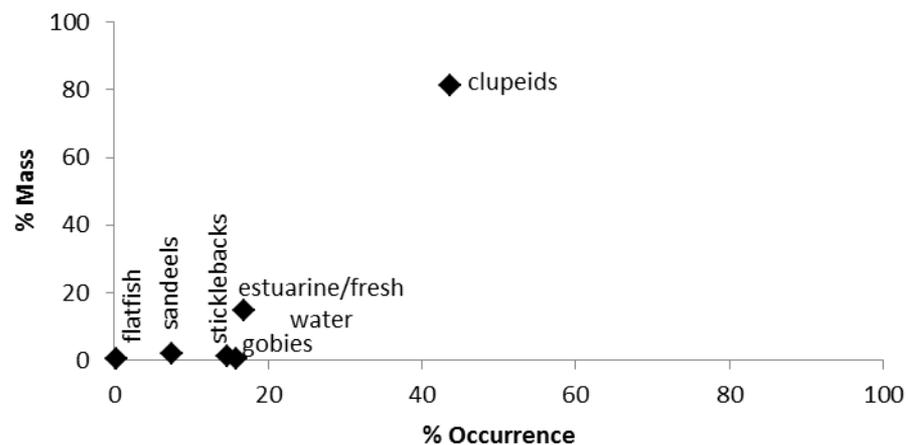
RKD 246



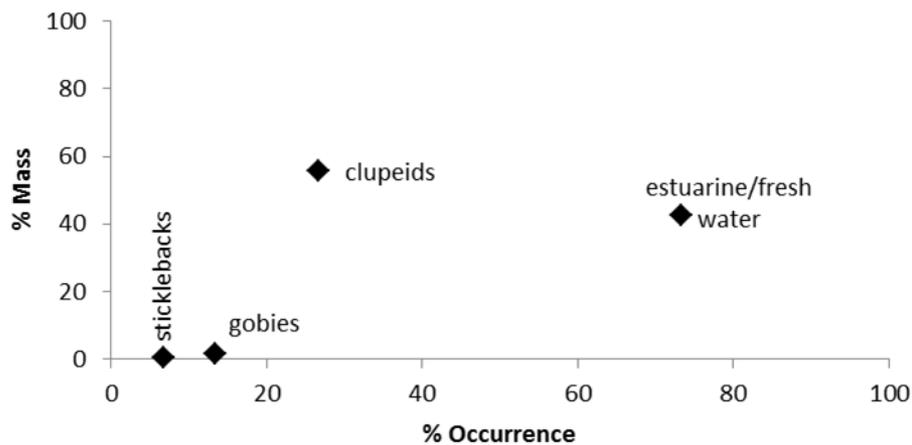
Pomarinean Bight-winter (set-nets)



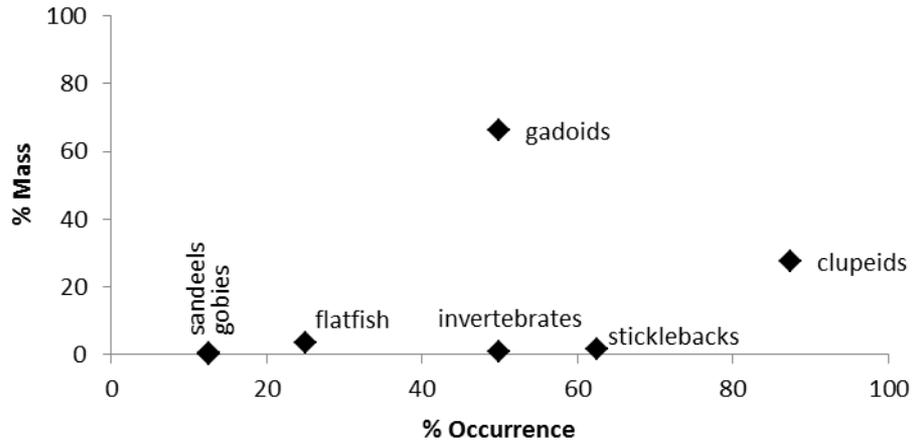
Pomarinean Bight-spring (set-nets)



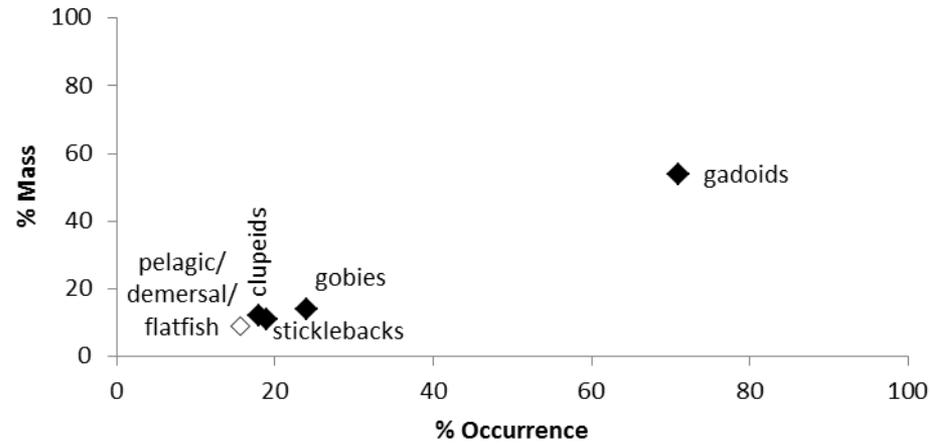
Baltic-Lithuania winter (Set-nets)



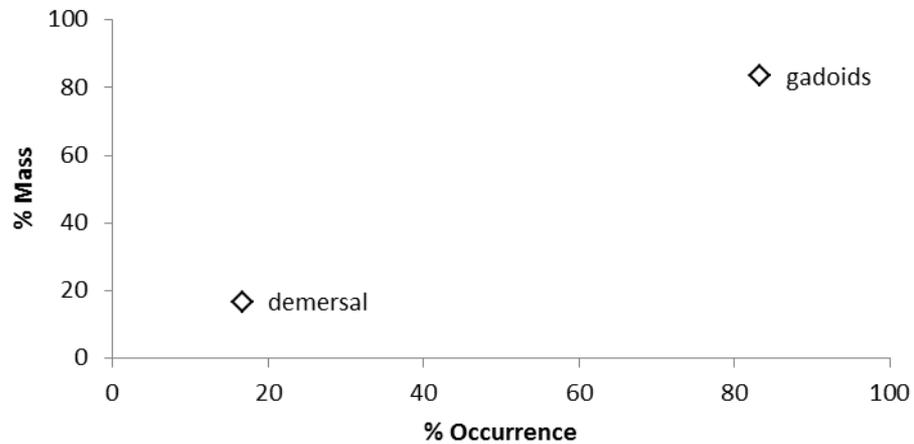
Danish North Sea winter (Set-nets)



Denmark (shot)



Sea Empress oil spill



Conclusions:

The Madsen study can be repeated without shooting birds
(but this needs patience)

Location, Season and Health status influence diet

“Healthy diet”: mix of fatty clupeids and larger gadoids

Oiled or sick birds relax prey preference and eat what they can get, often in calm waters. Less fatty clupeids, more small



Versitale foragers: will this help them in wind farms?



Where can they go?



Habituation?



Should divers learn to use wind farms,
we can actually see this happen

