

# Whole-gear efficiency of a benthic survey trawl for flatfish



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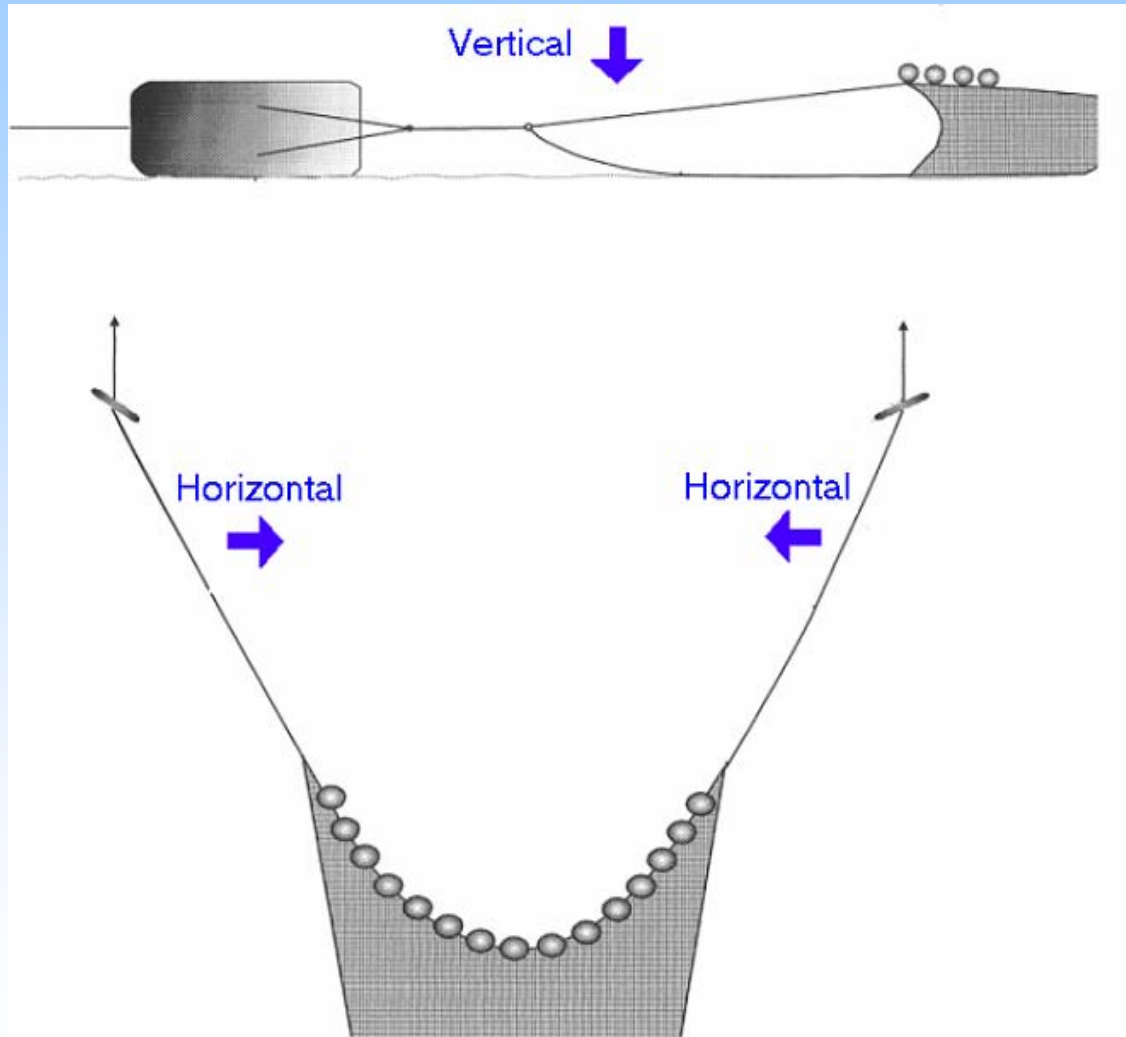
$$B = (1/q) U$$

For bottom trawl surveys

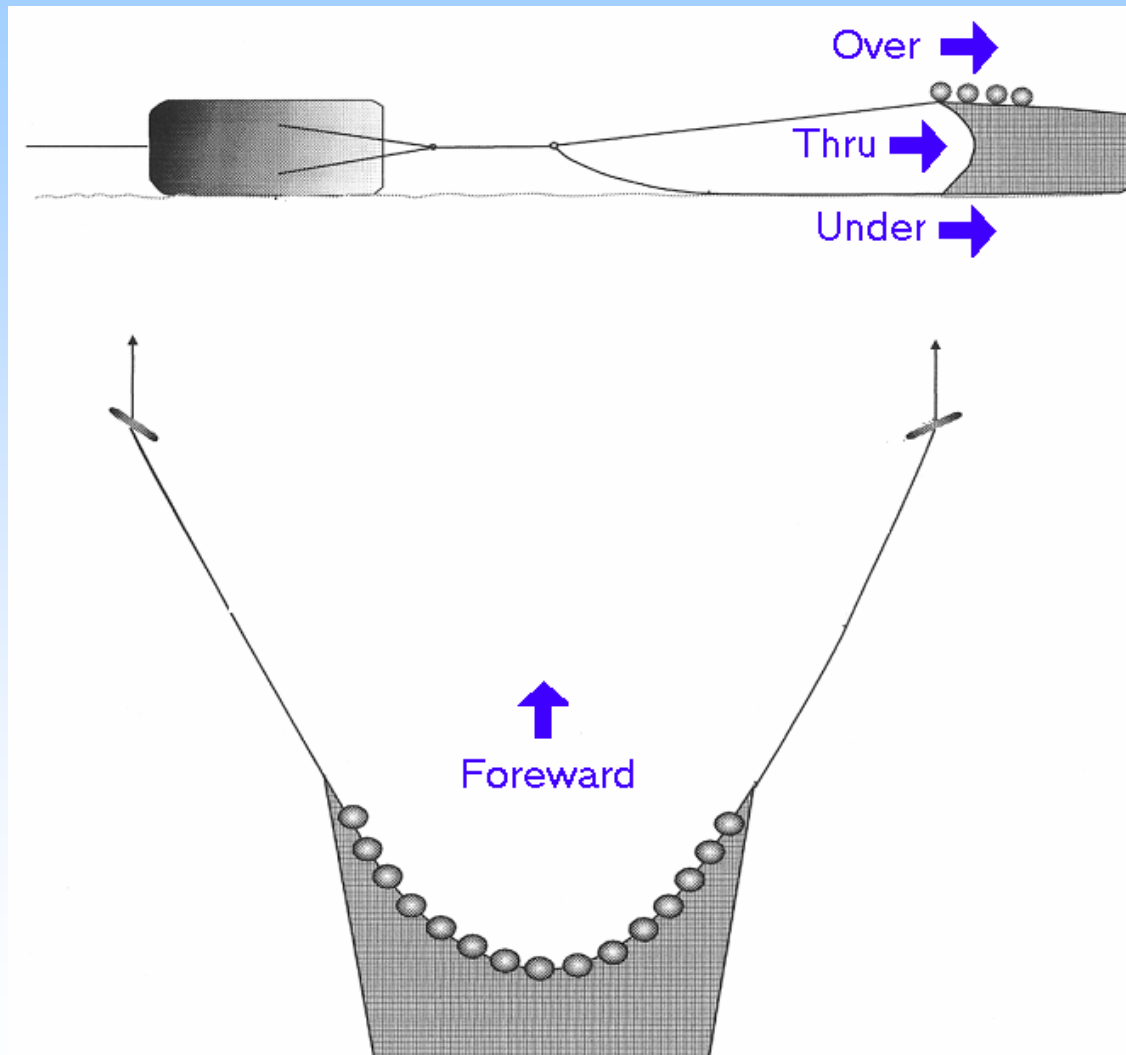
$$q = (\text{availability})(\text{efficiency})$$

# Fish catching processes

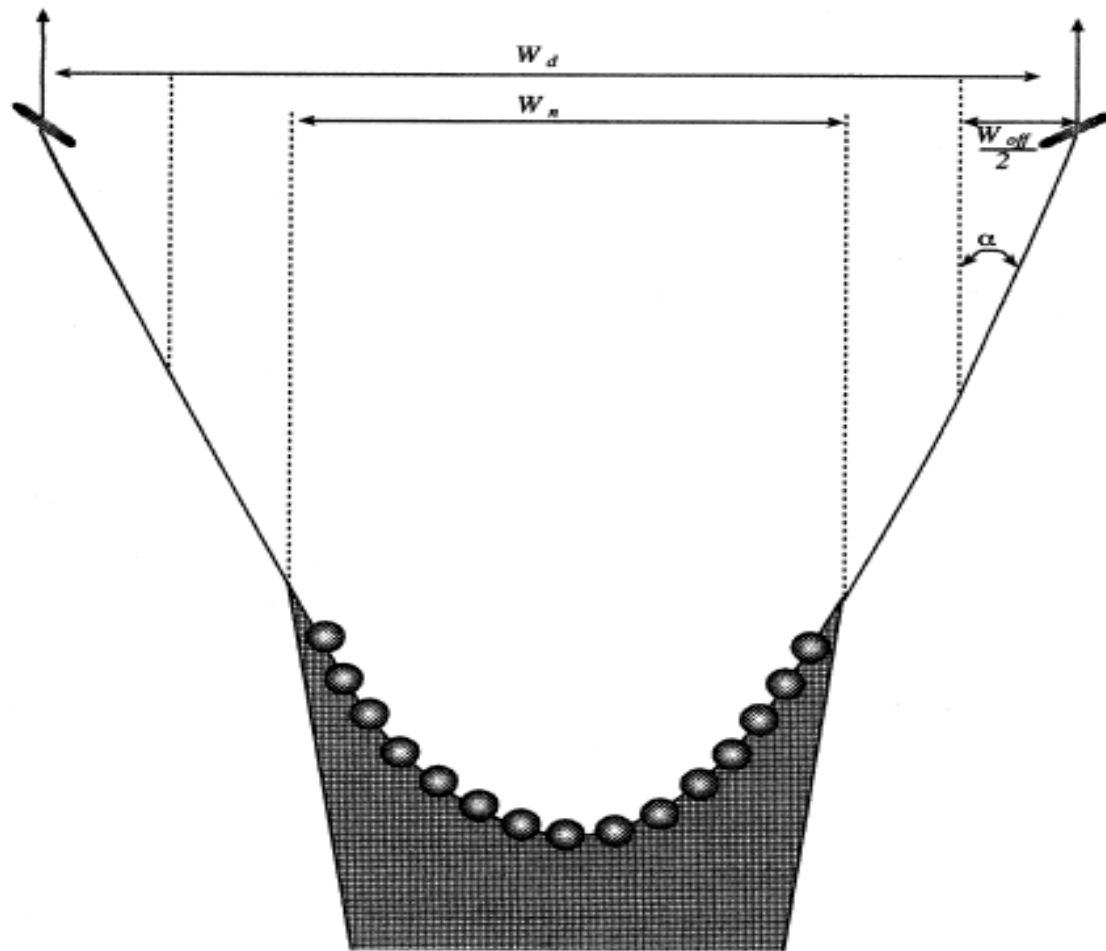
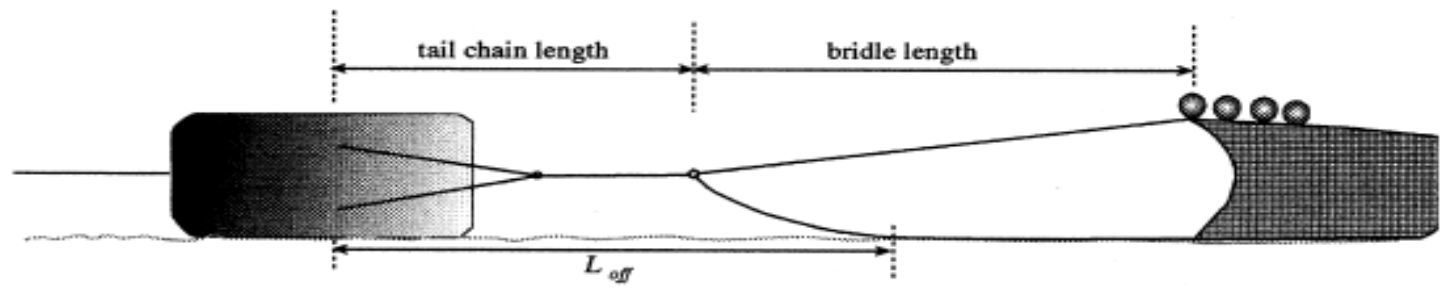
# Herding

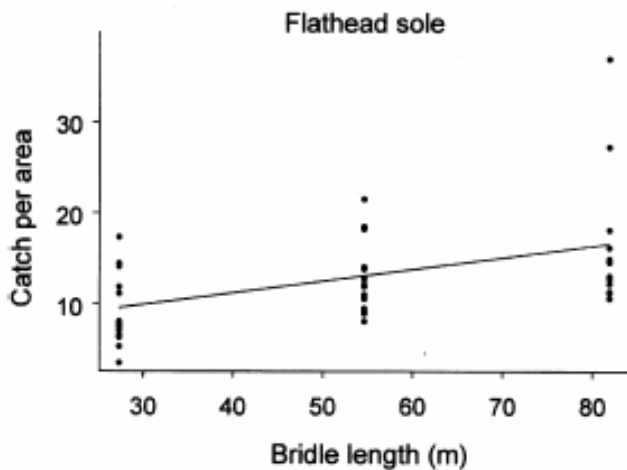
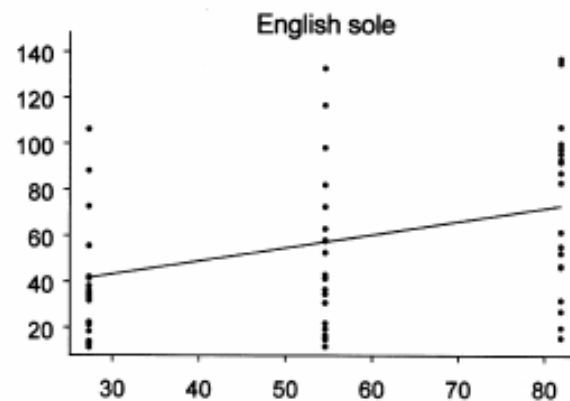
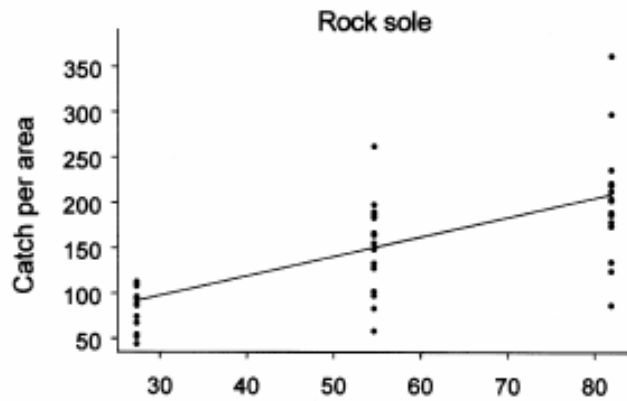
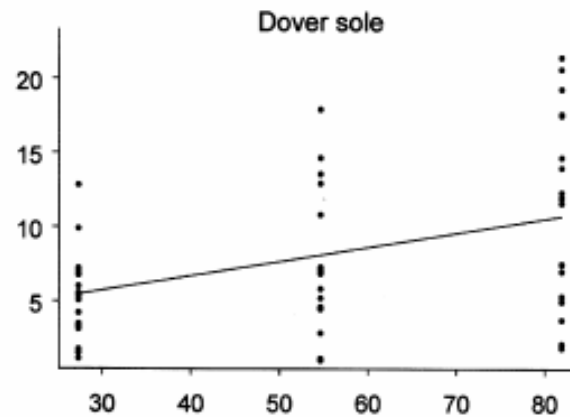
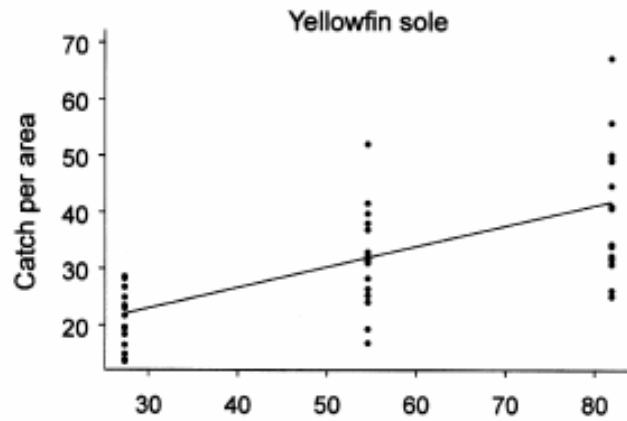


# Escapement



# Herding experiments

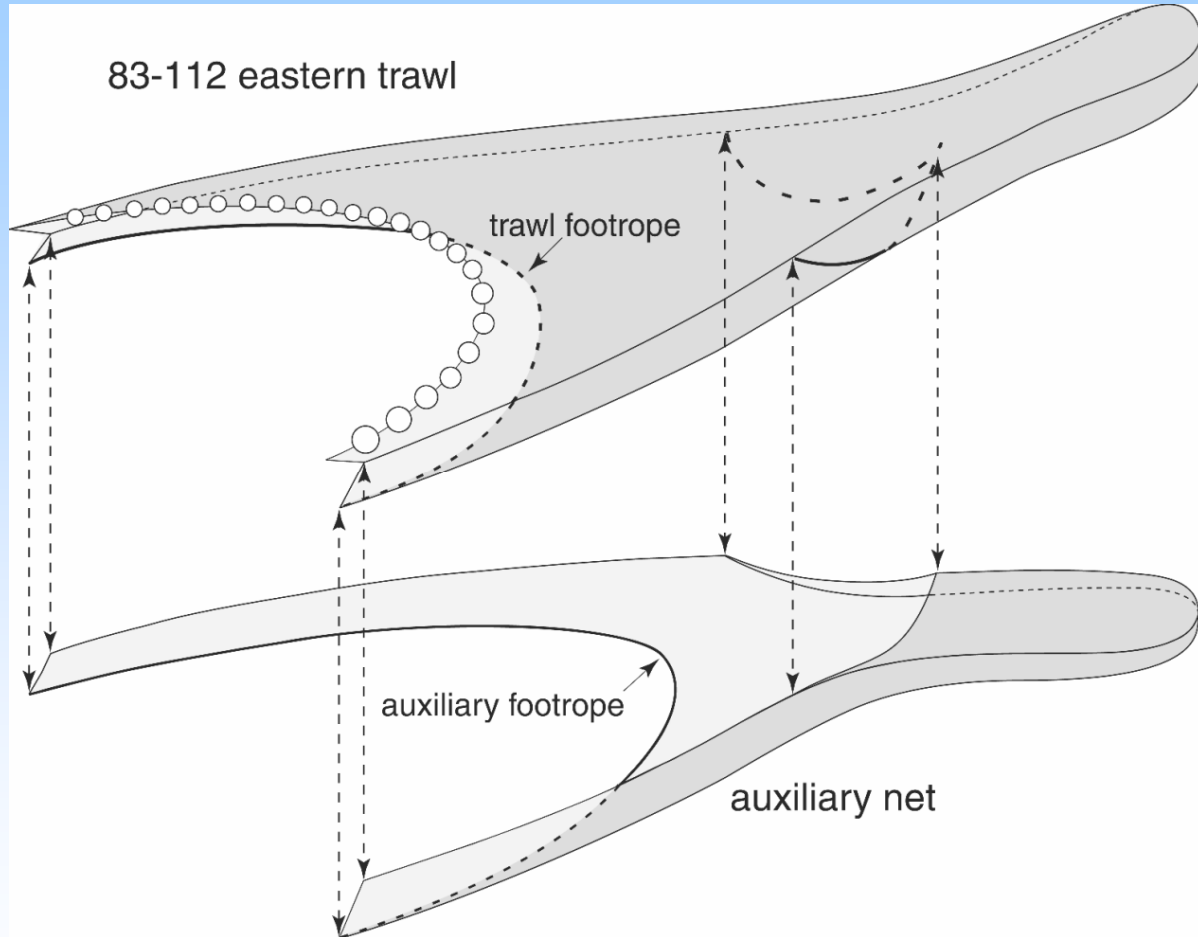


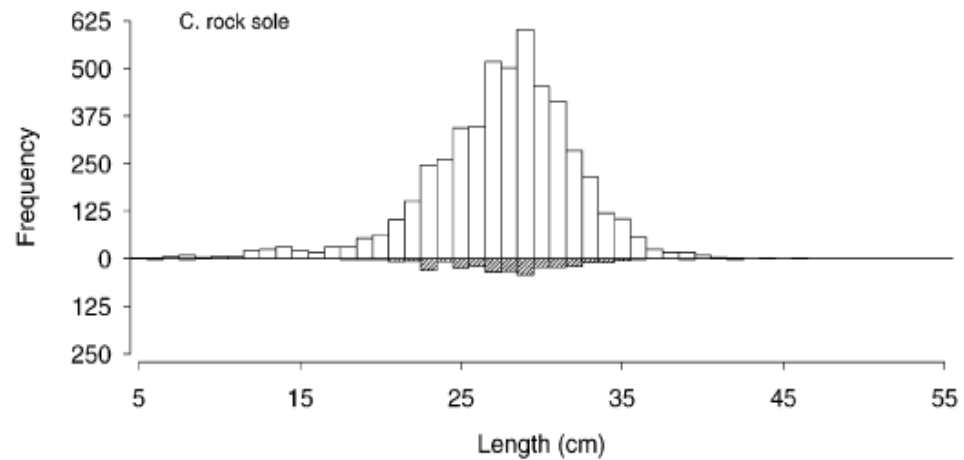
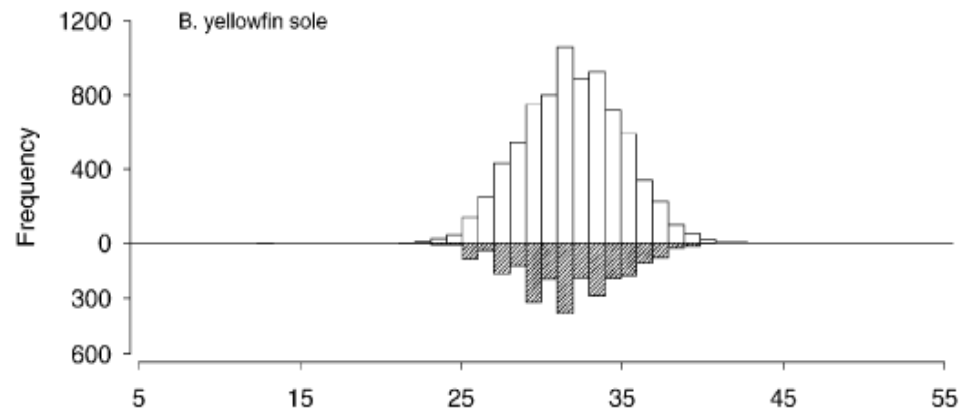
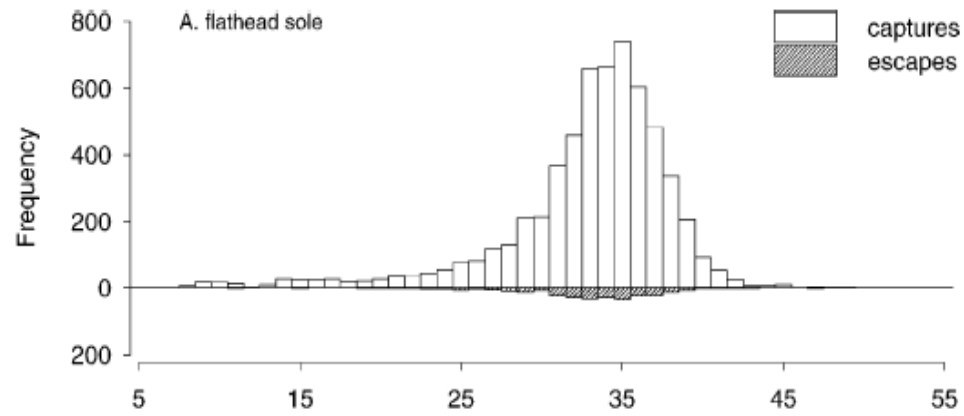




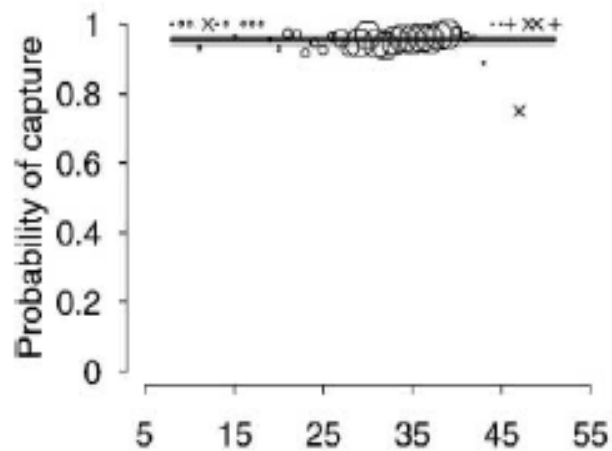
# Footrope escapement experiments

# 83-112 eastern trawl

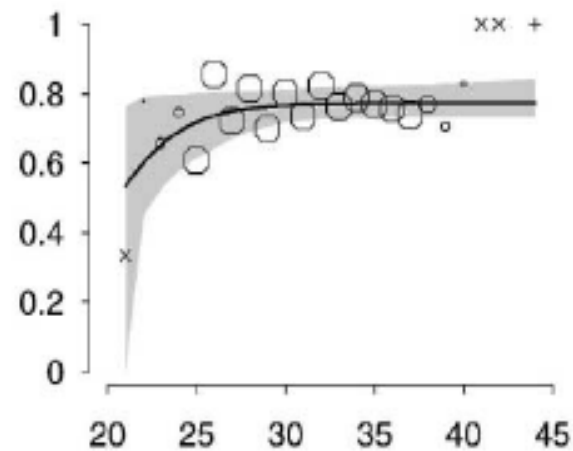




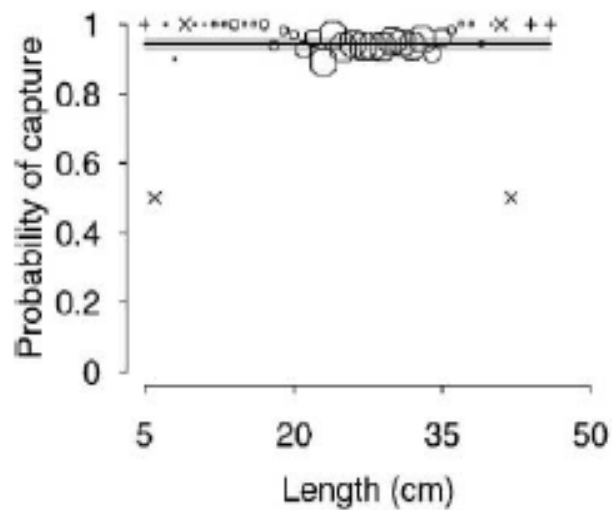
A. flathead sole



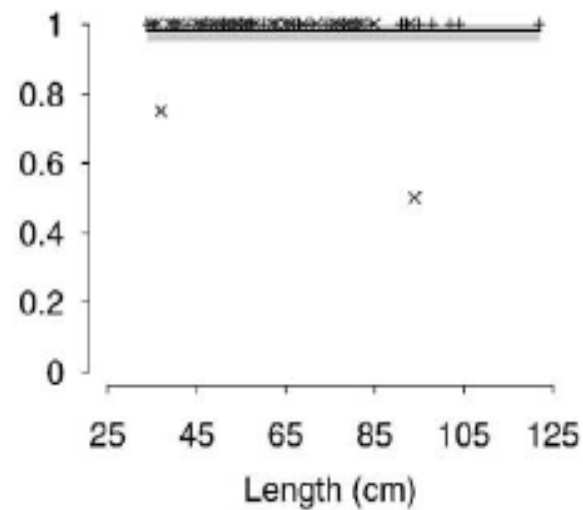
B. yellowfin sole



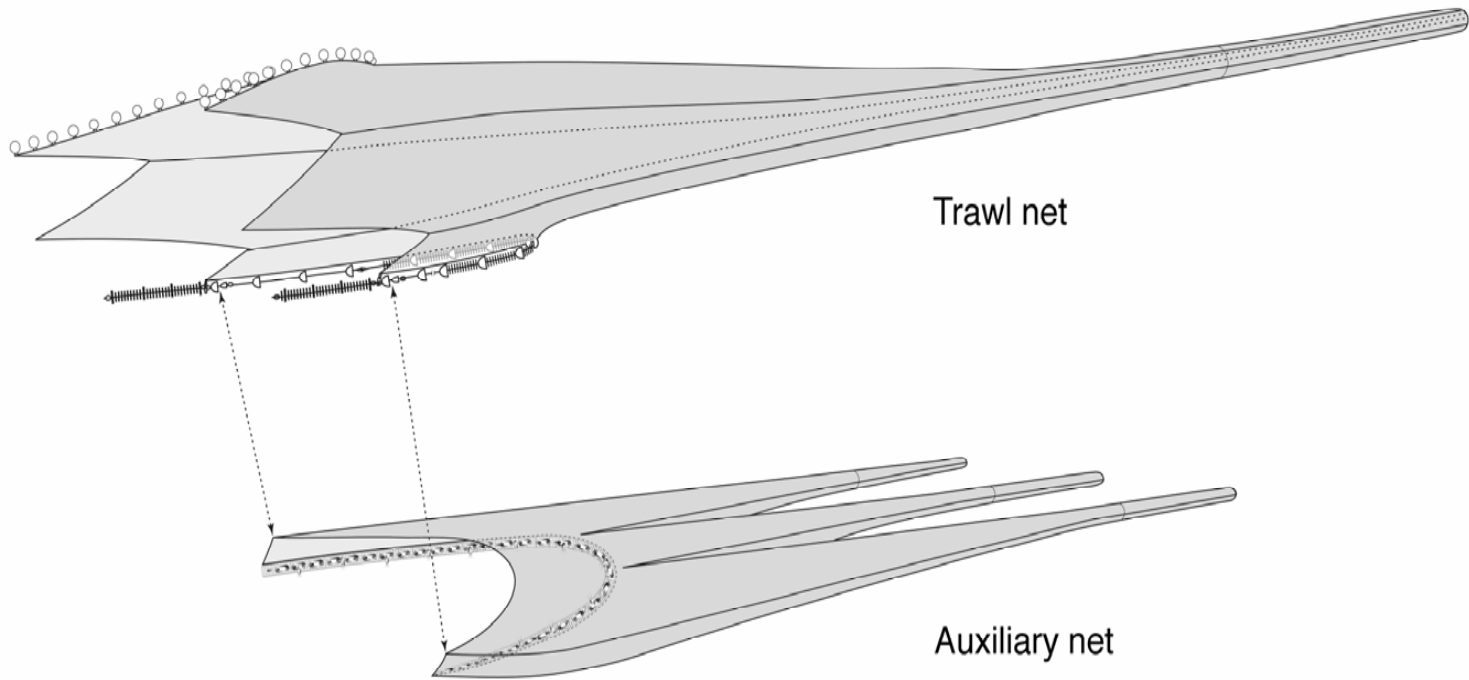
C. rock sole

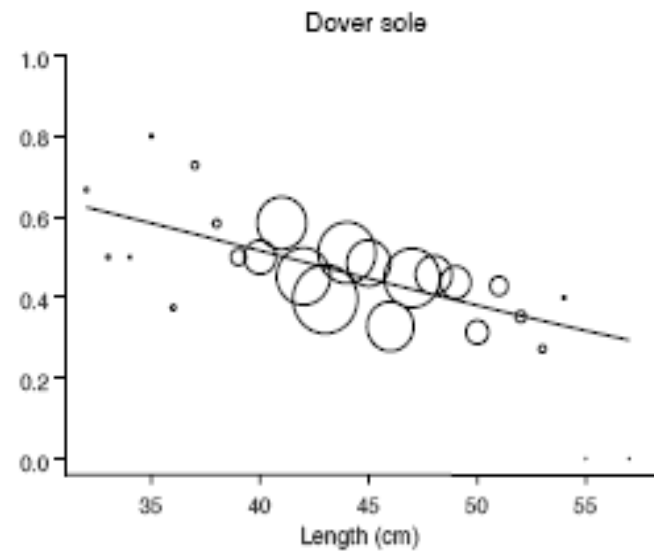
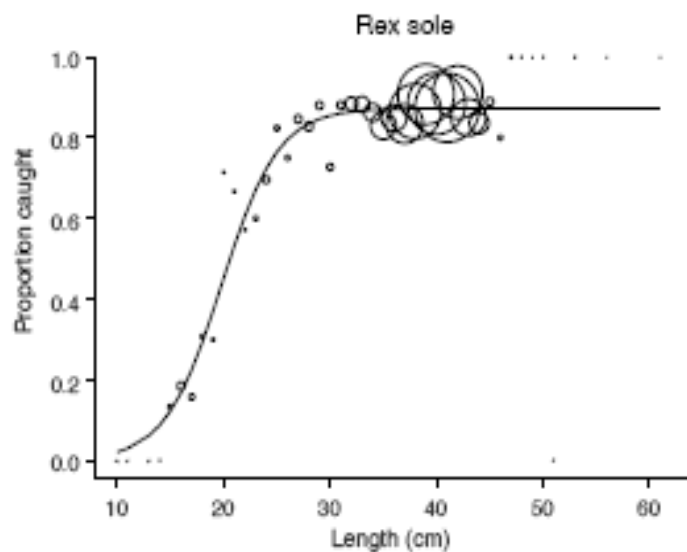
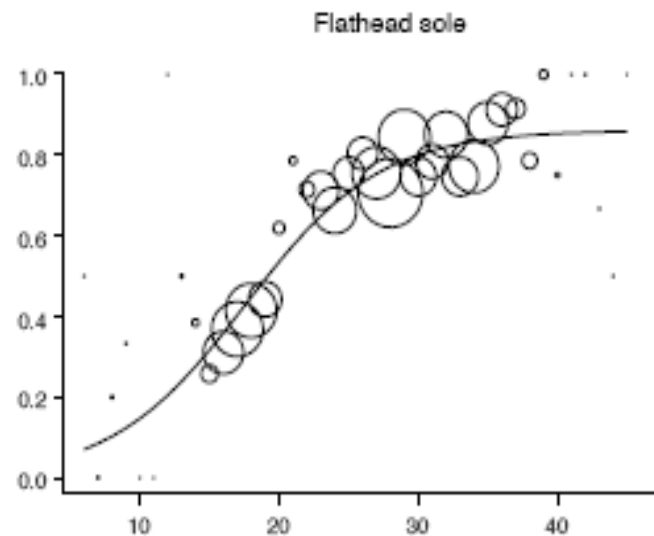
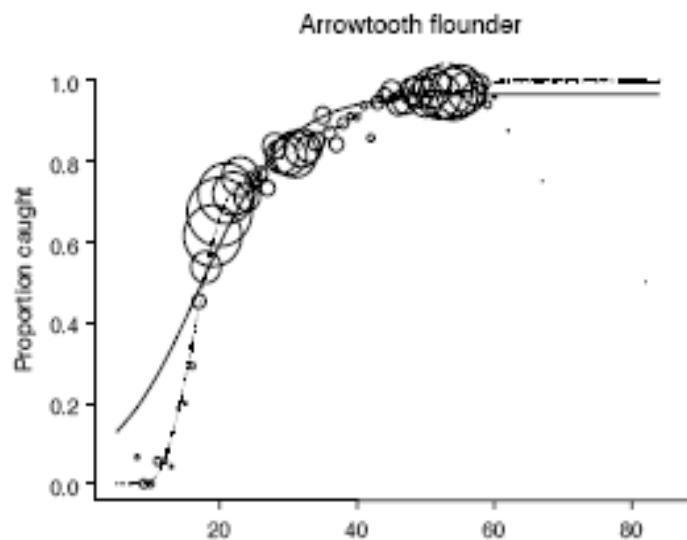


D. Pacific halibut

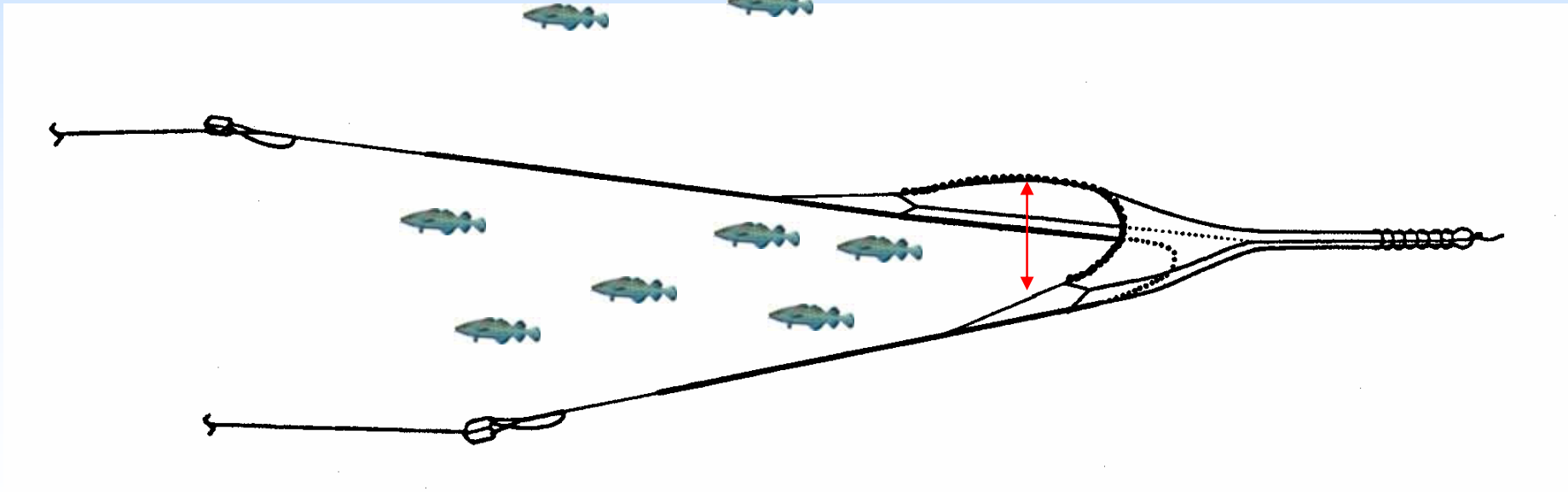


# Poly Nor' eastern trawl



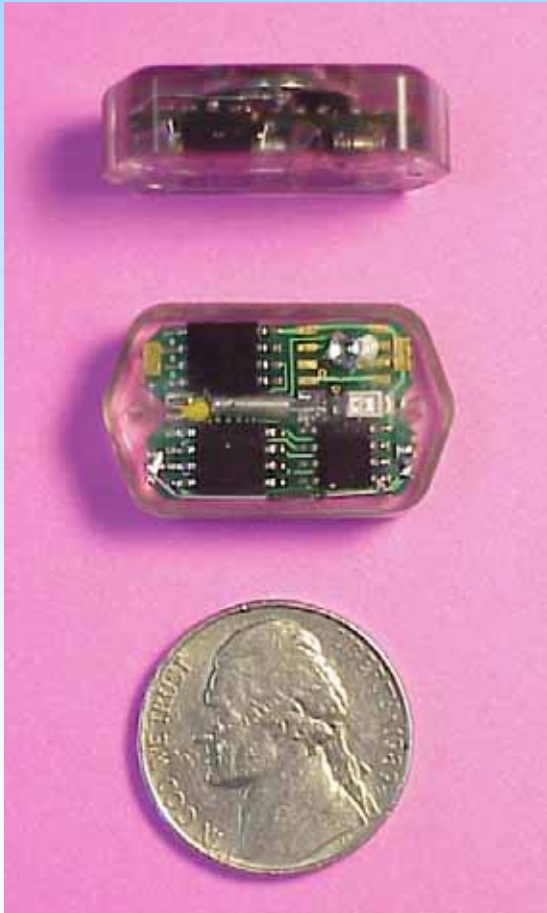


# Vertical availability





# AFSC archival tagging program



Whole-gear Trawl efficiency  
for the poly Nor'easter trawl

# Trawl efficiency model

$$E = \frac{k_n (W_n + hW_{on})}{W_d}$$

$k_n$  = net capture probability

$h$  = herding coefficient

$W_d$  = door width

$W_n$  = net width

$W_{on}$  = on bottom width

