

Assessing the immediate displacement effect of an interactive pinger on harbour porpoises (*Phocoena phocoena*) in the wild

Joanna Stenback

e-mail: joast167@student.liu.se

Final thesis. International Master Programme Applied Biology 2006
supervisor: Mats Amundin



Harbour porpoise populations are threatened by high levels of by-catch in fishing nets.

Traditional AQUAmark 100™

Reduce by-catch **but** emit high frequency displacement sounds *continuously*

Negative effects: disturbance, habituation, habitat exclusion

New AQ626 Interactive pinger

vs.

Displacement sounds emitted *only when activated by porpoise sonar, i.e. only when porpoises are in the area*

Alerting sounds *stimulate echolocation* to increase chance of activation

Reduces negative effects

How do harbour porpoises react to sounds of the interactive pinger?

The sounds seem to increase the porpoises' awareness, rather than displace them from the area



We tested both pinger types in a simulated fishery situation with an array of four pingers



Porpoises *stayed long* under the surface and *explored the interactive pinger acoustically* with its sonar

In the next dive they *swam away* (positive value) a shorter distance from the interactive pinger

Interestingly, they passed the array more often when the by-catch reducing AQUAmark pinger was deployed (*Fishers' exact test, P=0.049*)

