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



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The problem. High numbers of harbour porpoises get entangled in fishing nets and drown every year. This unintentional by-catch threatens the sustainability and the survival of many porpoise populations.

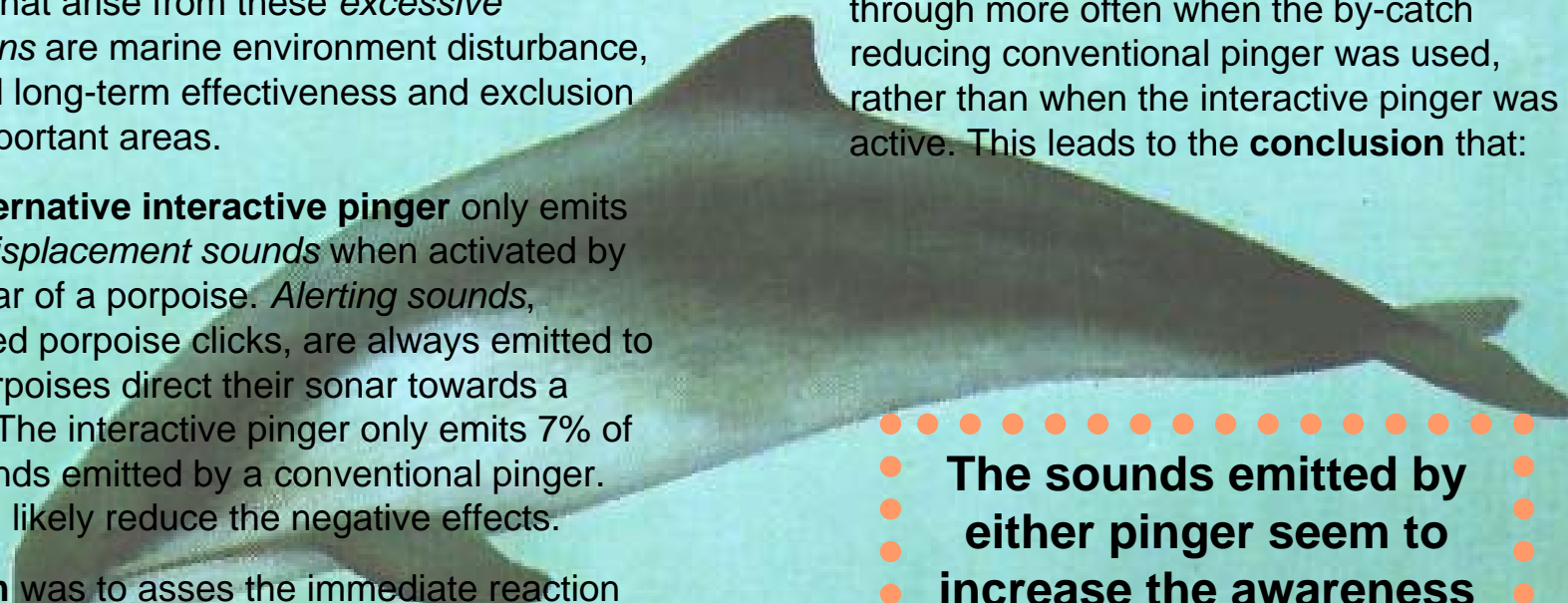
Conventional pingers reduce by-catch and are mandatory in several countries. Porpoises seem to avoid the *continuously* emitted high frequency *displacement sounds*. *Negative effects* that arise from these *excessive emissions* are marine environment disturbance, reduced long-term effectiveness and exclusion from important areas.

The alternative interactive pinger only emits these *displacement sounds* when activated by the sonar of a porpoise. *Alerting sounds*, simulated porpoise clicks, are always emitted to help porpoises direct their sonar towards a pinger. The interactive pinger only emits 7% of the sounds emitted by a conventional pinger. This will likely reduce the negative effects.

The aim was to assess the immediate reaction of porpoises to interactive pinger sounds in a simulated fishery situation, and the general behaviour of porpoises when subjected to arrays of either conventional AQUAmark 100TM or AQ626 Interactive pingers.

Four pingers were deployed in array straight out from the coast. When subjected to the first displacement sound, porpoises stayed below the surface and *explored the pinger acoustically* with its sonar, and then *swam away* a shorter distance.

Neither pinger stopped porpoises from passing *in between pingers*. It was both surprising and interesting that they passed through more often when the by-catch reducing conventional pinger was used, rather than when the interactive pinger was active. This leads to the **conclusion** that:



The sounds emitted by either pinger seem to increase the awareness of the presence and location of nets, rather than displace porpoises.