Do operating offshore wind farms affect harbour porpoises (*Phocoena phocoena*)?

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**Summary**

The study shows that operating offshore wind farms do not displace harbour porpoises from natural habitats. However, under some circumstances, which need further investigations, porpoises may be attracted by the foundations, which form artificial reefs and may provide additional food to marine predators.

**Introduction**

Several large wind farms have been constructed in the North Sea and the Baltic Sea. However, little is known on how local populations of harbour porpoises respond to these new offshore structures. Since noise from operating turbines is audible for porpoises only up to a distance of a few hundred meters (Madsen et al. 2005), only small scale effects are expected. We conducted a two-year study on the impact of operating offshore wind farms on the distribution and behavior of harbour porpoises in the Danish North and Baltic Sea using acoustic data-loggers (T-PODs).

**Method**

In order to detect spatial differences in echolocation activity of harbour porpoises related to the wind farm, a total of ten T-PODs were deployed at each wind farm site. They were distributed along two transects starting inside the wind farm and ending outside of it, with different distances to the single turbines. Transects were changed in intervals of nine weeks. In total we achieved ten independent experiments. For analysis the data of the two PODs outside the wind farm were pooled and compared to the results of the two innermost T-PODs.

**Results (1)**

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<thead>
<tr>
<th>Study areas:</th>
<th>Deployment of T-PODs:</th>
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<tr>
<td>North Sea:</td>
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<td>Baltic Sea:</td>
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**Results (2)**

**Discussion**

While - amongst others - wind speed showed a significant correlation with the number of porpoise recordings, no effect from wind farms under operation on the distribution of harbour porpoises could be proved on a daily basis.