

THE EFFECTS OF PILING ON PELAGIC FISH COMMUNITIES USING BOTTOM MOORED ECHOSOUNDERS

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The number of offshore wind turbines in the Southern North Sea is expected to increase substantially in the coming years, due to the increased effort by EU countries. Since the beginning of the offshore wind farm construction, concerns have been raised on the impact of construction noise on marine fauna. A multitude of studies have been published on this topic and it is apparent that one group is underrepresented, namely the pelagic fish. Wild ranging pelagic fish can be observed using bottom moored scientific echosounders. Fish biomass can be derived with the 70 kHz transducer, while the 200 kHz split-beam transducer provides more detail on the fish behaviour. Number of fish schools, depth of the fish schools, fish school size can be derived from these sensors. Four sets were deployed during construction work in two offshore wind farms in The Netherlands. Consequently, the four echosounder sets could sample pelagic fish during the installation of more than 30 monopiles, grasping the effects at different distances to the sound source. The underwater sound was simultaneously recorded on each of the four multi-purpose mooring. This study will elaborate on the scientific method used to assess the impact of pile driving at different distances to the sound source on pelagic fish behaviour and will provide preliminary results on the effects of pile driving on the pelagic fish communities.