MONITORING AMBIENT NOISE FOR THE MARINE STRATEGY FRAMEWORK DIRECTIVE

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Studies indicate that levels of ambient noise have been increasing over the least decades mainly due to increased shipping. Elevated levels of ambient noise could mask biologically relevant signals such as communication calls of marine mammals and fish. They could also affect the ‘acoustic scene' that fish and marine mammals potentially use when navigating. It has further been suggested that rising levels of ambient noise could induce stress which in turn could affect the health of exposed organisms. Although the problem of increasing ambient noise has been identified as a key issue for the marine environment, little tools for managing the problem from a policy perspective have been available. This has changed recently with the EU Marine Framework Strategy Directive (MSFD) which aims to protect the marine environment across Europe. The MSFD sets out eleven high level descriptors of Good Environmental Status (GES). Descriptor 11 states that the 'Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.' Continuous low frequency sound has been identified by the MSFD as one indicator for measuring good environmental status and member states are asked to provide information on trends in ambient noise levels measured by observation stations. However, baseline information in most regions is not readily available and the methodology for measuring ambient noise is also still in its infancy. It is therefore a challenge to implement the requirements of the Directive. Here, an overview of the technical challenges to implement the ambient noise indicator of the MSFD is given. Appropriate devices will be reviewed and existing studies suitable for providing baseline ambient noise measurements are discussed. Some suggestions for the analysis of the data will also be provided. Finally, further research necessary to implement the ambient noise indicator will be identified.