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Individual Stress Level Analyses (ISLA) communicate impact of spatial management options on national or local fisheries communities to decision makers.

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Individual Stress Level Analyses (ISLA) are performed for three management options in the exclusive economic zones (EEZs) and with the fleets of the Netherlands, Germany and Denmark. ISLA comprises the small scale estimation of fishing effort, catch or revenues for a grid of 0.05° c-squares (1.5 nm x 3 nm). By estimating the revenue and potential loss per individual vessel from future area closures for the fisheries (e.g. wind farms or nature conservation sites, the stress per vessel can be aggregated to 'stress level' profiles of national fleets, areas or harbours. These figures can easily be communicated to decision makers and other stakeholders to inform about the potential outcome of management options. ISLA allows for analysing sensitive industry data and communication of results in an anonymous way, enabling a discussion in the public.
In our study we tested three scenarios with the implementation of different area closures in the three EEZs: a) Natura 2000 sites as discussed in the Scheveningen group; b) wind farms installations as presently under consideration; and c) a combination of a) and b). Included were all vessels with fishing effort in the North Sea. The results show that future development of nature conservation issues and the energy sector in the North Sea can be expected to have different impact on the Dutch, German and Danish fisheries sectors. The relationship between the stress levels and the differences in characteristics as well as fishing behaviour of the national fleets will be presented.

Keywords: Fishing effort, spatial management options, loss of fishing grounds, fisheries revenues

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