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Ecosystem status assessment: one step at a time!

The goal of the Marine Strategy Framework Directive is an integrated, regional ecosystem status assessment. That is a major challenge with a large number of hurdles. In this contribution, I want to illustrate the essential steps in this process, with the North Sea benthic ecosystem as an example. The first step is to determine appropriate strata (units) for the status assessment and related monitoring within a region. The units are ideally based on the environmental drivers triggering the co-occurrence and habitat demarcation of different ecosystem components (cf. North Sea ATLANTIS model). The second step is the regional data gathering, which should be collected in an efficient way. Therefore, the effort should be distributed across the strata, taking into account the variance of the benthic characteristics and the size of the strata. Such a sampling program can 'harvest' from existing or adapted national and environmental impact assessment monitoring programs. In a third step, a set of indicators with complementary properties (structural and functional) has to be chosen to effectively assess the ecosystem and to support the decision-making process. Although a wide variety of benthic related indicators already exist, picking the right ones is still a major challenge. Since there are so many possible configurations, harmonization and intercalibration is unavoidable. Additionally, setting an appropriate threshold against major pressures is an equally complicated business. Finally, this assessment should lead to an appropriate management plan for the region. So there are different steps and each step faces its own challenges. To reach this, further strengthening of the regional coordination is needed.

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