



H2020

TOOLS IMPLEMENTATION EXAMPLE



Where

North Sea in German EEZ

Issue type(s):

Conflicts with other sectors, economic, policy and management.

Specific Issue:

Authorisation procedures for aquaculture licensing complex while facing an unknown potential of risk and conflict.

Case study:

10. North Sea, Germany

Objective:

Identification of opportunities for the development of offshore aquaculture industry (finfish production) within wind farm energy areas and evaluation of risks and opportunities for an increase of existing aquaculture production nearshore (mussel production; longlines).

Tool(s):

AquaSpace Tool.

How tool(s) has/have been implemented:

AquaSpace tool was implemented to allow for an integrated assessment and mapping of 30 indicators reflecting economic, environmental, inter-sectorial and socio-cultural risks and opportunities for proposed aquaculture systems and to assess trade-offs of aquaculture as a new economic activity and its impact in local communities and other existing activities.

Results:

The computation of these aquaculture planning scenarios and the assessment of their trade-offs showed that it is entirely possible to identify aquaculture sites, that correspondent to multifarious potential challenges, for instance by a low conflict potential, a low risk of disease spread, a comparable high economic profit and a low impact on touristic attractions as in the case for European seabass. A transparent visualisation of risks and opportunities of aquaculture planning scenarios helps an effective Marine Spatial Planning (MSP) process, supports the licensing process and simplifies investments and thus, space optimisation and diversification of maritime activities in the area. The integrated assessment of trade-offs permitted the analysis of other sites surrounding the site selected in which aquaculture could be established or expanded.



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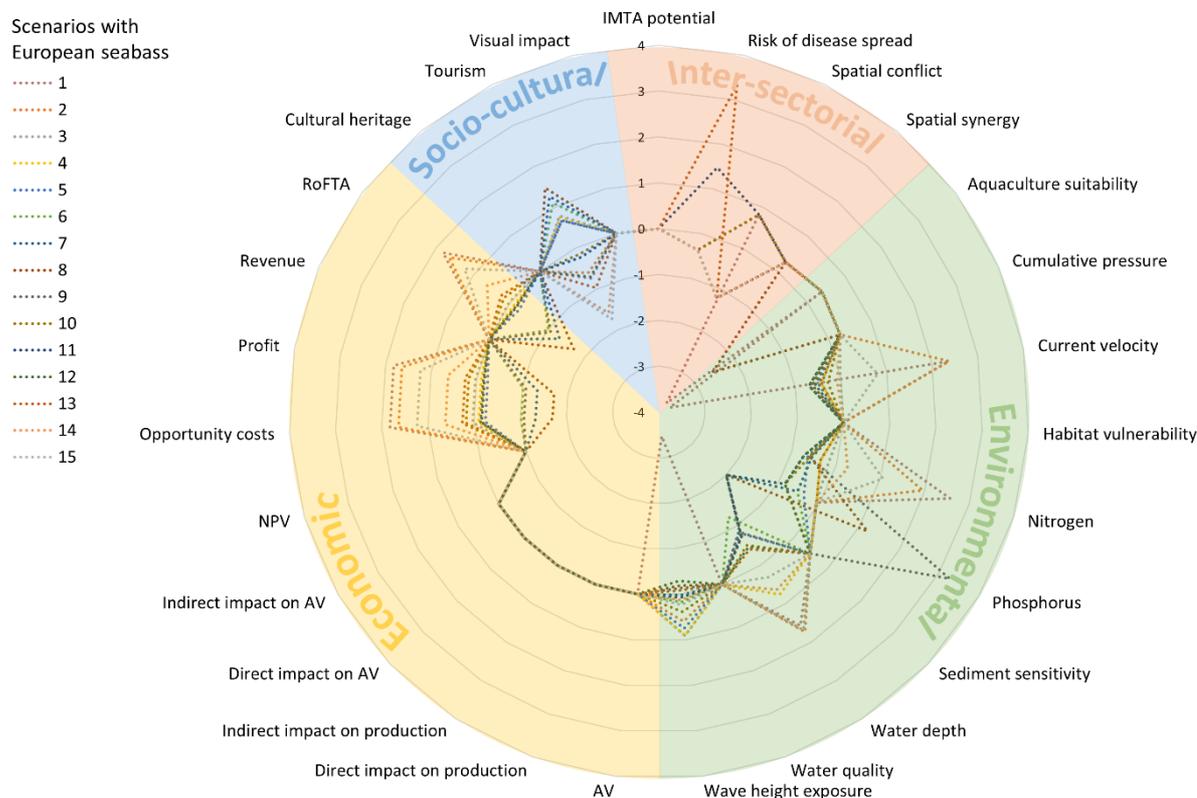


Figure 1: Wheel diagram output from AquaSpaceTool, allowing comparison of scenarios in terms of z-scores for each indicator

Links:

AquaSpace D4.2 at aquaspace-h2020.eu on Library/Reports page

Aquaspace D3.3 (tool handbook) at aquaspace-h2020.eu on Library/Reports page

AquaSpace Masters Module unit 5 at aquaspace-h2020.eu on Masters Module page

Reference

Gimpel, A., V. Stelzenmüller, S. Töpsch, I. Galparsoro, M. Gubbins, D. Miller, . . . R. Watret (2018). A GIS-based tool for an integrated assessment of spatial planning tradeoffs with aquaculture. *Science of the Total Environment*, 12. doi: <https://doi.org/10.1016/j.scitotenv.2018.01.133>

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