



H2020

TOOLS IMPLEMENTATION EXAMPLE



Where

Sanggou Bay, China

Issue type(s):

Conflicts with other sectors, ecological, economic, policy and management.

Specific Issue:

Aquaculture is a traditional activity in this bay area. But in recent years, with the rapid growth of ocean economy and urban development, there are more and more severe conflicts between aquaculture and other sea uses (i.e. MPA and tourism).

Case study:

13. Sanggou Bay, P.R. China (case study includes Zhangzidao Island)

Objective:

Optimize aquaculture sea use, evaluate carrying capacity, improve efficiency and benefit, and harmonize coexistence of aquaculture with all other sea use activities.

Tool(s):

A web-based Aquaculture Planning Decision Support System (APDSS) that integrates Hydrodynamic model (FVCOM), GIS multicriteria analysis (ArcGIS) and Dynamic Energy Budget Model.

How tool(s) has/have been implemented:

APDSS is an integration of tools, including the GIS, hydrodynamic and DEB model.

Hydrodynamic modelling based on climatological data for wave, wind and current speeds was used to calculate the ecological conditions for aquaculture, and for zoning of the aquaculture water.

GIS multicriteria analysis is applied for site identification according to technical requirements for installing the cultivation infrastructures. Site selection was finally done by integrating other constraints (tourism sites, harbour, navigation routes, MPAs and special conservation areas for aquatic germplasm, etc.), legislation and assessment of conflict of sea use.

Results:

This process allowed the assessment and analysis of opportunities for the coexistence of all sea use activities in this bay, and thus, space optimisation and diversification of maritime activities in the area. The optimization of a particular farm or the aquaculture site will be conducted by readjusting the layout, density or aquaculture species. The integrated assessment of trade-offs permitted the analysis of other sites surrounding the site selected in which aquaculture could be established.



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Links:

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

Reference

NA

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Implementation factsheet from Aquaspace toolbox. aquaspace-h2020.eu/