

# Securing Water Framework Directive compliance in Denmark

Applying mechanistic modelling to ensure good ecological status in marine coastal waters

© Shutterstock / Divedog



Scientific robust tools for essential stakeholder communication



More than 95% of all marine water bodies covered by one solution



Data to support Water Framework Directive implementation

## Challenge

There is a delicate border between protection and exploitation of the marine environment. The Water Framework Directive (WFD) dictates targets that aim at protecting marine ecosystems to benefit present and future generations. However, these targets may potentially impact agriculture, industries and the household sector, since compliance with the WFD will result in costly investments. Hence, there is an integrated conflict between society and industry stakeholders when it comes to protecting the environment at a minimal cost.

## Solution

To better manage the marine coastal waters, the Danish Environmental Protection Agency (DEPA) decided to establish a range of mechanistic ecosystem models as background supportive data for the Danish implementation of the WFD.

### Solution highlights

- Driven by MIKE Powered by DHI software, hydrodynamic, wave and ecosystem models were developed
- In total, eleven different model-complexes were created
- The aim of the models was to provide robust model results at all scales



Miljø- og  
Fødevareministeriet  
Miljøstyrelsen

*'To ensure targeted and cost-effective measures, we needed the most advanced mathematical models currently available on the market. An international scientific evaluation of the models showed that DHI's models were state of the art. The models are well-received by stakeholders from private businesses and environmental organisations.'*

Harley Bundgaard Madsen  
Head of Department  
Danish Environmental Protection Agency, Funen



Contact: [mike@dhigroup.com](mailto:mike@dhigroup.com)



Visit: [www.dhigroup.com](http://www.dhigroup.com)



More: [link to online story](#)