COEXIST

Aquaculture America 2012

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1. COEXIST at a glance

- **Title**: COEXIST - Interaction in European coastal waters: A roadmap to sustainable integration of aquaculture and fisheries
- **Programme**: FP7, Cooperation, Food, Agriculture and Fisheries, and Biotechnology (KBBE)
- **Instruments**: Coordination and Support Action (Coordination action)
- **Total budget**: €3,777,931
- **EC contribution**: €2,995,500
- **Duration**: April 2010 – March 2013
- **Consortium**: 13 partners from 10 countries
- **Coordination**: Institute of Marine Research, Norway
- **Web**: [www.coexistproject.eu](http://www.coexistproject.eu)
COEXIST is a broad, multidisciplinary project which will evaluate competing activities and interactions in European coastal areas with the ultimate goal to provide a roadmap to better integration, sustainability and synergies across the diverse activities taking place in the European coastal zone.

COEXIST Expected outcomes

- Characterization of relevant European coastal marine ecosystems, their current utilisation and spatial management
- Evaluation of spatial management tools for combining coastal fisheries, aquaculture and other uses, both now and in the future

TOOLS FOR SUPPORTING THE DECISION-MAKERS AND OTHER STAKEHOLDERS
3. Consortium and Case Studies

1. HARDANGERFJORD – LP: IMR
2. ATLANTIC SEA COAST - LP: UCC
3. ALGARVE COAST - LP: IPIMAR
4. ADRIATIC SEA COAST – LP: CNR-ISMAR
5. COASTAL NORTH SEA – LP: vTI-SF
6. BALTIC SEA – LP: FGFRI
4. COEXIST main results (I)

Identification of the legal, institutional and policy frameworks in the Case Study Areas

Example: Relevant stakeholders in the Adriatic Sea Case Study
Identification of the main activities developed in each Case Study Area

Example: Adriatic Sea Case Study

- Small-scale fishery using set gears
- Hydraulic dredges for baby clam (C. gallina)
- Trawling outside 3 nm
- Illegal Trawling inside 3 nm
- Mussel (M. galloprovincialis) harvesting on wild banks
- Intensive mussel (M. galloprovincialis) culture
- Recreational fishery and diving
- Tourism
- Artificial reefs

Future Marine Protected Area

Adriatic Sea
4. COEXIST main results (III)

Analysis of conflicts and synergies in each Case Study Area: Matrix of interactions

<table>
<thead>
<tr>
<th>Aquaculture vs. Fisheries</th>
<th>Fisheries</th>
<th>Aquaculture &amp; Fisheries vs. Other activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clam fishery</td>
<td>Fishery</td>
<td>Cables and pipelines</td>
</tr>
<tr>
<td>Fixed gears</td>
<td>Mussel fishery</td>
<td>Coastal constructions</td>
</tr>
<tr>
<td>Pelagic trawling</td>
<td>Otter trawling</td>
<td>Dredging</td>
</tr>
<tr>
<td>Rapido trawling</td>
<td>Mussel fishery</td>
<td>Marine Protected Areas</td>
</tr>
<tr>
<td>Mussel cultivation</td>
<td></td>
<td>Oil and gas extraction</td>
</tr>
</tbody>
</table>

**Example: Adriatic Sea Case Study**
4. COEXIST main results (IV)

Models: FARM

4. COEXIST main results (V)

Models: Animal welfare

Integrated Multi-Trophic Aquaculture (IMTA)

Anthropogenic stock movements
Finfish escapes/migrations
Hydrodynamic connectivity

Offshore
Inshore
Relaying

Wild stocks
Wild fish reservoirs

Shellfish aquaculture

Farmed
Fish
Shellfish
4. COEXIST main results (VI)

Models: FISHRENT

Outputs per scenario & year:

- **catch and effort**;
- **socio-economic indicators** (revenue, profit, gross cash flow, crew cost, number of vessels);
- **ecological indicators** of exploited species (productivity, biomass, optimal TAC)

Example: North Sea Case Study
4. COEXIST main results (VII)

Models: GRID

MySQL Database

IInternet Map Server
4. COEXIST main results (VIII)

Framework for Multi-objective Quantitative and Qualitative Evaluation of Marine Spatial Management in Coastal Zones

Step 1
Identification of relevant aspects of marine spatial management

Step 2
Identification of marine spatial management objectives

Step 3
Articulation of key desired outcomes

Step 4
Specification of weights on key desired outcomes

Step 5
Identification of links between measures and human behaviour

Step 6A
Selection of indicators to measure the impacts of human behaviour

Step 6B
Identification of the scores of impacts of human behaviour on the conditions on the coastal zones

Step 6C
Evaluation of the effectiveness of marine spatial management

Step 7A
Determine the costs of marine spatial management

Step 7B
Evaluate the cost-effectiveness

Step 8
Evaluation of the MSP process

Step 9
Evaluation of adaptations and proposing improvements to marine spatial management
4. COEXIST main results (IX)

Guideline for Best Practice in Spatial Planning to integrate Fisheries, Aquaculture and further Demands in European Coastal Zones
Thank you for your attention

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DISCLAIMER

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