



## The socioeconomics behind ecosystem collapse: the case of the Black Sea

**Marine ecosystem recovery** is directly linked to socioeconomic choices, according to a recent study. The study focused on the Black Sea, where economic collapse and recovery in the surrounding regions has had a large impact on ecosystem collapse and recovery in recent years.

**The Black Sea** drains a catchment containing large proportions of 16 different countries; seven of these countries are EU Member States. The Sea's ecology is thus influenced by the widely differing politics and socioeconomic conditions of these countries, including environmental and economic policy.

During the 1970s and 1980s, intense fishing pressure, excess nutrients brought by riverine waters and the introduction of alien species all profoundly changed the structure of the marine ecosystem, sending it into decline. Economic collapse in surrounding regions during the 1990s resulted in decreased nutrient loading which provided an opportunity for ecological recovery to begin. The question now is whether that trend can continue in spite of increasing pressure from economic growth.

The study, conducted under the EU ELME project<sup>1</sup>, used models to better understand the relationship between European lifestyles and marine ecosystems. It suggested that recovery might be possible through cooperation between Black Sea countries, for example, by implementing international agreements that limit how fish stocks are exploited.

The researchers constructed four alternative future socioeconomic scenarios, which each incorporated different political values:

- **'National Enterprise'**: an individualistic, consumption-oriented scenario, with strong commitment to national culture and interests.
- **'Local Responsibility'**: with a 'think local, act local' ethos. Economic growth is slow, social equity and environmental protection are prioritised.
- **'World Markets'**: libertarian and consumerist, with economic growth taking precedence over social equity.
- **'Global Community'**: with internationalist values, where economic, social and environmental welfare are balanced.

Through modelling, the consequences of these on the marine ecosystem were compared to a baseline scenario where continued economic development in Black Sea catchment countries leads to environmental degradation. Of the scenarios, 'Local Responsibility' and 'Global Community' resulted in an improvement compared to the baseline.

'National Enterprise' was the most environmentally damaging, due to the intense pressure it places on natural resources. 'World Markets' saw an increase in eutrophication resulting from increased agricultural activity but a decrease in fishing, due to increased imports. In all cases, ecological outcomes were strongly linked to socioeconomic factors.

1. ELME (European Lifestyles and Marine Ecosystems) was supported by the European Commission under the Sixth Framework Programme. See: [www.elme-eu.org](http://www.elme-eu.org)

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