

Project information

Project title

The Economics of Ocean Acidification

Year

2011/2012

Project leader

Claire Armstrong, UiT

Participants

- Claire Armstrong, UiT
- Silje Holen NIVA
- Isabel Seifert NIVA
- Ståle Navrud UiT/UMB

Flagship

Ocean acidification, Theme: Social sciences

Funding Source

Fram Centre

Summary of Results

A report entitled *The Economics Ocean Acidification: A scoping study*, was prepared, with the summary as below:

Despite the fear that ocean acidification may have serious societal consequences in the future, very little economic research in connection with ocean acidification has been carried out to date. In this scoping report the economic aspects of ocean acidification are presented; applying an ecosystem services approach. After a brief presentation of the ocean acidification issue, we provide an overview of marine ecosystem services that are expected to be affected by ocean acidification. The relevant economic theory and methods for estimating the economic costs of ocean acidification are laid out and discussed. To illustrate the possible magnitude of these economic costs, a case study is carried out presenting selected ecosystem services in Norwegian waters, how they, based on the current natural science research, are anticipated impacted by ocean acidification, and the estimated economic costs of these impacts. The results show that ocean acidification may have negative as well as positive effects upon provisioning services of fisheries and aquaculture with annual net costs in ranging several million NOK. However, for the regulating service of carbon storage the estimated negative impacts are several orders of magnitude higher than for fisheries and aquaculture. Finally, knowledge gaps with regards to estimating the economic costs of ocean acidification are identified.

Summing up some highlights:

Ocean acidification may have negative as well as positive effects upon provisioning services of fisheries and aquaculture in Norwegian waters with annual net costs ranging several million NOK. For the regulating service of carbon storage, the estimated negative impacts are several orders of magnitude higher than for fisheries and aquaculture.

Knowledge gaps are considerable as regards natural science knowledge of importance for socio-economic evaluation. However, also within the field of economics, there are substantial methodological limitations that must be further addressed in order to supply solid analysis of the socio-economic consequences of ocean acidification.

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Published Results/Planned Publications

The Economics Ocean Acidification: A scoping study, by Armstrong, Holen, Navrud and Seifert, Report, UiT.

Economic consequences of ocean acidification – an estimate for Norway, by Seifert, Holen, Armstrong and Navrud. Work in progress. (abstract to be submitted to 2012 conference on OA in Monterey)

The Economics Ocean Acidification: A scoping study, by Armstrong, Holen, Navrud and Seifert, Report, UiT.

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Communicated Results

Not yet

Interdisciplinary Cooperation

The project depended on communication with natural scientists, especially at NIVA. This was advantageous for the report.

Budget in accordance to results

The funding was imperative for the collaboration on the project.

Could results from the project be subject for any commercial utilization

No

Conclusions

The project has opened for more collaboration economics and ocean acidification, and collaboration will continue.