

## Project information

### Keywords

Ecosystem services, cultural ecosystem services, impact assessment

### Project title

Ecosystem services and coastal governance (ECCO)

### Year

2017

### Project leader

Alma E. Thuestad

### Geographical localization of the research project in decimal degrees (max 5 per project, ex. 70,662°N and 23,707°E)

Mining case: Repparfjord, Finnmark (planned mining project in Nussir and Ulveryggen in Kvalsund municipality): Longitude/latitude 24.21622478/70.49362356 Aquaculture case: Planned aquaculture in areas regulated by the Kystplan Midt- og Sør-Troms (Berg, Dyrøy, Gratangen, Harstad, Ibestad, Kvæfjord, Lavangen, Lenvik, Salangen, Skånland, Sørreisa, Torsken and Tranøy) and Kystplan Tromsøregionen (Balsfjord, Karlsøy, Lyngen, Målselv and Tromsø).

### Participants

#### **Project leader(s)/institutions:**

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#### **Project participants/institutions:**

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**Stakeholder partner:** Harald Johnsen, Heritage Department, Troms County

**Administrative responsible:** Carsten Paludan-Müller (until July 31<sup>st</sup>) and Kristin Bakken (from August 1<sup>st</sup>), [kristin.bakken@niku.no](mailto:kristin.bakken@niku.no), NIKU

### Flagship

MIKON

### Funding Source

MIKON– Environmental Impacts of Industrial Development in the North

### Summary of Results

ECCO explores the potential and implications of integrating ecosystem services (ES) as a conceptual tool in impact assessment (IA) methodology. Main focuses are cultural ecosystem services (CES) in IA and knowledge production in IAs concerning aquaculture and industrial activity in the coastal zone.

Reviews of planning processes pertaining to aquaculture ventures along the Norwegian coast conducted in 2016, showed that IA are hardly ever used for aquaculture ventures on the project level; so-called extended studies are the preferred option. In 2017 a greater focus was therefore placed on coastal zone planning, specifically on IAs for planned aquaculture in areas regulated by the Coastal Zone Plan for Mid- and South Troms County (*Kystplan Midt- og Sør-Troms*) and the Tromsø region (*Kystplan Tromsøregionen*). IA on the project level is nevertheless included as one case encompass IAs linked to a planned copper mine in coastal Finnmark. In accordance with the project plan presented in the application, main activities in 2017 encompass literature and document studies of documentation linked to the selected IA processes, interview surveys in collaboration with Coreplan as well as workshops. Preparation of papers that will present analyses and results is ongoing.

WP 1 is leading the work on the planned paper "Impact assessments in Norwegian Coastal Zone Planning" which analyses methods and outcomes of IAs in two inter-municipal coastal zone plans: "Midt- og Sør-Troms" and "Tromsøregionen". Analyses are based on interviews and document studies, as well as a statistical analysis of the IAs. As of October 2017, a draft detailing the structure of the paper has been written. Interviews and document studies have been conducted in collaboration with Coreplan. Assigned values from the "Midt- og Sør-Troms" IA have been coded, recorded in Excel, and a preliminary analysis conducted. Initial results suggest certain interests/values linked to, e.g. Sámi cultural heritage or the Norwegian Armed Forces, are only present in a few cases, but highly important when they are. The main work on the paper is scheduled to take place during late 2017 and early 2018. The remaining period will be spent finalizing the coding of the second IA case and conducting more in-depth analysis. Further interviews are not planned, but might be carried out if necessary.

Also answering research questions in WP 1, a paper in preparation entitled "Ecosystem services in impact assessment – copper mining in Northern Norway" discusses what is it about ES as a concept that is relevant for IA and how it can contribute to IA; especially regarding identification and valuation of values, integration of knowledge in decision-making processes and trade-offs. The empirical background is the IA process linked to a planned copper mine (<http://www.nussir.no/>) in coastal Finnmark. Although many identified values in the IA can be "translated" to ES – some may not – and some cover a range of ES. IA-processes are often fragmented; there is little in current methodology to assess trade-offs between different values, between contradictory interests and stakeholders on different levels. A more holistic approach is inherent in an ES approach. By talking about values as services it may be possible to change focus and increase awareness of what is important for whom, why – and can they be replaced.

Answering research questions in WP 2, a paper on ES and cultural heritage has been published in "Conservation and Management of Archaeological Sites" (level 2 accredited). "Cultural Heritage and Ecosystem Services: A Literature Review" is, as the title indicates, a literature review of scientific literature on ES and cultural heritage that discusses the role and applicability of an ES approach to cultural heritage management (CHM). Although ES frameworks and CHM have overlapping interests in identifying and improving methods for assessing non-monetary values in a coherent and stringent manner, significant work remains if the ES framework is to be useful for management of cultural heritage sites and environments beyond the category of cultural landscapes.

Following up, a second paper will explore the role of ES in identification, valuation and management of cultural values with emphasis on heritage values in spatial allocation and IAs in coastal areas. Analyzing a specific case of intermunicipal coastal zone planning (Kystplan Sør- og Midt- Troms) we discuss the role of cultural values in coastal zone management and IAs. Considering the processes and knowledge production of IAs, public hearings, submitted statements from interest groups, individuals and public authorities, we explore what cultural values are identified, how they are valued and how the scope and impact of developments are assessed. This paper thereby aims to contribute to ongoing efforts to find ways to approach cultural values in natural resource and area management, including coastal zone planning.

Master and PhD-students involved in the project

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Published Results/Planned Publications

#### Scientific publications in 2017

- Herdis Hølleland, Joar Skrede & Sanne Bech Holmgaard (2017). Cultural Heritage and Ecosystem Services: A Literature Review. *Conservation and Management of Archaeological Sites*. 19:3, 210-237. <http://dx.doi.org/10.1080/13505033.2017.1342069>

#### Planned scientific publications in 2018

- E, Mikkelsen, P. B. Sjørdahl, S. Bech Holmgaard & B. Sundsvold in prep. Impact assessments in Norwegian Coastal Zone Planning
- A. E. Thuestad, E. Eythorsson & S. Bech Holmgaard in prep. Ecosystem services in impact assessment – copper mining in Northern Norway

- S. Bech Holmgaard & A. E. Thuestad in prep. Cultural heritage as ES

Relevant journals: *Landscape Research* (<http://www.tandfonline.com/loi/clar20>), *Ecosystem services* (<http://www.journals.elsevier.com/ecosystem-services>), *Ocean and Coastal Management* (<https://www.journals.elsevier.com/ocean-and-coastal-management>), *Ecology and Society* (<https://www.ecologyandsociety.org/vol20/iss1/art64/>), *Arctic Review on Law and Politics* (<https://arcticreview.no/index.php/arctic>).

#### **Presentations at international conferences in 2017**

- S. B. Holmgaard, A. E. Thuestad & E. Eyþórsson 2017. Ecosystem services and impact assessment in coastal Northern Norway. Nordic Geographers Meeting. 18-21.06.2017, Stockholm, Sweden
- E. Thuestad, S. B. Holmgaard & E. Eyþórsson 2017. Ecosystem service perspectives in impact assessment: a mining project in Northern Norway. The International Congress of Arctic Social Sciences (ICASS) IX. 08-12.06.2017, Umeå, Sweden

#### **Planned presentations at international conferences in 2018 (abstract submitted)**

- o Mikkelsen, Sjørdahl, Bech Holmgaard & Sundsvold 2018. Impact assessments in Norwegian Coastal Zone Planning. Arctic Frontiers, Tromsø 21-26 January 2018

#### Communicated Results

The project and preliminary results have been communicated through seminars with joint participation of researchers from Coreplan and Ecco as well as representatives for stakeholders/reference group. Information is also disseminated through Coreplan's project web page <http://coreplan.no/> and <https://niku.no/>.

Two workshops will be arranged during 2017; the first was held on September 18-19 while the second will take place on November 28. These workshops are a joint effort with participants from Ecco and Coreplan WP3. In September, project participants presented their work focusing on thematic prioritizations, applicable methodological approaches as well as preliminary findings. Plans for ongoing work as well as scientific and popular dissemination were discussed. The workshop in November will further discuss findings, paper drafts and plans for scientific publication.

#### **Presentations for stakeholders and reference group (Coreplan and Ecco)**

- A. E. Thuestad, S. B. Holmgaard & E. Eyþórsson 2017. Ecosystem service perspectives in impact assessment exemplified by a mining project in Northern Norway. Integrated coastal resource management and planning – Ecosystem services and coastal governance (Coreplan). Seminar, Nofima. 13.06.2017, Tromsø, Norge

#### **Presentations at Coreplan seminars (project participants only)**

- E. Mikkelsen & P. B. Sjørdahl 2017. Planned paper: Impact assessments in Norwegian Coastal Zone Planning. Seminar, Nofima. 10.10.2017, Tromsø, Norge

#### **Presentations at the Ecco workshop on September 18-19:**

- Mikkelsen, E., Sjørdahl, P. B. (Nofima): Impact assessments in Norwegian Coastal Zone Planning
- Thuestad, A. E. (NIKU): Ecosystem services in Impact Assessment; a case from coastal Northern Norway
- Holmgaard, S. B. (NIKU): Cultural heritage as ecosystem service - based on Coastal Zone Planning
- Sundsvold, B. (UiT v/NFH): Kartlegging av kunnskapspraksiser og ulike medieringsformer/instrumenter i kystsonenplan MST
- Johnsen, J. P. (UiT v/NFH): Regulate, politicise and governmentalize. How spatial fisheries regulations in Norway

create a political and governable sea

#### Interdisciplinary Cooperation

The disciplines involved are: Planning/social science (Eythorsson, Sør Dahl and Mikkelsen), anthropology (Holmgaard), archaeology (Thuestad) and fisheries science (Solås).

Interdisciplinarity is generally highly beneficial for studies of ES and CES in planning and IA; not just concerning ES and CES, but because IAs generally are based on input from multiple disciplines. We have, however, found it important to ensure common understanding of concepts such as ES and CES. Our academic backgrounds are varied, and accordingly our perspectives and understanding of such concepts varies. Project meetings and workshops are therefore an important forum for discussion allowing the participating researches to explore our varied and common understandings of these concepts.

#### Budget in accordance to results

ECCO is closely associated with the NRC-funded research project Coreplan. Coreplan primary focus is possible uses of ecosystem services in coastal governance and planning, while ECCO is particularly concerned with cultural ecosystem services and environmental impact assessment. Ecco thus contributes to broaden the scope of Coreplan. The funding from the Fram Centre has been and will be important to strengthen the focus on cultural ecosystem services and on the methodology, role and function of IAs in valuation and tradeoffs in planning and industrial development in the coastal zone.

The budget applied for and received in 2017 was N.kr. 797.975. Funds remaining per 31.10.17 will be spent in its entirety in 2017 to: a) finalize analyses and prepare the first version of the planned paper E, Mikkelsen, P. B. Sør Dahl, S. Bech Holmgaard & B. Sundsvold in prep. Impact assessments in Norwegian Coastal Zone Planning. As findings of this work is to be presented at the Arctic Frontiers conference on 21-26. January 2018 this work is a priority, and b) hold the planned workshop on 28. November.

The publication efforts are in accordance with the project plan, where scientific publications are planned from the 2<sup>nd</sup> quarter of 2017, throughout the whole of 2018.

Could results from the project be subject for any commercial utilization

No

Conclusions

Ecco and Coreplan are ongoing projects where analyses and discussions are ongoing; such results and conclusion are not to be expected until the final stages of the projects.