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Vulnerable ecosystem services: climate change impacts on sand dominated ecosystems in Skåne, Sweden

The two Natura-2000 areas of Ravlunda and Revingehed of Skåne, southern Sweden, have been subject to a climate change vulnerability assessment in this study, which tested an assessment method for relevance for work within the County Administrative Board of Skåne. The analysis was done with focus on ecosystem services found at the sand dominated habitats of the two areas.

Using a recently published report from the Swedish Environmental Protection Agency, ecosystem services were identified for the sites. After that, a workshop methodology and a vulnerability assessment framework modified from Sample et al. (2016) was tested.

The results of the vulnerability assessment are considered to be sufficiently accurate to be used as indicators of climate change vulnerability within the County Administrative Board's work. It is shown that many ecosystem services at Ravlunda and Revingehed are going to change with climate change. The assessed ecosystem services react differently, and for many ecosystem services, it could not be conclusively projected in which direction their change will go.

A complex, but usable tool for the County Administrative Board to use

The methodology has been discussed with recommendations to improvements. In spite of the exercises being complex for the participants of the workshop, it is argued that the method is a good tool for the County Administrative Board to use for doing climate change vulnerability assessments in a low-cost and effective manner.

Recommendations are to, before the workshop, define the concepts and implementation of sensitivity and adaptive capacity clearly. Also, a realistic span of climate change values should be provided to the participants, and it should be made sure how to handle situations where ecosystem services are still provided after a change, but from a different ecosystem process. It is recommended that two workshops are held instead of one.

Keywords: Physical Geography and Ecosystem analysis, climate change, vulnerability assessment, ecosystem services, Sweden, Skåne, Natura 2000, the County Administrative Board, climate change adaptation, sand, nature conservation, sensitivity, adaptive capacity, workshop.

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