

**Master thesis ideas, 2018**  
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**Title: Categorization of Biodiversity and Ecosystem Service Values**

**Key words:**

Valuation  
Value Typologies  
Biodiversity and Ecosystem Services  
Q study

**Outline:**

The contrast between intrinsic and utilitarian based value arguments is a well-known source of dispute in the ecosystem service valuation literature. The total economic value classification, being the most commonly used in environmental economics, is the theoretical framework that has guided environmental valuation for decades. The value categories have more recently been further developed e.g. through the TEEB and IPBES initiatives. This project will have access to data collected across 9 EU countries through a Q-study of Biodiversity and Ecosystem Service values. A Q study is a quantitative methodology developed in psychology to study subjective beliefs or points of view from ranking of statements. The data can be used to analyze the match or mismatch between the theoretical environmental economics framework and the value categories revealed from the empirical analysis of ranking of value statements.

**Title: Meta-analysis eliciting value functions for services derived from improvements in marine water quality**

**Key words:**

Meta analysis  
Marine water quality  
Literature survey  
Database of valuation studies  
Regressions

**Outline:**

Marine and coastal ecosystems provide services of value to society. Value estimates are currently being of critical importance for evaluation of the economic case for implementation of the objective in e.g. the Marine Strategy Framework Directive, the Marine spatial planning directive, the Helsinki Commissions Baltic Sea Action plan etc. At European and international level a large number of studies have been conducted eliciting values for marine and coastal ecosystem services. The project will conduct a meta-analysis using the European literature and specify value functions and benefit transfers to Danish conditions. Important study specific effects should include ecosystem characteristics, valuation methodology, spatial location. Furthermore, analysis and discussion of the limitations for using the results is an important part of such a study. The value functions will be tested against results from Danish studies. The project might be, if the student wish so, connected to ongoing work in an international network on Nitrogen assessments and the value of ecosystem services affected by nitrogen in the environment.

**Title: Farmers' incentives for entering into agri-environmental contracts in countries around the Baltic (including Denmark)**

**Key words:**

Farm survey  
Agri-environmental schemes and contracts  
Choice experiment  
Comparative analysis

**Outline:**

Farmers choice of entering into agri-environmental contracts or not can be motivated by a number of factors, among them economic rationales connected to the payment they receive for the contract obligations. Their contract choices can also be influenced by barriers including motivations and de-motivations to enter into a certain type of contracts, risk consideration and flexibility now and in the future. Knowledge of these motivations and barriers are important for the further development of the EU agri-environmental schemes. This project will have access to data from a Farm survey collected across 5 EU countries, all around the Baltic Sea (Denmark, Estonia, Poland, Finland and Sweden). The data include approximately 2500 survey responses and there are between 600 and 300 responses from each country. The survey includes data on the production at the farm (crop/animal husbandry), handling of manure, technology choice and investments as well as a choice experiment on farmers' trade-offs between 3 types of agri-environmental contracts: set aside, catch crops and improved utilization of fertilizers. The data can be used for analyzing incentives to enter into the contracts using the choice experiment data, or to use other parts of the dataset on e.g. investments in technologies. The data can be used for analysis of one of the countries, or for comparative analysis between countries. The data are used in an ongoing project by several researchers, and the student can be offered the opportunity to contribute to this network.

**Title: Valuation of coastal recreation, water quality, congestion and litter****Key words:**

Coastal recreation  
Choice experiments  
Coastal water quality  
Entrance payment at coastal sites  
Beach litter  
Congestion

**Outline:**

Coastal recreation represents an important service from coastal ecosystems of great societal importance, however, few studies focusing on assessment of this value are sparse in Denmark. A survey with approximately 1000 responses including a choice experiment is available for this project. The project seeks to analyse the relative importance of characteristics of coastal sites. Attributes include congestion, litter and several characteristics of the site which are important for management of the Danish costs. The choice cards include an access payment, allowing estimation of willingness to pay for the different characteristics of coastal recreation and the trade-offs between them. The project will link the valuation results to quantitative monitoring information on water quality, as well as to assessments of congestion and litter at the beach/coast.

**Title: Evaluation of the potential of PES mechanisms for water quality enhancement: the case of mussel production.**

**Key words:**

PES

Eutrophication

Mussels

Nitrogen mitigation

**Outline:**

Denmark is one of the most intensively farmed regions in the world, with more than 60% of its land surface used for agriculture. Despite the progress in lowering nutrients loss from agricultural systems, there is still a need to improve environmental performance of agricultural production systems. This is evident in the gap between the current water quality status and the targets stipulated in the Water Framework Directive. In recent years, studies have advocated including marine measures to the pool of land-based policy measures to reduce eutrophication of marine waters. In particular, it is theorized that mussel production, when optimized for mitigation purposes, can be carried out at a lower cost than land-based measures and work as an effective measure in reducing nutrient concentration in coastal waters. This project will analyse the potential for using PES mechanism between farmers and mussel producers and the discuss the potential barriers for implementation of such a mechanism.