

AAU Megaproject – Blue Denmark

Ports and Coastal Areas – Biodiversity in the Limfjord

Developing a method for automatically processing and improving images and videos taken below the surface of the Limfjord

- Developing and using underwater imagery and computer vision to aid biologists and environmental science in underwater data collection
- Different image processing methods such as 'thresholding', 'blob detection' and general object recognition were used to process the images
- Thresholds and BLOB detection methods were used to identify specific parts of vegetation in the underwater images
- Image optimization programs were implemented in both MATLAB and Go, where both implementations have proven able to enhance the colours and sharpen the input images
- The volume estimation implementation showed capabilities in detecting the correct plant biomass
- However, performing the calculations for the corresponding volume, the accuracy reliability was deemed insufficient



Figure 7.1. Original Image



Figure 7.2. Processed Image