

Ecosystem services in the Coastbuster Project

Wellekens Dries

Universiteit Gent: Onderzoeksgroep Organische Milieuchemie en -Technologie (UGent-EnVOC),
Coupure Links 653, 9000 Gent, Belgium
E-mail: dries.wellekens@ugent.be

Due to climate change, the sea level is rising with coastal erosion as a result. To prevent millions of people living in coastal areas from losing their homes, humankind started building defensive structures to protect our shores. Only the last decades, studies showed us that these constructions drastically change the local ecosystems they are placed in. Engineers looked for more sustainable low-cost alternatives and started using nature-based elements to build artificial reefs. The Coastbusters Project in Belgium tests these techniques to investigate if they could be used for coastal protection. Ecosystem services describe the benefit our society gains from these natural components by which an identification of the possible positive (and negative) effects of the reef on the local environment can be made. In this way, ecosystem services can help us to evaluate the ecological/sustainable aspect of the project. This thesis gives an overview of expected tendencies in ecosystem services caused by the installation of the artificial reef. Further, an attempt is made to quantify the effect of the reef on wave attenuation and in extension coastal erosion.

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