

Fauna return rapidly in planted eelgrass meadows, study shows

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Newly planted eelgrass in the study. 15 months later the biodiversity in the plot was almost the same as in an old established eelgrass meadow. Credit: Eduardo Infantes

A study of eelgrass meadows planted by researchers from the University

of Gothenburg shows that fauna return rapidly once the eelgrass has started to grow. Already after the second summer, the biodiversity in the planted meadow was almost the same as in old established eelgrass meadows.

Eelgrass meadows have declined heavily in southern Bohus county in recent decades and in many places have disappeared altogether. Researchers at the University of Gothenburg have been working on the restoration of eelgrass meadows for twelve years. These meadows are important for [biodiversity](#), as the eelgrass serves as habitat or nursery for young cod, crabs and shrimps for example.

In a new study, the researchers have evaluated how rapidly replanted eelgrass gets populated by various invertebrates. The study has been going on for over two years in a bay near Gåsö island just west of Skaftö in Bohus county, and the findings are very positive. The researchers counted the abundance of invertebrates that live or burrow in bottom sediments or on the surface of bottom sediments.

Size less important

"The recolonization has been very rapid. After the first three-month growing season, up to 80 percent of the invertebrates had returned to the newly planted eelgrass," says Eduardo Infantes, [marine biologist](#) at the University of Gothenburg.



Comparison of new planted eelgrass and a plot that was planted 15 months ago.
Credit: Eduardo Infantes

During the summer in 2019, the researchers planted the eelgrass shoots in four test plots of different sizes on the seabed, and with different spacing between the shoots. According to the researchers' observations in autumn 2020, size has played less of a role in the recovery of biodiversity in the eelgrass meadows.

In fact, even if the eelgrass has not had time to grow to the same density as in an established eelgrass meadow, the biodiversity is similar after only two growing seasons as in a reference area of preserved eelgrass in the same bay. Even smaller patches embedded within larger restoration plots showed good results.

Their findings were reported in the journal *Restoration Ecology*.

Can save money

"This is good news for future restorations and new plantings of [eelgrass meadows](#). We can plant new smaller plots with fewer shoots and this saves money because this is an expensive method for restoring biodiversity on the seabed," says Eduardo Infantes.

Eelgrass meadows have multiple functions that make it imperative to protect them. In addition to their important role in the coastal ecosystem, eelgrass roots bind the sediment and prevent erosion and limit resuspension of sediment in the water.

More information: Karine Gagnon et al, Rapid faunal colonization and recovery of biodiversity and functional diversity following eelgrass restoration, *Restoration Ecology* (2023). [DOI: 10.1111/rec.13887](https://doi.org/10.1111/rec.13887)

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