

The underwater jungles of the sea give clearer water

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Underwater plants can contribute to a better water quality, shows a new study. The diver Marin van Regteren is studying the plants *Chara horrida*, *Stuckenia pectinata*, *Myriophyllum sibiricum* and *Potamogeton perfoliatus*. Credit: Joakim Hansen

The new study, that has been conducted in 32 archipelago bays along the Baltic Sea coast shows that underwater plants can contribute to a better water quality, thus improving their own living environment. The water becomes clearer when the plants take up nutrients and in that way out-compete phytoplankton.

- Dense plant communities such as seaweeds and pondweeds also slow down the water movement and cause sediment particles to sink to the bottom, which also makes the water clearer, says the PhD candidate Åsa Nilsson Austin.

Good if the plants are retained

It has been shown earlier that turbid water, which is a sign of nutrient enriched bays, contains fewer underwater [plants](#). This is because the plants die if they get too little light. But this new study shows the opposite - that the underwater plants themselves can positively affect [water quality](#).

The results from the study also indicate that if the plants disappear, it may lead to poor water quality in the long run. This is because the turbid water hinders the growth of new plants, leading to a negative spiral of turbid bathing water. -

Since turbid water is often an indication of eutrophication, one can say that the plants act as a buffer against it, says the PhD candidate Åsa Nilsson Austin.

Sheltered bays - extra sensitive

In sheltered archipelago bays, the water exchange time may be several weeks long. Therefore, a lot of nutrients from land can be accumulated, with risk for eutrophication. In sheltered archipelago bays you can often find rooted plants that, apart from growing dense and taking up nutrients, can stabilize the soft bottom and reduce the sediment resuspension.

These bays are also important breeding areas for predatory fish such as

pike and perch. Here, where the [water](#) warms up quickly in spring, the fish lay their roe on the underwater plants. But it is also here that we like to moor our sailing boat to enjoy our holiday - and take a swim in the sea.

More information: Åsa N. Austin et al, Relationships between aquatic vegetation and water turbidity: A field survey across seasons and spatial scales, *PLOS ONE* (2017). [DOI: 10.1371/journal.pone.0181419](https://doi.org/10.1371/journal.pone.0181419)

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