

Indicators for monitoring dredging impacts to seagrasses.

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This paper presents a review of potential indicators for monitoring impacts of dredging in seagrasses. As seagrasses often grow close to coastal infrastructure, and due to their high requirement for light they are highly susceptible to anthropogenic activities such as dredging. The development of indicators should be based on a good understanding of the pressure-response pathway i.e. how and when the particular organism responds to particular levels of pressure such as light reduction or sedimentation, be reliable, reproducible and cost-effective. Ideally the indicators should be sub-lethal, i.e. the seagrass habitat can recover from that level of stress and this allows management actions to be taken before there is actual loss of habitat. For this review papers were searched in ISI Web of Science that contained information on the response of any species of seagrass to light and sedimentation stress. There were few papers that directly aimed to develop indicators, however, based on the results potential indicators could be postulated. Most papers were based on the genera *Zostera* (35%), followed by *Posidonia* (18%), *Thalassia* (16%) and *Halophila* (10%). There were some general patterns in responses to light stress particularly physiological modifications, followed by morphological adjustments. However, the measures that best capture this response varied between species, often reflecting different growth forms and life-history strategies. This presentation will summarise the pressure-response pathway of all seagrass species captured in the review, and propose where possible potential indicators of light and sedimentation stress. In addition, gaps in understanding will be highlighted.