

Seagrass resilience: where and how to collect donor plants for ecological restoration of eelgrass *Zostera marina*

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Abstract

As seagrasses are not available with commercial nursery stock, the removal of a large amount of plant material may damage donor populations. We evaluated the recovery of eelgrass *Zostera marina* following the removal of entire plant patches (0.01-0.49 m²) at edge and interior of eelgrass bed through a field experiment. We investigated the shoot density, morphology and growth of recovery plants following excavation. We found that the removal of entire small patches with excavation area [?] 0.25 m² at interior of eelgrass bed was the most suitable strategy for harvesting donor plants of *Z. marina*. Small patch excavation ([?] 0.25 m²) could promote asexual reproduction of recovery plants and their shoot density and morphology would equal or exceed those of natural plants ; 7 months after harvesting. These results indicate that *Z. marina* plants have a strong resilience capacity from physical disturbance through rhizome elongation to the harvested area.

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