



The most successful seagrass restoration attempts in high-energy environments normally involve planting dense mats of seagrass “sods”—blocks of seagrass-covered sediment—spanning large areas - “mega plot” method.

The problem?

This method requires an enormous amount of donor seagrass, which can strain the ecosystem it is sourced from, and can be costly.

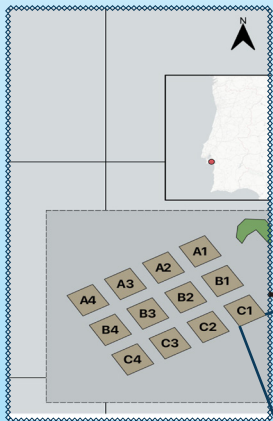
A solution?

The “checkers” method!

How does it work?

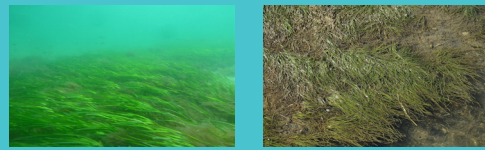
The checkers method arranges seagrass sods in a grid-like pattern with strategic spacing, using significantly less donor vegetation than traditional dense planting techniques. This layout encourages natural expansion while balancing resilience against high-energy environments, making it a promising approach for sustainable seagrass restoration.

Our experiment



We created twelve 3 x 3-meter plots, divided into 25 “checkerboard” sections.

Half of the plots were planted with *Z. marina* and the other half with *Z. noltei*, arranged randomly.

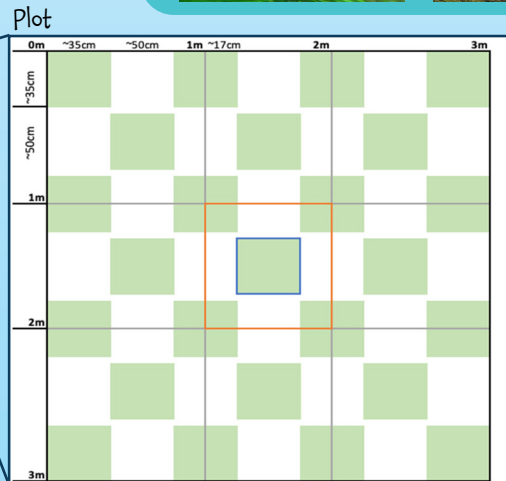


Species: *Zostera marina* and *Zostera noltei*

Study site: Praia dos Coelhos, Arrábida Natural Park, Portugal

Donor population: *Z. marina* from the Sado Estuary, Portugal and *Z. noltei* from Ria Formosa Lagoon, Portugal

Each sod was positioned into excavated holes filled with sand.



A grid was mounted at every meter (grey lines), creating nine square units (orange outline) within each plot. The sods (in green) were transplanted in a checkerboard pattern, separated by approximately 50 cm and with the corners in proximity.

Each seagrass species responded differently, but both were able to increase vegetated area after several months.

Things to consider

Placement of Sodds: The experiment suggests that positioning within the transplant site can make a significant difference, particularly for areas facing harsh coastal dynamics.

Donor Population: With an approach that conserves the amount of vegetation, selecting donor populations with high recovery potential could minimize the impact on natural ecosystems.