



WORLD SEAGRASS CONFERENCE AND INTERNATIONAL SEAGRASS BIOLOGY WORKSHOP 13 | 2018

TRANSLATING SCIENCE INTO ACTION

11 TO 17 JUNE, 2018 | UNIVERSITY TOWN, NATIONAL UNIVERSITY OF SINGAPORE

TITLE:

Keep off the grass: using exclusion cages to understand the interactions between herbivores in structuring seagrass meadows

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ABSTRACT:

(Maximum of 250 words)

Seagrasses provide important habitat that delivers ecosystem services and provides food to a wide diversity of herbivores globally. In the Great Barrier Reef (GBR) we find the full size spectrum of herbivores; from small mesograzers such as amphipods, to macrograzers such as fish and large megagrazers such as turtles and dugongs. These herbivores can structurally alter seagrass beds in either positive or negative ways depending on their size, feeding preferences and methods and grazing intensity. These structural changes can subsequently interact with the delivery of other ecosystem services, or the benefits to humans, provided by the seagrass meadow. In the tropics, we know little about the impact of herbivores and how different groups interact to structure seagrass meadows, despite the number and variety of herbivores present in tropical seagrass habitats. We carried out exclusion experiments that targeted each herbivore group individually and in combination in subtidal and intertidal seagrass meadows in Queensland, Australia to understand the role of herbivores in structuring meadows and the interaction between herbivore groups. Our results show different feeding strategies of herbivores in each habitat, especially megaherbivores, and these impact the meadow in different ways. The effects on biomass, shoot density and shoot height depended on the type of grazing observed. All herbivore groups acted to structure the seagrass and interacted to influence overall meadow properties. Grazer mediated changes in meadow structure will have important implications for the ecosystem services delivered by tropical seagrass ecosystems.

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