

# Secret sex life to help save world's endangered seagrasses

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(PhysOrg.com) -- Sex plays a much more important role in the reproduction of vitally important seagrasses than previously thought, according to important new findings by researchers from The University of Western Australia.

Their work, published today as the cover story in the journal [Bioscience](#), forms a major re-think of the way seagrass populations spread and is regarded as critically important to help conserve and restore endangered seagrasses meadows.

Lead author Winthrop Professor Gary Kendrick, of UWA's Oceans Institute and the University's School of [Plant Biology](#), said healthy

seagrass populations were extremely important for coastal stability and [carbon sequestration](#).

Last year, Professor Jim Fourqurean, also from the Oceans Institute, showed that extensive seagrass meadows in Shark Bay, on Western Australia's NW coast, act as a massive carbon sink which stores more than \$8 billion worth of carbon dioxide if valued according to the Australian Government's proposed carbon price.

Professor Kendrick said seagrass also formed an important habitat for many [fish species](#), including Western Australia's juvenile western rock lobster - the most valuable single-species fishery in Australia - and were a source of fish protein for many coastal communities in South East Asia and Africa.

Seagrass meadows grew predominately via vegetative growth or cloning, using rhizomes that spread under the seabed, then sent out roots and shoots.

But the researchers found that seagrasses also relied a great deal on [sexual reproduction](#) involving male and female flowers, pollen, seeds and seedlings.

Seeds could travel hundreds of kilometres in the water to grow new, genetically identical seagrass meadows a long way from the original colony.

"Clearly, the process of dispersing (seeds) over these hundreds of kilometres is an important mechanism for keeping connectivity occurring between populations of the one species," Professor Kendrick said.

Australian and US researchers taking part in the study examined the key

role of seed dispersal in maintaining seagrass populations.

They used existing DNA molecular markers to infer genetic connectivity of seagrass species, including *Posidonia australis*, - a seagrass found off Perth - and at Shark Bay.

The research is expected to lead to better ways to help manage and restore depleted seagrass meadows.

The [BioScience](#) paper is the result of research arising from an Australian Research Council-NZ Research Network for Vegetation Function Working Group.

Provided by University of Western Australia

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