

# Environmentally friendly moorings



## Environmentally Friendly Moorings

### Moreton Bay and seagrass

Seagrass meadows are one of the most important marine habitats globally and occur in shallow coastal waters.

This ecosystem provides essential nursery habitat for juvenile fish and crustaceans which supports commercial and recreational fisheries as well as marine biodiversity.

In Moreton Bay, there are seven species of seagrass that form important habitat for many marine species and are a key food source for dugongs and green turtles. Seagrass beds face a number of threats, including sediment runoff, algal blooms, and damage from block and tackle moorings.



*Moreton Bay's seagrass beds are vital for maintaining a healthy dugong population.*

### Environmentally Friendly Mooring Trial (2009 – 2011)

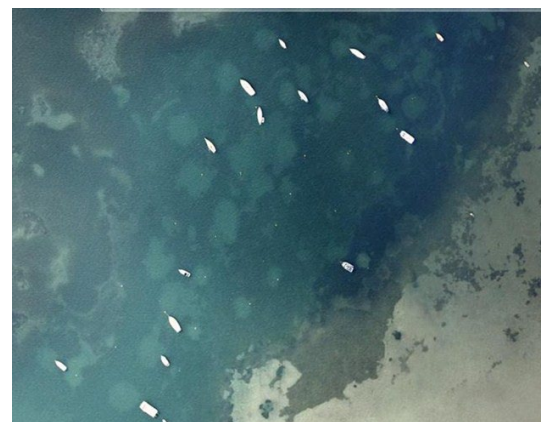
Block and tackle moorings, which often consist of makeshift anchors like concrete blocks or train wheels attached to a chain, are highly damaging to seagrass meadows and associated marine habitats. As the tide moves in and out, the mooring chain drags across the seagrass, ripping it up and creating 'crop circles', habitat dead zones that can be seen very clearly in aerial imagery. The amount of disturbance varies with the length of the mooring chain and may be up to 1400 m<sup>2</sup> per vessel in Moreton Bay.

Environmentally friendly moorings cause less damage to the seagrass bed by ensuring there is minimal contact with the sea floor while still safely securing vessels in the environmental conditions of Moreton Bay.

Between 2009 and 2011, Healthy Land and Water were involved in a trial which assessed the efficacy of three different environmentally friendly mooring designs in several locations throughout Moreton Bay.

The trial included an awareness campaign about the benefits of these designs versus old block and tackle moorings.

The trial successfully demonstrated significant recovery of seagrass species around the new environmentally friendly moorings and informed design adjustments to make them more adaptable to local conditions. Feedback from local mooring owners also provided valuable information about the ease of use and public willingness to install moorings and identified a need for local manufacturers.



*Aerial photo of Moreton Bay showing mooring damage to seagrass beds.*

## Mooring Replacement Program (2012-2015)

Following the successful Environmentally Friendly Mooring trial, Healthy Land and Water developed a mooring replacement program to assist mooring owners in priority seagrass beds to reduce their impact on the marine environment.

This program was funded by Wetlandcare Australia, Oceanwatch Australia, and the Australian Government's Caring for our Country Program and delivered in partnership with Fisheries Queensland, Maritime Safety Queensland, Queensland Parks and Wildlife Service and the Queensland Recreational Boating Council.

### The mooring system

The replacement program uses environmentally friendly moorings, which are engineered for marine conditions and modified and tested over years to ensure they can be installed and maintained easily. These moorings are made from marine grade materials and are screwed into the seabed – due to their design they do not drag on the seafloor and therefore promote recovery as they have minimal impact on seagrass and benthic habitat.

These moorings were found to be the most reliable mooring system tested during the trial program in Moreton Bay. Similar programs using this mooring system have also been successfully implemented in other parts of Australia.

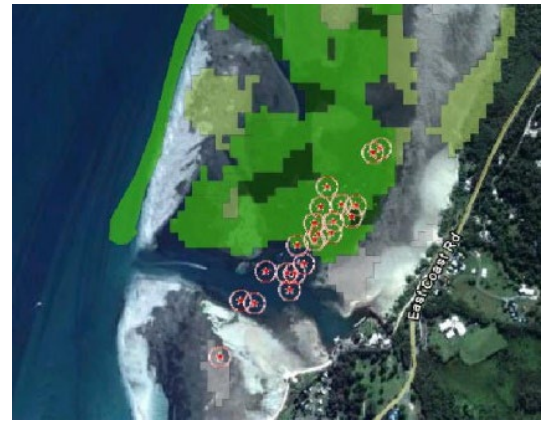
The Environmentally Friendly Moorings initiative has been recognised by several awards including the Australian Business Award for Environmental Sustainability.

### How does the replacement program work?

When a program is instigated through partnerships with government or business, existing block and tackle mooring owners are eligible to receive full replacement of their current system with an Environmentally Friendly Mooring if it is determined to be in a priority location for the recovery of seagrass and marine habitat.

Mooring owners are invited to submit expressions of interest for mooring replacement and pending approval by the Steering Committee, Healthy Land and Water will facilitate an agreement with approved installers including supply and installation. Once installed, the mooring becomes the sole responsibility of the mooring holder.

To understand the benefit of environmentally friendly moorings, Healthy Land and Water undertake monitoring of seagrass and marine habitat recovery where replacement has occurred using highly qualified seagrass scientists to determine the rates of recovery over successive years. To date over 230 traditional block and tackle moorings have been replaced with environmentally friendly moorings within Moreton Bay, resulting in over 17 hectares of recovered seagrass and associated marine habitat restoration.



**Analysis has been conducted of seagrass density and mooring locations.**



**An environmentally friendly mooring with seagrass growth around the mooring.**

*This program is proudly supported by:*



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