European Commission

Science for Environment Policy

Protecting seagrass from anchor damage: new recommendations

Damage caused by boats anchoring in seagrass meadows off the coast of Sardinia continues despite restrictions, new research shows. The study's authors provide a number of recommendations to help protect seagrass. These include creating special anchoring areas in seagrass-free locations, and limiting the number of boats that enter a marine protected area.

Seagrass meadows are important marine habitats that provide ecosystem services such as nursery habitats for fish, coastal protection and water purification. The EU's Habitats Directive[1] and the Water Framework Directive[2] recognise the importance of seagrass meadows, and marine protected areas (MPAs) have been set up to help ensure their protection.

Many meadows face increasing pressures from human activities. These include boat anchors or moorings, which can uproot seagrass or expose its delicate roots.

The study used underwater surveys by divers to evaluate the effect of anchoring damage, the impact of traditional mooring systems and the effectiveness of mooring fields (designated areas for boat mooring where mooring systems, such as dump weights, are provided) on the conservation of meadows of the seagrass *Posidonia oceanica*.

The study area was the La Maddalena Archipelago National Park, Italy, a 50km^2 MPA off the coast of Sardinia. Despite its protected status, seagrasses in the area are still threatened by boat anchoring. The researchers focused on two areas of the park, Cala Portese and Porto Madonna, which are most frequented by boats and equipped with mooring fields.

In general, the researchers found disturbed or very disturbed seagrass in all investigated areas, including 'control areas', where mooring is not allowed, at distances of 300–500 m from the edge of mooring fields.

Seagrass covered 50–60% of the seafloor, on average, within mooring fields compared with 80–90% in the control areas. Seagrass meadows within mooring fields were also more fragmented than in control areas. This, the researchers say, suggests that mooring fields and 12 years of restrictions (on the amount and locations of anchoring in the MPA) have been an ineffective tool for protecting seagrass.

At each area studied, the researchers found an increase of up to 34% in anchoring damage following the tourist season. In control areas, anchor damage increased by 18% and 70% at Cala Portese and Porto Madonna, respectively. This shows that current anchoring restrictions are often ignored. Additionally, the researchers found that there was a lower density of seagrass around traditional mooring systems, such as dump weights. This suggests that such moorings can become dislodged, due to wave action or misuse, and move along the seafloor, damaging seagrass.

These findings led the study's authors to suggest a number of possible actions, both practical and legislative, to improve the protection of *P. oceanica* from anchoring damage. These are as follows:

1) Establish free zones for anchoring in areas where seagrass is not present, such as sandy bottoms.
2) Establish a maximum number of boats permitted in the park based on the number of mooring buoys available and the capacity of the designated anchoring sites on sandy bottoms.
3) Replace current mooring systems with 'seagrass-friendly' systems.
4) Better enforce anchoring restrictions, for example, by using surveillance technologies and co-operating closely with law enforcement.
5) Implement educational programmes or campaigns to change boaters' attitudes and behaviours to anchoring in coastal areas.
6) Design and use a long-term monitoring plan to measure the effects of any management strategy.

23 April 2015
Issue 411

Subscribe to free weekly News Alert

Source: La Manna, G., Donno, Y., Sarà, G. & Ceccherelli, G. (2015). The detrimental consequences for seagrass of ineffective marine park management related to boat anchoring. *Marine Pollution Bulletin* 90(1-2): 160–166. DOI:10.1016/j.marpolbul.2014.11.001.

Contact: gabriella.lamanna@gmail.com

Read more about: Marine ecosystems

1.http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

2.http://ec.europa.eu/environment/water/water-framework/index_en.html