

Sediment Stability in the Venice Lagoon – Is it affected by trawling?



Client: Consorzio Venezia Nuova

Project duration: Four fieldwork sessions

Project description:

The Venice Lagoon has a history of anthropogenic pressure that disturbs its ecology. One of these pressures comes from the impact of mechanical trawling, by boat, for the clam *Tapes phillipinarum*. However, the exact extent of the impact is unclear.

The tendency of the sediment bed to erode is effected by the bulk strength of the bed and the resistance of the surface particles to erosion. Both of these factors are controlled by physical, biological and geotechnical properties. The trawling of the sediment surface may disrupt the bed and affect the sediment stability.

A series of interdisciplinary campaigns were conducted by the Consorzio Venezia Nuova, and the overall programme encompassed four main tasks:

- Data collection on clam cultivation and harvesting
- Testing of two different mechanical harvesting gears
- Monitoring of local and nearby impacts
- Evaluation of alternative mitigation procedure

Key elements:

Within this programme, SERG:ES focussed on the stability and properties of the surface sediment. Surface sediment stability along line transects, before and after trawling, was measured using the Cohesive Strength Meter. Sediment properties were measured from contact cores. Microphytobenthic assemblage analysis was determined using light microscopy. Two sites were monitored. San Angelo, which is a site heavily impacted by trawling, and San Giacomo, which is a less impacted site.



Picture of a trawl boat on the Venice Lagoon
