Monitoring of *Posidonia oceanica* meadows in the Telašćica Nature Park (Croatia)

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Monitoring of marine priority habitats has been recently undertaken in the Telašćica Nature Park (Croatia) in compliance with the management plan developed within the MedPAN South project. Assessment of the state of *Posidonia oceanica* meadows was made in 2011, 2012 and 2014, in five locations subjected to different anthropogenic pressure. The monitoring was mainly aimed to establish the presence of disturbance in locations that are highly frequented by recreational boaters.
Using an empirical assessment of frequent boat use, meadows were defined as "anchoring" (four locations - Čuška Dumboka, Kobiljak, Lučica, Sestrica – that are potentially subjected to high pressure from boating activities) or "no-anchoring" (one location - Garmenjak - where boating activites are considered negligible since the area is not a preferred destination for boater). Structural descriptors of the meadows (i.e shoot density and the Conservation Index) were assessed at different sites at each location, by means of direct surveys in SCUBA diving.
Results indicate clear signs of deterioration at the locations that are subjected to high pressure of anchoring. Overall, shoot density at the "no-anchoring" sites had significant higher values than the "anchoring" sites, by around 31% to 45% higher, over the three years of investigations. Changes in values of the Conservation Index were smaller; 10% to 15% higher in "no-anchoring" than "anchoring" sites. Among the "anchoring" locations, Čuška Dumboka and Kobiljak showed the lowest values of shoot density and Conservation Index (as a consequence of the highest cover of dead *matte*), over the three years of monitoring.
The combined use of the two descriptors seems to be effective in obtaining information on the condition of the seagrass meadows and strengthens the *a priori* assumption that mechanical disturbance of anchors affects *P. oceanica* adversely by enhancing regression of the meadows.
The management authority is now implementing a series of actions to reduce human pressures and promote a more sustainable approach to nautical tourism. Monitoring of boating frequency and activities (number and size of boats, anchor type), is recommended to assess the effective pressure of anchoring and understand whether the different conditions of meadows under pressure correspond to the different levels of disturbance or if other factors along with anchoring are influencing the seagrass beds.