Mediterranean Seagrass Workshop

Assessment of *Posidonia oceanica* status along the north Croatian coast (Adriatic Sea)

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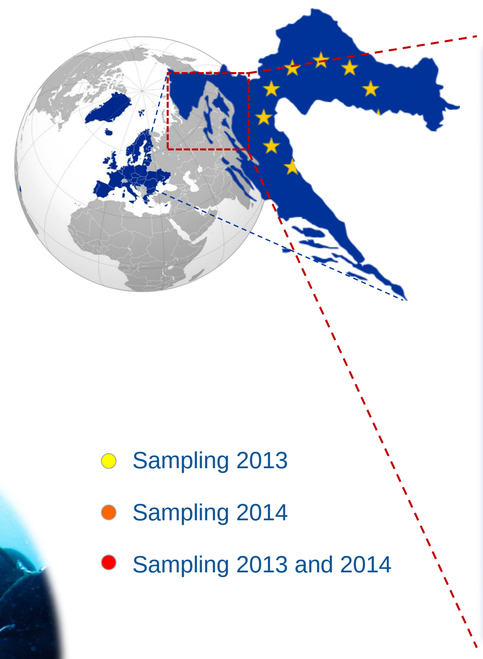
Introduction

Monitoring of *Posidonia oceanica* was carried out in the framework of the MedMPAnet Project in eight meadows not formerly explored in an area along the north coast of Croatia. The survey was aimed to collect preliminary data as a baseline for future surveillance cycles of the priority habitat 1120 "Posidonia beds" within the framework of the National Monitoring Programme, according to the requirements of the EU Habitats Directive.

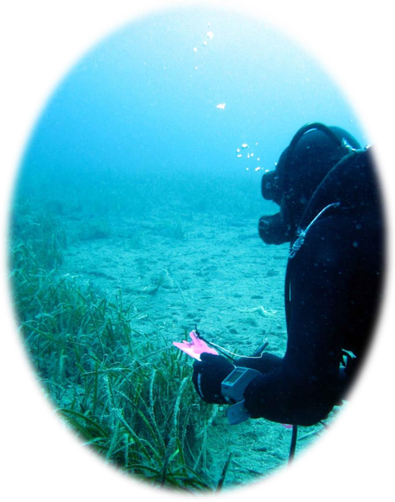


Primorje-Gorski Kotar County (Adriatic Sea)

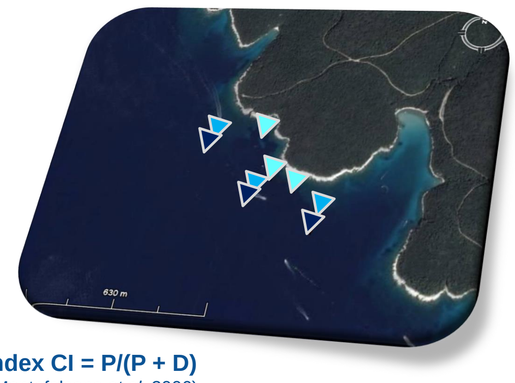
Methods

Fieldwork was carried out in 2013 and 2014 through direct SCUBA diving surveys. At each site, the following descriptors of meadow conditions were assessed at three stations and three depth ranges:

- ✓ shoot density
- ✓ % coverage of *Posidonia oceanica*, dead *matte* and substrate type
- ✓ depth and type of lower limits



At each meadow
3 depth ranges
- **shallow** (8±2 m)
- **intermediate** (15±2 m)
- **lower limit** (below 25 m)



3 stations (~400 m²) each

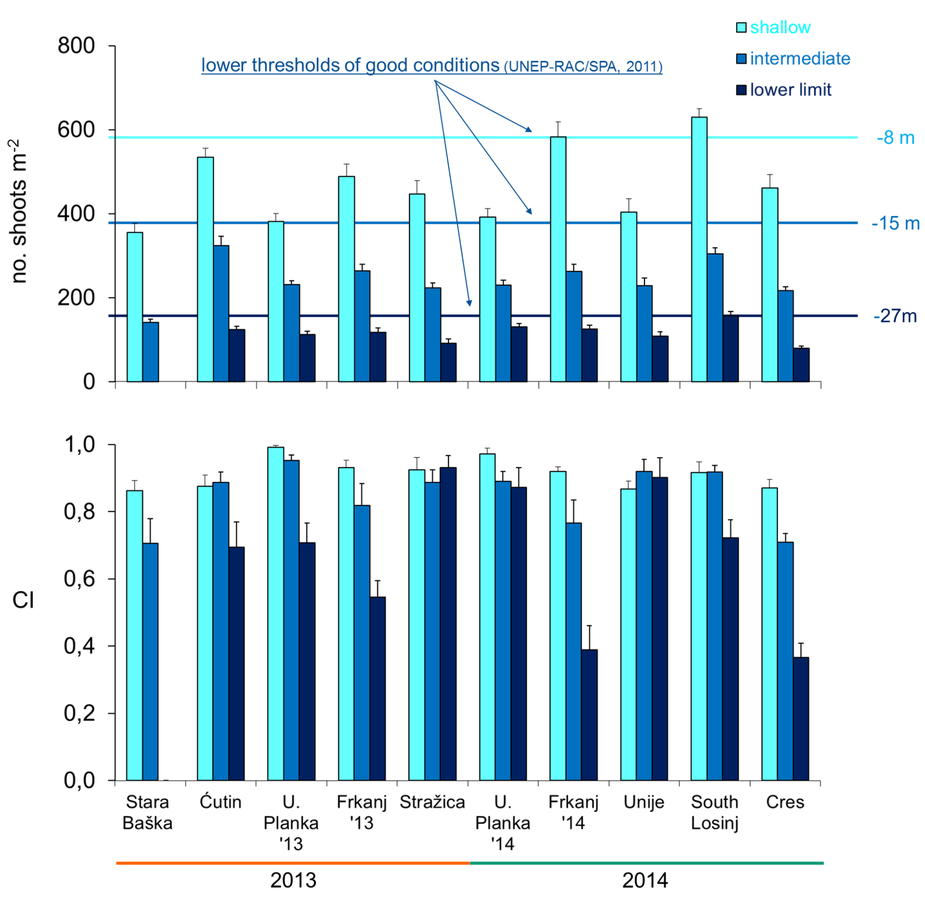
% live *P. oceanica* (P)
% dead *matte* (D)
% sand/mud
% rocks

Conservation Index CI = P/(P + D)
(Moreno *et al.* 2001; Montefalcone *et al.* 2006)

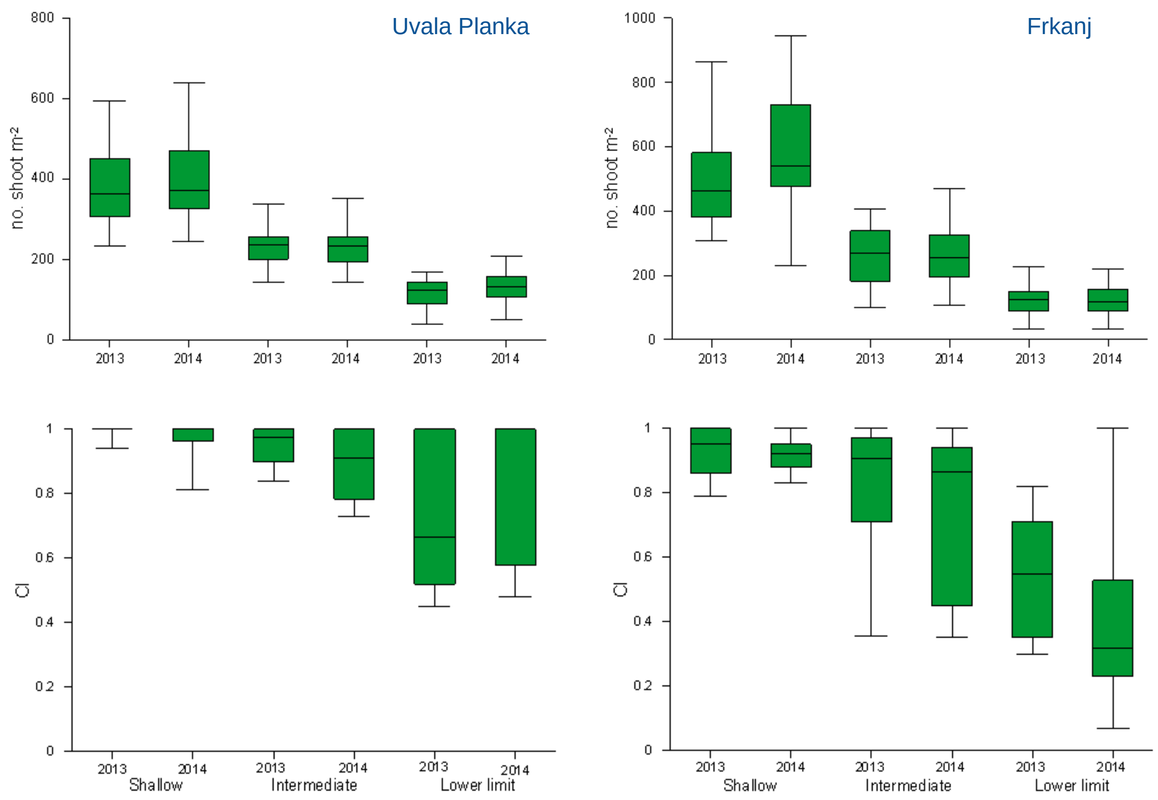
CI = 0 minimum state of conservation
CI = 1 maximum state of conservation

Results

year	2013					2014				
site	Stara Baška	Ćutin	Uvala Planka '13	Frkanj '13	Stražica	Uvala Planka '14	Frkanj '14	Unije	Losinj-south	Cres-west
upper limit, depth	6 m	6 m	6-12 m	5-13 m	5-9 m	6-12 m	5-13 m	6 m	7 m	4 m
main substrate	sand, matte	rock, sand	rock, sand	matte, sand, sparse rocks	rock, matte, sand	rock, sand	matte, sand, sparse rocks	rock, sand	rock, matte, sand	rock, matte
lower limit, type	regressive	regressive	progressive	regressive	progressive	progressive	regressive	progressive	progressive	regressive
lower limit, depth	26 m	26.5 m	27.8 m	26 m	28 m	27.8 m	26 m	27.8 m	27.6 m	26.7 m



The meadows in Uvala Planka and Frkanj were investigated during both years of survey in order to test any differences due to the methodological approach



Conclusions

- ✓ Shoot density indicated signs of distress for several meadows.
- ✓ Regression is also testified by high coverage of dead *matte* especially at the lower limit, which was regressive in four meadows and in no case did it exceed 27 m in depth.
- ✓ Consistent results between the two years of investigation were detected for shoot density, at all sites and throughout the bathymetric range; on the contrary some changes of CI were detected in the deepest portions of both meadows.
- ✓ Further monitoring and research campaigns are recommended to improve the level of knowledge on the status of meadows in this area, to develop a baseline for assessing long-term temporal trends as requested by Habitats Directive, and to shed light on the relevance of both environmental and anthropogenic factors in determining the health status of the meadows.
- ✓ Intercalibration among operators and establishment of threshold values for shoot number specific for the Adriatic Sea is suggested to ensure reliable implementation of the National Monitoring Programme.

References

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