AN INTEGRATED MONITORING PROCEDURE OF COASTAL DUNE FIELDS. THE EXAMPLE OF CAPO COMINO AREA (NE SARDINIA, ITALY).

I. BALDUZZI[1] , I. VAGGE[1], N. CORRADI[2], M. FERRARI[2]
[1] Di.Pro.Ve., Università degli Studi di Milano, Via Celoria 2, 20133 Milano, Italia; [2]Dip.Te.Ris., Università degli Studi di Genova, Corso Europa 26, 16132 Genova, Italia

Monitoring plans are very important in order to improve ICZM protocols because of their contribution to the analysis, the conservation and the preservation of coastal sandy ecosystems.

Multidisciplinary studies are required for a well understanding of natural systems'evolution in consideration of their delicate equilibrium and dynamics. In fact, as an example, coastal dune fields fell the effects of natural and anthropic constrains and they react relatively fast to these stress.

We present the results of the experimentation of a new procedure of monitoring, that relates the morphological and sedimentological characteristics of the dune system and those of the vegetal associations that identify it. We suggest obtaining the best possible description of the landscape in quali-quantitative values by different disciplines.

This method plans a first essential analysis by remote sensing and a following field work collecting sedimentological, morphological and vegetational data (by phytosociological method) along several transects, systematically repeated in the years in order to highlight the medium-long term changes.

The use of survey systems, based on vegetal associations' distribution, allows planning a strategy for the geomorphological and topographical survey that is/were simpler and faster if you have to work on huge study areas. In fact, as an example, considering the distribution and the ecological valence of the associations, it's possible to give indications about dune field sides, using some enough reliable interpolations.

After a first application in an anthropic study area, Platamona (North Sardinia) (Balduzzi *et al*., 2006; Vagge *et al*., 2007), we improved our studies in Capo Comino area. This area, characterized by natural and very complex conditions and only partially included in SIC-ITB020012, has been monitoring from 2003 (Balduzzi *et al.*, 2009) until now. In order to better understand the actual dynamics in the dune field, it has also been very important to study the submarine beach in a morpho-sedimentological point of view – by bathymetric lines and sample's collection – and by the observation and the mapping of *Posidonia oceanica* meadows because their considerable importance on the sediment dynamics.

In general results show a slow erosive trend, highlighted by morphological and vegetational changes. We found the degradation - and sometimes the disappearance - of few phytocenosis in the dune field.

Balduzzi I., Bozzano A., Corradi N., Mariotti L.M., Vagge I., 2006. The evolution of the dune fields of Platamona-Marritza (Northern Sardinia) using remote sensing and aerial imagery. Chemistry and Ecology, 22 (suppl. 1): 371-381.

Balduzzi I., Corradi N., Ferrari M., Vagge I., 2009. First observations about morpho-sedimentological and vegetational aspects of the dune field of S.Ena' – Sa Chitta and Iscra Ruja coast (NE- Sardinia). 45th International Conference SISV & FIP "Biodiversity Hotspots in the Mediterranean Area", Cagliari (IT), 22-24 and 25-29 June 2009, p. 185 (abs.).

Vagge I., Corradi N., Ferrari M., Balduzzi I., Mariotti L.M., 2007. Aspetti vegetazionali e morfo-sedimentologici dei campi dunari di Platamona-Marritiza con particolare riguardo all'area di Marina di Sorso (Sardegna settentrionale). Fitosociologia 44: 33-48.

INDICE