

At the founding meeting in Ljubljana, its participants agreed that within the framework of the founding activities of the Slovenian National Bioplatform they would initially name a number of experts from various scientific-research institutions, prepare a list of professional institutions and non-governmental organisations connected with the biodiversity research in Slovenia and a list of experts at the competent ministries. These lists will be applicable during the setting up of the so-called "Slovenian Biodiversity Network". In the following phase we intend to prepare a catalogue of the current research and applicative projects in the field of biodiversity and systematic monitoring of interventions into our natural environment. With the support given by the Ministry of School Education, Science and Sports, the Slovenian National Bioplatform has been enabled, as early as during its establishment, to appear on the World-Wide Web. Within the framework of the ministerial websites www.rtd.si earmarked for information on research programmes, call for tenders in the national research programme and target research programmes, we have given information support to the SNB with all the necessary links to the suitable international websites. The SNB website works within the information framework covering the research activities by the EU and the Republic of Slovenia in the field of sustainable development and global changes in the EU's 6th general programme.

The participants of the SNB's founding meeting in Ljubljana in January 2003 believed that the establishment of SNB is an exceptional opportunity for further integration and communication of the Slovenian professional public, which is any possible way associated with biodiversity, but at the same time represents a forum for reconciliation of the priority research projects.

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REPORT ON ACTIVITIES FOR LONG-TERM CONSERVATION OF THE *POSIDONIA OCEANICA* MEADOW IN SLOVENIA



Posidonia oceanica (L.) Delile is, together with *Cymodocea nodosa* (U.) Ascherson, the most common seagrass in the Mediterranean. It is widespread in the entire basin, except in the area close to the Strait of Gibraltar, Northern Adriatic, coastal waters of Israel, Bosphorus, Sea of Marmara, and the Black Sea. Accord-

ing to Benacchio (1938), it used to be quite common also on the silty bottom of the Gulf of Trieste in the Northern Adriatic. Further investigations showed, however, a drastic change in its distribution in this northernmost part of the Adriatic. It is very likely that at present there is only one very restricted meadow of *P. oceanica* in the Gulf of Trieste. The area is in Slovene coastal waters between the towns of Koper and Izola. A preliminary and approximate mapping of the area carried out in 1993 showed that the meadow is approximately 1 km long, starting close to the coastline (water depth from 0.2 to 0.5 m) and extending 50 m from the shore (water depth app. 4 m). The meadow consists of several *P. oceanica* islands of different sizes and shapes and does not fit into normal meadow types.

The meadow has been included in the local physical plans as a future protected area. At the same time the Slovene government decreed *P. oceanica* a rare and endangered species; the decree was adopted by the national parliament in 2002. Furthermore, *P. oceanica* is listed in Annex II of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean as endangered species, while the EU Habitat Directive 92/43/EEC of 21st of May 1992 defines its meadows as priority habitat type. The protection of *P. oceanica* and its meadows is thus one of the top priorities in the sphere of nature conservation. However, in order to suitably define the potential threats and apply efficient conservation measures for this unique meadow, further research and monitoring were necessary.

The importance of further research and monitoring is even greater due to the planned changes concerning the main coastal road that at present runs virtually along the coastline. The new road, which is bound to be built in the forthcoming years, will be shifted into a tunnel and will, as a consequence, "free" the coastline and make it available for other activities, mainly recreation and tourism. Due to it, increased pressure for beach enlargement, piers, maritime traffic and other recreational and tourist facilities is expected. Without suitable legislation, accurate maps of the sea floor and its habitat types, a well-defined monitoring and awareness campaign, the expected pressure for the development of recreational facilities could jeopardise the conservation of the meadow.

Within the framework of the SAP BIO project (Strategic Action Plan for the Conservation of Marine and Coastal Biodiversity in the Mediterranean Region), carried out by the Regional Activity Centre for Specially Protected Areas in Tunis, National Reports were prepared in order to define the state of art in the field of biodiversity conservation and to foresee the due future activities. In the Slovene National Report, 14 priority actions were listed, including activities concerning legal protection, research and monitoring programme for *P. oceanica*. As a follow-up of the National Report, a Na-

tional Action Plan for the conservation of the *P. oceanica* meadow was drafted. Its main objectives are in line with the RAC/SPA Action Plan for the conservation of marine vegetation in the Mediterranean Sea, adopted by the contracting parties to the Barcelona Convention in 1999 and with the provisions of the EU Habitat directive. The main targets of the action plan could be summed as follows:

- legal protection of *P. oceanica* and establishment of a protected area that would enclose the dealt with meadow;
- better knowledge of the extension of the area covered by *P. oceanica* based on accurate cartography of the meadow;
- better knowledge of the main ecological parameters in the area covered by the meadow;
- public awareness raising.

Memorandum of Understanding

The possibility to carry out most of the activities, foreseen in the action plan, came with the signing of the Memorandum of Understanding (referred hereafter as MoU) by the Institute of the Republic of Slovenia for Nature Conservation, the International Cooperation for Environment and Development of the Principality of Monaco, and the Regional Activity Centre for Specially Protected Areas (RAC/SPA) of the Barcelona Convention. According to MoU, the Institute of the Republic of Slovenia for Nature Conservation should carry out, through its Regional Office Piran, various activities aimed at providing for efficient, long-term conservation of the *P. oceanica* meadow, by which it would fulfil some of the actions foreseen in the Action Plan for the Conservation of Marine Vegetation in the Mediterranean Sea. To undertake this activities, financial support is to be granted by the International Cooperation for Environment and Development of the Principality of Monaco and RAC/SPA.

Implementation of the activities

The activities foreseen in the action plan and financed according to MoU were carried out in 2003. The Regional Office in Piran coordinated all the activities and at the same time attempted to "use" them as a tool to increase public awareness concerning nature conservation. A short description of the activities is given hereafter.

Aerial photography

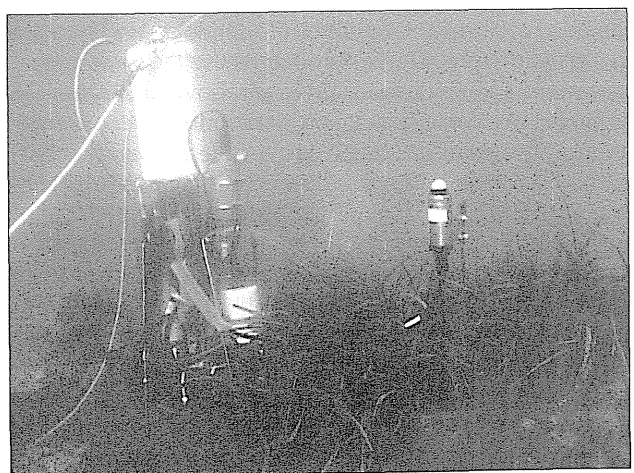
Mapping of seagrass meadows has become and indispensable tool not only for developing and managing the coastal area but also for a proper research and monitoring of the meadows' structure and dynamics in

view of their management and protection. Aerial photography and further image processing appears to be a technique particularly suitable in shallow waters, as it is the case of the investigated *P. oceanica* meadow. The aerial photographs were taken and processed in the winter of 2002/2003 in order to ensure greater transparency of the water and at the same time to take advantage of the "absence" of *Cymodocea nodosa* meadows. The results of aerial photography were checked later on by SCUBA diving. On the basis of aerial photos and field data, a map of the meadow was made. The task was carried out in collaboration with the Group for Coastal Ecosystems at the University of Corte (Corsica). The mapping of the meadow, together with other activities such as marking the lower limit, will allow us to prepare a long-term monitoring programme for the meadow and other habitat types present in the area.

Study of the main ecological parameters in the meadow

In order to improve our knowledge on the environmental conditions that influence the development of the meadow, a programme for the study of the main ecological parameters was prepared in collaboration with the National Institute of Biology – Marine Biology Station in Piran. The investigation, which was carried out twice – in the winter and summer of 2003 – included investigation of the following parameters:

- light conditions on the sea floor;
- sedimentation rate;
- microphytobenthos species;
- microphytobenthos primary production;
- meiofauna species;
- nutrients in interstitial water;
- sediment metabolism expressed through respiration.



Sampling in the seagrass meadow of *Posidonia oceanica*. (Photo: J. Forte)

Vzorčevanje na travniku pozidonije. (Foto: J. Forte)

Marking the lower limit of the meadow

In order to be able to monitor the development of the meadow, 6 marks were placed at its lower limit, while 4 of them were used to mark the outer border of a single patch. In accordance with the methodology used in GIS Posidonie, photographs of the situation were taken in order to enable a follow-up of the evolution of the meadow and the eventual changes in its lower limits.

Installing signposts

Owing to the fact that the meadow is located in urban area with somewhat intense recreational use, especially in summer, the signposts constitute an important tool in spreading the awareness of the importance of the meadow and its conservation. Taking into account the specificity of the area, two signposts, explaining the main characteristics as well as importance of *P. oceanica* and the conservation measures adopted, were foreseen.

Public awareness raising

As mentioned above, all the activities were used as a tool to raise public awareness concerning the importance of the meadow and the need for its conservation. However, a special event was organised in order to inform the public on the activities carried out within the framework of the project. This event included a press conference, a field trip, lectures by Gerard Pergent and Christine Pergent-Martini from the University of Corte, and exhibition dedicated to *P. oceanica* meadows, their importance and role.

Future activities

Two main sets of activities are foreseen and needed in the near future. The first concerns the meadow's legal protection. The activities include above all establishment of a protected area and definition of its management. The implementation of this activities depends primarily on the Ministry of Environment, Physical Planning and Energy and to a lesser extent on the Institute of the Republic of Slovenia for Nature Conservation. These activities are a must, as the area is also a proposed Natura 2000 site.

The second set of activities concerns the monitoring of the area – development of the meadow and other habitat types, checking out the species list, ecological parameters, etc. The monitoring is to be performed in concordance with the methodology used by GIS Posidonie. This would allow a suitable comparison with the results obtained in other parts of the Mediterranean.

At the end of this short report on the activities carried out with the aim to provide for efficient, long-term con-

servation of the only *P. oceanica* meadow in the Slovene sea and in the entire Gulf of Trieste, I would like to express my cordial thanks to the International Cooperation for Environment and Development of the Principality of Monaco, the Regional Activity Centre for Specially Protected Areas (RAC/SPA) of the Barcelona Convention, and to the MAP Coordination Unit in Athens for their financial and technical support.



Posidonia oceanica (Photo / Foto: T. Makovec)

Robert Turk

QUANTO VALE LA COSTA DI MUGGIA? LA PAROLA AGLI ESPERTI

Il 25 Gennaio 2003 si è tenuto a Muggia un incontro pubblico dal provocatorio titolo "Quanto vale la costa di Muggia? La parola agli esperti". L'iniziativa ha visto la partecipazione di numerosi esperti, i quali hanno messo in luce le caratteristiche peculiari del litorale muggesano sotto diversi punti di vista. La folta schiera di associazioni promotrici, tra queste l'Associazione Micologica Bresadola, il CAI, il Circolo Istria, la Fameia Muiesana, Italia Nostra, Lega Ambiente, la Società di Studi Nettuno, Il Comitato SOS Muggia e il WWF, hanno infatti sentito la necessità di conoscere e far conoscere il litorale muggesano in vista dei progetti di interrimento e di creazione di nuove strutture portuali turistiche previsti nel PRG del Comune di Muggia.

I primi due interventi hanno definito l'area dal punto di vista storico-archeologico. In particolare, il dott. Franco Stener della Fameia Muiesana ha illustrato i confini geografici e storici del territorio muggesano ed ha delineato i limiti dello sviluppo turistico ed economico del territorio costiero in un intervento dal titolo "Limiti e prospettive della penisola muggesana".

Ha fatto quindi seguito l'intervento della dott.ssa Rita