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"Water, landscape and citizenship in the face of global change"

« Eau, paysage et citoyenneté face aux changements mondiaux »

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WORKSHOP 3: Protection, management and planning instruments related to the presence of water in the landscape

Protection and Valorisation of Coastal and Fluvial Landscapes

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The Directorate General Archaeology, Fine Arts and Landscape of the Italian Ministry of Cultural Heritage – performs its institutional duties, coordinating a whole of 39 state superintendencies (*Soprintendenze*), territorial offices exercising on behalf of the Italian citizens the administrative functions of protection (*tutela*) and valorization (*valorizzazione*) on both the cultural heritage and the landscape.[1]

Sicily does not have state superintendencies because in 1974 the island gained a relatively autonomous administration of the cultural heritage. Notwithstanding this, the administration of cultural heritage in

1. Code of Cultural Heritage and Landscape (Legislative Decree n.42/2004 - *Codice dei beni culturali e del paesaggio*) is the name of the fundamental law that joined together all the previous legislative measures concerning the cultural heritage in Italy.

Sicily has continued to be an example of great value, with model experiences in both protection and valorisation of cultural assets. In this regard, I cannot fail to remember here Sebastiano Tusa, underwater archaeologist and Head Officer of the Sicilian Region who lost his life a few days ago in the plane crash of Addis Ababa, while heading to a UNESCO conference in Nairobi, who had the great intuition of creating in Sicily the Superintendence of the Sea, (*Soprintendenza del Mare*). This project makes me thinking about the question addressed yesterday by our colleagues from Finland: "what could be your own underwater management?

Fig. 1. Sebastiano Tusa (1952 – 2019)

According to Sebastiano Tusa, this notion not simply encompassed underwater archaeological heritage but a whole series of artefacts along the Sicilian seacoast, traditionally linked to the coastal economy like the salt facilities (*saline*) or the traditional tuna processing facilities (*tonnare*). Maybe the ground-breaking vision of Sebastiano Tusa could be shared in a wider Mediterranean, or Baltic, or North Sea perspective!

Landscape is explicitly introduced in the article 9 of the 1948 Constitution, which declares, among the fundamental principles that "The Republic promotes the development of culture and the scientific and technical research; protects the landscape and the historical artistic heritage of the Nation". Please note the wider value of this declaration: the cultural heritage –and the landscape –deserves protection not simply because recognised valuable by the local or regional communities, rather for its importance to the entire Nation and implicitly, I would say, to whole Europe.

This larger international commitment is explicitly stated in art. 132 (International conventions) of the Italian Code of the Cultural Heritage and Landscape (D. Lgs. N. 42/2004):

> "1. The Republic shall comply with the obligations and principles of co-operation between States established by international conventions on the protection and valorisation of the landscape.

2. The distribution of competencies in the field of landscape is established in accordance with the constitutional principles, also with regard to the application of the European Landscape Convention, adopted in Florence on 20 October 2000, and of the relative rules of ratification and execution".

The second comma, regarding the distribution of the administrative competencies between State and Regions according to the Constitution, recalls, while not explicitly declares, the specific role of the State in the protection and of the Regions in the valorisation of the landscape.

The article 136 of the legislative decree n. 42/2004 (Buildings and areas of considerable public interest) establishes how a certain landscape can be considered a cultural object deserving protection:

"1. They are subject to the provisions of this Title for their considerable public interest:

a) immobile things that have conspicuous characters of natural beauty, geological singularity or historical memory, including monumental trees;
b) villas, gardens and parks, not protected by the provisions of Part Two of this code, which are distinguished by their uncommon beauty;
c) complexes of immovable things which make up a characteristic appearance having an aesthetic and traditional value, including historical centers and nuclei;
d) scenic beauties and also those points of view or belvedere, accessible to the public, from which one can enjoy the spectacle of those beauties".

This first set of criteria, originally declared by the law n. 1497/39 (*Protezione delle bellezze naturali*), still remains today the basic key for the identification "by Decree" of specific zones deserving legal measures for their protection and valorisation as landscape heritage (*beni paesaggistici*).
Another much wider set of criteria, originally introduced by the law 431/1985 and integrated in the Code in the article 142 (Areas protected by law), comprises a whole of geographic and territorial elements largely characterising the Italian landscape[2]:

- coastal territories within a range of 300 meters from the shoreline;
- territories adjacent to the lakes within a range of 300 meters from the shoreline;
- rivers, streams and watercourses registered in the lists of the R.D. December 11, 1933, n. 1775 and the shores for a range of 150 metres;
- mountains for the part exceeding 1,600 metres above sea level. for the Alpine chain and 1,200 metres above sea level for the Apennine chain and islands;
- glaciers and glacial cirques;
- national or regional parks and reserves as well as external protection territories;
- territories covered by forests and woods, even if traversed or damaged by fire, and those subject to reforestation restrictions;
- areas assigned to agricultural universities and areas burdened by civic uses;
- wetlands included in the DPR 13 March 1976, n. 448;

2. This wide set of criteria well reflects the point of view of the geographer Lucio Gambi, who pointed out how "Italy along the almost 1200 kilometres from the Alps to the African seas displays a variety of physical features as we find in other earth areas across a meridian arch of 3 or 4 thousand kilometers". Gambi, L., *La costruzione dei piani paesistici. Scritti di Lucio Gambi sull'Emilia Romagna e dintorni*, a cura di M. P. Guermandi e G. Tonet, Bologna, 2008.

- volcanoes
- areas of archaeological interest

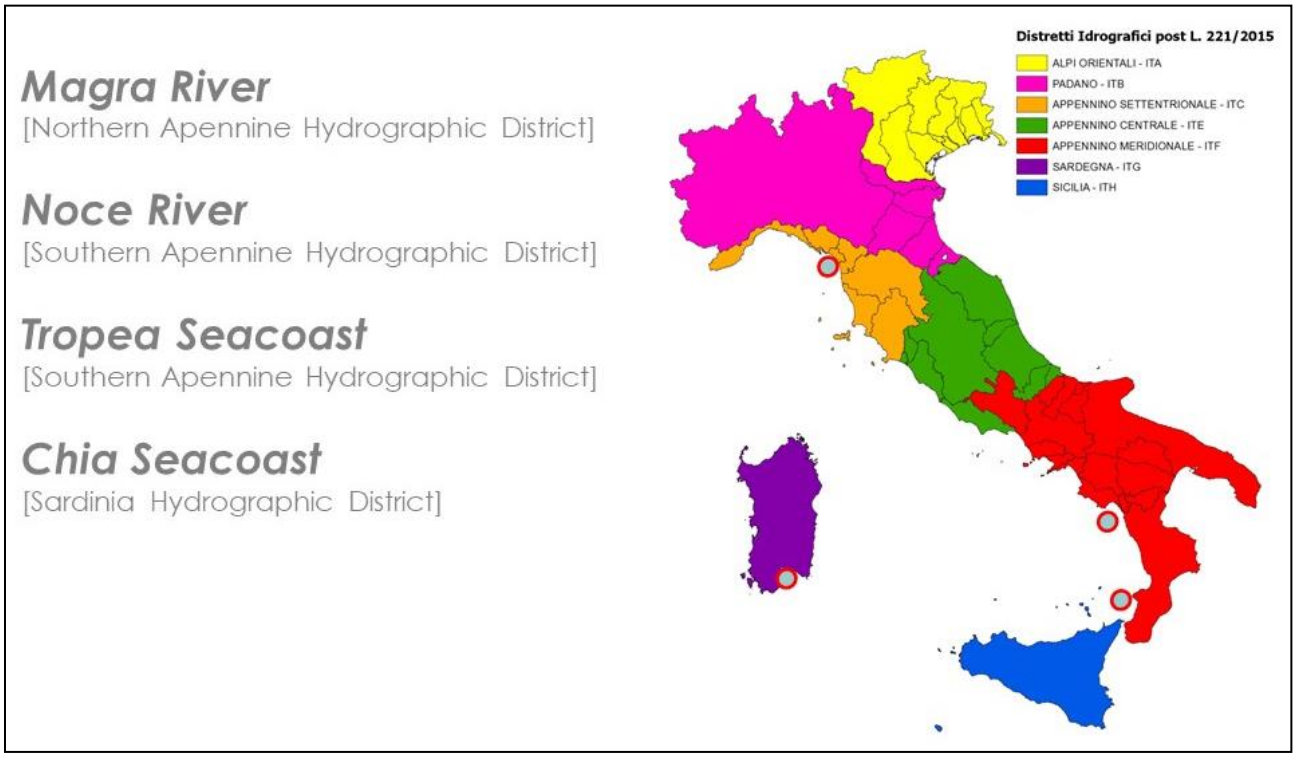

Fig. 2. Hydrographic districts and case studies (north to south, clockwise)

The first three of the categories above relate to specific parts of the landscape, which are adjacent to the watery realm: seashores, lakes, rivers, as reflected by the quite large number of river basin districts and river basin district authorities established in Italy under the EU Water Framework Directive [2000/60/EC].

Moving from this background, a few case studies can demonstrate how the conservation and valorisation of coastal and fluvial landscapes in Italy is especially crucial to the well-being of citizens in the face of global change:

- *Magra River* [Northern Apennine Hydrographic District];
- *Noce River* [Southern Apennine Hydrographic District];
- *Tropea Seacoast* [Southern Apennine Hydrographic District];
- *Chia Seacoast* [Sardinia Hydrographic District].

The Magra is a 62-kilometre long river of Northern Italy, which runs in the province of Massa-Carrara (Tuscany) and in the province of La Spezia (Liguria). The river's drainage basin occupies around 1,686 km^2. Its most important tributary is the Vara which joins the Magra near Santo Stefano di Magra.

The confluence between Magra and Vara (Filattiera plain) with braided riverbeds is an example of an area in the basin with higher naturality.

Fig. 3. Magra river, Filattiera plain

This case study features in a collaborative research promoted by the Ministry of Cultural Heritage on the subject of landscape recovery and restoration in areas at high hydrogeological risk.[3]

Among the most relevant aspects widely discussed in the study, in direct connection to the Magra river, are the riverbed morphology, ecological functionality of the riverbed, functional mobility corridor, conservative actions and ameliorative actions.

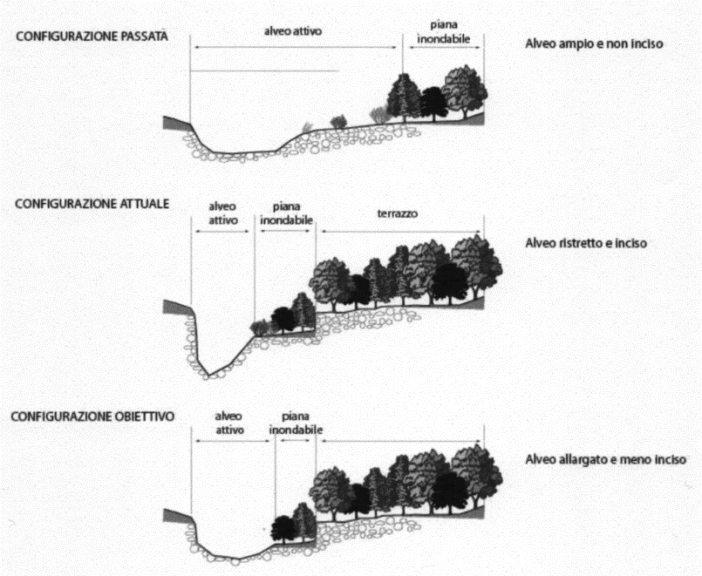

Fig. 4. Ecological functionality of the riverbed

3. This study is led by the Ministry of Culture – Landscape Protection Service, in collaboration with the University of Florence. Garzonio et alii, "Le terre d'acqua. Metodologie per interventi di riqualificazione e restauro paesaggistico in aree a rischio idrogeologico", MiBAC – UNIVERSITA' DEGLI STUDI DI FIRENZE, in course of publication.

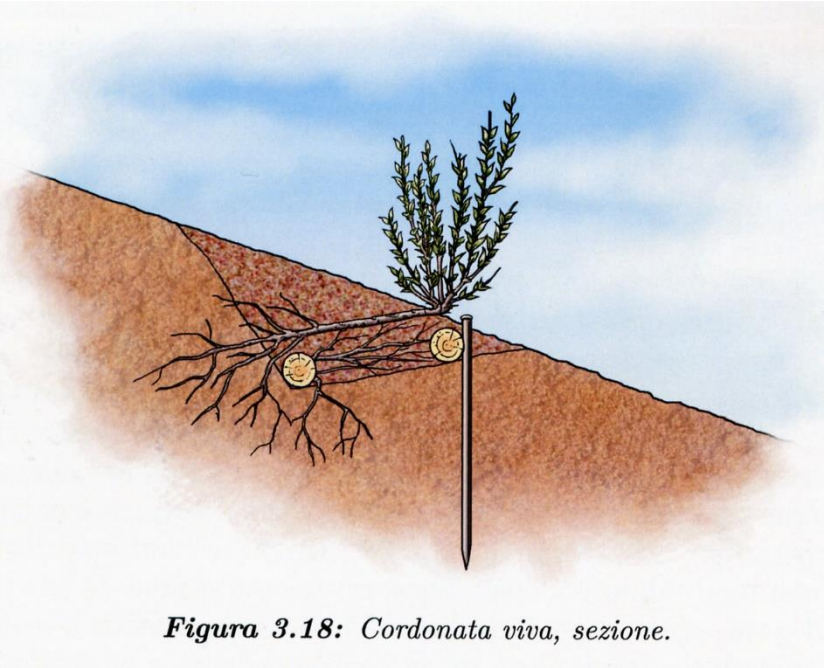

Fig. 5. Riverbank protection with live branches

The study also aims at spreading specific techniques of landscape bioengineering, starting from the consideration of the landscape impact of conventional hydraulic engineering techniques (weirs, embankments, rigid barriers…).

Specific solutions of selective weirs, wooden/masonry weirs and alternative systems of riverbank protection, making use of live and unfertile branches, control blankets, or slope geo-cells, conform to the basic concept that there is a smooth way of dealing with rivers in order to restore their functionality.[4]

The Noce is a 45-kilometre long river in the Southern Apennine Hydrographic District, which runs at the border between Basilicata and Calabria regions, the southernmost of the Italian peninsula. This intervention was led in the lower part of the river channel, heavily influenced by recurrent sea storms as the one in 2000 which caused the loss of 300 metres of sea shore.

The evolution of the coastline in the period 1954-2000 shows a differential erosion of the coast near the river with a clear outflow regression. In this case, the proposed solution was the progressive lowering of the concrete weirs in the terminal part of the river channel. This solution, together with a process of beach nourishment led through two successive steps in 2001 and 2003, could help the river in establishing a more regular sediment budget.

4. These solutions were combined in a study promoted in 2016 by the Landscape Protection Service - Directorate General Archaeology, Fine Arts, Landscape and developed by the University of Perugia, Department of Civil and Environmental Engineering: “Indicazioni progettuali propedeutiche alla scelta delle soluzioni tecniche di consolidamento e protezione del patrimonio culturale minacciato da rischio idrogeologico e sismico, compatibili con la natura di bene culturale”.

Fig. 6. Noce river, terminal part of the river channel

Another system for contrasting coastal erosion along the Thyrrenian Seacoast was led in Tropea, in 2010. In this case, the quite simple but straightforward solution suggested by the Superintendence of Reggio Calabria was the arrangement of a submerged breakwater at a precise distance below the sea level (-2.50 meters) such to hide its vision.

The last case centres upon the recovery and rehabilitation of degraded dune habitats, on the Chia seacoast, in Sardinia, in the framework of a Life EU Project called Providune. In this case the main strategy adopted was of planting indigenous psammophilous species through sand capture and trapping systems and also with the help of specific "grafting units" able to encourage establishing natural processes in the dunal area.

Fig. 7. Tropea coast: on the right side, the submerged breakwater

Fig. 8. Providune project, grafting units

At the same time, it was also possible guaranteeing pedestrian access to one among the most beloved beach areas in the region, not so far from the city of Cagliari. The last image relates to what will feature among the major events of summer 2019, the “Jova Beach Party”, promoted by the musician Lorenzo Jovanotti, in several beach areas all along Italy.

Fig. 9. Jova Beach Party

This image shows evidence that even in landscape areas wholly protected by the Italian law (coastal territories within a range of 300 metres from the shoreline, as defined by the article 142) a great pop event can be hosted in full respect of the landscape quality objectives and of the heritage values deserving protection.