Title: The vegetation of a mountain area of the Scalve Valley (Southern Alps) twenty years after environmental restoration work

Abstract

The restoration of highly natural areas, such as mountain territories, is a very important issue for those involved in land management and nature conservation. This study reports data provided by the analysis of the vegetation of an area of the Scalve Valley (Lombardy, Italy) which underwent environmental restoration and soil stabilization work using soil bioengineering techniques following a landslide that occurred in 1992. Data on the vegetation, acquired by performing several phytosociological relevés (inside and outside the area) according to the Braun-Blanquet method (1964), were used to analyze the floristic and ecological characteristics of the plant communities currently present in the area. The Ecological Index of Maturity (EIM) (Giupponi et al. 2015) was applied in order to assess the level of disturbance to which the various plant communities are currently subject. The EIM is the result of the elaboration of flora and vegetation indices proposed by Taffetani & Rismondo (2009) and Rismondo et al. (2011) for the evaluation of the functionality of agro-ecosystems, and provides values ranging from 0 (high disturbance of vegetation) to 9 (undisturbed vegetation).

Results showed that, in the study area, there are some plant communities typical of forest margins, some typical of less evolved soils, and others with a high proportion of exotic species that were introduced in 1995 (at the end of slope stabilization work), when a mixture of commercial seed was sown. The results obtained calculating the EIM showed the presence of high disturbance for the plant communities with high percentages of exotic species and for those on unstable soils.

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