



Using ecological and biogeographical features to achieve a typology of the plant species used in riverbank protection bioengineering in Europe

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A common goal for nature managers is to provide new riverbank protection guidelines in terms of environmental requirements for many species simultaneously. In this study, we propose to achieve a double typology of the plant species used in riverbank protection bioengineering in Europe using ecological and biogeographical features. The statistical analyses highlight the predominant role played by the light exposure in the structure of their classification but other ecological features such as soil productivity and tolerance to flooding were also found to be significantly selective.

Independent biogeographical and ecological typologies allow the managers to be in adequation with the regional altitudinal and climatic context and to select species adapted to the very local environmental conditions of the considered riverbank. This study could take on a great interest since its methodology and its results are nearly applicable to slopes protection in general but also an interest in the context of the current climatic change.