

Temporary wetland restoration after rice cultivation: is soil transfer required for aquatic plant colonization?



Mediterranean temporary wetlands have considerably declined in recent decades. Today, opportunities arise for the restoration of these wetlands due to land-use changes, such as the abandonment of cultivation. One critical question is whether communities, such as those observed in natural temporary wetlands, can develop alone or if active restoration should be implemented. In a series of experimental mesocosms, we transferred soil from several temporary wetlands chosen as a set of reference ecosystems. Four months after soil transfer, vegetation in transfer mesocosms was compared to that derived from spontaneous colonization (control mesocosms). Transfer mesocosms are colonized by all target hydrophyte species transferred with the soil and the resulting communities are similar to those of reference ecosystems. They also have fewer non-target species than the control mesocosms. Even though the study period was not sufficient to draw any definitive conclusion regarding the utility of forced dispersion by soil transfer, the preliminary results are promising for an application on a larger scale.

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