



FORM PER PROGETTI BANDO DOTTORATO XXXIV CICLO

1. Project title

Conservation of wetland plants in agro-ecosystems of Northern Italy

2. Proposer

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3. Research Unit

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4. Key words

(Max. 5 – at least 2)

“Habitat” Directive 92/43 EEC, Plant conservation, Plant translocation, Sustainable agriculture

5. Abstract

(Max. 1.500 characters with spaces)

The Po Valley (N-Italy) is one of the most human impacted areas of the world due to the high population density and connected industrial and agricultural activities. However, this area hosts important wetland plant species such as *Isoetes malinverniana*, *Kosteletzkya pentacarpos*, *Lindernia palustris*, *Marsilea quadrifolia*, *Stratiotes aloides*, etc. Some of these species are protected at the EU level, but are negatively affected by the loss of large part of their range, that overlaps one of the European most important agricultural district. Remnant sites of occurrence for these species are characterized by poor habitat



quality, due to the intensive use of fertilizers and herbicides (Barni et al., 2013; Abeli et al., 2014). This PhD aims to develop proper conservation management actions for *Marsilea quadrifolia*, *Lindernia palustris* and *Kosteletzkya pentacarpos* through the study of the impact of agriculture and its effects on habitat quality on population persistence. Specifically, research on *Marsilea quadrifolia* and *Lindernia palustris* will focus on the species biology and ecology and the relationships between population persistence and common practices used in rice farming (conventional vs. organic farming; dry vs. flooded paddies, etc.). The long-term effectiveness and further perspectives of the reintroduction of *K. pentacarpos* will be also evaluated.

Field surveys, field and lab experimental manipulations will be a prominent part of the research approach. Final outputs of the PhD will be an action plan of the study species and several publications on peer-reviewed journals.