

PL03 - Challenges in pond conservation and management

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Ponds and even more temporary ponds have important conservation value due to their high contribution to local and regional diversity. However, most ponds are threatened by human activities. The conservation of the ponds and their biodiversity is facing many challenges. The inventory of the remaining ponds is crucial to prevent further destruction and degradation; however most wetland inventories neglect small ecosystems and ponds are much overlooked. Furthermore, the small size of many organisms depending on ponds and their irregular presence in time increase their difficulty of detection, especially in temporary ponds. Improving the capacity of detection of the ponds and their species is needed through large scale surveys and repeated measurement of biodiversity.

The small size of the ponds, resulting in poor buffering capacity, makes them very sensitive to environmental change. The causes of environmental change are diverse including climate change, eutrophication, toxic direct and indirect contamination (e.g. mosquito treatment), hydrological alteration, overgrazing and more generally increased intensity of human uses or conversely their abandonment. The impact of these factors may differ between taxonomic groups (i.e. plants, invertebrates, amphibians, ...) and knowledge of their impact and the effects of management on ecosystem processes remain heterogeneous and insufficient for designing effective conservation strategies. Governance and policies are important for the conservation of the ponds although, as for inventories, they often escape to the regulatory protection. The protection of species can be an effective tool for conservation but with limited update of their conservation status (e.g. IUCN Redlist). The protection of habitats concerns a limited range of ponds and territories (e.g. Natura 2000 in E.U.). The European Habitat Red List, just compiled (Alterra and IUCN) could represent an opportunity for more sites and territories (Europa s.l.). However, the protection of species and habitats is often restricted to the limits of the ponds while their conservation needs to be addressed at the catchment and landscape scales. Education and raising awareness are critical to engage the civil society into the conservation and restoration of the ponds and facilitate the development and implementation of more favorable policies. In developing countries favoring moderate use of the pond resources, compatible with their conservation (e.g. grazing, picking plants for medicinal use), would help obtaining the support of local populations and the long term conservation of the ponds. In all cases, syntheses and transfer of knowledge to practitioners and decision makers, notably by NGOs, is a critical step.