

Ponds and pondscape for biodiversity

Pond management, restoration and creation are nature-based solutions that have a crucial role to play in stemming freshwater biodiversity decline due to climate change.

As the most diverse part of the water environment in many landscapes, ponds make a vital contribution to maintaining the variety of freshwater life in all the locations where they are found. The conservation, sustainable management and creation of ponds is essential for maintaining and enhancing freshwater biodiversity in a changing climate.

ADDRESSING SOCIETAL CHALLENGES

Ponds are rich and biodiverse habitats. Collectively, they support more freshwater and wetland species – and more uncommon and endangered species - than any other freshwater habitat. They also support rich assemblages of terrestrial plants and semi-aquatic animals.



Great Crested Newt (*Triturus cristatus*)
© Pieter Jan Alles



Yellow-bellied Toad (*Bombina variegata*)
© Benny Trapp



European Pond Terrapin (*Emys orbicularis*)
© João Manuel Lima



Tadpole shrimp (*Triops baeticus*)
© jmeiva

Starfruit (*Damasonium alisma*)
© Beat Oertli

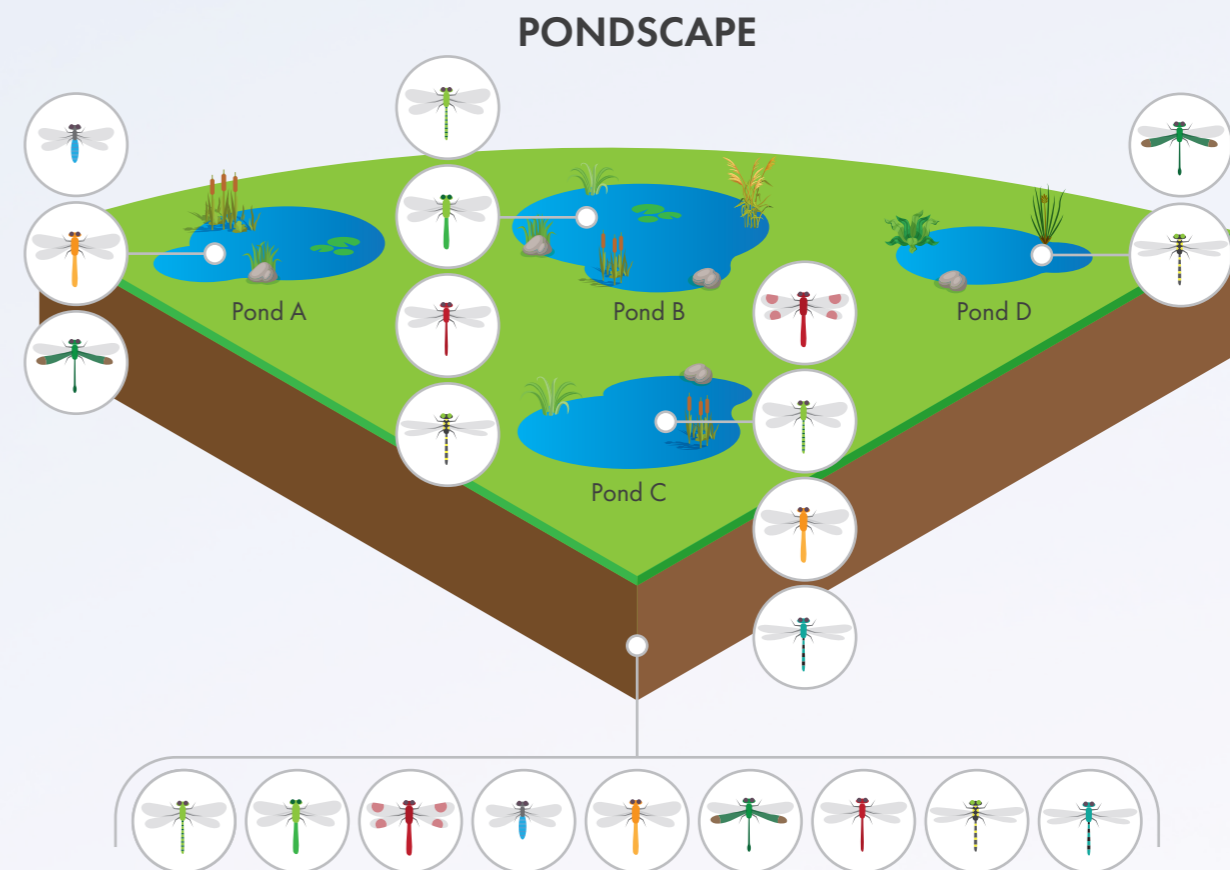


Tyrrhenian Painted Frog (*Discoglossus sardus*)
endemic to the Tyrrhenian Sea basin*.
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AN OPPORTUNITY FOR PROTECTING FRESHWATER BIODIVERSITY

Ponds provide opportunities for protecting freshwater biodiversity from human impacts, including the effects of climate change. The main practical opportunities provided by ponds are:

- The richness of ponds: Ponds provide habitats for a very wide range of freshwater species, including many that are at risk of local, regional, European or global extinction.
- Protecting high-quality habitats: Many ponds remain in good condition and require protection.
- Good ecological outcomes: There is excellent evidence of the effectiveness of ponds in enhancing freshwater biodiversity.
- Engaging with people: Ponds can be found and created in a wide range of locations. This gives many different people the opportunity to protect freshwater biodiversity.
- Small size can mean lower costs: Ponds are relatively small, meaning that the cost of protection, management and creation is lower than for bigger waters.



Example of how biodiversity is boosted in a pondscape. The four different ponds (A, B, C, D), each presenting different physical and chemical characteristics, each host two to four species of dragonfly (alpha richness). As each community is different, with slight overlap in species composition, the beta diversity (i.e. difference between ponds) is high and consequently the accumulated richness of the pondscape (gamma diversity; A+B+C+D) is markedly higher, reaching in total nine species.