



Ponderful

PONDS FOR CLIMATE

Policy briefing 1: Freshwater biodiversity

Ponds are critically important, globally abundant, freshwater habitats. They are a natural component of all terrestrial environments but are also widely created by people. Despite their small size they are often collectively the richest part of the water environment and are refuges for endangered and endemic species. They provide a wide range of ecosystem services. Because they are small, ponds have often been assumed to be unimportant, attracting less scientific attention than larger waters. Because they lack an extensive evidence base like that available for rivers and lakes, they have often been overlooked in freshwater policy making.

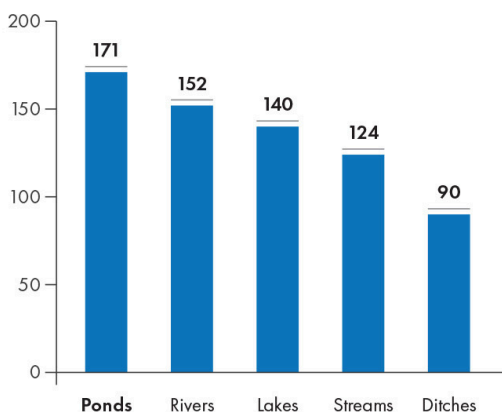
Surprisingly, ponds are numerically the most abundant kinds of freshwater habitat globally, found from the tops of mountains to the depths of forests, lining the floodplains of our biggest natural rivers and providing oases of water in the driest of lands. They probably make up 30% of global standing water in terms of area and enormously outnumber lakes. Because they are hard to see on satellite images (ponds are often seasonal or obscured by trees) estimates of total numbers are still uncertain but could be in the billions.

WHAT IS A POND?

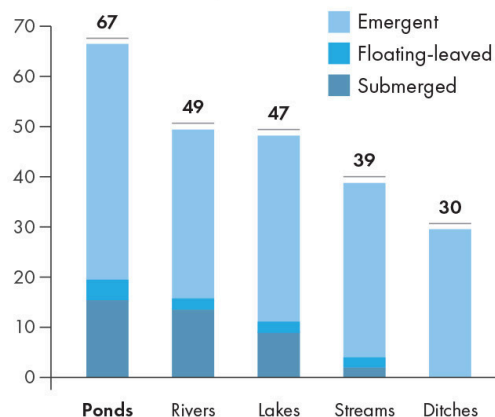
Ponds are small standing waters with a surface area from 1 m² to 5 ha that may be permanent or temporary, man-made or naturally created (Kelly-Quinn et al, 2017; Richardson et al, 2022).

This definition includes both semi-permanent and temporary ponds. In Europe, temporary ponds are common throughout the continent, in wet and dry climates, but are best known in drier Mediterranean regions. Temporary ponds usually dry up in summer whereas semi-permanent ponds dry up every five to 10 years. Both support specialised pond communities, including many rare and threatened species. This definition also includes ponds with brackish waters. Ponds are usually shallow (up to 5 m deep) but occasionally deeper examples occur.

a) Macroinvertebrates



b) Wetland plants



A study by Freshwater Habitats Trust (UK) in a farmed landscape found that, collectively, ponds supported more species of freshwater plants and aquatic macroinvertebrates than other waterbodies.

Ponds have a vital role in every landscape to ensure that we protect the variety of freshwater life, helping to reverse the freshwater biodiversity crisis, and to deliver a wide range of other ecosystem services and Nature's Contributions to People.

Because ponds are individually small, they are easy to work with and have immense potential to function as nature-based solutions: habitats whose management, restoration and creation benefits both nature and people. From individual tiny ponds supporting rare amphibians or endangered invertebrates, bringing enjoyment to garden owners or supplying fish in rural villages, through to immense networks of ponds in some of the world's biggest wetlands, ponds are ubiquitous and vital. Together, the natural biological richness of ponds means that they have a disproportionately large role to play in maintaining humanity's options for the future.

