



Ponderful

PONDS FOR CLIMATE

Policy briefing 3: Role of ponds in climate change mitigation and adaptation

The key requirements for designing, planning and implementing programmes to maximise the benefits from ponds and pondscapes as nature-based solutions are:

- Creating effective legal framework and clarifying responsibilities
- Ensuring that sufficient water of high enough quality is available for ponds and pondscapes
- Developing locally relevant techniques and measures for ponds and implementing these practically
- Devising practical programme to protect ponds from pollution
- Creating programmes specific to urban and rural landscapes
- Ensuring the data collection and monitoring for ponds are properly designed and implemented.

Taken together these measures will ensure the biological value of ponds is maintained and they can effectively deliver Nature's Contributions to People.

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 include ponds with brackish waters. Ponds are usually shallow (up to 5 m deep) but occasionally deeper examples occur.



Specific recommendations for work likely to be needed by policy makers to support practical action.

Recommendation 1

In most states, an important way for policy makers to protect the freshwater environment is to put the protection and management of ponds on the same level as that applied to rivers, streams and lakes.

Recommendation 2

Policy makers working at state or regional level will often need to designate responsible authorities concerned with the protection and management of ponds, and the management to provide ecosystem services and Nature's Contributions to People.

Recommendation 3

Planners concerned with protecting ponds should create plans which specify the amounts, quality and levels of water needed to maintain ponds and pondsapes in a favourable condition.

Recommendation 4

State and regional water and conservation management agencies should come together to create a region-specific guide to pond management. One approach, recently adopted by the Irish NGO An Taisce, was to remodel Freshwater Habitats Trust's manual 'The Pond Book' to the specifically Irish context.

Recommendation 5

Follow the protection, management, restoration and creation guidance provided in the PONDERFUL technical handbook, with appropriate local adaptations (e.g. depending on types of ecosystem service required, specific uncommon species targets).

Recommendation 6

Planners and water managers should establish national, regional and local policies which deintensify pond catchments. If whole-catchment deintensification is not possible, establish the largest possible barrier zones of natural vegetation, or low input farmland, around ponds. These should be 50-100 m or more.

Recommendation 7

Planners should ensure that the full potential of ponds is exploited in urban areas to provide ecosystem services and Nature's Contributions to People. To maintain the landscape level quality of freshwater environments, ensure that at least 25% of new ponds created in sustainable urban drainage systems are not connected to polluted inputs. All new urban ponds should be designed to minimise greenhouse gas emissions (see PONDERFUL technical handbook).

Recommendation 8

Policies to encourage and support the creation of new clean water ponds on every farm should be adopted alongside effective management of existing high nature value ponds.

Recommendation 9

Suitable survey and monitoring programmes (e.g. of the standard used in the Water Framework Directive) should be introduced at the state and regional level to ensure that use of ponds and pondsapes as nature-based solutions is effective.

Creating a national plan for ponds

The key stages for creating national and regional plans for ponds are:

1. Create a national or regional legal mandate for protecting and creating ponds.

Mandates exist already but may need to be enhanced. For example, the Water Framework Directive (WFD) is intended to protect all freshwater but EU states often have adopted the 50 hectare rule. This approach was originally driven by the lack of data on ponds when WFD was implemented, so their importance was underappreciated. Newer data show that ponds are such a crucial part of the freshwater network that there is a critical need to incorporate them in this legislation.

2. Identify the most important sites

Not every pond is equal and allocation of resources requires that funds are well spent. Ways of identifying important ponds have been developed in several EU states.

3. Create a monitoring programme to assess condition of ponds

4. Allocate resources to the creation and management to protect important sites

5. Identify locations for pond creation

These should help to strengthen the network of habitats by being close to existing high-quality locations helping species spread. New ponds can also be made in any location that can provide clean and unpolluted water.

6. Set plausible targets

Most water management has set unrealistic targets which have proved very difficult to achieve. Targets for ponds should focus on:

- Number
- Quality
- Amount of clean water in the landscape
- Services provided

