

# What to do if your pond is drying out

## My pond is almost dry – what can I do?

If your pond is drying out it can look like a disaster for wildlife.

But in the wild it's nothing like as bad as it seems. Around 40% of our lowland countryside ponds dry out in drought years. And our surveys show that ponds that occasionally dry out *are amongst the richest ponds of all!* This is because many creatures (and plants) are well adapted to living in ponds which dry out.

In the garden there is still too little information about how wildlife communities withstand drought to be sure about how good (or bad) the effects of drying out will be. There may be differences from the wild, because garden ponds are usually lined and often have little silt - so there may not be sufficient damp sediment at the pond bottom for creatures to burrow into and survive.

As a result, the advice below is our best estimate of what happens when this natural process – drying out – happens in a small lined garden pond.

### What happens if your pond dries out completely?

Even in a garden pond drying out is unlikely to be a complete disaster:

1. There's a good chance that almost everything that can fly will leave the pond and come back later: so that's almost all *adult* water beetles and water bugs (like pond skaters and backswimmers). Water beetle *larvae* may or may not get to the pupal stage by the time the pond dries out.
2. Mayflies, stoneflies (for the lucky few), caddis flies and true-flies, and most damselflies, have one year life cycles and

most will already have emerged from the pond as flying adults.

3. Most dragonflies and some damselflies have two year (or longer) life cycles. Most of the older (2 year old) nymphs will have emerged. The younger ones can often survive in damp vegetation or burrow into mud, but if the pond bakes hard, most will perish.
4. Zooplankton (important in garden ponds because they control algae) often have resistant eggs.
5. Snails, shrimps, water slaters, leeches and flatworms will probably not survive – unless you have one of the temporary pond specialist snails like the Button Ram's-horn, or amphibious leeches which can move on to other places.
6. Older amphibians with legs will be able to hop away from the pond. Younger ones will perish.
7. Fish definitely don't like very shallow or dry ponds. This is obviously a problem in a garden pond. But in the wild losing fish is often a benefit to other wildlife - fish are major predators and the year *after* a drought is often an exceptionally good one for *other* animals living in the pond!

### Falling water levels - when do you start worrying?

You can let ponds drop quite low before having to worry about losing *any* animals (except fish). Most creatures, including tadpoles, will be happy in just **two to five centimetres of water** - especially if there's plenty of plants or algae (including

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blanketweed) in the water to keep the water oxygenated in the higher temperatures.

If, however, you've got particularly valuable marginal plants growing at the pond edge and they don't have any roots dangling into the water to help them survive, you may want to keep water levels topped up (or move them temporarily to a bucket).

Overheating may be a problem in ponds that are getting shallow. Ponds that are at least slightly shaded are easiest to manage in hot weather. If your pond is located in the **full sun** you do need to watch out for **hot days**. If the water gets up to 35° C (which it can do in sunny ponds even when air temperatures are around 30°C), then some animals, including tadpoles and crustaceans like water slaters, can be killed by the heat alone. If you're getting to these temperatures it's worth topping-up: since this will both cool the pond and stop it heating up so rapidly in the sun.

### **Topping up and drying out**

Whether you top up your pond to stop it drying out completely is a personal decision. However, this is our advice:

**1. If you regularly fill your pond with tapwater** - just carry on. Your pond is probably already pretty high in nutrients, so adding more should make little difference.

**2. If you have clean water ponds** - if you have carefully maintained clean water by filling with rain water, and want to avoid adding unwanted chemicals to your pond, what can you do?

**A. Check whether your tap water is contaminated by nutrients** on your water company website. If you can't find the information, give us a call. If nitrate is below about 2 milligrams per litre (abbreviated to mg/l on website water quality reports) you're probably pretty safe to use the water.

For example, if you type in the postcode of the Cumbria Wildlife Trust (LA8 8LX) you can see that, if you're lucky enough to live in Kendal, you can get pretty clean tapwater. In most samples, nitrate is not detected, presumably because the water is mostly coming from the Lake District fells.

But almost anywhere in the south and east of the country - if you've established a pond with rainwater, and you have high nutrient tap water - it's worth trying to steer clear of the tap, if you can because it will introduce nitrates, and sometimes also phosphates, into your pond, which will be hard to remove.

Nowadays, tapwater often also contains nitrosamines – disinfection chemicals which have replaced chlorine and which are toxic to some water life.

### **B. Prevent your pond from drying out using water from rainwater butts.**

To eke out the water butt supply – you could let the pond dry down to a low level and maintain it with just a few centimetres of water.

**C. If you've run-out of water-butt water** then you have a number of options:

- (i) **Just let the pond dry out** – it seems hard-hearted, and can be difficult to let happen - but drying out is a natural process that has been going on in ponds for hundreds of millions of year, and – as Darwin said – this is probably *why* pond animals have adapted to be so mobile, and can re-colonise new ponds so incredibly quickly.
- (ii) **Rescue your creatures** - wait until the pond has a couple of cm of water, and then transfer plants and animals into buckets or tanks (those coloured rubber "tub trugs" are great). Add the remaining pond water, so you get a good zooplankton population - to help stop algal blooms from building up. Make sure there is somewhere where

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amphibians can rest and climb out (believe it or not, froglets can drown). Locate the buckets in a moderately shady spot to prevent them overheating. This way you save precious creatures and avoid permanently increasing the level of pollutants in your pond.

If you have no butt or pond water left, you could fill the buckets with tap water, until the pond re-fills. But later, only return the creatures and plants (not the tap water) into the pond - so sieve them out (in a normal plastic kitchen sieve).

- (iii) **Add a little tap water** – you could add the minimal amount of tapwater, just enough to keep the pond going. Though note that, in lowland Britain, you will be adding unwanted nutrients into the pond, so keep it to a minimum.

### What we do....

For the record, this is what Pond Conservation staff have done in their garden ponds in droughts:

- Have lots of water butts in the garden to give a good supply of clean water.

- Have more than one pond in the garden so that we can treat them in different ways.
- Locate some ponds in shade so water evaporates less rapidly and the ponds don't suffer from such high water temperatures
- Leave one pond to dry out (though to be fair, we saved some of the last remaining creatures).
- Wait till water levels are a few cm only, and then top-up a little with water butt water to maintain a low level.
- When the water butts are almost empty, rescue key plants, animals and some pond water, and keep them in buckets or tanks in a shady place, with top-ups from the remaining butt water.

In the dry summer of 2010 we maintained one pond permanently through the summer simply by topping up with water-butt water.

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We give advice, carry out research, promote practical action and lobby policy makers to ensure that freshwater wildlife and habitats have a secure future.

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