

Pond Creation Toolkit

The Mid
Kent Downs
Countryside Partnership



Linking People, Land and Nature

How to use this guide

There is a huge amount of information on the internet and elsewhere about the best way to construct ponds. However, it is hidden away on a variety of different websites and places that you would probably only know about if you are already an expert in ponds and pond construction.

That's where the Mid Kent Downs Pond Creation Toolkit comes into its own. Rather than recreate all the existing information about pond construction this toolkit takes you through a step by step guide about what to consider when designing a pond and has links to websites that give more in depth information about all of the points considered.

This toolkit is designed to be used on a computer with an internet connection. Simply click the blue links in the text or  the globe icon (left) and additional information on the subject area will appear in your web browser (e.g. Internet Explorer, Firefox).

What is the Mid Kent Downs Countryside Partnership?

 The Mid Kent Downs Countryside Partnership (MKDCP) is one of a series of countryside management partnerships across Kent that offer support and funding to groups and individuals who are looking to make positive changes for biodiversity and landscape in their communities or on land that they own. The project area stretches from Boughton – under – Blean in the east to Boxley in the west and from Lenham in the south to Hartlip in the north. To find out more about the work of the partnership click [here](#).

Although this toolkit does make reference to the MKDCP project area and the particular geology and other factors that influence pond construction, this toolkit should also be useful in other areas.

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Why Dig Ponds?

Why dig ponds?

Here at the Mid Kent Downs Countryside Partnership we believe that there is a need to create many more ponds within the project area and have come up with a range of resources (including financial support) to help address this issue.

Whilst the Mid Kent Downs may be more renowned for its chalk grassland and ancient woodland, ponds have played an important part of the semi-natural and farmed landscape. Over recent years, numbers of ponds have decreased dramatically and even compared to other parts of the Kent Downs AONB, the Mid Kent Downs now has very few good, clean ponds.

Ponds are also fantastic places for wildlife. This is reflected by the inclusion of ponds as a priority habitat in both the UK Biodiversity Action Plan (UKBAP) and the Kent Biodiversity Action Plan. They can be home to amphibians, mammals, reptiles, birds and all sorts of invertebrates, many of which can only be found in ponds.

This toolkit aims to provide information about how to create ponds. This will comprise of both new materials and signposts to other sources of information to help local landowners and community groups address the lack of ponds in the Mid Kent Downs.



Pond created in Boughton with grant aid from the Mid Kent Downs Countryside Partnership

What is a Good Pond?

What is a pond?

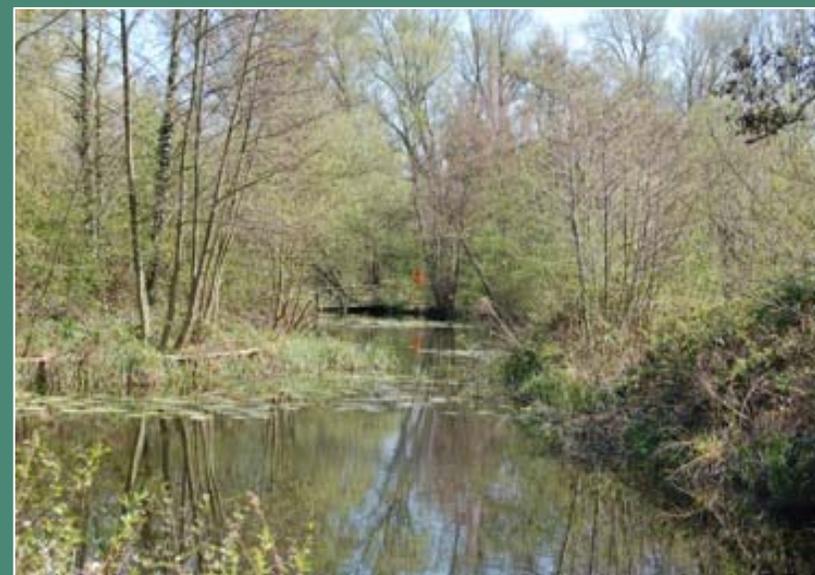
All ponds can create a good habitat for wildlife, no matter how big or how small they are. The definition of a pond used by Pond Conservation is any standing fresh waterbody between 1m² and 2 hectares in size that holds water for at least 4 months a year.

Does my pond need to hold water all year long?

There are many species that can tolerate ponds that dry out on a regular basis and may be dependent upon this type of pond as the temporary nature of the pond may be unsuitable for potential predators. This is particularly useful to know when digging ponds in chalky areas with well draining soils that are prevalent within the Mid Kent Downs.

Should I add wildlife to my pond?

The general answer to this question is no. Pond plants and animals are usually good at moving around. Before people started digging permanent ponds, most ponds were seasonal and temporary so pond wildlife had to be good at transferring itself from one pond to another. Therefore, new ponds will attract plants and animals in the fullness of time and it is remarkable to see just how quickly ponds are colonised. New ponds can often contain rare plants and animals such as stoneworts that can only survive in newly created ponds.



Large pond in a disused gravel extraction pit.

What is a Good Pond?

What about fish and ducks?

Fish are not animals that would normally naturally colonise ponds. As discussed earlier, natural ponds were often temporary and not suited to fish. The other reason that people are not encouraged to put fish in wildlife ponds is that they drastically reduce the level of biodiversity. Fish eat many animals and plants and also add nutrients to a pond which has the effect of reducing the levels of dissolved oxygen levels leading to murky, lifeless water. Ducks also have a similar impact on ponds and should not be encouraged to wildlife ponds. Fish and duck ponds make wonderful features in their own right but are not compatible with a good wildlife pond.

Adding frogspawn?

It can be tempting to add frogspawn to a new pond but this is not usually encouraged. The reason for this is that frogs colonise ponds quickly so if they don't arrive there is usually a good reason. There may be a nearby pond with better conditions for tadpoles for example. There are also amphibian infections including ranavirus or 'red leg' and the chytrid fungus that can be spread by moving frogspawn. Froglife have more information [here](#).



How deep should a pond be?

Ponds can be a range of different depths and do not need to be deep. Most of the wildlife in ponds will be found in the top 30cms of the water column. Just as important as depth is shape with good wildlife ponds having more complex shapes and banks with a range of different gradients.



Frogs colonise new ponds very quickly. If they don't there is usually a reason so don't add frogspawn.

Things to Consider When Designing a Pond

The following are a list of questions that you should ask yourself before digging a pond. For a more in depth answer to these questions please consult the Pond Creation Toolkit found on the Pond Conservation website. [Click here.](#)

What kind of pond should I dig?

Ponds of all different shapes and sizes are vital for wildlife from large permanent ponds through to small temporary ponds. In order to ensure that there is maximum benefit for wildlife the ideal situation within a given locality is that there are a variety of different types of pond. Some ponds are on the line of an existing stream and whilst this helps to ensure that water levels are maintained throughout the year these 'online pools' often fill with sediment quickly and are prone to over nutrification.

Where is a good pond site?

Where you put your pond will make a big difference to the kind of wildlife that is attracted to the pond.

- Will the pond hold water?
- Where will the water for the pond drain from?
- Will leaves and other vegetation fall into my pond?

Pond Conservation offer excellent advice [here.](#)

Do I need planning permission?

This is not as easy a question to answer as might be imagined. The answer is maybe. Find out more information [here.](#) The Environment Agency also needs to be informed if the pond is being dug on a flood plain.



A newly constructed pond left to colonise naturally

Things to Consider When Designing a Pond

Does my pond need a liner?

Whether or not you need a liner will depend upon the soil and underlying geology where you create your pond. In the Kent Downs many areas have very permeable soils and careful thought about liners will be needed when considering a pond project. However, there are also areas of impermeable clays and areas around the spring line at the base of the scarp slope of the downs that will not necessarily need lining at all. To establish whether you will need a liner and if your pond will hold water even with a liner it can be useful to dig a test hole to the depth of the proposed pond and leave it for a year.

If you do decide that a liner is essential then you need to choose between several alternatives:

- Plastic or butyl rubber liner
- Clay imported onto site and then puddled
- Bentonite liner
- Concrete liner

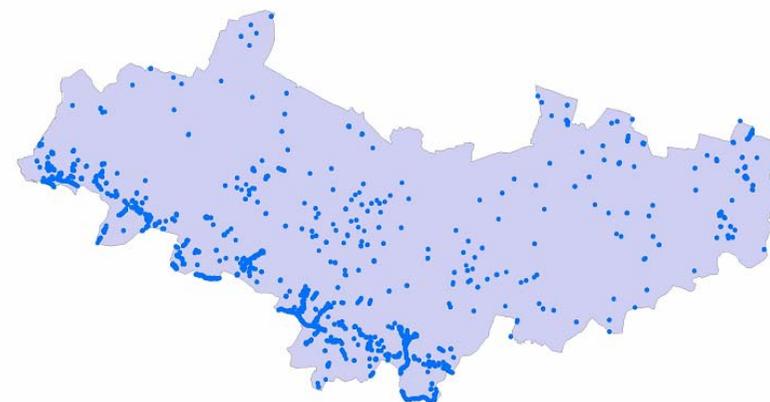


For more information about the pros and cons of each of these options click [here](#).

Health and Safety

There is often concern about whether ponds cause a safety hazard but this does not normally need to be considered in the wider countryside. However, if the pond is sited in a school or near where children play you should consider how access to the pond is managed. Find more information [here](#).

Ponds in the Mid Kent Downs



Ponds in the Mid Kent Downs. Note that many ponds are found at the base of the scarp slope.

Should I use a Contractor to Install my Pond?

Small ponds can be dug by hand and this is a good way to involve the local community or other volunteers in your project and it also eliminates the damage that a digger will do to the area surrounding the pond. For more information about this click [here](#). Don't forget that if you are involving other people in the construction or management of ponds that you need make sure that you consider their safety. Find out more [here](#).

However, a pond of any size above 5 metres in diameter becomes a very large project to complete by hand so the use of mechanical diggers should be considered. The Million Ponds Project has produced a handy factsheet about working with contractors which you can read [here](#).

Digging and Lining the Pond

There is a wealth of information about the actual process of digging and lining a pond. The following are some useful sites where you can get more information:

Pond Conservation's [Pond Creation Toolkit](#).

Jeremy Biggs' [Pond Blog](#)

We have also put together a checklist of things to consider during the construction phase of your project on the next page.



Volunteers helping to line a pond

Major Considerations for Pond Construction Projects

The following is a tick box list of things you should consider before building a pond. All of the answers to these questions and more are within the links on the previous page.

- Where is the spoil from your pond going to go?
- Are you adding a soil to a lined pond so that plants have something to root into? – If so, this should not be topsoil.
- If using a flexible liner (e.g. Butyl or PVC) how will you ensure that it doesn't get punctured from below?
- How will you ensure that when digging a pond the banks are at the same level?
- If using machinery, how will you minimise damage to the surrounding terrestrial vegetation.
- How steep are the sides of your pond going to be? Soil will slip off liners if the gradient is too steep.
- How are you going to hide/anchor any liners used?



Ponds can be colonised very quickly. This frog didn't even wait for the pond to be finished!

Should I or Shouldn't I?

Pond management is often one of the most contentious issues surrounding ponds, particularly if they are in public places. People's perception of what a pond should look like varies greatly. However, if you are managing a pond for wildlife, it is the considerations of the animals and plants you are trying to encourage that should be of paramount importance.

Most ponds will eventually fill with plants and sediment and return to boggy marshland and ultimately back to dry land if they are not managed. This is known as succession and is entirely natural. Different animals have adapted to each stage of this succession and for most wildlife ponds it is suggested that no management is carried out as, essentially, most pond management aims to hold back the succession of the pond. Rather than manage a pond which can be extremely expensive, why not dig another new pond. You then have two ponds offering two different types of habitat rather than just one.

However, there are times when pond management is necessary. This could be to restore a historical landscape feature or to manage a pond for specific wildlife. The example to the right is typical of this as the pond is an ice pond that forms part of the historic landscape at Chilston Park and is also the home of great crested newts which need open water for their breeding rituals.

Pond management also needs to be approached with caution as



Careful consideration should be given before drastic pond management such as this is undertaken.

pond liners can easily be punctured and there may also be damage caused to existing terrestrial habitat (especially if machinery is used). You will also be removing wildlife habitat when performing pond maintenance.

If you do choose to manage your pond there is plenty of help out there though the key to management of ponds, as with so many other habitats, is to do little but often rather than make drastic changes.

Remember that if you have protected species in your pond you will need to ensure that your management does not result in committing an offence.

 Pond Conservation also produces guidance for pond management which can be accessed [here](#).

 The RSPB also have some useful information for managing garden ponds [here](#).



Management of small ponds where limited space does not allow digging of new ponds can be valuable.

 There are a bewildering number of grants and funding opportunities available, some of which can be used to construct ponds and more information about these can be found on the Kent County Council [external funding newsletter](#). You can also contact us here at Mid Kent Downs Countryside Partnership and discuss your project and how it can be funded. Contact details can be found at the end of this section.

However, there are certain sources of financial support that are either specifically for ponds or aimed directly at the Mid Kent Downs.

 **[Landowner Partnership Projects](#)**. These projects are specifically aimed at landowners in or near the Mid Kent Downs. To qualify you need to own the land that the pond is being sited on and must contribute 50% of the cost of the project.

 **[Pond Digging Fund](#)**. This scheme that is administered by Pond Conservation allows people to gain funding for ponds with a clean water source. These ponds will need to be aimed at creating ponds for specific Biodiversity Action Plan species. However, help and advice is available.

If you would like any advice or assistance with your pond project we are here to help. Please contact us:

E-mail: midkentdowns@kentdowns.org.uk

Telephone: 01303 815170

Mid Kent Downs Countryside Partnership, West Barn, Penstock Hall Farm, East Brabourne, Ashford, Kent, TN25 5LL

Support for the Project

Pond Creation Toolkit

Help & Support

This project has been made possible by the generous support of

- Kent County Council
- Swale Borough Council
- Maidstone Borough Council
- European Regional Development Fund
- Kent Downs AONB Unit

