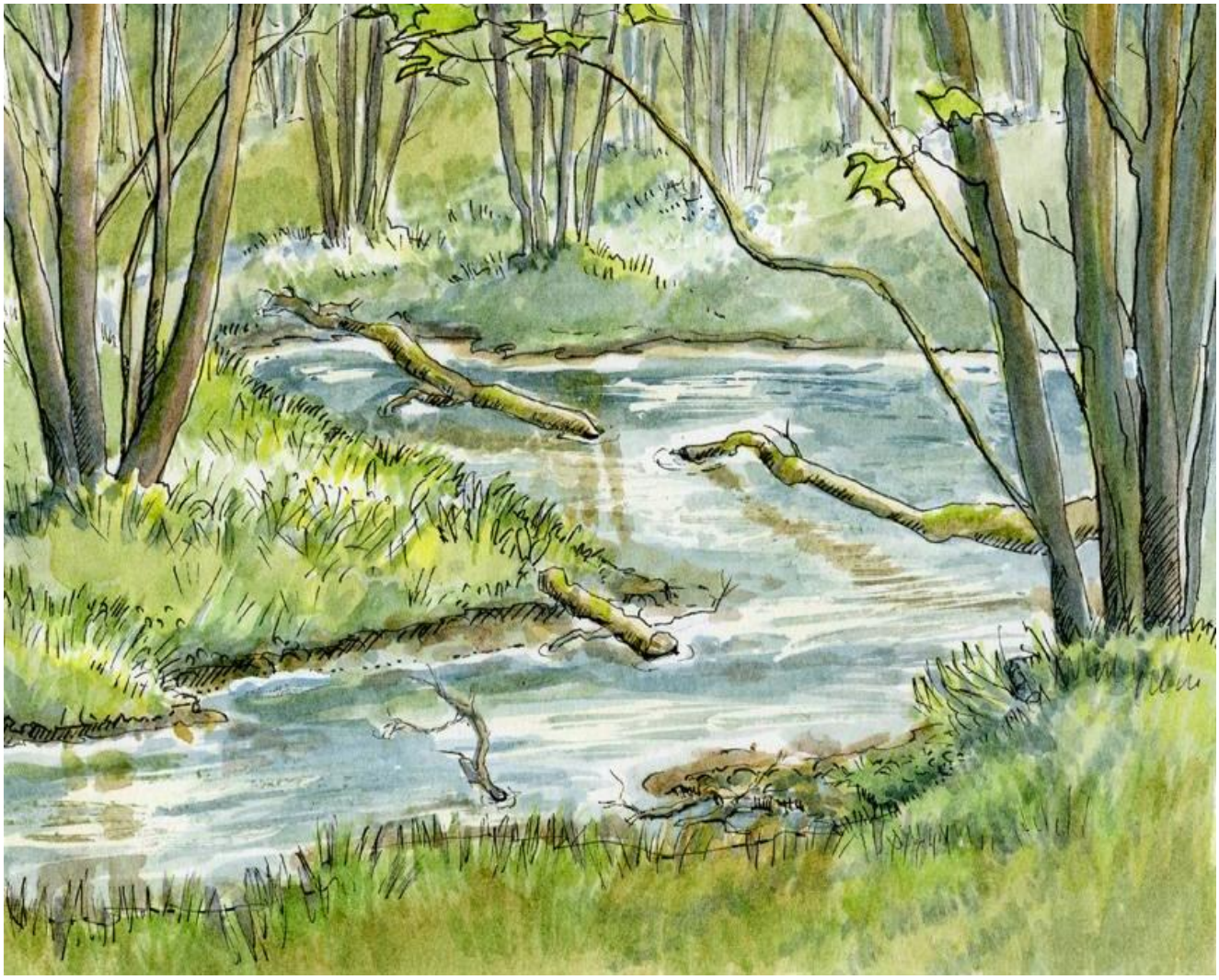
Natural England Technical Information Note TIN079

Illustrated guide to ponds and scrapes



Woodland pond

Ponds of high wildlife value come in many different forms. Often they are in sunny positions, support lots of different plants and hold water all year round. However, woodland ponds with few, if any, plants may be very important for invertebrates. Some ponds and scrapes dry up in mid-summer. These may also be home to rare plants and animals that are specifically adapted to drought.

First edition 12 November 2010
www.naturalengland.org.uk

NATURAL ENGLAND

Temporary pond, also known as a scrape

From open water to plant choked hollows the general advice is that no one stage of a pond or scrape's cycle is any more important than any other. It is not necessary to manage for a particular stage unless there is an important plant or animal that requires special conditions.

Consider creating new ponds and scrapes to provide additional wetland habitat. However, not on sites of archaeological or botanical interest or where the ponds or scrapes may be detrimental to the historic and landscape character of an area.

Many ponds and wet lying areas are significant historic features, both in their own right and as part of the wider historic landscape, for example mill ponds or early quarry pits.

In many farmland areas a large proportion of traditional farm ponds are now highly shaded and silted and have little wildlife interest. You can help create a broader diversity of pond habitats by carefully reducing the shading from trees and scrub and removing accumulated silt and vegetation from a proportion of the ponds.

Managing an existing pond

A traditional farm pond in good condition, but recent research suggests that it might be beneficial to remove the old fence

Ideal

Establish or manage a 10-20 m wide buffer zone around the pond to protect it from agricultural inputs.

- Establish or extensively manage semi-natural habitats around the pond.
- If the pond needs to be managed do it little and often and generally in the autumn or winter.
- If it is necessary to control plants clear a wedge or strip across the range of water depths so that some of each vegetation zone is retained.
- Always retain a proportion of leaf litter, logs and woody debris.
- Any plant material removed from the pond should be cleared from the bank within a couple of days so that the nutrients do not leach into the water as the plant material rots.

Grazing and fencing

Light cattle grazing can diversify pond margins, but intensive grazing can cause significant environmental damage and so the general advice has been to fence ponds from livestock grazing. However, ponds fenced from livestock tend to develop scrub and tree cover. As previously mentioned, there is nothing wrong with shaded ponds, but as most ponds in the countryside are now shaded we want to encourage a higher proportion of more open sites. Therefore, consider carefully whether a pond needs to be fenced or whether a fence could be removed.

Avoid

- Managing a pond unnecessarily, particularly if it is long-established and located in a semi-natural habitat.
- Altering the water level, either directly, by removing or adding water or indirectly by changing the drainage of the adjacent land.
- Introducing or encouraging fish, wildfowl or plants.
- Changing the shape or depth of a pond. (But note that making the pond edge shallower is often beneficial.)
- Allowing one plant species to dominate.
- Allowing pollution from spray drift, fertilisers and other agricultural inputs.
- Sudden or drastic changes to the surrounding habitat.
- Allowing an established open or semi-open pond to become too wooded around its margin.
- Clearing trees around a shaded pond in woodland.
- Digging out the sediment at the bottom of old woodland ponds. They may contain pollen remains that can be used to explore the history of the vegetation in the area."
- Non-native invasive species. Do not introduce them, deal with them as soon as they arrive and dispose of them carefully. For more information see the *Be Plant Wise* information below.

Creating a new pond

Ideal new pond although recent research suggests a fence is only necessary adjacent to heavily stocked grassland

Ideal

- Locate new wildlife ponds in low input semi-natural habitats where they will be fed by clean water. Alternatively, establish a wide buffer around them. **DO NOT DIG UP EXISTING WETLANDS.**
- Where possible create new ponds near existing ponds, streams or other wetlands, but do not directly link the waterbodies.
- If possible create a complex of smaller ponds with wetland between them, rather than a single larger water body. Some pools should be permanent, some temporary..
- Create a variety of water depths, in particular very gently sloping margins. This will provide conditions for a range of different plants and animals.
- Leave excavated surfaces rough and hummocks and hollows on the bottom of the pond and around the edge.
- In some ponds a steeper bank around part of the pond may be valuable for species such as water vole.
- If necessary some tree and shrub planting may be carried out near the pond to provide shade and shelter, but avoid planting the southern margin. Near smaller ponds plant shrubby species rather than tall trees.

Avoid

Mexican hat island

- Linking the pond to streams, ditches or drains, because these bring in silt and pollutants.
- •Adding topsoil to the pond, its edges or the banks because this will reduce water quality.
- Making a Mexican hat. Islands are inappropriate in small ponds because they are difficult to manage and often attract nesting feral geese.
- Digging the pond too deep. There is little benefit in having more than 1 m of water. Unnecessarily deep ponds will create extra spoil.
- Introducing plants and animals. Do not deliberately attract waterfowl to the pond.

Scrapes

Scrapes are pools and ribbons of shallow water that dry slowly over the spring and summer. When water levels in ditches are raised such ponds often form in natural depressions or in relict drains or rills. Where this does not occur naturally, such as on large clay sites or very flat fields, a scrape is an ideal alternative.

In the spring and summer, as the water retreats, the warm margins and wet mud provide conditions for plants to seed and for invertebrates to bask and feed.

In turn, this can attract breeding birds such as redshank, lapwing and yellow wagtail which feed by probing both mud and water. In winter the scrape may continue to host wading birds such as snipe and also to attract teal, widgeon and other dabbling ducks.

As the scrape dries out, wide muddy edges will develop that will provide large areas for wader feeding. Aim to retain some water in the scrape until July-August.

Excavated surfaces should be left rough with at least 100 mm variation in height at the base of the scrape.

Scrape size and shape should relate to field size and boundary pattern. There is no minimum size, but 1 ha is ideal for birds.

Several smaller scrapes rather than one large one may provide more feeding habitat.

Ideal

- Scrapes sited in large, open, low-lying fields, where the shape, size and location is in keeping with the landscape character and which mimic naturally occurring depressions that fill with water in the winter.
- Edges that grade very gradually from existing ground surface towards the centre. Aim for a maximum water depth in the winter of 500 mm in the centre, with an average depth of about 250 mm.

Notes

- Scrapes may be created by raising water levels in the ditches that surround a field and influence the water table.
- If you have to excavate, what are you going to do with the spoil? Consent from the Environment Agency may be required.
- Do not dispose of soil in the flood plain or low areas, especially those of historic interest. Do not create new un-natural mounds or banks.

Avoid

- Islands. They are not appropriate for scrapes.
- Making the scrape too deep. This can generate extra spoil and make it difficult to create gently sloping sides.
- Steep sides with only a narrow, or no, muddy feeding area.
- Trees, shrubs and fencing as these deter open-country birds and can harbour predators.

A poorly designed scrape

Further information

Natural England publications are available to download from the Natural England website at **www.naturalengland.org.uk**

For enquiries please contact the Natural England Helpline on 0300 060 0863 or email **enquiries@naturalengland.org.uk**

For information on non-native invasive plant species see the *Be Plant Wise* campaign at **beplantwise.direct.gov.uk.**

For information on creating a new pond see the Million Pond Project Pond toolkit at: **www.pondconservation.org.uk/millionponds/pondcreationtoolkit**

This guidance has been developed to support Environmental Stewardship agreements. It does not replace an agreement and you must continue to follow the prescriptions and specifications.

You may need permission from Natural England to work on a pond, but in most cases you can proceed following good practice. The outcomes shown may not be appropriate or suitable for all sites. Please consult scheme handbooks or your Natural England adviser for further information.

This note was originally published by RDS as illustrated guidance notes ESG07, ESG08 and ESG09 notes. Illustrations by Jackie Hunt. Editor Susie Smith.