

Ponds



Lime Tree Farm

Natural ponds

Ponds can be formed for a number of reasons but it is normally to do with the landscape and changes over time. Some ponds are formed because there is a natural spring beneath them. Rivers almost always have some associated pools where debris temporarily dams the current so creating a pond. Other examples are where watercourses meander and cut off sections to form short-lived oxbow ponds alongside the main river or stream.

Man-made ponds

Most of the estimated 338,000 ponds in England and Wales are man-made. Sometimes this happens unintentionally, when ponding occurs because human activity has changed the local lie of the land. Water will collect in hollows in areas where the soil is non-permeable such as clay. Most natural ponds in England and Wales occur in early-enclosed parts of the lowlands in places such as Norfolk and Cheshire. The rest are scattered around other lowland counties and some of the northern counties.

Old tracks across land were often routed to take advantage of natural watering places. Springs or damp areas became ponds due to trampling by livestock and with help from man. The Romans would have created ponds to water their horses and to collect the water which drained from their roads. However, farmers are the most likely of people to create ponds, by building small dams in streams, tapping spring water and making hollows impermeable by puddling clay in the bottom - a method still used today to create ponds. 'Dew ponds' are pools of water sustained by rainfall alone which can dry up in the summer.

Village ponds often came before the village. Where routeways converged at a pond it was natural for humans to settle. Where the village arose *before* the pond it is normal that the village has expanded to surround old commons or manor ponds. The ponds eventually were surrounded by shops and houses or confined to small parks and squares.

Medieval manors and monasteries depended upon ponds for many reasons. Firstly for watering livestock, secondly for human drinking water (these ponds were often piped from springs) and, finally as fish ponds to stock fish for eating (see the "Tree Trail"). Some simple manor ponds were later transformed into quite grand estate lakes.

Before the country was supplied with piped water, ponds were the usual source of water for firefighting. Ponds also had other uses. The banksides are good for growing willows to make baskets, creels and panniers and for use as thatching. Another use was specialised pools devoted to growing watercress.

Until the advent of steam-driven machinery towards the end of the 18th century, virtually all mechanised industrial activity depended upon water for motive force. Water-powered mills are often on sites which have been used since Norman times. Nidderdale AONB has a number of millponds which were associated with the textile industry and milling. Again, settlements grew up around these areas. The Industrial Revolution led to the piping of our water and reservoirs were commissioned to supply pure water from the headstreams of major rivers to large cities. Early 19th century reservoirs were usually earth banked with puddled clay (the first masonry dam was not built until 1892). The flooding of land for reservoirs has always caused controversy, but many reservoirs



Scar House dam in Nidderdale.

AONB

have become important wildlife and recreational resources. The AONB has a number of reservoirs with interesting histories, several of which lend themselves to school studies.

Wildlife and Ponds

Ponds normally have a high wildlife value, but can suffer at the hands of man. Every bit of a pond has a use to at least one species of plant, bird or animal. The soft mud margins around the edge of the pond provides fantastic cement for nesting housemartins and swallows. These birds also take advantage of the copious supply of newly hatched mayfly and midges and are joined in the evenings by Daubentons bats. The water can be full of insect larvae, nymphs, tadpoles, adult newts, snails and much, much more! This life in a pond is what may attract some water birds such as herons. The bottom of the pond is used for hibernation by amphibians, fish and the nymph stage of dragonflies over winter in the depths.

The plant life in a pond has a significant effect on the variety of animals within it. Large green algae at the bottom of a pond provides a hiding place for

many insects and a food source for the very small creatures. The plants that are completely submerged in the water are called 'oxygenators', native ones such as milfoil and starwort are good for a pond. However, unwelcome ones such as blanket weed and Canadian pondweed are very vigorous and can take over and stifle a pond. One way to manage them is to remove some at regular intervals over the spring and summer. When removed it should be left in piles on the edge of the pond for a few days to allow the invertebrates to crawl back into the pond. Another way is the application of bundles of barley straw which seems to purify the water.

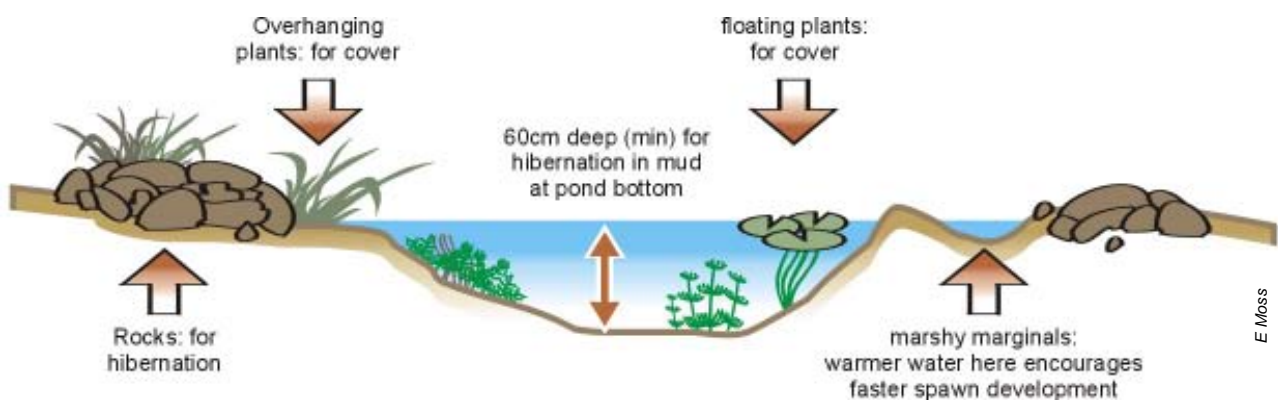
Some plants root in the bottom of a pond, but their stems extend to the surface where the leaves spread out. These plants often provide vital shade and help amphibians hide from the prying eyes of birds. Native species such as the fringed water lily and common pondweed are good, but again there are some that will take over if not managed such *Azolla* or water fern. This shade also enables the water to circulate as the difference in temperature causes convection.

Finally, the edges of the pond are where the emergent plants grow. Different types prefer different depths. In the deeper shallows greater reed mace, bog bean and common reed thrive. In small ponds Reed mace and reeds must be controlled by regular removal of chunks. Yellow flag iris too must be controlled. As the water becomes very shallow many different species of plant can thrive such as water plantain, water mint and burr reeds. As the edge becomes a marshy area wet meadow species enjoy the conditions, e.g. water forget-me-not, creeping jenny, lady's smock and ragged robin.



E. Moss

Common frogs return to ponds to mate and spawn.



E. Moss

