Environment Agency should be contacted in are planned near these areas, the floodplains. Where structural alterations work on, or next to, watercourses and The Environment Act 1995 restricts

Sbnoq a niatniam 10 Do I need permission to restore

likely to carry out the work more use a pond specialist as they are management and construction. Always find a specialist contractor with experience in pond yourself, you can hire the machinery. Alternatively, with a reach of about 15 metres. If doing the work For larger-scale works, you will need to use a digger

eager volunteers. to carry out the work by hand, particularly if you have enough For a small project, it may be possible, and certainly cheaper, How do I carry out the work?

dramatically.

volunteers for the landowner.

and wildlife value. This work

restore this pond's landscape

Some coppicing and the raking

out of material helped to

was carried out by local

the base may increase the complexity and cost of your project you carry out any major dredging works. Accidentally damaging You should find out how water is retained in the pond before

and avoid disturbing them. surrounding land. Look for wet flushes in the surrounding land, spring which is either at the base of the pond or in the affect your water supply. Many existing ponds are fed by a Make sure that any work you do in or around a pond will not

What about the water supply?

that are locked up in plants' growth can be removed. • Water levels are low and ground conditions dry. Nutrients

during autumn and their population can cope with some • Invertebrates are commonly abundant as tiny individuals

many invertebrates. This avoids the breeding periods of birds, amphibians and

should be carried out in the autumn. damage as well as bringing benefits. To minimise damage, work Sensitive dredging, de-silting and vegetation removal causes

The best time of year to manage a pond is during late

Surveys are often needed before precise guidance

A survey form for your use will be available from some of the

AONB Unit can supply a list of contacts. pond. If you are unsure, seek further advice; the High Weald levels, together with any plants and animals that visit the observing the pond throughout the year. Monitor the water the work done. You can discover quite a lot yourself, simply by question. If management is recommended, it will help guide A survey of the pond's wildlife will help to answer this

What is living there already? Do I need to manage?

Minimise sudden change, don't be over-tidy and take advice if damage other habitats in the process (i.e. marshy areas). to colonise more easily, but be careful not to new ponds near to existing ones to allow species a variety of pond types in any one area. Create

> managed, will support a wide variety of plants excessive nutrients, and which are thoughtfully Ponds with clean water unaffected by chemicals or

An ideal approach to management is to develop

Allbliw not tnamageneM



hould seek expert advice when the have any of these species, you nanagement. If you think you may destroyed by inappropriate sbecies can also be damaged or Crested Newts and other protected unlawful. Populations of Great that disturbing these roosts is ees and man-made structures and aware that bats may roost in old inder this Act. You should also be nests (while in use) are protected All wild birds, their eggs and their Wildlife and Countryside Act 1981

Common by removing Lake on lunbridge wells



these different phases. and some of the best ponds for wildlife show a number of hollows and eventually dry land. All stages are important, with vegetation and sediment to become wet marsh, Most ponds, as part of a natural process, gradually fill Natural succession

other ponds in the landcape. attractive wildlife, and help to componsate for the loss of New ponds can be quickly colonised by a wide range of

generally acidic and can be particularly vulnerable to fertiliser animals. They usually have very low nutrient levels, are Heathland ponds – often support specialised plants and fringed with woodland and provide important habitat for otters.

medieval iron industry. Many of these large ponds are now a controlled water supply to power bellows or hammers for the Hammer ponds were created by damming streams to provide flies and water beetles.

litter and which dry out, may provide a specialised habitat for Ponds in old woodlands which have a deep layer of leaf

support special plants and animals including birds and restrict scrub and tree growth. They may look dull, but can are maintained by grazing or high winter water levels that ummer) but remain as significant landscape features. They Seasonal ponds are those which dry out regularly (i.e. every

breeding frogs and toads.

natural regime with unpolluted water. habitats complement the pond habitat, and create a woodlands etc) are more valuable - the surrounding Ponds in semi-natural areas (meadows,

flooding by holding water. holding. Some ponds may also help to control look attractive and may add financial value to the landemergency supply of water for livestock and fire control. They Ponds on farms - well managed ponds can provide an

What pond type do I own?

St Leonard's Forest, West Sussex A hammer pond at Bucks Head near



SETIS BUILD BE GET INVINE SITES ougs and may use submerged frequently found near wooded Hawker dragonflies are

communities of plants and animals. different ponds will support different thing as a perfect wildlife pond because water for at least four months of the year. There is no such one square metre and two hectares in area which holds A pond can be described as a small body of water between

Ponds Initiative

What is a pond?

Piped water has replaced most ponds for watering livestock. abstraction, or by in-filling to improve farm efficiency. a result of land drainage, lowering of the water table by to development for housing and roads. Others have gone as an estimated 75% (1.3 million). Many ponds have been lost Since 1880 the number of ponds in Britain has declined by Pond losses

their peak. Water pollution from pesticide activity ceased around 1840 when pond numbers were at ndustry, and mill ponds to power water mills. Most of this

Veglect and natural created to power the bellows and hammers of the iron ponds for farm animals. Larger 'hammer' ponds were mining and marling, while others were created as drinking developed as by-products of past human activity, such as

new enthusiasm for pond management in the area. the benefit of wildlife. This will hopefully encourage a myths about ponds, and shows how to manage them for ponds in the Weald. It seeks to dispel some popular This leaflet aims to raise awareness of the value of

element of the landscape and its wildlife. Many have

n the South East of England. Ponds are an important

The Weald has one of the highest concentrations of ponds

Weald ponds

zinemevordmi seinents

ησφριοριίατε παπαgement

affecting water supply

Abstraction or drainage Surrounding habitat loss

of trees and shrubs felling complete stands dredging the whole pond or management such as Sudden and drastic

and fertiliser drift or runoff

Current threats

High Weald landscape Pond in the



Ponds in the Weald

Ponds are a source of endless enjoyment, interest and inspiration to people. This sixfoot quilt was the creation of children at St. Peter's School in Cowfold, West Sussex.



ENVIRONMENT AGENCY

The Environment Agency's vision for the future is "a healthy rich and diverse environment in England and Wales for present and future generations."

We plan to implement this with an integrated, holistic and, above all, sustainable approach to the protection and enhancement of the natural environment. This include promoting the conservation of wild animals and plants that live in or near water.

0800 80 70 60 – 24 hour free emergency telephone line.



Further information

High Weald AONB Unit. Corner Farm Hastings Road, Flimwell, East Sussex, TN5 7PF Tel: 01580 879500 Email: info@highweald.org Web: www.highweald.org Ponds are a distinctive feature of the High Weald – a valued Area of Outstanding Natural Beauty (AONB) in the rural heart of South East England. The High Weald is a historic countryside of rolling hills draped by small, irregularly shaped fields, abundant woods and hedges, scattered farmsteads and sunken lanes.



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Non-native species which cause problems

> Open water Australian stonecrop

Crassula helmsii Parrots feather Myriophyllum aquaticum

Canadian pondweed

Nuttall's pondweed

Floating pennywort

Hydrocotyl ranunculoides

Banks apanese knotweed

Fallopia japonica Giant hogweed Heracleum mantegazzianum

Himalayan balsam

Crassula helmsi

Impatiens glandulifera

Where can I put the spoil?

Digging a new pond, or restoring an existing one, can create a large volume of spoil. You will need to decide how to dispose of it in advance. If moving spoil away from the immediate pond area, you will need to speak to the Environment Agency to make sure it is disposed of legally, as you may need a licence (Environment Act 1995). Do not place spoil in wet hollows, around trees or on other areas of wildlife

What about planting?

Following management, it is best to allow natural colonisation. If you feel the need to introduce species, use stock from local ponds (with the landowner's permission) but not from ponds that contain any of the problem species listed. For the same reason take great care when buying plants. A tiny fragment of one of these plants can colonise the whole pond.

Problem plants

It is perfectly natural for certain species to bloom and become dominant when conditions are particularly suitable. Algae and duckweed are able to grow very quickly with optimum levels of sunlight and nutrients. In the long term, the only way to resolve the issue is to address the root cause of the problem – usually by reducing the nutrient levels in the water, or increasing the shade.

A more serious problem is the introduction of non-native

species. When taken out of their natural systems, they out-compete our native plants and can smother a pond or riverbank. Although now found in the wild and in garden centres, every effort should be made to avoid spreading non-native species. The plants listed on this page are likely to cause you future problems and it is illegal to release most of them into the wild.

Initiative

Ponds heavily stocked with

fish can become turbid and

have regular algal blooms,

leading to fewer plants and

previously fish-less pond can completely alter the

animals. Adding fish to a

community and be very

damaging. If you must

introduce fish to a larger

pond, avoid Carp and Bream

which feed on the bottom.

Choose Tench, Roach, Perch

or Pike. Creating a new pond

for fish is preferable. Consent

from the Environment Agency

is required to introduce fish

into any watercours

Birds such as Mallard and

Moorhen are found naturally

in and around ponds. Their

activities can create a good

mix of water, marginal plants

and bare ground. Ponds with

artificially high numbers of

duck and geese may have

and nutrient enrichment (as

a result of high levels of

problems caused by trampling, excessive grazing

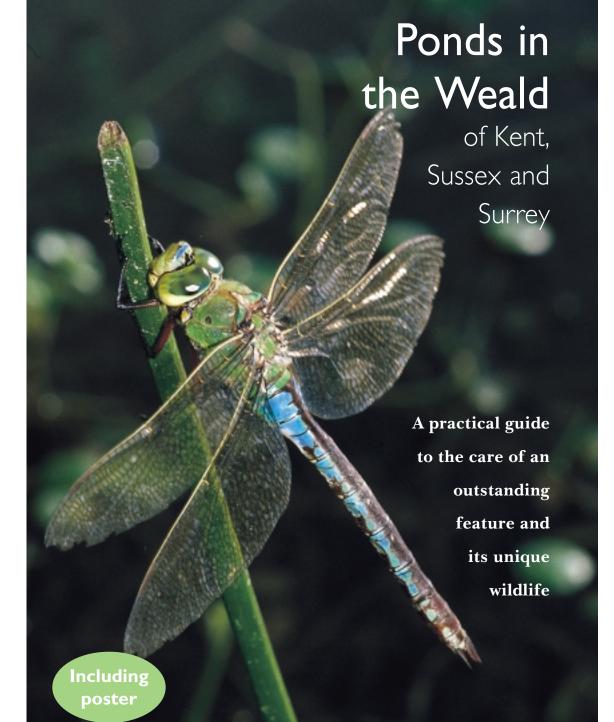
Polluted water is a major factor limiting the wildlife value of ponds. Plants and invertebrate populations decline in polluted water. In turn, this often affects fish and amphibians

High amounts of nutrient in the water provide conditions plants. This reduces oxygen and light levels and generally limits the number of species in the pond. Once pollutants have entered the pond, the effects may be long-lasting and difficult to reverse. Concentrations of nutrients in larger ponds can be reduced by using quick-growing plants such as common reed, harvested in late summer and removed from the site This can only work if there are no

If pollution is so serious that then sediments can be removed altogether. Alternatively, the area can be encouraged to develop as a marshy habitat, since

Many animals use the surrounding land during part of their life-cycle. Dragonflies often live and hunt away from the pond, and frogs and toads spend much of their life on land. To benefit the pond, the surrounding land should be managed in a non-intensive way, such as unfertilised grassland, woodland, scrub or heathland. This management provides a valuable habitat and reduces the likelihood of water pollution. A strip 10 to 20 metres wide is a good buffer but the bigger the better.*

* Grants are available for creating buffer zones.



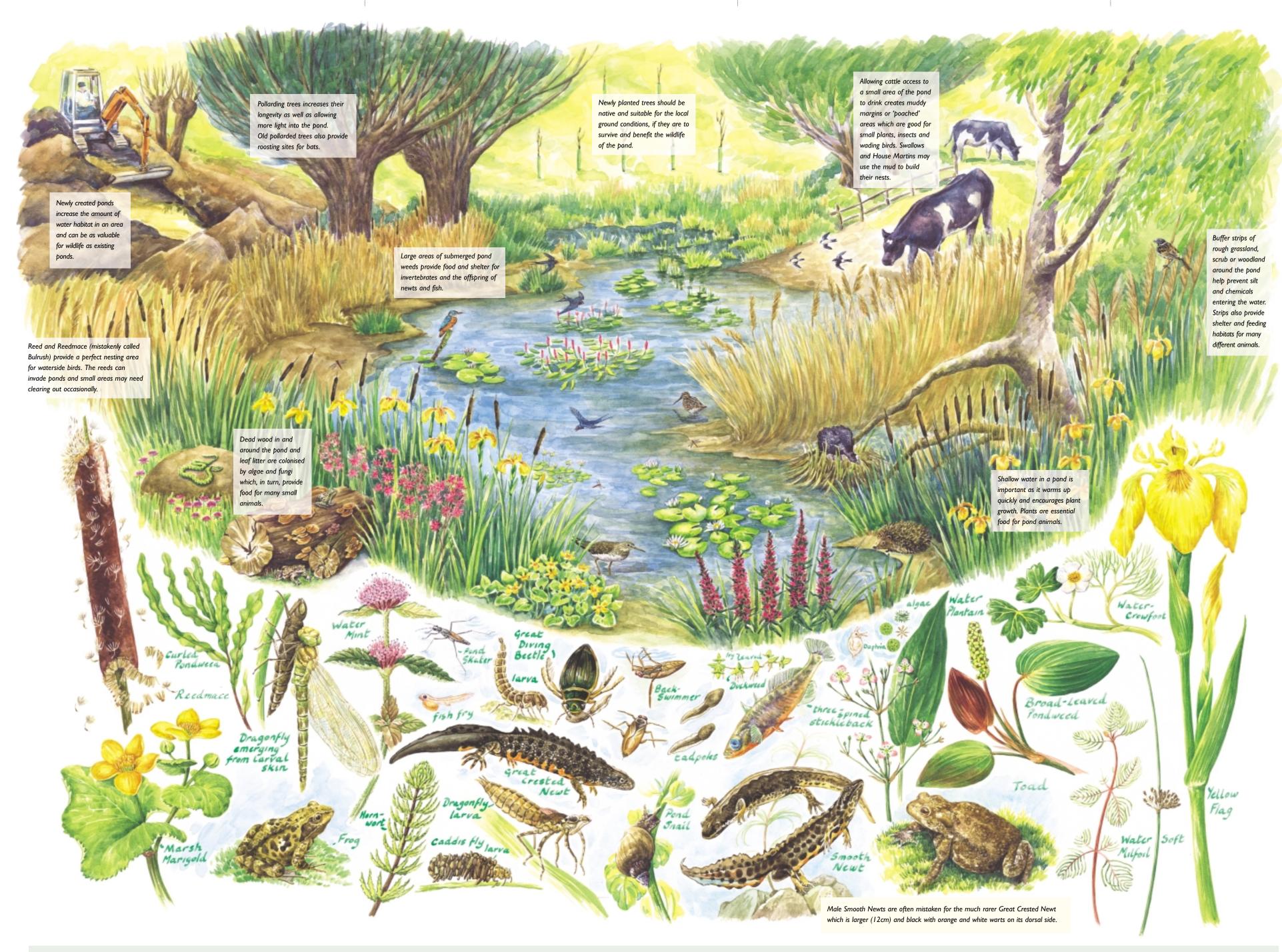
Water pollution

which can lead to algal blooms or excessive growth by other further nutrient inputs.

there is little life in the pond, marsh plants are more tolerant of high nutrient levels and

Buffer zones

CYAN MAGENTA YELLOW BLACK



Fiction: Drying out is bad for the pond's wildlife

Fact: Seasonal ponds can support specialised populations, including frogs and newts

Fiction: Ponds should be at least two metres deep

Fact: Areas less than two feet deep have the greatest wildlife value

Fiction: The bigger the better

Fact: Ponds can be very small and support a wide variety of life

Fiction: Ponds should not be shaded by trees

Fact: Some wildlife depends on woodland ponds and shade can also provide variety

Fiction: Dredging is required to stop choking by vegetation

Fact: Vegetation is the basis of pond life. 100% cover can be excellent (but not algae, duckweed or problem plants)

Fiction: Water levels should be stable

Fact: Fluctuating water levels provide habitat variety for both water and land species

Fiction: Livestock should not have access to ponds

Fact: Low intensity grazing provides good short plant habitat and valuable muddy edges

Fiction: Ponds are isolated habitats

Fact: Pond wildlife is linked with catchment water quality and surrounding habitat



Management for wildlife

The pond illustration shows many features of different ponds. A pond may only have one or two of these features and still be good for wildlife.

General advice

- Maintain or create shallow, sloping edges to provide habitat variety (vegetation zones).
- Maintain existing management of seasonal ponds.
- Dig a silt trap (as an alternative to regular dredging) where inflowing water is the problem.
- Allow a high percentage of native waterplant cover to develop.
- Only manage one part of the pond at any time to allow species to re-colonise.
- Remember: ditches should be considered as part of the overall habitat and should be managed in a similar way.

Hints on tree management

- Aim for a balance of shaded and open areas of water.
- Reduce leaf litter build-up by selective coppicing and pollarding of surrounding trees.
- Create marginal glades by removing a few trees from the south side of a densely shaded pond.
- Leaf litter, logs and other debris should not all be removed.
- If you plant scrub / trees, consider the mature canopy: so try not to plant too close to the pond.
- Avoid working during the bird nesting season from March to July (Wildlife and Countryside Act 1981).
- Remember, you may need a felling licence from the Forestry Authority for larger volumes of timber.

Preventing pollution

- Avoid links to ditches and streams that drain intensively managed land, as they may contain pesticides and nutrients.
- Avoid using fertilisers, manure and pesticides / herbicides* close to the pond and in the catchment area.
- Use spray drift controlling devices.
- Develop a buffer zone, such as rank grassland, hedges and scrub as barriers to sprayed chemicals.
- Avoid silt build-up by creating silt traps and reed beds.
- * Written consent from the Environment Agency is required to authorise t use of substances 'on or near water' under DEFRA guidelines.

Marshy areas are great!

Marshy areas often flood in winter and spring and dry out in the summer.

These areas can be very rich habitats for plants, invertebrates and birds. They may occur as a pond edge habitat or as complete areas in their own right through seepage and springs. Marshy sites are an uncommon and fragmented habitat which should be a priority for management.

It is important to consider the value of marshy areas when planning pond management or indeed pond creation. It is all too easy to dig them out to create a pond but in the process destroy an important wildlife habitat.