



Managing farmland habitats for invertebrates:

# Ponds & Ditches

**Invertebrates are fascinating creatures that form the vast majority of animal life and they play an essential role in the health of our countryside. Invertebrates such as ground beetles, spiders and hoverflies are useful to farmers as they eat crop pests such as aphids. Invertebrates also help to clean and filter our water, playing a major role in maintaining water quality. Other wildlife, such as birds, amphibians and fish, are dependent on a good supply of invertebrates for food.**

There are lots of things that farmers can do to put the richness and colour back into the countryside. This leaflet contains suggestions and illustrations on how to do this and highlights some of the financial incentives on offer under current agri-environment schemes.



Conserving the small things that run the world

[www.buglife.org.uk](http://www.buglife.org.uk)



# How to create features in ponds and ditches that will benefit invertebrates

When managed sympathetically, both ponds and ditches can support a large number of aquatic and semi-aquatic invertebrates. Ditches are common in many agricultural landscapes - those that support a variety of marginal and submerged plants can be very rich habitats. Keeping the water clean is essential so make sure silt, fertiliser and pesticide run-off cannot enter ditches and ponds. The Single Payment Scheme requires farmers not to cultivate within two metres of the centre of a water-course and within one metre of the top of a water-course bank.

## PONDS

Different types of ponds support different invertebrates. If you have several ponds manage them in a variety of ways, e.g. allowing some to become quite heavily vegetated or even to dry out in the summer.

### 1 Varied marginal vegetation

Maintain a varied structure and mixture of plant species in the marginal vegetation to increase the range of places available for invertebrates to shelter and breed in. Avoid introducing any non-native species.

### 2 Trees and shrubs

Ideally, any overhanging vegetation should be on the northern margin and no more than 25% of the pond edge should be shaded, although shaded woodland ponds can provide special habitats for some rare invertebrates.

### 3 Buffer zone

Leave a buffer zone of unfertilised rough tussocky grass at least 10m wide around any pond in improved grassland or arable fields to protect it from spray drift or fertiliser inputs.

### 4 Poached ground

Allow livestock some access to pond margins to create areas of poached ground and bare mud that are important for invertebrates such as craneflies.

### 5 Submerged vegetation

Leave plentiful submerged vegetation for aquatic invertebrates and also for species such as dragonflies and some hoverflies that lay their eggs on aquatic vegetation and whose larvae live in the water.

## DITCHES

This illustration shows a ditch in which only short sections have been managed at any one time. On sites with a large number of ditches, variety can be achieved by managing each ditch on a different rotation.

### 6 Choked ditch

Allow some lengths of ditch to become choked, as mature ditches are extremely important for many rare invertebrates. Managing ditches on a site on long rotation will create a wide range of different stages of colonisation.

### 7 Ditch cleared on one side only

Clear or dredge sections of ditch on only one side in any single year so that plant and invertebrate species can recolonise. This will still allow the flow of water for drainage.

### 8 Shallow profile

Create a shallower ditch profile. Ditches with gently sloping sides have more invertebrate interest than those with steep profiles. Simply decreasing the angle of slope from 45° to 35° will bring about an improvement in habitat quality, and creating a berm or artificial shelf at or near the water level will allow marginal vegetation to colonise more easily.

### 9 Poached margin

Allow cattle access to some ditch margins. Fencing ditches to exclude livestock can lead to a build-up of tall vegetation such as common reed and reduce the invertebrate interest of a ditch. Cattle poaching helps to maintain a shallow profile and creates areas of bare mud as well as controlling excessive vegetation growth.

### 10 High water level

Maintain a high water level in ditches to benefit invertebrates. Some seasonal fluctuation is to be expected - if a ditch has gently sloping margins, invertebrates will be better able to retreat as water levels change.



The Great silver water beetle (*Hydrophilus piceus*) is found in weed-filled drainage ditches in southern England

Great silver water beetle



The Common tiger hoverfly (*Helophilus pendulus*) is frequently seen on flowers. Its larvae live in water

Common tiger hoverfly

# Funding and agri-environment schemes

Farmers who manage their land to benefit wildlife can obtain funding via the Environmental Stewardship scheme. Entry Level Stewardship (ELS), Organic Entry Level Stewardship (OELS) and Higher Level Stewardship (HLS) all have pond and ditch management options.

## Priority habitats

Under Britain's commitments to protect biodiversity under the Rio Convention (1992) a number of habitats have been identified as being of particular importance for conservation, and Biodiversity Action Plans (BAPs) have been drawn up to identify how these habitats can be protected and enhanced.

**Coastal and floodplain grazing marsh** has been identified as a BAP priority habitat, whose invertebrate interest is largely confined to the ditches.



The Amber snail (*Succinea putris*) is often seen on marginal vegetation of ponds and ditches

## Links

- For more detailed habitat management advice, Buglife has produced a series of guides and web pages on 32 BAP priority habitats. Further details can be found at [www.buglife.org.uk](http://www.buglife.org.uk)
- Information on Environmental Stewardship is available from Rural Development Service (Natural England from October 2006) [www.defra.gov.uk/rds](http://www.defra.gov.uk/rds)
- The Farming and Wildlife Advisory Group (FWAG) website is at [www.fwag.org.uk](http://www.fwag.org.uk)

Photo credits: Front cover: Roger Key, David Pryce. Page 3: Roger Key, Jaybee  
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## Options that will benefit invertebrates in ponds and ditches:

### ELS/OELS

- EB6/OB6: Ditch management
- EB7/OB7: Half ditch management
- EB8-10/OB8-10: Combined hedge and ditch management
- EE7 & EE8: Buffering in-field ponds in improved grassland and arable land
- OE7 & OE8: Buffering in-field ponds in organic grassland and rotational land

### HLS

- HQ1/2: Maintenance of ponds of high wildlife value (<100 sq m/>100 sq m)
- HK9-14: Management of wet grassland for waders and waterfowl
- HK19: Raised water levels supplement

## Buglife-The Invertebrate Conservation Trust

is the only organisation in Europe devoted to the conservation of all invertebrates and is working tirelessly to save Britain's rarest bugs, bees, spiders, beetles and many other incredible creatures.

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