

Action for the Itchen Valley Priority Area

Quick facts

Total area: 468 ha
(roughly the same area as
Hedge End)

Designations:

cSAC – 34%

SSSI – 42%

SINC – 28%

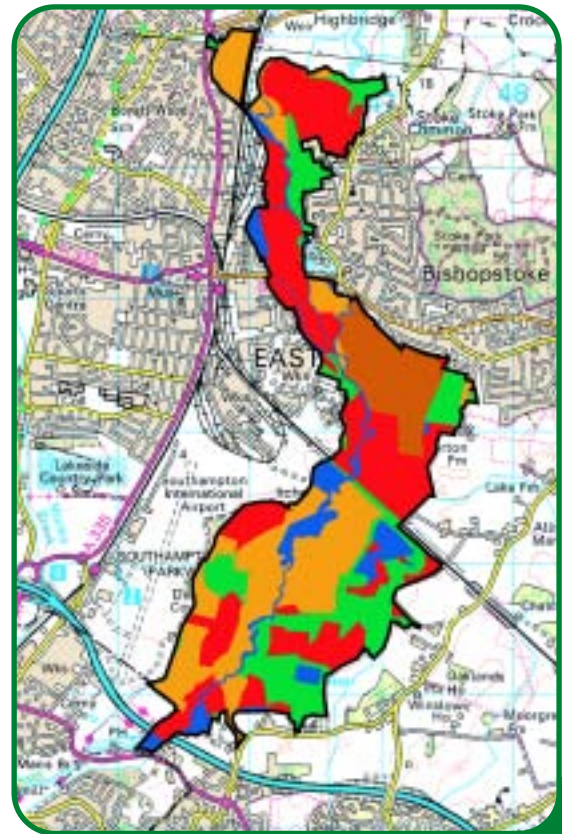
Location

The Itchen Valley Priority Area is situated in the northwest of the borough and encompasses the channels of the River Itchen and its associated floodplain and also some land elevated above the wet valley floor, on the valley sides.

The numerous channels that comprise the River Itchen enter the borough north of the towns of Eastleigh and Bishopstoke, continue southwards between the two towns and onwards through the wide-open floodplain north of West End. They leave the borough at Gaters Mill, just north of Southampton City.

Many of the channels have been constructed or adapted by man to divert the course of the river to supply water for mills, flood meadows or, as in the case of the Itchen Navigation, to provide passage for boats.

Most of the river itself and some areas of the floodplain are designated as either cSAC, SSSI or SINC.



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Description

Chalk streams are so-called as they arise and flow over chalk rock. Chalk rock is water-permeable and soaks up and stores any rainwater that falls on it deep beneath the earth's surface much like a giant sponge. The water-holding rock is known as an aquifer and it is from this that chalk springs spout at the surface – the sources of chalk streams and rivers.

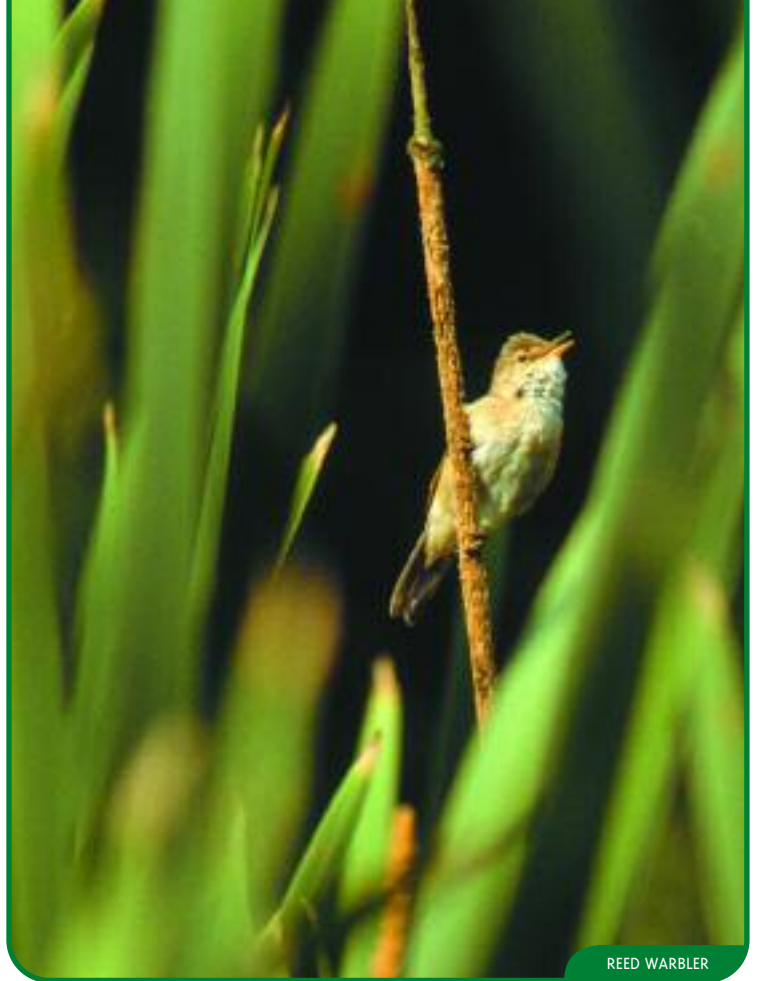
As chalk streams are fed from underground aquifers and not directly from erratic rainfall they have a steady flow of water throughout the year that is relatively constant in temperature, well oxygenated, lime-rich and clear. The porous nature of the aquifer also filters out pollutants that enter the chalk in rainfall and because of this the River Itchen generally has water of good quality flowing through it. In places, however, where rainwater or sewage discharges directly enter the river, water quality decreases. The pollutants include phosphates and silt washed off farmland, synthetic chemicals from industry and bacteria from sewage effluent.



In the water of the main river channels, water crowfoots and other submerged plants grow luxuriantly. The water-crowfoot, a relation of the buttercup, is almost entirely submerged; only the small white flowers are pushed above the water to be pollinated by airborne insects. Firm roots attach it to the gravel bed of the river to prevent it being washed downstream in the fast flowing waters. The vegetation in the channel provides cover for a good number of different fish species such as the internationally protected bullhead, brook lamprey and Atlantic salmon.

Small numbers of Atlantic salmon still make the journey from the sea to where they themselves were hatched in the gravels of the River Itchen. They spend the first few years of their lives as juveniles in the freshwaters of the river feeding on invertebrates and then make the transition to saltwater as they head out to sea to become breeding adults. On their return to breed, fishing reduces their numbers if they are not returned after being caught and then any remaining fish swim upriver to their favoured stretches of stream for egg-laying. Once the eggs are laid in the gravel of the streambed, they rely on a steady flow of oxygen-rich water over them to develop. Many of the salmon's historical spawning gravel areas have become choked by silt, washed from the floodplain, especially off cultivated land which has much exposed soil. The silted gravel no longer provides sufficient oxygen in which the eggs can survive so hatching of salmon fry has been much reduced. In addition structures in the river channel such as mill impoundments, sluices and weirs may block the passage of many species of fish as they move upriver to spawn, although fish passes such as those at Bishopstoke Lock and Allbrook have eased this problem by providing gradual inclines for the fish to swim or leap up.

The river is famous for its trout fishing and has been managed for this interest for many years with the current biodiversity of the river developing alongside the fisheries. The river south of Kings Worthy is stocked with farm-raised brown trout to meet fishing demand but north of here a small population of wild brown trout exists. Behavioural and genetic interactions between farmed and wild trout may not be beneficial to the long-term



REED WARBLER

survival of the wild trout populations as they may interbreed or be out competed for the best habitats within the river by the larger farmed fish.

The good water quality of the river and the gravel substrate support an abundant and diverse invertebrate community. Many rare and specialised species such as the fine-lined pea mussel and the white clawed crayfish are found, the latter having declined by between 25-49% in the last 25 years due to the spread of a fatal disease from introduced crayfish to our native species. It is so endangered that it has disappeared from the stretch of the River Itchen that flows through Eastleigh Borough, being confined to only the most upstream reaches of river where the crayfish plague has not spread.

The water vole, a semi-aquatic mammal that lives along the rivers edge excavating burrows in the banks has also been detrimentally affected by an alien species. Mink kept in farms for their fur have escaped within the catchment and prey on water voles. This predation coupled with clearance of bank side vegetation for fishing access and development has led to a 94% decline in their UK population size between the years 1989 and 1997. It was also once thought that mink may also harm the otter by out competing it for fish, but research has shown that this may not be true. Being such a



large animal, about 10 times heavier than the mink, the otter can easily deter a mink from an area in which it is feeding. The loss of natural bank sides, as well as disturbance by humans and dogs, is thought to be more of a problem for otters in the area.

Off the main river channels, in ditches and drains that criss-cross the valley floor, the water flows more sluggishly than in the main channels and silt builds up as the water slows down and drops particles it can no longer hold in suspension. Here, plants that benefit from the deep silt such as bur-reed, yellow iris and water parsnip grow along the bank-side. These plants are known as emergents, most of their leaves and stems are above the water surface but their roots are bedded in the silt taking up nutrients and water. Further up the bank and in areas of wet swampy ground not directly fed from the river, other plants that have attractive flowers such as purple loosestrife, greater willowherb and meadowsweet can be found as well as extensive areas dominated by grasses such as common reed and reedmace (often incorrectly called bulrush). These species need wet ground but do not tolerate their roots being immersed in water and provide suitable nesting and feeding conditions for specialised birds such as reed warbler, sedge warbler and Cetti's warbler.

Inhabiting some of the drains that criss-cross the floodplain is the very rare southern damselfly, a relative of the more familiar dragonflies that are often seen flitting around ponds. As a flying adult the damselfly is brightly coloured with striking blue and black markings. It only survives as an adult for a few weeks over the summer where it searches for other adults with which to breed. Most of its life it spends in the drains, submerged in the silts developing as an aquatic nymph. It is not until it is about two years old that it crawls out of the water, up a plant stem and transforms into the flying adult stage.

The floodplain of the river is naturally flat and wide and largely in agricultural use as grazing land, although in places where development occurs close up to the river's banks the floodplain is constricted. The banks of the river may be artificially modified, by widening, deepening,

straightening and bank reinforcement to prevent flood risk. This leads to the direct loss of bank side vegetation and natural features in the stream such as riffles, shingle banks and meanders. Such an artificial environment does not provide for as diverse a range of species as is present elsewhere in the river.

Water meadows

In the past, the meadows along the valley floor were managed as water meadows with channels and water control structures being operated by hand to allow river water to flow over the grass and encourage its growth, to the detriment of other flowering plants. The resulting meadows provided very good grazing but were not very rich in wildlife. By the beginning of the 20th century this labour intensive practice had fallen out of general use as labour prices rose and artificial fertilisers and herbicides became more widely available. Since then, most of these former water meadows have undergone a high degree of agricultural improvement with the application of artificial fertilisers and herbicides which has not improved the situation for wildlife, and some of the meadows furthest from the river have since been ploughed and the drains filled in. Others, however, have been successfully managed to produce valuable wetland habitats, sometimes using special grants such as Countryside Stewardship.

Today, the best meadows for wildlife in the Itchen Valley are those that are grazed non-intensively by cattle and that do not receive any artificial fertilisers, herbicides or pesticides, for example at Itchen Valley Country Park. This management encourages the growth of a diverse community of plants in the wet meadows and along the drains such as water avens, betony and devil's-bit-scabious which are only normally confined to unimproved wet grasslands. The unimproved wet meadows also provides suitable feeding and breeding conditions for invertebrates such as dragonflies and damselflies, wetland birds such as snipe and redshank and mammals such as water vole and water shrew.

There is growing evidence that water levels, both in the river itself and flowing underground through the floodplain, have fallen as a result of increasing water abstraction over the past few decades. Many species reliant on high water levels are therefore declining or disappearing from the river and its valley. A study of breeding waders on the River Itchen between the years of 1976 and 1982 indicated a decline of 50% in breeding snipe and redshank and this has been attributed in part to falling water levels within the floodplain and the loss of unimproved grassland due to agricultural improvement. Somewhat ironically, the old water meadow structures are now providing a means of retaining water to benefit wildlife by increasing water levels. Abstraction not only impacts water quantity but also water quality. By reducing the amount of water in the river, levels of pollutants present are less diluted.

Ponds and lakes are scattered throughout the valley with the largest lakes being found at Willow Farm, just south of the railway line between Eastleigh and Hedge End, formed from disused

gravel extraction pits. Some ponds are former duck decoys and have characteristic curving ditches called pipes leading off a usually square or rectangular pond which is surrounded by dense vegetation. These provide breeding areas for wildfowl such as mallards and other water loving birds such as coot and moorhen.

On the valley sides large areas of woodland, some of which has been present for hundreds of years remain and add to the habitat diversity of this internationally important area. The woodlands at Itchen Valley Country Park are composed of both native and coniferous trees. Conifers are being thinned to allow the regeneration of broadleaved trees and some of the remaining conifers are to be harvested when they reach maturity. Broadleaved woodland will then replace some of the mixed stands. This will provide a more favourable habitat for our native woodland flora and fauna that has evolved with the cycle of autumn leaf loss and spring growth, encouraging for example, the familiar and well loved display of bluebells that carpet woodlands in the spring. Ride management and coppicing have been re-introduced with an accompanying rise in butterflies including the silver washed fritillary. Common woodland birds are found in good numbers, and buzzard can sometimes be seen acrobatically displaying to one another above the park.

Decoy ponds

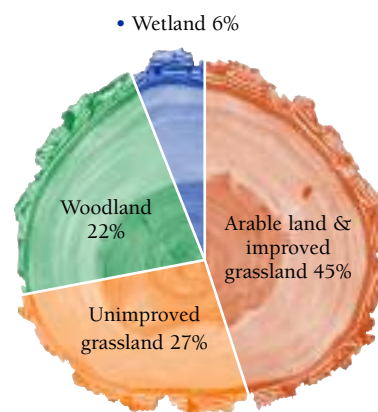
Decoy ponds were first constructed in medieval times for the breeding and management of wildfowl, mostly ducks, in order to provide a constant and sustainable supply of food.

The earliest method of capturing ducks in England was by driving them into tunnel nets at a time when the young birds could not fly and the older ones were moulting. This practice, which was in use by the 13th century, was outlawed in 1534 after numbers became seriously depleted.

Another method of capturing ducks was to use their natural instinct to keep predators in site once spotted. The decoyman would use a specially trained dog with a fox-like appearance to tempt the ducks to follow it up the pipe where they would be netted.

Duck decoys were used in many parts of the country right up to the mid 20th century but fell into disrepair as hunting for ducks declined as a result of the increase in livestock rearing to feed an increasingly urban population.

Area of habitats within the Itchen Valley Priority Area



NB: 13 km length of River Itchen also within the priority area. Figure for length of hedgerow is unavailable.

Action

Issue 1 Falling water levels

Current action

Being designated as a European candidate Special Area of Conservation (cSAC) the River Itchen and some parts of its floodplain are protected from the harmful effects of development. Any new development that is likely to increase levels of water abstraction from the river can only proceed if it can be demonstrated that there is not likely to be a significant detrimental effect on the nature conservation interest of the site or development is in the national interest.

Proposed action

The Environment Agency, Southern Water, Portsmouth Water and other organisations that have an influence over the management of the River Itchen cSAC are currently undertaking a million-pound study to investigate the impacts of water company operations on the River Itchen. The investigation, known as the River Itchen Sustainability Study will propose a sustainable management scheme for the long-term preservation of the river as an important area for wildlife and for water supply and must receive continued support from all involved bodies. * (PARTNERSHIP)

Ensure that new development has minimal impacts on water resources and the natural environment through sensitive design of drainage systems and water supply in new developments.* (EA)

Agree and implement operating contracts with organisations and individuals who manage water control structures on the River Itchen, such as sluices and gates, to optimise water levels for wildlife as part of a Water Level Management Plan for the river.** (EA/EN)

Ensure any new applications for abstraction licences or increases to current abstraction levels do not reduce river flows to harmful levels * (EA)

Issue 2 Development

Current Action

As the local planning authority, Eastleigh Borough Council must ensure that the habitats and species of the River Itchen cSAC are not significantly affected by any development proposals.

Proposed action

Undertake detailed Appropriate Assessment of all development proposals that may affect the river catchment.* (EBC)

Include policies in the local plan that restrict new development in the Itchen valley where these would lead to increased flood risk, pollution risk, loss or damage to river habitats, landscape or river corridor open space or reduced access to the river.* (EBC)

Work in partnership to restore appropriate stretches of the Monks Brook tributary back to a more natural watercourse thus promoting habitat and species diversity.*** (EA/EBC)

Issue 3 Pollution

Current Action

The Environment Agency has statutory powers to regulate and prevent pollution of our rivers. It advises water companies, organisations and individuals who utilise water on ways in which to minimise pollution and it can also proceed with prosecution if a pollution incident has occurred that could have been prevented.

Proposed action

Include conditions with planning permissions and drainage consents that address interception of oil and other chemicals to prevent pollution of the river.*(EA & EBC)

Support a LANDCARE programme to cover the River Itchen. This programme funds a project officer who, as part of their post, advises farmers and landowners on ways in which to minimise the amount of pollutants and sediments/silts that enter watercourses through surface water run-off and soil erosion.** (PARTNERSHIP)

Issue 4 Fisheries management

Current action

A number of initiatives aimed at enhancing self-sustaining stocks of fish, particularly brown trout and Atlantic salmon are currently underway. These include the introduction of legislation to reduce fishing of Atlantic salmon by rod and net, and better controls to prevent the escape of farmed fish.

Proposed action

Work in partnership with fisheries and individual landowners to agree and implement fishery management guidelines compatible with nature conservation interests of the River Itchen.** (EA/EN)

Issue 5 Introduced species

Current action

Current action for the white-clawed crayfish is concentrated around surviving populations further up the River Itchen catchments. English Nature has powers to prosecute those responsible for the illegal introduction of non-native species into the wild and in conjunction with the Environment Agency can regulate the movement of introduced species by man.

Proposed action

Continue to survey for and research into the requirements of the water vole, white-clawed crayfish and other priority species along the River Itchen.* (HRG)

Contribute to any relevant co-ordinated reintroduction programmes for water voles in the Borough.* (PARTNERSHIP)

Implement appropriate mink control in key sites supporting water voles ensuring co-ordination between adjacent landowners.* (EA/EBC/NFU)

Issue 6 Loss of habitats through agricultural change

Current action

Itchen Valley Country Park is managed by Eastleigh Borough Council specifically to maintain the nature conservation interest of the site. Cattle graze the wet grasslands, sections of drains are systematically cleared and woodland is managed by coppicing and thinning, all of which promote biodiversity. A few other areas of farmland in the floodplain are maintained under the Countryside Stewardship Scheme, with financial incentives for appropriate grassland management (including measures to raise water levels) and to restore typical river valley features such as hedgerows, ponds and ditches.

Proposed action

Prepare a new management plan for IVCP by 2003 to guide future work on site by the Eastleigh Countryside Service. Ensure that it is in accordance with any new information on habitat management for priority species.* (EBC)

Renew the Woodland Grant Scheme at Itchen Valley Country Park by 2002,* (EBC)

Identify suitable areas of land within the PBA for sympathetic management work to be re-instated concentrating on areas where priority species and habitats are currently or potentially could be present.* (HBIC)

On areas of land as identified in the action above, inform landowners of incentive and grant schemes available and encourage and support applications for the re-instatement of sympathetic management. Also provide advice on management techniques that would improve the biodiversity value of their land.* (LLG)

Aim to establish new populations of the southern damselfly in at least one new site in the Itchen Valley Priority Area by restoring/creating suitable ditch habitat if the area is considered to be most appropriate.* (HSDG)

Encourage landowners to convert arable land back to permanent grassland both to reduce siltation of the river and to extend wet grassland habitats.* (FWAG)

ACTION TIMESCALE

* within next
2-3 years

** within next
5 years

*** within next
10 years

KEY TO ORGANISATIONS

EA
Environment
Agency

EBC
Eastleigh Borough
Council

FWAG
Farming and
Wildlife Advisory
Group

HBIC
Hampshire
Biodiversity
Information Centre

HRG
Hampshire
Research Group
(Comprises HWT / EA
/ EN / Southampton
University /
Farnborough College /
Sparsholt College)

HSDG
Hampshire
Southern Damselfly
Group

HWT
Hampshire Wildlife
Trust

LLG
Landowners Liaison
Group (Comprises
FWAG, Hampshire
Management Advisory
Project, National
Farmers Union County
Landowners &
Business Association)



Eastleigh Priority Species recorded within the Itchen Valley Priority Area

Recorded in last five years

- Otter
- Pipistrelle bat
- Serotine bat
- Water shrew
- Cetti's warbler
- Firecrest
- Goosander
- Grasshopper warbler
- Little egret
- Nightingale
- Reed warbler
- Snipe
- Song thrush
- Whinchat
- Southern damselfly
- Atlantic salmon
- Brook lamprey
- Bullhead
- Buttoned snout moth
- Silver washed-fritillary
- Stream water crowfoot

Recorded 6-10 years ago

- Water vole
- Black tailed godwit
- Gadwall
- Golden plover
- Lesser spotted woodpecker
- Reed bunting
- Reed warbler
- Skylark
- Spotted flycatcher
- Turtle dove
- Yellow wagtail
- White clawed crayfish
- Dotted chestnut moth*
- Kent black arches moth*
- Mocha moth*
- Green flowered helleborine
- River water dropwort

* Priority species in Eastleigh Borough only

Last record pre 1981

- Pisidium tenuilineatum (a freshwater bivalve mollusc)
- Desmoulin's whorl snail

Relevant Hampshire species or habitat action plans for Itchen Valley Priority Area are:

- Otter
- Water Vole
- Southern damselfly
- White-clawed crayfish
- Pipistrelle bat
- Seed-eating farmland birds
- Birds of wet grassland
- Ancient semi-natural woodland
- Unimproved neutral grassland
- Lowland wet grassland
- Hedgerows
- Arable land
- Chalk streams



Action for the Southern Damselfly in Hampshire



Why action was needed

This small elegant blue and black damselfly is a globally threatened species that has disappeared or declined from many countries in Europe where it used to be more common. It is believed that up to 25% of the world's population occurs in the UK with Hampshire being a national stronghold for the species.

In Hampshire it is found in the New Forest and along the River Itchen.

The causes of the decline in this species are thought to be due to a loss of suitable habitat either by lack of appropriate management or complete habitat destruction such as through development. Changes in water levels and flows on wetlands and rivers also affects the habitat of this delicate species and as it is a poor flyer it is slow to colonise new areas and obstructions such as roads, bridges and buildings may stop it moving between areas of suitable habitat.

Action so far

Since 1998 a body of interested organisations and individuals have formed the Hampshire Southern Damselfly BAP Group with the express aims of investigating the ecology and status of the damselfly and formulating and carrying out action to benefit the species in Hampshire.

In 1999 surveys of the River Itchen and its floodplain were carried out and in 2001 further surveys have taken place that have included studies on the species dispersal capabilities.

Eastleigh Borough Council which owns and manages Itchen Valley Country Park, one of the best sites for damselflies along the River Itchen, has drawn up a management plan for the reserve which concentrates on getting water levels right especially for this species.

Results so far

The surveys that have already taken place have helped to identify the location and status of the southern damselfly in Hampshire and in Eastleigh borough with six new sites being discovered along the River Itchen during the 1999 survey. The habitat requirements of the species are also becoming clearer and this will assist in habitat management.

The future

Both the southern damselfly and its habitat need to be targeted for action if the southern damselfly is to continue to survive and even spread out into other suitable habitat in the borough.

Action to maintain and increase the numbers and range of the southern damselfly in the borough:

- The Environment Agency and English Nature will endeavour to restore and create 0.5 km of new ditch habitat suitable for southern damselfly in the Itchen Valley by 2004
- English Nature and the Environment Agency will produce and implement Water level Management Plans on southern damselfly breeding sites to help meet the water requirements of the species.
- Eastleigh Borough Council is in the process of revising the detailed management plan for Itchen Valley Country Park in line with new research findings regarding the southern damselfly's habitat requirements.
- Eastleigh Borough Council as a local planning authority will ensure that future development in the borough does not adversely affect existing or possible new populations of southern damselfly, either directly through habitat destruction or indirectly through hydrological changes.



Action to gain a better understanding of southern damselflies in the Borough:

- HSDG will continue to investigate the species ecology and habitat management requirements.

What you can do to help damselflies and dragonflies

To help to maintain and increase the numbers and range of damselflies and dragonflies in the borough you can:

- Build a pond in your garden. Even a small water feature will attract dragonflies and damselflies and you may be lucky to see the nymphs crawling up a plant stem and transforming into an adult.
- If you own or manage larger pieces of land, ponds are a very valuable wildlife habitat that you may consider building. Seek advice before you build a pond as it may result in damage to surrounding wetland habitats if sited in the wrong place and may require planning permission.

- If you have a long forgotten pond or other wetland habitat on your land consider restoring it to a more valuable wildlife habitat by sympathetic management. Advice on wetland management and incentive schemes such as Countryside Stewardship is available from DEFRA.
- Visit Itchen Valley Country Park and support the work that is taking place to conserve the southern damselfly. Take a walk around the water meadows that support the southern damselfly and you may be lucky to see one during warm, still summer days.
- Come along to a practical conservation task in a wetland to benefit damselflies and dragonflies. This may involve digging a new pond or clearing out a silted up one.
- If you know of or are concerned for a local pond consider becoming a pond warden as part of the scheme supported by the British Trust for Conservation Volunteers. Wardens look after and monitor local ponds for wildlife.

To help us gain a better understanding of damselflies and dragonflies in the Borough you can:

- Become a recorder for the British Dragonfly Society. They hold regular events that will help to improve your identification skills and your sightings will be added to a nationwide database to assist in their conservation.

Where to see it

The southern damselfly is a small, delicate blue and black insect that is only on the wing during the summer months and even then only when it is not too windy. It looks very much like other, more common damselfly species and can only be distinguished from its more common cousins by people who have a trained eye. However, a visit to Itchen Valley Country Park in the summer should reward you with sightings of many damselflies and dragonflies. Follow the trail through the water meadows for the best views.



COMMON HAWKER DRAGONFLY