

Land, conservation, access and recreation

Our commitment to the management and conservation of land is inherent in a broad range of our activities, from provision of environmental advice to our construction programme to ensuring suitable land has recreational and amenity value for local communities.

In this section, we outline our responsibilities to the management and conservation of our natural and built environments. Also within this section we meet our requirements for Conservation, Access and Recreation reporting.

For more information
See also:
www.defra.gov.uk/environment/water/industry/copcar

Contamination Risk

We commissioned a desktop study of all the sites in our capital programme for the period 2005 to 2010, to identify sites with a contamination risk. The study will build upon the use of our Environmental Geographical Information System (EGIS). This contains multiple data sets that assist assessments for environment issues such as ecology, archaeology and as in this case, contamination potential.

We continue to undertake site audits, as part of our environmental management system. These audits, among other issues, identify contamination risks on our landholdings. We undertook 39 such audits in 2003-2004.

In order to protect the integrity of our pipe work and water quality for the future, in 2003-2004 we undertook 170 screenings to advise third parties on water pipe inlay into third party brown-field development sites.

CASE STUDY

Natural treatments

In 2003, we invested over £1 million in an environmental improvement scheme for Forest Row Wastewater Treatment Works. The treatment works was upgraded and reed beds constructed as a final treatment process for the wastewater produced by 4,500 people in and around Forest Row. The scheme has improved the quality of the water entering the River Medway.

Reed beds are an effective final treatment because the reeds themselves break down pollutants in the wastewater. The gravel in which they are planted acts as a filter that removes tiny solid particles. This further improves the quality of the water leaving the treatment works. This process produces water that is of exceptionally high quality. At Forest Row, levels of ammonia in the wastewater are now at levels 50 times lower than the standards set by the Environment Agency. The reed beds are also more cost effective and require less maintenance than their mechanical alternatives.

The four reed beds at Forest Row cover an area of approximately 2,700m². They contain 24,000 common reeds (Phragmites australis), which were individually planted in the gravel beds



during July 2003. Once the reeds are fully grown, the reed bed should complement its rural location and provide an attractive habitat for wildlife.

Each of the four reed beds contains three hundred tonnes of gravel that arrived on site in one hundred and twenty lorry loads. To minimise the impact of this on local residents, contractors developed a system in which lorries worked in convoy and were escorted by staff to and from the site. A one-way construction traffic management plan was also implemented that effectively reduced the disturbance to the local residents.

This scheme is part of Southern Water's capital investment programme and was designed and constructed by one of our contractors.

2003-2004 target	Progress against target	2004-2005 target
CONTAMINATED RISK		
Establish procedures for using and updating risk data to EGIS	Target met 	Develop technical guidance notes for environmental screenings on contaminated land

KEY: Target met  In progress  Target not met 

LINKS: www.water.org.uk | www.defra.gov.uk | www.wildlifetrusts.org | www.english-nature.org.uk | www.rspb.org.uk | www.sxbrc.org.uk | www.ukbap.org.uk |

Conservation of our natural and built heritage

We continued to support conservation of our natural and built heritage throughout our asset maintenance and capital investment programme across the region. We also sought nature conservation enhancement opportunities wherever possible.

We continue to support the capital investment programme, by offering site-specific environmental advice during the design and construction of our capital schemes. This input usually comprises a preliminary environmental appraisal, the production of a site environmental management plan, and an audit of this plan during construction. These procedures are formalised through our environmental management system. We also implement any requirements necessary to protect the environment that are identified by the preliminary environmental appraisal. These requirements are then addressed in the site environmental management plan.

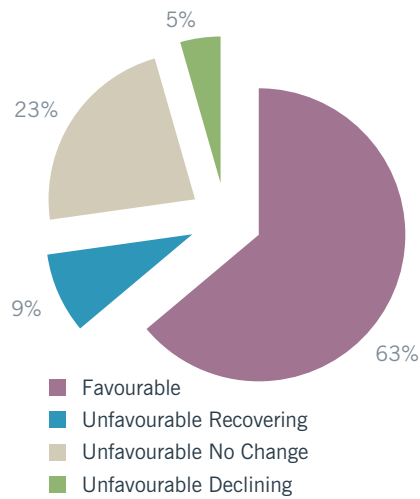
Biodiversity

Biodiversity (short for biological diversity) is the term used to describe the complexity of the living world. Biodiversity encompasses all living things and the relationships between them.

Our landholdings comprise a range of the UK's most sensitive habitats, including lakes, chalk grassland, heathland and wet woodland. We recognise that how we manage these landholdings fundamentally affects biodiversity. During 2003-2004, we continued to undertake a number of projects to implement our nature conservation strategy, increased our understanding of our land holdings and directly enhance the biodiversity on our sites.

Following the publication of our biodiversity strategy, we have, in 2004, written our corporate biodiversity action plan. This contains our biodiversity objectives and action plans for six species and six habitats. The species action plans are for barn owl, bullhead, early spider

SSSI* land in favourable status (English Nature data)



*Sites of Special Scientific Interest

orchid, otter, pearl-bordered fritillary and southern damselfly. The habitat action plans are for ancient woodland; chalk, neutral, wet and acid grassland; fen, swamp and freshwater marsh; heathland; rivers and streams and standing open water.

Many of the objectives for the species and habitats in the action plan will be delivered through our site-specific conservation management plans and our environmental management system. Although publication has been delayed, the action plan is due to be published on the Southern Water internet site later this year.

In 2003-2004 we continued our commitment to biodiversity record centres across the region. We renewed our annual service level agreement with Sussex Biodiversity Record Centre. We negotiated a similar agreement with Hampshire Biological Information Centre

and the Kent Biological Record Centre is now in a position to receive data requests from us.

It is estimated that across the region we own, have tenancy agreements or have easements across about 920 hectares of land that is designated as a Site of Special Scientific Interest (SSSI). The government Department for Environment, Food and Rural Affairs (Defra) has a public service agreement target that 95% of all land in SSSIs will need to be in *favourable or recovering* condition for its nature conservation interest by 2010. English Nature describes favourable condition as, SSSI land that is being adequately managed to conserve its nature conservation interest, however there is scope for the enhancement of the site. Recovering condition is described by English Nature as, SSSI land not yet adequately managed to conserve its nature conservation interest, but all the necessary management measures are in place. Provided that the recovery work is sustained, the SSSI will reach favourable condition in time.

To achieve the public service agreement target, we undertook an assessment of the estimated costs to bring our land into favourable condition, and this has been incorporated into our business plan for 2005-2010. An English Nature survey estimated that 72.8% of our land holdings are in favourable or recovering condition, so approximately 27.2% will require additional conservation management to bring it back to favourable status. We are looking to verify this estimate of SSSI conservation status by carrying out ecological surveys to investigate the nature conservation interest on our sites next year.



We have developed an action plan for the otter

LINKS: www.btcv.org | www.bto.org | www.butterfly-conservation.org |



The bird hide at Testwood Lakes

We continued to implement conservation management plan objectives at a number of our sites. At Otterbourne water supply works in Hampshire, we carried out stream restoration work to improve the aquatic habitat and potentially provide suitable conditions for the southern damselfly. The completion of this work is one of the actions in our biodiversity action plan. At Ditchling Road covered water supply reservoir in Brighton, we implemented measures to control the invasive garden plant, cotoneaster, on the site. The amount of cotoneaster on the site posed a threat to the protected early spider orchid population. At Yew Hill water supply reservoir in Hampshire, we continued to manage the site to improve the grassland for butterflies.

In September 2003, in partnership with the Rother Valley Project and the South Downs Volunteer Ranger Service, we constructed an otter holt on the banks of the Western Rother river at our wastewater treatment works at Liss in Hampshire.

In consultation with the Hawk and Owl Trust and the Barn Owl Centre we erected eighteen barn owl boxes throughout the region this year. Monitoring of these boxes will begin next summer in partnership with the local Hawk and Owl Trust. We continued our participation in the British Trust for Ornithology (BTO)-Hanson Business Bird Challenge by registering our sites at Testwood Lakes in Hampshire and Weir Wood, Forest Row reservoir in East Sussex for

the 2004 bird survey. The challenge is to implement habitat improvements that encourage more birds to use and breed at these sites.

We also contributed to the first publication on the distribution and conservation of dragonflies of Sussex compiled by the Sussex Group of the British Dragonfly Society.

During the spring and summer of 2003 we assessed over three hundred ponds for their potential as great crested newt breeding habitat. These ponds are all in the vicinity of over fifty of our sites where site improvements are proposed. Of these ponds, over 170 were surveyed for newts, of which just under half were found to support great crested newts. This data is now being used to inform our capital investment programme. As a result of this survey, we applied for licences from Defra to temporarily disturb this protected species during four of our capital schemes this reporting year. All the licences were granted.

Mitigation for other protected species has been undertaken on three of our capital schemes. We required badger disturbance licences for two schemes this year; for a new pipeline near Groombridge and at Staplecross Wastewater Treatment Works, both in East Sussex. We also relocated 32 common lizards (*Lacerta vivipara*) and 29 slow worms (*Anguis fragilis*) on land at Beckley Wastewater Treatment Works in East Sussex.

In 1997, an area of Sandown Levels Site of Nature Conservation Importance (SNCI) on the Isle of Wight was temporarily used to weld pipes together and pull them out to sea. This operation was part of the construction scheme for the long sea outfall at Sandown Wastewater Treatment Works on the island. Part of the mitigation for this scheme was to construct a shallow pool to hold plants rescued from the ditches affected by the pipe work on the designated site. During the summer of 2003, we carried out a survey of the plants in the SNCI to monitor whether the scheme caused a significant change to the plant communities in the grazing marshes. The results showed that most of the ditches are ecologically stable and that the new pools added considerable conservation interest to the site.

We continued to manage our land in Countryside Stewardship schemes at Bewl Water in East Sussex as well as Lake Common, Sandown Water Meadows and Knighton Down on the Isle of Wight. The Countryside Stewardship scheme is the Government's main grant scheme to improve the natural beauty and diversity of the landscape, wildlife and historical features and public access in the countryside. Land managers enter into a ten year agreement to manage land in an environmentally beneficial way in return for annual maintenance and capital payments.

2003-2004 target	Progress against target	2004-2005 target
BIODIVERSITY		
Review status of statutory designated landholdings and evaluate future asset maintenance implications.	Desk-based phase completed	Undertake survey of Biodiversity Action Plan priority species (butterfly) at Powdermill and Darwell reservoirs.
Erect barn owl boxes on suitable sites and monitor activity.	18 barn owl boxes erected	

KEY: Target met In progress Target not met

LINKS: www.the-works-trust.demon.co.uk | www.wessexarch.co.uk/projects/hampshire/testwood | www.environment-agency.gov.uk | www.hants.gov.uk | www.kmbrc.org.uk |

Environmental Enhancement

In October 2003, we successfully completed the second phase of environmental enhancement work at Swanbourne Lake near Arundel in West Sussex. The lake had periodically dried out during the summer months as a result of a build up of silt. Increasing the water's depth by dredging has restored the lake's recreational value together with an agreement to reduce abstraction from our water supply works at Madehurst. It will also restore the ecological habitats associated with the lake. The dredged material was used as fertiliser on nearby agricultural land owned by Arundel Estates.

We completed studies investigating the impact of wastewater discharges on the nutrient levels in watercourses that are within areas of nature conservation importance. These investigations were undertaken as part of our capital investment programme in partnership with English Nature and the Environment Agency. The three sites investigated were Ferry Pool/Pagham Harbour in West Sussex, the River Lymington in Hampshire and Walland Marsh in Kent. These sites are all designated for their international or national nature conservation importance. The results of these investigations will improve our understanding of the effects of wastewater discharges on these watercourses. They will also help English Nature and the Environment Agency determine whether any further action is required to enhance the nature conservation interests of these sites.

We are working with a number of partners on two sustainability studies that form part of the Environment Agency's national environment programme. These studies are to review the effects of water abstraction on the River Itchen in Hampshire and the North Kent marshes, which are both sites designated as candidate Special Areas of Conservation for their European nature conservation importance. The aim of both these studies is to determine whether our abstractions have an effect on the nature conservation importance of the River Itchen or the North Kent marshes.



The River Itchen is a chalk stream which is particularly important habitat for internationally important populations of water-crowfoot (plant), southern damselfly (insect), white-clawed crayfish (crustacean), bullhead (fish), brook lamprey (fish), atlantic salmon (fish) and otter (mammal). Investigations were carried out to improve our understanding of these species, and other species and habitats associated with the river. Studies into the river's flow were also undertaken. All these investigations were completed by December 2003 and we shall use this information to help develop a sustainable management strategy for the river.

The North Kent marshes are internationally important for their wading bird populations, which feed and breed on the inter-tidal and grazing marsh areas. The drainage ditches on the marshes are also internationally important for their plant and animal communities. In 2004, in partnership with Mid Kent Water, the scoping study for the North Kent marshes sustainability study was completed.

This scoping study collated the data available on the site, and made an initial assessment of the areas and features that may be vulnerable to the effects of abstraction. It also identified areas of further research required to increase our understanding of the site, with a focus on our relative contribution to the effects of abstraction on the marshes. Thus, the report has recommended several further investigations to inform the sustainability study. These investigations will be undertaken over the next few years.

Dredging Swanbourne Lake has restored the lake's recreational value

Archaeology and Built Heritage

Archaeology and our built heritage are fragile and non-renewable parts of our cultural heritage. To improve our understanding of the resources we own we contracted the Works Trust to complete a database of our historic buildings. The database highlights 68 sites we own with historical significance, including two scheduled ancient monuments and six Grade II listed buildings.

As part of schemes in our asset investment programme, we commissioned several archaeological watching briefs this reporting year. During the excavations for a new water main in East Kent, a World War II grenade with the pin missing was discovered. Disposal of the grenade involved the expertise of the bomb squad to remove and safely detonate it.

The findings from all these reports will be incorporated into our Environmental Geographical Information System (EGIS) to assist in our strategic planning for archaeology during our asset investment programme.

During construction of our Testwood Lakes scheme some exciting archaeological finds were discovered, this included the evidence of the earliest bridge to be definitively identified in England, two other bridges, part of one of the earliest sea-going boats ever found and a complete bronze age rapier (sword).

LINKS: www.southernwater.co.uk/bewlwater |

Access and Recreation

Bewl Water Reservoir

Set within the Wealden countryside, Bewl Water is Southern Water's largest reservoir, supplying water to local towns, towns on the Medway River as well as Darwell Reservoir. In addition to its conservation and operational value, Bewl Water continues to be one of the largest tourist attractions in Kent and Sussex. The reservoir, and the events and clubs held there, attracted over 180,000 recorded visitors during the 2003 season. Bewl Water also offers conferencing facilities that were well utilised throughout the year.

Bewl Water provides a first class and safe facility for a range of watersports. There are sailing, windsurfing, canoeing and rowing clubs all based at the lake, which all continued to be active during 2003. Once again, the outdoor centre, sailing and windsurfing schools offered courses for all abilities throughout this reporting year. Bewl is stocked annually with coarse fish and this year the lake attracted over 14,000 visits by anglers.

A range of events took place throughout the summer months, including workshops for watercolour painting, sugarcraft and flyfishing, art and classic car exhibitions and the Bewl Garden Show. In July 2003, a well-attended *have-a-go* weekend attracted over eight hundred participants to try their hand at windsurfing, sailing canoeing, rowing, sub-aqua diving and archery. Also in July, the popular firework and proms concert attracted almost three and a half thousand people to the



lakeside. Bewl Water has continued to host a variety of charity events including Funraisers Dragonboat racing, the aerial slide for the Royal National Institute for the Blind and many sponsored walks and bike rides.

2003 was the second year for the Countryside Stewardship Scheme at Bewl Water. We created a series of six small ponds, called scrapes, on the rough grassland below the dam to encourage wetland plants and birds into the area. This also encouraged insects, such as dragonflies and damselflies, to breed. This area is also lightly grazed by cattle, which should improve the habitat for a wider variety of plants and insects.

We undertook other projects as part of the scheme during 2003, including the laying of four hundred metres of hedge, undertaken in partnership with Kent County Council's Environmental Task Force and controlling the spread of scrub and bracken.

Bewl Water is one of the largest tourist attractions in Kent and Sussex

Weir Wood Reservoir

Weir Wood Reservoir lies on the edge of Ashdown Forest in East Sussex. The majority of the land is a Site of Special Scientific Interest (SSSI), part of which is designated as a Local Nature Reserve. East Sussex County Council manages the Local Nature Reserve on our behalf. In 2003, it was agreed that the nature reserve area would be extended to include all the land within the SSSI. Recreational activities at the reservoir include sailing, windsurfing and angling.

Powdermill Reservoir

Comprehensive management of our Powdermill Reservoir in East Sussex has been delivered by one of our contractors, who also manage Darwell Reservoir and Redgate Mill Wastewater Treatment Works in East Sussex. Although the woodland is managed for timber production, we continued to balance the commercial interests at the site with nature conservation and recreation. The High Weald Area of Outstanding Natural Beauty office has noted that significant improvements were made here this year. Supported by a five year Woodland Grant Scheme, we continued to enhance biodiversity by improving the rides created last



Environmental enhancement work has taken place at Powdermill

LINKS: www.forestry.gov.uk |
www.scouts-hants.org.uk |

The newly opened Testwood Lakes are being developed for nature conservation and amenity use

year. Rides are wide pathways through the woodland that are clear of trees and tend to be attractive to wildlife, such as butterflies and wild flowers. We continued the traditional management of the woodland by coppicing and thinning the trees in certain areas. Coppicing is the art of cutting trees and shrubs to ground level allowing vigorous re-growth and a sustainable supply of timber for future generations. A coppiced tree can live many years longer than if the tree had not been cut at all. Further coppice management is planned for next year. We also continued to maintain the conservation areas. A waymark trail from the car park has been cut to improve public access and recreation. Further enhancement is under way with the installation of site interpretation boards and picnic benches.

Darwell Reservoir

Improvements to public access continued to be implemented at Darwell Reservoir during 2003. This work has included the installation of way marker posts along routes around the reservoir, upgrading footpaths and installing fencing. This work represents the completion of the Woodland Welcome Grant Scheme awarded in February 2003.

We submitted two woodland grant schemes to the Forestry Commission to further enhance the nature conservation value and public access of the reservoir. One scheme proposes to extend the main area of Darwell Wood by planting a new area of native broad-leaved trees. This woodland would have unlimited public access, thus extending the access already provided at the lake. The main objective of the second scheme is to re-introduce coppice management to an existing area of native woodland, improving the area for biodiversity and enhancing the SSSI on the site.

Although it is anticipated that illegal access will continue to be a problem at Darwell, positive



police involvement has diminished trespassing and vandalism. This year's improvements, including the reinstatement of damaged items, removal of fly-tipping and abandoned cars and the continued positive management of the area, should discourage antisocial behaviour. Measures to control quad biking are also planned for next year.

Redgate Mill Wastewater Treatment Works

During 2003 at Redgate Mill in East Sussex, we harvested 810 cubic metres of timber from seven hectares of the woodland. We also submitted a woodland grant scheme to the Forestry Commission. This grant scheme proposed to improve nature conservation in the woodland by removing some of the conifers and re-coppicing a line of native trees. The conifer removal will allow the development of a native ground flora below the remaining trees. Public access is also to be improved by maintaining the paths.

Testwood Lakes

The Testwood Lakes scheme is a Southern Water project to provide water storage for Testwood Water Supply Works in Hampshire.

For more information

[See the Water section of this report at www.southernwater.co.uk/sustainability](http://www.southernwater.co.uk/sustainability)

The lakes comprise an operational reservoir (Little Testwood Lake), a recreational lake (Testwood Lake) and a nature conservation lake (Meadow Lake) which are all open to the public.

In 2003, the construction of a new education centre at Testwood Lakes was completed. We officially opened the site on the 12th September and opened to the public

on 21st September. The public opening consisted of a wildlife fun day with guided walks and pond dipping.

As well as its operational function, the site is being developed for its nature conservation and amenity value. Run in partnership with Hampshire and Isle of Wight Wildlife Trust, the centre has already completed a substantial number of wildlife-related guided walks, events and activities. These activities included bird-watching and bat walks, fungi forays and pond dipping days. This programme of activities is to continue throughout 2004 and a series of courses for schools started in April 2004.

The Friends of Testwood volunteer group carried out a significant amount of grounds maintenance and conservation work on the site, including putting up stiles and nest boxes. Also in close partnership with Hampshire and Isle of Wight Wildlife Trust, the extensive landscaping programme of the lakes was advanced during 2003 with the planting of new hedges and trees around Testwood Lake. Further tree and hedge planting is planned for 2004. We recorded a number of breeding birds at Meadow Lake this year, including a pair of shelduck, a pair of oystercatcher and two pairs of little ringed plover. Recreational activities at Testwood include walking, bird-watching and fishing. Two fishing clubs are licenced to fish Little Testwood Lake.

This year, local Sea Scouts submitted plans to build a headquarters and a sailing training centre on the main Testwood Lake. This centre will increase the public amenity value of the site.