



## OVERVIEW

ScottishPower acquired Damhead Creek, a 805 megawatt (MW) combined cycle gas turbine (CCGT) power station, in June 2004

to increase its generation capacity in the south of England.

Built in 2000 and fully operational the following

year, the station is located 30 miles south of London on the Hoo Peninsula, Kent.

CCGT technology is one of the more efficient forms of

thermal electricity generation with fewer emissions per unit of electricity compared with conventionally-fired thermal power stations.

## SITE DESCRIPTION

Damhead Creek Power Station is located in an area of significant wildlife value and is adjacent to the internationally-important Medway Estuary and Marshes.

The 4,600-hectare estuary site has been recognised with three statutory designations – a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and Ramsar site – principally for its nesting and wintering bird populations.

It is an area of diverse habitats, with mud and sand flats, saltmarsh, lagoons, grassland, wetlands and pasture, creeks, ditches and dykes.

Key species include breeding Avocets (6% of the UK population) plus Little and Common Terns. Almost a quarter of Britain's Avocets spend the winter on the estuary.

The land on which the power station was built was reclaimed from the marsh hundreds of years ago but still retains many of the features that characterise a productive wetland.

This has enabled the development of a conservation area to help mitigate for the environmental impacts of the station's construction and operation.



■ The mitigation land's extensive reedbed, with Damhead Creek in the distance

## CONTACT US

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## PRIORITY HABITATS AND SPECIES

Damhead Creek's landholdings include a mitigation area of 32 hectares that features a range of habitats which are rich in wildlife.

Planning conditions for the station's construction required the operators to retain existing habitats and create and manage new areas for biodiversity.

As a result, the station developed a mitigation strategy in liaison with Kent Trust for Nature Conservation, the Royal Society for the Protection of Birds and Natural England.

The strategy will run for the lifetime of the station and is reviewed every five years by Medway Council, Kent County Council and Natural England. The most recent review took place in 2008.

The mitigation area includes rivers and streams, standing open water and canals, intertidal mud and sand, reedbeds and coastal saltmarsh – all of



■ *Small Heath*, a UK BAP listed butterfly

which are priority habitats in the UK Biodiversity Action Plan (UK BAP).

These habitats provide a home for UK BAP listed mammals including Water Vole, Otter, Brown Hare and Harvest Mouse, which was noted on the site for the first time in 2007.

The site also hosts Slow Worms and Grass Snakes in good numbers – both are UK BAP priority-list reptiles – plus Great Crested Newt and notable breeding birds and invertebrates.

UK BAP bird species that have been recorded as breeding include Lapwing, Cuckoo, Turtle Dove, Skylark, Dunnock, Song Thrush, Starling, Linnet and Reed Bunting. Many species listed as being of conservation concern are also present, including Kestrel, Grey Partridge, Barn Owl, Stock Dove, Green Woodpecker, Sand Martin, Meadow Pipit, Nightingale, Cetti's Warbler and Shelduck.

Priority-listed butterflies that have been recorded include White-letter Hairstreak and Small Heath.

### NESTING BARN OWLS

Damhead Creek's successful nestbox scheme for Barn Owls continued in 2009 – with a pair breeding on site.



Three owl boxes have been erected at the station in a link-up with the local Wildlife Conservation Partnership.

Since the start of the scheme in 2002, 30 young owls have been fledged. One pair was present in 2009, boosting the Kent population.

## OUR BIODIVERSITY ACTION PLAN

Damhead Creek Power Station launched a site biodiversity action plan (BAP) in 2005-06, to continue to formalise its approach to biodiversity conservation.

The document seeks to entrench existing good practice and sets out a timescale for work to improve habitats and promote species, contributing further to the biodiversity of Kent.

The site BAP supports the Damhead Creek habitat management plan (HMP) for the mitigation area and focuses on four key aims:

- Provide wildlife corridors to link retained features and conserve habitats of high ecological value
- Create wildlife habitats
- Manage land to enhance its nature conservation value
- Protect existing access.

The HMP, which was reviewed and updated in September 2008, aims to maintain, protect or enhance habitats such as wetlands, reedbeds, grasslands, native woodland, saltmarsh and scrub.

It also targets pro-active measures to improve conditions for key species including Water Vole, Great Crested Newt and Barn Owl. The range of work is also benefiting large numbers of common species and plants.



■ A pair of Marsh Harriers nested for the first time in 2006 in the mitigation area's reedbed and raised four chicks



■ A reedy pond on the mitigation land

Careful hydrological monitoring is critical to the area's ecosystem.

The mitigation land is drained by a network of channels, weirs, ditches and outfalls that must be maintained on a regular basis.

Recent improvements have seen adjustments to the heights of the water channels that drain the area, providing more flexibility as staff strive to create ideal conditions for the reedbed's wildlife community.

Work continues to develop ponds, a marsh and transitional grassland around the station site, outwith the mitigation land boundary.

Meanwhile, the creation in 2002 of wader scrapes and wet grassland is providing attractive habitats for breeding and migrating wading birds.

The habitat management is supported by a range of ecological studies – including bird and mammal surveys and ongoing hydrological monitoring.

A total of 80 species of bird were recorded during survey work at the mitigation area in 2009.

These included 29 species which were confirmed as breeding with a further 24 species that probably or possibly nested at the site.

Six confirmed breeding species in 2009 are listed in the UK BAP – Cuckoo, Skylark, Dunnock, Song Thrush, Linnet and Reed Bunting.



■ A digger clears out the Berry Wiggins Drain in winter 2008 to improve habitat for Water Voles



■ Water Voles remain widespread at Damhead Creek's mitigation area (picture courtesy of Laurence Arnold)

## WATER VOLE MONITORING

Water Vole surveys in 2009 revealed the UK BAP species is widespread across Damhead Creek's mitigation area and is benefiting from active conservation measures by station staff.

The study found that signs of vole activity were twice as frequent compared with 2008 with some waterbodies having high population densities.

The apparent increase follows dredging and vegetation clearance in winter 2008 to improve the Berry Wiggins Drain which bisects the mitigation land.

Once a common species, Water Voles numbers have sharply declined and the mammal is thought to have vanished from 67% of its former UK sites.

The station's fifth annual survey, in summer 2009, looked for signs of vole activity – including burrow entrances, latrines and runs. At the Berry Wiggins Drain, such signs were noted every 5-10m compared with 10-20m in the 2008 survey – but the frequency was one sign every three metres in suitable territory in the Western Corridor pond and ditches.

## NEWT SURVEY HIGHLIGHTS RECORD YEAR

Great Crested Newts are declining in Kent but survey work in 2009 found the UK BAP species occurring in record numbers at the mitigation land.

The Great Crested Newt (GCN) is the UK's largest newt and is strictly protected under European legislation.

It is a UK BAP species and listed in the Kent Red Data Book as a species of conservation concern.

A colony was moved under licence during the construction of Damhead Creek to a new, safe site within the mitigation area.

In 2009, the survey found 40 adults (17 in 2007) along with evidence of breeding, mostly at the station's Wetland Creation Area.

Meanwhile, more than 90 Smooth Newts were found at various waterbodies at the site.

The station is looking at recommendations for ongoing management of waterbodies that are important for newts.

