

SHOREHAM POWER STATION BIODIVERSITY INFORMATION



Issue 01/2010



OVERVIEW

Shoreham Power Station in West Sussex was opened in summer 2000 and is one of three combined cycle gas turbine (CCGT) stations

operated by ScottishPower. Shoreham has a capacity of 420 MW and uses a gas turbine along with a steam turbine and generator to

provide one of the most efficient forms of thermal generation.

Steps have been taken to create a habitat for native

plant species – and the station seeks to maintain and improve conditions for wildlife through a site biodiversity action plan.

SITE DESCRIPTION

Shoreham Power Station was constructed on brownfield land – the site of a former coal-fired plant – and opened in summer 2000.

The station is situated on a spit of land between the English Channel and the River Adur. The shingle spit, which was created by longshore drift, is heavily industrialised.

Shoreham's neighbours include cement manufacturing companies, a water treatment works and shipping cargo storage.

The station has limited landholdings, mostly buildings and hard-standing. However, shingle banks have been created to promote the biodiversity of shingle plant communities.

Nearby Shoreham Beach was designated as a Site of Nature Conservation Importance (SNCI) in May 1992 for its rare shingle habitat and specialised plant populations.

The 11-hectare Shoreham Beach site was declared a local nature reserve in July 2006 and an action plan has been published to promote its sustainable management.



■ Shoreham and a vegetated shingle bank (picture courtesy of Graham Roberts) and, insets, Wild Carrot and Bristly Oxtongue – two species found at the station

CONTACT US

Shoreham Power Station
Portslade,
West Sussex, BN41 1WF
telephone: 01273 427500
web: www.spenergywholesale.com

PRIORITY HABITATS AND SPECIES

As part of Shoreham Power Station's planning conditions, purpose-built shingle banks were created within the site boundary to provide a habitat for specialist plant communities.

The measure recognised the importance of the West Sussex coastal fringe in the conservation of vegetated shingle – a rare and fragile habitat with a limited distribution in Great Britain.

It is featured on Annex 1 of the EC Habitats Directive as a habitat of international conservation importance and listed as a priority habitat for conservation in the UK Biodiversity Action Plan (UK BAP).

Vegetated shingle habitat is rare globally and largely confined in the UK to coastal areas of Kent, Essex and Sussex.

The construction of Shoreham was identified as an opportunity to extend



■ Sea Holly growing at Shoreham

the habitat found at nearby Shoreham Beach, with shingle banks formed on foundations of rubble.

Since they were created in 2000, Shoreham's shingle banks have been colonised by several rare and local species of plant that have special adaptations to survive in such a tough, salty environment.

Initially, mixed seeds of a local provenance were sown in autumn and spring to provide a natural spread of species, while other plants have self-seeded from the nearby beach.

Ground cover was quickly established by the end of the first year with species including Red Valerian, Sea Kale, Sea Holly, Yellow-horned Poppy, English Stonecrop and Nottingham Catchfly thriving within the secure compound.

There has been little other monitoring work although Song Thrush – a UK BAP listed bird – has been recorded on site and may breed.

SEA KALE

Kale is familiar as a traditional English vegetable – but the wild Sea Kale is protected by law.

It is listed in the Sussex Biodiversity Action Plan for coastal vegetated shingle as a scarce national species but one which flourishes locally.

It is easily identified by its large, grey, purple-tinged leaves. Sea Kale was an early colonist of the shingle habitat at Shoreham Power Station.



SHOREHAM POWER STATION BIODIVERSITY INFORMATION

OUR BIODIVERSITY ACTION PLAN

Shoreham's staff aim to preserve the plant and wildlife communities on the station's grounds and have operated a biodiversity action plan (BAP) since 2001, shortly after the plant's opening.

The BAP seeks to entrench existing good practice and sets out a timescale for further work to conserve biodiversity.

In particular, it features proactive measures to maintain the vegetated shingle habitat on the site, survey what grows and encourage the rarer plants to thrive. The station is grateful for the assistance of Adur Council's Nature Coast Project Officer Dee Christensen in ongoing monitoring.

Dee carries out a regular survey, assisted by station staff, of the plant communities that have emerged on the purpose-built shingle banks.

She said: "Internationally, vegetated shingle is a very rare habitat and one that's under considerable threat from the many pressures on our coastline, both development and recreation.

"That's why havens such as that at Shoreham are important – they act as a reservoir for vegetated shingle plants.

"I would love to see the plants found at Shoreham spreading out into the wider environment."

The station has established a photographic database of the plants found on site to help identify priority species for targeted protection measures. No herbicide is used to control vegetation at Shoreham but weeding is carried out by hand each year to remove weeds and other undesirable species.

The habitat creation scheme has been so successful that the Nature Coast Project has gathered seeds from Shoreham's rarest plants to establish a seedbank to assist in the recolonisation of shingle elsewhere in the country.

The station's five-year BAP was reviewed and updated in 2010.

A new initiative will be the installation



■ Shoreham staff with Dee Christensen (far left). Right, English Stonecrop



of nestboxes for small birds at the Transco compound at Devil's Dyke on the Sussex Downs. This will encourage the populations of farmland, woodland and hedgerow birds at the gas pressure reducing station.

FISH CONSERVATION MEASURES

Special efforts are ongoing to ensure Shoreham is "fish friendly".

During construction, the station's cooling water system was designed to minimise fish entrapment using a combination of a state-of-the-art acoustic fish deterrent system and a fish return arrangement.

Fish entering the cooling water (CW) band screens from the English Channel are intercepted by operators,

retained for a period of 24 hours then checked for good health before being returned to the sea.

These measures have resulted in Shoreham having one of the lowest rates in Europe for fish entrapment mortality per unit of generation for a directly-cooled power plant.

Shoreham has also commissioned a study into the effect of the acoustic

NESTING FALCONS

Shoreham Power Station has reluctantly had to remove a nestbox for Peregrines from the station's stack prior to the 2010 breeding season.

The station is set to undergo a major outage in summer 2010 that will include refurbishment of the station's 106-metre chimney.

Due to the possibility of disturbance to the protected species, it has been decided to take down the nestbox to discourage the resident pair from breeding at the station.

The decision was taken on the advice of Natural England. Sussex Ornithological Society (SOS), who provided the box, were also consulted.

Options for resiting the nestbox elsewhere on the station structure were considered but these did not prove feasible.

The nestbox will be returned to its site about half way up the stack after outage work has been completed.

Shoreham staff, who are proud of the resident falcons, look forward to the birds reoccupying their artificial eyrie in 2011.

Peregrines are protected under Schedule 1 of the Wildlife and Countryside Act 1981.

Since the nestbox scheme began in



■ The Peregrine family in 2009 – two of the young birds at the nestbox and an adult below (picture Graham Roberts)

2002, about 19 young falcons have taken flight from their home high on the station's landmark chimney.

SOS, who liaise closely with station staff, say the project has been "extremely successful".

In 2009, three young birds – two females and a male – fledged successfully from the station site.

Studies of the Shoreham birds are helping increase experts' knowledge of the protected species as they continue their spread into urban areas.

Graham Roberts, a licensed ringer from SOS, has assisted station staff with the project since its beginnings.

He has fitted Shoreham's chicks with coloured rings, inscribed with a letter or number, to enable the individuals' movements to be tracked through sightings "in the field".

This is assisting Graham's study to determine whether young falcons raised from nests at urban sites establish their own territories in urban areas and breed on artificial sites.

deterrent on fish in Shoreham Harbour. The station has also funded trawl surveys to check if the heated seawater discharge from the outfall is attracting Sea Bass.

The station funded the installation of an automatic fish counter and video camera on the River Adur. These are maintained by the Environment Agency and are used to monitor any changes in Sea Trout returns to the river.