



## OVERVIEW

Longannet is a coal-fired station, built in 1972 on the north shore of the Firth of Forth, that can generate electricity for two million

households. The disposal of ash produced as part of the generating process has reclaimed 200 hectares of land from the sea at nearby

Valleyfield Ash Lagoons. This man-made area has matured into a network of rich habitats for wildlife – especially wading birds and

insects. Longannet Power Station has implemented a biodiversity action plan (BAP) to protect the habitats and species on its sites.

## SITE DESCRIPTION

Valleyfield Ash Lagoons, 5km east of Longannet, is an important element in the make-up of the Inner Forth Estuary, which is internationally recognised for its value to wildlife, especially birds.

The area is covered by natural heritage designations including the Firth of Forth Ramsar site and Special Protection Area.

Valleyfield Lagoons was designated part of the Firth of Forth Site of Special Scientific Interest (SSSI) in 1991 and included in the wider Torry Bay Local Nature Reserve designation in 1996.

The reserve extends to 683 hectares and a Fife Coast and Countryside Trust Ranger, jointly funded by ScottishPower, Scottish Natural Heritage and Fife Council, is employed to monitor and manage its wildlife communities and liaise with members of the public.

Longannet Power Station, its adjacent ash storage lagoons and coal plant have their own wildlife interest and are covered by the site BAP.

## PUBLIC ACCESS

Longannet has created a network of public leisure paths at Valleyfield to enable members of the public to enjoy the wildlife and open spaces at the site.

The routes form part of the Fife Coastal Path and are popular with walkers and cyclists. Car parks and information boards have been provided.

For health and safety reasons, no public access is permitted to active lagoons or the power station site.



■ A Mute Swan cruises on a stretch of open water at the Valleyfield's Lagoon No.5

### BEES, WASPS & HOVERFLIES

The compacted ash banks at Valleyfield Lagoons provide a valuable habitat for insects families – such as solitary bees and wasps, bumblebees and hoverflies (above).

Some of these invertebrates dig out burrows in the soft ash for their nests – the compacted ash banks mimic closely the species' natural nesting sites in sand dunes, which are a rare habitat in Fife Region.



### GREY PARTRIDGE

Once a familiar bird of fields and farms, the Grey Partridge has declined in the UK by 88% since 1970 and is now a priority species on the UK BAP.

At least one pair breed each year at Valleyfield Lagoons – with another pair usually present at Longannet. The meadows at both sites are a substitute for the arable farmland that partridges use in the wider countryside.



## PRIORITY HABITATS AND SPECIES

Valleyfield Lagoons are used for the storage and disposal of pulverised fuel ash created during the combustion of coal at Longannet Power Station.

Enclosed by a seawall extending out a kilometre into the Firth of Forth, the lagoons' operation has over the years resulted in substantial area of land being reclaimed from the river.

Filled lagoons have dried out and been colonised, or planted, with vegetation, trees and shrubs, creating useful habitats for wildlife.

The low-lying lagoons are used as a roost site for birds displaced at high tide from adjacent Torry Bay.

The bay's intertidal mudflats support 18 bird species, mostly wildfowl and waders, listed as being of national or international importance.

An area of wet meadow on the southeast corner of the lagoons has been set aside as a wader roost that is kept free from disturbance.

Biodiversity at the lagoons has been carefully recorded over the years and the newly-published Torry Bay LNR Management Plan 2009-2014 contains a systematic list of species.

It includes 247 moth and 13 butterfly species, 51 types of hoverfly, 60 species of bee and wasps and 24 different spiders and harvestmen plus many other invertebrate.

Several records are of national significance and notable specimens of invertebrates have been lodged with the national collection at the National Museum of Scotland in Edinburgh.

An investigation will be carried out



■ Small Pearl-bordered Fritillary

into the status of the UK BAP listed Small Pearl-bordered Fritillary in 2010.

The butterfly has been recorded in the past at the lagoons but the new survey will determine the extend of the population so that management can be targeted at protecting the species.

Around 160 species of birds have been recorded at the reserve and nine UK BAP priority species are regular breeding birds at Valleyfield: Grey Partridge, Lapwing, Skylark, Dunnock, Song Thrush, Grasshopper Warbler, Linnet, Bullfinch and Reed Bunting.

A similar range of species can be found at Longannet and its lagoons.

Priority-listed mammals include Brown Hares which range over the wide open grassland spaces.

Longannet supports the Forth Estuary Environmental Assessment Programme – a long-term study that is examining the ecological status of the Inner Forth Estuary. The station is also represented on the Forth Estuary Forum which promotes the sustainable development of the estuary.

# LONGANNET POWER STATION BIODIVERSITY INFORMATION



■ Valleyfield Lagoons seen from the air  
(Picture Davidson Read Associates)

## WETLAND EXTENSION

A Longannet project team has advanced plans to extend the area devoted to wildlife at Valleyfield Lagoons.

During lagoon construction work in 2009, Lagoon No.5, at the southeast edge of the site, was bisected by the creation of a new embankment.

The 5.9 hectare south portion will be infilled with ash and allowed to dry out before being capped with a layer of shale.

Over time the site will revert to a nature area and it will complement the existing adjacent wet grassland that is used each year by breeding wading birds, such as Redshank, Lapwing and Ringed Plover.

The low-lying area is also used by roosting waders, displaced at high tide from Torry Bay's mudflats, and other UK BAP species including Skylark, Linnet and Reed Bunting.

The coastal path was temporarily closed in 2009 and realigned as part of the wider lagoon construction.

## CONTACT US

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## OUR BIODIVERSITY ACTION PLAN

In 2009, Longannet updated its five-year Biodiversity Action Plan (BAP) which details planned work to promote the habitats and species found on its landholdings.

The new document, which runs from 2009-2013, presents a list of ecological enhancement objectives for woodland, scrub, grassland, hedgerows and open standing water habitats, and lays out a timescale for their implementation.

Key projects will include thinning of woodlands, maintenance and creation of ponds, creation of hedgerows and management of grassland for wildflowers.

The BAP also details various measures for preserving a colony of Sand Martins that breed on ash stockpiles at Longannet Lagoons.

In 2009, the birds nested successfully in a stockpile away from operational areas and it is planned to maintain and monitor this site.

The BAP will also look at using ash to build artificial nesting walls in non-operational areas and profiling operational ash stocks to make them less attractive as nesting sites.

Meanwhile, a new management plan for Torry Bay LNR was published in 2009 with targets for Valleyfield Lagoons that will support the implementation of the BAP.

A Fife Coast and Countryside Trust Ranger, jointly funded by ScottishPower along with Scottish Natural Heritage



■ A new nestbox is erected at Longannet



and Fife Council, is employed to monitor and manage its wildlife communities and liaise with the public.

A new ranger, Derek Abbott, was appointed in October 2009 and worked with the station's Environment Team to review and update the BAP.

The Ranger is preparing to undertake new formal monitoring of species in 2010, including undertaking butterfly and bumblebee transects, and continuing bird counts and surveys.

A team of local wildlife enthusiasts will support this survey work, at both Longannet and Valleyfield, to improve knowledge of the species on site and the habitats they use.

Derek said: "These are local people with extensive local knowledge and it is good to have them on board. As voluntary rangers, they will play an important role in recording what's here."

He added: "There has been significant recording of species on the



■ New Ranger Derek Abbott (left) and above with his volunteers – from left, Len Montgomery, Neil Woods, Andy McKean, Ally Paton, Bunty Johnston, Grant Swan and George Guthrie

involved in planting them out at one of the meadows on the lagoons.

"The children will also be involved in building bird nestboxes which will be put up in the public areas of the reserve and at the power station.

"Hopefully school groups will be able to visit the power station visitor centre, which started a complete refurbishment in 2010, in the morning and go on to the lagoons with me in the afternoon."

New environmental interpretation will be installed at the reserve in 2010 and there are longer-term proposals to create visitor facilities, including birdwatching hides.

site and this will continue, however, I wish to increase the practical conservation carried out and involvement with the local community.

"Since my appointment, I have been setting up a programme with local schools to tell them about the site and its wildlife.

"The pupils will be growing wildflowers and will eventually be



■ Creating the breeding bird island at Lagoon 5

## BREEDING BIRD ISLANDS

A key project delivered by the initial BAP was the construction of spits and islands at Valleyfield's Lagoons for breeding wading birds and ducks.

The main island, which measures 70x14 metres, has been landscaped and spread with gravel to provide a nesting a roosting site for wading birds and terns.

This enables ground-nesting species – such as Ringed Plover – to raise young successfully, safe from ground predators such as Foxes and Stoats.