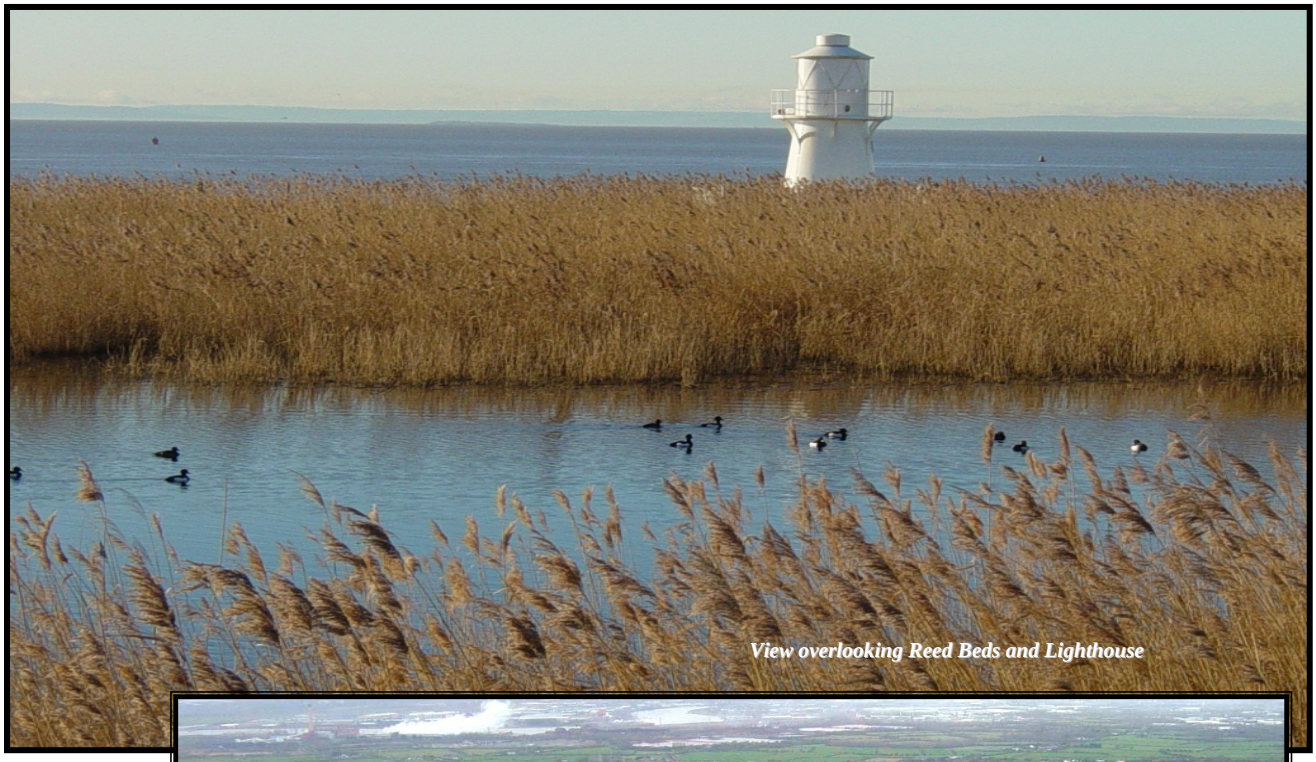
GWLYPTIROEDD CASNEWYDD/NEWPORT WETLANDS SITE OF SPECIAL SCIENTIFIC INTEREST



View overlooking Reed Beds and Lighthouse

Wet Grasslands

YOUR SPECIAL SITE AND ITS FUTURE

Your Special Site and its Future' is part of our commitment to improve the way we work with Site of Special Scientific Interest (SSSI) owners and occupiers. In it, we explain what is special about the wildlife on your site, and what care is needed to look after its wildlife into the future.

All SSSIs are considered to be of national importance and we recognise the crucial role that owners and occupiers play in their management and protection. We need you to share your views and knowledge of this site with us, to help safeguard it.

We hope that you will find 'Your Special Site and its Future' interesting and helpful. Please contact us if there is anything about the site and its management that you would like to discuss.

What is 'special' about the wildlife of the Gwlyptiroedd Casnewydd/Newport Wetlands SSSI?

Gwlyptiroedd Casnewydd/Newport Wetlands SSSI is part of the Newport Wetlands National Nature Reserve, which was constructed to meet the commitment by the UK Government to create "a substantial area of wetland habitat on the shores of the Severn Estuary" as part of the compensation for the loss of the Taf/Ely Estuary SSSI following the construction of the Cardiff Bay Barrage. Part of the reserve lies within the Severn Estuary SSSI. The rest of the reserve lies within the Gwlyptiroedd Casnewydd/Newport Wetlands SSSI, which in turn lies within the Gwent Levels.

The Levels lie alongside the Severn Estuary and stretch from Cardiff in the west to Caldicot in the east. A series of eight SSSIs cover much of the area. The Levels landscape as we know it today is entirely man made, a result of reclamation from the sea over the last 2000 years. The land is below high mean water level and the sea is kept out by extensive flood defences. Traditionally the fields are drained by a system of 'ridge and furrow', and grips (shallow trenches) that discharge into the extensive system of interconnected ditches that surround each field. The larger of these are known as reens, which discharge at intervals to the Severn Estuary via tidal flaps. This drainage system is the largest in Wales and contains a wide range of wetland plants and insects that are becoming increasingly uncommon in the UK. In addition to the drainage system, Gwlyptiroedd Casnewydd/Newport Wetlands SSSI also contains an area of reedbed, created from the old pulverised fuel ash reservoirs that used to be part of Uskmouth Power station. Saline lagoons are present at the eastern end of the SSSI. The reedbeds, saline lagoons, drainage system and associated grassland habitats support over-wintering and breeding birds in high numbers.

Gwlyptiroedd Casnewydd/Newport Wetlands SSSI has a number of special features including:

- **Reens and ditches**

  The reens and ditches are host to a wide range of aquatic plants, including several rare or scarce species that in turn support a wide variety of other wildlife. There are a range of differently sized ditches, from wide drains to field ditches, which provide a mosaic of habitats across the site. The ditches are periodically weeded and cleared out, with water levels being controlled by a range of structures. These ditches are part of the wider ditch system covered by the suite of Gwent Levels SSSIs. The Gwent Levels is one of only a few such systems in Wales and is by far the largest.

- **Reedbeds**

  The reedbeds are not only the largest in the district but also in the wider south-east Wales area. They contain channels of deep, open water between the dense stands of reed. These habitats support a range of breeding and over-wintering birds, together with many insects.

- **Higher plants**

  A number of rare and scarce plants are present within the reens and ditches, including **rootless duckweed** and **hairlike pondweed**.

- **Over-wintering birds**

  Large numbers of over-wintering birds use the saline lagoons, wet grassland and, to a lesser extent, the reedbed areas of the SSSI. Nationally important numbers of **shoveler** and **black-tailed godwit** are present.

- **Breeding birds**

  The site supports an exceptional assemblage of 17 different species of breeding birds. This assemblage is a particular feature of the site.


Avocets

  Within the assemblage, several individual species are also of interest in their own right. Nationally important breeding populations of **Cetti's warbler** and **water rail** are found within the reedbeds. **Redshank**, **lapwing, avocet and bearded tit** are also present within the SSSI. These breeding bird species are highly important in the Welsh context.

- **Insects and other invertebrates**

  A diverse community of insects and other invertebrates (such as water beetles) inhabits the reens and ditches. The assemblage of invertebrates is a particular feature of the site. Over 350 species of invertebrates have been recorded here; many are so obscure that they only have Latin names.

  Within the invertebrate assemblage, several individual species are also of interest in their own right. These include the **soldier fly *Odontomyia ornata***, which is more or less confined to the Gwent and Somerset Levels. The assemblage of water beetles found across the Gwent Levels is unique in Wales and this SSSI is home to several of the rarest, including **the great silver water-beetle *Hydrophilus piceus*** and ***Hydaticus transversalis***, both of which are particular features of the site.

  The nationally scarce spider, ***Tetragnatha striata***, occurs in the reedbeds. This spider is known from just three sites in Wales, (Kenfig NNR in Glamorgan and RSPB Conway in north Wales are the others), of which the population inhabiting the Newport Wetlands reedbeds is the largest.


Shrill Carder Bee

  The Gwent Levels as a whole have recently been found to be an important site for the **shrill carder bee *Bombus sylvarum***. This bee was once fairly widespread throughout southern England and lowland Wales but is now known from less than 20 sites in the UK. It is likely that the intensification of agriculture, the loss of flower rich grasslands and fragmentation of habitat are key reasons for its decline. The site is a particular stronghold of this bee. Across the SSSI the un-mown ditch banks and rough grassland areas contain lots of the flowers preferred by the bee for sources of nectar and pollen, such as red clover, everlasting sweet pea, creeping thistle and common knapweed.

As well as the features listed above, Gwlyptiroedd Casnewydd/Newport Wetlands SSSI has other habitats that contribute to the special wildlife interest. These include lowland wet grassland, hedgerows and scrub. This mixture of habitats is important for a wide range of species. Except where specified below, management of this site should aim to look after these habitats as well as the listed features of interest.

What do we want Gwlyptiroedd Casnewydd/Newport Wetlands to look like?

The following is a description of how we would like to see the features at this site:

In spring and summer the air around the reedbeds is filled with the squeal of water rail and the explosive call of Cetti's warbler. Bearded tits flit over the reeds and marsh harriers glide above. Warblers and reed buntings are active in the reeds, moorhens skulk along the water's edge and occasionally a kingfisher will perch on the branches overhanging the water to fish. Dragonflies skim over the water and, along with other insects, provide a rich food source for the swallows and martins swooping overhead. In winter huge flocks of starlings come to roost in the reeds.

There are at least 50 ha of reedbed and associated open water. Regular cutting and removing of reeds ensures that at least 50% is wet reed swamp, 30% dry reedbed and 18% open water. The open water supports a dense fish population. Scrub encroachment is managed to ensure that wet reed swamp is retained but there is also some scrub to support Cetti's warblers. The older areas of the reedbed have a litter layer up to 10cm thick to support the spider Tetragnatha striata.

Apart from areas around the reedbeds and saline lagoons, all fields are bounded by ditches. There are approximately 35.5km of ditches of varying width and depth. Recently cast ditches contain little vegetation while others are full of plants. The edges of many ditches are slightly poached. This mosaic of habitats supports thriving populations of insects. Water beetles, including great silver water beetle and Hydaticus transversalis swim in the deeper ditches. In spring the larvae of the soldier fly, Odontomyia ornata, are found in shallow standing water and the adults can be seen during May and June feeding on flowers near the breeding site.

Plants such as water plantain with its delicate white flower can be seen in almost all the ditches. Submerged plants such as hairlike pondweed and floating plants such as frogbit and rootless duckweed are common throughout the drainage system. In winter nearly all the fields are flooded and filled with large numbers of wildfowl feeding and loafing, including wigeon, shoveler, teal and pintail. There are also massive flocks of roosting waders, including lapwing and black-tailed godwit. In spring the sky is filled with the tumbling mating display of lapwings.

Jumping Teal

The ditch casting programme ensures that about a fifth of all ditches are cast or cleared out each year. There is also a programme of bank and hedge maintenance to ensure there are no perching points for bird predators, and to ensure that the ditches are not overgrown.

There is at least 153ha of wet grassland, managed by mowing and low intensity grazing to provide a mosaic of vegetation structure to support nesting and feeding for wintering wigeon, shoveler, teal and pintail and breeding lapwing and redshank. At least 50% of the area is short sward and 30% is tussocky sward, with at least 5% of the area being bare ground.

In spring and autumn passage migrants such as ringed plover can be seen at the saline lagoons. In winter these lagoons are filled with huge flocks of wildfowl and waders.

In spring avocet, redshank and other species are breeding on the islands. The white little egret can be seen using the lagoons all the year round.

Water levels in these lagoons are manipulated to provide loafing and roosting habitat for wildfowl. In spring and autumn there are muddy margins to provide feeding habitat for passage and breeding for waders such as ringed plover and avocet. Salinity levels are managed to maximise the biomass of invertebrates for feeding waders. The shingle islands are maintained to provide nesting and roosting habitat for waders.

The mowing and grazing regimes across the site ensure that beside paths, on ditch banks, along green lanes and around the reedbeds there are many pockets of red clover, everlasting sweet pea, creeping thistle and common knapweed to provide nectar and pollen for the shrill carder bee.

For each species of particular interest within the site, the population is stable or increasing and is sustainable in the long term, its distribution is maintained, there is sufficient habitat available to support it and factors which affect the species or its habitat are under control.

What management is needed on Gwlyptiroedd Casnewydd/Newport Wetlands SSSI and why?

When the mudflats of Cardiff Bay were lost due to the construction of the Barrage, Newport Wetlands Reserve was created as part of the compensation for the loss of these important feeding grounds for birds. CCW owns the reserve and manages it to produce the right conditions for migrating and breeding birds, while at the same time conserving and enhancing the features of the Gwent Levels SSSIs that are also present. We will continue to work with the local communities and the general public in promoting the reserve as a wildlife resource and as an educational tool.

Although this site is an excellent place for wildlife it will only remain so if it is managed carefully. The management of specific areas is likely to vary across the SSSI. CCW's priority is to continue the existing management as outlined within the Newport Wetlands Management Plan, in partnership with Newport City Council, the Royal Society for the Protection of Birds, the Environment Agency and the Caldicot and Wentlooge Levels Drainage Board (CWIDB).

What does this mean in practice?

There are a number of different factors that could damage the special features at Gwlyptiroedd Casnewydd/Newport Wetlands if they are not properly managed. In addition some management is essential to conserve the special features and maintain them in there current condition. These are the issues we regard as most important:

Water quality

As water is held in both the reedbeds and the drainage system over summer, any pollution which enters the system at that time will remain until the control structures are opened and the system is flushed by the winter rains. Within the reens and ditches, pollution can come from many different sources such as agricultural practices, fly tipping and potentially from the many birds feeding and roosting on the grassland. We will work with farmers, the Environment Agency, local authorities and the general public to ensure that pollution incidents are minimised and dealt with quickly.

We will also continue to work with the Environment Agency, CWIDB and local authorities to address wider water quality issues arising from road run-off, sewage outfalls and package sewage treatment plants.

The quality of the water supply to the reedbeds from the nearby sewage works is controlled by a control that cuts off the supply if the quality is unacceptable. This supply also passes through the 'tertiary treatment reedbed' to further improve the quality before it enters the main reedbeds.

We will continue to work with Welsh Water with respect to the quality of the reedbed supply from Nash Waste Water Treatment Works. We will also continue to work with the Environment Agency over the water quality issues arising from the pulverised fuel ash underlying the reedbeds, in particular, issues relating to stocking with fish and providing food of appropriate quality for bittern.

The low salinity of 6-15ppt in the saline lagoons is maintained by CCW using a supply of fresh water as well as saline water from the Severn Estuary. This is necessary to enable these lagoons to support the invertebrates on which the breeding and over-wintering birds feed.

Water levels

It is vital that water levels are kept high in as many reens and ditches as possible over the summer. If the water levels drop too far, the wide range of plants and animals associated with the ditches are unable to complete their life cycle. The high summer water levels are achieved by inserting boards into the various water control structures to keep the water in the system. This is done by CCW and the CWIDB.

The inlet/outlet structure to the Severn Estuary, the water from the abstraction point on Monks ditch and sluices in the connecting ditches allow water levels in the saline lagoons to be controlled. This is necessary to provide areas of wet mud for feeding wader species, and also if necessary to control fish populations that could predate the invertebrates. In the winter, water levels are raised to attract wildfowl into the lagoons.

The lowland wet grassland is an important habitat feature within the SSSI. During the winter large areas of surface flooding occurs to provide feeding and loafing areas for wildfowl and waders. During the summer, water levels are dropped to fill only grips and main channels. This maintains foraging habitat for breeding waders and wildfowl. There are a range of structures including sluices and 'flexi pipes' to allow water levels to be controlled. In addition, water can be brought into the grasslands by pipe from the abstraction point on Monks ditch and also from the reedbeds if required, provided it is of a suitable quality and available. Water is moved across the grassland when necessary via the 'transfer ditch'.

With the exception of Cetti's warbler, which also favours dry reedbed and carr/scrub, the breeding birds of the reedbeds are all supported by wet reed swamp. Water levels need to be high to prevent the wet reed swamp turning to dry reedbed and to prevent the encroachment of scrub. There is a water supply from the nearby sewage treatment works and water levels in the lagoons are controlled by the sluices operated by CCW.

Shading by hedgerows

Hedgerows are an important part of the Gwent Levels landscape and provide habitat for birds and nectar for insects. However, extensive shading of ditches, particularly where there is a hedge on both sides, can cause problems for the insects and plants that require a certain amount of open water to complete their lifecycles. In addition to the shading, hedgerows can also reduce water levels in ditches by taking water into the plants via their root system. Leaf fall also contributes to the silting up of a ditch and consequent reduction in water levels.

Across all the Gwent Levels SSSIs, hedgerow removal will be considered as part of any programme of general ditch casting. In areas used by ground-nesting birds, hedges are removed/kept low so that they don't provide perches and cover for predators.

Predators

Predation is an important factor affecting the success of the breeding bird features of the SSSI. Predatory mammals, particularly foxes, will be excluded where possible from the saline lagoons and lowland wet grassland areas. Around the saline lagoons this is achieved by maintaining the fox fencing. Avian predation is also kept to a sustainable level by removing perches and pricking eggs. Nests can also be monitored using nest cameras and data loggers to determine the cause of predation.

Recreational disturbance

Birds need to be protected from significant disturbance while they are feeding or roosting. Waders are most vulnerable to disturbance during the autumn and winter months at their high tide roosts. This is when their body reserves are low and the energy they use to fly away to other undisturbed areas depletes them further. Disturbance while they are feeding reduces the amount of feeding time available to them and further depletes their reserves. Such disturbance could be caused by recreational usage including walkers, horse riding, and dogs. Measures should be taken wherever possible to avoid disturbance to birds. This is a particular issue for the grassland and saline lagoon areas of the site. The birds using the reedbeds are not so easily disturbed and can sustain higher levels of human disturbance.

Ditch clearance

Without regular casting, the reens and ditches become silted up and overgrown and lose their special interest, as the insects and plants require a certain amount of open water to complete their lifecycles. Conversely, clearing the reens and ditches too frequently and/or clearing all the ditches at the same time over a large area can prevent any insects or plants becoming established. Across the Gwent Levels, the CWIDB have a programme of de-weeding reens every year-18 months and casting reens every 7-10 years which generally allows sufficient time for plants and insects to become established but does not allow the reen to become shaded out or choked with vegetation. This programme applies to those main reens within this site.


Great Silver Water Beetle

Management of the field ditches in this SSSI are the responsibility of the landowner. The changes in farming practice since the war has led to many field ditches becoming in-filled, overgrown or silted up. We are implementing a staggered programme of field ditch casting, to ensure five out of ten ditches are cleared over ten years.

Grazing

Within the wet grassland, grazing is an important factor in maintaining the target sward structure necessary to attract wildfowl and waders and support the invertebrate populations on which they rely. Grazing pressure during the breeding season is an important consideration as high stocking density can lead to an increased probability of nests being trampled. The number of grazing animals in each area will therefore vary throughout the year. Grazing by cattle is preferred on the wetter fields.

Agricultural operations

A range of mechanical operations are carried out by CCW on the reserve, including mowing, topping, rowing and baling, application of fertiliser, weed-wiping, ditch maintenance and fencing.

These activities can be extremely damaging to breeding grassland birds and cause unnecessary disturbance to wintering birds. These operations are generally only undertaken between July and October.

Finally

Our knowledge and understanding of wildlife is continually improving. It is possible that new issues may arise in the future, whilst other issues may disappear. This statement is written with the best information we have now, but may have to change in the future as our understanding improves. Any information you can provide on the wildlife of your site, its management and its conservation would be much appreciated.

If you would like to discuss any aspect of your SSSI, or have any concerns about your SSSI, please contact your local CCW office.

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