



Tyriet Farm & Bluestone Brewery

Wildlife Report



**Parc Cenedlaethol Arfordir Penfro
Pembrokeshire Coast National Park**

This report was prepared by John Hudson Ecological Consultancy and Pembrokeshire Coast National Park Authority as part of the 'Naturally Connected' project. The project was funded by the Welsh Government's Sustainable Development Fund.

This is a pilot project so we would love to receive your feedback on this information pack. You can send your comments to sarahme@pembrokeshirecoast.org.uk or leave your comments in the visitor book.

Pembrokeshire Coast National Park

Welcome to Pembrokeshire Coast National Park!

Pembrokeshire lies at the south west extreme of Wales and is surrounded on three sides by the sea. Pembrokeshire's marine and terrestrial environments are strongly influenced by the Gulf Stream and the National Park supports species found in both warmer, southern areas as well as those from colder, northern regions.

Pembrokeshire is internationally important for many of its coastal, marine and lowland heath habitat as well as ancient, semi-natural oak woodland in the North of the park. These habitats support some of our most iconic species including choughs, puffins and seals.

The high wildlife value of the Park is reflected by its nature conservation designations which include:

- 13 Special Areas of Conservation (3 Marine SACs overlap about 75% of the Park coastline and account for about 60% of the inshore area).
- 5 Special Protection Areas.
- 1 Marine Nature Reserve (Skomer) – one of three in the UK.
- 7 National Nature Reserves.
- 60 Sites of Special Scientific Interest.

With miles of rugged coastline, sandy beaches, farmland, valleys, hills and woodlands to explore, we hope this short guide will help you experience some of the fabulous wildlife our National Park has to offer.



Tyriet Farm

The name Tyriet is derived from Ty'r-let meaning “Gate House” which probably refers to a former mountain gate leading to the common land of Mynydd Preseli. Tyriet is a privately owned 100 acre working organic farm in the Gwaun Valley, in the foothills of the Preseli mountains. The farm and its surroundings are steeped in history and a visit here takes you back in time. Field patterns have changed little since at least the nineteenth century and the small fields retain their original Welsh names such as “Y Waun” - “The Marsh” in English. The ancient field boundaries are marked by stone walls and hedge banks and are dotted ancient oak trees.

Tyriet Farm lies in Cwm Gwaun, the Gwaun Valley in English. The River Gwaun rises to the east of Pontfaen and runs into the sea at Fishguard. This steep sided valley was cut by the rushing waters of melting glaciers at the end of the last Ice Age - it is one of most spectacular glacial meltwater channels in Britain. Today the valley is a place of tranquillity where of sparkling streams flow through tangled green woods. Tyriet nestles below one of these woods, the Allt Pontfaen – Coed Gelli-Fawr Site of Special Scientific Interest (SSSI).

1 Pastures & Meadows

Traditionally managed hay meadows (Point 2 on the map) are a real rarity these days, making this little part of Pembrokeshire a very special place. A look back in time helps us understand why this is the case. During wartime, food was scarce and many traditionally managed grasslands were ploughed – either converted to arable or re-seeded with high yielding grasses with high doses of fertilisers applied to further increase productivity. The result of these agricultural improvements is of course higher productivity and more food but this has come at the expense of the old wildflower grasslands. Across the country as a whole Britain has lost more than 95% of its traditionally managed grasslands since 1939, mostly replaced by a monoculture of rye grass which supports few wildflowers and little wildlife.



Flower-rich grassland

The traditional grasslands at Tyriet are not ploughed and no artificial fertilisers are added and, because of this, their floral diversity can be breath-taking. A huge range of plants grow in the meadows and pastures and they become a sea of purple and yellow in summer as the knapweed, hawkbits and birds-foot trefoil come in to bloom. However, their importance extends beyond their obvious floral diversity as they give rise to complex food webs. Ground nesting birds are able to complete their breeding and the flowers provide rich nectar sources and pollen for a range of insects such as bees and butterflies.



Knapweed



Birds-foot Trefoil

also grazed by cattle and sheep.

This delicate balance can be hard to maintain as grasses can easily take over the flowers which are less competitive. The pastures at Tyriet are summer grazed by cattle and a hay crop is taken from the meadows. The hay is cut just once a year, from July onwards. This gives the wildflowers a chance to flower and set seed. The mowing regime coupled with low inputs of organic fertilisers keeps nutrient levels low and allows the wildflowers to thrive. After the hay has been cut in late July or August the “aftermath” is

2

Wetland, wet meadow & pond

Wetlands are areas that underwater for at least part of the year. At Tyriet, when the river Gwaun rises the wetland (point 5 on the map) becomes flooded. Many wetlands are threatened by drainage, water abstraction, and development. The wetlands and wet meadow at Tyriet (point 1 on the map) have not been drained allowing marsh birds-foot trefoil, spearwort, marsh forget me knot, ragged robin, marsh willow herb, creeping buttercup, iris and water mint all thrive in these diverse areas. This rich diversity of plants in turn supports a great range of wildlife. These wetlands are perfect for amphibians such as frogs, toads and newts as well as for invertebrates such as beetles and moths and butterflies.



Ragged Robin



Common Darter

Dragonflies and damselflies may also be seen basking on bankside vegetation around the pond (point 8 on the map). Dragonflies hold their wings outspread when resting and have large bodies. Damselflies are more delicate than dragonflies and hold their wings together when at rest - look out for their bright red or blue “matchstick” bodies amongst the vegetation. Living in the pond and spending their whole life-cycle there are various insects including diving beetles, whirligig beetles and pond skaters. Other

creatures such as newts, frogs and toads only need bodies of water for part of their life-cycle. They reproduce in them but often hibernate on land over winter. Dragonflies and damselflies also spend much of their life-cycle in ponds, lakes or streams emerging to find a mate and breed returning to the water to lay eggs.

3 The Brewery and Reed bed filter

In 2013 Bluestone Brewery was opened in the farmyard at Tyriet. The brewery and farm work together holistically. In the brewing process large quantities of hops are required. When these have finished



The reedbed filter cleans the water before it returns to the river

flavouring the beer, they are fed to the cattle along with the yeast and grains! A reed bed filter (point 9 on the map) was established through which the waste water from cleaning the casks filtrates its way back into the ground. The reed bed also forms an interesting habitat in its own right. Redstarts nest in crevices of the brewery buildings too!



Redstart

4 Woodland

Some of Tyriet's woodland (point 3 on the map) is ungrazed and, by excluding cattle and sheep from the woodland, it is able to regenerate naturally as saplings can grow without being eaten or trampled. This area is listed as Ancient Woodland which means this land has been wooded since the 1600's and probably even longer. The shrub layer and ground vegetation of ungrazed woods provide suitable conditions for dormice and for birds such as blackcaps and chiffchaffs to nest in. Just across the river Gwaun from Tyriet is the Allt

Pontfaen – Coed Gelli-Fawr Site of Special Scientific Interest (SSSI) which comprises six contiguous ancient semi-natural woodlands. This continuity of woodland cover is important, linking the woods at Tyriet into the wider landscape and allowing species such as dormice and otter to disperse throughout the valley.

At night the characteristic hoot of a tawny owl echoes from the woodlands but you are unlikely to see them as they are strictly nocturnal. In the daytime they are likely to be hiding, very well camouflaged in a hole in a tree or sometimes sitting on a branch.



Hazel dormouse PCNPA

4

Wooded pasture

Grazed woodlands are known as “wood pasture” (point 4 on the map), land dotted with widely spaced trees over a grassy sward. Continual grazing suppresses the regeneration of trees and removes the shrub layer. The trees are often gnarled from the effects of livestock browsing and may be richly clothed with lichens. This habitat is a speciality of western Wales and support a distinctive bird fauna including pied flycatchers, redstarts and wood warblers. Flycatchers and redstarts are hole-nesters and retaining old trees and dead standing wood provides them with nest sites.

The woods adjacent to Tyriet are designated as Sites of Special Scientific Interest (SSSI) in part because of the rich lichen communities present. Lichens are very noticeable in the woods and on the field trees, growing on the trunks and twigs. Lichens are part fungus and part algae. The fungus provides the structure or the “home” and the algae provides food,



Wood pasture



Lichens

by photosynthesis. Lichens grow in three different forms, “crustose” or crust like, “foliose” or leaf like and “fruticose” which are bushy or beard like. Lichens absorb nutrients from the air and, as they have no control over what they absorb, they are very sensitive to pollutants such as sulphur dioxide and nitrogen - their abundance here at Tyriet Farm is an indicator of good air quality. Many of the birds that nest among the trees and bushes also use lichens to line their nests!

5 Scrub



European Gorse

and the associated bacteria take nitrogen from the atmosphere and enrich the soil. The living plant is nutritious for livestock but is well protected with spines. The fresh new shoots are eaten with relish by horses in the spring or following cutting or burning. In the past gorse was widely used, cut and crushed in specialised “Furze Mills”, as winter fodder for horses and cattle.

At Tyriet it will always be kissing season as the scrub (point 7 on the map) is a mixture of bracken and gorse and it is said that when gorse is out of flower kissing is out of fashion. This long flowering season is of benefit to a wide variety of insects as it provides nectar throughout the year when few other flowers are available.

Gorse is part of the pea family which means that the roots have nodules where nitrogen fixing bacteria live. Gorse

7 Hazel coppice

Coppicing trees (point 6 on the map) is a traditional method of producing wood for a variety of uses. Coppicing involves cutting a tree low to the ground. This encourages the vigorous regrowth of numerous new shoots and extends the lifespan of the tree. Traditionally hazel coppice was used for a range of purposes such as making sheep hurdles and wattle walls for houses. When trees are coppiced, more light reaches the ground, encouraging a greater diversity of plants to grow, from which insects and birds such as warblers also benefit.

However, this regular disturbance means that some slow growing organisms such as lichens are at a disadvantage as they require undisturbed woods. However, as well as the coppice, there are some beautiful examples of large old uncut hazel's at Tyriet which provide just these conditions.



Hazel

Hazel woods have long been known as a favourite habitat for dormice who feed up on nuts in autumn in readiness for hibernation. In the spring dormice emerge from their long winter hibernation and feast upon a glut of moth caterpillars including the large emerald and barred umber that feed on the newly opened hazel leaves. Birds such as nuthatch, jay

and various tits also take their share of the nut crop. Some of these may be dropped or lost and in this way new trees become established.

8 Field boundaries

The edges of the fields and the field boundaries at Tyriet are particularly special. Many of the boundaries have remained unchanged for hundreds of years. The old banks and stone walls are a refuge for many plants and animals such as wood mice and voles find a home among their many crevices. The boundaries are dotted with many ancient old trees. Unlike woodland trees, these “hedgerow trees” have grown for centuries without competition and have developed huge, spreading crowns with massive horizontal boughs weighed down with mosses, ferns and lichens.



Large Emerald

9 Otters

Otters are semi-aquatic animals, living along rivers and are often shy, solitary animals, most active around dusk and throughout the night. Otter numbers had been in severe



Otter

decline due to habitat loss and as a result of poor water quality. Thankfully though conservation measures have helped their populations to recover in recent decades. And now otters are regularly seen in suitable parts of Pembrokeshire. Otters typically set up their dens in wooded areas, along the river banks in hollow trees or in reed beds. They require clean rivers with plenty of fish and amphibians to hunt. Otters can move competently in water and overland and may travel large distances, up to 26 miles in one night. Otters can be seen feeding in the daytime too and, on any riverside walk, it is worth keeping very quiet and keeping a good watch on the river.

10 Bats

A bat survey was conducted at Tyriet in which several species of bats were recorded. In addition to these recordings, lesser horseshoe, natterers, brown long eared, greater eshoo and barbastelle have all been recorded close to the farm. The whole of the Gwaun

Valley has a lot of good habitat for bats - it has large areas of woodland for roosting and lots of insects for foraging.

Horseshoe bats use wooded areas for foraging but are very unlikely to roost in the woods as they were originally cave dwellers that, in more recent years, have taken to roosting in the roof spaces in large country houses and churches. Many bats can be seen just as it begins to get dark, feeding over the meadows and river.

11 Birds

Cuckoos are heard at Tyriet every year. This is good news as, despite being protected, cuckoo numbers are in decline and, in many parts of the country, it is no longer possible to hear this herald of summer. After the gloomy winter months, cuckoos begin to arrive back in the UK during late April or early May, their calls proclaiming that summer is just around the corner.

However, the cuckoo has a dark secret - it is the most cunning and dangerous parasite in the animal kingdom. Unlike other birds, a mother cuckoo does not build her own nest. Instead, she will look for birds such as meadow pipits, dunnocks or reed warblers that already have a nest and eggs. With its marked resemblance to a bird of prey, the cuckoo will first frighten away the parent birds and then lay her own eggs in the nest. Upon hatching, the cuckoo chick will



Cuckoo

push his siblings out of the nest - be it eggs or chicks! When the mother bird returns, she will find fewer and fewer chicks in the nest until eventually there remains a single cuckoo, demanding ever more food. Incredibly, the mother bird will devote all her time feeding the cuckoo, which often grows far larger than herself.



Snipe

across fields in early summer and a host of other birds such as redpolls, linnets, whitethroats and tree creepers can all be seen. In autumn and winter snipe feed on the wet pastures and woodcock shelter among the alder woods.

Aside even from the cuckoo, Tyriet is a wonderful place to watch birds. buzzard and red kite are often seen overhead and you may catch a glimpse of a sparrowhawk hunting among the trees. Throughout the year Tyriet is home for a range of common birds such as blue and great tits, chaffinches, hedge sparrow, wrens, thrushes and many more. In spring and summer other birds begin to appear. The sound of the cuckoo drifts

Map of Tryriet



Key

- 1 Wet meadow
- 2 Hay meadow
- 3 Broadleaved woodland
- 4 Wooded pasture
- 5 Wetland
- 6 Hazel coppice
- 7 Scrub
- 8 Pond in wet meadow
- 9 Reed bed



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Further Afield

There is a lot of wildlife to explore in North and West Pembrokeshire, here are a few ideas for places to go to help you experience some of the Pembrokeshire Coast National Park's iconic species and habitats.

1 Woodlands

Tyriet lies surrounded by the the Gwaun valley woodlands in the most heavily wooded part of the National Park. These woods form the North Pembrokeshire Woodlands Special Area of Conservation (SAC). This is made up of 6 Sites of Special Scientific Interest

between Llanychaer to the west and Pengelli Forest, near Eglwysrwr to the east. Pontfaen is a good starting point for a walk with parking as are Sychpant and Kilkiffeth. Stunted oak woodlands cling to the thin acidic soils on the valley sides. The woodlands are dominated by oaks which grow with lesser amounts of ash, hazel, birch, alder and willow. These woodlands have wonderful displays of spring flowers including bluebell, wood anemone, wood sorrel and wild garlic. They are also very important for ferns, mosses and lichens, the most recognisable of which is the striking "sausage beard lichen".



Ty Canol



Sausage beard lichen

Ty Canol National Nature Reserve is a truly unique and wonderful place where you can experience the magical atmosphere of an upland oakwood with huge mossy boulders and stunted, gnarled old oak trees with branches dripping with mosses, ferns and lichens. These "Atlantic oakwoods" are restricted to the western, Atlantic coastal fringes of Britain that have a damp, humid climate with high rainfall and acidic soils. They have not been much altered by human activity and are recognised as Britain's "temperate rainforest".

2 The Preseli Hills and Carn Ingli

The Preseli Hills and Carn Ingli are the most prominent features of the landscape of North Pembrokeshire and are a world away from the delights of the coast. On a clear day, a walk to the tops will be rewarded with spectacular views across much of Pembrokeshire.



Stonechat

on Carn Ingli when high tides bring a temporary halt to feeding on the nearby Nevern estuary.

A variety of birds of prey can be seen including kestrel, hen harrier and buzzard. The song of the skylark is the soundtrack to a warm summer day and linnets and stonechats (pictured below) can be seen perching on the tops of gorse bushes.

In the late summer and autumn the heathland comes alive as the heather and gorse bloom purple and yellow. In winter thousands of Golden Plover roost

3 The North west Pembrokeshire Commons

Near St David's lie the North west Pembrokeshire Commons, a group of ancient common lands once the property of the Bishops of St. David's. These commons are wild places, open access land where one can roam in solitude in the company of a host of rare plants, birds and animals. Here you will find acres of heathlands, marshy grasslands and wetlands grazed by cattle and ponies. The commons are all designated as Special areas of Conservation, recognised as being of international importance. These diverse sites are known to support well over 350 species of flowering plants including rarities such as Lesser Butterfly Orchid and lesser water plantain.



Linnnet



Whooper Swan

The commons also support a diverse range of invertebrates including the Marsh Fritillary butterfly, Scarlet Tiger moth, Small Red Damselfly, Hairy Dragonfly and Scarce Blue-tailed Damselfly. Wintering wildfowl and birds of prey are plentiful. Hen Harriers roost on Dowrog Common, and Short-eared Owls on the St. David's Airfield Heaths. Merlin is a regular winter visitor too. Bewick's and

Whooper Swans, Teal, Wigeon, Shoveler and Mallard can all be seen in winter at Dowrog Pool and on Trefeiddan Moor along with Snipe, Water Rail, Coot and Moorhen. The wetlands are also home to breeding Grasshopper Warblers, Reed Buntings and Sedge Warblers. Otters and Water Shrews have also been recorded, particularly along the River Alun that flows through Dowrog Common. In late summer and early autumn the commons come alive in a blaze of purple and yellow as the heather and gorse flower together in a glorious display.

4

St David's Head

St. David's Head, or Penmaen Dewi in Welsh, epitomises all that's best about the Pembrokeshire Coast National Park – a remote, western location, sheer ancient cliffs, secluded golden bays, heather-clad hillsides and a wealth of wildlife. St. David's Head is

great place to see a wide variety of birds, so make sure you bring along your binoculars! The bird to look out for here is the chough, the rarest member of the crow family with a distinctive curved red bill and red legs. Choughs can be seen throughout the year flying as flocks or in small family groups. They have a distinctive call and they are often heard before they are seen. In Pembrokeshire there about 60



Chough

breeding pairs nesting along the cliffs. This represents almost half of the UK breeding population. Other birds occurring here include: peregrines, kestrels, ravens, gulls and gannets (Around 39,000 pairs of gannets nest on Grassholm island). Many songbirds find a home here too including wheatears, stonchats, linnets and whitethroats. The Dartford warbler is a real rarity, but one that has become a regular breeding bird on Pembrokeshire's coastal heaths.



Gannet

Just to the east of the headland lies the Coetan Arthur, a megalithic chambered tomb, dating back to the late Neolithic period, whilst right on the tip of the headland lie the remains of an Iron Age fort.

Every trip to Pembrokeshire should include exploring our rocky shores. In this area the eastern side of both Cwm yr Eglwys and Newport are good options.



Anemone

specific to that height on the shore.

Look out for classic rocky shore creatures such as Periwinkles, Barnacles, Limpets and Mussels as well as several types of Sea Anemone, Breadcrumb Sponges and Star Ascidiars. Brown seaweeds such as Bladder Wrack and Serrated Wrack dominate the middle shore, but look more closely to see more delicate bright green Sea Lettuce and delicate pink frosted Coraline Algae.

Remember don't pull anything off the rocks and if you turn over a rock, put it back in the same place gently. Return the animals back where you found them, Crabs back under the seaweed, Prawns back in their pools.



Starfish

One of the most beautiful shells on the shore is the cone shaped Topshell. These are purple coloured shells with shiny spires made of mother of pearl.

The shore is a tough place to live and species at the top of the shore have to cope with extremes of temperature and exposure whereas those on the lower shore need to be capable of withstanding long periods submerged in salty water. Life on the rocky shore arranges itself in zones from high to low water according to how well the organism is adapted to living in those conditions. If you look at

the cliffs you can see distinct colour banding where species only survive in the conditions