

A review of the condition of Tournerbury Woods, part of Chichester Harbour SSSI

Graham Steven and Alex Foy, November 2022



A view of Tournerbury Wood showing typical structure with large oaks interspersed with birch and young oak.

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Summary

Tournerbury Woods is one of two blocks of broadleaved woodland included in Chichester Harbour SSSI. It is noted for its large, mature oak trees and it is considered to be of special interest in supporting a notable assemblage of breeding birds, including grey heron.

The condition of this part of Chichester Harbour SSSI has not been formally assessed by Natural England since 2010 and this visit was carried out to update our understanding of its current condition. The woodland has a range of habitat structure and composition, with parts which have a close fit with National Vegetation Classification type W10 *Quercus robur-Rubus fruticosus-Pteridium aquilinum* woodland. There are some notable features including a large population of the uncommon plant butcher's broom *Ruscus aculeatus*.

Introduction

This review relates to monitoring unit 3 of Chichester Harbour SSSI which is in private ownership. The transitional zone between unit 3 and unit 5 (which is part of Solent Maritime SAC) was also included in the assessment.

Tournerbury Woods are not mapped as Ancient Woodland but the northern section of the wood has features of long-established woodland such as carpeting bluebell *Hyacinthoides non-scriptus*. The canopy is largely made up by impressive oak trees which are likely to be in excess of 250 years old.

The special nature conservation interest of Tournerbury Woods

There are two blocks of broadleaved woodland included in Chichester Harbour SSSI, Tournerbury Woods and Old Park Wood. These are referred to in the SSSI citation as being of special interest in supporting oak woodland with importance for their breeding bird assemblages, including the presence of heronries.

Despite this direct reference to woodlands in the SSSI citation the contribution made by Tournerbury Woods towards the special interest of the wider SSSI has been the cause of some confusion in the past. To resolve this the documentation supporting the most recent revision of the SSSI was retrieved from file. This makes clear that at the time of designation the broadleaved woodland included in the SSSI was considered to be of special nature conservation interest for the following reasons:

- The woodlands support good examples of broadleaved woodland of Peterken stand types 6C lowland hazel-sessile oak and 6D lowland birch-pedunculate oak, both of which types were subsequently incorporated in National Vegetation Classification type W10;
- The woodlands contribute supporting habitat for an outstanding assemblage of breeding birds, some of which are woodland specialists, including grey heron, woodcock, tawny owl, greater-spotted woodpecker, nuthatch, long-tailed tit, marsh tit and treecreeper.

Therefore, in order to maintain the biological interest of the SSSI in good condition the following basic objectives should be achieved at Tournerbury Woods:

- The overall extent of broadleaved woodland should be maintained;
- The overall composition of the woodland should remain characteristic of the underlying geology and soils, and the distinctive elements which distinguish the woodland such as the presence of mature oak trees (allowing for natural processes);
- The woodland should exhibit appropriate structural diversity to maintain its associated flora and fauna, and in particular should retain features of high value for woodland specialist birds, such as cavities in trees, woodpecker holes, bushy areas and dense bramble, sheltered glades and well-structured transitions between open space and woodland;
- There should be sufficient tree regeneration to maintain canopy cover;
- There should be no evidence of significant damage or habitat deterioration due to undesirable influences such as nutrient input, ground disturbance, drainage, excessive trampling, excessive deer browsing or presence of invasive non-native species at a level which poses a threat to the biodiversity of the woodland.

Previous assessments of unit 3 carried out in 1997, 2004 and 2010 all judged the condition of the woodland to be 'favourable', meaning that all of the key attributes measured are within target. Concerns have previously been raised about the presence of the non-native and potentially invasive *Rhododendron ponticum*.

It is important to note that part of the site is used for a commercial enterprise which is referred to as a 'business amenity area' in a Site Management Statement agreed with the landowner.

Methodology

This assessment is based on a walkover survey conducted on 31 October 2022 by Graham Steven and Alex Foy of Natural England. David Andrews of Natural England was also present. The visit took in both parts of the site, the northern section known as Tournerbury Wood and southern section known as Tournerbury Plantations. Graham Steven and Alex Foy are experienced surveyors specialising in the assessment of the condition of SSSIs.

The methodology used was the 'rapid assessment' approach, which conforms with the basic principles set out in Common Standards Monitoring, the standardised framework for the monitoring of SSSIs across the UK. The rapid assessment approach is based upon the recording of various attributes at a number of points in the SSSI unit, which is designed to create a record of the range of variation in aspects including canopy structure, composition and presence of tree regeneration. This information is recorded on a form, a copy of which is included at appendix 1.

The timing of the visit in late October inevitably means that some spring-flowering plants in the ground layer may have been overlooked or their abundance underestimated. However, assessment of woodland habitat condition in late autumn has the advantage of allowing for better appreciation of general habitat structure.

The assessment does not include a direct survey of the breeding bird interest of the woods but the suitability of the woods as supporting habitat for woodland specialist birds was considered during the visit. This means that features providing opportunities for hole-nesting birds, the availability of suitable cover for species nesting low to the ground, availability of tall trees suitable for herons and general habitat quality in providing foraging opportunities for woodland birds were among the aspects noted.

Photographs were taken to record the structural characteristics of the habitat and the composition of the areas visited. All photos included in this report were taken by Graham Steven and David Andrews.

An assessment of current habitat condition

The extent of woodland is being maintained. Based on reference to historic maps, aerial photos and observation on the ground, there is no evidence of recent woodland clearance or felling of individual trees. The area referred to as the business amenity area has been modified (it was historically used as a brickworks) but still has a number of open-grown, mature oak trees and there is no evidence of recent felling of mature trees in order to expand the extent of the activity taking place here. Indeed, the presence of a number of large, mature oak trees confers a special character to the area in that it has a more open aspect in comparison with the rest of the woodland.



A view of part of the business amenity area. The ground layer is highly modified but the retention of mature oak trees confers something of a parkland aspect.

The structure of the canopy shows some variation. In Tournbury Wood the canopy is mostly made up by tall, mature oak trees with large, spreading canopies, interspersed with birch. Many of the oak trees have dead wood in the canopy in the

form of large, decaying boughs and dead branches. It was noted that a large oak which was brought down in a recent storm has been left to decay naturally *in situ*. There is frequent large-diameter decaying wood scattered throughout in the form of fallen boughs and rotting stumps. This widespread availability of decaying wood is an important component of a woodland ecosystem providing habitat for fungi and specialised invertebrates, and in turn food resource for birds such as woodpeckers. Tournerbury Plantations also has a large number of mature oak trees but more of the canopy is made up by other tree species, including ash, cherry, beech, aspen, hawthorn and birch.

Canopy cover is estimated to be in the range of 75-90%, which is typical of this type of oak woodland with a minimal intervention approach to management. The scattered natural gaps in the canopy allow more light to the lower layers and some of these have a 'bushy' structure or thickets of young trees. The tracks and pathways around the woods provide an element of woodland ride-type structure and add to the overall habitat structural diversity.



Although there are no veteran trees in Tournerbury Woods the presence of very large, impressive oaks with spreading canopies creates a very special character to the woodland. Large, mature trees of 250+ years of age are distributed throughout the woods.

There is a shrub layer throughout the woodland, though this is quite sparse in parts. It is mostly made up by holly, young birch, young oak, hawthorn and hazel, with young ash and aspen also locally frequent in Tournerbury Plantations. Blackthorn *Prunus spinosa* is locally frequent in more open areas. Honeysuckle *Lonicera periclymenum* is frequent as a scrambling plant and many trees have abundant growth of ivy *Hedera helix*. Though the cover made up by the shrub layer recorded at the 5 monitoring 'stops' varied between 20 and 50% it is considered that the overall cover is more likely to be around 60% given the presence of fairly dense cover in much of Tournerbury Plantations.

The ground layer in Tournerbury Wood is typical of the oak-bramble-bracken

community described in the National Vegetation Classification. Bramble is frequent throughout but shows a high degree of impact from deer browsing. This effect is less evident in Tournembury Plantations where bramble forms a more dense cover for ground-nesting birds, at least in parts. Similarly, bracken is frequent throughout Tournembury Wood but it does not form dense patches. Other plants noted as components of the ground flora include bluebell *Hyacinthoides non-scriptus*, herb bennet *Geum urbanum*, wood sedge *Carex sylvatica*, broad buckler fern *Dryopteris dilatata*, wood dock *Rumex sanguineus*, foxglove *Digitalis purpurea*, wood sage *Teucrium scorodonia*, greater stitchwort *Stellaria holostea* and wood speedwell *Veronica montana*. All of these are characteristic of the woodland type. Particularly notable is the occurrence of butcher's broom *Ruscus aculeatus*, which is widely distributed through the woods. Although Tournembury Plantations shows more evidence of historical modification of the canopy the ground flora has a high diversity of woodland plants. These include, in addition to those noted above, pendulous sedge *Carex pendula*, wood spurge *Euphorbia amygdaloides*, primrose *Primula vulgaris*, barren strawberry *Potentilla sterilis*, bugle *Ajuga reptans*, stinking iris *Iris foetidissima* and ground ivy *Glechoma hederacea*. Parts of Tournembury Plantations have a high proportion of grasses in the ground layer, mostly wood false-brome *Brachypodium sylvaticum* and common bent *Agrostis capillaris*, with small amounts of tussock-grass *Deschampsia cespitosa*. The overall impression gained is that the ground flora has close similarities to the characteristic composition of National Vegetation Classification type W10. High levels of deer browsing are evident in Tournembury Wood which is reducing the cover of bramble but it does not appear to be significantly altering the overall composition of the flora, as yet.

There is evidence of good availability of supporting features for nesting birds dependent upon woodpecker holes and cavities in trees, such as nuthatch, treecreeper, stock dove and tawny owl. Many of the large oak trees have wood decay and cavities high in the canopy. There are also many ivy-covered trees and trees with twining honeysuckle providing potentially suitable nesting habitat for species such as long-tailed tit and marsh tit. Parts of the site with 'bushy' growth structure, dense bramble and blackthorn scrub have suitable supporting habitat for species such as chiffchaff, wood warbler and blackcap. There are secluded areas in Tournembury Plantations with the type of habitat structure favoured by woodcock. The continued presence of nesting grey heron was confirmed. Two nests in a tall oak tree beside the entrance track were noted. So, it is considered that the woods offer a good variety of supporting habitat for breeding birds associated with broadleaved woodland.



Parts of Tournembury Plantations have dense cover of bramble and high structural complexity providing good conditions for breeding birds.

There are no indications of immediate threats to the maintenance of canopy cover but the impact of deer browsing in Tournerbury Wood is of concern, although birch appears still able to successfully regenerate here. Holly seedlings appear to be being suppressed by deer browsing and it is unlikely that hazel would successfully establish under current conditions. There is more frequent evidence of tree regeneration in Tournerbury Plantations, where holly, ash, hawthorn and aspen saplings are locally frequent. Young oak saplings and seedlings are generally rare, which is a common feature in woodlands with a closed canopy but oak in the 20-30 year age range is fairly widespread throughout. There are occasional saplings of sycamore and Norway maple but neither appear to be spreading rapidly.

The presence of *Rhododendron ponticum* has been identified as an issue of concern in previous assessments, as this non-native shrub can be highly invasive, sometimes creating dense thickets in which few other species can survive. It was noted as being present in several areas, most extensively in the south western part of Tournerbury Plantations. It was observed that the patches of *Rhododendron* are well-dispersed through the woods and do not currently form dense thickets. Though difficult to estimate the combined extent of cover of *Rhododendron* it is likely to be within the indicative threshold of 1%. Nevertheless, the presence of this plant does represent a threat to the maintenance of the special value of the woodland and it would be desirable to remove it before it becomes more of a problem.

Also noted was a single clump of the non-native pampas grass *Cortaderia selanoa*. This plant is capable of colonising unshaded habitats in the UK but is not usually considered to represent a serious threat to natural habitats. It is present in the narrow fringe of vegetation between high water mark and the woodland margin in the southeast corner of Tournerbury Plantations.

Besides the high level of deer browsing and presence of *Rhododendron* there are no indications of other threats to the special interest of the woodland. There is no evidence of damage to the ground layer due to excessive trampling or vehicle movements, no unconsented tree or shrub planting, no dumping of waste or evidence of pollution or litter. There is no evidence that the activity associated with the business amenity area is resulting in direct or indirect adverse impacts on the special interest of this part of the SSSI, nor is there evidence of adverse impacts on the integrity of the adjacent Solent Maritime SAC.

Also noted on site were several long-established pheasant release pens which Natural England has been aware of for many years. These are in the south eastern parts of Tournerbury Plantations. These were viewed only very briefly but there is no obvious evidence of damaging impacts as the ground flora inside and outside the pens is very similar, mostly dominated by low bramble. There are no signs of effects such as loss of vegetation cover or accumulation of nutrients. So, it can be concluded that the presence of the pens is not resulting in damaging effects which threaten the maintenance of the special interest.

Although outside the boundary of unit 3 the transition zone along the southern edge

of the woodland was also visited. This consists of a narrow intertidal area occupied in part by sea couch *Elymus pycnanthus* salt-marsh grading directly into oak woodland.

This type of transition from salt marsh to broadleaved woodland is a rare feature in the UK with other examples present around the Solent at Newtown Harbour SSSI, North Solent SSSI and at Old Park Wood in Chichester Harbour SSSI. The feature is at particular risk from the effects of climate change and sea-level rise at these locations on the south coast of the UK. However, based on this very brief visit the example here appears to be intact, not under immediate threat and in good condition.



A view west along the intertidal fringe and narrow transition to oak woodland at the south west corner of Tournembury Woods. The presence of this rare feature is an important aspect of the special conservation interest.

Conclusions

This assessment enables Natural England to conclude that the features of special nature conservation interest in unit 3 of Chichester Harbour SSSI meet the targets set for the various attributes used to measure condition and that they therefore remain in a favourable condition. The woodland is confirmed to remain intact and, based on available evidence and observation there is no evidence of loss of extent of woodland. The structure of the woodland is consistent with the woodland type but stands out as having a particular 'special' character because of the large number of impressive oak trees present. The composition of the woodland is variable but the majority has close similarity to the National Vegetation Classification type W10 *Quercus robur-Rubus fruticosus-Pteridium aquilinum* woodland. The woodland includes indicators of good habitat quality and special distinctiveness, such as the widespread occurrence of butcher's broom and the presence of a natural, undisturbed transition to saltmarsh. There is good availability of features of particular importance as supporting habitat for nesting woodland birds, such as cavities in standing trees, woodpecker holes, ivy-covered trees, dense bramble and shrubby areas. The woodland is confirmed to continue to provide supporting habitat for nesting grey heron. Issues of concern noted are a high level of deer browsing pressure in Tournembury Wood, which has the potential to alter the composition of the ground flora and to significantly constrain tree regeneration in the medium term, and the presence of *Rhododendron ponticum*. However, this does not appear to be causing detrimental impacts at present. No evidence was observed of detrimental impacts arising from the activity associated

with the business amenity area taking place within the SSSI boundary which would pose a threat to the maintenance of the special nature conservation interest of this part of Chichester Harbour SSSI.

Graham Steven
3 November 2022

Appendix 1

Feature Assessment Form – Woodland

Agreement Reference		Name of SSSI	Chichester Harbour SSSI - Unit 3	
Notes		SSSI reportable feature(s) being assessed	Lowland mixed deciduous woodland: W10 <i>Quercus robur</i> – <i>Pteridium aquilinum</i> – <i>Rubus fruticosus</i> woodland W16 <i>Quercus</i> spp. – <i>Betula</i> spp. – <i>Deschampsia flexuosa</i> woodland Breeding bird assemblage (associated with woodland)	
Supplementary option (ES code)		Date of assessment	31.10.22	
HLS Feature(s) being assessed		Assessed by	Alex Fay	
Woodland				
Variable	Measurement	Target	Summary value	Pass/Fail
Extent of feature	Area in Ha	No loss of woodland extent		
Structure and natural processes	% cover	Canopy cover present over 75-90% of stand.	80%	
	Y/N	Understorey (2-5m) present over at least 60% of total stand area.	30%	
		Structural diversity in the form of warm, sheltered areas rich in nectar sources – indicative target - around 10% open space (which can be permanent (rides etc) and/or temporary (e.g. created by rotational coppicing or natural processes)	Rides Fallen trees Y	
		Some areas of relatively undisturbed mature/old growth stands or a scatter of large trees allowed to grow to over-maturity/death on site (a minimum of 10% of the woodland in blocks and/or 5-10 trees per ha scattered throughout).	Y	

Variation of tree ages	Y/N	Variation in tree age-class diversity present – indicative target - at least three age classes spread across the average life expectancy of the commonest trees.	Y	
Dead wood	Y/N	Good representation of standing and fallen dead wood – indicative target - a minimum of 3 fallen lying trees >20 cm diameter per ha and 4 trees per ha allowed to die standing.	Y	
Composition	% cover	At least 95% of cover in any one layer of site-native or acceptable naturalised species. There should be no evidence of uncontrolled spread of invasive non-native species, such as Rhododendron, to the detriment of the nature conservation interest of the woodland. (Map areas)	Y Rhody (Map)	
Presence/evidence of plant disease or dieback	Y/N	Death, destruction or replacement of native woodland species through effects of introduced fauna or other external unnatural factors not more than 10% by number or area in a five-year period.	N	
Ground flora of NVC	%	At least 80% of ground flora cover should be referable to the relevant NVC community.	Y	
Regeneration	Y/N	Signs of seedlings growing through to saplings to young trees at sufficient density to maintain canopy density over a 10yr. period (or equivalent regrowth from coppice stumps). Presence of tree planting No more than 20% of areas regenerated by planting. All planting material of locally native stock. No planting in sites where it has not occurred in the last 15 years.	Y Y	
Indicators of local distinctiveness	Y/N	Does the woodland retain features which make it of	Y Birds	

		special nature conservation interest?		
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NOTES

- Canopy - Oak, birch, yew + larch/beam wood, ash
- Shrub - holly, bramble, bracken Hazel
(large) elder, nettle, hawthorn
- Field - Bitchen brown, wood sedge, stachys
foxglove, ground ivy
pond sedge
- Reger - fern, hawthorn, ash, holly
+ planted trees 1990's
ash cherry oak

Point recording - Optional

It may help to record information from a number of points during the structured walk. This is particularly useful if there is variation in the feature of if a number of separate areas/parcels are being covered. This table can be used to record information from stops but it is optional and there is no requirement to record at points or to complete a particular number.

Woodland (dry and wet)						Summary
Variables from page 1	1	2	3	4	5	
Canopy cover %	80	80	70	70	75	
Variation in tree ages Y/N	Y	Y	Y	Y	Y	
Natural tree death Y/N	Y	Y	Y	Y	Y	
Dead wood Y/N	Y	Y	Y	Y	Y	
Non-native plants %	0	0	1	2	1	Rocky
Un-natural death or damage	0	0	0	0	0	Deer browsing
Ground flora NVC	Y	Y	Y	Y	Y	
Regeneration Y/N	Y	Y	Y	Y	Y	
Lack of tree planting Y/N	Y	Y	Y	Y	Y	Historic c. 1990
Woodland structure Y/N	Y	Y	Y	Y	Y	
Shrub layer %	20	30	30	20	50	

1
 Ash, Oak, beech, cherry, sycamore, pine
 + Poplar, sweet chestnut, horn oak
 aspen? willow

Plantation

Rhodod. norway maple

wood sage

giant B. sylv. fennel

Species of ground flora are not required for condition assessment, however it adds to a condition description if they are included. Use the table below to note species of flora seen.

Species	1	2	3	4	5	Summary
Butcher's broom	/					
Bramble	/					
Branched	/					
Erigeron	/					
Stitchwort	/					
Ivy	/					
B. stolonatum			/			
Primrose						
Wood spurge						
Wood sage						
Wood anem.						
S. Iris						
Ground ivy						
Pond sedge						
Wood sedge						
Honeysuckle						

