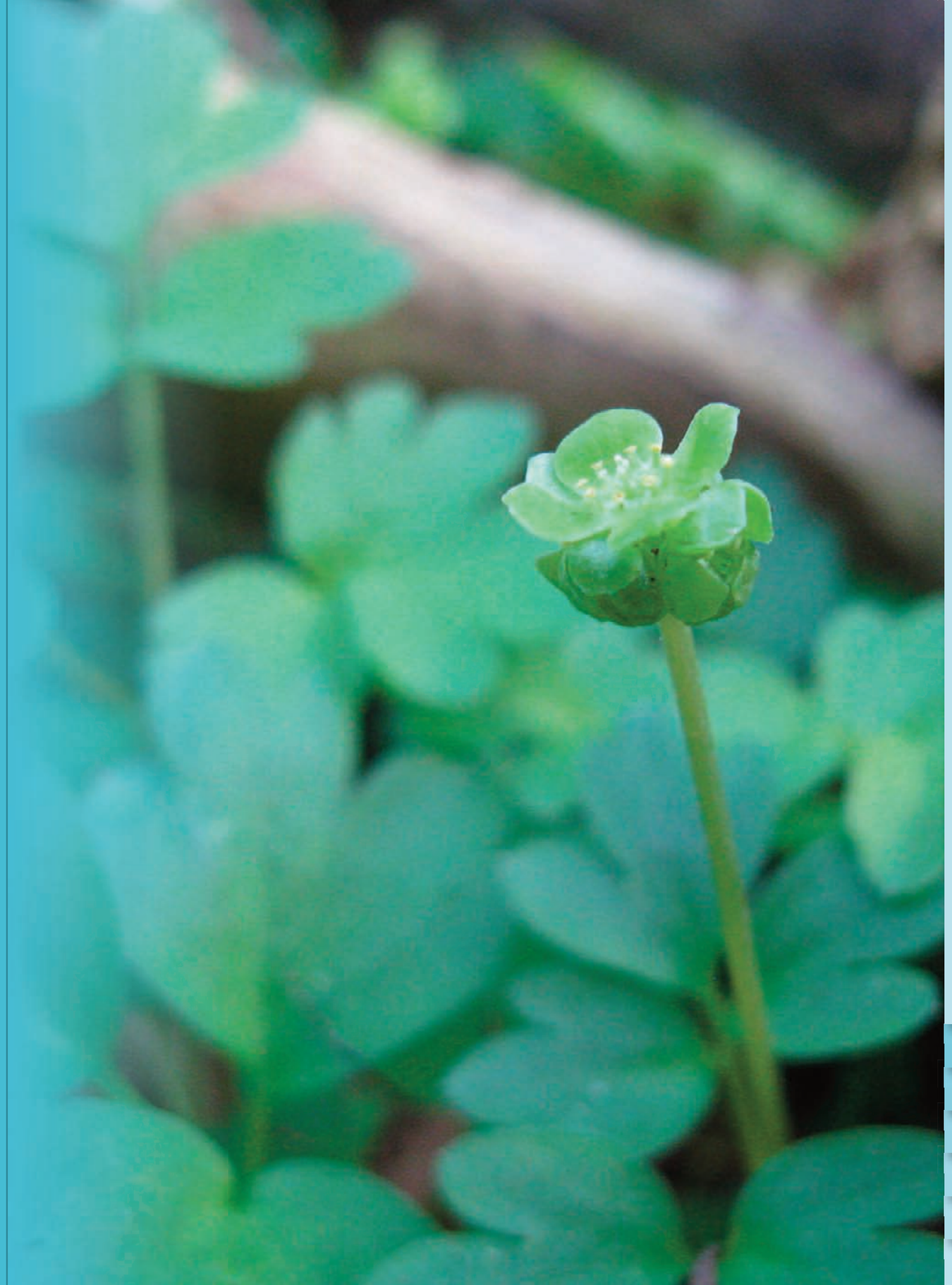
Kent Habitat Survey

2012

5

Results



5
Results

5 Results

The Kent Habitat Survey 2012 has generated a map with 3,064,341 separate areas (polygons) defining the habitats found within the county. This is significantly more detailed than the previous survey (KHS 2003), where just 163,000 polygons were mapped to the same area.
For this project, 29,813ha, or nearly 8% of the area of Kent were field surveyed, covering almost one third (28%) of the semi-natural habitats in the county. The field survey results provide a detailed and accurate description of some of the county's most important habitats for nature conservation.

5.1 County Analysis

The boundary of the administrative area of Kent is the mean high water mark, making the effective area of Kent 379,111ha, although habitats extend to the mean low water mark and include the intertidal habitats of littoral rock and littoral sediment. For calculating the proportion of the county covered by semi-natural habitats the area of Kent including these littoral regions is 391,823ha.
The results for the habitat totals across the county are shown in table 5.1 and figure 5.1.

5.1.1 An Overview of Kent's Broad Habitats

Agricultural, natural and semi-natural habitats
The habitat type with the greatest cover across the county is arable and horticulture (137,227ha, 35% of Kent), with improved grassland (116,319ha, 29.7% of Kent) as the second most extensive habitat type.
Of the semi-natural habitats, broadleaved, mixed and yew woodland is the largest covering 44,490ha (11.4%) of Kent, followed by neutral grasslands covering 28,531ha (7.3% of Kent).
Not including the built environment, (discussed below) the remaining 16 habitats combined cover 36, 585ha, or around 9.3% of Kent. Of these, the marine habitat littoral sediment, (11,989ha, 3.1% cover) is the largest, followed by aquatic habitats such as rivers and streams (6,592ha, 1.7% cover) and standing open water and canals (4,628ha, 1.2%).
The broad habitat classes covering the smallest areas include those of high value for wildlife, for example: Fen, Marsh and Swamp (909ha, 0.2%), Dwarf Shrub Heath (74ha, 0.02%) and Maritime Grassland (33ha, 0.01%).

Built environment and urban
Areas of land associated with urban environments cover a significant area of Kent, but are, in the most part, not strictly habitats. However, for this analysis they have been referred to in these terms.
The broad habitat classes covering the built environment do not include gardens in this survey. Built-up areas cover 15,800ha or 4.0% of Kent (4.2% of the administrative area and linear features, which include roads and railways, cover slightly less at 12,870ha, or 3.3% of the county's surface area (3.4% of the administrative area). However, within the linear feature figures is a small amount of lines that define hedgerows and lines of trees; these were already defined by the mapping process, but most hedgerows and lines of trees appear as matrices within other habitats. When we remove these from the boundary and linear features, we have 12,778ha cover for built linear features, making a total of 28,578ha for the built environment across Kent (not including gardens) which is 7.3% of the surface area of Kent (7.5% of the administrative area). It is interesting to note that this total is greater than that of the area covered by all semi-natural grasslands in Kent.

Gardens and amenity grasslands fall within the broad habitat class of Improved Grassland and their uses are distinguished by management codes.
However, previous surveys included these grasslands within an urban class that included the built environment and they were not examined separately. We have analysed the distribution of these habitats in order to illustrate the extent of urban environments within Kent, and the figures for these urban grasslands reported in section 5.1.1.23 should be considered as a subset of Improved Grasslands discussed in section 5.1.1.3.

Gardens have been mapped as land around residential buildings (see below) and have been classed as improved grassland for this survey. They form part of the improved grassland broad habitat class mentioned above.
However, covering 6.4% of Kent (6.7% of the administrative area) (Appendix 6) they are a significant area of the urban environment (see section 5.1.1.23 below).

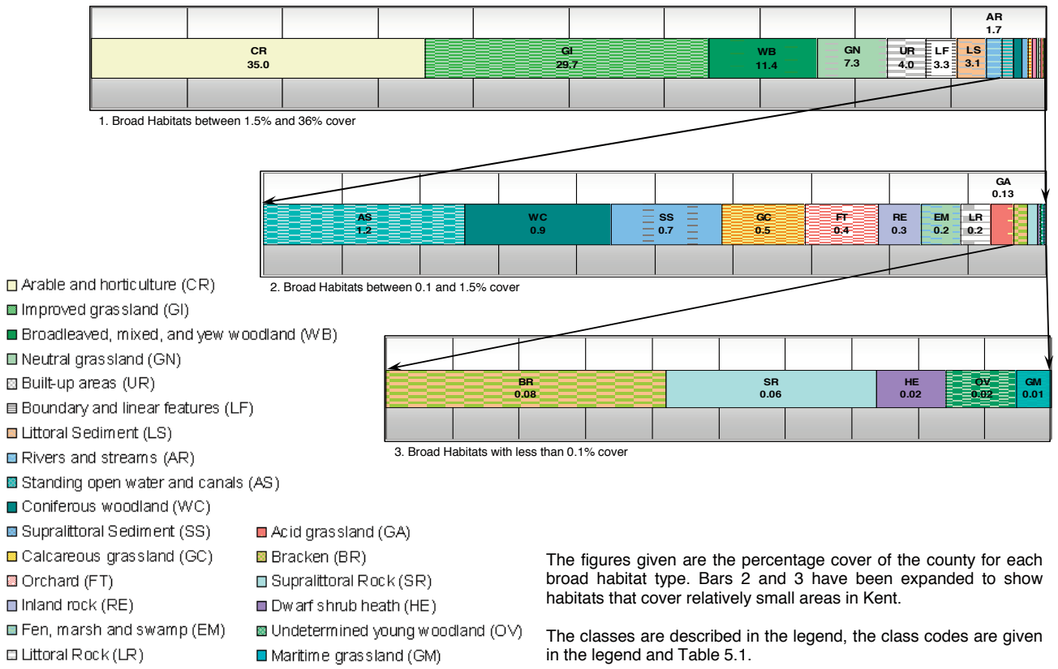
Amenity grasslands are also part of the urban environment, and again improved grassland is the main habitat class. These include school playing fields, recreational areas and large areas of grass verges within housing estates. The total for these urban grasslands is 6,569ha. Churchyards with improved grassland contribute a further 227ha, making a total for urban grassland of 6,796ha.
When the areas of the built environment, gardens and urban grassland are combined, the resulting area for urban environments within Kent is 60,607ha, which is 15.5% of the area of Kent and 16% of the administrative area.

The next section describes each of these broad habitat classes, including a definition of the class, whether the habitat falls within designated areas in Kent and whether any of the broad habitat class is covered by a UK (UKBAP priority habitat) or European (Habitats Directive Annex 1) designation for important habitats for nature conservation.

Table 5.1 Broad Habitat Extent in Kent

Broad Habitat Type	IHS code	Total Area		Within SSSI		Within AONB		Within LWS		UK BAP		Annex 1	
		Area (ha)	% of Kent	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH
Rivers and streams	AR	6,592	2	1,137	17	136	2	153	2	0	0	0	0
Standing open water and canals	AS	4,628	1	1,464	32	751	16	650	14	286	6	276	6
Bracken	BR	328	<1	205	63	254	78	56	17	151	46	0	0
Arable and horticulture	CR	137,227	35	1,003	1	44,370	32	1,566	1	325	<1	0	0
Fen, marsh and swamp	EM	909	<1	596	65	29	3	122	13	568	62	0	0
Orchard	FT	1,676	<1	<1	<1	485	29	31	2	1,676	100	0	0
Acid grassland	GA	512	<1	180	35	289	56	134	26	261	51	0	0
Calcareous grassland	GC	1,929	<1	554	29	1,548	80	629	33	1,159	60	1,159	60
Improved grassland	GI	116,330	30	1,408	1	39,489	34	1,853	2	1,846	2	0	0
Maritime grassland	GM	33	<1	11	34	9	27	1	2	33	100	0	0
Neutral grassland	GN	28,519	7	7,209	25	8,037	28	3,005	11	7,038	25	5	<1
Dwarf shrub heath	HE	74	<1	23	30	33	45	43	58	73	99	71	96
Boundary and linear features	LF	12,869	3	295	2	2,988	23	567	4	92	1	0	0
Littoral rock	LR	723	<1	601	83	90	12	6	1	415	57	0	0
Littoral sediment	LS	11,989	3	9,670	81	36	0	149	1	11,742	98	10,866	91
Undetermined young woodland	OV	71	<1	1	1	26	37	7	10	0	0	0	0
Inland rock	RE	991	<1	59	6	67	7	7	1	0	0	0	0
Supralittoral rock	SR	216	<1	188	87	110	51	5	2	5	2	5	2
Supralittoral sediment	SS	2,559	1	2,303	90	4	<1	152	6	1,387	54	1,258	49
Built-up areas	UR	15,800	4	126	1	1,981	13	84	1	0	0	0	0
Broadleaved, mixed, and yew woodland	WB	44,491	11	5,942	13	23,509	53	16,029	36	1,463	3	523	1
Coniferous woodland	WC	3,356	1	332	10	2,189	65	1,950	58	2	<1	0	0
TOTAL		**391,823**	**100**	**33,308**	***9****	**126,430**	***32****	**27,197**	***7****	**28,522****	***7****	**14,164**	***4****

Numbers are rounded to nearest whole figure * % of Kent ** Not including Priority habitats as complexes



The figures given are the percentage cover of the county for each broad habitat type. Bars 2 and 3 have been expanded to show habitats that cover relatively small areas in Kent.

The classes are described in the legend, the class codes are given in the legend and Table 5.1.

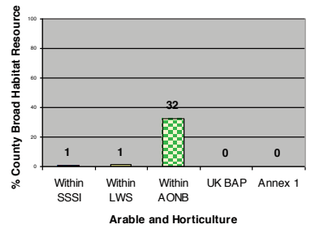
Figure 5.1 Broad Habitat Extent in Kent
Diagram representing the relative coverage for each broad habitat class in Kent.

5.1.2 Agriculture

5.1.2.1 Arable and Horticulture (CR)

The broad habitat class of Arable and horticulture covers the greatest proportion of Kent, with 137,227ha or just over 35% of the total area of the county being used to grow some form of crop, such as cereals, intensive and soft fruit production, horticultural crops and hop gardens. Arable habitat is dispersed across the county, (figure 5.4), often in a mosaic with hedgerows or small areas of woodland contributing to the character of the Kent countryside. Around 32% (44,370ha) of arable and horticulture habitat is within the AONBs of the Kent Downs and High Weald, which themselves occupy a third of the county (table 5.1). However, the distribution is different within the two areas (see section 5.4).

Arable is an important class for food production and much of it is managed intensively. As a result, it is of limited value for wildlife, although well managed crops, particularly cereal crops, can provide shelter and nesting sites for some farmland birds, for example the ground-nesting Skylark (*Alauda arvensis*). This habitat class was not targeted in the field survey, and therefore areas of arable that might have wildlife value or rarer arable weeds have not been recorded.
Reflecting the restricted value for nature, only 1% of this habitat type is found within areas designated as SSSIs (1,003ha) or LWS (1,566ha). Arable field margins that are managed for wildlife are a UK BAP priority habitat, but these have not been recorded during the survey.



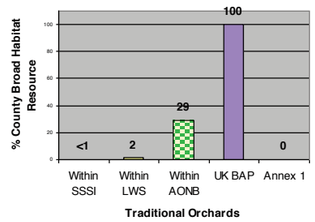
Total area (ha)	**137,227**
Within SSSI	1,003
Within LWS	1,566
Within AONB	44,370
UK BAP	0
Annex 1	0

Figure 5.2 Proportion of the county resource of Arable and Horticulture that falls within designated areas

The distribution of Arable and horticulture in Kent is shown in figure 5.4 in pale pink.

5.1.2.2 Traditional Orchards (FT)

Traditional orchards are both fruit and nut plantations with full size, often older trees managed less intensively. The definition of a traditional orchard used for this survey is a stand of full-size or semi-standard trees at traditional wider spacings, in grassland not showing evidence of intensive herbicide use. In areas where the orchard was becoming derelict, the definition required a minimum of 5 trees standing with less than 20m distance between the edges of the canopies.
In some cases it was difficult to tell whether the orchards had been intensively managed, abandoned, and over time had developed some of the characteristics of traditional orchards. These were viewed on a case by case basis and classed as traditional orchards if the surveyor considered that sufficient BAP parameters were met. In some places, remnant orchards could not be classed as such because they failed to meet the canopy distance criteria, or because remnant orchard trees, that together might be called orchard, actually occurred across several polygons (for example in adjacent gardens) each of which contained insufficient trees to be confidently classed as traditional orchard.
The survey recorded 1,676ha of traditional orchard in Kent, covering 0.4% of the county. Many of these were field surveyed, although some observed during API were inaccessible. The type of orchard was recorded for just over 900ha, with the largest number of traditional orchards being apple (430ha) followed by cherry (226ha). There were 98ha of mixed orchard, 70ha of traditional pear orchard, but only 16ha of traditional plum orchards remain, and 62ha of traditional cobnut platts.
Traditional orchards have only been recognized for their importance as habitats for wildlife relatively recently. The UK BAP designation for this habitat dates to 2007, and perhaps for this reason, there are almost no traditional orchards within SSSIs (0.3ha) and very few within Local Wildlife Sites (31ha).
Since this IHS class was developed to record the UK BAP priority habitat, all traditional orchards recorded in this survey form part of the priority habitat (figure 5.3).



Total area (ha)	**1,676**
Within SSSI	0.34
Within LWS	31
Within AONB	485
UK BAP	1,676
Annex 1	0

Figure 5.3 Proportion of the county resource of Traditional Orchards that falls within designated areas

Most of the traditional orchards showed no active management, and very few had trees of different ages. A consequence of this is that the trees are likely to reach senescence together. The survey recorded many orchards becoming derelict, with the old standard trees, particularly in cherry orchards, dead or dying. Dead

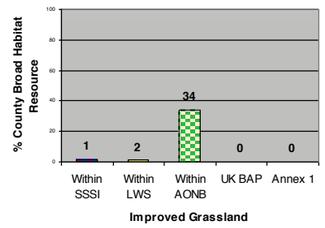
Figure 5.4 Distribution of the broad habitats Arable and Horticulture and Traditional Orchard in Kent

standing trees are of value to many saprophytic insects and wildlife, but these orchards are no longer productive and therefore frequently grubbed up.
Much of the grassland associated with the traditional orchards, particularly cherry orchards, has been improved at some time in the past and therefore has limited species richness. However, in unmanaged areas, the rank grassland has significant value for a range of invertebrates, small mammals and birds. Several large areas of traditional orchard, particularly plum and apple, have been allowed to develop into woodland, taken over by scrub and invaded by non-fruit trees. This scrub woodland is of value to woodland wildlife. Where grassland under fruit trees was managed, this was mostly sheep or horse grazed.
Figure 5.4 shows the distribution of traditional orchards in Kent, with this habitat depicted in orange.

5.1.3 Grasslands

5.1.3.1 Improved Grassland (GI)

Almost a third of the county (29.7%) or 116,332ha is covered by improved grasslands. These are agricultural grasslands used for pasture, as well as grasslands of urban parks and gardens.



Total area (ha)	116,319
Within SSSI	1,408
Within LWS	1,853
Within AONB	39,489
UK BAP	0*
Annex 1	0

* proportion forms part of a BAP complex

Figure 5.5 Proportion of the county resource of Improved Grassland that falls within designated areas

Agriculturally improved grassland is highly productive, resulting from intensive management using fertilisers and/or herbicides. They can result from intensive agricultural practices on more species-rich grasslands, or following ploughing and re-seeding, or over-sowing with a limited range of grass species that provide fodder for animals. As a result of this improvement, the grasslands are species-poor, lacking many of the finer grasses and flowering plants found in semi-natural swards. The forbs that remain are generally those that are nutrient demanding and / or can withstand intensive grazing.

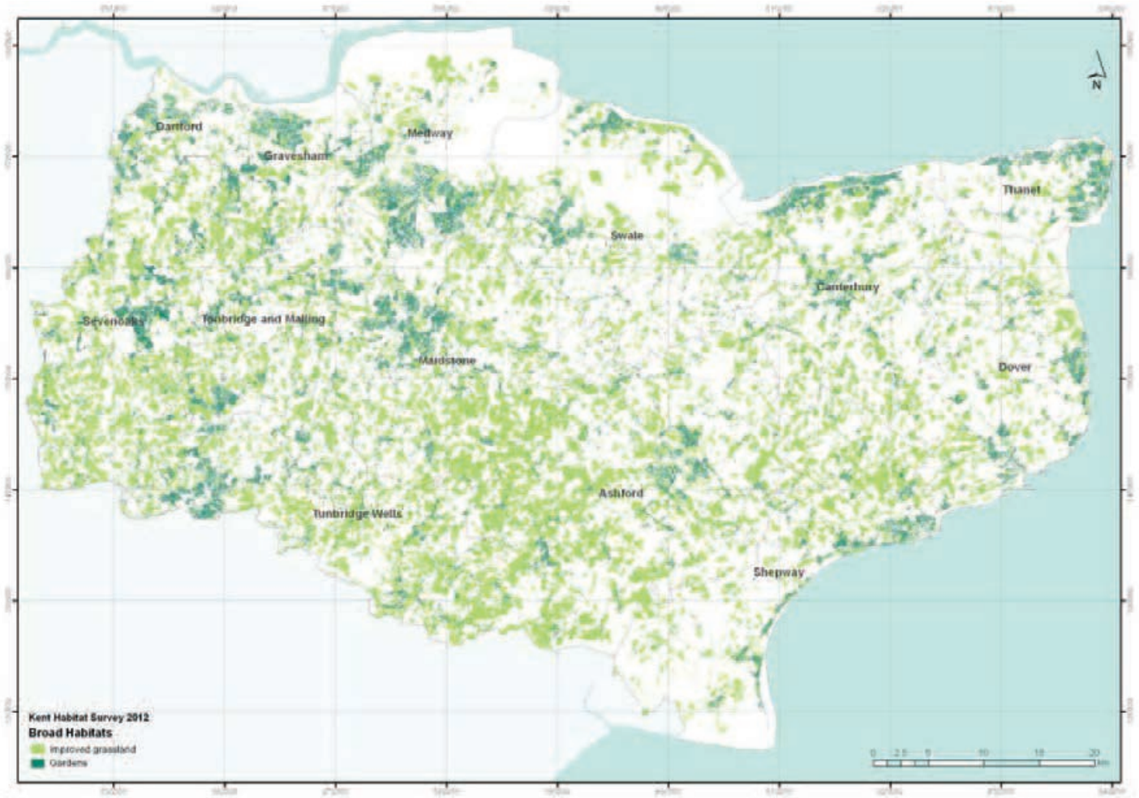


Figure 5.6 Distribution of Improved Grassland and Gardens in Kent

Amenity grassland, such as many playing fields, urban parks and urban road verges are also intensively managed, and have a limited range of plant species. Rye grass (*Lolium perenne*) is frequently the main grass species present, together with a restricted selection of flowering plants that tolerate high nutrient levels and can withstand extensive mowing and trampling.

Gardens have been included in this habitat class by default, as lawns are frequently improved and mown. However, gardens are known to have value to wildlife and will be reported on separately (see section 5.1.9.3).

Improved grassland generally has low value for wildlife. The intensive management regimes and high levels of nutrients prevent the colonisation by many plant and insect species. Additionally, as the grassland is normally mown or grazed, it is not suitable habitat for many insect species. The low level of nature conservation value is reflected in the small amount of this habitat type found within SSSIs (1% of the county BH resource, shown in Figure 5.5) and LWS (2%). The AONBs have around 34% of the county resource.
Also reflecting the limited wildlife value, improved grassland has no UK BAP or Annex 1 designations in its own right. However, where it falls within a more complex landscape, such as coastal and floodplain grazing marsh, or wood pasture and parkland, it can be designated as priority habitat and is reported below (section 5.2.9).
The distribution of improved grassland and gardens in Kent is shown in figure 5.6.

5.1.3.2 Neutral Grassland (GN)

The semi-natural neutral grassland category encompasses all grassland communities found on neutral soils, including areas of grazing marsh, coarse or rank grassland often associated with unmanaged areas, and other grasslands that show varying levels of improvement. The latter grasslands range from species-poor swards with limited value to wildlife, to those that are very species rich that can be classed as UK BAP priority habitat.

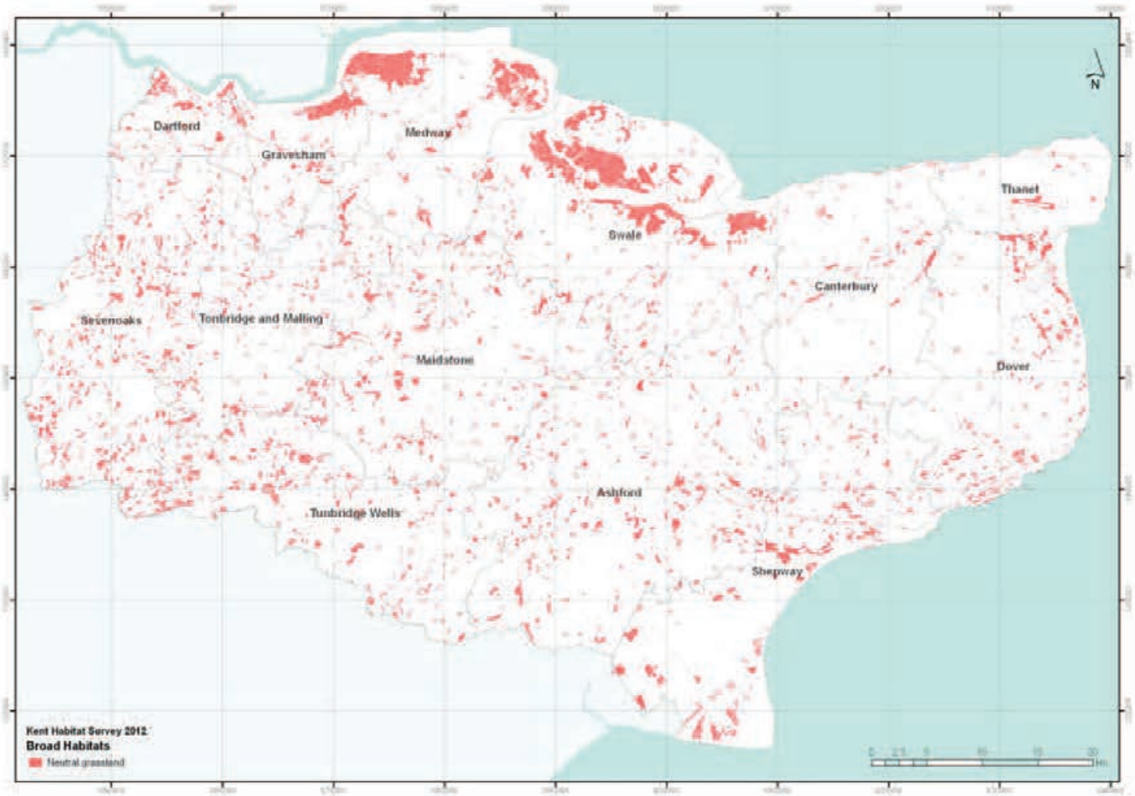
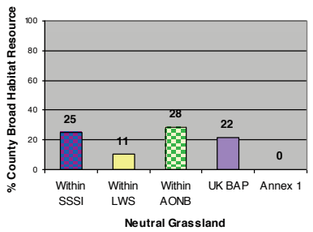


Figure 5.7 Distribution of Neutral Grassland in Kent



Total area (ha)	28,531
Within SSSI	7,209
Within LWS	3,005
Within AONB	8,037
UK BAP	27.7
Annex 1	5.25

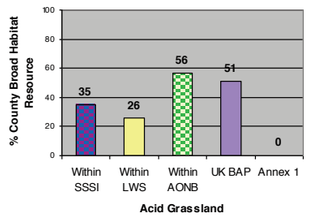
Figure 5.8 Proportion of the County Resource of Neutral Grassland that falls within designated areas

Figure 5.7 shows the distribution of neutral grassland in Kent. A large area of this habitat type along the north Kent coast is grazing marsh.
The total neutral grassland resource is 28,519ha, or 7.3% of the surface area of the county. Of this, a quarter (25.3%) is found within SSSIs and a further 10.5% is within LWS. The AONBs support 28% of the county resource (Figure 5.8).
Within this broad habitat class is a small resource (27.7ha) of species-rich unimproved grasslands of the type that qualify as UK BAP Lowland meadows, and a small subset that is Annex 1 habitat. These areas are described further in section 5.2.5.

This survey has recorded a significant amount of species-rich semi-improved grassland (1619ha, 5.7% of the broad habitat resource) and this is also described in section 5.2.5.

5.1.3.3 Acid Grassland (GA)

Acid grasslands in Kent are usually found on dry, sandy or gravelly substrates. It is a rare habitat in Kent, with only 512ha recorded, covering just 0.13% of the county. In Kent, the acid grassland occurs in small areas and is distributed in a highly fragmented manner. This can be seen in the map shown in figure 5.10, with acid grassland depicted in lime-green. Much of the habitat is associated with the acid, free-draining sands of the Greensand Ridge and acid, infertile soils of the High Weald.



Total area (ha)	512
Within SSSI	180
Within LWS	134
Within AONB	289
UK BAP	261
Annex 1	0

Figure 5.9 Proportion of the county resource of Acid Grassland that falls within designated areas

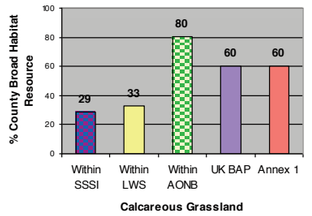
Figure 5.10 Distribution of Acid Grassland, Dwarf Shrub Heath and Bracken in Kent

Of this rare habitat, 35% is found within SSSIs and a further 26% is within LWS. The AONBs contain more than half of the county's resource (56.4%, figure 5.9). Slightly more than half of the county's acid grassland (51%) was recorded as UK BAP quality during this survey, with the remainder classed as semi-improved acid grassland. However, there are several issues affecting the accurate identification of UK BAP acid grassland (discussed in section 5.2.5), and the proportion of this priority habitat type may be under-recorded. None of the lowland acid grassland is covered by an Annex 1 classification.

5.1.3.4 Calcareous Grassland (GC)

Calcareous grasslands are found on alkaline substrates, particularly those over chalk bedrock or ragstone. They are associated with thin, infertile soils prone to drought, and have plant species that have adapted to these conditions. The swards support a very rich flora, including some nationally scarce and rare plants, as well as specialist invertebrates. The plant communities are vulnerable to ploughing and increased soil fertility.
This habitat is frequently associated with scrub, which contributes to the overall diversity, but where there is a reduction in grazing or management the scrub can become dominant, shading out and degrading the calcareous grassland. Most of the species-rich calcareous grasslands in Kent are now confined to the steeper slopes of the North Downs, where ploughing and improvement have not been possible or economically viable.

Calcareous grassland covers 1,929ha of Kent, which is just 0.5% of the county's surface area, although this is almost 5% of the UK's chalk grassland resource.
Most of this grassland occurs along the North Downs (figure 5-12), with 28.3% being found within SSSIs and almost a third of the county resource, 32.6%, being found within LWS. Not surprisingly, 80% of the resource is found within the Kent Downs AONB (figure 5.11).
Of the broad habitat resource, 60% has both UK BAP and Annex 1 habitat designation. These are discussed in more detail in section 5.2.5.2



Total area (ha)	1,929
Within SSSI	554
Within LWS	629
Within AONB	1,548
UK BAP	1,159
Annex 1	1,159

Figure 5.11 Proportion of the county resource of Calcareous Grassland that falls within designated areas

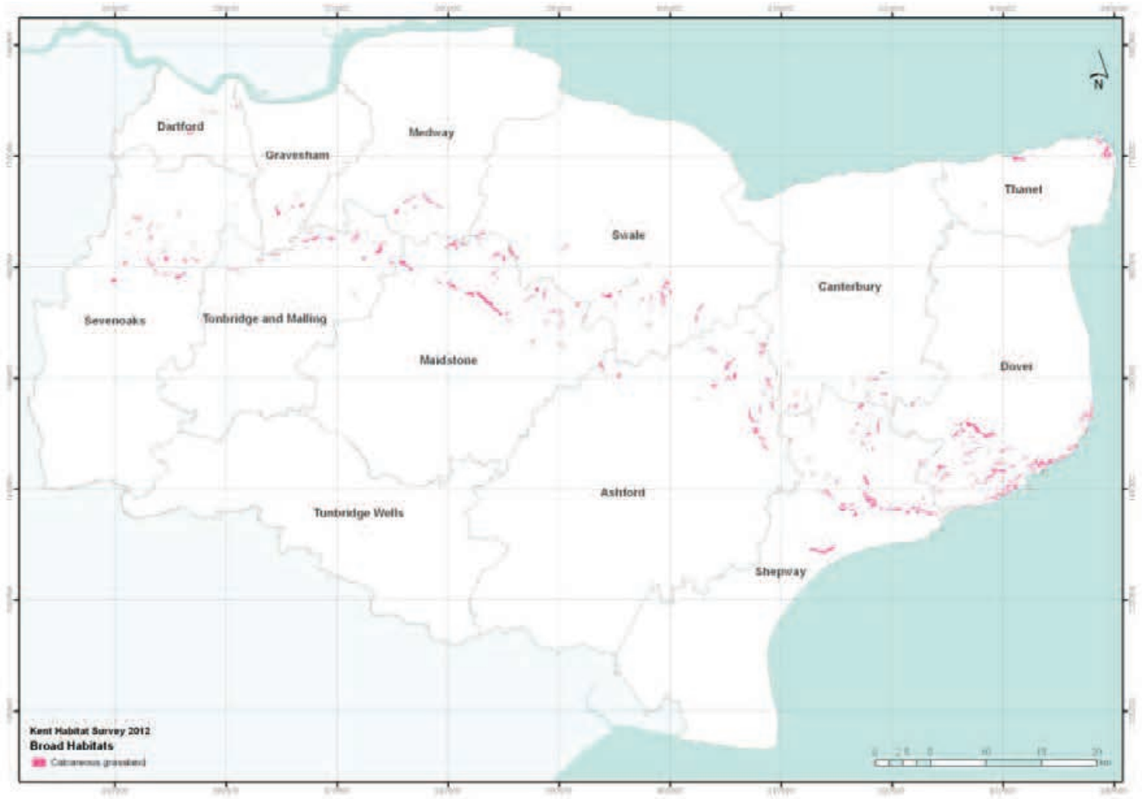
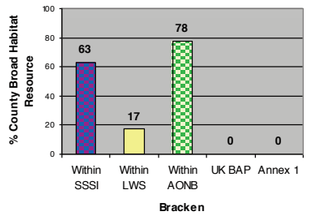


Figure 5.12 Distribution of Calcareous Grassland in Kent

5.1.3.5 Bracken (BR)

In Kent, the 328ha of bracken-dominated habitat recorded covers 0.08% of the county.
The bracken broad habitat defines areas where bracken is the dominant vegetation (an area covering more than 0.25ha with bracken cover of 95% during the growing season). In many areas, where bracken is found as a scattered or patchy component within another habitat, such as grassland or woodland, it has been recorded as a matrix code (codes used to describe features within the broad habitat type) and is not part of the figures reported here.
Bracken is frequently found in a mosaic with other plant communities on dry areas, such as acid grassland and heathland, or as a field layer within woodland. This can be seen in figure 5.10. It can be an invasive species, out-competing and out-shading finer grasses and forbs. Expanding areas of bracken can degrade important and fragile plant communities such as acid grassland and heathland, therefore active management of bracken is necessary in sensitive areas.



Total area (ha)	328
Within SSSI	205
Within LWS	56
Within AONB	254
UK BAP	0
Annex 1	0

Figure 5.13 Proportion of the County Resource of Bracken that falls within designated areas

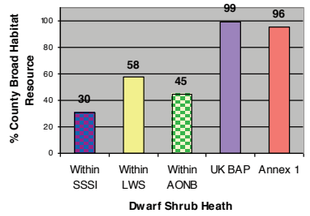
As can be seen in figure 5.13, almost two thirds (62.5%) of the bracken habitat resource is found within SSSIs, and another 17% is within LWS. Over three quarters of the resource (77.4%) is within AONBs.
This habitat is not designated as UK BAP or Annex 1. However, some UK BAP priority habitats are designated for their historic management (Wood pasture and Parkland) or contain a complex of habitats (Coastal and floodplain grazing marsh). These UK BAP priority habitats can contain several of the broad habitat types, and in these cases bracken can form part of such a priority habitat area. The figures reported above for bracken do not include the areas that fall within any of these complex UK BAP habitats, which are reported separately below.

5.1.4 Heathland

5.1.4.1 Dwarf Shrub Heath (HE)

Dwarf shrub heath refers to both dry and wet types of heathland habitat. This habitat type is characterized by vegetation with more than 25% cover of plant species from the heath family (ericoids) or specific species of gorse, namely Western (*Ulex gallii*) or dwarf gorse (*Ulex minor*). It is frequently found in a mosaic with acid grassland, and for this survey has only been classed as heathland where the cover of heath shrubs is clearly more than 25% of the habitat area.

The county has just over 74ha of dwarf shrub heath, which is 0.02% of the county area. Of this, there are 71.5ha of dry heath, but only 1.9ha of wet heath, making the latter type a very rare, but important habitat type in Kent. Small areas of lichen heath also occur as a mosaic with other heathland on dry, sandy soils. Just under 0.5ha has been recorded in Kent, although it occurs more frequently within heathland but in areas too small to map separately.



Total area (ha)	74
Within SSSI	23
Within LWS	43
Within AONB	33
UK BAP	74
Annex 1	71

Figure 5.14 Proportion of the county resource of Dwarf Shrub Heath that falls within designated areas

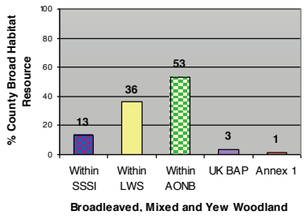
Dwarf shrub heath is found on nutrient-poor, free-draining acid soils, or sand and gravel substrates, and in Kent is found on soils of the Greensand Ridge, the North Kent Plain, and acid and gravel soils on the North Downs. The sites are all small and scattered, with the result that the heathland habitat is highly fragmented, as shown in figure 5.10.
Dwarf shrub heath supports many rare and endangered species that are specific to this habitat type. As a consequence, the majority of Kent's remaining heathland is within areas designated for their wildlife interest, as shown in figure 5.14, with around a third of dwarf shrub heath found in SSSIs, and a futher 58% within LWS. Around 45% falls within the AONB boundaries. Almost all the heathland in Kent is UK BAP priority habitat (74ha, 99% of BH), while 71ha (96%) is Annex 1 habitat.
Many of Kent's heathlands have been lost within the last 75 years, but their importance for wildlife has resulted in restoration projects at suitable sites across the county, with several areas of additional heathland recorded during this survey. Heathland restoration projects in the Blean near Canterbury, at Hothfield Common, Tunbridge Wells Common, Pembury Woods, Mereworth near Tonbridge and around Bitchet Green in Sevenoaks have all increased the cover of this habitat resource. Dartford Heath, however, had large areas of habitat that failed to reach the heathland definition, with much of the resource now degraded to scrub over acid grassland. Areas of heath restoration, that were underway during the field survey, did not have sufficient cover of heath shrubs to be classified within this habitat type, although it is hoped that with time and suitable management, these areas will re-establish this habitat.
Heathland was found associated with several golf courses on the Greensand Ridge, forming parts of the rough. Although small, they are valuable resources and form a mosaic with the grasslands and wooded aspects of the courses.

5.1.5 Woodland

5.1.5.1 Broadleaved, Mixed and Yew Woodland (WB)

This broad habitat type refers to all broadleaved and yew woodland where the tree cover exceeds 20%, and to mixed broadleaved and coniferous stands which have more than 80% cover of broadleaved and yew trees. It includes wet woodlands, and scrub woodland comprised of native shrubs that usually grow to less than 5m tall. For the sake of simplicity, this description will refer to the habitat as broadleaved woodland.

Not included in this class are young woodlands where the composition could not be determined. This is a result of the limitations of API, where very young plantations of trees could be either coniferous or broadleaved; these have been described in a separate broad habitat class (see below).



Total area (ha)	44,490
Within SSSI	5,942
Within LWS	16,029
Within AONB	23,509
UK BAP	1,428
Annex 1	523

Figure 5.15 Proportion of the county resource of Broadleaved, Mixed and Yew Woodland that falls within designated areas

Broadleaved woodlands cover around 44,490ha, or 11.4% of Kent. They are found across the county,

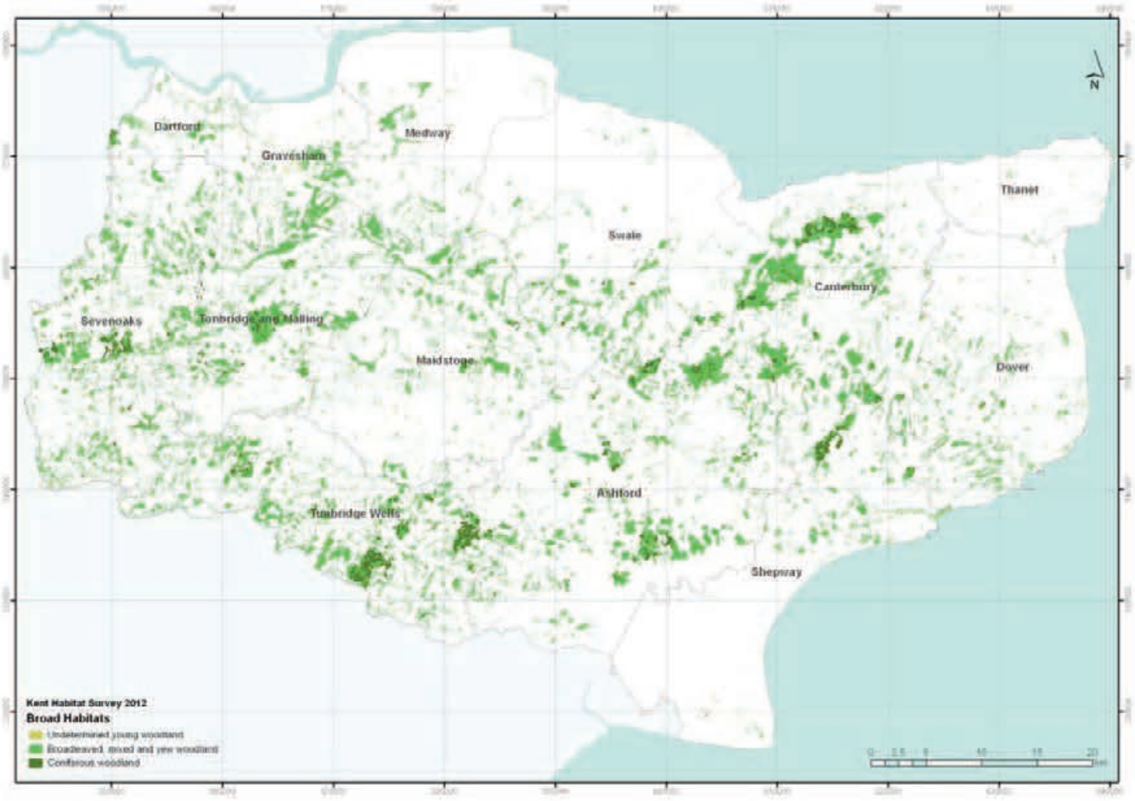
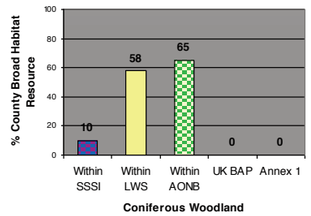


Figure 5.16 Distribution of Woodland Habitats in Kent

although areas such as the Ilse of Thanet and Romney Marsh have much lower cover. Many of the woods and shaws are ancient woodland, but this survey has not targeted these for field survey, and data on the extent of ancient woodlands can be found elsewhere (Natural England datasets, 2012).
Figure 5.15 shows that the AONBs contain more than half the broadleaved woodland of the county (23,509ha, 53%) with 13% (5,942ha) of the county broad habitat resource being within SSSIs and a further 36% (16,029ha) within LWS.
Despite the high cover of woodland across the county, very little (3%) has been classed as UK BAP priority habitat, with only 1% of the broad habitat resource being Annex 1 habitat types.
The distribution of broadleaved woodlands is shown in figure 5.16.

5.1.5.2 Coniferous Woodland (WC)

Coniferous woodland is habitat that is dominated by coniferous trees, with a cover greater than 80%. In Kent, this is mostly plantation woodland, with non-native species grown for timber production. Even the UK native conifer Scots Pine (*Pinus sylvestris*) is not part of the indigenous flora of Kent.
Yew woodland has not been included in this class as yew has many characteristics of broadleaved trees and is recorded within the Broadleaved, mixed and yew woodland class.



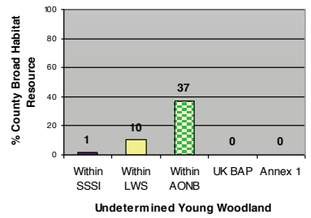
Total area (ha)	3,356
Within SSSI	332
Within LWS	1,950
Within AONB	2,189
UK BAP	0
Annex 1	0

Figure 5.17 Proportion of the county resource of Coniferous Woodland that falls within designated areas

In contrast to the broadleaved woodland class, coniferous woodland covers just 3,356ha or only 0.9% of the county area. Figure 5.17 shows that nearly two thirds of this resource are found within the AONBs (2,189ha or 65% of the resource), with more than half being found within LWS (1,950ha, 58% of the resource). This is due to coniferous woodland often being Plantations on Ancient Woodland Sites (PAWS), and so likely to retain an ancient woodland ground flora seedbank.
As this habitat is not native and almost entirely a result of intensive woodland management in Kent, it is not surprising that only 332ha, or 10% of the resource, are found within SSSIs. Moreover, there is no UK BAP or Annex 1 priority habitat for this broad habitat class alone, although some coniferous woodland falls within the Wood Pasture and Parkland UK BAP priority habitat described below (section 5.2.8).
figure 5.16 shows the distribution of coniferous woodland in Kent, with more exensive areas being found in several places, including Bedgebury and the Blean near Canterbury.

5.1.5.3 Undetermined Young Woodland (OV)

This broad habitat class is a product of the limitations of survey using API. It refers to young plantation woodlands where the type of trees planted cannot be determined with any accuracy. This is frequently the case in areas that have been subjected to extensive civil engineering projects, such as road widening or creation of new rail links. An example of this can be seen in figure 5.16 in Gravesham. It is also found in areas where new woodlands have been planted with very young trees. This new woodland is most likely to develop into mature woodland in time, but for the process of API the habitat more closely resembled improved or rank grassland with scattered scrub or trees.



Total area (ha)	71
Within SSSI	1
Within LWS	7
Within AONB	26
UK BAP	0
Annex 1	0

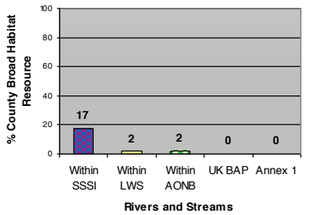
Figure 5.18 Proportion of the county resource of Undetermined Young Woodland that falls within designated areas

The amount of this habitat is small, covering just 71ha or 0.02% of Kent, and is distributed fairly unevenly across the county. As shown in figure 5.18, less than 10% of the resource is found within LWS and only around 1% of the resource is within SSSI boundaries. More than a third of the habitat, 37% or 26ha is within the AONBs. None of the resource is UK BAP priority or Annex 1 habitat.

5.1.6 Aquatic and Wetland

5.1.6.1 Rivers and Streams (AR)

All standing and running water was classed together in the 2003 survey. The data presented here separates rivers and streams from standing water and canals. Rivers and streams are mapped from bank top to bank top, or the extent of the mean annual flood where there are no bank tops. In areas where the streams are very narrow, mapping has not created a polygon and so the areas given here are slight underestimates of the total area of rivers and streams within Kent. It includes a proportion of the River Thames before it reaches the limits of the Thames Estuary.



Total area (ha)	6,592
Within SSSI	1,137
Within LWS	153
Within AONB	136
UK BAP	0
Annex 1	0

Figure 5.19 Proportion of the county resource of Rivers and Streams that falls within designated areas

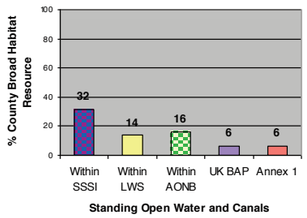
The main rivers in Kent are the Medway, the Great Stour, the Darent, the Thames and the Swale, the latter two being regarded as part of the Greater Thames Estuary. The Thames forms the County border to the north, as can be seen in figure 5.20.
Rivers and streams have not been a target for this survey, and few areas were field surveyed. Some incidental field survey of rivers and streams took place where they were en route or adjacent to other target habitats. As a result, most of the field survey data comes from the EA surveys of 2006 and 2009.

Rivers and streams cover 6,592ha or 1.7% of Kent. Owing to the nature of Kent as a peninsular, a large proportion of this total is found in the County's estuaries. All of the County's river estuaries form part of large areas notified as SSSIs, with 1,137ha or 17% of the county resource falling within these designated areas (figure 5.20). Local Wildlife Sites, by comparison, have only 153ha of river and stream habitat or just over 2% of the County resource. Only 2% of the resource is found within the AONBs.
There are no recorded areas of UK BAP priority or Annex1 habitats within this survey. Chalk streams do emerge from the North Downs and form the source of the rivers Darent, Cray, Shuttle, Dour, Nailbourne and stretches of the Great Stour, Little Stour and North Stream.

Figure 5.20 Distribution of Aquatic habitats in Kent

5.1.6.2 Standing Open Water and Canals (AS)

There is 4,628ha of standing open water in Kent, covering 1.2% of the county. This includes natural systems of open water areas such as lakes, ponds and pools, as well as man-made water bodies such as reservoirs, gravel pits and flooded mineral workings. Linear features of open water such as ditches, rhynes and canals are included where there is water for most of the year. Water bodies in coastal areas, such as saline lagoons and pools are also recorded here. These features are shown in figure 5.20.



Total area (ha)	4,692
Within SSSI	1,164
Within LWS	650
Within AONB	751
UK BAP	286
Annex 1	276

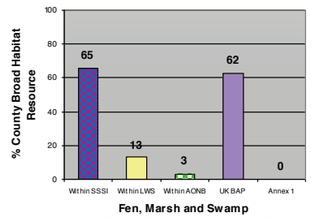
Figure 5.21a Proportion of the county resource of Standing Open Water and Canals that falls within designated areas

Figure 5.21a shows that nearly a third of this habitat resource (31.6%) is found within SSSIs, while a further 14% is part of a LWS. Interestingly, only 16%, or 751ha is found within the AONBs.
Around 6%, or 286ha of the standing water resource qualifies as UK BAP Priority habitat, while 276ha (6%) is Annex 1 habitat. Saline ponds and saline lagoons form part of the Saline Lagoon Habitat Action Plan. However, only saline lagoons are covered by the Annex 1 habitat definition. A very small area, 0.19ha, was recorded as the UK BAP priority habitat of Mesotrophic lakes as a result of field survey. However, this is likely to be an underestimation of the extent of this habitat in Kent, as water bodies and water courses were not targeted for field survey.
Where ditches and other water courses form part of the Coastal and Floodplain Grazing Marsh complex, these are UK BAP priority habitat, but are described elsewhere (see section 5.2.9).

5.1.6.3 Fen, Marsh and Swamp (EM)

This broad habitat type covers a variety of wetland habitats found on permanently, seasonally or periodically wet soils that are groundwater-fed. Within this class the habitats recorded are fens, springs, marsh, swamp, rush pastures and reedbeds. These are shown in figure 5.20 in purple. The county has a combined total of 909ha for these habitats, which is just 0.2% of Kent, meaning that wetlands are fairly uncommon across the county. Most of these habitats are associated with rivers and streams and occur on impermeable soils.
The habitats are important resources for a variety of wildlife, including many rare species. This is reflected in the amount of habitat that is covered by a designation. Around two thirds of the broad habitat type is found within SSSI sites (596ha, 65.5% of the county resource, figure 5.21b) with a further 122ha, or 13.4% of the resource being associated with Local Wildlife Sites, meaning that more than three-quarters, 78.9%, of the county resource is within designated areas. As has been seen earlier with other aquatic habitats, this broad habitat is poorly represented in the AONBs, with only 29ha or 3.2% of the county resource contained within these areas.

A total of 568ha, or 62.4% of the habitat are covered by three UK BAP priority habitat action plans, mostly Reedbeds (545ha), but also almost 11ha of Purple Moor Grass and Rush Pasture and 12ha of Lowland Fens. None of the habitat recorded is of Annex 1 habitat quality. However, a very small amount of Annex 1 fen habitat is present within one the natural pits on the shingle at Dungeness, but this has not been mapped by this survey (J. Dear, personal communication).



Total area (ha)	909
Within SSSI	596
Within LWS	122
Within AONB	29
UK BAP	568
Annex 1	0*

* Small area present in Kent

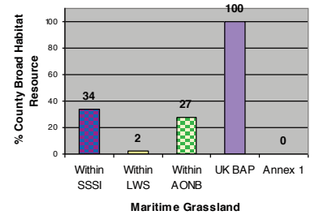
Figure 5.21b Proportion of the county resource of Fen, Marsh and Swamp that falls within designated areas

5.1.7 Coastal and Intertidal

5.1.7.1 Maritime Grassland (GM)

Maritime grasslands are coastal grasslands which occur on shallow slopes or level areas by the sea. They occur where there is moderate maritime influence and a diminished influence of salt spray. This class particularly refers to cliff top grasslands where the slope is less than 15° or to exposed low lying coastal areas where there is no significant slope or associated cliff face. Small areas of maritime grassland on slopes of less than15° occurring within a broader cliff landscape feature are classed as part of the supralittoral rock broad habitat class. The type of vegetation growing in these areas depends on the environmental conditions, the underlying rock and the degree of shelter from the prevailing winds. Many of these areas are grazed, which may favour more resistant and less palatable plant species.
Maritime grassland often occurs as a linear habitat which is difficult to map. In addition, large areas of cliff in Kent are over chalk bedrock resulting in vegetation that is strongly influenced by the soil conditions and has been recorded as calcareous grassland. For these reasons, the total area of this resource is small, with only 33ha (0.01% of the county) being recorded in Kent. This is shown in figure 5.23, where small areas can be seen along the north Kent coast in Canterbury and Thanet Districts.

As shown in figure 5.22, around a third of this rare habitat type is within SSSIs (11ha, 33.7% of the county resource), but only 1ha (2%) is in LWS. Only the Kent Downs AONB has coastal habitats, and contains 9ha or 27.5% of this broad habitat type. All of the maritime grassland is covered by the UK BAP Maritime cliffs and slopes priority habitat definition, and this priority habitat will also include the broad habitat class of supralittoral rock. The habitat resource is covered by the Annex 1 habitat designation for 'Vegetated sea cliffs of the Atlantic and Baltic coasts', such as the area of chalk cliffs between Dover and Kingsdown Cliffs, which is also designated as a Special Area of Conservation (SAC).



Total area (ha)	33
Within SSSI	11
Within LWS	1
Within AONB	9
UK BAP	**100
Annex 1	**

** As part of designation for Maritime Cliffs and Slopes

Figure 5.22 Proportion of the county resource of Maritime Grassland that falls within designated areas

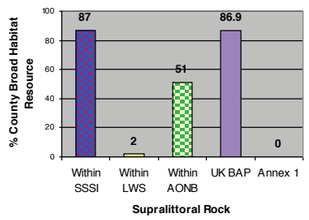
5.1.7.2 Supralittoral Rock (SR)

This is a coastal habitat and refers to the region of the rocky shore that includes cliffs and slopes immediately above the highest water level. These areas are subject to wetting by salt spray or wave splash (also called the splash zone). The features here can include vertical rock faces, boulders, gullies, ledges and pools depending on the wave exposure of the site and its geology. The habitat supports salt-tolerant species, including green algae, lichens and marine molluscs.
In Kent, a large proportion of the cliffs around the coastline are chalk, with areas of mud and clay cliffs on the north of the Isle of Sheppey and sandstone and gault clay cliffs at Folkestone Warren (figure 5.23).
Mapping this type of habitat results in narrow linear

Figure 5.23 Distribution of Coastal broad habitats in Kent

polygons that do not reflect the area of vertical face, which may be present in this area. As a result, the actual area of supralittoral rock is likely to be an underestimation. Despite the long coastline cliffs found around parts of the county, only 216ha of supralittoral rock have been recorded (0.1% of the area of Kent), and some of this will include man-made structures such as sea walls.

The broad habitat resource within SSSIs is 188ha, or 87%, while LWS have a further 5ha, or 2.3%. Of the broad habitat type, 86.6% is UK BAP priority habitat, with boulders and rocks above the high tide mark being excluded from this designation. Maritime cliffs and slopes, together with maritime grassland can be classed as Annex 1 habitat as described above, but the records may be incomplete.



Total area (ha)	216
Within SSSI	188
Within LWS	5
Within AONB	110
UK BAP	220**
Annex 1	220**

** As part of designation for Maritime Cliffs and Slopes

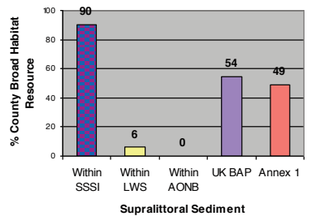
Figure 5.24 Proportion of the county resource of Supralittoral Rock that falls within designated areas

5.1.7.3 Supralittoral Sediment (SS)

Supralittoral sediment is found in the region of the shore immediately above the highest water level and subject to wetting by salt spray or wave splash (the splash zone). Plant species found here are salt tolerant and the vegetation present is strongly influenced by the size of sediment particles and degree of exposure to waves. This broad habitat class covers the very different biotopes of sand dunes and vegetated shingle.

Sand dunes are wind-blown sand formations, and the sand dune class encompasses several distinct habitat types, each representing a stage in the development and maturation of dune systems. The dune systems in Kent are not extensive, with the main areas around Sandwich Bay and Hythe Ranges (figure 5.23). Embryonic shifting dunes are young, developing dunes, which, due to their dynamic nature, support little or no vegetation. These may then develop into Shifting dunes ('white dunes') with more distinct dune flora, but still subject to sand deposition and topographical change. In the larger or older dune systems, dunes become more stable, enabling the development of distinct dune plant communities. These fixed, or 'grey' dunes have a range of vegetation types dependent on the substrate and other environmental conditions. With increasing age, there is leaching of calcium carbonate and soils can become more acid resulting in the development of decalcified fixed dunes and vegetation of acid soils and, ultimately, heathland, although this latter is not recorded in Kent.
Low-lying areas within dune systems may be seasonally flooded and are known as dune slacks. These slacks generally have low nutrient levels and develop distinct plant communities resembling fen or wetland vegetation
Another habitat within the supralittoral sediment class is vegetated shingle. This occurs mainly in small, narrow strips at various locations along the Kent coastline. Narrow bands of shingle may support annual vegetation of drift lines, and in some places, perennial vegetation of shingle may develop. At Dungeness, however, an extensive cuspid shingle foreland has been formed by the action of storms over many centuries (figure 5.23). This extensive area of around 2,000ha, supports a unique series of habitats. Ridges of shingle have built up, providing different conditions for plant colonisation. In places, the shingle appears bare, but is covered by a thin film of lichen. Where skeletal soils have developed, there are areas of acid grassland and shingle heathland. Neutral grasslands as well as areas of scrub are found in deeper and more nutrient enriched soils.
The different types of supralittoral sediment have not been quantified separately within the broad habitat type, but some more detail is given in sections 5.2.10.

Kent has 2,559ha of supralittoral sediment, or 0.7% of the county. Of this, 90% is within SSSIs and a further 5.9% is within LWS. Very little (4ha) is found within AONB boundaries. All of the supralittoral sediment is classed as UK BAP priority habitat, but only around half is Annex 1 habitat.

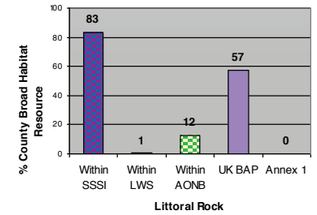


Total area (ha)	2,559
Within SSSI	2,303
Within LWS	152
Within AONB	4
UK BAP	2,559
Annex 1	1,258

Figure 5.25 Proportion of the county resource of Supralittoral Sediment that falls within designated areas

5.1.7.4 Littoral Rock (LR)

Littoral rock is rock that is found in the zone between the mean high water and mean low water marks. In Kent, the most common form is chalk around the coastline of Thanet (figure 5.23). At Folkestone, a projection of the Greensand Ridge has created an area of littoral rock that is derived from the acidic Hythe Beds and so differs from much of the rest of the broad habitat type. Also included within this broad habitat type are areas of 'artificial' rock, such as sea defences.



Total area (ha)	723
Within SSSI	601
Within LWS	6
Within AONB	90
UK BAP	415
Annex 1	0

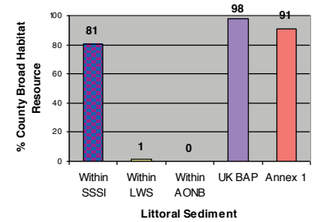
Figure 5.26 Proportion of the county resource of Littoral Rock that falls within designated areas

Kent has 723ha of littoral rock broad habitat, covering just 0.18% of the county. The great majority of this (83.1%) is designated as SSSI, with only 6ha being within LWS (figure 5.26). 90ha (12.4%) is within the Kent Downs AONB boundary, mainly along the coastline at Dover. Of this broad habitat, only 415ha, or 57.4% is UK BAP habitat and none has been recorded as Annex 1 habitat.

5.1.7.5 Littoral Sediment (LS)

This broad habitat class covers intertidal mudflats, sandbanks and beaches. A large proportion occurs in estuaries and inlets. Included within this broad habitat class are seagrass (*Zostera* spp.) beds and coastal saltmarsh.
Coastal saltmarshes are important habitats found in areas of the north Kent coast (figure 5.23). They are dynamic systems that develop on the upper, vegetated areas of sandy and muddy sediments in relatively sheltered coastal areas. Salt-tolerant plants (halophytes) grow in communities with strict zonation reflecting the tolerance of different plants to inundation by seawater. The extent of each plant community is determined by environmental factors such as exposure to salt water, slope of the shore, sediment dynamics and tidal range.

Low- to mid-marsh communities are species poor with mid- to upper marsh communities being more diverse. Upper marsh areas can become dominated by sea couch (*Elytrigia atherica*).



Total area (ha)	11,909
Within SSSI	9,670
Within LWS	140
Within AONB	36
UK BAP	11,649
Annex 1	10,866

Figure 5.27 Proportion of the county resource of Littoral Sediment that falls within designated areas

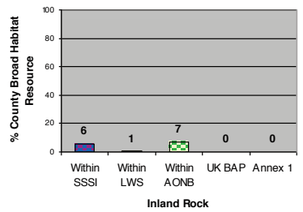
The county has 11,989ha of littoral sediment covering just over 3% of the county. More than half of this (9,670ha, 50.7%) is within SSSIs and a further 149ha is within LWS. Only 36ha falls within the boundaries of the Kent Downs AONB.
Most of the littoral sediment, 97.1%, is covered by a priority habitat designation, and 90.6% of the broad habitat is also Annex 1 habitat.

5.1.8 Inland Rock

5.1.8.1 Inland Rock (RE)

Inland rock includes both natural and artificial exposed rock surfaces, such as inland cliffs, caves and screes as well as various forms of excavation and waste tips such as quarries and quarry waste.
This habitat type is not frequent in Kent, with only 991ha, or 0.3% of Kent being recorded (figure 5.30). However, most cliff, cave and quarry faces are vertical features which have a very small mappable footprint. Most appear on the habitat map as narrow, almost linear polygons. Moreover, natural rock outcrops, such as the sandstone outcrops of the High Weald, are under-recorded. It is impossible to detect them by API where they exist under woodland or scrub cover. Rock outcrops are also under-recorded on Ordnance Survey maps. Because of these reasons, the total area for the rock and quarry faces is likely to be considerably greater than that reported here.

Rock and inactive quarry faces are valuable habitats for a variety of flora and fauna, depending on the rock type involved and the environmental conditions surrounding the habitat, whether they are exposed, sunny or shaded, and what amount of moisture is available. In Kent, the natural rock outcrops are often small and dispersed, and most of these are notified as SSSIs because of their geological interest. However, only 59ha, or 6% of the broad county resource are within SSSIs and 7ha or 1% within LWS. The AONB areas contain only 67ha or 7% of the county resource which is likely to reflect the natural inland rock present in areas such as the High Weald AONB.



Total area (ha)	991
Within SSSI	59
Within LWS	7
Within AONB	67
UK BAP	0
Annex 1	0

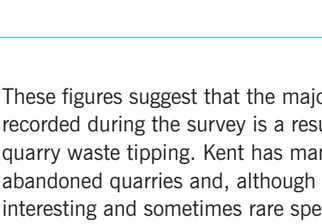
Figure 5.28 Proportion of the county resource of Inland Rock that falls within designated areas

These figures suggest that the majority of the inland rock recorded during the survey is a result of quarrying and quarry waste tipping. Kent has many active and abandoned quarries and, although these can support interesting and sometimes rare species, they are generally not found within designated areas. None of the resource is covered by the UK BAP or Annex 1 designations as the UK BAP only covers upland inland rock and scree.

5.1.9 Boundaries, Built Environment and Urban

5.1.9.1 Boundary and Linear Features (LF)

The Boundary and linear features broad habitat class covers a range of habitats and features arranged linearly within the landscape. Many of these are built components of the environment including roads, tracks and railways and some of the associated narrow verges. It also includes stone and earth banks, grass strips and dry ditches. Linear features such as hedgerows and lines of trees are included where they have been mapped as polygons within the survey. However, the majority of hedgerows and lines of trees have been recorded as matrices within other habitat classes.



Total area (ha)	12,869
Within SSSI	295
Within LWS	567
Within AONB	2,988
UK BAP	0
Annex 1	0

Figure 5.29 Proportion of the county's Boundary and Linear Features that fall within designated areas

Considering that these features are, by definition, narrow and linear, it is surprising to note that they cover 12,869ha, or 3.3% of the total area of Kent (figures 5.29 and 5.30). Only around 90ha of the total consists of hedgerows and lines of trees, meaning that almost all of this broad habitat class is built environment or narrow strips of grassland associated with these man-made features.

Both SSSIs and LWS contain low cover of this class, with 295ha (2.3%) being found within SSSIs, and 567ha, or 4.4% of the broad habitat being found within LWS. The AONBs have 2,988ha, or almost a quarter (23.2%) of the boundary and linear features in the county. As the AONB areas together cover around a third of the county, this suggests that they have less of this broad habitat class relative to the rest of the county.

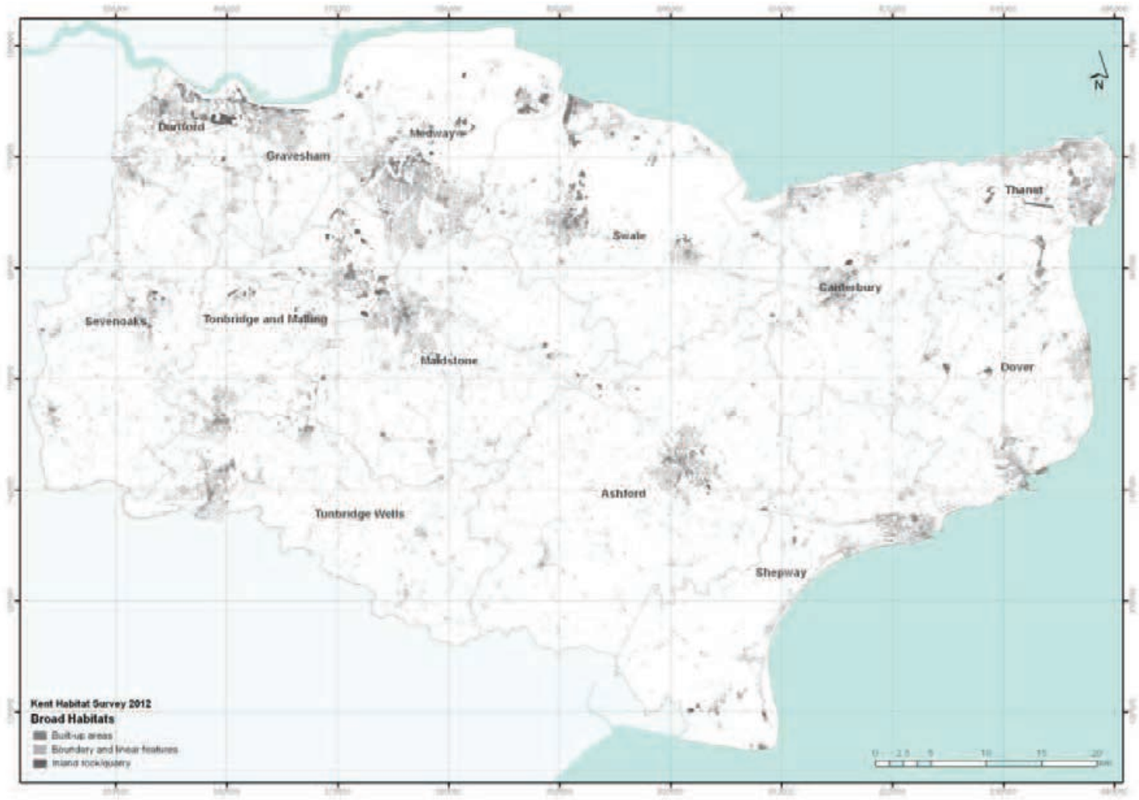
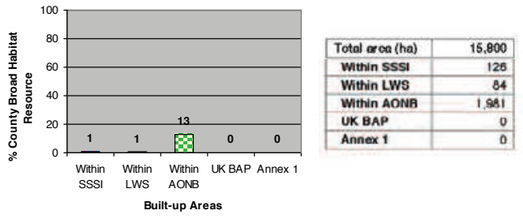


Figure 5.30 Distribution of Inland rock/quarry, built-up areas and boundary and linear features in Kent

There are no UK BAP or Annex 1 habitats associated with boundaries and linear features recorded in Kent. However, this broad habitat class includes hedgerows, some of which are covered by the UK BAP Hedgerows priority habitat definition. This requires hedgerows to contain predominantly at least one woody UK native species (80% or more of cover) and to be longer than 20m and less than 5m wide, with no gaps more than 20m wide. Most hedgerows in Kent will fulfil these criteria and so are covered by the UK BAP designation. However, hedgerows were not targeted for field survey and only a few locations have been recorded by field surveyors. The inclusion of these hedgerows as UK BAP habitat was therefore deemed to be inappropriate, as the composition and state of the hedgerows remained unclear. Any future surveys of Kent's hedgerows should establish the full extent of this important habitat resource.

5.1.9.2 Built-up Areas (UR)

Built-up areas include urban and rural settlements, allotments, farm buildings and yards and other man made built structures such as retail parks, industrial estates, waste and derelict ground, hard standing and other elements of urban transport infrastructure not covered in Boundaries and Linear Features. Unlike the KHS 2003, gardens were not included in this broad habitat class, being classified as Improved Grassland and described below.
Kent has 15,800ha of built-up areas covering 4% of the county (figures 5.30 and 5.31). This is the fifth largest habitat class out of the 22 broad habitat classes described in this survey. By its nature, this broad class has little value for nature and is associated with the loss of natural and semi-natural habitats. Both SSSIs and LWS, as a consequence, are areas that exclude this class where possible, with the result that the cover for this broad habitat class within these designated sites is very small. SSSIs have 126ha, or 0.8% of the broad habitat cover, while LWS have only 84ha, or 0.5%. The AONBs, covering larger areas of the landscape, incorporate 1,981ha or 12.5% of the broad habitat cover within their boundaries.



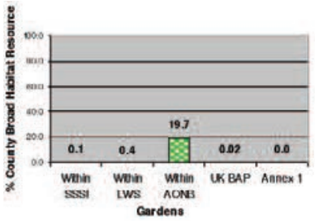
Total area (ha)	15,800
Within SSSI	126
Within LWS	84
Within AONB	1,981
UK BAP	0
Annex 1	0

Figure 5.31 Proportion Built-up Areas that fall within designated areas

5.1.9.3 Gardens (UA)

Gardens have not been shown as a separate broad habitat in table 5.1, since they are part of the Improved grassland broad habitat class and have been recorded as a management code within this habitat. However, they form a large part of the urban landscape and, in the previous KHS, were classed together with the built environment. They are increasingly recognised to be valuable for wildlife, and for the purpose of this survey, are reported separately. It is important to note that the figures given here are a subset of those that have been reported within the section on Improved Grassland 5.1.3.1. The distribution of gardens in Kent is shown in figure 5.6.

Gardens cover 25,232ha, or 6.4% of the county and make up more than a fifth of the improved grassland resource (21.7%) (figure 5.32). Although they have been recorded as improved grassland, most gardens have a mix of habitats which can be important for a range of wildlife. Both native and non-native shrubs, trees and flowers, together with fruit, vegetables, ponds and lawns of varying degrees of improvement combine to create a mosaic of habitats suitable for a range of generalist species.



Total area (ha)	25,232
Within SSSI	13
Within LWS	90
Within AONB	4,968
UK BAP	5
Annex 1	0

Figure 5.32 Proportion of the county's Garden resource that falls within designated areas

Few gardens are found within SSSIs (only 13ha or 0.1% of the resource) or LWS (90ha, 0.4%). The larger landscape areas of the AONBs have 4,968ha, which is nearly a fifth of the recorded gardens.

Gardens have not been the target for field survey, although some larger gardens with grassland areas of interest or traditional orchards were surveyed and 5ha were recorded as being of UK BAP priority habitat, of which most are priority habitat grasslands and traditional orchards.

5.2 UK BAP Priority Habitats and Annex 1 Habitats

Within the semi-natural Broad Habitat classes, described above, are one or more UK BAP priority habitats, which have been recognised as of importance for nature conservation. These habitats have been noted because they support rich or scarce communities, they are particularly fragile, they are very rare within the UK, or any combination of these reasons. The UK BAP priority habitat may contain areas that correspond to one or more Annex 1 habitat (see section 2). The latter are of nature conservation importance within Europe. This section describes the UK BAP priority habitats and Annex 1 habitats recorded within Kent by the Habitat Survey.

For this project, selected priority habitats were targeted for field survey. The main focus was on habitats that were not surveyed fully in 2003, or that were new priority habitats, such as traditional orchards. In addition to the priority habitats of acid and calcareous grassland, lowland meadows and heathland, the main targets included semi-natural grasslands, traditional orchards and, where possible, reedbeds and wet woodland. Although most coastal survey data came from the EA (2006, 2009), some areas of coastal sand dune and coastal vegetated shingle were field surveyed to update habitat records.

During the field surveys, small areas of priority or Annex 1 habitats that were not part of the systematic survey were recorded, such as fens and mesotrophic lakes. It should be noted that the total area described for these habitats is likely to be under-recorded.

Although the survey tried to examine most terrestrial priority habitats within Kent, there are some that occupy a significant area of Kent, but were beyond the scope of this survey, for example hedgerows and ponds. Because of the narrow linear nature and great number of hedgerows within the county, it was impossible to record these features accurately. In contrast, ponds have been recorded where they have been observed during API, and some others have been picked up as incidental observations during the field survey. As a consequence, they are not included as priority habitat in this report, although their presence is recorded within the survey data.

5.2.1 Kent's Priority and Annex 1 Habitat Resource

24 UK BAP priority habitats and 23 Annex 1 habitats have been recorded in this survey. Priority habitats cover 37,479ha or 9.6% of the county area, while Annex 1 habitats cover 14,428ha or 3.7% of the county.

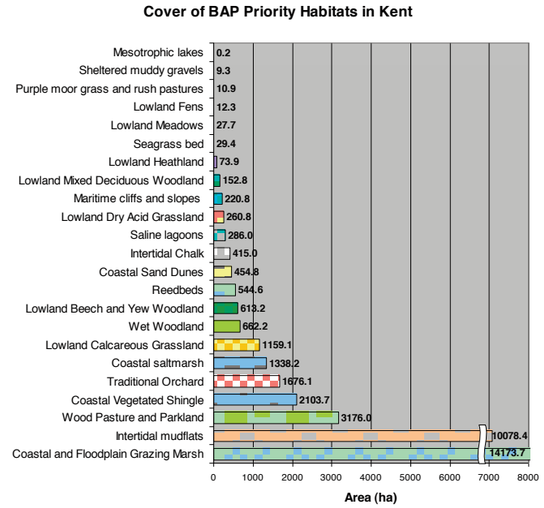


Figure 5.33a Area of UK BAP Priority Habitats in Kent

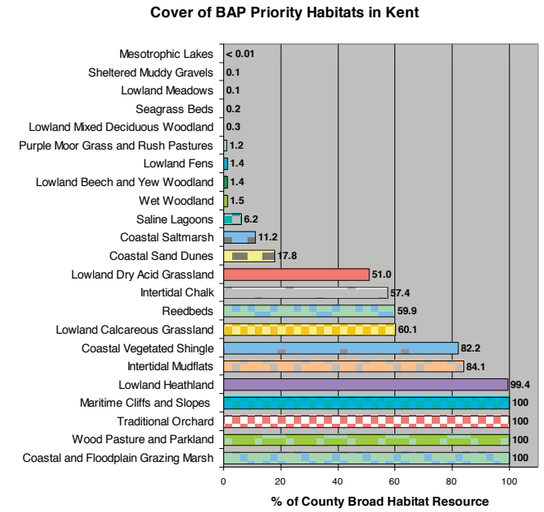


Figure 5.33b Proportion of Kent's Broad Habitats that are UK BAP Priority Habitats

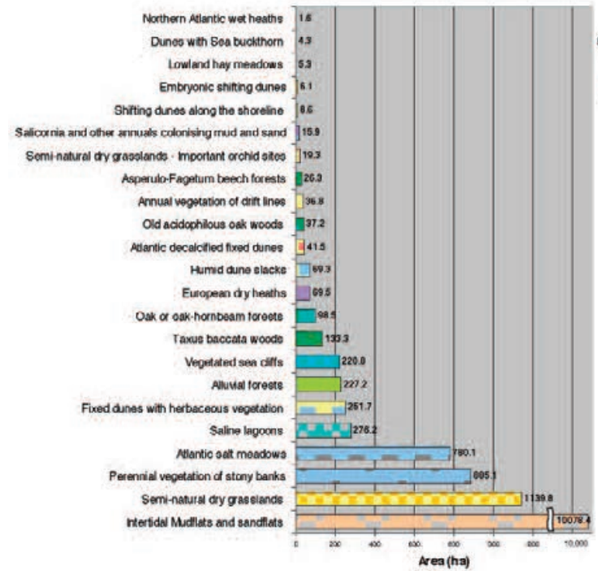


Figure 5.34a Area of Annex 1 Habitats in Kent

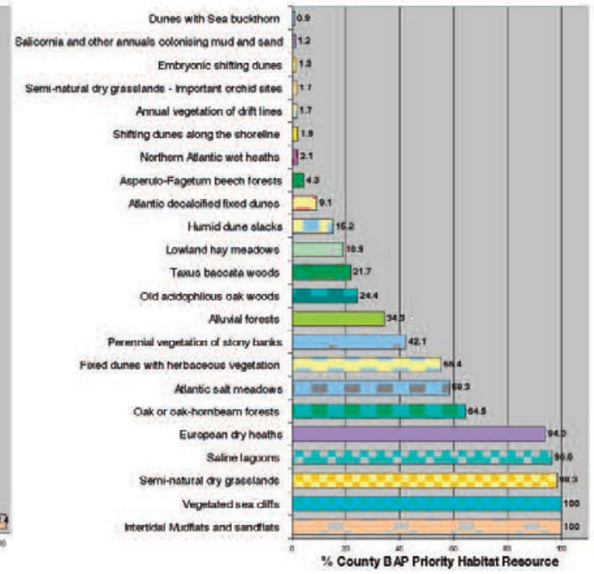


Figure 5.34b Proportion of Kent's UK BAP Priority Habitats that are Annex 1 Habitats

Figures 5.33a and 5.33b show the cover of the UK BAP Priority Habitats in Kent. Annex 1 habitats are shown in figures 5.34a and b.

Figure 5.33a gives the total area in hectares, while figure 5.33b shows the same data but expressed as a percentage of the total broad habitat type. So, for example, the priority habitat Vegetated shingle covers 2,103.7ha, which represents 82.2% of the supralittoral sediment broad habitat resource. Also within this broad habitat type is 454.8ha of coastal sand dunes, which is 17.8% of the broad habitat resource.

For some broad habitat types, such as woodland, the priority habitats cover only a small fraction of the total broad habitat resource. Woodlands support three priority habitats (see section 5.2.7) which cover just 3.2% of the broad habitat resource.

5.2.2 Standing Open Water and Canals

5.2.2.1 Mesotrophic Lakes

Mesotrophic lakes are characterised as having a narrow range of nutrients and are sensitive to artificially increased levels of nitrogen and phosphorus. They support a diverse community of plant and animal species, particularly larger aquatic invertebrates such as dragonflies, stoneflies and mayflies. This is an increasingly rare habitat in the UK.
Ponds and lakes have not been routinely surveyed during this project, but 0.19ha has been recorded as mesotrophic lake priority habitat within a LWS near Lenham. It is possible that there are other waterbodies that correspond to this habitat within Kent, but it would require a specialised survey to establish the full extent and nature of Kent's ponds and lakes.

5.2.3 Fen, Marsh and Swamp

Three priority habitats fall within this broad habitat class and are described below. In Kent, only the Lowland fens priority habitat has a corresponding Annex 1 habitat designation.

5.2.3.1 Lowland Fens

Fens are minerotrophic peatlands that receive their water from rivers, streams and ground water, as well as from rainwater. Most fens are nutrient-rich and support a diverse flora, particularly tall, herbaceous vegetation. Some, however, may be nutrient-poor with vegetation that more closely resembles that of bogs, such as Sphagnum mosses.

Kent has very little lowland fen, with a total of 12.3ha of lowland fen recorded in this survey. Small areas of springs and flushes contribute to this priority habitat, many of which are found at the foot of the North Downs. This habitat type is found along the River Stour, at Hothfield Common and Ham Fen. Hothfield Common has the only Fen Valley Mire in the county. Fen vegetation is also found within natural water bodies on Dungeness, and it is here that the only record of the Annex 1 habitat Calcareous fens with *Cladium mariscus* and species of the *Caricion Davallianae'* is found (J. Dear, personal communication). The area is below the minimum mappable unit and has therefore not been recorded in this survey.

5.2.3.2 Purple Moor Grass and Rush Pastures

This habitat is found on poorly drained, usually acidic soils in areas of high rainfall. The vegetation is generally varied and species-rich, with purple moor grass (*Molinea caerulea*) and rushes (*Juncus* spp.) usually abundant. The characteristic plant communities often occur as a mosaic, together with areas of dry grassland, swamp and scrub.
10.9ha of this priority habitat have been recorded in this survey with a maximum size of 4ha for the largest individual site. The sites include parts of Bedgebury, an area of Chart near Sevenoaks, and Gibbin's Brook near Sellinge.

5.2.3.3 Reedbeds

Reedbeds refer to wetlands that are dominated by stands of the common reed (*Phragmites australis*), and where the water table is at or above ground level for most of the year. This habitat is associated with standing water but may also form on the margins of slow-moving water courses. Small areas of reeds are frequently found along ditches and marsh dykes.
Even small areas can support important populations of species associated with this habitat, such as reed warbler (*Acrocephalus scirpaceus*) and bearded tit (*Panurus biarmicus*), while larger areas are required for one of the most threatened birds in the UK, the bittern (*Botaurus stellaris*).

Where the reedbeds are small and water is the dominant feature, or where the water-body is frequently dredged, this habitat has been recorded as a matrix under the habitat code for water. These areas of reedbed are not included in the priority habitat total for the county.
Kent has 545ha of reedbeds, which is 60% of the fen, marsh and swamp broad habitat type. They are distributed within and along water bodies throughout the county, with the greatest proportion along the River Stour and the River Medway. Larger areas are also found in artificial lakes resulting from gravel extraction, such as those found at Dungeness.

5.2.4 Agriculture and Horticulture

Although this broad habitat class also includes the priority habitat type of Arable field margins, this has not been recorded during the survey. There are no Annex 1 habitats associated with this broad habitat type.

5.2.4.1 Traditional Orchards

This priority habitat has been described in section 5.1.2.2. Old orchards are important historical and landscape features within Kent. They have wildlife value from the lichen and invertebrate populations on the old fruit trees. The noble chafer beetle (*Gnorimus nobilis*), a rare beetle associated with this habitat type, is the subject of a UK biodiversity species action plan. It is dependent on old, decaying wood within live trees, particularly cherry, plum and apple (PTES, 2008). A few traditional orchards have semi-improved grassland that has value for wildlife. However, none of the traditional orchards here had grassland that was of UK BAP quality.

A total of 1,676ha of traditional orchard exist within Kent, covering 0.4% of the county. Where the type of orchard has been noted, the largest proportion is traditional apple orchards, with 429.8ha recorded during the field survey. Cherry orchards had the second highest cover, with 225.6ha. Mixed orchards (97.9ha), pear orchards (69.5ha) and plum orchards (15.8ha) were also recorded. Traditional cobnut platts now cover just 61.8ha.
All of types of orchard have shown a decline in extent over several decades. The 2008 land cover change assessment, based on the habitat survey data presented in this report, shows a decline of more than 65% of the orchard and hops category since 1961. This method of analysis does not separate out traditional from intensive orchards.
The field survey of traditional orchards has observed that many of them are no longer managed for fruit production, and much of the orchard grassland is used as grazing for sheep or horses. In some cases, the orchards have been completely abandoned, which has allowed other habitat types, such as scrub, to develop and, in places, to completely swamp the orchard fruit trees. For many traditional orchards, older trees are now dying and, while this produces habitat for saprophytic invertebrates, the lack of variation in tree age and an absence of replanting using traditional methods will result in the rapid loss of even more of this habitat that has been so closely associated with Kent and the county's fruit production. Traditional orchards continue to be grubbed up as a result of their low economic value.
While not UK BAP priority habitat, hop gardens have been a traditional crop in Kent. These are difficult to classify using API, however, they have been recorded by API and field survey when possible (although not targeted for field survey). There are 462.1ha of this habitat recorded across the county.

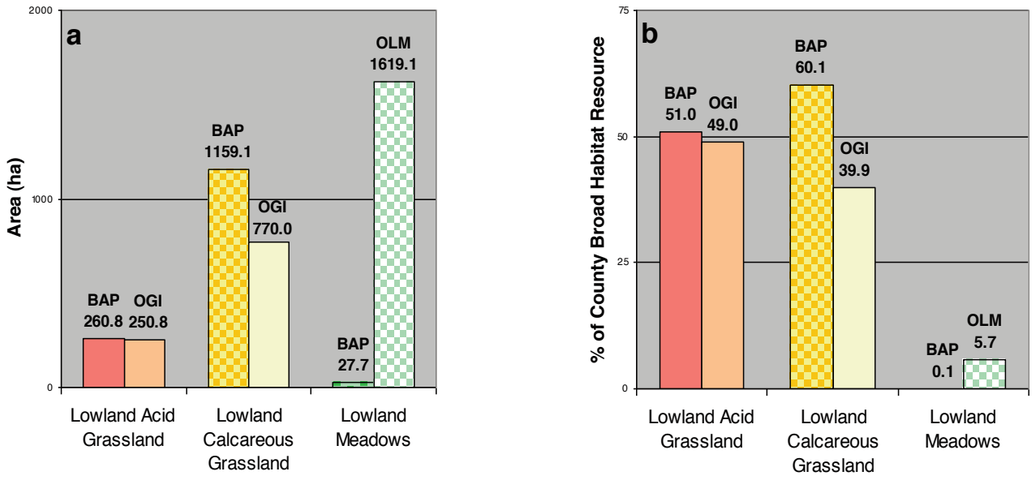
5.2.5 Grasslands

The semi-natural grasslands in Kent cover a range of vegetation communities that are influenced by various environmental factors such as soil conditions (including pH), nutrient levels and management. Each of the main broad habitat classes supports grasslands that fall within a continuum of importance for nature conservation, from species-poor to very species rich. It is these very species-rich or, in the case of dry acid grassland, those most typical of the habitat definition for UK BAP that have been classed as priority habitat.

There are some points that should be noted about the grassland UK BAP priority and Annex 1 habitats recorded during the survey:

- A Grassland Key was developed for this survey to enable grasslands to be classified consistently by all the field surveyors (Appendix 4). However, the standards required for the grassland to be classed as UK BAP priority habitat are particularly rigorous within this key. Most notably, for Neutral grasslands, the requirements that need to be met to class an area as the priority habitat Lowland meadow are higher than those listed in the Natural England Farm Environment Plan (FEP) guidelines (Natural England, 2012)
- The time of survey for priority grassland habitat is critical to ensure that the full complement of flora is evident for the field surveyor to assess. While the field surveyors endeavoured to survey at the appropriate time, it was not always possible to target the areas during these critical periods. As a result, the species recorded may not have been sufficient to class the site as priority habitat, and in these cases such sites are recorded as semi-improved grassland (see below)
- Recent grazing or mowing of a grassland site increased the likelihood of a site being recorded as semi-improved (or in some cases, improved), since key indicator species could not be detected within the sward. It is likely that grasslands of priority habitat quality have been under-recorded if surveyed during or shortly after these management activities
- The survey did not target sites within SSSIs for field survey, unless there were significant differences apparent during the API. Where these had been recorded as UK BAP priority habitat previously, the classification was left unchanged. However, the more detailed IHS classes that denote Annex 1 habitat were not used in previous surveys. It is likely, therefore, that there is under-recording for Annex 1 habitats within this survey

The grasslands that conform to the descriptions of the UK BAP priority habitats are unimproved grasslands, and are often ancient grasslands. They have had no addition of inorganic fertilisers or herbicides and their species-richness is of great value for nature, providing habitat for a range of plants, fungi, invertebrates, small mammals and birds. Many plant species within these grasslands are very sensitive to an increase in soil nutrients and fertility, being lost rapidly when fertilisers are added or where management ceases. Loss of key plant species of unimproved grassland results in the sward being classed as semi-improved (or improved where the plant communities present are very species-poor or have been altered significantly by management). This classification is used in Phase 1 surveys, but was not used in the IHS in 2003, resulting in under-recording of this resource. In



Figures 5.35a (left) and 5.35b (right) Extent of Kent's UK BAP Priority and Semi-Improved Grassland Habitats

this section, the importance of these habitats is emphasised by describing the figures for both UK BAP priority habitat and the county's most species-rich semi-improved grasslands.
For this survey, a semi-improved grassland class exists for neutral, acid and calcareous grassland. Semi-improved acid and calcareous grasslands are important as these are rare habitats in Kent, which could be restored to better quality with appropriate management. With this in mind, such grasslands have been referred to as Other Grasslands of Importance (OGI) in figures 5.35a and b. Neutral grasslands, however, range from very species poor (classed as GNZ, Other neutral grassland in this survey) to almost as species-rich as the UK BAP priority habitat (classed as GN1Z, Other Lowland Meadows). It is the latter class that has significant value for wildlife and is shown as OLM in the figures below.

The UK BAP priority grassland habitats in Kent cover a total of 1,447.6ha (0.37% of Kent) with 1,164.3ha (80.4%) of the UK BAP habitat recorded as Annex 1. A further 2,639.9ha (0.67% of Kent) are semi-improved Grasslands of Importance or Other Lowland Meadow.

Figure 5.35a shows the area of UK BAP Priority habitat grasslands in Kent (BAP) and those recorded as semi-improved grasslands (Other Grasslands of Importance, OGI, for acid and calcareous grassland, Other Lowland Meadows, OLM, for neutral grasslands). Figure 5.35b shows the proportion of the broad habitat resource of Kent that has been recorded for these habitat types.

5.2.5.1 Lowland Dry Acid Grassland

Acid grassland is an open habitat, with plant communities that are able to survive acid soils and often droughty conditions. These communities include continuous, short grassland swards as well as pioneer annual-rich acid loving communities on open areas of parched or sandy soils. The swards contain a diversity of fine-leaved grasses as well as specialist broadleaved plants (forbs). Very dry areas that are devoid of vegetation can support a range of specialist bryophytes (mosses) or lichens. These dry, open areas are also of value to a specialist range of invertebrates such as the green tiger beetle (*Cicindela campestris*).
The grassland swards vary in species-richness, but can contain some uncommon, ephemeral species. In general however, the number of species of broadleaved plants found within acid grassland is lower than found in both neutral and calcareous grassland habitats.

In order to be classed as priority habitat, the grassland had to support indicator grasses, such as velvet bent (*Agrostis canina*), wavy-hair grass (*Deschampsia flexuosa*) or fine-leaved sheep's-fescue (*Festuca filiformis*) frequently within the sward, accompanied by forbs such as heath bedstraw (*Galium saxatile*) and tormentil (*Potentilla erecta*). Other indicators are ephemeral species such as early hair-grass (*Aira praecox*), parsley-piert (*Aphanes arvensis*) and bird's-foot (*Ornithopus perpusillus*).
Where these indicator species are absent or present less than frequently within the sward, the grassland was classed as semi-improved acid grassland.
The ephemeral nature of some flower and grass species used to identify UK BAP priority habitat makes identification difficult outside the optimal survey season (Spring). The exact timing of survey is affected by seasonal weather, and a period of drought can shorten the time when ephemeral plants can be observed.

Acid grassland is often found in a mosaic with other habitats such as lowland heathland. Where acid grassland is present on shingle, for example at Dungeness, it has been recorded as part of the Coastal Vegetated Shingle UK BAP priority habitat class.
This grassland is one of the rarest and most threatened habitats in Kent. As can be seen from figures 5.34a and 5.35a, it covers the smallest area of all the semi-natural grasslands apart from Maritime Grassland (part of the Maritime Cliffs and Slopes UK BAP priority habitat). Only 260.8ha of UK BAP Priority habitat is found across the county. This represents 51% of the total Acid Grassland broad habitat class (figure 5.35b), but is only 0.07% of the area of Kent. The largest areas of acid grassland are found around Knole Park in Sevenoaks, and Hatch Park near Ashford. In general, the habitat is found in small, discrete areas with significant distances between them, producing a highly fragmented landscape for acid grassland-loving species.
A small amount of grassland has been recorded as GA14 Lowland humid acid grassland (*Agrostis curtisii*), which is a grassland type of south and south west England. It is a habitat of wet or waterlogged, acidic soils. The indicator species bristle bent (*Agrostis curtisii*) is not found in Kent, but this class was used as there is no other wet acid grassland class within the IHS classification.
Almost half of the Acid Grassland broad habitat class has been recorded as Other (semi-improved acid) Grassland of Importance (OGI, 250.8ha, 49% of the resource). As mentioned above, it is likely that some of this would be priority habitat if it was surveyed at the correct time, or in the absence of mowing or grazing.
Although not officially UK BAP priority habitat, the scarcity of the total acid grassland resource and the difficulty in identifying the priority habitat out of season means that the OGI should be considered to be a modified UK BAP habitat, with potential to become priority habitat with appropriate management.
There are no Annex 1 habitats associated with lowland dry acid grasslands in Kent.

5.2.5.2 Lowland Calcareous Grassland

Lowland calcareous grassland in Kent forms a significant proportion of the UK's calcareous grassland habitat. The habitat is found on alkaline substrates, such as the chalk of the North Downs and areas of ragstone within the Wealden Greensand.
The habitat can support a very rich flora, particularly where grazing prevents the development of coarser grasses, such as upright brome (*Bromopsis erecta*) or tor-grass (*Brachypodium pinnatum*), or the invasion of scrub within grassland swards. The habitat can support a diversity of rare plants, including many species of orchid, such as man orchid (*Orchis anthropophora*), late spider orchid (*Ophrys fuciflora*) and monkey orchid (*Orchis simia*).

Rich invertebrate communities are associated with this type of grassland, with scarce species such as Adonis Blue (*Polyommatus bellargus*) and Silver-spotted Skipper (*Hesperia comma*) requiring the warm, south-facing slopes and specialist vegetation found in calcareous grassland within Kent.
Typically, the most species-rich calcareous grassland in Kent is found on the steeper scarp slopes of the North Downs. At the top and bottom of chalk slopes, deeper and more fertile soils have developed. These areas may support some of the more vigorous chalk-loving species, but generally they resemble more neutral grasslands and have been classed as such in this survey.

To be classed as UK BAP priority habitat for this survey, the calcareous grassland sward needed to contain frequent occurrences of indicator grass species, such as sheep's fescue, meadow oat-grass (*Avenula pratensis*) or quaking-grass (*Briza media*) together with four or more indicator forbs such as salad burnet (*Poterium sanguisorba*, previously *Sanguisorba minor*), rock-rose (*Helianthemum nummularium*), small scabious (*Scabiosa columbaria*) or horse-shoe vetch (*Hippocrepis comosa*). Where the indicator grasses were absent or less than frequent, or where there were fewer than four indicator forbs present or less than frequent and there was evidence of improvement, the sward was classed as semi-improved calcareous grassland.
Figures 5.35a and b show that more than 60% of Kent's calcareous grassland resource can be classified as UK BAP priority habitat. This covers just 0.3% of the area of Kent. Most of this is found along the North Downs, with important areas in Dover (Lydden and Temple Ewell Downs SAC) and within Shepway.
The semi-improved type of calcareous grassland accounts for 770ha, which is 49% of the broad habitat type. Much of this grassland has lost species-richness through lack of management, with increased coarse grasses and scrub out-competing and out-shading the finer grasses and forbs that make calcareous grassland such an important habitat for nature.
Some calcareous grassland had been improved through the use of fertilisers, herbicides or through physical disturbance. Physical disturbance of calcareous grassland by activities such as ploughing adversely affects the plant communities present within this habitat, with the loss of many indicator species. Some species, such as rock-rose, are so sensitive to disturbance their presence is thought to be indicative of ancient grassland (Alard et al, 2005).
In contrast, the survey noted some areas of semi-

improved grassland that were being restored from land previously used for arable farming. These areas supported some typical species of calcareous grassland but they lacked sufficient cover of indicator species to be classified as priority habitat. It is possible that, with appropriate management, such sites could develop a more species-rich flora that may enable them to be recorded as UK BAP priority habitat in future.

There are two Annex 1 habitats for this priority habitat type:

1. Semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*), referred to in Figures 5.34a and b as 'Semi-natural dry grasslands'.
2. Semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*)(Important Orchid Sites), referred to in Figures 5.34a and b as 'Semi-natural dry grasslands – Important orchid sites'.

All UK BAP calcareous grassland priority habitat in Kent is classed as Annex 1 habitat (JNCC, 2007). However, areas that contain important populations of one or more specialist orchid species as frequent within the sward, are classified as the second type mentioned above. As well as man, late-spider and monkey orchid, the list includes lizard orchid (*Himantoglossum hircinum*), lady orchid (*Orchis purpurea*), burnt orchid (*Neotinea ustulata*, previously *Orchis ustulata*) and early-spider orchid (*Ophrys sphegodes*).
Figures 5.346a and b show that there are 1,139.8ha of Annex 1 Semi-natural dry grasslands, representing 98.3% of the county's UK BAP priority habitat, with only 19.3ha, or 1.7% corresponding to the Important orchid sites class.
The low cover for the important orchid sites Annex 1 class may reflect the rarity of these orchids across the county. However, there may be some under-recording of the indicator orchids. The most important areas for calcareous grassland in Kent are within SSSIs, and since these areas were not routinely targeted for field survey, this type of habitat would not have been recorded. Additionally, these orchids do not all flower at the same time of year, and there was not time for repeat visits to sites.

5.2.5.3 Lowland Meadows

The neutral grasslands are the largest of the grassland broad habitat types across the county. The class covers a range of grassland plant communities with varied species-richness, from quite species-poor and moderately improved grasslands, through degrees of semi-improved habitat to the few areas in Kent that are closest to unimproved grassland. These are species-rich and can be classed as the UK BAP priority habitat Lowland Meadows. Traditionally managed as hay meadows, the diverse flora of this habitat type is both visually appealing and of high value for wildlife.
In order to be classed as priority habitat for this survey, the grassland had to support a range of key grass and forb species frequently within the sward (Appendix 4). These could be strong indicator species such as green-winged orchid (*Anacamptis morio*), Adder's tongue (*Ophioglossum vulgatum*), Dyer's greenweed (*Genista tinctoria*) or pepper saxifrage (*Silaum silaus*), where one or more of these indicators were required for the sward to be Lowland Meadow. These species are dramatically affected by nutrient enrichment, and their presence is a good indicator of grassland of conservation importance.
In the absence of strong indicators, the presence of four or more moderate indicator species, for example Lady's bedstraw (*Galium verum*), yellow rattle (*Rhinanthus minor*), bird's-foot trefoil (*Lotus corniculatus*), common knapweed (*Centuaria nigra*) and ox-eye daisy (*Leucanthenum vulgare*) enabled grasslands to be classed as priority habitat. These species were found more widely across many sites, but finding four of these key species at sufficient frequency within a sward was a rare occurrence.
Of the county's 28,531ha of neutral grassland, just 27.7ha (less than 0.1%of the broad habitat type) was recorded as Lowland Meadow priority habitat. This small fraction of high quality grassland is a reflection of how these lowland meadows have been lost through agricultural improvement and the abandonment of traditional hay meadow management in Kent. Most of this habitat type conforms to the NVC class MG5 *Cynosurus cristatus – Centaurea nigra* plant community.
In many more grassland areas, the number of moderate indicators did not reach the number or frequency for the sward to be classed as priority habitat, although the grassland composition was clearly similar to the MG5 plant community. Such swards often contained a number of species that were considered weak indicators of meadow grassland, such as yellow oat-grass (*Trisetum flavescens*), lesser stitchwort (*Stellaria graminea*), bulbous buttercup (*Ranunculus bulbosus*) or sweet vernal grass (*Anthoxanthum odoratum*). In these situations, the grasslands were classed as Other Lowland Meadows, a class indicating that this was semi-improved grassland of moderate to high species-richness.
The survey has recorded 1,619.1ha, or 5.7% of the neutral grassland broad habitat resource, as Other Lowland Meadows. Even this semi-improved class represents a very low proportion of the county's neutral grassland resource.

While there is a range of species-richness within this category, most of these grasslands have significant wildlife and/or conservation interest and should be considered to have value as a modified UK BAP habitat. As mentioned in section 5.2.5, the grassland key developed for the survey uses standards for neutral grassland priority habitat that are higher than those required for restored or recreated grasslands in the Natural England Farm Environment Plan guidelines. If the survey had followed these guidelines, it is highly likely that a proportion of grasslands within the Other Lowland Meadows category would be classified as Lowland Meadow priority habitat.
How the survey has defined the composition required for priority habitat may explain why the survey in 2003 recorded a greater area of Lowland meadow during the survey. With 71ha mapped as priority habitat in that survey, there has been an apparent loss of 43.3ha of this valuable habitat resource over 10 years.

Since the previous survey, the neutral grassland classes have been increased to describe the different NVC classes that make up the UK BAP priority and Annex 1 habitats (see section 2.3.1). In 2003, the neutral grasslands were either classed as priority habitat or as 'Other neutral grasslands'. This latter category still exists within the current survey, but has been used for species-poor semi-improved grasslands, or those with an unusual florisitic composition, such as in areas of disturbance.
The more diverse swards that this survey has classed as Other Lowland Meadows were historically recorded within this large neutral grassland class, but flagged as species-rich. In order not to lose the most species-rich swards in a mass of neutral grassland of varying quality, it is likely that some of these areas were upgraded into the priority habitat class.
An alternative, but less likely, explanation is that changes in the traditional management of neutral grassland in Kent, through improvement, inappropriate or reduced management, has resulted in a 60% decrease in this rare and valuable habitat resource since 2003.
A very small area of Lowland Meadow priority habitat has been recorded as forming part of the NVC MG4 Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) plant community. A total of 5.3ha were recorded from two different areas in Kent (Figure 5.33a). This is the first record of this type of habitat in the county, and represents 18.9% of the UK BAP priority habitat resource, and just 0.019% of the neutral grassland broad habitat resource. This class corresponds to the Annex 1 habitat Lowland Hay Meadows (*Alopecurus pratensis, Sanguisorba officinalis*), a very scarce resource within the UK. The records of this habitat within this survey may reflect a difference in timing of the field surveys, with the current survey detecting habitat that was present but unrecorded in the previous surveys.

5.2.6 Dwarf Shrub Heath

5.2.6.1 Lowland Heathland

Heathland in Kent has been described in section 5.1.4.1. As mentioned previously, this is a rare habitat in the county, being found in small areas that are considerable distances from each other. The habitat is fragile, and is susceptible to scrub and tree encroachment through lack of management, and over-growth of bracken. The small size and fragmentation of this habitat can negatively affect specialist species that are associated with heathland. The presence of characteristic flora and fauna are important indicators of heathland habitat quality. Reptiles, such as lizards, adder (*Vipera berus*) and grass snake (*Natrix natrix*) may be found in open areas. The green tiger beetle (*Cincidela campestris*), mining bees and rare spiders are among the many invertebrates found within Kent's heathlands. Birds, such as the Dartford warbler (*Sylvia undata*), European nightjar (*Caprimulgus europaeus*) and tree pipit (*Anthus trivialis*) visit heathland habitats during the summer.

Kent has only 73.4ha of Lowland heathland UK BAP priority habitat, with nearly 90% of this being within either SSSIs (30.6%) or LWS (57.2%). It is mostly found within the NCAs Wealden Greensand and High Weald, although 22.1% is within the North Kent Plain and a small amount in the North Downs. In the west of the county, heathland can exist under woodland, and as a result, there may be areas that are imperfectly mapped. All heathland in Kent is covered by the UK BAP priority habitat classification.

The UK BAP heathland priority habitat in Kent has plant communities that conform to two Annex 1 habitats. European dry heaths and Northern Atlantic wet heaths with *Erica tetralix*. Wet heath has only been recorded at Hothfield Common, where 1.56ha has been recorded. It should be noted that it is difficult to map accurately, the boundary between wet and dry heathland, but this figure is considered to be a reliable representation of the extent of this habitat in Kent. The European dry heath classification can be applied to 69.40ha of Kent's heathland (figure 5.10).

5.2.7 Broadleaved, Mixed and Yew Woodland

There are three UK BAP priority habitats that apply to the woodland broad habitat in Kent. A total of 1,428ha of woodland are priority habitat, representing 3.3% of the county's woodland resource, although there is likely to be some underestimation due to the lack of field survey for woodlands across the county. The different UK

BAP priority habitats refer to semi-natural woodlands with different vegetation communities depending on various soil and environmental factors. The management of woodlands within these habitat classes can vary from high forest through to active coppice. Many of the most important areas are ancient woodland, with rich and varied ground flora reflecting a long history of continuous woodland cover. Priority woodland in Kent is important for several UK BAP priority species, such as the heath fritillary butterfly (*Mellicta athalia*), the hazel dormouse (*Muscardinus avellanarius*) and birds such as the turtle dove (*Streptopelia torture*).

5.2.7.1 Lowland Beech and Yew Woodland

This UK BAP Priority habitat encompasses beech and yew woodlands of both acid and chalk soils. These have different vegetation types and are described in different subclasses within IHS.
Beech and yew woodland is found along the steeper chalk scarp slopes of the North Downs and supports some uncommon or rare plants, including box (*Buxus sempervirens*) and Lady orchid (*Orchis purpurea*). Another variation of beech woodland, occurs on the heavier neutral-slightly acidic soils in the High and Low Weald and some areas of the Kent Downs. These woodlands may lack a shrub layer, and there is often a richer herb layer than in acidic beech woodlands, although bramble (*Rubus fruticosus*) is frequently found in the ground layer. Acidic beech woodland occurs on light sandy or sometimes gravelly, well-drained soils (pH 3.5 to 4.5), frequently with holly as the understorey, but sometimes with yew. The woodlands have a rich ground flora, and 'old growth' characteristics. This type of woodland is found on the Greensand Ridge, the Blean and in the High Weald.

These beech woodlands are of high conservation importance and are covered by Annex 1 of the EU Habitats Directive (*Asperulo-Fagetum* beech forests). In some beech woodlands, more commonly on chalk soils, there are stands where yew is dominant within the woodland and this habitat is covered by the Annex 1 habitat definition for *Taxus baccata* woods of the British Isles.

There are 613.2ha of Lowland beech and yew woodland recorded in the current survey across the county (figures 5.33a and b). The majority of this priority habitat is found within the Kent Downs, predominantly in Ashford, Maidstone and Sevenoaks districts.
Within this priority habitat woodland, there are 26.3ha of the Annex 1 *Asperulo-Fagetum* beech forests, which represents 1.8% of Kent's woodland BAP resource and 0.2% of the UK's Annex 1 resource (JNCC, 2007; figures 5.34a and b). The survey has recorded 133.3ha of Annex 1 habitat *Taxus baccata* woods of the British Isles, which represents 9.3% of the Kent woodland BAP resource and 10.1% of the UK extent of yew woodland (JNCC, 2007; figures 5.34a and b).

5.2.7.2 Wet Woodland

Wet woodlands are found in areas of poorly drained or seasonally wet soils. They can contain tree species such as alder (*Alnus glutinosa*), birch (*Betula* spp) and willow (*Salix* spp.) on wet soils of river banks, marshes, floodplains and mires. In drier areas, oak (*Quercus* spp.), ash (Fraxinus excelsior) and beech (*Fagus sylvatica*) may form part of the canopy. The boundaries with dry land woodland may be distinct or diffuse, depending on the underlying hydrology of the soils. They often form a mosaic within dry woodland and, for this reason, are difficult to map accurately.
Several types of wet woodland can be distinguished and are described in more detail below. On wetter soils of marshes and fens, and along rivers, shrubby willow species can form a low, sprawling woodland known as willow carr. In other areas, alder is the dominant tree, frequently growing in linear strips along rivers and around ponds and lakes. In some woodlands, old alder has been coppiced, a traditional practice that may have kept the woodlands from succeeding to drier woodland.
Wet woodland supports a range of uncommon species, with ground flora that require wet or humid conditions, such as many bryophytes (mosses and liverworts), ferns such as the marsh fern (*Thelypteris palustris*), sedges (*Carex* spp.) and forbs such as alternate-leaved golden saxifrage (*Chrysosplenium oppositifolium*). Dead wood within the woodland sites can be frequent, and its association with water provides specialist habitats not found in dry woodland.

The distribution of this type of woodland has not been well described in Kent and, although this habitat was a target for field survey, because of the difficulty in distinguishing this habitat during API, there is likely to be an underestimation of this habitat type. Moreover, even when wet woodland has been field surveyed, mapping the boundaries within dry woodland is very difficult. It is an important part of the landscapes in the High and Low Weald, as well as the Wealden Greensand and North Kent Plain.

There are 662.2ha of wet woodland recorded in Kent, which represents 1.5% of the woodland broad habitat. All of this is UK BAP priority habitat, and is 46.3% of the total woodland BAP habitat recorded in Kent. This woodland habitat was a target for the current survey as it had previously been underrecorded, and the fact that it is the largest woodland priority habitat may reflect this greater survey effort. Nevertheless, it is still felt that there are areas of wet woodland in Kent that the survey has failed to detect as a result of the difficulty in identifying this habitat through API.

The Annex 1 habitat type that is present in Kent is Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*). This is riverside woodland of alder *Alnus glutinosa* on alluvial floodplains in various situations including on braided channels of fast flowing rivers, on islands in river channels, on low-lying wetlands or fringes alongside the channel, and in estuaries. This habitat type occurs in small fragments with diffuse boundaries, often in transition to dry woodland. *Alnus glutinosa* is constant and often dominant in the canopy, but with willows *Salix* spp. especially *Salix fragilis*, *Fraxinus excelsior*, and *Betula pubescens* often common. On the drier margins *F. excelsior*, and *Ulmus* spp., may become abundant. The survey has recorded 227.2ha of this Annex 1 habitat type (figures 5.34a and b), which is 34.3% of the wet woodland BAP habitat and represents 3.5% of the UK's Annex 1 resource.

5.2.7.3 Lowland Mixed Deciduous Woodland

This UK BAP priority habitat, refers to semi-natural woodlands growing on a wide range of soil conditions, from very acidic to base-rich, and includes most semi-natural woodland in southern and eastern England. Many of the woodlands are ancient woods, and tend to be small, often with coppicing. A great variety of species composition is found within the canopy layer and ground flora. This priority habitat should not be confused with the IHS class of Mixed Woodland, WB1, which refers to woodland containing both broadleaved and coniferous trees, where both are present and comprise more than 20% of the canopy.
There are 152.8ha of lowland mixed deciduous woodland recorded in Kent, which is just 0.3% of the woodland broad habitat resource. Most of this is found within the North Kent Plain and the North Downs NCAs, with 64.5% within Canterbury District. 22.2% in

Dartford District with Maidstone having a further 6.9%. It is very likely that this resource is under-recorded due to the lack of systematic woodland survey for this project.

Within this class are two subclasses of woodlands covered by Annex 1 of the Habitats Directive: Old acidophilous oak woods with *Quercus robur* on sandy plains and Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*

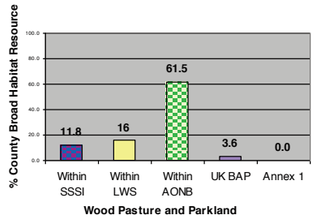
Old acidophilous oak woods with *Quercus robur* on sandy plains are oak woodlands on acid soils, containing pedunculate oak, silver birch (*Betula pendula*) and downy birch (*B. Pubescen*) often mixed with rowan (*Sorbus aucuparia*) and aspen (*Populus tremula*). Locally, sessile oak (*Q. petraea*) may be abundant. The acidic, sandy or gravelly substrates support a poorly developed shrub layer that may include alder buckthorn (*Frangula alnus*). The herb layer is also generally species-poor, with acid-loving sub-shrubs of bilberry (*Vaccinium myrtillus*) and ling (*Calluna vulgaris*), and grasses such as wavy-hair grass (*Deschampsia flexuosa*) and creeping soft-grass (*Holcus mollis*). It is often invaded by bracken (*Pteridium aquilinum*). The woods tend to be small, less than 20ha, and often there will be evidence of past coppicing. On very acid soils, these woodlands may reflect former wood-pastures of oak and birch. These woodlands are impossible to detect through API alone, and therefore have not been fully recorded across Kent. However, an example of this type of woodland is found at Dartford Heath. Just 37.2ha of this woodland habitat have been recorded in the survey, which is 24.4% of the UK BAP Lowland mixed deciduous woodland priority habitat type. This is only 0.8% of the UK Annex 1 resource (JNCC, 2007).

Woodlands forming Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli* are found on damp, acidic silts and clays only in the south-east England, where hornbeam is within its native range in semi-natural woodlands. In Kent, these are mainly woodlands where hornbeam coppice is found interspersed with stands of pedunculate oak and introduced sweet chestnut. Great wood-rush (*Luzula sylvatica*) and hairy wood-rush (*L. pilosa*) are typical species, with southern wood-rush (*L.forsterii*) locally dominant in the ground flora. Other species characterisitic of this habitat are honeysuckle (*Lonicera periclymenum*), ivy (*Hedera helix*) and greater stitchwort (*Stellaria holostea*). To be included in this Annex 1 woodland subclass, the ground flora should not contain an abundance of bluebells, as this is more typical of Atlantic bluebell-oak forests which fall with the WB36Z class (JNCC, 2007). This Annex 1 woodland is found within the Blean, near Canterbury, where hornbeam and introduced sweet-chestnut (*Castanea sativa*) coppice are interspersed with pedunculate oak (*Quercus robur*). The site is a SAC, designated for this habitat type.
A total of 98.5ha of oak-hornbeam woodland has been recorded within the survey, just 0.2% of Kent's woodland broad habitat resource (figures 5.33a and b). This represents 64.5% of the UK BAP priority habitat type, and is almost 9.9% of the UK's resource of this Annex 1 habitat (JNCC, 2007).

5.2.8 Wood Pasture and Parkland

This UK BAP priority habitat type is recorded as a complex within the IHS classification, and refers to a mosaic of habitats comprising trees and scrub in grassland, where the trees are most often ancient or veteran.
The value for this priority habitat type comes from the range of specialised and varied habitats found within the landscape. The presence of ancient or veteran trees provide such microhabitats as old bark, dead or decaying wood, holes and splits that support a range of insects, fungi and lichens. The grassland component of the complex is frequently grazed and provides open vegetation and habitat for a variety of plants and animals. Dung from grazing animals adds a further component to the invertebrate and fungal diversity of this habitat. Scrub, where present, provides important nectar sources for invertebrates, although this may be absent or fragmented where the habitat is grazed. The importance of this complex comes from the long continuity in the management and/or the structure of the land, with very long-lived trees supporting significant amounts of dead and decaying timber.
The priority habitat covers traditional deer parks as well as 19th Century parklands where they contain elements of earlier agricultural landscapes. Older wood pasture and parkland may have been converted to arable use, forestry or amenity land, but these may still contain veteran trees. However, in the current survey, habitat where old or veteran trees exist within an arable landscape have not been considered as part of the priority habitat type.
A desk study was carried out in 2008 (M. Davies, 2008) to identify areas of wood pasture and parkland in Kent. However, where some of these areas were included in the field survey, it was found that a proportion could not be classed as the priority habitat type as the age of the remaining trees and quality of the grassland and landscape did not reflect the UK BAP definition.

Within this classification as a complex, there are several different habitat types. There are 150.5ha of bracken and 34ha of broadleaved, mixed and yew woodland, with 1.7ha of coniferous woodland classified as this priority habitat type. Grassland habitats include improved



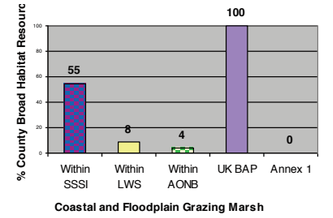
Total area	3,176
Within SSSI	373
Within LWS	510
Within AONB	1,954
UK BAP	114.4*
Annex 1	0

Figure 5.36 Distribution of Wood Pasture and Parkland within Designated Areas

(1846.1ha) and neutral grassland (871ha) with 77.6ha of Other Lowland Meadows, as well as priority habitats acid (unimproved 110ha, semi-improved 34.1ha) and calcareous grassland (unimproved 4.1ha; semi-improved 46.9ha). It should be noted that, where habitats that are part of other priority habitat categories are also classed as wood pasture and parkland, the figures for these areas have also been included in alternative priority habitats. As a result, there is an element of double counting for this priority habitat, and for another priority habitat recorded as a complex, that of coastal floodplain grazing marsh described below. As shown in the table in figure 5.36, 114.4ha has been classified within other priority habitats and is also shown here as part of the wood pasture and parkland priority habitat total area.
Although this is an important habitat type, both for the landscape history and the natural heritage contained within it, only slightly more than a quarter (27.8%) is within either SSSIs or LWS, although more than 60% is found within an AONB. Important sites in Kent for this priority habitat are Knole Park in Sevenoaks and Hatch Park in Ashford.

5.2.9 Coastal and Floodplain Grazing Marsh

Coastal and floodplain grazing marsh is a UK BAP priority habitat type that is described in the IHS classification as a complex. It encompasses several habitat types that form part of the grazing marsh landscape of coastal and floodplain areas of rivers. Here, it refers to grassland of pastures or meadows that are periodically inundated, and that have ditches containing brackish (in coastal areas) or fresh water (in river floodplains). There may be some seasonal water-filled hollows and permanent ponds with emergent tall vegetation, such as reeds, but not extensive areas of these. The complex code can also be applied to other habitats, such as more extensive areas of wetlands, as well as scrub and wet woodland, but these are not part of the priority habitat described here.
Floodplain grazing marsh has been created through the draining of river floodplains, while coastal grazing marsh was similarly created through the drainage of saltmarshes. Continuous grazing or cutting of the vegetation has maintained their open aspect.
The grassland within this priority habitat can vary from very species-poor, improved grassland to quite species-rich or very specific grazing marsh grassland, developed over centuries of continuous grazing. The latter type is fairly uncommon and contains species of conservation importance such as strawberry clover (*Trifolium fragiferum*), divided sedge (*Carex divisa*), sea barley (*Hordeum marinum*) and slender hare's-ear (*Bupleurum tenuissimum*). All too frequently, this type of grassland has been lost to improvement or over-grazing.
The ditches within the grazing marsh landscape are integral to the importance of this habitat and can be very species-rich, both for flora and fauna. The nationally scarce greater water-parsnip (*Sium latifolium*) is found in some grazing marsh ditches of Romney Marshes. However, as with the grassland, the wildlife value of the ditches is variable, depending on surrounding grassland management. Additionally, depending on the proximity to the coast, the ditches can vary in their salinity, between fresh water to quite brackish, and this, in turn, affects the plant and wildlife communities present within them. Grazing marsh ditches can be especially rich in invertebrates, as well as supporting populations of the protected water vole (*Arvicola amphibius*). In addition, the grasslands are important for a number of breeding waders, such as snipe (*Gallinago gallinago*), lapwing (*Vanellus vanellus*) and curlew (*Numenius arquata*). Internationally important populations of wintering wildfowl also use this habitat, such as Bewick and whooper swans (*Cygnus bewickii*, *C. cygnus*).



Total area	14,174
Within SSSI	7,725
Within LWS	1,196
Within AONB	550
UK BAP	0.57*
Annex 1	0

* Other UKBAP priority habitat recorded within the complex

Figure 5.37 Distribution of Coastal and Floodplain Grazing Marsh within designated areas

Within Kent, this is the UK BAP priority habitat with the greatest cover: 14,173.7ha or 3.6% of the county's surface area is grazing marsh (figures 5.33a and b). All coastal and floodplain grazing marsh, by definition, is priority habitat, however a small amount (0.57ha, 0.004% of the total priority habitat area) of the grassland is priority habitat in its own right – in this case lowland meadow. As for Wood pasture and parkland, this area has been counted both within Lowland meadows and the Coastal and floodplain grazing marsh habitats. Unlike many of the priority habitats that are found very




specifically associated with certain districts, all districts in Kent contain some coastal and floodplain grazing marsh. The majority is found within Swale and Medway, associated with the marshes of the North Kent coast, as well as the grazing marshes of Romney Marsh within Shepway.
Slightly more than half of this priority habitat (55%, 7,725ha) is found within SSSIs and a further 8% (1,196ha) is within LWS (figure 5.38). Only 4%, or 440ha, is found within an AONB. None of the habitat described here falls within an Annex 1 habitat definition.

5.2.10 Littoral Rock

Littoral (intertidal) rock habitats include bedrock, boulders and cobbles found in the zone between mean high and low water marks. The geology and wave exposure of the shore influence the form, which can be as varied as vertical rock, shore platforms, boulder shores, or rocky reefs surrounded by areas of sediment. Gullies and crevices provide micro-habitats for marine life to colonise. Community variation also depends on other physical aspects, such as twice daily changes in exposure to seawater and air, wave action, temperature and salinity. The flora of littoral rock includes zones of marine algae, which attach to and overlie the rocks. Their distribution between the tidal extremes is associated with the particular environmental conditions to which they are exposed.
In Kent, the geology of the littoral rock includes tabular sandstone, London clay and greensand, but the majority of the rock is chalk. A small section of lower greensand, around Folkestone, represents a single area of harder natural intertidal rock found along the Kent coastline,and this is important in supporting algal communities and species not found on natural surfaces elsewhere in the region, such as the brown algae channeled wrack (*Pelvetia canaliculata*).

Relatively soft rock such as chalk and limestone can support boring species, whereas colonisation of harder rock is limited to the rock surfaces. In all cases there is a distinct zonation of species down the shore which principally reflects the degree of immersion and emersion by the tide.
Only one UK BAP priority habitat has been recorded within this survey, that of intertidal chalk.

5.2.10.1 Intertidal Chalk

Coastal and marine chalk is a globally scarce resource, with 56% of England's chalk coastline being found in Kent (UK BAP, 2008). Thanet has a 23km stretch of coastal chalk that represents a significant proportion of the European total of this habitat.
The soft rock of intertidal chalk supports a range of species that can live on and within the rock. The chalk platforms around Thanet and Dover support a good diversity of algae, dominated by bladderwrack (*Fucus vesiculosus*) and saw wrack (*Fucus serratus*), with other algae such as sea lettuce (*Ulva lactuca*) and oarweed (*Laminaria digitata*). Specialist invertebrates are able to burrow into soft chalk reefs causing erosion. These include several species of bivalve molluscs called piddocks (*Pholadidae*) and *Polydora* worms. In some areas of chalk reef, deep gullies are formed with shaded overhangs created by scouring of the soft chalk. Further habitat complexity is provided by the periodic falls from the chalk cliffs, depositing large boulders out onto the intertidal zones. These can support unusual and rich communities of attached animal life on the damp and shaded undersides, featuring sponges, seasquirts and bryozoans. This habitat in Kent supports several protected or rare species, including three species of stalked jellyfish, rossworm (*Sabellaria spinulosa*), which (unusually) forms reefs on intertidal chalk in Kent, the sponge *Clathria* (*Microciona*) *strepsitoxa* and the seaslug *Hermaea bifida*.

There are 415ha of intertidal chalk around the coastline of Kent. Most of this is to the north and east of the county. This represents 57.4% of the littoral rock broad habitat type. No Annex 1 habitat relate to this priority habitat type.

5.2.11 Littoral Sediment

Littoral sediment sits in the intertidal zone, between the high and low tide marks. Areas of littoral sediment are widespread around the Kent coast, forming features such as beaches, intertidal mudflats and coastal saltmarsh. The sediments include shingle, gravel, sand and mud or any combination of these. The type and composition of sediment depends on the extent of the wind and wave action. Mobile coarse sands and shingles are deposited at high-energy beaches and estuary mouths, while finer silts and clays are deposited in upper estuaries and sheltered bays.

Different littoral sediments attract different species and the invertebrate populations associated with the habitat can be very large but with relatively few different species. The finer sediments support high numbers of burrowing invertebrates, such as the common cockle (*Cerastoderma edule*) and ragworm (*Hediste diversicolor*). Towards the low water mark, dense beds of seagrass (*Zostera* spp.) can develop, while on the upper reaches of mud or sandflats saltmarsh vegetation can occur. Both of these have important roles in limiting wave action and coastal erosion, although they tend to inhabit sheltered areas. Wading birds and waterfowl are attracted to the abundant food source found within these intertidal sediments. As a result, many migrant birds over-winter in Kent, and there are three internationally important SPA and Ramsar sites: Sandwich Bay, Pegwell Bay and the Greater Thames Estuary. Over-wintering birds include redshank (*Tringa totanus*), turnstone (*Arenaria interpres*), large numbers of barnacle geese (*Branta leucopsis*) and brent geese (*Branta bernicla*). Birds of conservation importance include the knot (*Calidris canutus*) and pintail (*Anas acuta*), which over-winter in Kent, and the avocet (*Recurvirostra avosetta*) and black-tailed godwit (*Limosa limosa*), which both breed in these areas.

Within this broad habitat type there are four UK BAP priority habitats: intertidal mudflats, sheltered muddy gravels, seagrass beds and coastal saltmarsh.

5.2.11.1 Intertidal Mudflats

These are mudflats formed by deposition of silts and clays, mostly with a high organic content, in coastal areas with low wave energy, such as estuaries and other sheltered areas. Towards the mouths of estuaries, the salinity and wave energy increase and in these areas there is a higher proportion of sand within the sediment. The mudflats dissipate wave energy, and reduce the risk of erosion and flood damage. The sediments can sequester pollutants and heavy metals.
This habitat is typically highly productive, with low diversity but an abundance of organisms present within the sediment. As mentioned above, intertidal mudflats are important feeding grounds for wildfowl and wading birds. In Kent, the majority of the habitat is found along the north coast, part of the Greater Thames Estuary. The districts of Medway, Swale and Canterbury have more than 85% of this priority habitat between them.
The county has 10,078.4ha of intertidal mudflats, making this the second largest UK BAP priority habitat in Kent after Coastal and floodplain grazing marsh. It is 2.6% of the area of Kent and represents 84.1% of the broad habitat resource of littoral sediment. This habitat corresponds to the Annex 1 habitat 'Mudflats and Sandflats not covered by seawater at low tide'. The total for this Annex 1 habitat is the same as for the priority habitat, 10,078.4ha.

5.2.11.2 Sheltered Muddy Gravels

These occur principally in estuaries and in areas protected from wave action and tidal streams. The priority habitat can be an extension of habitats found in the sublittoral zone.
As with intertidal mudflats, the habitat can be very productive but the species diversity depends on the substrate and the salinity of the water. In very saline conditions, there can be a high diversity of fauna, but where this habitat is found within estuaries the reduced salinity is associated with more species-poor communities. Polychaete worms and bivalve molluscs are normally dominant, but representatives of most marine phyla can be present (UK BAP, 2008)
This is a very difficult habitat to detect through API, and those areas recorded here were identified during field survey by the EA. It is likely that these areas are under-recorded in Kent. A total of just 9.3ha have been recorded around the coastline, only 0.08% of the broad habitat resource. More than half (52%) is found in Dartford, nearly a third (32.3%) in Swale and the remainder in Gravesham districts. There is no Annex 1 habitat associated with this priority habitat.

5.2.11.3 Seagrass Beds

Seagrass beds develop in intertidal and shallow subtidal areas on sands and muds. They are found in coastal inlets and bays, lagoons and channels where there is shelter from wave action.
The UK has three species of seagrass (*Zostera* sp.), which are all scarce. They are the only flowering plants that can live in seawater and are pollinated while submerged. The roots are anchored in mud, sand or gravel substrates and help prevent erosion. Stands of seagrass resemble underwater meadows, and the density of the grasses slows water currents and enables nutrients to settle, which attracts diverse wildlife. The leaves may be colonised by diatoms and algae, stalked jellyfish and anemones, while the sediment around the roots supports bivalve molluscs, amphipods, polychaete worms and echinoderms. (UK BAP, 2008). The seagrass meadows provide shelter for fish nurseries, particularly flatfish, while two species of pipefish, *Entelurus aequoraeus* and *Syngnathus typhie*, are almost entirely restricted to this habitat.
This habitat is very difficult to distinguish from aerial photographs, and requires field survey to positively identify seagrass meadows. As a result, this habitat is likely to be under-recorded around the coastal region of Kent. There are 29.4ha of seagrass beds recorded in the survey, which corresponds to 0.25% of the littoral sediment broad habitat type. More than half (52.8%) is found in Medway, with 38.9% in Swale, 7.3% in Canterbury and just 0.9% in Thanet district.This habitat type does not have a corresponding Annex 1 habitat, although it may occur in Saline lagoons which is both priority habitat and Annex 1 habitat.

5.2.11.4 Coastal Saltmarsh

Coastal salt marshes are found on the the upper, vegetated portions of intertidal mudflats, lying approximately between the mean high water neap tides and the mean high water spring tides. They are usually found in relatively sheltered locations such as estuaries, saline lagoons, behind barrier islands and on beach plains.
Salt marsh vegetation consists of a limited number of salt tolerant species adapted to regular immersion by the tides. A natural salt marsh system shows a clear zonation according to the frequency of inundation. The communities of stabilised salt marsh can be divided into species-poor low-mid marsh, and the more diverse communities of the mid-upper marsh. The lowest level of saltmarsh supports pioneer species, such as glassworts (*Salicornia* spp.), which can withstand considerable inundation by salt water. As the regularity of inundation decreases towards the upper marsh levels, species such as common sea-lavender (*Limonium vulgare*) can only withstand very occasional inundation.
The saltmarshes of Kent are an internationally important resource for wintering and passage of waders and waterfowl, and for breeding waders. They act as high tide refuges for birds feeding on adjacent mudflats, as breeding sites for waders, gulls and terns and as a source of food for passerine birds, particularly in autumn and winter. They also support a wide range of specialist invertebrates, many of which are nationally rare or scarce. Areas with high structural and plant diversity, particularly where freshwater seepages provide a transition from fresh to brackish conditions, are particularly important for invertebrates.
Salt marshes also provide sheltered nursery sites for several species of fish.
The survey recorded 1338.2ha of the UK BAP Priority coastal saltmarsh habitat, which represents 11.2% of the county's littoral sediment resource. The area of saltmarsh that corresponds to UK BAP definition does not include areas of the upper saltmarsh transitional grassland of sea couch (*Elytrigia atherica*; *C. Blair-Myers*, pers. comm.). In Kent the majority of salt marsh areas are found along the north Kent coast and a large area at Sandwich and Pegwell Bay in the east of the county.
The priority habitat of coastal saltmarsh in Kent has two Annex 1 habitats (described below). A third Annex 1 coastal saltmarsh class is Spartina swards (*Spartinion maritimae*), which refers to stand dominated by the cordgrasses *Spartina maritima*, *S. alterniflora*, or supporting the rare and local hybrid *S. x townsendii*. These are swards of conservation value. There are large areas of another hybrid *S. anglica*, that is present in the saltmarsh in Kent, and this form of cordgrass has been recorded as part of the UK BAP priority habitat in Kent. However, none of the Spartina species of conservation value have been recorded in Kent and therefore no records of this Annex 1 habitat have been made during this survey.
The two other Annex 1 habitats that are found within Kent's coastal saltmarsh are 'Salicornia and other annuals colonising mud and sand', which occupies 15.9ha, or 0.89% of the Littoral sediment broad habitat resource, and 'Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*)', which covers 780.1ha, or 58.3% of the broad habitat resource.
It appears that pioneer Spartina swards are increasing and Atlantic salt meadow (mid to upper saltmarsh) continues to erode in the South Thames and Medway Estuaries through the combined effect of sea-level rise and dredging of the channel, particularly in the Medway Estuary.

5.2.12 Supralittoral Rock

Supralittoral rock includes boulders, cliffs, gullies and ledges above the high tide mark but within the limit of wave splash and sea –spray. The rock features depend on the geology and extent of wave action. Maritime cliffs are classified as 'hard cliffs' or 'soft cliffs', depending on rock type. While falling within the UK BAP definition of hard cliffs, for this survey the chalk cliffs around the Kent coastline have been defined as soft cliffs, to correspond to criteria used by the EA.
Rocks and slopes are colonised by salt-tolerant vegetation, and the plant communities that develop are determined by the underlying geology and environmental conditions such as wind exposure and salt-spray.
In Kent, the chalk cliffs are steeply sloped or vertical and relatively resistant to weathering. However, there are soft cliffs found along the north Kent coast and Isle of Sheppey, which are less resistant, being formed from clays which result in erosion, slumping and the formation of gentle slopes. Harder cliffs have ledges and crevices, which are important for plants and nesting seabirds, while softer cliffs have a wide community of pioneer plants that establish after landslips.
In Kent, the fulmar (*Fulmarus glacialis*), kittiwake (*Rissa tridactyla*) and peregrine (*Falco peregrinus*) nest on chalk cliffs and the sand martin (*Riparia riparia*) in the softer cliffs at Reculver. Kent has several rare plant species associated with supralittoral rock, including wild cabbage (*Brassica oleracea*), early spider orchid (*Ophrys sphegodes*) and ox-tongue broomrape (*Orobanche picridis*). The fiery clearwing moth (*Bembecia chrysidiformis*) has a UK distribution that is restricted to the area around Folkestone Warren.
The priority habitat within Supralittoral rock is Maritime cliffs and slopes, which also corresponds to the Annex 1 habitat 'Vegetated sea cliffs of the Atlantic and Baltic coasts'.

5.2.12.1 Maritime Cliffs and Slopes

This priority habitat comprises sloping to vertical faces on the coastline where a break in slope is formed by slippage and/or coastal erosion (UK BAP, 2008). However, there is no generally accepted definition of the height or angle that constitutes a cliff. The cliff-top covered by the priority habitat definition extends to the limit of salt-spray deposition, which depends on the wave action, and prevailing winds.
Cliff ledges support specialist flora such as rock samphire (*Crithimum maritimum*), while those enriched by seabird nesting sites have vegetation that includes oraches (*Atriplex* spp.) and sea beet (*Beta vulgaris* ssp. *maritima*). On cliff-tops and less-steep or exposed slopes, maritime grasslands occur. These have a maritime form of red fescue (*Festuca rubra*) as a constant species within the vegetation, together with other maritime species such as thrift (*Armeria maritima*), sea plantain (*Plantago maritima*), buck's-horn plantain (*P. coronopus*) and sea carrot (*Daucus carota* ssp. *gummifer*) (UK BAP, 2008).
Much of this habitat in Kent is chalk cliff, and as a result the vegetation on the cliff-tops more closely resembles calcareous grassland. Where the extent of the maritime influence was unclear, this grassland has been classified as calcareous grassland. Only 33.3ha of maritime grassland was recorded in the survey. However, 220.8ha of combined cliff-top maritime grassland and cliffs and slopes are present in Kent. As mentioned in section 5.1.1.16, vertical or near vertical cliff faces are difficult to map using aerial photography, resulting in some under-recording of this habitat type.
Dover district has 38.7% of Kent's priority habitat, with Swale district having 31.6% and Shepway district 14.1% (figure 5.23). Thanet district only has 8.4% of the recorded priority habitat, despite having extensive areas of vertical chalk cliffs.
The priority habitat is also Annex 1 habitat, with the best example of Vegetated sea cliffs of the Atlantic and Baltic coasts in Kent being the undefended 8km stretch of coastline between Kingsdown and Dover, which is designated as an SPA and represents the best example of vegetated chalk cliff in the country (Kent BAP, 2004)

5.2.13 Supralittoral Sediment

This coastal broad habitat class contains two UK BAP priority habitats covering a total of 2558.4ha. They both comprise a series of different habitats that arise from the

variations in substrate, associated environmental factors such as hydrology and the age and stability of the habitat. Specific plant communities have developed that can thrive under the different conditions. As these are rare or uncommon habitats, each of these priority habitats have several Annex 1 habitats associated with them.

5.2.13.1 Coastal Sand Dunes

Dunes are wind-blown sand formations, which can be shifting or stable. The priority habitat is an association of several landscape and vegetation features that include the foreshore, dunes with varying levels of vegetation, dune slacks (wetland), grassland, scrub and woodland. The dune systems develop in a specific sequence, and different stages of this development can be identified form the plant communities that have colonised the dune structures.
Embryonic dunes are shifting dunes that develop from wind-blown sand on the seaward side of a dune system. They form ridges, which may be bare of vegetation or colonised by few species of tough plants resistant to strong winds, drought and salt spray, most typically marram grass (*Ammophila arenaria*).
Mobile (shifting) dunes occur behind the embryonic dunes, also on the seaward side, and are reliant on the deposition of wind-blown sand for their development. Marram grass helps trap the blown sand, enabling formation of these zones. These area also known as 'white dunes'.
Semi-fixed dunes are produced further inland, where less sand is deposited and more vegetation can become established. More plant species are found in this region, but only those that can withstand the tough conditions. These are predominantly marram grass with other species such as sea holly (*Eryngium maritimum*) and sea bindweed (*Calystegia soldanella*).
Fixed dunes, also known as grey dunes, develop inland where the sand has become stabilised. Mainly closed grassland swards establish in this region where some soil has developed. The grasslands can be very varied and support a wide range of species. In Kent, the shell content of the sand makes the substrate alkaline and the species present are lime-loving plants, some of which can also be found on calcareous grassland, for example common restharrow (*Ononis repens*), fairy flax (*Linum catharticum*), lady's bedstraw (*Galium verum*), rough hawkbit (*Leontodon hispidus*) and pyramidal orchid (*Anacamptis pyramidalis*). Sand sedge (*Carex arenaria*) and crested hair grass (*Koeleria macrantha*) may be abundant, together with grasses such as red fescue (*Festuca rubra*), downy oat grass (*Helictotrichon pubescens*) and sea couch (*Elytrigia atherica*).
Decalcified dunes are found in areas where the calcium has leached from the sandy substrate, producing more acid conditions, supporting vegetation similar to that of acid grassland or heathland. Kent has no dune heath and very little decalcified dune vegetation.
Fixed dunes may develop scrub communities, such as the invasive sea buckthorn (*Hippophae rhamnoides*).
Dune slacks are wetland or damp habitat that form in low-lying areas within dune systems. They may be seasonally flooded with ground water in winter. Nutrient levels are generally low and as a result they often support rich plant communities. Varying environmental factors, such as the underlying hydrology, topography, climate and substrate, affect how much moisture is available to the dune slack vegetation and these variation, together with the alkalinity and salinity of the ground water, are reflected by the plant communities supported within the slacks. Wetter slacks can remain moist in summer, with plant communities more closely approximating those of mires. In hollows that dry out to some degree during the summer, the vegetation is similar to that of damp grasslands. Alteration in the environmental conditions of some slacks has resulted in significant changes in the plant communities present. Where the water table has dropped, and/or where there has been an increase in nutrient levels, the vegetation becomes coarser, with loss of the many forbs and finer wetland species. In these areas, the slack vegetation more closely resembles mesotrophic grassland.
In Kent, there are small areas of embryonic dunes around the north coast, but the main dune systems are limited to the eastern and a small area of southern coastline of the county. The largest area is found along the coast at Sandwich Bay, with decalcified dunes being found further south around Romney Warren. The system here is mainly inactive, with only very narrow strips of embryonic, mobile and semi-fixed dunes running parallel with the shoreline. Dune slacks are restricted to the Sandwich Bay system and a small area around Romney Warren.
The dune systems are important for a range of higher plants, invertebrates and wintering birds. Approximately 90% of the UK population of the nationally rare lizard orchid (*Himamtoglossum hircinum*) occurs at Sandwich Bay. Dunes also support the nationally rare bedstraw broomrape (*Orobanche caryophyllacea*), sand catchfly (*Silene conica*) and fragrant evening-primrose (*Oenothera stricta*). Dune slacks support the rare marsh helleborine (*Epipactis helleborine*) with the nationally scarce sharp rush (*Juncus acutus*).
The survey targeted a large area of the dune system around Sandwich Bay for field survey, which has resulted in a this area being mapped in detail.

In Kent, a total of 454.8ha of UK BAP Coastal sand dune priority habitat was mapped. This represents 17.8% of the supralittoral sediment broad habitat type. Within this are the six Annex 1 habitats that are recognised within this priority habitat type. The habitats and areas recorded are summarised in Table 5.2 and shown in figures 5.34a and b.

Table 5.2 Summary of Annex 1 Habitats of Coastal Sand Dunes in Kent

Annex 1 habitat	Area (ha)
Embryonic shifting dunes	6.1
Shifting dunes along the shoreline ("White dunes")	8.6
Fixed dunes with herbaceous vegetation ("grey dunes")	251.7
Atlantic decalcified fixed dunes (Calluno-Ulicetea)	41.5
Dunes with Sea buckthorn (Hippophae rhamnoides]	4.3
Humid dune slacks	69.3

5.2.13.2 Coastal Vegetated Shingle

As for Coastal sand dunes, this priority habitat covers a series of different plant communities that are adapted to the varying environmental factors found on shingle sites. Vegetated shingle exists as a mosaic of bare shingle and plant communities. There are two Annex 1 habitats associated with this priority habitat, and these are described below.
Vegetated shingle includes annual vegetation of drift lines and perennial vegetation of stony banks, also known as coastal shingle vegetation outside the reach of waves.
The annual vegetation of drift lines is an ephemeral habitat due to the shifting nature of shingle along the coastline. The vegetation may only form sparse cover and comprises annual or short-lived perennial plants that can withstand exposure to salt-spray, such as (*Honkeyna peploides*) and Babington's orache (*Atriplex glabriuscula*). This is an Annex 1 habitat and a SAC designated for driftline vegetation containing Babington's orache can be found at Dungeness.
Perennial vegetation of shingle is an unusual habitat of coastal regions, occurring where normally shifting coastal sediments of particle sizes in the range 2-200mm have become more stable. It contains a series of plant communities influenced by the harsh conditions associated with this environment, such as the exposure to winds and salt spray, nutrient and availability of fresh water. In Kent, at Dungeness, historic shingle ridges extend far inland. This area has the most diverse and extensive examples of stable vegetated shingle in Europe. Well-defined plant communities have developed and are associated with the varied environmental factors.
Classic perennial pioneer species are found on the seaward edge above the high water mark. These can withstand exposure to salt spray and some degree of burial or erosion, for example, sea-kale (*Crambe maritima*), yellow horned-poppy (*Glaucium flavum*) and sea pea (*Lathyrus japonicus*). An unusual pioneer species is prostrate broom (*Cytisus scoparius*), forming part of the vegetation just inland of the driftline.
Further inland established plant communities have developed. Shingle heath and lichen communities are found on more stable, nutrient-poor and drier shingle ridges. These support sheep's sorrel (*Rumex acetosella*), sweet vernal-grass (*Anthoxanthum odoratum*), wood sage (*Teucrium scorodonia*) and lichens such as *Cladonia* spp. Where soils have developed over the shingle, and there is more moisture, grasslands have developed. In drier areas the species present are those of acid grassland, while neutral grasslands are found on more fertile areas, such as the troughs between some shingle ridges. The neutral grassland can be quite coarse, with false oat-grass (*Arrhenatherum elatius*) predominating.
Various scrub communities, including blackthorn (*Prunus spinosa*), gorse (*Ulex europaeus*) and the wet woodland habitat of willow carr (*Salix* spp.) add to the vegetation structure. The older blackthorn bushes can have a rich epiphytic lichen flora unique to shingle. The Holmstone holly wood (*Ilex aquifolium*) on shingle at Lydd Ranges is a globally unique feature.
Additional habitat variation comes from fen and open water features within the shingle. Dungeness contains small, fresh water-filled depressions within the shingle structure, which support a range of fen and wetland habitats that are thought to be sole examples of this type of feature within the UK. Although not mapped within the survey, an area of Annex 1 habitat, 'Calcareous fens with *Cladium mariscus* and species of the *Caricion Davallianae*', is present within one of the fen areas.

The coastal vegetated shingle UK BAP priority habitat covers 2103.7ha and represents 82.2% of the supralittoral sediment broad habitat type. The priority habitat has been taken to cover 'bare' shingle that exists within the larger vegetated areas as part of the shingle-vegetation mosaic.
Within the priority habitat, the Annex 1 habitat of Annual vegetation of driftlines has been recorded as 36.8ha, or 1.75% of the priority habitat, while the Annex 1 habitat of Perennial vegetation of stony banks covers 885.1ha, which represents 42.1% of the priority habitat. In the latter habitat, the area given represents that of the vegetated areas within the shingle habitat mosaic.

5.2.14 Sublittoral Sediment

5.2.14.1 Saline Ponds and Lagoons

These are coastal bodies of water, natural or artificial, that contain saline or brackish water, and are separated from the adjacent sea. They may also be wholly separated from the sea by sediment banks or rocks. These features are often short-lived due to natural processes of infilling and coastal erosion. The salinity can be variable, ranging from low, through brackish and full saline, to hyper-saline conditions as a result of evaporation and lack of water ingress. Also included

within the priority habitat are small, shallow, saline ponds in saltmarsh.
The subtrates within the lagoons and ponds are often soft sediments that may support tasselweeds (*Ruppia* spp.) and stoneworts (*Charales*) as well as filamentous brown and green algae. These water bodies also contain invertebrates that are not found elsewhere. As a result, they are important habitat for wildfowl, waders and seabirds.
Kent has 286ha of saline lagoons or ponds, of which 276.2ha is the Annex 1 habitat 'Saline Lagoons' (Coastal Lagoons).

5.3 SSSIs and LWS

5.3.1 Broad Habitats

The area of broad habitats found within SSSIs is 33,308ha or around 9% of the area of Kent, while broad habitats of LWS cover approximately 27,197ha or 7% of the county. The area of each broad habitat type is shown in table 5.1 with the proportion of broad habitats (BH) in Kent found within SSSIs or LWS is shown in figures 5.38 and 5.39.
The broad habitat with the greatest area designated as SSSI is the marine habitat of littoral sediment, found around the coastline of Kent. In total, 9,819ha, or 82% of this habitat resource is found within either SSSIs (9,670ha, 81% of BH resource) or LWS (149ha, 1% of BH resource).
The habitat with the second greatest area within SSSIs is neutral grassland (7,209ha), a quarter of the county's broad habitat resource. A further 11%, or 3,005ha of neutral grassland is found within LWS, indicating that large areas of this resource are not within designated sites. This is because many of these neutral grassland areas are not species-rich. However, significant areas of neutral grassland are part of the coastal and floodplain grazing marsh UK BAP priority habitat, which is represented within designated sites.
The habitat with the greatest combined cover between SSSIs and LWS is broadleaved, mixed and yew woodland. Within these sites are woodlands of high importance for wildlife, with 5,942ha, or 13% of the BH resource within SSSIs. LWS encompass further 16,029ha, or 36%, of the county's broadleaved woodland class, meaning that a total of 21,971ha, or around 49% of the county woodland habitat resource is within an area designated for wildlife. LWS also have more than half the county resource of coniferous woodland (58.1%) with slightly less than 10% in SSSIs. As described earlier, these areas of coniferous woodland are plantations within ancient woodland sites and therefore have value in the form of ground flora and the ground flora seedbank.

It is interesting to note that the most extensive habitats in Kent, arable and horticulture and improved grassland, are poorly represented within both SSSIs (each 1% of BH) and LWS (1% and 2% of BH respectively). This reflects the limited wildlife interest within these habitats, although improved grassland can form part of a complex of habitats that have nature conservation value (see sections 5.3.8 and 5.3.9). The built environment, in the form of boundary and linear features and built-up areas, also has low cover within SSSIs and LWS (figures 5.40 and 5.41).

The marine habitats of Kent are influenced by the underlying geology, and the extensive coastline means that many different habitats are present. Some of these are particularly scarce and of significant conservation interest. The county is custodian of nationally and internationally important areas of these resources. Currently, however, there are no criteria for marine or coastal LWS and this is reflected in the low areas covered by the LWS designation.
In addition to the littoral sediment mentioned above, and reflecting their importance for natural heritage, 84% of littoral rock (607ha) is within SSSIs (601ha, 83%) or LWS (6ha, 1%). Other marine habitats of supralittoral rock and supralittoral sediment are similarly covered by designations. Around 89% of Kent's supralittoral rock is found within SSSIs (188ha, 87%) or LWS (5ha, 2%), while 96% of the county's supralittoral sediment is either SSSI (2,303ha, 90%) or LWS (4.9ha, 0.1%).
The wetland areas of fen marsh and swamp cover just over 900ha in Kent. Of this, two thirds (65%) of the resource is found within SSSIs, with a further 13% within LWS, giving a combined total between the designated areas of 717ha
Bracken is closely associated with dry, light soils which are mainly acidic. It is often associated with heathland, acid grasslands and some woodlands on acid soils, which are themselves important habitats. Two thirds of the bracken resource (63%, 205ha) is found within SSSIs and a further 17% (56ha) within LWS.
As to be expected, acid grassland and heathland are found within designated areas, with 35.2% (180ha) of acid grassland and 30.4% (23ha) of dwarf shrub heath found within SSSIs, and a further 26.1% (134ha) of acid grassland and 57.5%(43ha) dwarf shrub heath found within LWS across the county. However, as both acid grassland and heath are rare and fragile habitats, it is notable that a proportion of these resources are not within either of these types of sites. Acid grassland is increasingly threatened in Kent, and 38.7% of this resource (197.8ha) is not within one of these designated areas. For heathland, this figure is just 12.1% (9ha).
Calcareous grassland is another important habitat within Kent, with 61.3% being found within designated areas. The greatest proportion is in LWS, with 629ha (32.6% of the BH resource), and a further 554ha (28.7%) within

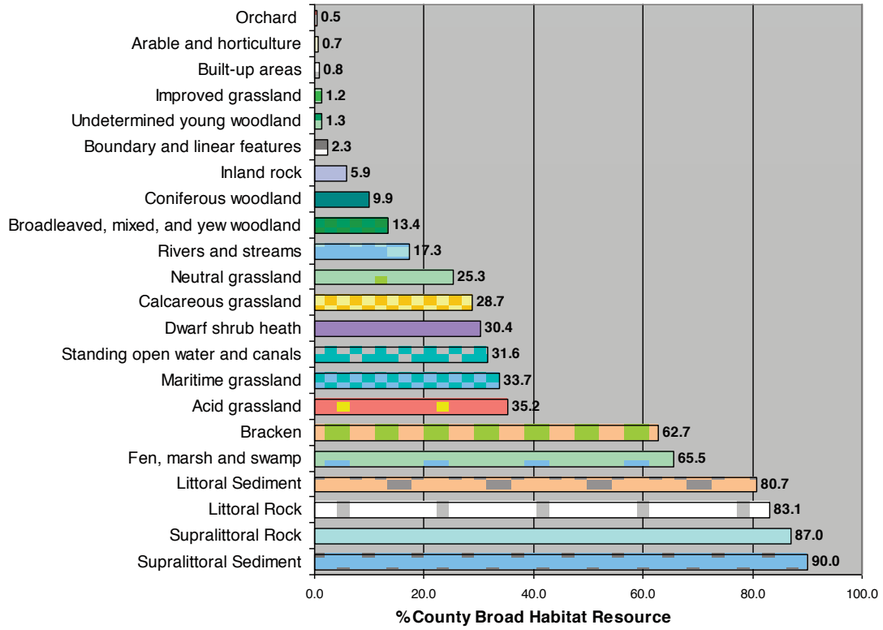


Figure 5.38 The proportion of Kent's Broad Habitat Resource that falls within SSSIs

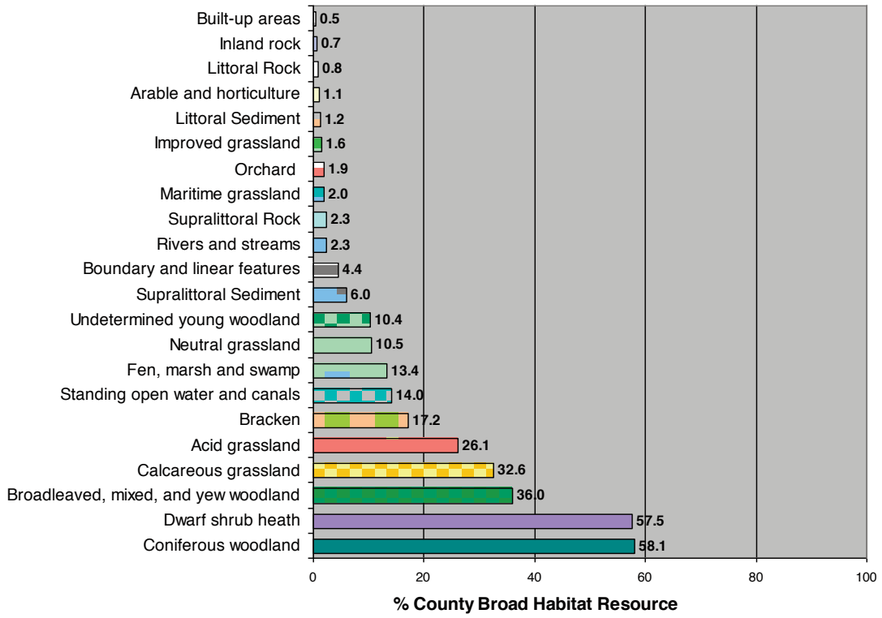


Figure 5.39 The proportion of County Broad Habitat Resource found within LWS

SSSIs. This means that 38.7% of the county's calcareous grassland is not covered by either SSSI or LWS designations.
As mentioned earlier, traditional orchards are poorly represented within both SSSIs (0.3ha, 0.02% of the resource) and LWS (31.2ha, 1.9% of the resource). As SSSIs represent the best natural or semi-natural habitats and landscapes, it is not surprising this planted agricultural habitat does not have greater cover in these sites. The low level of this resource within LWS, however, is more notable, as traditional orchards can be hotspots for biodiversity in the countryside (UK BAP Traditional Orchards, 2008). With the continued loss of traditional orchards from the Kent countryside, there is potential to create LWS that cover this habitat type.
One of the outcomes from this survey will be to indicate where there are potential new LWS areas, for consideration against selection criteria.

Table 5.3 UK BAP Priority Habitat Resource within SSSIs and LWS in Kent

UKBAP PriorityHabitat Description	BH code	County total UKBAP (ha)	Within SSSIs (ha)	% of Kent BAP	Within LWS (ha)	% of Kent BAP
Coastal and floodplain grazing marsh	**CF1	14173.7	7725.1	54.5	1196.2	8.4
Intertidal mudflats	LS	10078.4	8016.6	79.5	72.5	0.7
Wood pasture and parkland	**WM5	3176.0	373.3	11.8	510.4	16.1
Coastal vegetated shingle	SS	2103.7	1869.6	88.9	149.3	7.1
Traditional orchard	FT	1676.1	0.3	0.02	31.2	1.9
Coastal saltmarsh	LS	1338.2	1274.3	95.2	39.6	3.0
Lowland calcareous grassland	GC	1159.1	442.0	38.1	409.7	35.3
Wet woodland	WB	662.2	195.7	29.6	228.5	34.5
Lowland beech and yew woodland	WB	613.2	260.5	42.5	151.1	24.6
Reedbeds	EM	544.6	385.4	70.8	63.2	11.6
Coastal sand dunes	SS	454.8	433.3	95.3	3.0	0.7
Intertidal chalk	LR	415.0	350.1	84.4	0	0
Saline lagoons	AS	286.0	249.0	87.1	14.8	5.2
Lowland dry acid grassland	GA	260.8	128.5	49.3	64.2	24.6
Maritime cliffs and slopes	SR	220.8	183.6	83.2	3.3	1.5
Lowland mixed woodland	WB	152.8	98.1	64.2	43.1	28.2
Lowland heathland	HE	73.9	22.6	30.6	42.3	57.2
Seagrass beds	LS	29.4	28.9	98.1	0	0.0
Lowland meadows	GN	27.7	10.9	39.3	2.1	7.5
Lowland fens	EM	12.3	12.2	99.2	0	0
Purple moor grass and rush pasture	EM	10.9	6.3	57.3	2.4	22.1
Sheltered muddy gravels	LS	9.3	1.8	19.6	0.1	1.4

** Priority habitat recoded as management codes

5.3.2 UK BAP and Annex 1 Habitats in SSSIs and LWS

The UK BAP priority habitats that are present within SSSIs and LWS are shown in figure 5.40 and table 5.3. In addition to those habitats shown in figure 5.40, there is another priority habitat that is present within Kent: Mesotrophic lakes. This has been recorded within one LWS (0.19ha), but as this habitat has not been routinely field surveyed across the county it is possible that there are other sites that could also be recorded as this priority habitat. This priority habitat should be considered to be under-recorded.

There are a total of 25,094.7ha covering 21 priority habitats within SSSIs and 3027.8ha covering 19 priority habitats within LWS. Together, these represent 67.1% of the county's total priority habitat, and 6.4% cover of the county's area.

Wetlands, coastal and marine Annex 1 habitats are very well represented within SSSI sites, but LWS contain relatively few. As reported earlier, there are currently no criteria for marine or coastal LWS designation which has restricted small areas that might otherwise be part of a LWS.

It is important to note that the SSSIs were not field surveyed unless there had been obvious changes to habitats or site management. Priority habitat previously recorded for these areas is likely to have remained unchanged and the area recorded for priority habitats present should be very close to the true cover. In addition, some LWS were not surveyed as part of this project as they were being assessed by KWT surveyors in the same season. The issues associated with this are discussed below.

For some of the Annex 1 habitats, all UK BAP priority habitat falls within the Annex 1 designation, for example Maritime Cliffs and slopes. However, for many others, the detection of the Annex 1 habitat type within priority habitat requires field survey. An example of this can be seen in the Annex 1 habitat 'Semi-natural dry grasslands – Important orchid sites'. This refers to chalk grasslands where there are significant populations of rare orchids associated with this habitat, such as man orchid (*Orchis anthropophora*), musk orchid (*Herminium monorchis*), monkey orchid (*Orchis simia*), early spider-orchid (*Ophrys sphegodes*) or Lady orchid (*Orchis purpurea*). Since this project has not targeted SSSIs for field survey, and some LWS were omitted from field survey, these records are incomplete. The detail required to classify a habitat as Annex 1 is lacking in these cases. For this reason, the figures given in figure 5.40 and table 5.4 are

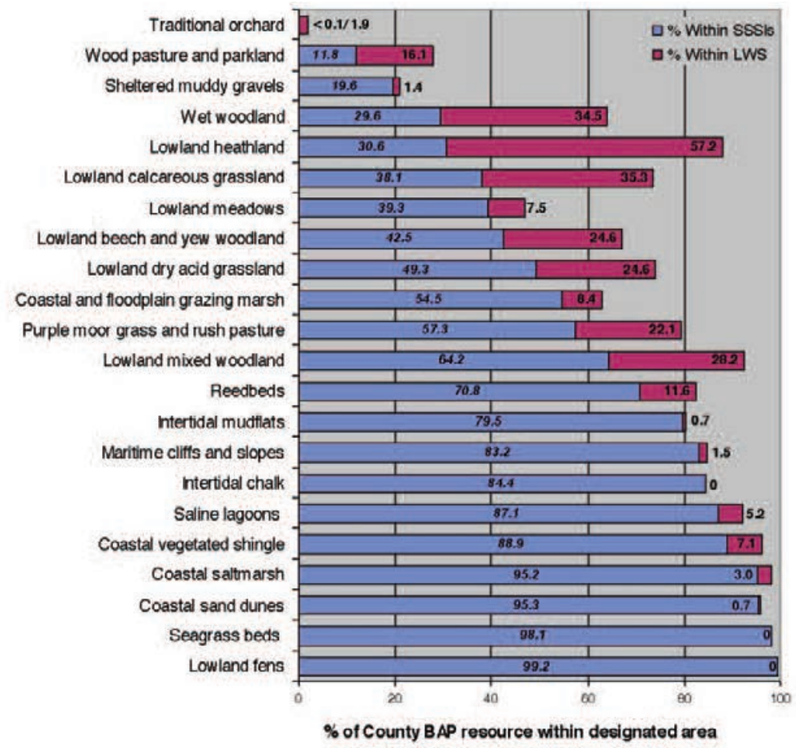


Figure 5.32 Representation of the County's UK BAP Priority Habitats within SSSIs or LWS

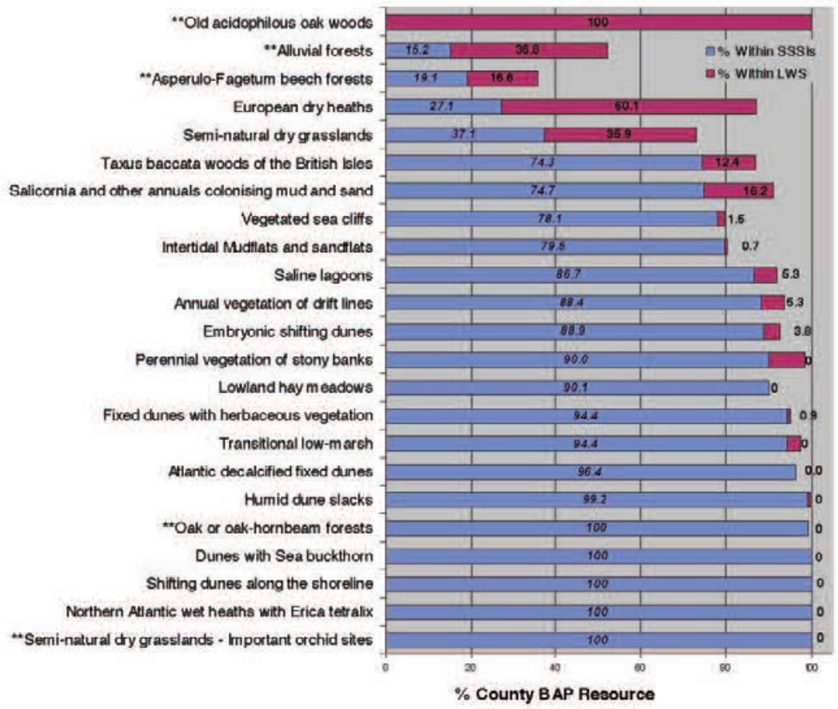


Figure 5.33 Proportion of Kent's Annex 1 habitats found within SSSIs or LWS

Table 5.4 The Extent of the County's Broad Habitat Resource within the AONBs

Broad Habitat Type	BH Code	County total BH (ha)	% of Kent	Within AONB (ha)	% of Kent's resource within AONB
Arable and horticulture	CR	137,227	35.0	44,370	32.3
Improved grassland	GI	116,319	29.7	39,489	34.0
Broadleaved, mixed, and yew woodland	WB	44,490	11.4	23,509	52.8
Neutral grassland	GN	28,531	7.3	8,037	28.2
Boundary and linear features	LF	12,869	3.3	2,988	23.2
Coniferous woodland	WC	3,356	0.9	2,189	65.2
Built-up areas	UR	15,800	4.0	1,981	12.5
Calcareous grassland	GC	1,929	0.5	1,548	80.2
Standing open water and canals	AS	4,628	1.2	751	16.2
Orchard	FT	1,676	0.4	485	29.0
Acid grassland	GA	512	0.1	289	56.4
Bracken	BR	328	0.1	254	77.5
Rivers and streams	AR	6,592	1.7	136	2.1
Supralittoral Rock	SR	216	0.1	110	51.1
Littoral Rock	LR	723	0.2	90	12.4
Inland rock	RE	991	0.3	67	6.8
Littoral Sediment	LS	11,989	3.1	36	0.3
Dwarf shrub heath	HE	74	0.02	33	44.6
Fen, marsh and swamp	EM	909	0.2	29	3.2
Undetermined young woodland	OV	71	0.0	26	37.1
Maritime grassland	GM	33	0.010	9	27.5
Supralittoral Sediment	SS	2,559	0.7	4	0.2
Total		**391823**	**100.0**	**126430**	***32.3***

not fully representative for some of the Annex 1 habitats within these designated sites (** in figure 5.41). Further detailed survey, or analysis of habitat records for sites not field surveyed by this project, would clarify the true Annex 1 habitat extent in Kent.

5.4 Habitats within Kent's AONBs

5.4.1 Broad Habitats Within the AONBs

Kent has two AONBS, the Kent Downs and the High Weald, covering a total of 126,430ha, or around a third (32%) of the area of Kent. These areas have been described in section 2.5.1.
The total cover for the broad habitats found within both AONBs is shown in table 5.4 and the proportion of the county broad habitat resource is shown in figure 5.42.

The figures show that, between both AONBs, there is low representation of water and wetland broad habitat resources. This probably reflects the fact that the AONBs cover areas with higher elevations and the larger AONB, Kent Downs, mainly follows the porous geology of the North Downs.
There is a slightly higher representation of dwarf shrub heath within the AONBs, as well as a very high proportion of the bracken broad habitat resource. More than half the county's acid grassland, which is often intimately associated with both these habitats, is found within these designated areas. The highly wooded nature of both AONBs is shown by the presence of a high proportion of the county's woodland broad habitat resources. More than half Kent's broadleaved, mixed and yew woodland and nearly two thirds of the coniferous woodland is found within the AONBs.

Calcareous grassland is mostly associated with the North Downs, and four-fifths of this broad habitat resource is within AONB boundaries. The Kent Downs AONB extends along a large stretch of coastline and includes the broad habitat of supralittoral rock, covering coastal chalk and greensand cliffs, with just over half of the county's resource within the AONB.

5.4.1.1 Broad Habitats Within SSSIs and LWS

The areas designated for their outstanding natural beauty also contain habitats of county and national importance. The best representatives of these are covered by SSSI or LWS designations (see sections 2.5.2 and 2.5.3). Figure 5.43 shows the AONB broad habitats that are also covered by SSSI or LWS designations.

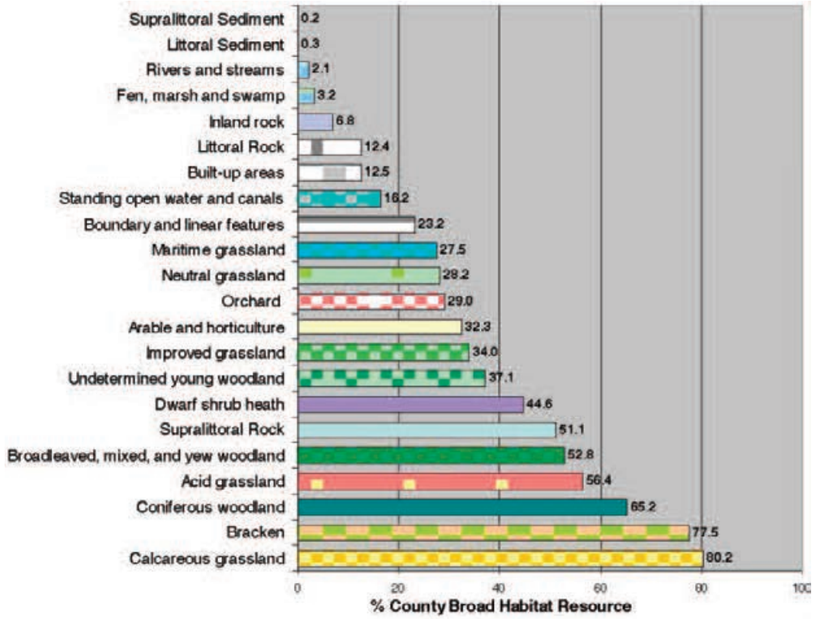


Figure 5.42 Proportion of County Broad Habitat Resource within Kent's AONBs

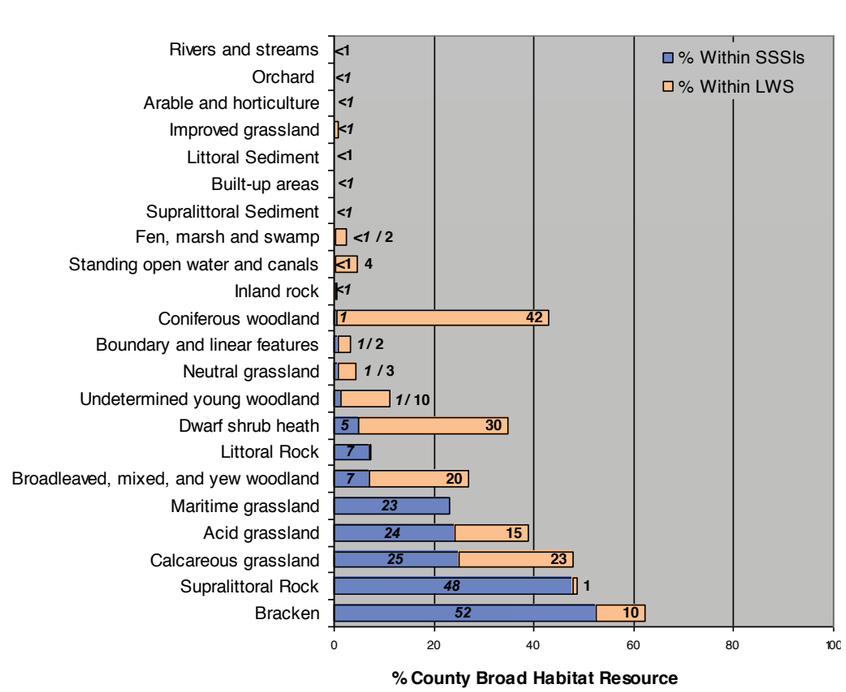


Figure 5.43 Distribution of Broad Habitats within SSSIs and LWS of the AONBs

As seen above, for some broad habitats, such as supralittoral rock, acid grassland, calcareous grassland and dwarf shrub heath, the AONBs encompass a high proportion of the county's areas of conservation importance.

Figure 5.44 Area of UK BAP Priority Habitats within Kent's AONBs

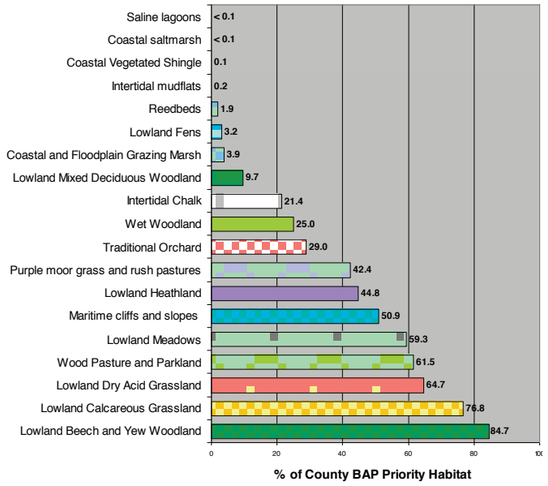


Figure 5.45 Proportion of Kent's UK BAP Priority habitats within AONBs

5.4.2 UK BAP Priority Habitats Within Kent's AONBs

The AONBs cover a third of the county and are designated for their natural beauty, which includes the landscape features, natural and cultural heritage. The two AONBs in Kent show distinct differences in landscape composition (section 2.5.1), with the Kent Downs AONB largely being comprised of the ridge of the chalk North Downs, as well as part of the Greensand Ridge and small area of the Low Weald. The High Weald AONB, in contrast, covers mainly the part of the High Weald NCA within Kent, as well as an area of Romney Marshes in the east (figure 2.1). As may be expected, these AONB areas hold a high proportion of some of the county's UK BAP priority habitats. Figure 5.44 shows the area and figure 5.45 shows the proportion of the county's priority habitats found in these areas.

Both Kent Downs and the High Weald AONBs are highly wooded, and it should not be a surprise that they hold a high proportion of the County's UK BAP priority woodland. Nearly 85% (519.2ha) of the priority habitat is found in an AONB.
The AONBs also hold significant proportions of the priority grassland habitats, with more than three-quarters of the Lowland calcareous grassland priority habitat resource being found within an AONB, or more specifically, Kent Downs AONB (see below). Nearly two-thirds of the county's acid grassland is also found, but distributed between both AONBs (see below), and almost 60% of Kent's Lowland meadows priority habitat is within one of these designated areas. Lowland heathland is also well represented, with almost 45% of this resource being within an AONB.

The presence of 61.5% of Wood pasture and parkland priority habitat within Kent's AONBs is part of the historical landscape features of these areas, which are part of the reasons for their designation.
The coastal cliffs that form the easterly boundary of the Kent Downs AONB are of significant conservation value. Just over 50% of Kent's Maritime cliffs and slopes are within this AONB.

5.4.3 Annex 1 Habitats Within Kent's AONBs

Despite the AONBs containing significant areas of priority habitat and covering much of the most important landscapes in Kent, the area of Annex 1 habitats is comparatively low (figure 5.46). As might be expected, there are significant areas of calcareous grassland (Semi-natural dry grasslands) but the remaining habitats have very low cover. This, however, is deceptive as the terrestrial Annex 1 habitats represented here have very low cover within the county.

When the Annex 1 habitats are examined as a proportion of the county's total Annex 1 habitats (figure 5.47) it can be seen that some terrestrial Annex 1 habitats are very well represented within the AONBs. The yew woodland of the Kent Downs AONB is more than 98% of the county Annex 1 resource of *Taxus baccata* woods of the British Isles. As well as almost 80% of the county's Annex 1 calcareous grassland, the AONBs support more than three-quarters of the Annex 1 beech woodland, '*Asperulo-Fagetum* beech forests'.
The AONBs encompass almost half of the 'European dry heaths' habitat, with a total of 46.9% of the county total being found within their boundaries. This is similar to the

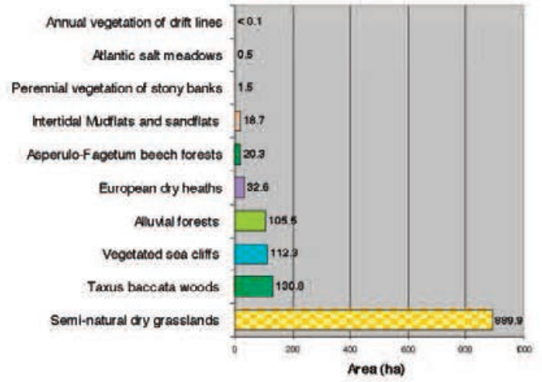


Figure 5.46 Extent of Annex 1 habitats within Kent's AONBs

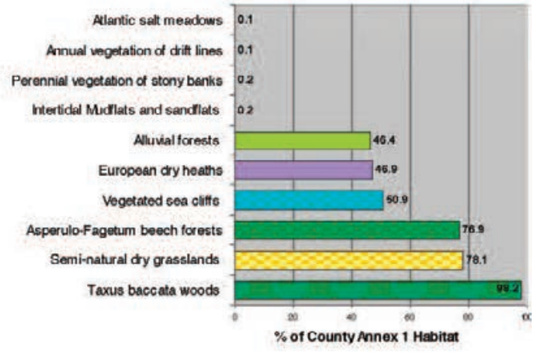


Figure 5.47 Proportion of Kent's Annex 1 habitats within the AONBs

proportion (46.4%) of the county's wet woodland Annex 1 habitat 'Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)'. Although many coastal Annex 1 habitats are poorly represented within these areas, more than half of the coastal marine cliff habitat of 'Vegetated sea cliffs of the Atlantic and Baltic coasts' is found in the Kent Downs AONB.

5.4.4 Kent Downs

The AONB of Kent Downs covers the ridge of the North Downs, running roughly North-west to south-east across the county. It is the larger of the two AONB areas in Kent, occupying 88,911.8ha (22.7% of the county). Because this AONB extends over a varied geology and part of the coastline, the area contains examples of all the broad habitats present within Kent, ranging from 4 ha of supralittoral sediment to extensive areas of more than 30,000ha of intensively managed countryside. Table 5.5 and figure 5.48 show the extent of the broad habitats within Kent Downs AONB. The broad habitats with the highest cover are arable and horticulture and improved grassland. This area has nearly two fifths of its surface under cultivation, and more than a quarter (27.7%) as permanent grassland. The very wooded nature of the AONB can be seen from the broadleaved mixed and yew woodland cover of almost a fifth of the area with a further 1.4% of coniferous woodland also being recorded here. All other semi- and un-improved broad habitats occupy much smaller areas, the largest of which are neutral and calcareous grasslands.
Surprisingly, calcareous grassland, for which the area is noted, only covers 1.7% of the AONB. Built environment habitats have fairly low cover relative to that seen across the county, with only 1.5% of built-up areas and 2.5% of linear features.

Figure 5.48 Broad Habitats as a Proportion of Kent Downs AONB (>1%)

When the habitats are examined in relation to the habitat found across the county (figure 5.49), some of the broad habitats with low cover, such as acid grassland (225ha), supralittoral rock (110ha) and maritime grassland (9ha) can be seen to represent significant habitat resource at the county level. Acid grassland is 44% of the county broad habitat resource, with supralittoral rock and maritime grassland representing 51% and 27% of the county resources respectively. Calcareous grassland, for which the Downs are renowned, occupies only 1,548ha, or around 2% of the AONB area, but is 80% of the total county resource.

Table 5.5 The Broad Habitat Resource within Kent Downs AONB, Including those within SSSIs or LWS

Broad Habitat Type	BH Code	Area of BH in AONB (ha)	% County BH in AONB	Area within SSSI (ha)	% of AONB Resource in SSSIs %	Area within LWS (ha)	% of AONB Resource in LWS %
Rivers and streams	AR	44.71	0.68	0.34	0.76	10.5	23.5
Standing open water and canals	AS	325.35	7.03	3.89	1.19	129.9	39.9
Bracken	BR	204.41	62.38	171.44	83.87	11.06	5.41
Arable and horticulture	CR	34318.82	25.01	103.19	0.3	76.41	0.22
Fen, marsh and swamp	EM	20.36	2.24	1.41	6.92	15.2	74.7
Orchard	FT	259.05	15.46	0	0	2.54	0.98
Acid grassland	GA	224.68	43.92	119.81	53.32	31.78	14.1
Calcareous grassland	GC	1547.75	80.23	480.48	31.04	443.93	28.7
Improved grassland	GI	24618.96	21.16	113.21	0.45	474.35	1.92
Maritime grassland	GM	9.16	27.48	7.66	83.62	0	0
Neutral grassland	GN	5332.63	18.70	219.66	4.11	574.59	10.8
Dwarf shrub heath	HE	6.96	9.36	3.54	50.87	2.6	37.4
Boundary and linear features	LF	2242.99	17.43	93.23	4.15	203.46	9.07
Littoral Rock	LR	89.88	12.43	51.93	57.77	0.27	0.3
Littoral Sediment	LS	35.68	0.30	16.88	47.3	13.05	36.6
Undetermined young woodland	OV	25.81	36.49	0.89	3.44	6.99	27.1
Inland rock	RE	66.98	6.76	2.89	4.31	3.02	4.5
Supralittoral Rock	SR	110.17	51.05	103.07	93.55	2.19	1.98
Supralittoral Sediment	SS	4.34	0.17	4.33	99.83	0	0
Built-up areas	UR	1359.58	8.60	25.28	1.85	19.74	1.45
Broadleaved, mixed, and yew woodland	WB	16851.17	37.88	2981.79	17.69	6470.84	38.4
Coniferous woodland	WC	1212.39	36.13	19.09	1.57	659.27	54.4

5.4.4.1 UK BAP Priority and Annex 1 Habitats Within Kent Downs AONB

The priority habitats found within Kent Downs AONB reflect the geology and landscape mostly of the North Downs but also the Wealden Greensand, which it covers at its western end (figures 5.50 and 5.51). It has a very high proportion (82.5%) of the county's Lowland beech and yew woodland as well as most of the county's Lowland calcareous grassland (as mentioned in section 5.5.2).

The largest area of priority habitat is Wood pasture and parkland, with more than 40% of the county's resource being found within this AONB. Other significant habitats include Maritime cliffs and slopes (almost 51%), as mentioned in section 5.5.2 and 5.5.3, and Lowland dry acid grassland, where 46% of the county's resource is found in Kent Downs AONB. This latter habitat is associated with acid soils of the Wealden Greensand, as well as acid sands and soils overlying the chalk of the North Downs. There is low cover of wetland and most coastal habitats, reflecting the limited coastal extent (apart from Marine cliffs) and the porous nature of much of the geology underlying this AONB.

The proportion of the county's Annex 1 habitats present in this AONB closely resembles the distribution seen for the county (figure 5.52), as coastal and calcareous grassland habitats are not found in the High Weald. Of note are the lower proportion of wet woodlands and dry heath present within this landscape.

5.4.5 High Weald AONB

The High Weald AONB extends beyond Kent into Sussex. As mentioned earlier, this AONB does not completely correspond to the Natural Character Area of the High Weald (section 2.4.6). The area of this AONB in Kent is smaller than that of the Kent Downs, covering 37,518.2ha (9.6% of Kent). It has a distinct distribution of habitats that relate to the topography, historic land use, geology and soils.

Table 5.6 and figure 5.53 show the extent of the broad habitats within the High Weald AONB. The broad habitat with the greatest cover is improved grassland, with 40% of the AONB being classed as this habitat type. Only 27% of the area is arable and horticulture. Both of these figures reflect the heavy nature of the soil and difficulty in cultivation, with much of the land being managed as permanent pasture. The wooded nature of the area is revealed in the 18% cover of broadleaved, mixed and yew woodland with a further 2.6% of coniferous woodland making the total woodland area more than a fifth of the AONB.

When the habitats are examined as a proportion of the total county resource (figure 5.54), we find that dwarf shrub heath and coniferous woodland are well represented within the High Weald AONB. However, the distribution is unlike that of Kent Downs AONB, where the proportion of broad habitats within the AONB comprised a high proportion of the county's resource.

Figure 5.49 Proportion of County Broad Habitat Resource that is within Kent Downs AONB

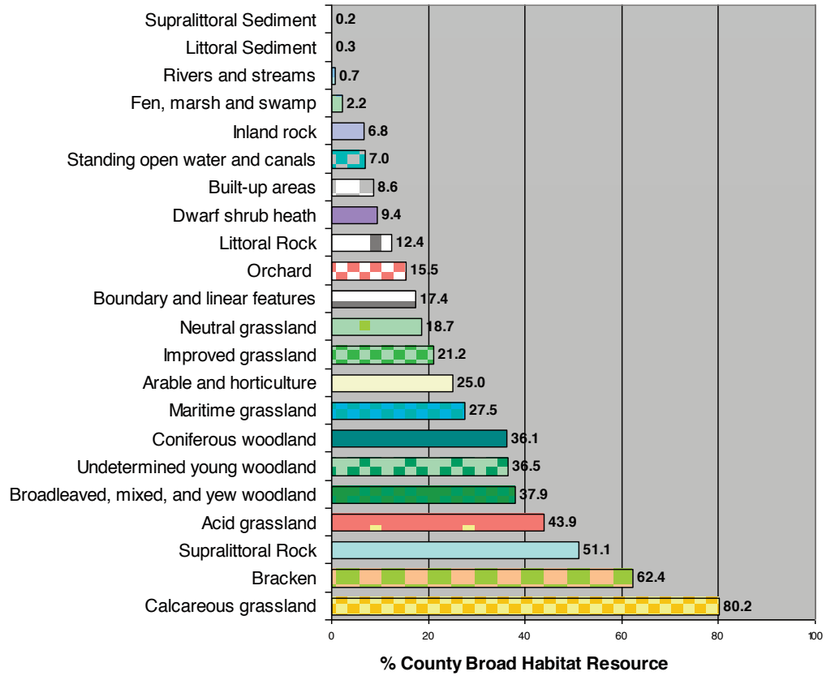
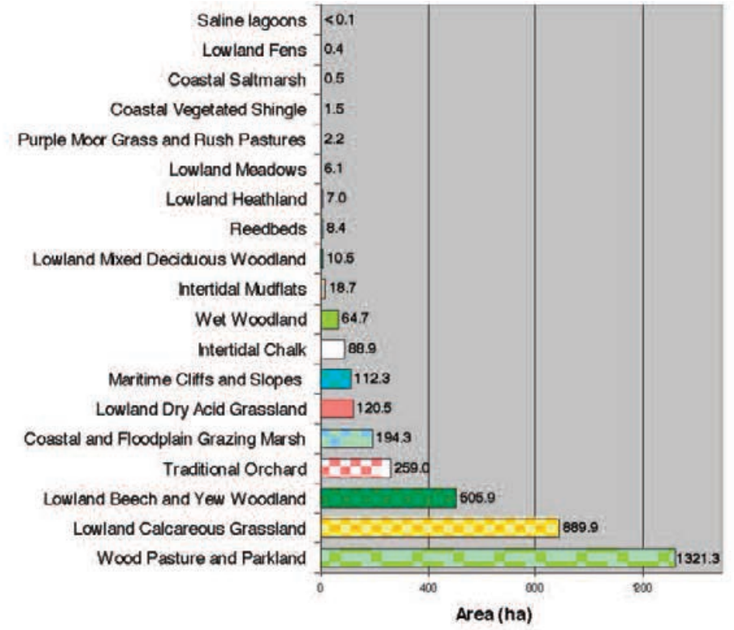


Figure 5.50 Extent of UK BAP Priority Habitats within Kent Downs AONB



High Weald covers a much smaller area than that of Kent Downs, and has fewer broad habitats. There are no coastal broad habitats and the underlying geology means that calcareous grassland is absent from this area. The AONB covers only 9.6% of the county, but 12.5% of the county's acid grassland, 13.5% of the traditional orchard and 15% of the broadleaved, mixed and yew woodland indicate that these habitats are well represented within this region.

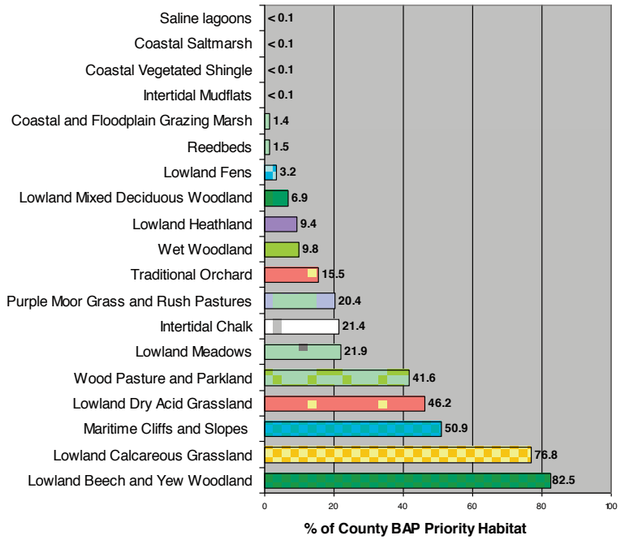


Figure 5.51 Proportion of Kent's Priority Habitats within Kent Downs AONB

5.4.5.1 UK BAP and Annex 1 Habitats Within the High Weald AONB

The priority habitat with the highest cover with the AONB is Wood pasture and parkland, reflecting the historic nature of the landscape and traditional land management. The 632.5ha is almost one fifth of the county's priority habitat resource. There are 352.2ha of Coastal and floodplain grazing marsh, found along the river valleys and in the area of Romney Marsh at the east end of the AONB. This is a small fraction of that found outside both designated areas (2.5% of the county resource). The flatter valley bottoms have been traditional fruit growing areas and 226.3ha, or 13.5% of the county's traditional orchard priority habitat resource is found here.

What at first appears to be a small area of acid grassland, 48.3ha, is nearly one fifth (18.5%) of Kent's Lowland dry acid grassland priority habitat resource, reflecting the underlying soils and geology, as well as traditional grassland management that has retained the quality of the grassland habitat.
Some of the AONB priority habitats are related to the springs, streams and impermeable soils of the area, with more than one fifth (22%) of the county's Purple moor grass and rush pasture and 15.3% of the Wet woodland priority habitats being recorded here. The area also supports a significant proportion of Lowland heathland, with just 26.1ha representing 35.4% of the county's scarce heathland priority habitat resource.
One point of note is that, for an area that has a

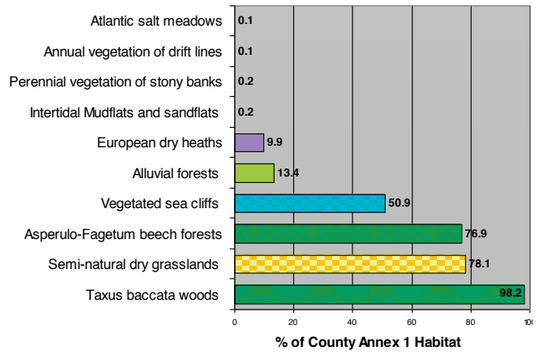


Figure 5.52 Proportion of Kent's Annex 1 habitats within Kent Downs AONB

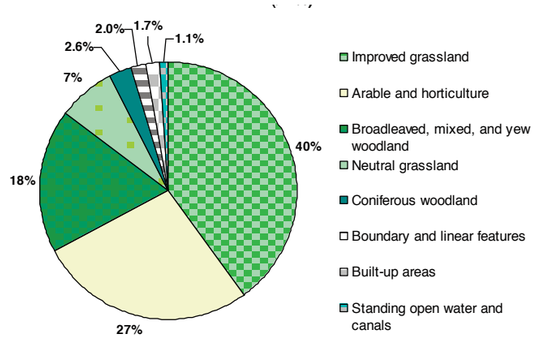


Figure 5.53 Broad Habitats as a Proportion of High Weald AONB (>1%)

woodland cover of one fifth, (figure 5.53), relatively little priority habitat woodland appears to be present. Only 2.2% of the county's Lowland beech and yew woodland and 2.8% of the Lowland mixed deciduous woodland priority habitats have been recorded. It is possible that this reflects the lack of field survey of the woodlands of this area, as part of both the current survey and that of 2003.

There are only two Annex 1 habitats within this AONB (figure 5.57). More than a third of the county's Annex 1 European dry heaths are within the High Weald, as well as a third of Kent's Annex 1 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*).

Table 5.6 The Broad Habitat Resource within the High Weald AONB, Including Areas within SSSIs or LWS

Broad Habitat Type	BH code	Area of BH in AONB (ha)	% County BH in AONB	Area within SSSI (ha)	% of AONB Resource in SSSIs %	Area within LWS (ha)	% of AONB Resource in LWS %
Rivers and streams	AR	91.75	1.39	0.99	1.07	9.36	10.2
Standing open water and canals	AS	425.19	9.19	7.94	1.86	75.71	17.8
Bracken	BR	49.58	15.13	0	0	21.3	42.96
Arable and horticulture	CR	10051.20	7.32	2.92	0.02	70.4	0.7
Fen, marsh and swamp	EM	8.41	0.92	0.14	1.66	4.81	57.19
Orchard	FT	226.31	13.50	0.34	0.15	2.69	1.18
Acid grassland	GA	64.08	12.53	4.32	6.74	43.13	67.3
Improved grassland	GI	14870.52	12.78	44.44	0.29	229.33	1.54
Neutral grassland	GN	2704.03	9.48	32.96	1.21	389.16	14.39
Dwarf shrub heath	HE	26.15	35.18	0	0	19.65	75.14
Boundary and linear features	LF	744.81	5.79	8.71	1.16	102.95	13.82
Undetermined young woodland	OV	0.45	0.63	0	0	0	0
Inland rock	RE	0.35	0.04	0.06	16.97	0.06	16.97
Built-up areas	UR	621.49	3.93	0.26	0.04	8.15	1.31
Broadleaved, mixed, and yew woodland	WB	6657.45	14.96	214.5	3.22	2295.27	34.47
Coniferous woodland	WC	976.35	29.09	1.69	0.17	761.85	78.03

Figure 5.54 Proportion of Kent's Broad Habitat Resource within the High Weald AONB

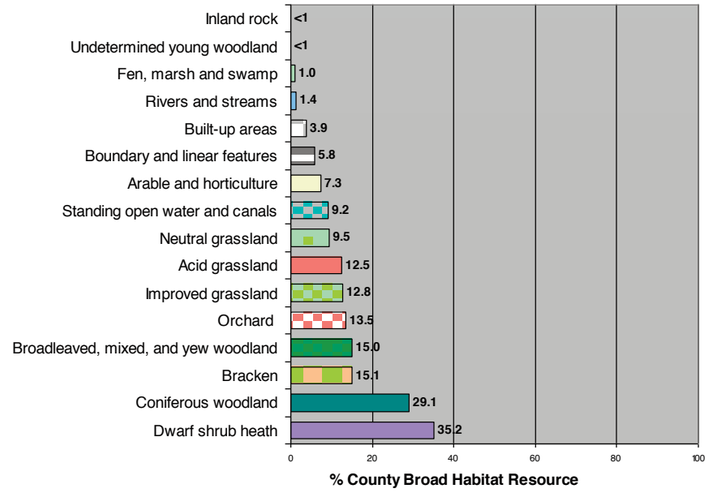


Figure 5.55 Area of UK BAP Priority Habitats within the High Weald AONB

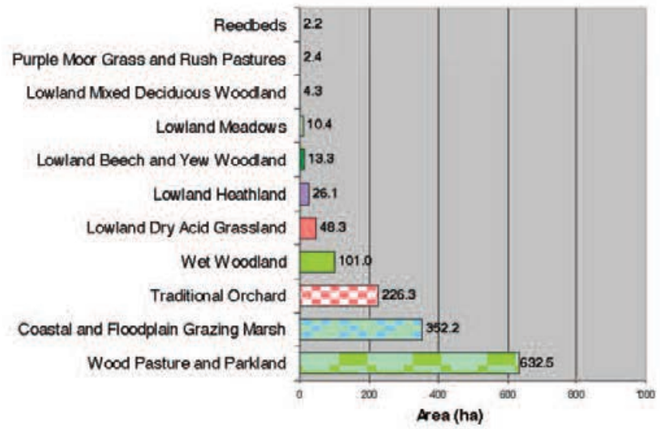


Figure 5.56 Proportion of Kent's UK BAP Priority habitats within the High Weald AONB

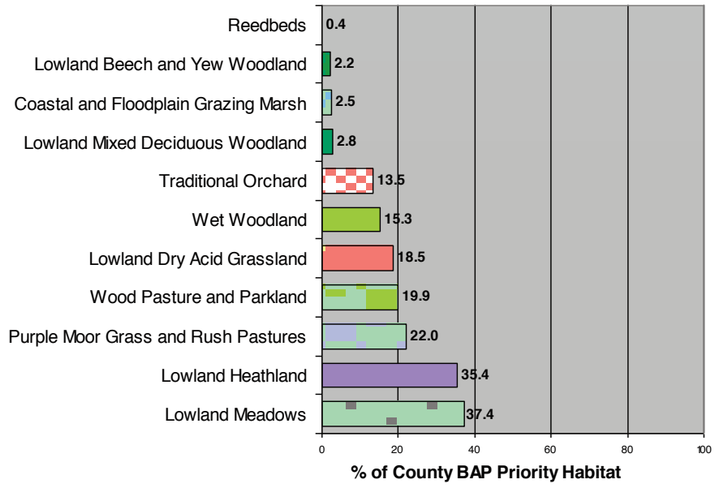


Figure 5.57 Proportion of Kent's Annex 1 habitats within the High Weald AONB

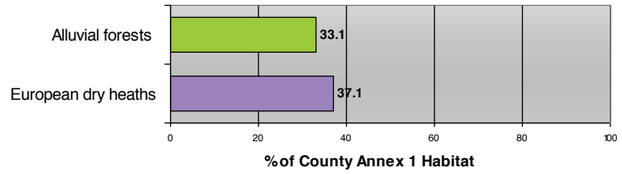
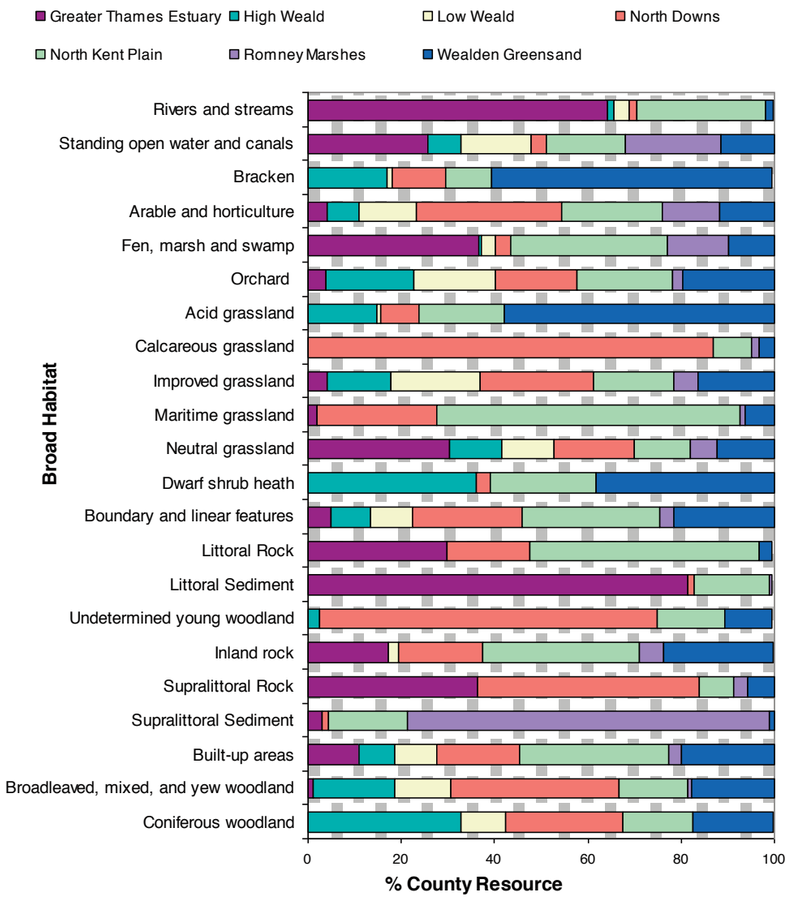


Table 5.7 Extent of Broad Habitats within each Natural Character Area

		County Total	Greater Thames Estuary		High Weald		Low Weald		North Downs		North Kent Plain		Romney Marshes		Wealden Greensand	
Broad Habitat Type		Area (ha)	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH	Area (ha)	% of BH
Rivers and streams	AR	6,592	4237	64	90	1	208	3	118	2	1,809	27	20	<1	110	2
Standing open water and canals	AS	4,628	1184	26	339	7	692	15	147	3	789	17	948	20	528	11
Bracken	BR	328	2	<1	56	17	3	1	38	12	32	10	0	0	197	60
Arable and horticulture	CR	137,227	5689	4	9,246	7	16,989	12	42,636	31	29,773	22	16,637	12	16,257	12
Fen, marsh and swamp	EM	909	332	37	6	1	28	3	31	3	304	33	120	13	89	10
Orchard	FT	1,676	66	4	313	19	296	18	291	17	342	20	38	2	331	20
Acid grassland	GA	512	0	0	75	15	4	1	43	8	93	18	0	0	296	58
Calcareous grassland	GC	1,929	1	<1	0	0	0	0	1,678	87	155	8	34	2	62	3
Improved grassland	GI	116,331	4800	4	16,010	14	22,107	19	28,227	24	20,089	17	5,909	5	19,188	16
Maritime grassland	GM	33	1	2	0	0	0	0	9	26	22	65	<1	1	2	6
Neutral grassland	GN	28,519	8626	30	3,187	11	3,188	11	4,955	17	3,428	12	1,665	6	3,471	12
Dwarf shrub heath	HE	74	0	0	27	36	0	0	2	3	17	23	0	0	28	38
Boundary and linear features	LF	12,869	646	5	1,090	8	1,163	9	3,023	23	3,782	29	388	3	2,776	22
Littoral Rock	LR	723	215	30	0	0	0	0	129	18	355	49	3	<1	21	3
Littoral Sediment	LS	11,989	9775	82	0	0	0	0	135	1	1,954	16	74	1	50	<1
Undetermined young woodland	OV	71	0	0	2	2	<1	<1	51	72	10	15	0	0	7	10
Inland rock	RE	991	171	17	3	<1	23	2	177	18	333	34	52	5	232	23
Supralittoral Rock	SR	216	78	36	0	0	0	0	103	48	16	7	7	3	12	6
Supralittoral Sediment	SS	2,559	76	3	0	0	0	0	35	1	432	17	1,984	78	31	1
Built-up areas	UR	15,800	1747	11	1,181	7	1,450	9	2,778	18	5,082	32	404	3	3,159	20
Broadleaved, mixed, and yew woodland	WB	44,491	435	1	7,818	18	5,379	12	16,029	36	6,531	15	366	1	7,933	18
Coniferous woodland	WC	3,356	<1	<1	1,098	33	323	10	848	25	502	15	10	<1	575	17
TOTAL		**391,823**	**38081**	***10***	**40,540**	***10***	**51,854**	***13***	**101,483**	***26***	**75,848**	***19***	**28,661**	***7***	**55,355**	***14.1***

Numbers are rounded to nearest whole figure * *% of Kent*

Figure 5.58 Broad habitat extent within each Natural Character Area



5.5 Habitats Within Natural Character Areas

Natural character areas refer to regions of similar landscape character within Kent's landscape. These are determined by various environmental conditions including location, topography, geology, soils and historic and current land use (described in section 2.4). This section gives the data from the current survey relating to the NCAs in Kent.

The figure is a diagrammatic representation of the relative coverage for each broad habitat class within the Natural Character Areas. The figures given are the percentage of the county broad habitat resource present within each area. For simplicity, not all values are shown in the diagram: details of the values are given in table 5.7.

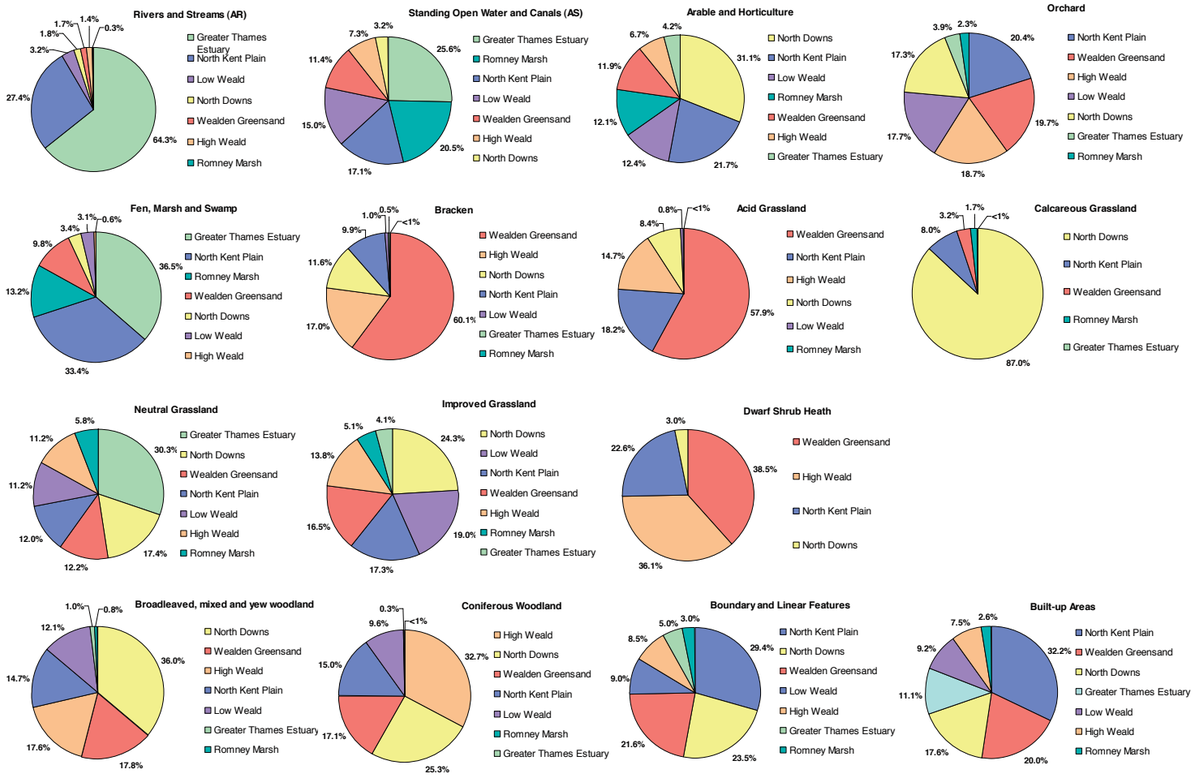


Figure 5.59 Proportion of Broad Habitats within Natural Character Areas

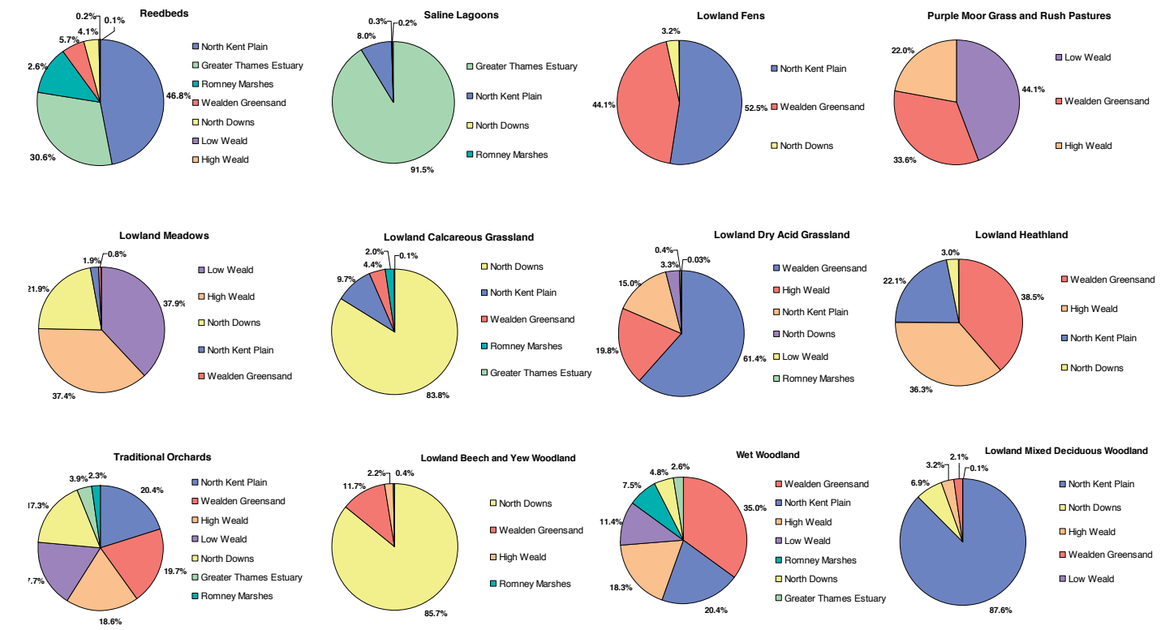
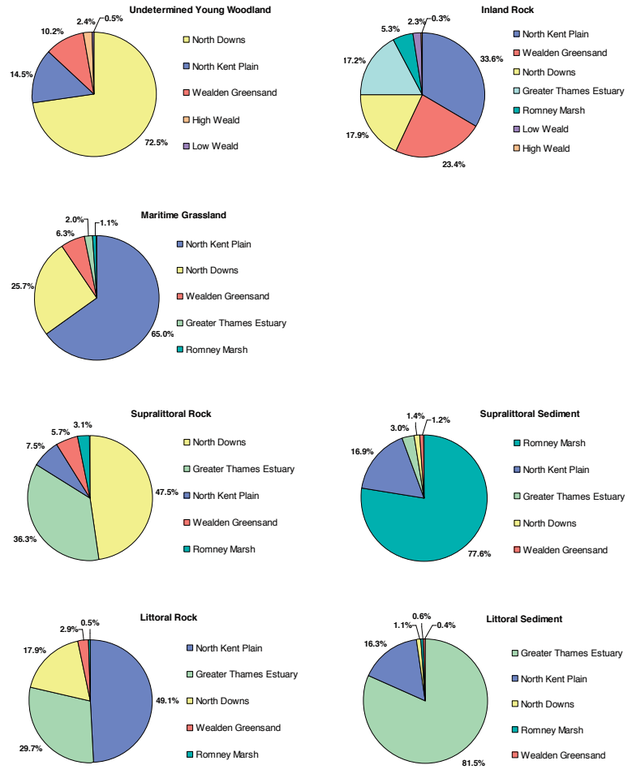
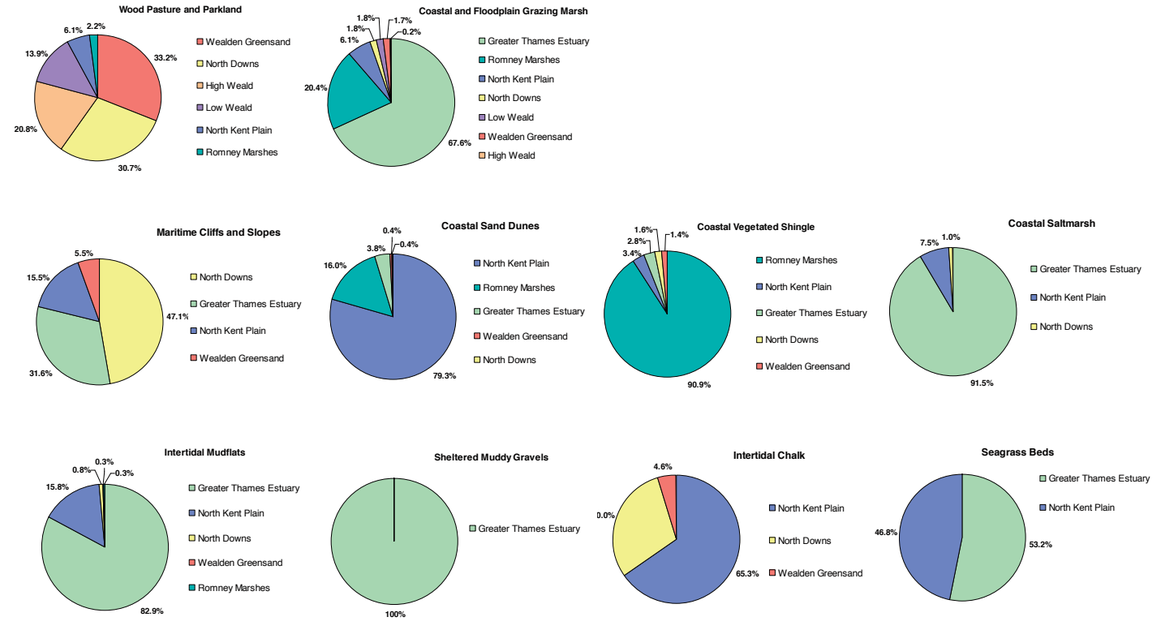


Figure 5.60 Proportion of Kent's UK BAP Priority Habitats found within the NCAs





5.6 Habitat Distribution by District

The following section gives the county data analysed by district. This includes the Medway Unitary Authority. A map showing the districts in Kent is given in Appendix

5.6.1 District Broad Habitat Resource

The districts have been assigned to eastern and western parts of Kent, although clearly districts such as Maidstone are central to the county. Figures 5.62a and b illustrate the differences in broad habitats found within the different districts.

Some of the broad habitats exhibit a distinct distribution within the county, with much of the maritime and coastal broad habitats being found mainly in the eastern districts. All of the supralittoral sediment and most of the supralitorral rock and maritime grassland are found in the east of the county.

Interestingly, around 60% of the county's arable and horticulture resource is found in the eastern districts as well as around 70% of the fen, marsh and swamp broad habitat resource. Calcareous grassland is also more widespread in these districts, while the western districts support more habitats of acid or dry environments, such as bracken (more than 80% of the county's resource), acid grassland (almost 80%) and around 70% of the

Table 5.8a Distribution of Kent's Broad Habitats within Districts (Ashford – Gravesham)

		Ashford		Canterbury		Dartford		Dover		Gravesham	
Broad Habitat Type		Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH
Acid grassland	GA	42.7	8.3	40.4	7.9	18.0	3.5	1.7	0.3	9.6	1.9
Arable and horticulture	CR	22291.9	16.2	13438.7	9.8	1784.7	1.3	16100.1	11.7	3008.5	2.2
Boundary and linear features	LF	1334.7	10.4	1100.3	8.6	595.5	4.6	925.0	7.2	538.6	4.2
Bracken	BR	33.9	10.4	12.5	3.8	6.4	2.0	0.2	0.1	23.3	7.1
Broadleaved, mixed, and yew woodland	WB	7247.4	16.3	5292.0	11.9	810.7	1.8	2184.0	4.9	1269.7	2.9
Built-up areas	UR	1348.0	8.5	1170.6	7.4	854.8	5.4	1159.7	7.3	693.7	4.4
Calcareous grassland	GC	179.5	9.3	61.3	3.2	28.7	1.5	474.8	24.6	31.2	1.6
Coniferous woodland	WC	729.9	21.8	510.1	15.2	27.7	0.8	27.7	0.8	1.9	0.1
Dwarf shrub heath	HE	7.1	9.6	13.5	18.2	1.5	2.0	0	0	0	0
Fen, marsh and swamp	EM	44.9	4.9	250.0	27.5	32.8	3.6	44.9	4.9	20.7	2.3
Improved grassland	GI	20864.8	17.9	8413.8	7.2	2072.3	1.8	7445.7	6.4	2965.3	2.6
Inland rock	RE	43.8	4.4	39.7	4.0	203.5	20.5	83.6	8.4	23.9	2.4
Littoral rock	LR	0	0	67.2	9.3	6.3	0.9	129.1	17.9	7.6	1.1
Littoral sediment	LS	0	0	1310.0	10.9	75.5	0.6	410.2	3.4	64.0	0.5
Maritime grassland	GM	0	0	12.6	37.9	0	0	8.6	25.7	0	0
Neutral grassland	GN	2781.4	9.8	1210.0	4.2	822.0	2.9	1809.8	6.4	1026.2	3.6
Orchard	FT	110.4	6.6	46.1	2.8	16.8	1.0	24.2	1.5	27.0	1.6
Rivers and streams	AR	84.5	1.3	609.5	9.3	450.9	6.8	78.9	1.2	254.0	3.9
Standing open water and canals	AS	615.9	13.3	370.8	8.0	127.2	2.8	199.2	4.3	81.1	1.8
Supralittoral rock	SR	0	0	4.6	2.1	0	0	83.6	38.8	0.3	0.1
Supralittoral sediment	SS	0	0	40.3	1.6	0.04	<0.01	407.5	15.9	0.2	0.01
Undetermined young woodland	OV	9.5	13.4	2.8	4.0	0	0	0.5	0.7	45.0	63.6
Total		**57770.1**		**34016.9**		**7935.2**		**31598.9**		**10091.7**	

Table 5.8b Distribution of Kent's Broad Habitats within Districts (Maidstone - Shepway)

		Maidstone		Medway		Sevenoaks		Shepway	
Broad Habitat Type		Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH
Acid grassland	GA	29.4	5.7	1.0	1.0	184.3	36.0	42.1	8.2
Arable and horticulture	CR	14923.1	10.9	4756.5	4756.5	7657.2	5.6	16538.1	12.1
Boundary and linear features	LF	1246.7	9.7	1142.4	1142.4	1188.6	9.2	991.3	7.7
Bracken	BR	2.5	0.8	11.2	11.2	180.7	55.2	11.4	3.5
Broadleaved, mixed, and yew woodland	WB	4344.6	9.8	1598.8	1598.8	6433.9	14.5	1964.6	4.4
Built-up areas	UR	1434.2	9.1	1924.1	1924.1	1213.0	7.7	1014.2	6.4
Calcareous grassland	GC	273.9	14.2	58.3	58.3	148.8	7.7	319.5	16.6
Coniferous woodland	WC	120.7	3.6	5.5	5.5	464.8	13.9	269.5	8.0
Dwarf shrub heath	HE	2.3	3.1	0	0	5.3	7.1	0	0
Fen, marsh and swamp	EM	12.7	1.4	101.0	11.1	17.4	1.9	120.4	13.2
Improved grassland	GI	13476.8	11.6	5274.4	4.5	15059.0	13.0	8858.4	7.6
Inland rock	RE	18.4	1.9	166.6	16.8	40.6	4.1	56.2	5.7
Littoral rock	LR	0	0	94.6	13.1	0	0	26.5	3.7
Littoral sediment	LS	0	0	4867.2	40.6	0	0	828.9	6.9
Maritime grassland	GM	0	0	0.3	1.0	0	0	2.5	7.3
Neutral grassland	GN	2208.7	7.7	3352.8	11.8	3229.9	11.3	2343.7	8.2
Orchard	FT	386.9	23.1	126.3	7.5	66.2	4.0	11.3	0.7
Rivers and streams	AR	115.5	1.8	3596.0	54.6	66.5	1.0	16.8	0.3
Standing open water and canals	AS	258.3	5.6	579.5	12.5	380.1	8.2	741.4	16.0
Supralittoral rock	SR	0	0	8.4	3.9	0	0	38.0	17.6
Supralittoral sediment	SS	0	0	7.0	0.3	0	0	2047.6	80.0
Undetermined young woodland	OV	1.2	1.8	3.2	4.6	0.5	0.7	5.2	7.4
Total		**38855.9**		**27675.2**		**36336.6**		**36247.6**	

county's dwarf shrub heath. Traditional orchards are found predominantly in the west of the county, although Swale district holds a good proportion of the county's broad habitat resource.

Some individual districts encompass a high proportion of particular broad habitats; for example Medway has a high proportion of the rivers and streams broad habitat and of littoral sediment, which is associated with intertidal mudflats and coastal saltmarsh. Both Tonbridge and Tunbridge Wells have substantial proportions of the county's dwarf shrub heath, with Canterbury also supporting important areas of this habitat.

Statistics for individual districts will be given in section 5.7 onward.

Table 5.8c Distribution of Kent's Broad Habitats within Districts (Swale – Tunbridge Wells)

		Swale		Thanet		Tonbridge and Malling		Tunbridge Wells	
Broad Habitat Type		Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH	Area (ha)	% Kent BH
Acid grassland	GA	7.0	1.4	0	0	60.4	11.8	75.1	14.7
Arable and horticulture	CR	15727.8	11.5	5033.3	3.7	7058.2	5.1	8909.0	6.5
Boundary and linear features	LF	1072.2	8.3	680.1	5.3	1089.9	8.5	964.2	7.5
Bracken	BR	1.0	0.3	0	0	9.0	2.7	35.5	10.8
Broadleaved, mixed, and yew woodland	WB	2741.4	6.2	159.6	0.4	4303.9	9.7	6140.8	13.8
Built-up areas	UR	1552.3	9.8	1126.3	7.1	1224.0	7.8	1085.5	6.9
Calcareous grassland	GC	153.2	7.9	73.5	3.8	126.3	6.6	0	0
Coniferous woodland	WC	123.2	3.7	0	0	192.4	5.7	882.5	26.3
Dwarf shrub heath	HE	1.7	2.3	0	0	16.2	21.8	26.8	36.1
Fen, marsh and swamp	EM	180.2	19.8	14.9	1.6	66.3	7.3	3.2	0.4
Improved grassland	GI	8326.8	7.2	2547.9	2.2	8274.0	7.1	12751.4	11.0
Inland rock	RE	82.1	8.3	2.4	0.2	224.6	22.7	5.8	0.6
Littoral rock	LR	108.2	15.0	283.5	39.2	0.04	0.01	0	0
Littoral sediment	LS	3885.4	32.4	511.6	4.3	36.2	0.3	0	0
Maritime grassland	GM	1.3	3.8	8.1	24.3	0	0	0	0
Neutral grassland	GN	5433.6	19.1	401.0	1.4	1487.0	5.2	2412.7	8.5
Orchard	FT	333.0	19.9	1.7	0.1	199.8	11.9	326.3	19.5
Rivers and streams	AR	1068.9	16.2	8.3	0.1	159.6	2.4	82.6	1.3
Standing open water and canals	AS	581.1	12.6	90.0	2.0	314.1	6.8	289.1	6.3
Supralittoral rock	SR	69.7	32.3	11.2	5.2	0	0	0	0
Supralittoral sediment	SS	29.8	1.2	26.4	1.0	0	0	0	0
Undetermined young woodland	OV	1.8	2.5	0.3	0.4	0.4	0.6	0.3	0.5
Total		**41481.4**		**10980.2**		**24842.2**		**33990.8**	

Figure 5.61 Map showing the location of Districts within the county of Kent

The following charts give a graphic representation of the data given in table 5.8 (a-c).

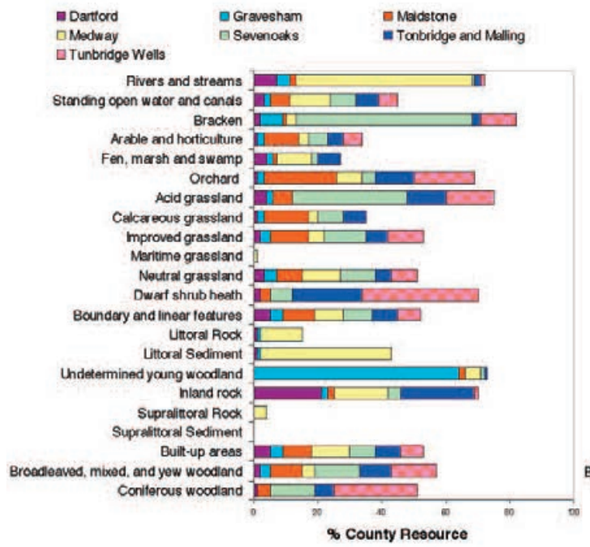


Figure 5.62a Proportion of the County's Broad Habitat Resource – Western Districts

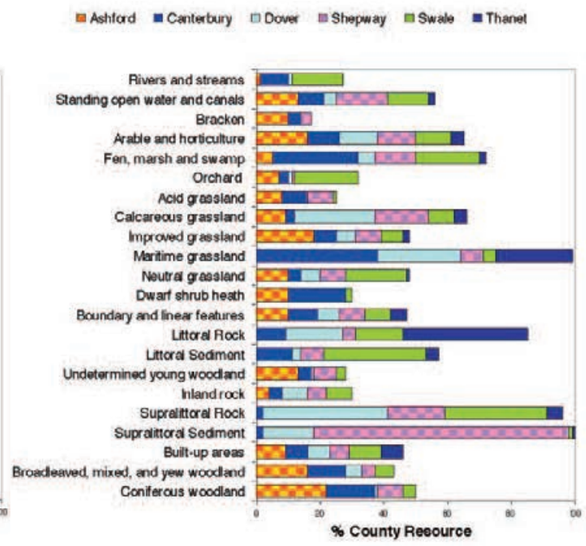


Figure 5.62b Proportion of the County's Broad Habitat Resource – Eastern Districts

5.6.2 UK BAP Priority and Annex 1 Habitats Within Kent's Districts

The charts shown in figures 5.63a-c represent how much of the county's UK BAP priority habitats are present within each district.

Some of the habitats have only been recorded in few districts, for example Lowland fens only appears in Dover, Ashford and Canterbury districts, and Sheltered muddy gravels only in the districts of Dartford, Swale and Gravesham that have coastlines along the Greater Thames Estuary. Other habitats are represented at varying cover within many or most of the districts, for example, Coastal and floodplain grazing marsh is present at some level within all the districts, while Lowland calcareous grassland has been recorded in 12 out of the 13 districts.

The resource of some of the County's priority habitats can be held predominantly within a single district, with only small proportions found in other areas. For example, 93.8% of Kent's Coastal vegetated shingle is found in Shepway, while Dover has 74.3% of the Coastal sand dune resource.

It should be noted that the charts in figures 5.63a-c illustrate the proportion of the priority habitat within the districts, and give no indication of the area covered by the habitat. For example, the habitat Purple moor grass and rush pastures is found in four districts: Ashford has 46.9% of the priority habitat, with the remainder divided between Sevenoaks (28.6%), Tunbridge Wells (13.8%) and Shepway (10.4%). The actual areas that these figures relate to total are given in Appendix 7. Ashford has just 5.1ha of the priority habitat, Sevenoaks 3.1ha, Tunbridge Wells 1.5ha and Shepway 1.1ha.

Figure 5.64 shows the proportion of Kent's Annex 1 habitats within each district. As for the priority habitats, some Annex 1 habitats are restricted to one or just a few districts; for example, the resource of Perennial vegetation of stony banks is largely in Shepway as it covers the extensive shingle of Dungeness.

As described earlier in section 5.4.2, the Annex 1 habitat of Semi-natural dry grasslands (*Festuca Brometalia*) (important orchid sites) is likely to be under-recorded so the distribution in the districts may not reflect the full picture across the county.

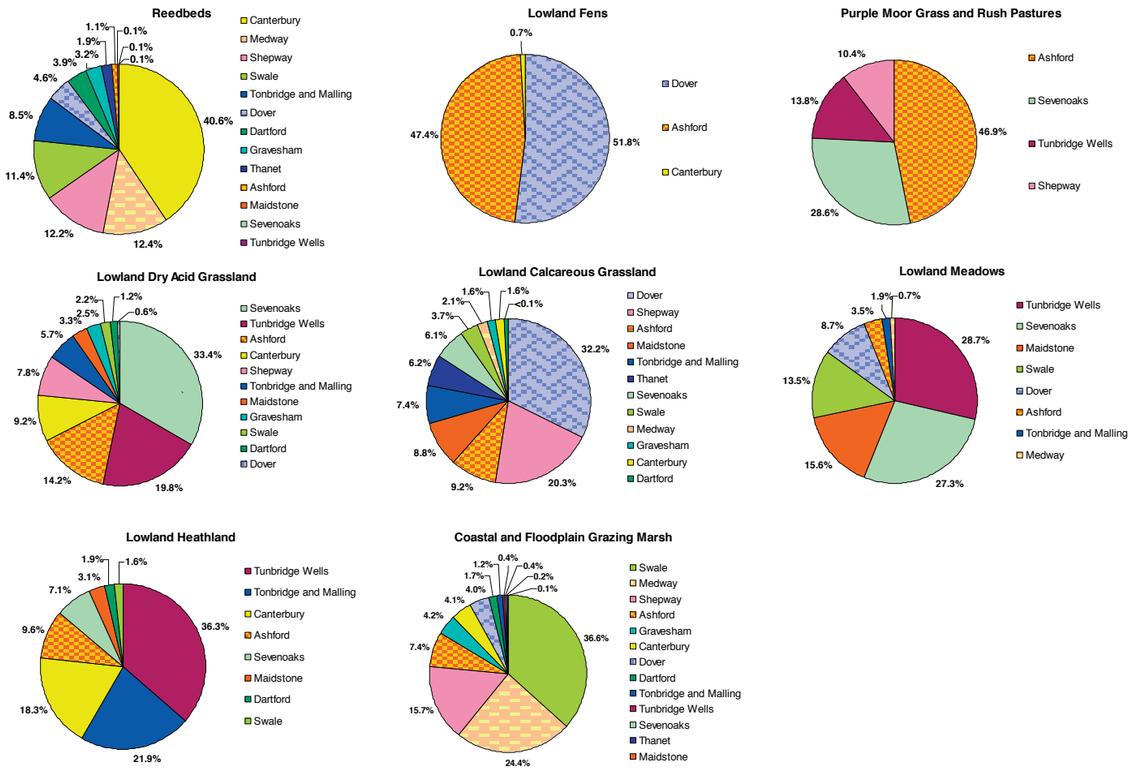


Figure 5.63a Proportion of Kent's UK BAP priority habitats within each District – Wetland, Grassland and Heathland Habitats.

The pie charts show how much of the county's priority habitat is present within each district. The colour coding for each district is uniform across the charts. The priority habitats represented here are wetland, grassland and heathland habitats.

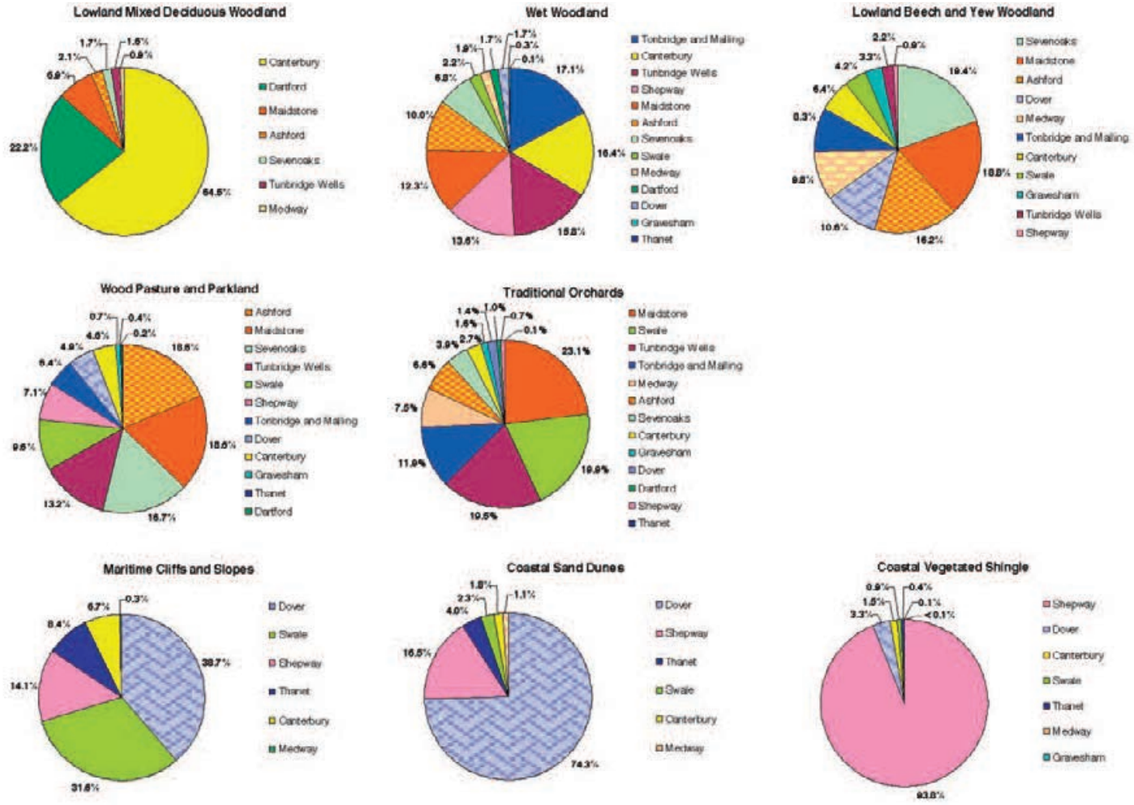


Figure 5.63b Proportion of Kent's UK BAP priority habitats within each District – Woodland and Supralittoral Coastal Habitats

The pie charts show how much of the county's priority habitat is present within each district. The colour coding for each district is uniform across the charts. The priority habitats represented here are woodland, woodland structure and supralittoral coastal habitats.

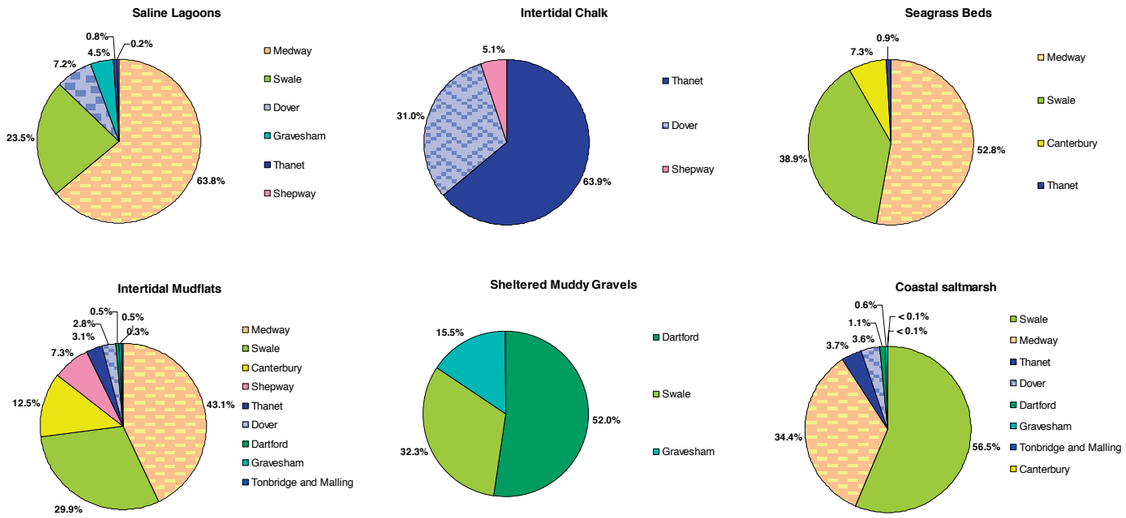


Figure 5.63c Proportion of Kent's UK BAP priority habitats within each District – Marine and Littoral Habitats

The pie charts show how much of the county's priority habitat is present within each district. The colour coding for each district is uniform across the charts. These charts show the marine and littoral priority habitats

Figure 5.64 Proportion of Kent's Annex 1 habitats within Districts

5.7 Ashford District

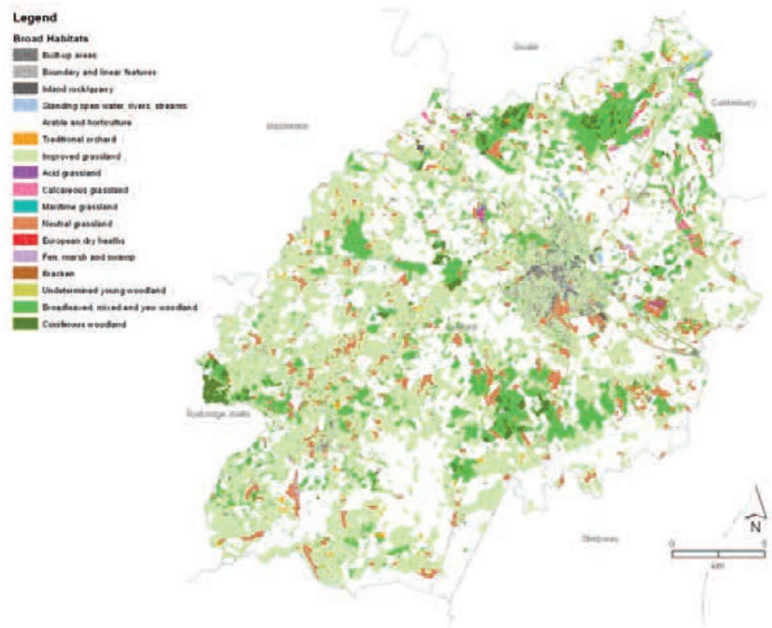


Figure 5.65 Broad Habitat Distribution in Ashford District

5.7.1 Ashford District Habitats – Key Points

- Ashford District falls within five of the NCAs found in Kent, from Kent Downs to the north, through Wealden Greensand and the Low Weald, to parts of Romney Marshes to the south and a small area within the High Weald to the south west. This range of landscape forms and environments support a variety of habitats, and the District contains a significant proportion of some of Kent's most scarce habitats
- 35.9% of the district is within Kent Downs AONB, and more than 11% of the district is within an area designated as either SSSIs or LWS
- The District has an average cover of built and urban environment, with 4.6% of the District being classed as either Built-up areas or Boundaries and Linear features, and a further 4.5% recorded as gardens. This gives a total for built and urban environments, not including amenity grassland, of 9.1%, which is lower than that seen for the county as a whole (13.7%)
- Arable and horticulture and improved grassland cover more that three-quarters of the district
- The district contains more than one fifth of the county's coniferous woodland
- 12.5% of the district is broadleaved mixed and yew woodland, within which is 16.2% of the county's Lowland beech and yew woodland priority habitat and10% of the county's wet woodland. One fifth of the county's coniferous woodland is present within the District
- The district supports nearly half of the county's UK BAP priority habitats Lowland fens and Purple Moor Grass and Rush Pastures
- A third of Kent's Coastal and floodplain grazing marsh are found within the district
- Important areas of Lowland dry acid grassland (14.2% of the county priority habitat resource) and Lowland heathland (9.6% of the county priority habitat resource) are found within Ashford district
- Ashford supports Kent's only example of the Annex 1 habitat Northern Atlantic wet heath with *Erica tetralix* at Hothfield Common

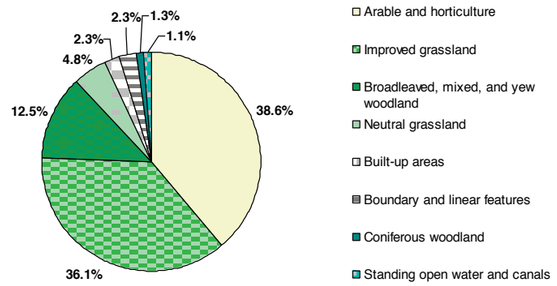


Figure 5.66 Broad Habitats as a Proportion of Ashford District (>1%)

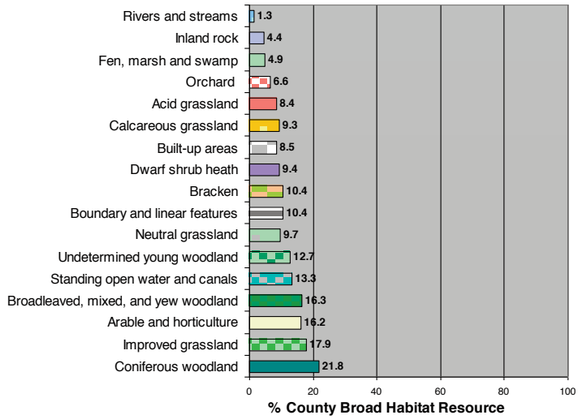


Figure 5.67 Proportion of County Broad Habitat Resource within Ashford District

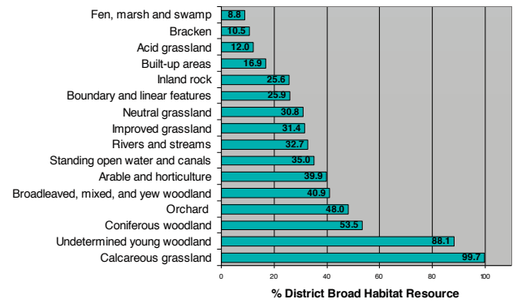


Figure 5.69 Proportion of Ashford's Broad Habitats within Kent Downs AONB

Table 5.8 Distribution of Ashford's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	**1539.7**	**2.7**	**<1**
LWS	**4872.4**	**8.4**	**1.2**
AONB	**20749.0**	**35.9**	**5.3**
District	**57771.0**		**14.7**

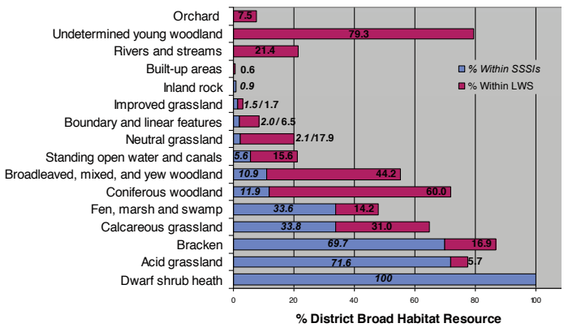


Figure 5.68 Proportion of Ashford's Broad Habitats within SSSIs or LWS

Figure 5.70 Proportion of Ashford District Broad Habitats that are UK BAP Priority Habitats

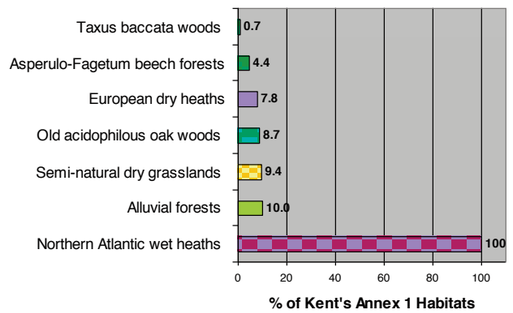


Figure 5.71 Proportion of Kent's Annex 1 Habitats within Ashford District

5.8 Canterbury District

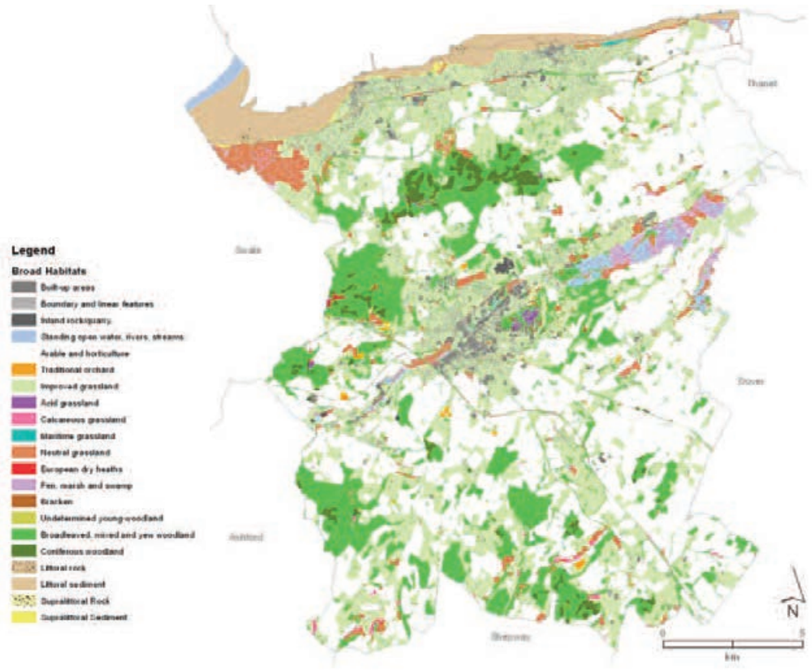


Figure 5.72 Broad Habitat Distribution in Canterbury District

5.8.1 Canterbury District Habitats – Key Points

- The district supports a range of terrestrial and maritime habitats, with habitats representing three NCAs, mostly those of the North Kent Plain and Kent Downs, but including a small area of Greater Thames Estuary in the north-west corner
- 26.8% of the district is within Kent Downs AONB, and nearly a quarter of the district is within either SSSIs (12.8%) or LWS (12.0%)
- Arable and Horticulture and Improved grassland cover 64.2% of the district
- Boundary and linear features with Built-up areas total around 6.7% of the District, Gardens cover a further 2131.4ha, or 6.3% of the district. The total urban area, not including amenity grassland, is around 13%, which is similar to that seen for the county as a whole (13.7%)
- Broadleaved, mixed and yew woodland is extensive, covering 15.6% of the district, representing 11.9% of the county broad habitat resource. Within this are 6.4% of the county's UK BAP priority habitat of Lowland beech and yew woodland (containing 11.7% of the county's Annex 1 *Asperulo-Fagetum* beech forests), 16.4% of Kent's Wet woodland and a high proportion of the Lowland mixed deciduous woodland, with 64.5% of the priority habitat within the district
- All of the county's Annex 1 habitat 'Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*' recorded in the survey is found in Canterbury district
- The district has more than a quarter (27.5%) of the county's fen, marsh and swamp broad habitat resource, which contains two-fifths (40.6%) of Kent's reedbeds
- The district's Lowland heathland is a significant proportion of the county resource, with 18.3% of Kent's priority habitat, which contains 17.2% of the Annex 1 European dry heath habitat

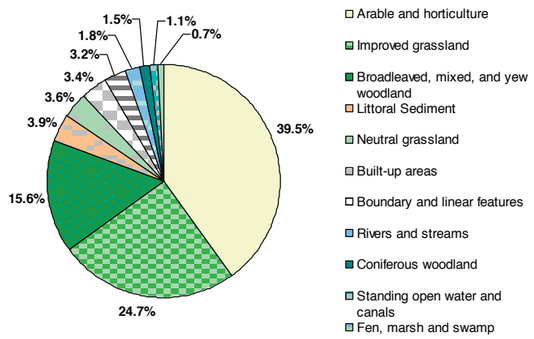


Figure 5.73 Broad Habitats as a Proportion of Canterbury District (>1%)

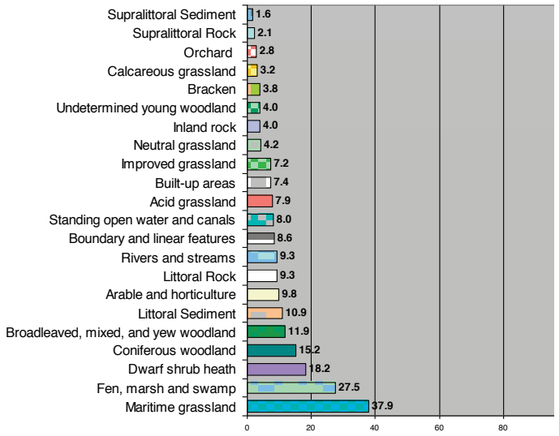


Figure 5.74 Proportion of County Broad Habitat Resource within Canterbury District

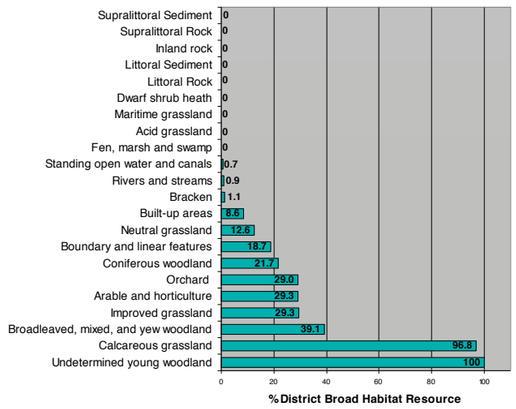


Figure 5.76 Proportion of Canterbury's Broad Habitats within AONBs

Table 5.9 Distribution of Canterbury's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	4344.1	12.8	1.1
LWS	4070.4	12.0	1.0
AONB	9119.7	26.8	2.3
District	34016.9		8.7

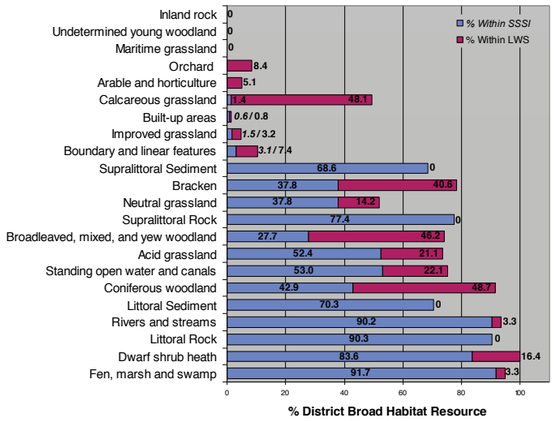


Figure 5.75 Proportion of Canterbury's Broad Habitats within SSSIs or LWS

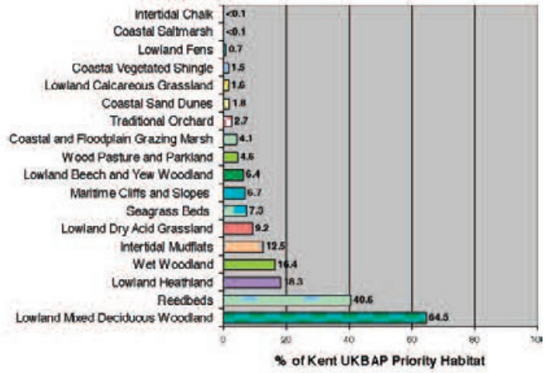


Figure 5.77 Proportion of Canterbury District Broad Habitats that are UK BAP Priority Habitats

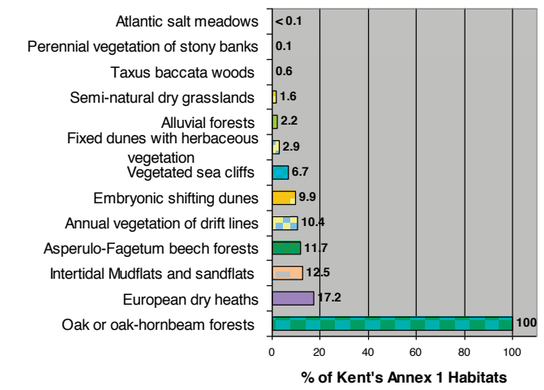


Figure 5.78 Proportion of Kent's Annex 1 Habitats within Canterbury District

5.9 Dartford District

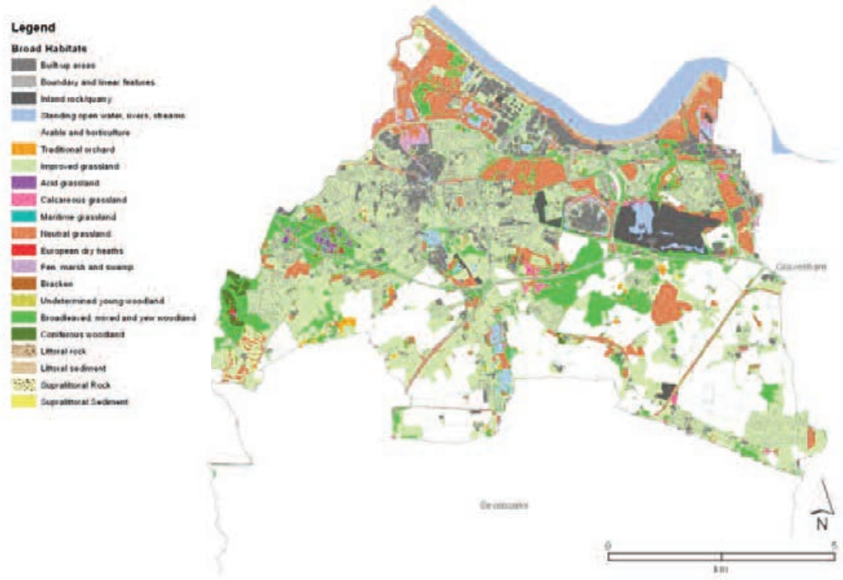


Figure 5.79 Distribution of Broad Habitats in Dartford District

5.9.1 Dartford District Habitats – Key Points

- Dartford is the smallest district in Kent, covering just 7939.2ha. It falls mainly within the North Kent Plain NCA, but has small areas within the Greater Thames Estuary to the north and Kent Downs to the south. The result is a range of habitats within the district, both coastal and terrestrial, although the extent of some of these habitats is small
- Built up areas and Boundary and Linear Features together cover 18.3% of the district, which is higher than the 7.3% for Kent as a whole.Gardens cover a further 835.8ha, or 10.5% of the district, meaning that at least 28.8% of the district is urban environment, more than twice that observed for the whole of Kent (13.7%)
- Improved grassland and Arable and horticulture are the largest broad habitats, covering just over half of the district
- A relatively high proportion of the district comprises aquatic habitats: a total of 7.3% of the district is either Rivers and streams or Standing open water and canals
- The district is moderately wooded, with 10.2% of the district covered by broadleaved, mixed and yew woodland. This contains 22.2% of the county's Lowland mixed deciduous woodland priority habitat and 1.7% of the county's wet woodland
- The woodland habitats support 91.2% of Kent's Annex 1 habitat 'Old acidophilous oak woods with *Quercus robur* on sandy plains' which is found around Dartford Heath
- None of the district is within an AONB and less than 10% of of the district is within either SSSIs (1.7%) or LWS (8.1%)
- A large proportion of the district's dwarf shrub heath, acid grassland, bracken and coniferous woodland are found within LWS
- The district holds 20.5% of the county's inland rock resource, connected with quarrying and extraction
- More than 50% of Kent's UK BAP priority habitat of Sheltered muddy gravels is found within the district, as part of the Greater Thames Estuary

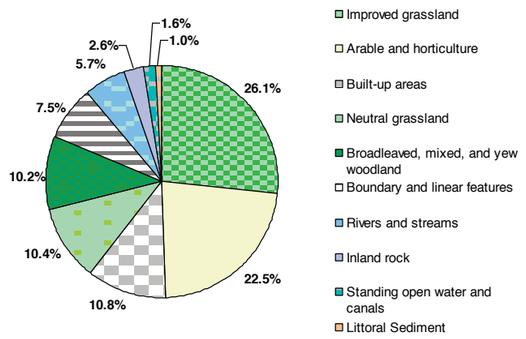


Figure 5.80 Broad habitats as a proportion of Dartford District (>1%)

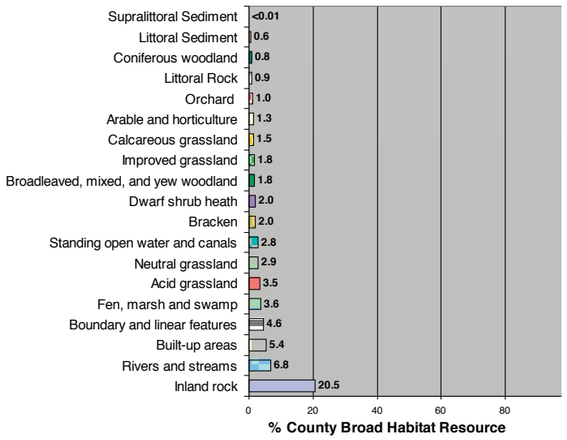


Figure 5.81 Proportion of County Broad Habitat Resource within Dartford Districtt

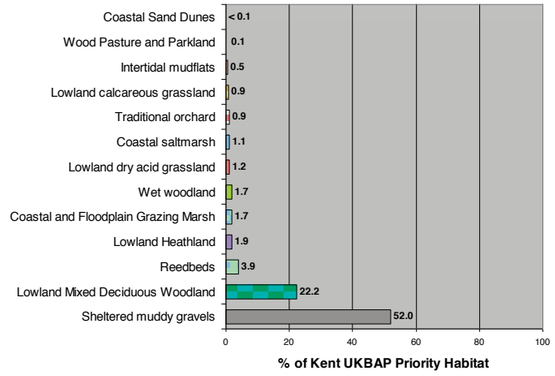


Figure 5.83 Proportion of County UK BAP priority habitats within Dartford District

Table 5.10 Distribution of Dartford's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	132.0	1.7	<1
LWS	641.0	8.1	1.2
AONB	0.0	0.0	0.0
District	7935.0		2.0

Figure 5.84 Proportion of Kent's Annex 1 Habitats within Dartford District

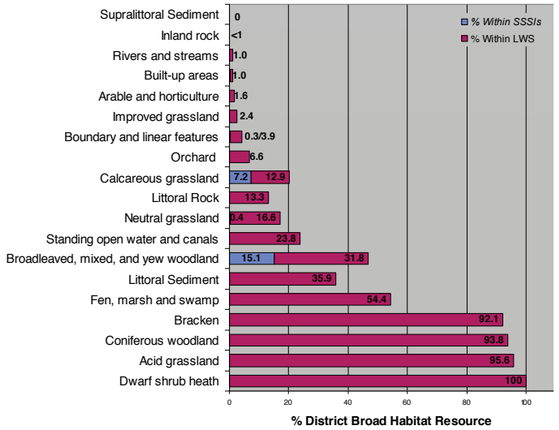


Figure 5.82 Proportion of Dartford's Broad Habitats within SSSIs or LWS

5.10 Dover District

Figure 5.85 Broad Habitat Distribution in Dover District

5.10.1 Dover District Habitats – Key Points

- Dover District falls within both the North Kent Plain and Kent Downs NCAs, and supports most of the broad habitat categories found within Kent. It has important areas of coastal habitats and contains a significant proportion of the county's calcareous grassland
- More than half the district is Arable and horticulture, with a further 23.6% being improved grassland. The Arable and horticulture is 11.7% of the county resource
- There is proportionately less woodland than many other districts, with only 6.9% of the district covered by broadleaved, mixed and yew woodland, but this contains 10.6% of the County's UK BAP Lowland beech and yew woodland priority habitat
- Dover has 2084.7ha or 6.5% cover of Built-up areas and Boundaries and linear features. Gardens cover another 1680.6ha, or 5.3% of the district. The total urban area, not including amenity grasslands is around 11.8% which is slightly lower than the total county urban estimate of 13.7%
- The district has nearly two-fifths (38.8%) of the supralittoral rock broad habitat resource, more than a quarter of the maritime grassland (25.7%) and almost a quarter (24.6%) of Kent's calcareous grassland
- Just over a fifth of the district is within Kent Downs AONB (22.9%) and a total of 13.5% of the district is within an area designated as SSSIs or LWS
- Much of the district's coastal habitats are within SSSIs. Within these areas are significant proportions of the county's Annex 1 habitats for dunes and vegetated sea cliffs. 74.3% of the county's coastal sand dunes are within Dover district
- The district has more than half the county's Lowland fen UK BAP priority habitat
- Almost one third (32.2%) of Kent's Lowland calcareous grassland priority habitat is found in Dover district, as well as 31% of the county's intertidal chalk

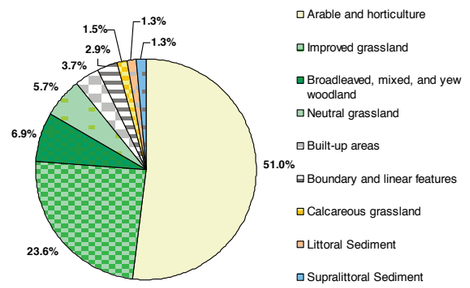


Figure 5.86 Broad habitats as a proportion of Dover District (>1%)

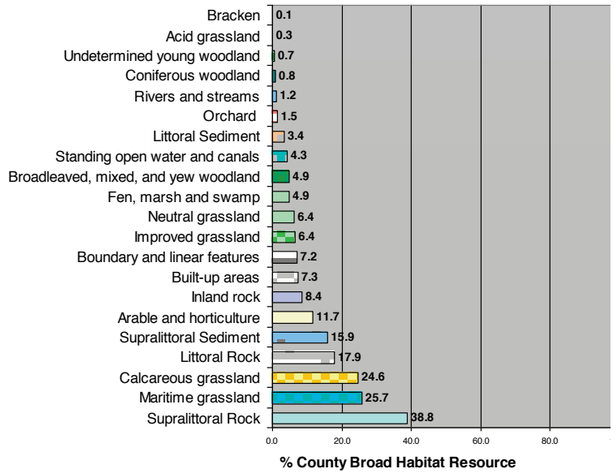


Figure 5.87 Proportion of County Broad Habitat Resource within Dover District

Table 5.11 Distribution of Dover's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	2061.1	6.5	0.5
LWS	2221.9	7.0	0.6
AONB	7223.62	22.9	1.8
District	31598.9		8.1

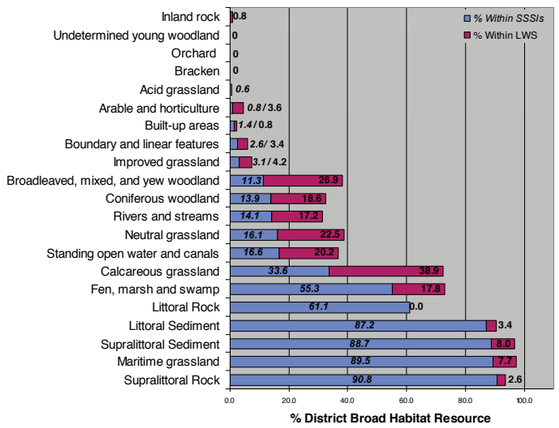


Figure 5.88 Proportion of Dover's Broad Habitats within SSSIs or LWS

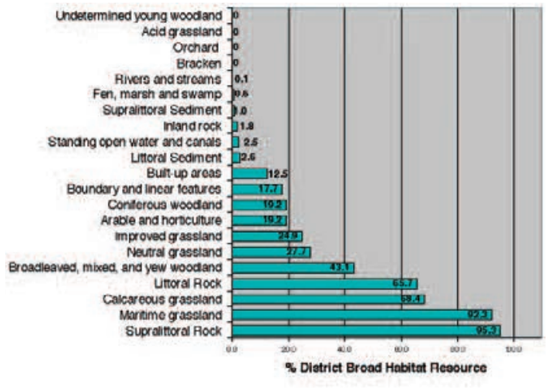


Figure 5.89 Proportion of Dover's Broad Habitats within AONBs

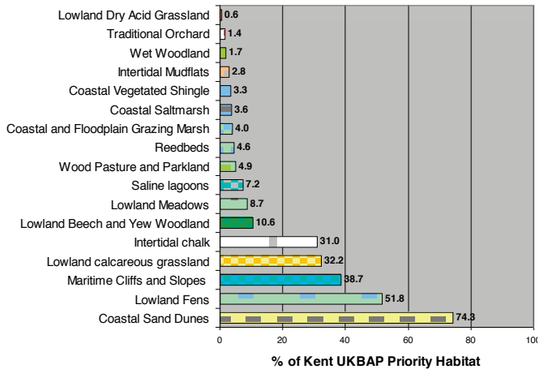


Figure 5.90 Proportion of County UK BAP Priority Habitats within Dover District

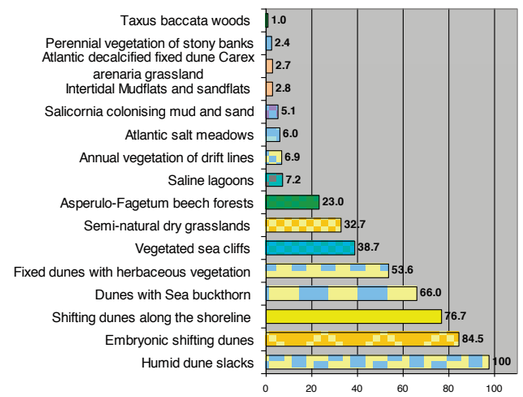


Figure 5.91 Proportion of County Annex 1 Habitats within Dover District

5.11 Gravesham District

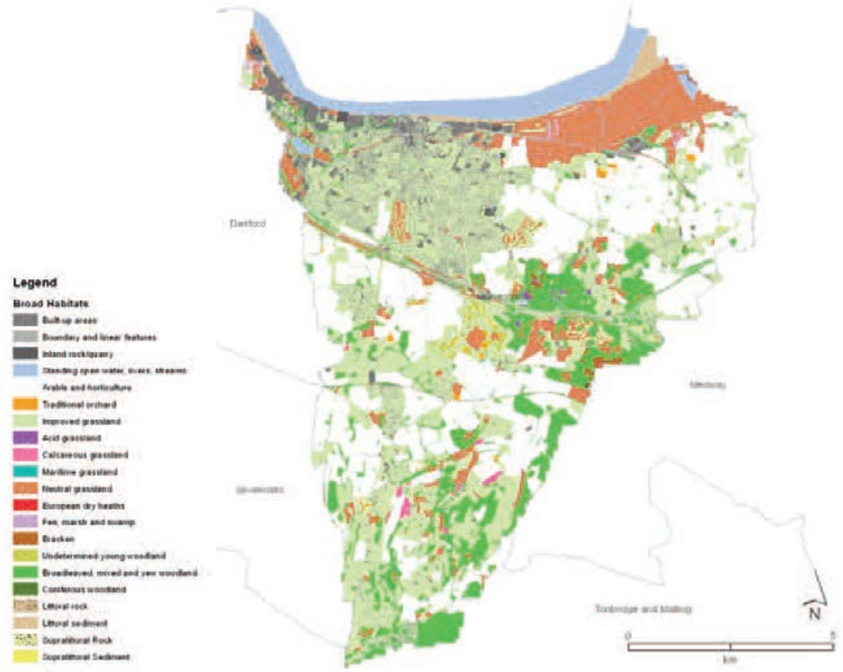


Figure 5.92 Broad Habitat Distribution in Gravesham District

5.11.1 Gravesham District Habitats – Key Points

- Gravesham has a range of both terrestrial and coastal habitats, and falls within three NCAs: Greater Thames Estuary, the North Kent Plain and Kent Downs. As a result there are a variety of habitats present, but most of these cover small areas within the district
- The largest broad habitat types within the district are Arable and horticulture (29.8% of the district) and Improved grassland (29.4% of the district)
- Built-up areas and Boundary and Linear features cover 12.2% of the district, and Gardens a further 10.6% of the district, giving a total urban area, not including amenity grasslands of around 22.8%, considerably higher than that seen for Kent overall (13.7%)
- There are significant areas of woodland, with 12.6% of the district being classed as broadleaved, mixed and yew woodland. The district has 63.6% of the county's undetermined young woodland, mostly associated with new road and rail development
- The district holds relatively low proportions of many of the county's broad and UK BAP priority habitats
- 23.8% of the district is within Kent Downs AONB and more than 15% of the district has either a designation as SSSI (10.3%) or LWS (5.2%).
- The district has 18.5% of the county's Coastal and floodplain grazing marsh and 15.5% of the Sheltered muddy gravels UK BAP priority habitats
- There are few Annex 1 habitats within this district and these also represent a small proportion of the county's resource. However, the district supports 4.6% of the county's Saline lagoons, and 10.8% of the Annex 1 saltmarsh habitat '*Salicornia* (Glasswort) and other annuals colonising mud and sand

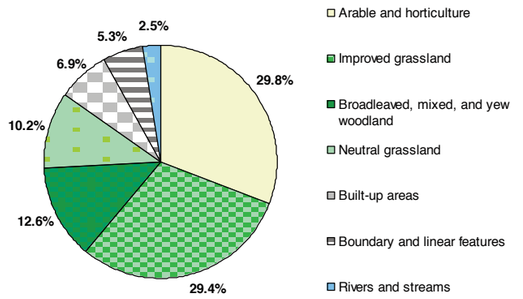


Figure 5.93 Broad Habitats as a Proportion of Gravesham District (>1%)

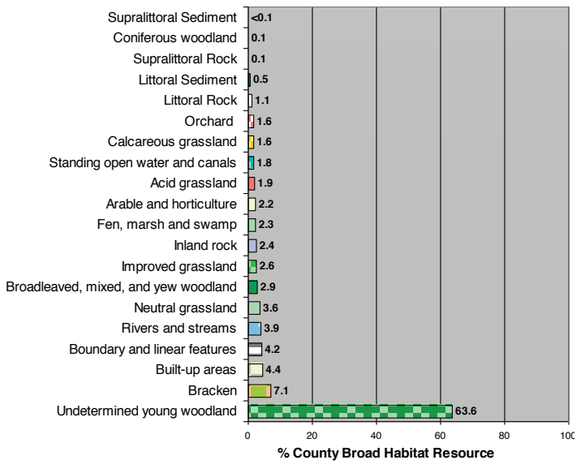


Figure 5.94 Proportion of County Broad Habitat Resource within Gravesham District

Table 5.12 Distribution of Gravesham's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	1040.7	10.3	0.3
LWS	529.4	5.2	0.1
AONB	2404.6	23.8	0.6
District	10091.7		2.6

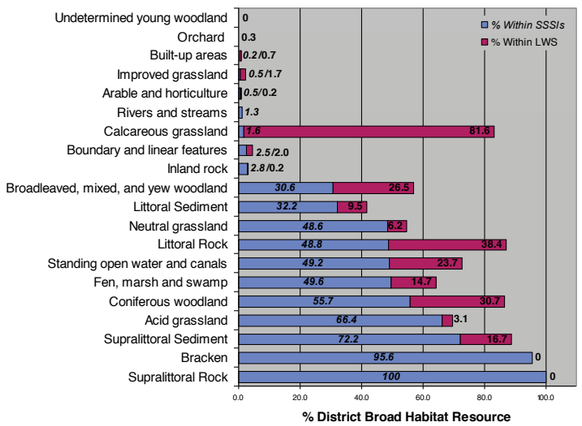


Figure 5.95 Proportion of Gravesham's Broad Habitats within SSSIs or LWS

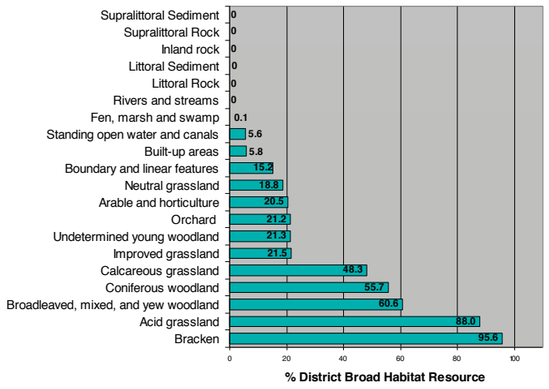


Figure 5.96 Proportion of Gravesham's Broad Habitats within an AONB

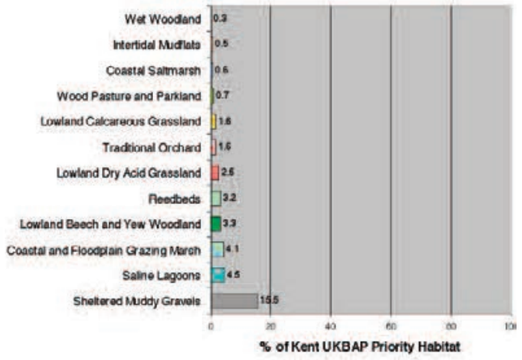


Figure 5.97 Proportion of the County's UK BAP Priority Habitats that are within Gravesham District

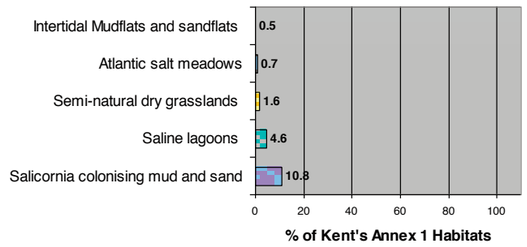


Figure 5.98 Proportion of Kent's Annex 1 Habitats that are within Gravesham District

5.12 Maidstone District

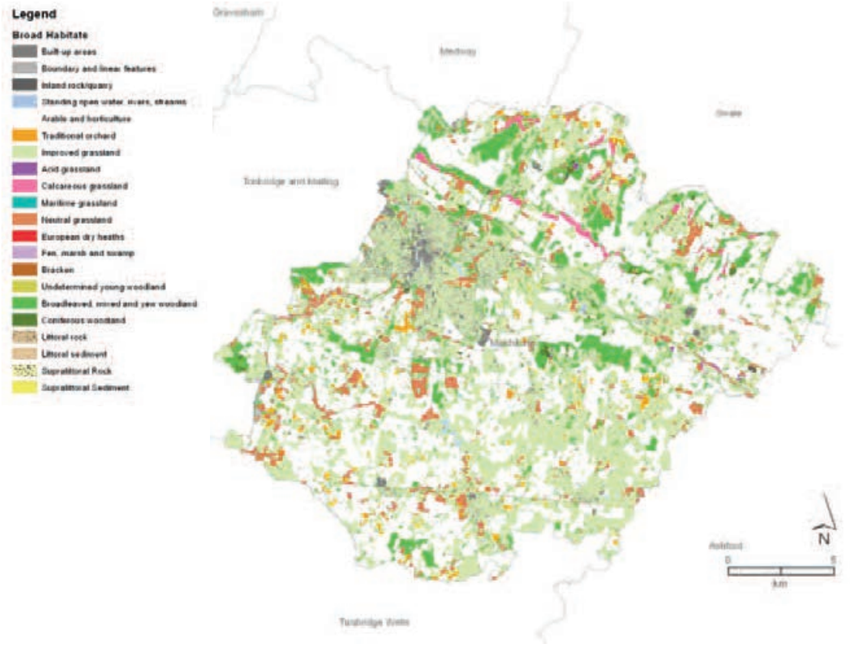


Figure 5.99 Broad Habitat Distribution in Maidstone District

5.12.1 Maidstone District Habitats – Key Points

- Maidstone District falls mainly within three NCAs, the North Kent Plain to the north, Kent Downs, and the Low Weald to the south. The landforms and environmental conditions mean that the district supports a wide range of broad habitat types, although coastal habitats are absent
- Just over a quarter (27.6%) of the district is within the Kent Downs AONB
- Arable and horticulture and Improved grassland are the largest broad habitat types in the district, occupying almost three-quarters (73.1%) of the district area. Both of these constitute more than 10% of the county resource
- Built-up areas and Boundary and Linear features together cover 6.9% of the district. Gardens cover a further 2616.1ha or 6.7% of the district. The total built and urban area, excluding amenity grassland, is 13.6% of the district, which is similar to the overall figure for the county (13.7%)
- The district supports 14.2% of Kent's calcareous grassland habitat, with 8.8% of Kent's UK BAP priority habitat and 9% of the County's Annex 1 habitat Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)
- More than one fifth of the County's UK BAP priority habitat Traditional Orchard resource (23.1%) is found within Maidstone District, which covers 1% of the district area
- Important woodland habitats are found here, with 11.2% of the district being broadleaved, mixed and yew woodland. This contains significant proportions of the county's UK BAP priority habitats Lowland beech and yew woodland (18.8%), Wet woodland (12.3%) and Lowland mixed deciduous woodland (6.9%). priority habitat
- More than two-fifths (44.3%) of Kent's Annex 1 habitat *Taxus baccata* woods of the British Isles, as well as 15.6% of the Annex 1 habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) and 7.6% of *Asperulo-Fagetum* beech forests are present within the district's woodlands
- The UK BAP priority habitat Lowland meadow is well represented, with 15.6% of the county's resource present within the district

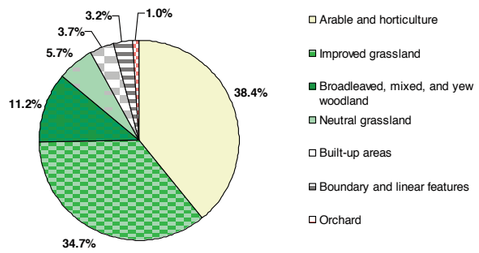


Figure 5.100 Broad Habitats as a proportion of Maidstone District

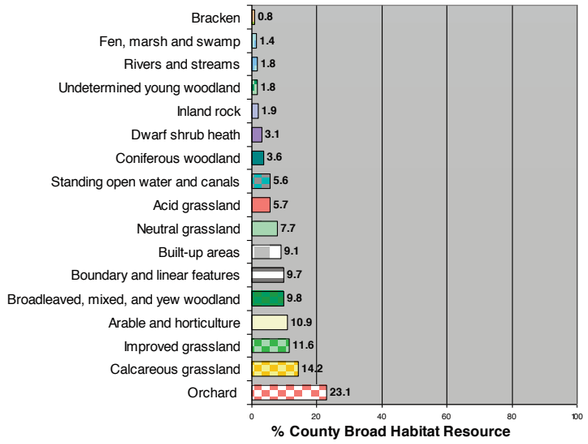


Figure 5.101 Proportion of County Broad Habitat Resource within Maidstone District

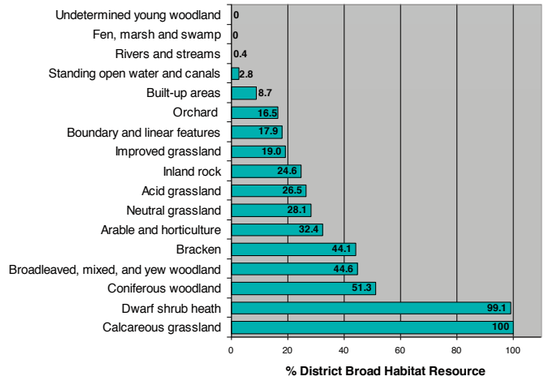


Figure 5.103 Proportion of Maidstone's Broad Habitats within AONBs

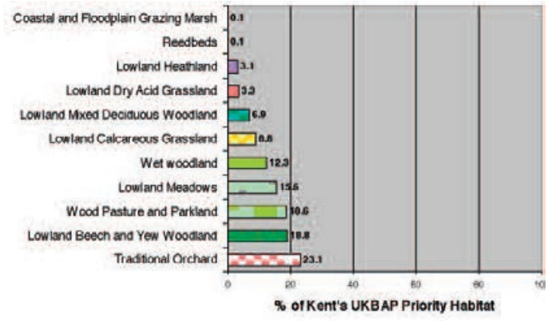


Figure 5.104 Proportion of Kent's UK BAP Priority Habitats within Maidstone District

Table 5.13 Distribution of Maidstone's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	242.72	0.6	0.1
LWS	2367.19	6.1	0.6
AONB	10735.15	27.6	2.7
District	38855.91		9.9

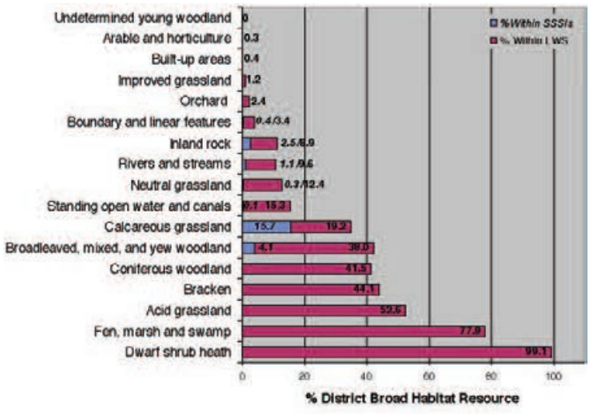


Figure 5.102 Proportion of Maidstone's Broad Habitats within SSSIs or LWS

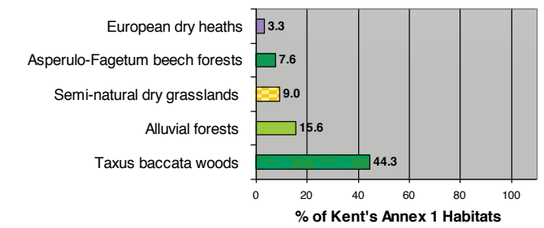


Figure 5.105 Proportion of Kent's Annex 1 Habitats within Maidstone District

5.13 Medway Unitary Authority

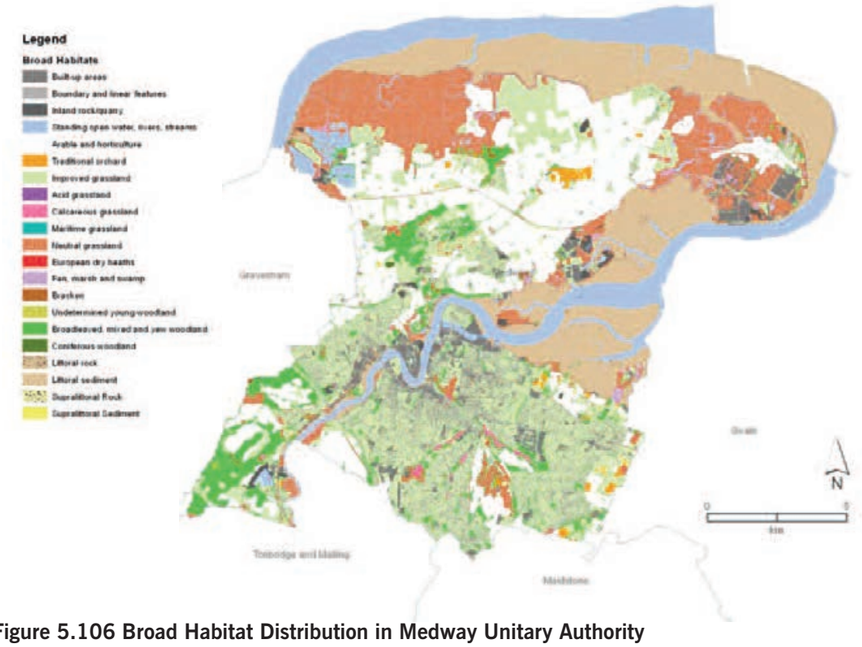


Figure 5.106 Broad Habitat Distribution in Medway Unitary Authority

5.13.1 Medway Unitary Authority (UA) Habitats – Key Points

- Medway Unitary Authority falls within both the North Kent Plain Natural Character Area, and the North Downs NCA
- Medway is unusual in having a low proportion of both Arable and horticulture (17% of the district) and Improved Grassland (19% of the district)
- Only 5% of the UA is within an AONB
- There are several large towns and the city of Rochester within the UA, which can be seen in the areas covered by habitats of built and urban environments. Built-up areas together with Boundaries and linear features make up 11.1% of the UA, with Gardens occupying a further 7.8%. The total contribution of the built and urban environment, excluding amenity grassland, is 18.9%, which is higher than the figure for the whole of Kent of 13.7%
- Rivers and streams cover 13% of the UA, most of which is the River Medway, its estuary and that of the River Thames. This makes up 54.6% of the County's River and Stream resource
- Important and significant areas of the broad habitat Littoral sediment cover 17.6% of the UA, which is 40.6% of Kent's resource. This contains high proportions of some of Kent's UK BAP priority habitats: 63.8% of the Saline lagoons habitat resource (equating to 64.7% of the County's Annex 1 habitat), 34.4% of Coastal saltmarsh (containing 23.5% of Kent's Annex 1 habitat Atlantic salt meadows) and 43.1% of Intertidal mudflats, which are also Annex 1 habitat
- Neutral Grassland covers 12% of the UA, which is 11.8% of the county resource. Within this are two UK BAP priority habitats, 56.8% of Kent's Lowland Meadows, and 24.3% of Coastal and floodplain grazing marsh are found within the UA
- The cover of woodland is only 5.8% of the UA area, but within this is 9.8% of Kent's UK BAP Lowland beech and yew woodland priority habitat containing 32.7% of the county's Annex 1 habitat *Taxus baccata* woods of the British Isles
- There is no recorded UK BAP Wood Pasture and Parkland priority habitat in Medway UA

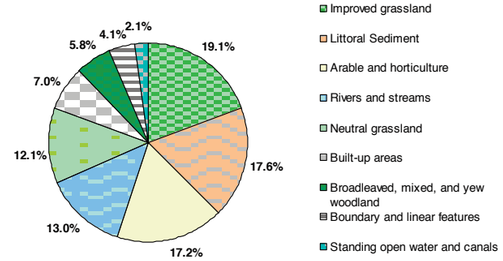


Figure 5.107 Broad Habitats as a Proportion of Medway Unitary Authority

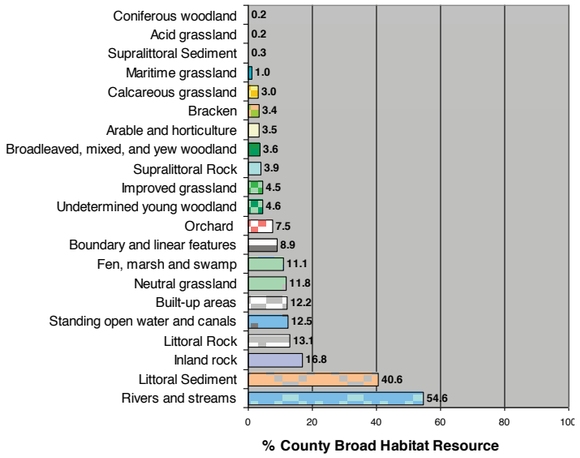


Figure 5.108 Proportion of County Broad Habitat Resource within Medway Unitary Authority

Table 5.14 Distribution of Medway's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	8126.3	29.4	2.1
LWS	385.5	1.4	0.1
AONB	1385.5	5.0	0.4
District	27675.2		7.1

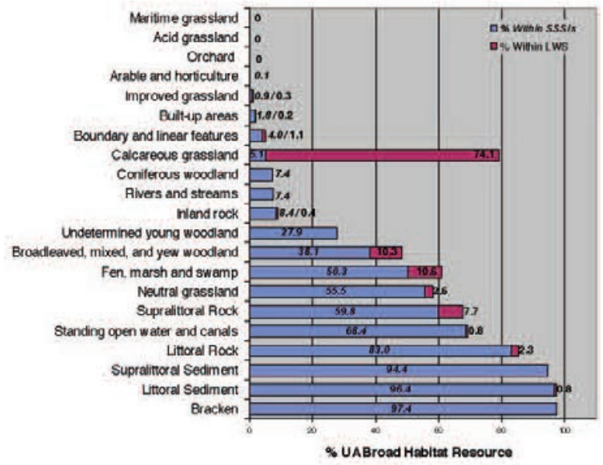


Figure 5.109 Proportion of Medway's Broad Habitats within SSSIs or LWS

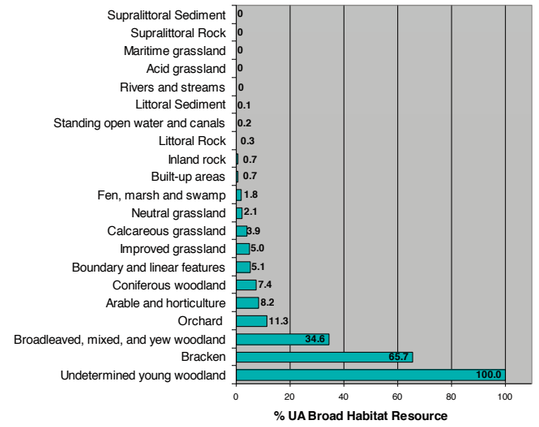


Figure 5.110 Proportion of Medway's Broad Habitats within AONBs

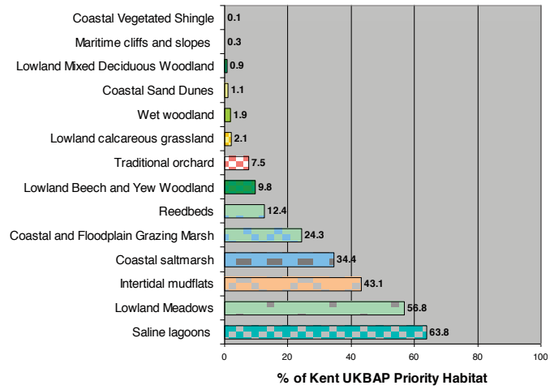


Figure 5.111 Proportion of Kent's UK BAP Priority Habitats within Medway Unitary Authority

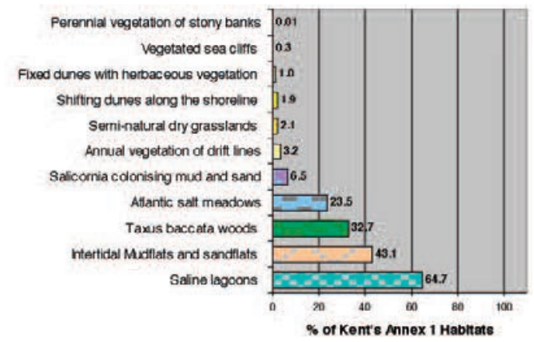


Figure 5.112 Proportion of Kent's Annex 1 Habitats within Medway Unitary Authority

5.14 Sevenoaks District

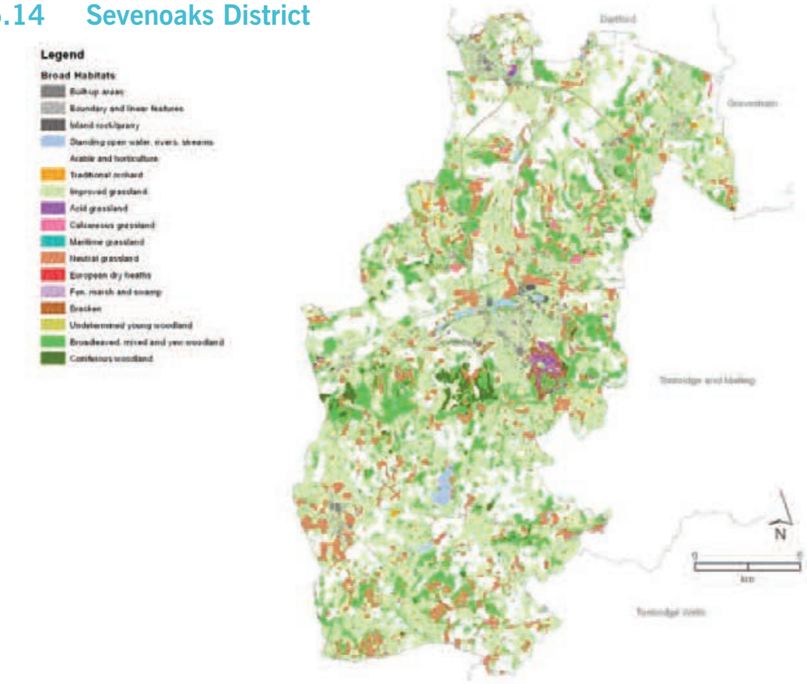


Figure 5.113 Broad Habitat Distribution in Sevenoaks District

5.14.1 Sevenoaks District Habitats – Key Points

- This most westerly district of Kent encompasses several different National Character Areas, stretching from the North Kent Plain, through the chalk of the North Downs, Wealden Greensand, the Low Weald and to part of the High Weald in the south of the District. As a result, there are a wide variety of habitats within the district
- A large proportion (62.2%) of the district is within either Kent Downs or the High Weald AONBs
- Only 21.1% of the district is Arable and horticulture, but Improved Grassland covers 41.4%, which is 12.9% of the County resource. Together, these intensively managed areas occupy 62.5% of the district
- Sevenoaks District has built environment habitats totalling 6.6% of the district, similar to that seen in Kent as a whole. Gardens, however, occupy 8.4% of the district, giving a total for built and urban environments, excluding amenity grassland, of 15%, which is slightly higher than that of the 13.7% observed for Kent
- The area of Broadleaved, mixed and yew woodland is very high, covering 17.7% of the district. Coniferous woodland covers a further 1.3%. Both of these are significant proportions of the County woodland habitat resource (14.5% and 13.9% respectively). The woodlands contain 19.4% of the County's UK BAP priority habitat Lowland beech and yew woodland, 9.1% of the Annex 1 habitat T*axus baccata* woods of the British Isles, and 6.3% of the Annex 1 habitat *Asperulo-Fagetum* beech forests
- The district supports a significant proportion of Kent's Acid grassland, with 36% of the County's Acid grassland resource being found here. The acid grassland is a third of the County's UK BAP priority habitat for Acid grassland. Nearly a third of the District's Acid grassland resource is found within SSSIs
- Dwarf shrub heath is a rare habitat within Kent, and Sevenoaks District supports 7.7% of the County's broad habitat resource, 7.1% of the County's priority habitat and 6.8% of the Annex 1 habitat European dry heaths. Most of this (78%) is within SSSIs
- The Neutral Grassland resource covers 8.9% of the district, and within this are 27.3% of Kent's UK BAP priority habitat Lowland meadows and 90.1% of the Annex 1 habitat Lowland hay meadows
- Calcareous grassland present within the district represents 7.7% of the County's broad habitat resource, and contains 6.1% of the County's UK BAP priority habitat. Within this is a small proportion (1.5%) of the Annex 1 habitat 'Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites)'

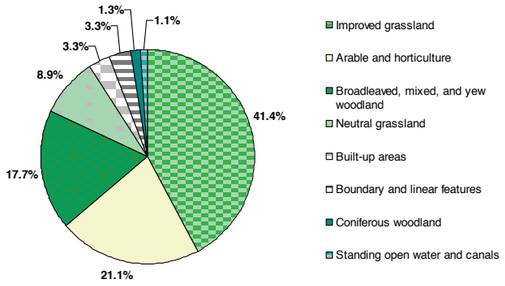


Figure 5.114 Broad Habitats as a Proportion of Sevenoaks District (>1%)

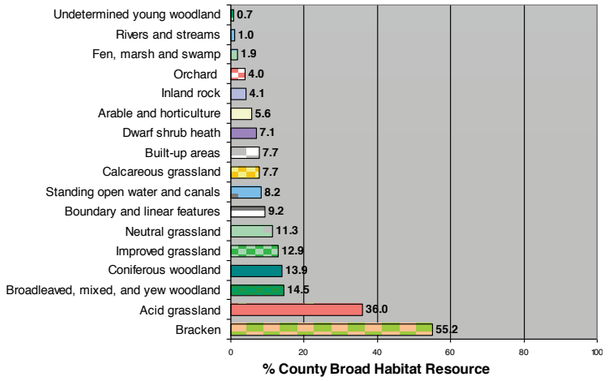


Figure 5.115 Proportion of County Broad Habitat Resource within Sevenoaks' District

Table 5.15 Distribution of Sevenoaks' Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	1390.7	3.8	0.4
LWS	2224.5	6.1	0.6
AONB	22607.2	62.2	5.8
District	36336.6		9.3

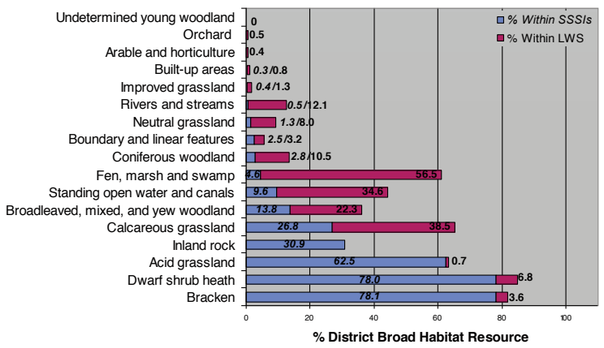


Figure 5.116 Proportion of Sevenoaks Broad Habitats within SSSIs or LWS

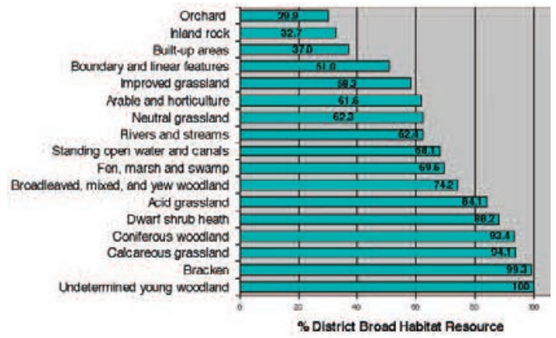


Figure 5.117 Proportion of Sevenoaks Broad Habitats within AONBs

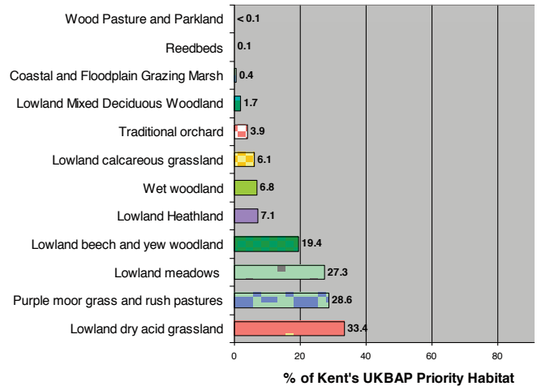


Figure 5.118 Proportion of Kent's UK BAP Priority Habitats within Sevenoaks District

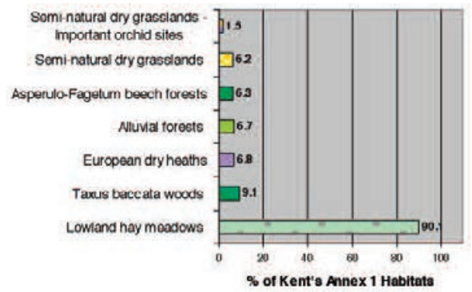


Figure 5.119 Proportion of Kent's Annex 1 Habitats within Sevenoaks District

5.15 Shepway District

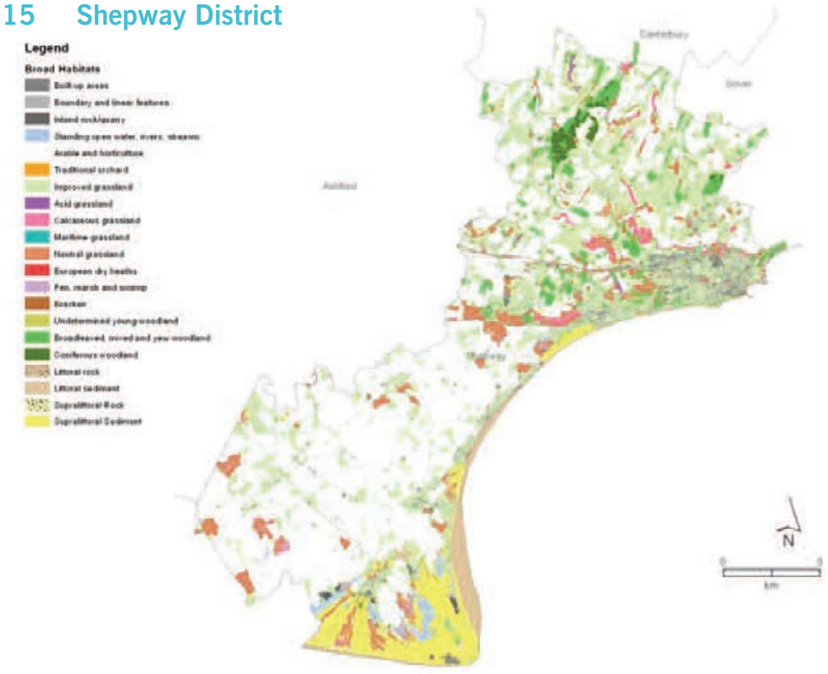


Figure 5.120 Broad Habitat Distribution in Shepway District

5.15.1 Shepway District Habitats – Key Points

- Shepway District extends across three NCAs, from the North Downs in the North, through Wealden Greensand to Romney Marshes in the south. The habitats associated with the different NCAs means this district has a wide range of Kent's habitats within its limits, including the extensive and unusual shingle habitats of Dungeness and the grazing marsh of Romney Marsh
- Almost one quarter (23.8%) of the district is within Kent Downs AONB
- More than two-fifths of the district is Arable and horticulture, with a further quarter being Improved grassland, giving a total cover for the district's intensively managed habitats of 70%
- Shepway has few large settlements and associated transport infrastructure. The proportion of the district covered by the built environment habitats totals 5.5%, with gardens covering a further 4.3%. This gives a total for built and urban environments, excluding amenity grassland, of 9.8%, which is lower than that seen for Kent as a whole
- Neutral grasslands comprise 6.5% of the district's habitats, representing 8.2% of the County's broad habitat resource and containing 15.6% of the County's UK BAP priority habitat of Coastal and floodplain grazing marsh
- The broad habitat Supralittoral sediment makes up 5.6% of the district's habitats, and represents 80% of Kent's broad habitat resource. This includes the UK BAP priority habitats of Coastal vegetated shingle, 93.8% of Kent's resource, and Coastal sand dunes, which is 16.5% of the County resource. Within these priority habitats are Annex 1 habitats of international importance, including 97.3% of Kent's Atlantic decalcified fixed dunes and 33.7% of Dunes with sea buckthorn. The shingle habitats of Dungeness are 96.9% of the Perennial vegetation of stony banks Annex 1 habitat in Kent, with a further 66.7% of Annual vegetation of drift lines being found within the district
- Calcareous grassland makes up 1% of the district's broad habitats, and this is 16.6% of the County's broad habitat resource. Within this is UK BAP priority habitat Lowland calcareous grassland, with 20.3% of the County resource being found within Shepway. Within this resource are two Annex 1 habitats, with the district supporting 19% of the County's 'Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)' and 98.5% of the Annex 1 habitat Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites)

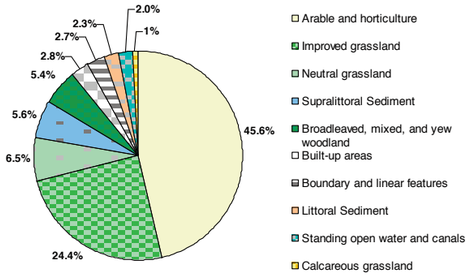


Figure 5.121 Broad Habitat as a Proportion of Shepway District (>1%)

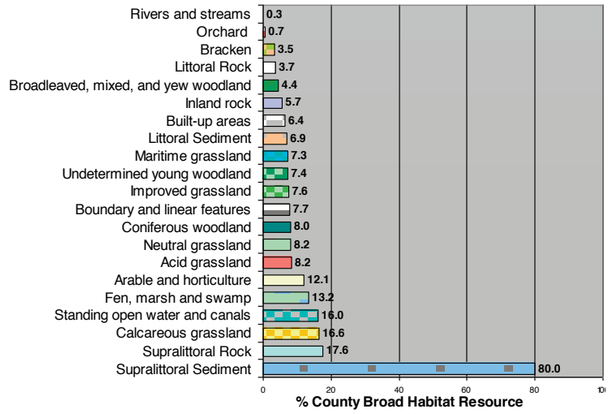


Figure 5.122 Proportion of County Broad Habitat Resource within Shepway District

Table 5.16 Distribution of Shepway's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	5246.3	14.5	1.3
LWS	1697.4	4.7	0.4
AONB	8615.8	23.8	2.2
District	36247.6		9.3

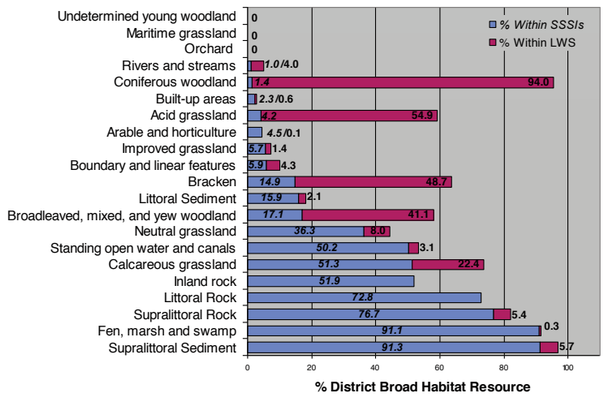


Figure 5.123 Proportion of Shepway's Broad Habitats within SSSIs or LWS

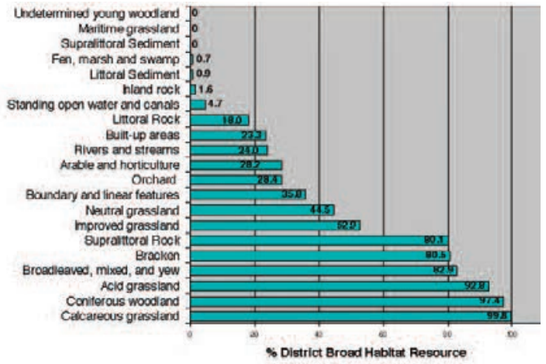


Figure 5.124 Proportion of Shepway's Broad Habitats within AONBs

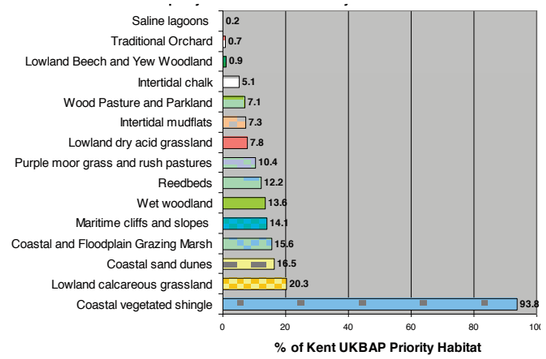


Figure 5.125 Proportion of Kent's Priority Habitats within Shepway District

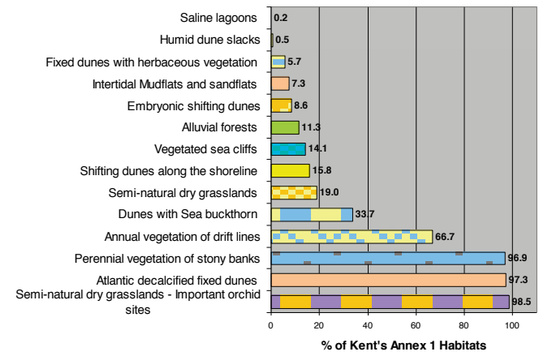


Figure 5.126 Proportion of Kent's Annex 1 Habitats within Shepway District

5.16 Swale District

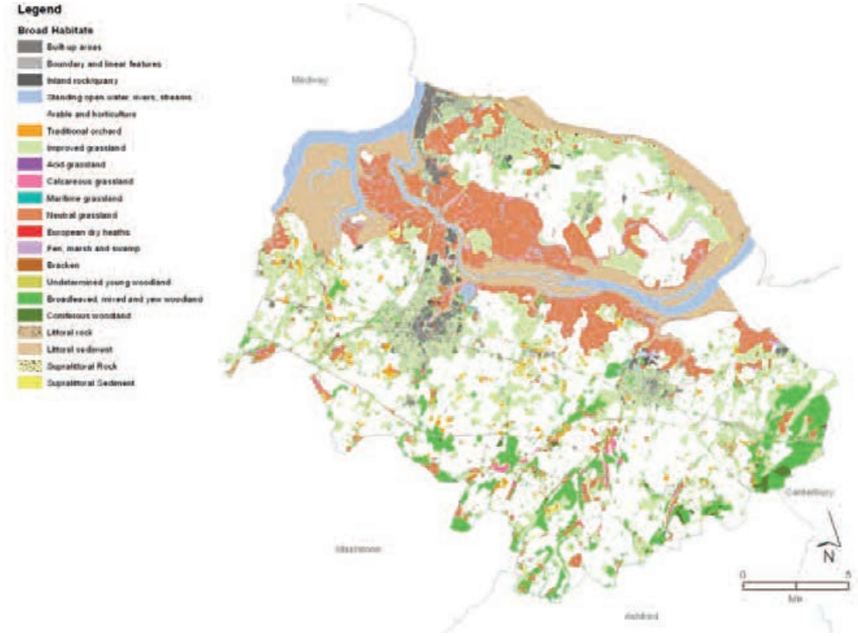


Figure 5.127 Broad Habitat Distribution in Swale District

5.16.1 Swale District Habitats – Key Points

- Swale District extends across three NCAs, from the Greater Thames Estuary in the north, through the North Kent Plain to Kent Downs in the south. The district includes the Isle of Sheppey and has extensive estuarine habitats within its boundaries
- One fifth (20.8%) of the district is within Kent Downs AONB
- Arable and horticulture and Improved grassland make up 58% of the district's habitats, and this includes almost a fifth (19.9%) of Kent's remaining Traditional orchards, which are a UK BAP priority habitat
- Neutral grassland covers a relatively high proportion (13.1%) of the district, which equates to nearly a fifth of Kent's Neutral grassland resource (19%). Within this broad habitat are the UK BAP priority habitats of Lowland meadows, with the district supporting 13.5% of the County's priority habitat resource, and the UK BAP Coastal and floodplain grazing marsh, with 36.5% of Kent's resource being found within Swale District
- Some habitats of estuaries and coasts are well represented within the district. Littoral Sediment comprises 9.4% of the district, which is almost a third of Kent's broad habitat resource (32.4%). Within this broad habitat are several of Kent's important UK BAP priority and Annex 1 habitats, with the district containing high proportions of the County resource. These include Coastal saltmarsh, Coastal sand dunes (2.3%), Seagrass beds (38.9%), Intertidal mudflats (29.9%), Saline Lagoons (23.5%) and Sheltered Muddy Gravels (32.3%)
- The district holds 56.5% of the Coastal saltmarsh priority habitat, which includes 64.4% of Kent's Annex 1 habitat Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*) and 49.9% of the Annex 1 habitat '*Salicornia* and other annuals colonising mud and sand'
- The UK BAP priority habitat Maritime cliffs and slopes present in Swale District represents 31.6% of both Kent's priority and Annex 1 habitat resource (Vegetated sea cliffs of the Atlantic and Baltic coasts)
- Although only 6.6% of the district's habitats are Broadleaved, mixed and yew woodland, which contains just 4.2% of the County's UK BAP priority habitat of Lowland beech and yew woodland, the habitat contains 46.8% of Kent's Annex 1 habitat '*Asperulo-Fagetum* beech forests and 6.2% of Annex 1 habitat '*Taxus baccata* woods of the British Isles'

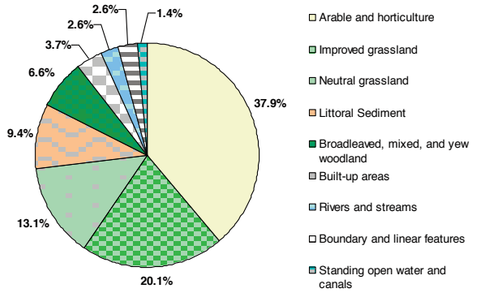


Figure 5.128 Broad Habitats as a Proportion of Swale District (>1%)

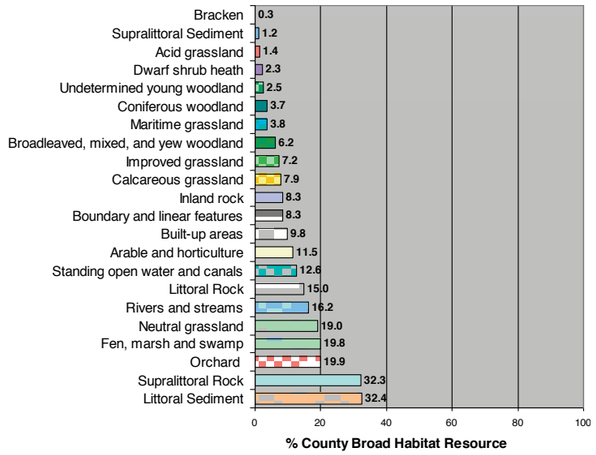


Figure 5.129 Proportion of County Broad Habitat Resource within Swale District

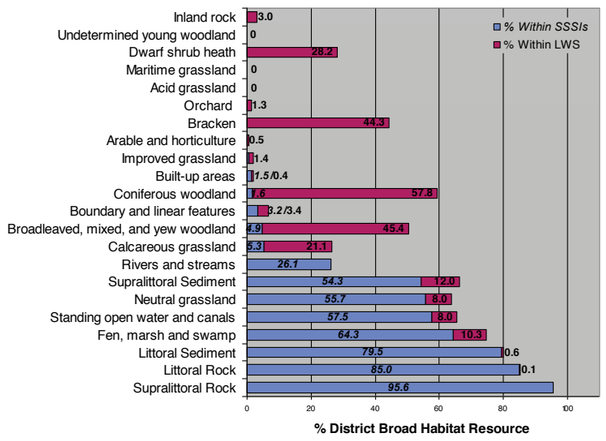


Figure 5.130 Proportion of Swale's Broad Habitats within SSSIs or LWS

Table 5.17 Distribution of Swale's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	7266.04	17.5	1.9
LWS	2119.4	5.1	0.5
AONB	8631.6	20.8	2.2
District	41481.4		10.6

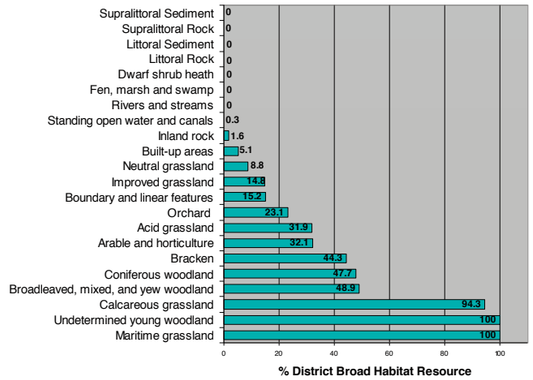


Figure 5.131 Proportion of Swale's Broad Habitats within Kent Downs AONB

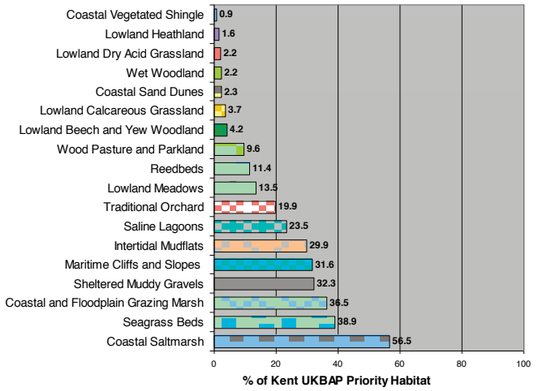


Figure 5.132 Proportion of Kent's Priority Habitats that are within Swale District

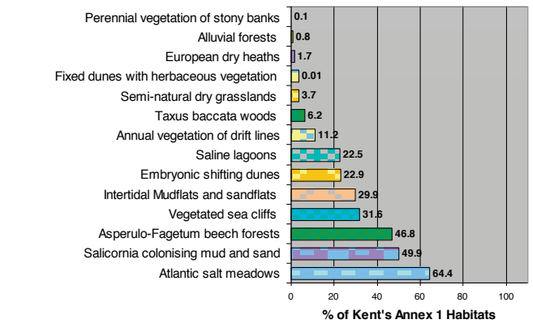


Figure 5.133 Proportion of Kent's Annex 1 Habitats that are within Swale District

5.17 Thanet District

Figure 5.134 Broad Habitat Distribution in Thanet District

5.17.1 Thanet District Habitats – Key Points

- Thanet District falls within the North Kent Plain NCA, and much of the district overlies chalk bedrock. It has an extensive coastline, with large areas of coastal chalk habitats of international importance. It is one of the smallest districts in Kent, covering 10,979ha. None of the district falls within an AONB
- The importance of agriculture to this district is reflected in the proportion of habitat that is either Agriculture and horticulture or Improved grassland. Agriculture and horticulture occupy 45.8% of the district, with Improved grassland covering a further 23.2%
- The district has extensive areas of settlement and transport infrastructure. The values for the built environment and linear features alone total 16.5% of the district area. When the area covered by gardens is added to this (11.6%), there is a combined total for the built and urban environment within Thanet District, excluding amenity grassland, of 28.1%. This is the more than double that seen for the county as a whole (13.7%)
- The broad habitat Littoral rock makes up 2.6% of the district's habitats, which equates to 39.2% of the County's broad habitat resource and is 63.9% of the County's UK BAP priority habitat Intertidal chalk
- Thanet supports almost a quarter of Kent's Maritime grassland broad habitat resource (24.3%) and 8.4% of the Maritime Cliffs and Slopes UK BAP priority habitat, which is also the Annex 1 habitat of Vegetated sea cliffs of the Atlantic and Baltic coasts
- Many of the coastal habitats present within Thanet are of natural heritage importance. Although these areas are small, they contribute to the overall total resource for Kent, and include UK BAP priority and Annex 1 habitats. A high proportion of these are found within SSSIs
- Despite having a chalk bedrock, only 3.8% of the County's Calcareous grassland broad habitat type is found within the District, which equates to 6.2% of the County's UK BAP priority habitat Lowland calcareous grassland and 6.3% of the Annex 1 habitat Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)

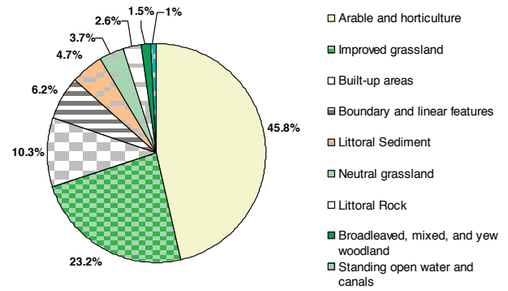


Figure 5.135 Broad Habitats as a Proportion of Thanet District

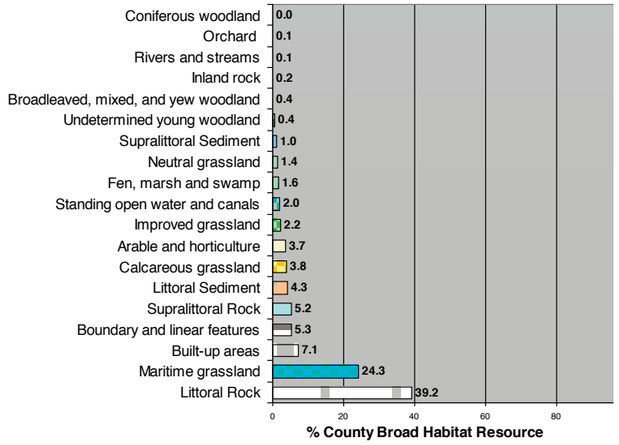


Figure 5.136 Proportion of County Broad Habitat Resource within Thanet District

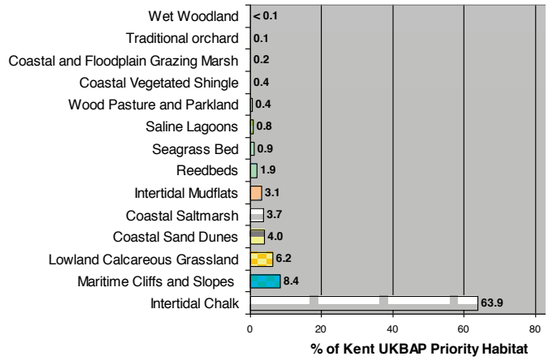


Figure 5.138 Proportion of Kent's Priority Habitats that are within Thanet District

Table 5.18 Distribution of Thanet's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	824.4	7.5	0.2
LWS	106.5	1.0	0.03
AONB	0.0	0.0	0.0
District	10980.2		2.8

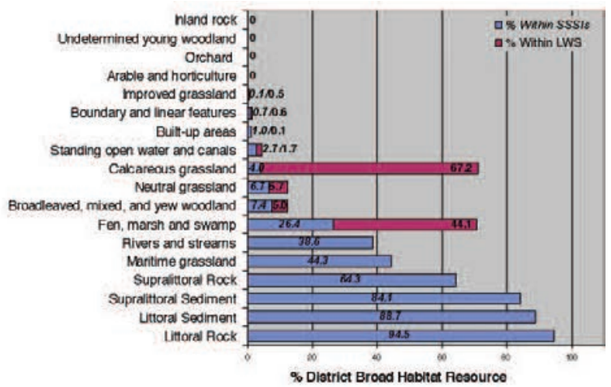


Figure 5.137 Proportion of Thanet's Broad Habitats within SSSIs or LWS

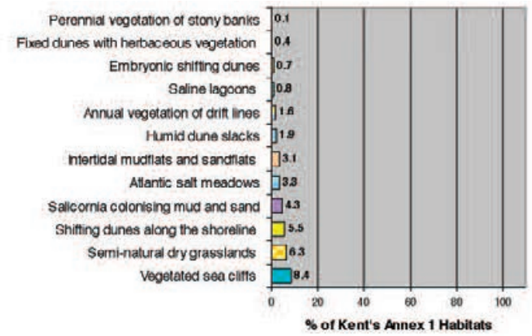


Figure 5.139 Proportion of Kent's Annex 1 Habitats that are within Thanet District

5.18 Tonbridge and Malling District

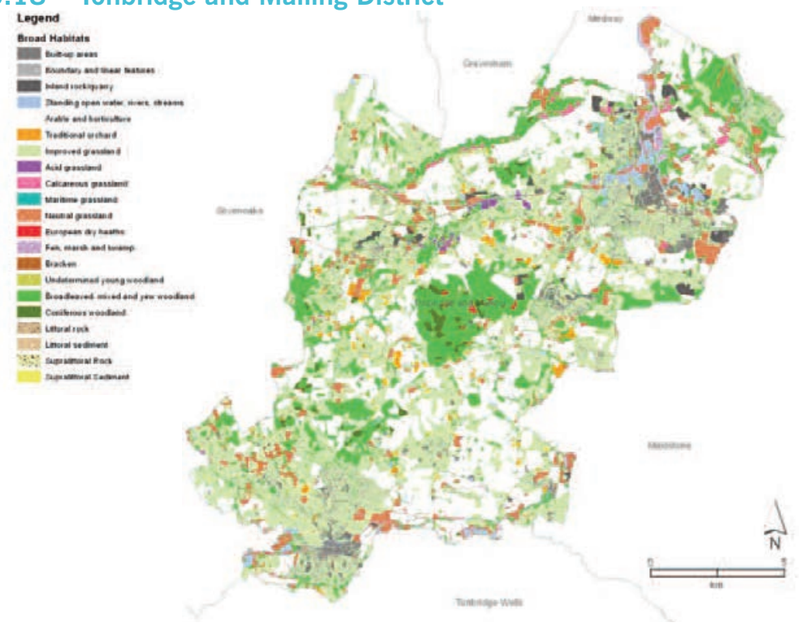


Figure 5.140 Broad Habitat Distribution in Tonbridge and Malling District

5.18.1 Tonbridge and Malling District Habitats – Key Points

- Tonbridge and Malling District extends over four NCAs, which contribute to the wide variety of habitats found within the area. In the north, the North Kent Downs has calcareous habitats, with the presence of the tidal Medway River contributing Littoral habitats to the District's resources. Further NCA's are Wealden Greensand and Low Weald, with a small area within the High Weald to the south
- Kent Downs AONB covers 12.6% of the District to the north
- The District has a high cover of built and urban environment, with 9.3% of the District being classed as either Built-up areas or Boundaries and Linear features, and a further 8.4% recorded as gardens. This gives a total for built and urban environments, not including amenity grassland, of 17.7%, which is higher than that seen for the county as a whole (13.7%)
- Agriculture and horticulture, together with Improved grassland, cover 61.7% of the District, with Improved grassland covering a larger area (33.3% of the District)
- The Traditional orchards of the District make up 11.9% of Kent's UK BAP priority habitat resource
- There is a high cover of Broadleaved, mixed and yew woodland, with 17.3% of the District being wooded. This represents 9.7% of the County's broad habitat resource. Within this is the UK BAP priority habitat Lowland beech and yew woodland, with Tonbridge and Malling District holding 8.3% of Kent's resource.
- There are also 5.4% of the County's Annex 1 habitat *Taxus baccata* woods of the British Isles within the District. The District's Broadleaved, mixed and yew woodland broad habitat includes 17.1% of the County's UK BAP Wet woodland priority habitat resource, containing 23.2% of the County's Annex 1 habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*
- The District supports an important proportion of Kent's heathland habitat. More than one fifth of the County's Dwarf shrub heath broad habitat resource is found here, which equates to 21.9% of Kent's UK BAP Lowland heathland priority habitat. Within this is the Annex 1 habitat European dry heaths, of which Tonbridge and Malling has 23.2% of the resource
- Acid grassland habitats within Tonbridge and Malling are more than one tenth of the County's broad habitat resource, 11.8% being found in the District. Within this is 5.7% of the County's UK BAP Lowland dry acid grassland priority habitat
- Neutral grassland covers 6% of the District, which is 5.2% of the County resource. Within this is a small but important proportion of UK BAP Lowland meadow priority habitat, just 1.9% of the County priority habitat resource. However this represents 9.9% of the Annex 1 Lowland hay meadow habitat, an extremely rare habitat within Kent
- The District has a very low proportion of habitats within SSSIs. However, there is good cover of LWS for many habitats

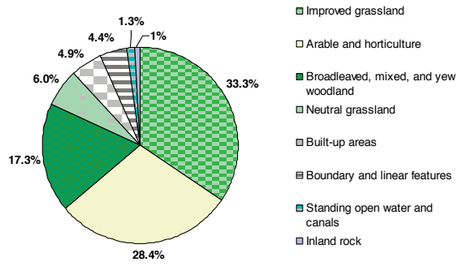


Figure 5.141 Broad Habitats as a Proportion of Tonbridge and Malling District (>1%)

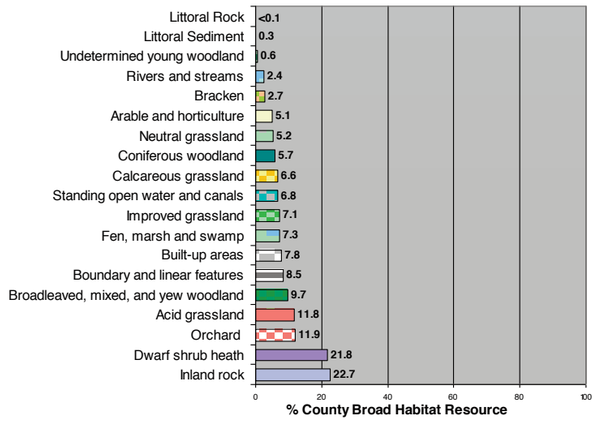


Figure 5.142 Proportion of County Broad Habitat Resource within Tonbridge and Malling District

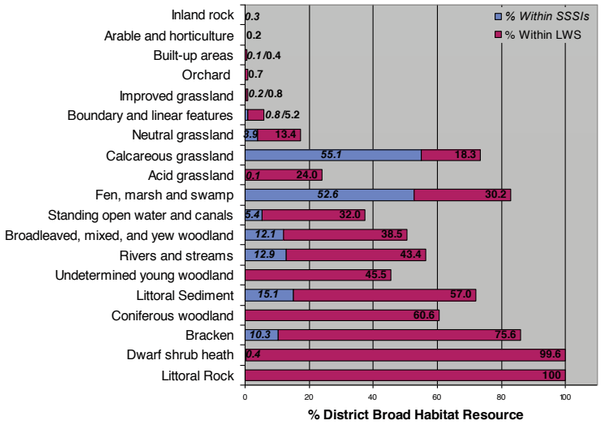


Figure 5.143 Proportion of Tonbridge and Malling's Broad Habitats within SSSIs or LWS

Table 5.19 Distribution of Tonbridge and Malling's Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	752.3	3.0	0.2
LWS	2380.5	9.6	0.6
AONB	3132.8	12.6	0.8
District	24842.2		6.3

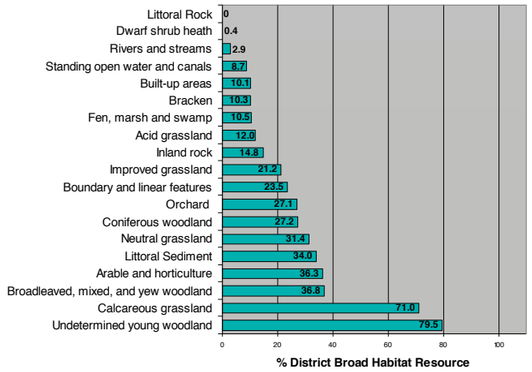


Figure 5.144 Proportion of Tonbridge and Malling's Broad Habitats within AONBs

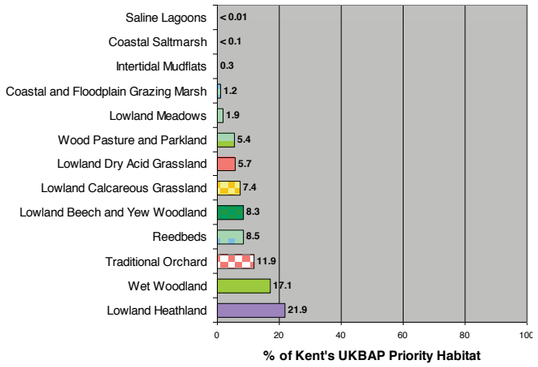


Figure 5.145 Proportion of Kent's Priority Habitats that are within Tonbridge and Malling District

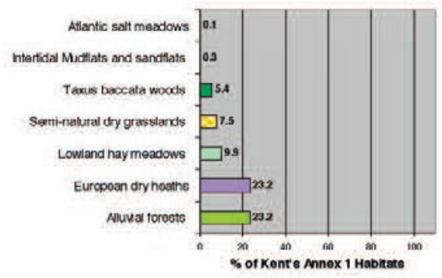


Figure 5.146 Proportion of Kent's Annex 1 Habitats that are within Tonbridge and Malling District

5.19 Tunbridge Wells District

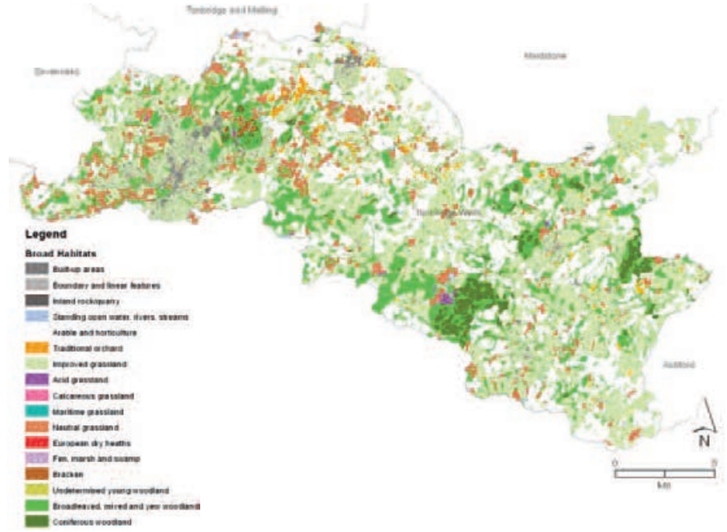


Figure 5.147 Broad Habitat Distribution in Tunbridge Wells District

5.19.1 Tunbridge Wells District Habitats – Key Points

- The greater part of Tunbridge Wells District falls within the High Weald NCA, with a small area along the northern border within the Low Weald, and a very small fraction at the south east end within Romney Marshes NCA. The habitats found within this District are more limited, with no coastal or calcareous features present
- A large majority of the district (68.3%) is within the High Weald AONB, which covers a high proportion of the District's important habitats
- The District has a moderately high cover of built and urban environment, with 6% of the District being classed as either Built-up areas or Boundaries and Linear features, and a further 9.6% recorded as gardens. This gives a total for built and urban environments, not including amenity grassland, of 15.6%, which is higher than that seen for the county as a whole (13.7%)
- Nearly two thirds of the District is Improved Grassland (37.5%) or Arable and horticulture (26.2%)
- The Traditional orchards of the District make up almost one fifth of the County's resource, with 19.5% of the UK BAP priority habitat resource being found here
- The District has a high cover of woodland, with 18.1% of the area being classed as Broadleaved, mixed and yew woodland, with a further 2.6% of the district being covered by Coniferous woodland. This latter category equates to 26.3% of the County's broad habitat resource of coniferous woodland, while broadleaved, mixed and yew woodland represents 13.8% of the County resource. The broadleaved woodland broad habitat encompasses the UK BAP priority habitat of Wet woodland, and Tunbridge Wells District has 15.8% of Kent's resource, which includes a very significant proportion (30.1%) of the County's Annex 1 habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*
- The UK BAP priority habitat of Wood pasture and parkland is well represented within the District, with 13.2% of Kent's resource occurring here
- Perhaps the most significant habitat found within Tunbridge Wells District is that of Heathland, which is of local, county and international importance. The District supports more than one third of the total County broad habitat resource (36.1%), with 36.3% of Kent's Lowland heathland priority habitat recorded within the area. This corresponds to 38% of Kent's Annex 1 habitat of European dry heaths. Areas of habitat restoration within Tunbridge Wells have contributed considerably to the current habitat extent
- The acidic sandstones and clays of this part of Kent are reflected in the 14.7% of the County's Acid grassland broad habitat type being found here. The District has nearly one fifth (19.8%) of Kent's UK BAP Lowland dry acid grassland habitat, which is an important but increasingly scarce resource within the County
- Neutral grassland covers 7.1% of the District and equates to 8.5% of the County resource. Within this are significant areas that can be classed as UK BAP Lowland meadow priority habitat totalling 28.7% of the County priority habitat resource
- The District has a very low proportion of habitats within SSSIs. However, there is good cover of LWS for the most important habitats for wildlife

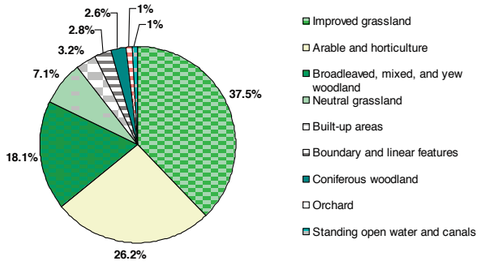


Figure 5.148 Broad Habitats as a Proportion of Tunbridge Wells District (>1%

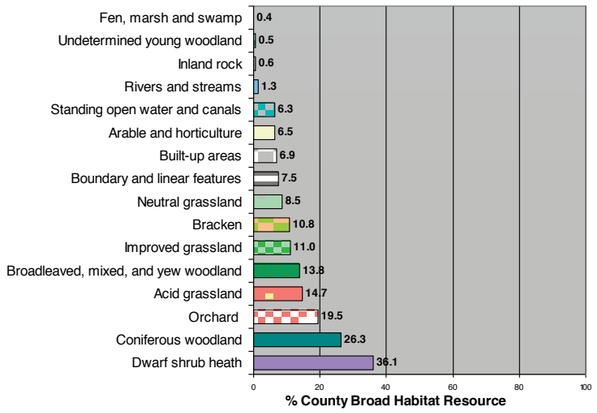


Figure 5.149 Proportion of County Broad Habitat Resource within Tunbridge Wells District

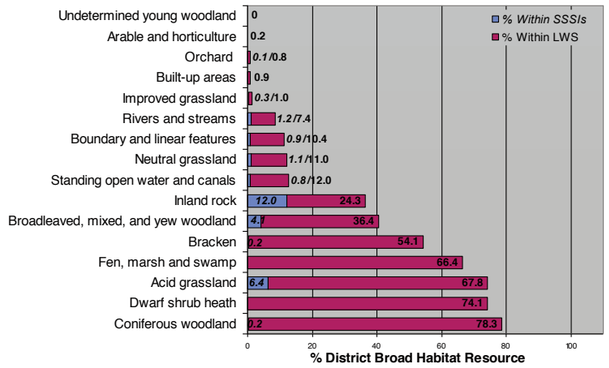


Figure 5.150 Proportion of Tunbridge Wells' Broad Habitats within SSSIs or LWS

Table 5.20 Distribution of Tunbridge Wells' Broad Habitats within Designated Areas

	Area (ha)	% of District	% of County
SSSI	339.5	1.0	0.1
LWS	3581.0	10.5	0.9
AONB	23202.6	68.3	5.9
District	33990.6		8.7

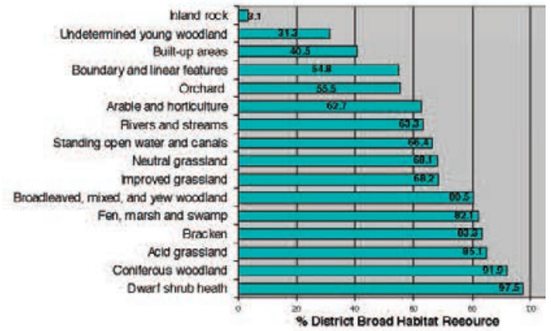


Figure 5.151 Proportion of Tunbridge Wells' Broad Habitats within High Weald AONB

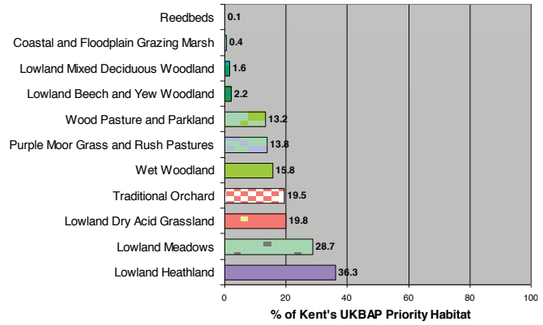


Figure 5.152 Proportion of Kent's Priority Habitats within Tunbridge Wells District

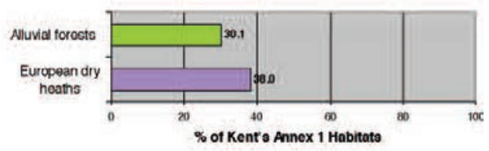


Figure 5.153 Proportion of Kent's Annex 1 Habitats within Tunbridge Wells District