Kent Rare Plant Register

Draft species accounts

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Compiled by Geoffrey Kitchener and the Kent Botanical Recording Group
Issue date: February 2018

Kent rare plant register

This section of the register covers:
Baldellia ranunculoides
Brassica oleracea var. *oleracea*
Briza media
Bromus hordeaceus subsp. *thominei*
Bromus ramosus subsp. *benekenii*
Bromus secalinus
Bupleurum tenuissimum
Buxus sempervirens

It is issued in draft, pending further development. Records, photographs and information regarding the Kentish occurrences of these plants will be welcome.

The register accounts give priority to data from 2010 onwards, but some historic data are also included (however, generally not specific sites with no post-1970 records) so as to indicate trends and where the plant may yet be discovered or rediscovered. Distribution maps for records from 2010 onwards show vice counties 15 and 16 in white (the boundary between is a black line) and local authority boundaries by red lines.

See the Kent webpage of the BSBI website at http://www.bsbi.org.uk/kent.html for:

- the full Kent rare plant register list
- the introduction to the register
- a list of 'probably extinct' Kent plants.

Abbreviations used in the text:

Recorders' initials:
AG Alfred Gay
AL Alex Lockton
BB Brian Banks
CO Colin Osborne
CS Cath Shellswell
DG Doug Grant
EGP Eric Philp
FJH F.J. Hanbury
FR Francis Rose
GD George Dowker
GK Geoffrey Kitchener
JM J. Mobarak
JP Joyce Pitt
LR Lliam Rooney
LWD L.W. Dillwyn
n
MG Margot Godfrey
MP Mike Phillips
OL Owen Leyshon
RC Ray Clarke
RG Bob Gomes
RM Richard Moyse
SB Sue Buckingham
SK Sarah KItchener
SP Sue Poyser
TI Tim Inskipp

Other abbreviations:
KBRG Kent Botanical Recording Group
MNE Maidstone Museum Herbarium
pers. comm. personal communicatio

Baldellia ranunculoides (L.) Parl. (Lesser Water-plantain)

Draft account

vc15; gone from vc 16

Rarity / scarcity status:

In Great Britain, *Baldellia ranunculoides* subsp. *ranunculoides* is considered to be **Near Threatened**, with British population trends showing some decline, although there are stable populations in the west. In England, however, it is regarded as **Vulnerable** to the threat of extinction. Its Kentish status ranks as locally **scarce**, confined to East Kent.



Account:

Thomas Johnson's revision (1633) of Gerard's *Herball* refers to this species as in a ditch near Margate, the first Kentish record. Whilst there are historic records across the county, those in West Kent (from being described as "frequent" in boggy places in Edward Jenner's Flora of Tunbridge Wells, 1845) have declined to the last sighting, at Chislehurst Common, in 1954[1]. As regards East Kent, Marshall (in the Victoria History of the County of Kent, 1908) described it as "rare, except near Canterbury, Sandwich and Deal".

If one were to assess its status from Philp (1982, 2010), one might conclude that there is a trend of decline at local level which is comparable with the national long-term decline. Philp (1982) recorded it primarily in the Sandwich / Deal area, but also at Dungeness and Stodmarsh. However, there were three north east Kent tetrads (TR26F, TR35N, TR35R) where it could not be found in his subsequent survey (Philp, 2010), and overall gains and losses brought about a position in which the 1991-2005 survey showed presence in four tetrads, a net loss of one tetrad since 1971-80. This may not necessarily be a 'real' decline, in that it has been found again at Stodmarsh, at times in quantity (although also capable of apparently vanishing in a dry season, such as summer 2015), and in East Kent overall, its 2010-16 presence amounts to six tetrads (equivalent to eight monads).



Long Pits, Dungeness. Photos by Lliam Rooney, 12 July 2011.

It is a plant of unshaded pond, lake or ditch margins, particularly by brackish waters. The substrate may be peaty (Ham Fen) or gravelly (Dungeness). Growth is encouraged where a degree of openness and limited competition is maintained. This may be through fluctuating water levels or exposure. However, management may also create these conditions, as has taken place at the

[1] R. M. Burton (1983). Flora of the London Area.



Dungeness Long Pits. The population had been largely shaded out by *Salix*, except for a patch of marginal vegetation by the EDF Energy pump station. In 2009 some marginal *Salix* was cleared, with stump treatment and continuing clearance in 2010 resulting in the extended presence of *Baldellia* along some 400m of margin.

There are two British subspecies, of which subsp. r*anunculoides* (an erect, robust plant, with flowers about 15mm in diameter, 15-20 flowers per whorl) is the only one currently identified as present in the county (confirmed at Dungeness).

Long Pits, Dungeness. Photo by Owen Leyshon, 23 July 2011.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Long Pits, Dungeness	TR0817	SSSI	July / August 2011	LR, OL	TR 084 179: several recorders have visited this site, gravel pits dug in the 1920s. LR recorded on 12 July 2011 (1) about 15 plants at TR 08474 17908, at the extreme south end of the pits. Associated flora*: Alisma plantago-aquatica, Myriophyllum spicatum, Iris pseudacorus, Potamogeton trichoides*. (2) many plants at TR 08450 17995 along western edge of the pits. Associated flora: *Ranunculus lingua* and *R. circinatus*. OL recorded on 1 August 2011 over 194 plants along 400m of the western margin of the Bottom (south) Long Pit, from TR 085 179 to TR 084 184. Associated flora: *Iris pseudacorus, Lythrum salicaria, Hydrocotyle vulgaris, Alisma plantago-aquatica, Mentha aquatica, Juncus articulatus, Carex pseudocyperus*. TI recorded on 3 July 2011 over 30 plants at the southern end of the south Long Pit, at TR 08483 17903. It has been known at Dungeness ponds at least as far back as 1867 (GD).
Long Pits, Dungeness	TR0818	SSSI	(1) 23 August 2013 (2)30 July 2011 (3) 8 August 2011 (4) 20 August 2011	(1) CO (2) TI (3) OL (4) SB	(1) Plants noted on eastern side near top of South Long Pit. (2) & (3) An extension of the population mentioned above. (4) About 100 plants over 15m of western margin at TR 08439 18042.
Stodmarsh	TR26F		(1) After 1970, before 1981	(1) Philp, 1982	(1) Recorded as TQ26F. Presence between Stodmarsh and

					Grove Ferry goes back to 1875 (FJH).
Stodmarsh / Upstreet	TR2262, TR2362, TR2462		(1) 13 August 2016 (2) 29 August 2014 (3) 17 August 2014 (4) 9 August 2014	(1) to (4) AL & JM	(1) A vast population of hundreds of plants occurs at TR 2402 6260 and TR 2395 6242 in S19 *Eleocharis palustris* swamp, the former in *Agrostis stolonifera* sub-community. (2) TR 2299 6210 and in *Typha angustifolia* swamp at TR 2294 6215. (3) TR 2340 6232, one plant in lake in front of Harrison's Drove Hide. (4) TR 2328 6218, numerous plants in scrape in field; TR 2329 6217, a small patch in scrape in field. Reasonably abundant (ditch-sides and in rills) at TR 2328 6218, TR 2329 6217, TR 2340 6232, TR 2294 6215 & TR 2299 6210, but none seen in dry 2015 summer.
Ham Fen area	TR3354	KWT managed reserve	(1) 13 July 2013 (2) After 1990, before 2006 (2) 29 June 2003	(1) KFC meeting (2) EGP (Philp, 2010) (3) RM	(1) Muddy pond margins of pony-grazed fen in scattered locations, e.g. TR 33659 54996, TR 33316 54897, TR 33310 54903. Associated species included *Juncus subdodulosus*, *Equisetum palustre*, *Lythrum salicaria*. (2) Recorded as TR35H. (3) TR3354. Also noted by JP, 7 June 1991, in a peaty area of the fen.
Ham Fen area	TR3355	KWT managed reserve	13 July 2013	KFC meeting	Large population of plants alongside ditch at TR 33077 55208 and on bare wet peat in an adjacent area TR 3307 5520 which was dug out 10 years ago and grazed by Konik ponies the previous season. Known in ditches between Ham Ponds and Eastry at least back to 1801 (LWD).
Hacklinge Marshes area	TR35M		2006	EGP (Philp, 2010)	The location, by Roaring Gutter Dike, was explored by KBRG in July 2011. The banks of the dike have apparently been altered to improve flow, and the plant could not be found.
Hacklinge Marshes area	TR3455	(2) At time of record, site was subject to management agreement for benefit of this plant.	(1) 5 September 2013 (2)Late 1990s - early 2000s	(1) GK, LR & RG (2)BB	(1) TR 34299 55742, a small patch at ditch margin in pasture amidst *Juncus* spp. Probably same as noted by SB on 24 July 2013 with *Juncus subnodulosus.* (2) TR 34348 55746 (also in TR35M, but a different site to the last). Frequent in a ditch to the north of a track bordering pasture fields at Minnis Farm. The ditch had a number of sluices installed to maintain water, because of the effect of mining subsidence.

Brassica oleracea L. var. *oleracea* (Wild Cabbage)

Draft account

vc 15; never more than casual in vc 16.

Rarity / scarcity status:

Wild Cabbage is **nationally scarce**, being present on maritime cliffs, generally calcareous, around Great Britain, mostly along the south coast. Its continued survival is not regarded as being under any particular threat. In Kent, there are well-established populations of long standing from Folkestone through to Deal, with outliers on Thanet, and it has no special scarcity status.

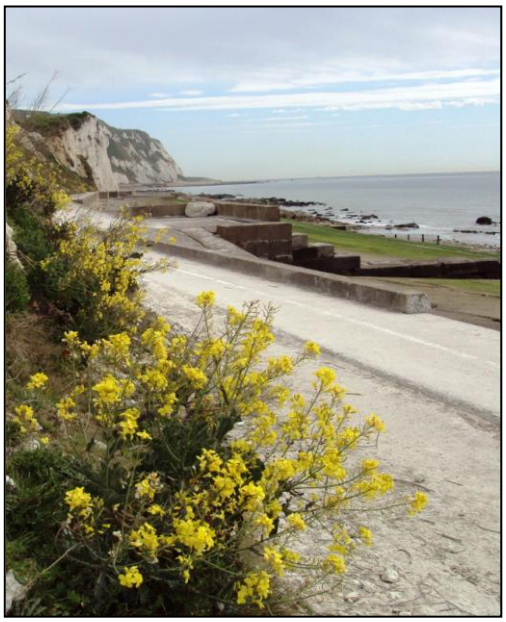


Photo by White Cliffs Countryside Project

Account:

William Turner, in his *Names of Herbes* (1548), said of this plant that it "groweth in Dover cliffes where I have onely seene it in al my lyfe. It may be named in english sea cole". (That is, what Turner called the sea version of "colewurtes, cole or keele"; but not, it appears, equated with Sea-kale.) This sighting at Dover, where it still grows, is the earliest record for this species in the British Isles, and the East Kent population has the best claim for native status. It has been pointed out[2] that elsewhere in the British Isles many occurrences have been ephemeral, often in proximity to towns and villages, and most extant populations seem to have originated from cultivation. It has also been suggested that the species is a Roman introduction, although if this suggestion is applied to the East Kent populations, it raises a question as to the status of the corresponding occurrences on the French chalk cliffs of the channel coast.

Wild Cabbage is a perennial, whose age may be identified from the annual groups of leaf-scars as the plant's trunk grows taller, but it can be susceptible to hard winters. Spread is by abundant seed, perhaps in some cases aided by birds. Typically, it may be found on bare or near-bare chalk on or beneath cliffs; but may also be found on inland chalk exposures within sight of the sea. Seedlings appear to root directly into the chalk, without humus, via a root system consisting of a few wiry spreading fangs, with very little fibre except in the early stages.

This species characterises the *Brassica oleracea* maritime cliff-edge community (MC4)[3], which generally has an irregular grassy cover of *Festuca rubra* and some *Dactylis glomerata*, with prominent *B. oleracea* and a little *Daucus carota* subsp. *gummifer*. The community is one of crumbling edges and sloping edges of south-facing calcareous cliffs, spanning splash zone to cliff top. Its soils are usually shallow and dry, immature because crumbling away, but perhaps enriched by sea-bird droppings.

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[2] N.D. Mitchell, The Status of *Brassica oleracea* L. subsp. *oleracea* (Wild Cabbage) in the British Isles. Watsonia (1976) 11: 97-103.

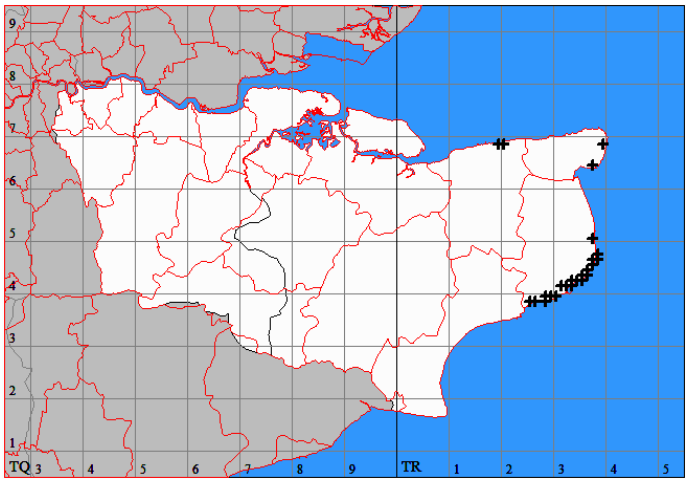
[3] *British Plant Communities*, vol. 5, ed. J.S. Rodwell (2000). Cambridge University Press, Cambridge.

Studies of Abbot's Cliff near Folkestone have shown that, whether within the wave splash community (just above normal high tide mark with abundant chalk boulders) or on the cliff ledges, screes, faces and falls, *B. oleracea* frequents saline areas, but not those of high salinity such as are dominated by halophytes[4]

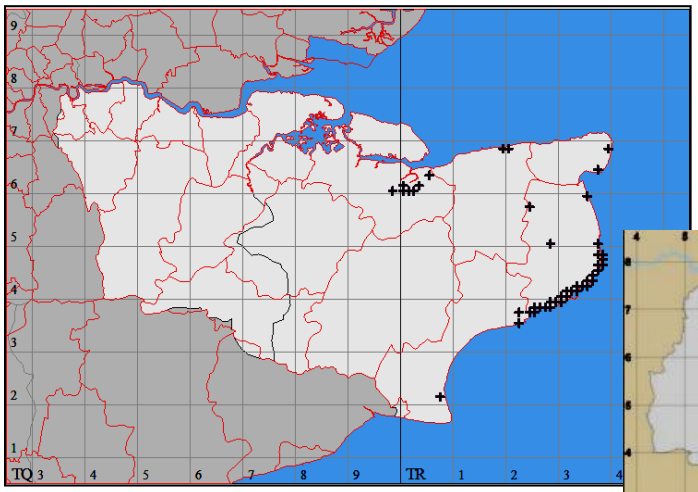


Samphire Hoe. Photo by Sue Buckingham, 28 April 2009

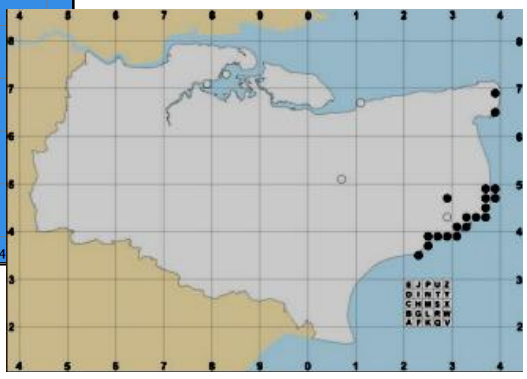
A further plant association is noted by Francis Rose in a comparative study, *Botany on Two Coasts* (New Scientist, 15 July 1965, pp.158-161). He describes the combination of Wild Cabbage together with *Limonium binervosum* (Rock Sea-Lavender) *and Crithmum maritimum* (Rock Samphire), along much of the East Kent coastal cliffs. This contrasts with the corresponding French cliffs, which have some *B. oleracea*, but little else by way of cliff face vegetation, being kept sheer and bare through erosion from exposure to the south-westerly up-channel gales (and also having a less hospitable microclimate, being north to north-west facing).



***Brassica oleracea* var. *oleracea* (Wild Cabbage) 2010-17**



***Brassica oleracea* (Cabbage), including var. *oleracea* (Wild Cabbage), 2010-17**



***Brassica oleracea* var. *oleracea* (Wild Cabbage) 1991-2005**

[4] C.P. Burnham, A. Gordon & P. Buckley (2011): Salinity on chalk cliffs and its influence on maritime vegetation, *New Journal of Botany* **1**:116-126).

B. oleracea may also be found in less specific plant communities, growing clustered on banks or against hedges or shrubs where patches of bare ground may occur, particularly within 150m or so inland of the cliff line. It may be that this is a consequence of wind hurling seed inland from cliff tops.

Cabbage has been recorded as a casual in many places in Kent, clearly of cultivated origins, and there have been coastal occurrences of *B. oleracea* which do not fit into the maritime cliff habitat pattern (such as the recording of a small group on shingle at Lade, Dungeness, TR0721, in 2013) and which are best not treated as part of the putative native distribution. Mapping is not straightforward, as recorders may have recorded under either *B. oleracea* or *B. oleracea* var. *oleracea*; and records of the former may be either true Wild Cabbage or a casual escape from cultivation. So two 2010-17 distribution maps are given here, one with all *B. oleracea* records, including var. *oleracea*, and the other with records of var. *oleracea* only, although the latter understates the position because of the way in which records have been made.

As this species is not uncommon in Kent, the distributional data maintained in this register will be at 1km square level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the 1991-2005 distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club). Recording for 2010-17 has amply re-affirmed the continuity of the earlier coastal records and has added the presence of the species on the north coast.

There is potential for the native populations to be affected by genetic content from neighbouring cultivation of *Brassica napus* subsp. *oleifera* (Oil-seed Rape). A study (Ford et al., 2006[5]) of coastal *B. oleracea* material collected in the White Cliffs area in June 2004 within 1-25m of arable field margins identified amongst 842 samples one *B. oleracea* × *B. napus* F_1 hybrid (Hope Point, TR 377 460), together with evidence amongst the other samples suggesting further introgression of Oil-seed Rape into the wild *B. oleracea* population. (This study also has wider implications for the risks of gene flow where genetically modified crops are grown.)



Wild Cabbage is supposed to be edible, both raw (the young parts only) and cooked. This is not necessarily to be recommended, both on the grounds that this is a nationally scarce taxon, and because the flavour is apparently somewhat 'strong' in comparison with cultivars; but Vera Day (1965)[6] noted having been told that, after a hard winter, when there was a great shortage of green stuff, the railwaymen in Folkestone Warren have gathered the Wild Cabbages and sold them to Dover greengrocers as 'Cliff Greens'; the greens were, the railwaymen said, 'quite nice if boiled twice'.

Samphire Hoe. Photo by David Steere, 15 May 2015

[5] Ford, C.A., Allainguillaume, J., Grilli-Chantler, P., Cuccato, G., Allender, C.J., Wilkinson, M.J. (2006. *Proceedings of The Royal Society B*, **273**:3111-3115

[6] Day, V.J. (1965). Notes on *Brassica oleracea*. *Kent Field Club Transactions* 3(1): 1-3.



Samphire Hoe, habitat. Photo by David Steere, 16 April 2014

Briza media L. (Quaking-grass)

Draft account

vc 15 and 16.

Rarity / scarcity status:

Quaking-grass is locally common in the British Isles other than in north and north west Scotland, Cornwall and parts of Ireland. In Great Britain as a whole, the risk of extinction is regarded as of 'Least Concern'. However, in England there is some evidence of decline, and it is considered to be **Near Threatened**. A comparison of its area of occupancy in England over the periods 1930-1969 and 1987-1999 produced a calculated decline of 25% in the likelihood of recording the species. In Kent, it is neither rare nor scarce but, comparing the periods 1971-1980 and 1991-2005, Philp (2010) shows a decline in tetrad records of 34% over those given in Philp (1982).



Queendown Warren. Photo by Lliam Rooney, 18 June 2010

Account:

The first published record for Kent was made in Thomas Johnson's *Iter Plantarum* (1629). He came across the grass near the highway from Gillingham towards the Isle of Sheppey, on 14 July of that year. The species, being common, was not included in early botanists' accounts of rarities, nor was it necessarily remarked upon as part of chalk grassland flora, as we might expect. Thomas Forster's *Flora Tonbrigensis* (1816) refers *to Briza media* as 'In fields and meadows very common, particularly on Mount Sion, Tonbridge Wells' (a sandy location). Daniel Cooper, in his *Flora Metropolitana* (1836), noted it at Keston Mark or Common amongst various calcifuge species reflecting the sandy/gravelly terrain.

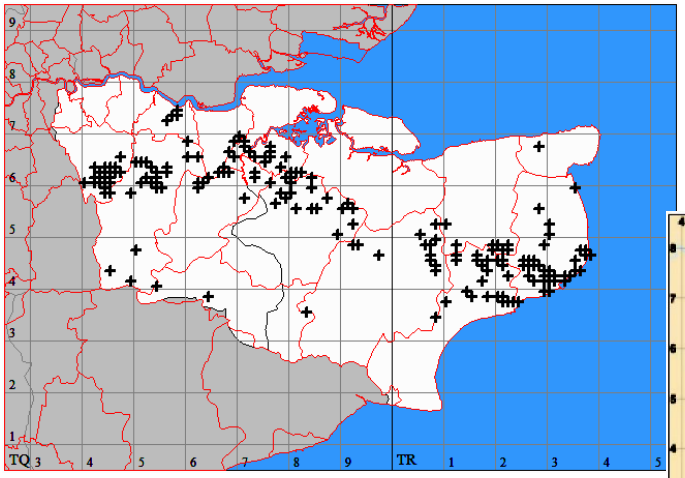
Hanbury and Marshall (1899) considered Quaking-grass to be so common throughout the county on downs and in meadows, etc. that it was not worth enumerating any records, other than its first discovery and a curious form with white spikelets. Near contemporaneous with this account are the Woolwich Surveys[7], which referred to the grass as common in badly drained meadows and pastures, but of no agricultural value. Again, the Surveys locate the grass at Keston Common, but also at Hayes Common and on grassy chalk banks about Down (sic) – so there is recognition of the ability of the grass to accommodate itself to both acid and calcareous grasslands.



Neutral meadow habitat, Lamberhurst Quarter. Photo by Geoffrey Kitchener, 13 June 2015

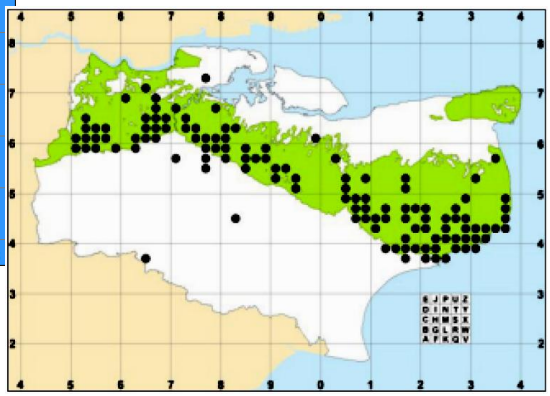
[7] *A survey and record of Woolwich and West Kent* (1909), general editors Grinling, C.H., Ingram, T.A. & Polkinghorne, B.C.

Philp (1982) found the grass still to be locally common, on downland and in meadows, particularly on the chalk. It was present in 181 tetrads in the administrative county. In Philp (2010), the grass is referred to as present on unimproved grassland on well-drained soils, particularly on the chalk. However, only 119 tetrads are given (as depicted in the accompanying 1991-2005 map, provided by kind permission of the late Eric Philp and the Kent Field Club) and it is apparent that the 1991-2005 survey identifies the grass as much more strictly confined to the chalk than as shown in the 1971-80 survey; in particular there is a considerable loss of Wealden records. One possible interpretation of this is a greater loss of unimproved grassland in the Weald. This is not, however, fully affirmed by recent records (2010-17), which show a continued presence on Wealden clay.



***Briza media* (Quaking-grass) 2010-17**

***Briza media* (Quaking-grass) 1991-2005**



Records shown in the accompanying 2010-17 map (giving monad records for the Kent vice counties, rather than tetrads in the administrative county which were used in the two Atlas surveys) confirm clearly enough the preference of *Briza media* for a chalk substrate, and also its occasional appearance elsewhere. There have been a couple of anomalous records associated with the high speed railway which suggest origins from possible sowing. The 2010-17 map contains the equivalent of 130 tetrad records and so does not indicate significant further decline since the 1991-2005 survey, even discounting the records for metropolitan West Kent outside the earlier survey's administrative county limits.



Queendown Warren habitat, chalk grassland with *Rhinanthus* minor (Yellow-rattle). Photo by Lliam Rooney, 18 June 2010

The typical appearance of *Briza m*edia is of a scattering of culms through unshaded grassland. Although it spreads vegetatively as well as by seed, It does not form pure stands, and any clumping as tussocks appears to be limited and a response to grazing. Loss of the species may be due to grassland becoming dense and coarse through lack of grazing, through re-seeding for agricultural 'improvement' or conversion from grassland to arable.



Magpie Bottom. Photo by David Steere, 1 June 2014

Bromus hordeaceus L. subsp. *thominei* (Hardouin) Braun-Blanq. (Coastal Soft-brome)

Draft account

vc 15, now apparently gone from vc 16

Rarity / scarcity status:

The species has now apparently gone from West Kent (vc16), although it might still be worth searching the south beach at Grain, from which FR took material in 1955 (**MNE**). It is regarded as **nationally scarce**, but is widely scattered around British coasts and is not regarded as being subject to any particular threat. In Kent, it is well represented in the Sandwich and Dungeness areas and is not rare or scarce.

Account:

This subspecies was not separated recorded in Hanbury and Marshall (1899), and presumably it was passed over as part of the range of variation of the species. Specimens in **MNE** go back to 1953, predominantly from the Sandwich dunes or from sandy or shingly ground at and around the coast in the south east of the county (Dungeness / Lydd / Greatstone / Littlestone.



Sandwich. Photo by Lliam Rooney, 9 June 2015

Coastal Soft-brome is generally a small plant, its culms characteristically beginning as procumbent and then ascending. Its panicles do not exceed 3cm with few, erect spikelets. The lemmas are said[8] to be "glabrous (usually) or hairy". The hairy form seems to be more frequently encountered in Kent. However, the glabrous form has been found at Dungeness, Sandwich Bay and Greatstone, although both forms have appeared at the first two localities. It can be present in large numbers on the Kentish sand-dunes and this characteristic habitat may have encouraged selection to produce this ecotype of *Bromus hordeaceus*, recognized at subspecific level. It may also be found on shingle or shelly sand, and as a component of fairly open turf on shingle.

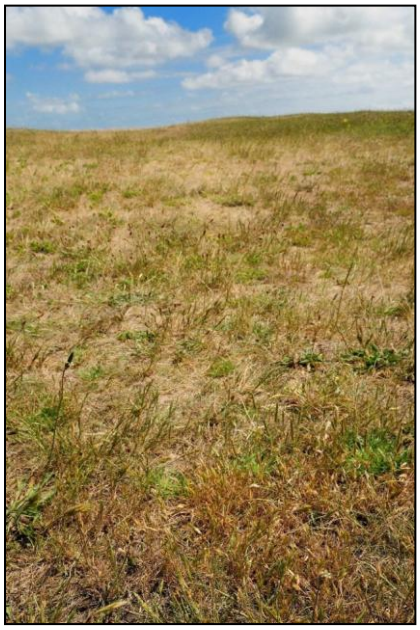


Sandwich specimen. Photo by Lliam Rooney, 10 June 2015

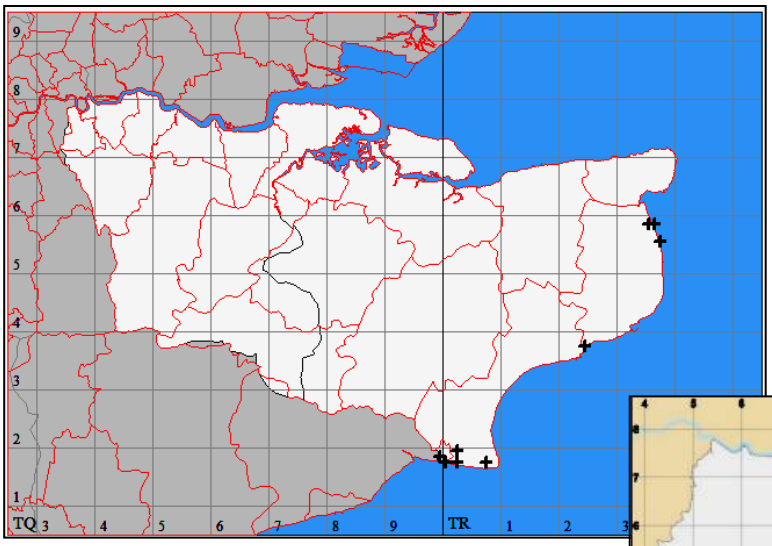
As this subspecies is not uncommon in Kent, it was originally intended that the distributional data maintained in this register would be at 1km square level, a finer scale than the tetrads given in Philp (2010), from which the following 1991-2005 map is

[8] C. Stace (2010). *New Flora of the British Isles*, 3rd edition.

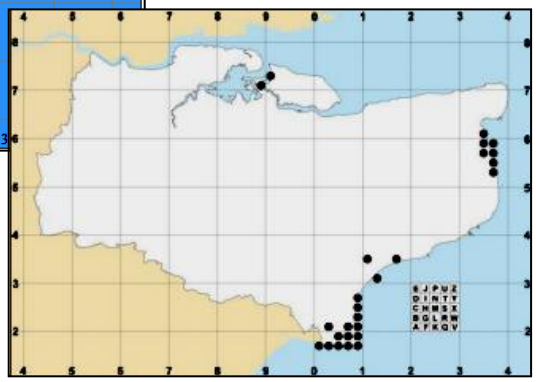
taken (with kind permission of the late Eric Philp and the Kent Field Club). However, initial recording from 2010 onwards has not produced as many records as might be expected, and so information is currently being provided for the register in both map and tabular form, so as to encourage further recording. The areas where records in Philp (2010) have not been re-found are otherwise mostly well-recorded and do appear to have suffered any particular vicissitudes, so the grass is presumably being overlooked.



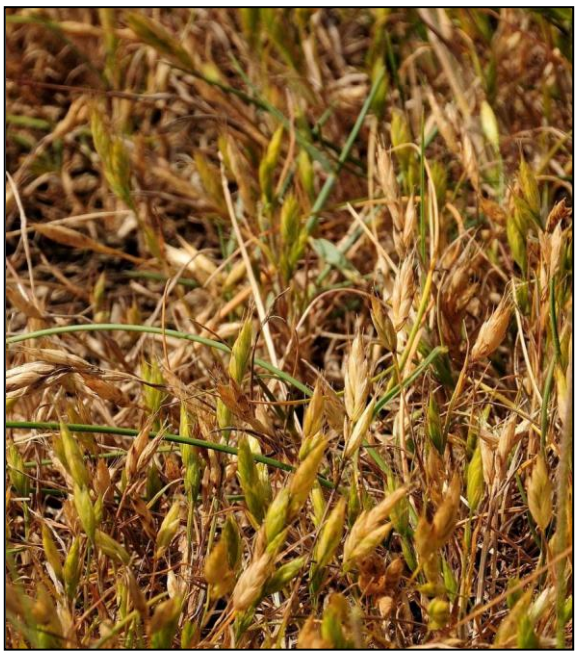
Sandwich, habitat. Photo by Lliam Rooney, 9 June 2015



***Bromus hordeaceus* subsp. *thominei* 2010-17**



***Bromus hordeaceus* subsp. *thominei* 1991-2005**



Sandwich. Photo by Lliam Rooney, 9 June 2015

Site	Grid reference	Site status	Last record date	Recorder	Comments
Lydd Ranges	TQ9918	MoD land	7 August 2012	OL, GK, SB & TI	Near Outlands Cottage TQ 999 185.
Lydd Ranges	TR0017	MoD land	9 August 2013	OL, GK & TI	
Lydd Ranges	TR0217	MoD land	6 August 2012	OL, GK, SB & TI	Interruptedly vegetated sandy shingle
Lydd Ranges	TR0219	MoD land	6 August 2012	OL, GK, SB & TI	TR 0269 1964, 1 plant in sandy ground near building.
Folkestone Warren	TR2437		1 July 2017	KFC meeting	Occasional on sand at the foot of the chalk cliffs.
Sandwich	TR35		8 June 2011	LR	
Sandwich	TR3558		23 August 2014	GK & SK	Moss-covered sandy bank by footpath through dunes, with *Carex arenaria* and *Phleum arenarium.*
Sandwich	TR3560		12 June 2012	SB	Sandy golf course path in dunes, TR 35271 60076. Larger panicle than usual, but conf. EGP.
Sandwich Bay Estate	TR3658		26 June 2013	SB	A few plants on bare sand in dunes at TR 36046 58377, with *Festuca arenaria.*
Deal - Sandwich	TR3755		31 August 2014	GK	TR 3723 5530, on moss-covered dune slope by path, and scattered in similar habitat further north.

Bromus ramosus Huds. subsp. *benekenii* (Lange) H. Lindb. (= Bromopsis benekenii (Lange) Holub, Lesser Hairy-brome)

Draft account

vc 15 and 16

Rarity / scarcity status:

Lesser Hairy-brome is probably not well recorded in Great Britain, with perhaps most records in the Chilterns, and with a thin scattering elsewhere in England, Wales and Scotland; it appears absent from Ireland. Its conservation status in England and in Great Britain as a whole is regarded as being of 'Least Concern'. In Kent, it has been regarded as very rare and latterly, probably extinct. However, it is likely that it is no more than scarce in the county, but not well recognized.

Account:

The first discovery of this taxon in Kent appears to have been in beech woodland above Shoreham by R.C. Palmer in 1973. Whilst it was reported by Rodney Burton as still present as a small population in 1986, the Great Storm of 1987 toppled many trees along the valley slopes and ridge, and the habitat and accessibility of this area was severely affected. No other records are given in Philp (1982 and 2010), although the species was searched for.



Lullingstone. Photo by Lliam Rooney, 16 July 2014

The grass was presumed lost to Kent, but research by Mervyn Brown has given rise to a reassessment of its status, as it now appears that it may not be uncommon, but that it has been overlooked by virtue of its casual similarity to other species with drooping panicles; by its occurrence in similar habitats to, and alongside, *Bromus ramosus* subsp. *ramosus*; and by the existence of a range of intermediates between the two subspecies. The frequency of occurrence of intermediates in Kent would better support treatment of the taxon as a subspecies rather than a full species (and hence the nomenclature of this account) if, indeed, it is to be regarded as a 'good' taxon at all. In order to avoid an arbitrary division of the spectrum of variation, for the purpose of Kent recording, identification of subsp. *benekenii* has been taken as positively assigned only to plants at one end of the spectrum. This corresponds with the basis of recognition afforded to Surrey specimens in a Surrey Botanical Society meeting in 2013 with Tom Cope, the BSBI referee, attended by Mervyn Brown and Geoffrey Kitchener.

The characters normally assigned to subsp. *benekenii* are that the panicle should be drooping to one side (without the stiffly divergent pendent lower branches which are generally seen in subsp. *ramosus*); that the lowest node should have 1-4 branches, usually more than two (whereas subsp. *ramosus* normally has two only); that the lowest nodal branches should each have one or 'very few' spikelets (whilst subsp. *ramosus* usually has long lowest branches, with at least three spikelets); that the uppermost sheath is less hairy in subsp. *benekenii* than in subsp. *ramosus*; and that the small scale at the base of the lowest panicle branches should be without any of the long hairs which are found on the scale of subsp. *ramosus* (but should be pubescent, glabrous or both). In practice, because of the potential for overlap in many of these characters, the status of the nodal scale becomes very significant for what seems a small element of the plant as a whole.



Shoreham, habitat. Photo by Lliam Rooney, 16 July 2014



The Lesser Hairy-brome has found been on pathsides or roadside banks in Kent where overshaded by trees or shrubs, and where any highway cutting regime permits it to flourish. Its associated flora is of a woodland marginal nature, and other grass species which may occupy a similar habitat and which, due to their drooping habitat, may detract from spotting Lesser Hairy-brome include *Brachypodium sylvaticum* (False-brome), *Schedonorus giganteus* (Giant Fescue) and *Bromus ramosus* subsp. *ramosus.* These share characteristics of being shade-tolerant and drought-tolerant. Kent occurrences have been primarily noted on chalk, but plants approaching this taxon and probably including subsp. *benekenii* have been noted on the Hythe Beds of the Lower Greensand near Plaxtol.

Lullingstone. The two subspecies compared: subsp. *ramosus* on the right, a large plant with spreading panicle branches; and subsp. *benekenii* on the left, a small plant with weakly drooping panicle branches. Photo by Lliam Rooney, 16 July 2014.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Crockham Hill	TQ4550		8 August 2015	SL	TQ 45834 50326, coppiced woodland, a collection of plants under trees growing with *Bromus ramosus s.s.* and *Mercurialis perennis;* showing smaller panicle drooping to one side with no long hairs at base of lowest branch.
Lullingstone	TQ5264		16 July 2014	KBRG meeting	TQ 52858 64326 , a plant in shade beside the footpath leading towards the River Darent between Lullingstone Castle and Lullingstone visitor centre, possessing a drooping panicle, one panicle branch at the lowest node, and a

					scale at the base of that branch which was not ciliate. *Bromus ramosus* subsp. *ramosus* also present.
Shoreham south east	TQ5260		16 July 2014	KBRG meeting	TQ 5266 6076, growing near junction between A225 and Fackenden Lane in a marginal habitat on chalk under shade of roadside bushes/trees, open to the west. Similar plants were seen by MB & GK in 2013 further north up Fackenden Lane, TQ5361.
Shoreham east	TQ5361		17 July 2015	RMB	TQ 5301 6117, north side of Fackenden Lane.
Bredhurst Hurst	TQ8061		6 July 2014	MB	At a woodland margin on chalk, under the shade of beech trees, near a public bridleway on a spur above a valley system near Bredhurst, TQ 8057 6192.
Thurnham	TQ8157		12 October 2015	GK	TQ8176 5791, on bank under beech on chalk, one plant appearing to qualify fully for this taxon, another seemingly similar but with one hair on scale at branchlet base.

Bromus secalinus L. (Rye Brome)

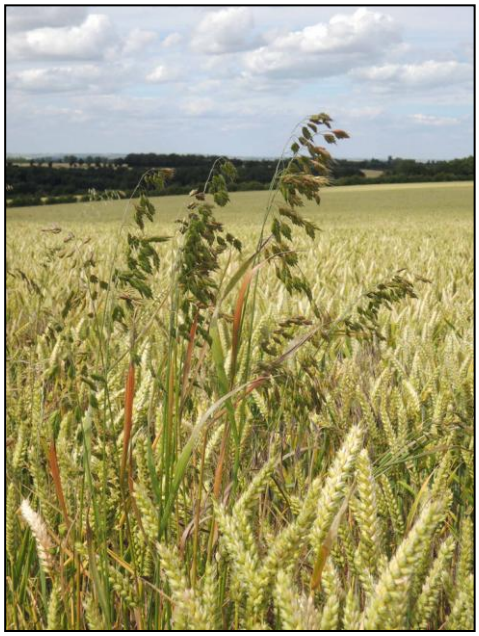
Draft account

vc 15 and 16

Rarity / scarcity status:

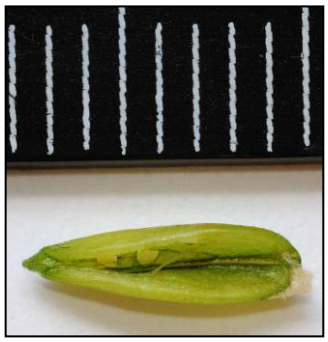
Rye Brome is an ancient introduction (archaeophyte), bearing seeds mimicking rye grain and hence long associated with arable crops; but it is in decline as with many other arable weeds. The extent of this decline had caused its risk status in Great Britain as a whole to be assessed as **Vulnerable**, but this has been downgraded to the same position as for England alone, viz. **Near Threatened**. In Kent, it was first assessed as scarce for the purposes of this register, based on the number of tetrad records given in Philp (2010). However, as subsequent recording has identified many further locations, the species merits no special rarity / scarcity status in the county.

Selling. Photo by Lliam Rooney, 10 July 2012



Account:

It is possible that this annual grass is what Thomas Johnson recorded between Sandwich and Canterbury under the name of "Bromos sterilis altera, Lob." in his *Description of a Journey undertaken for the Discovery of Plants Into the County of Kent in the Year of Our Lord 1632"*[9]. Hanbury and Marshall (1899) regarded it as thinly scattered over the whole county in fields and waste ground, frequently introduced with clover crops. Where present, it might be plentiful, as observed by the Croydon Microscopical and Natural History Club in 1888, when 'In some oat-fields between Hever and Chiddingstone, it was noticed that the oats were overrun to an injurious extent by the handsome grass, *Bromus secalinus*'[10]. After then, it appears to have declined. It is, however, remarkable that Philp (1982) contains only one reported tetrad record, whereas Philp (2010) gives ten, widely scattered across the county, and many more have been forthcoming since. Whilst it is possible that there has been a comeback (as the *New Atlas of the British and Irish Flora*, 2002, reports for Norfolk and Worcestershire), it may well be that this is instead a matter of improved recognition. The recent Kentish records have continued the pattern of arable occurrences, so there is as yet no evidence of introduction as a grass seed contaminant, which appears to be taking place elsewhere. Nor is there evidence of association with any particular soil type. The suggestion by Stace & Crawley (2015)[11] of introduction as a constituent of seed mixtures used in conservation schemes is an interesting one and may account for some cases where a sown arable margin is maintained, but there are many occurrences without evidence of this.



In-rolled caryopsis, from Selling. Photo by Lliam Rooney, July 2012

[9] Hanbury and Marshall (1899) wrongly assign this to Johnson's first Kentish journey, in 1629.

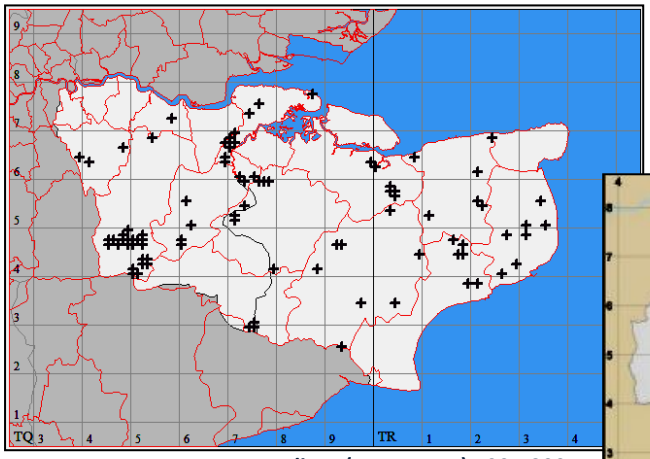
[10] *Proceedings and Transactions of The Croydon Microscopical and Natural History Club* (1889), p.ci.

[11] Stace,C.A. & Crawley, M.J. (2015). *Alien Plants*. William Collins, New Naturalists Library.

There is usually a very substantial population in the fields of Ranscombe Farm, which appears to be more responsive to the effect of minimal tillage (harrowing) than to a ploughing regime; it is not clear whether this is an effect of autumn germination surviving minimal tillage, but it is certainly possible, given that ploughing would have tended to bury seedlings, whilst minimum tillage would have moved them aside.[12]

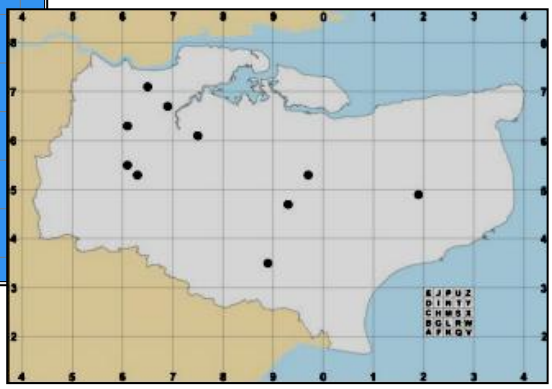
There are a number of Brome grasses which may be found in and around arable crops, but *B. secalinus* (together with *B. pseudosecalinus*, not found in Kent, which may not be a fully separable species in any event) is distinctive, at least when mature, by virtue of the lemmas being wrapped around the caryopsis, itself with in-rolled margins. The individual florets therefore look more rounded than those of other Brome grasses, more distinctly separated from neighbouring florets and so that the rhachilla upon which they are borne is not fully obscured by them. This becomes more distinctive with maturity; in earlier stages, the difference from *Bromus commutatus* (Meadow Brome), which may also be found on arable margins, may not be so clear.

The distribution data for this species were at the inception of this register maintained in both map and tabular format. By 2015, however, it became evident that the quantity of records was too voluminous to merit continuing with a table, and so they are given in map format only. The 1991-2005 distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club) from Philp (2010) and shows, at tetrad level, a wide, fairly random scattering of sites. The distribution map for 2010 onwards gives records at a finer level, 1km squares. It shows some concentrations, but on the whole again a wide spread of finds across the county, with very little coincidence against 1991-2005 records. Records were low in 2010-11, but subsequently it appears that recorders were recognizing the species more effectively in their local areas; and during the period 2010-16 the number of sightings was over three times as much as the number of Kent records in the BSBI database in the entire history of recording up till then. New sightings continued unabated afterwards.



***Bromus secalinus* (Rye Brome) 1991-2005**

***Bromus secalinus* (Rye Brome) 2010-17**





Selling. Photo by Lliam Rooney, 10 July 2012

[12] Moyse, R.I. & Shellswell, C. (2016). A comparison between the impacts of ploughing and minimum tillage on arable plant assemblages at Ranscombe Farm Reserve, Kent, UK. *Conservation Evidence* **13**: 33-37.

Bupleurum tenuissimum L. (Slender Hare's-ear)

Draft account

vc15 and 16

Rarity / scarcity status:

The Slender Hare's-ear is **nationally scarce**. Although the distribution has been regarded as largely stable for some time[13], there have been some losses, particularly in the northerly part of its distribution, such that it is considered to be **Vulnerable**, both in England and Great Britain as a whole. It is treated as a UK Biodiversity Action Plan priority species, said to be a good indicator of a coastal habitat threatened by agricultural intensification and development. Appropriate planned action for its habitat includes maintaining open areas and increasing grazing or poaching by livestock to help control its main competitors, e.g. *Elytrigia atherica* (Sea Couch). In Kent, it is uncommon, but sufficiently well represented around Sheppey and the Hoo peninsular so as not to be treated as locally rare or scarce.



Leysdown. Photo by Lliam Rooney, 22 August 2011

Account:

This species was first noted in Kent by John Ray in his *Synopsis Methodica Stirpium Britannicarum* (3rd edn., 1724) as found "near the Ferry in the Isle of Thanet, by Mr. J Sherard". Hanbury and Marshall (1899) refer to it as being frequent at banks and marshes near the sea and tidal waters, giving a historic distribution including its present north Kent range, but extending also to the north east coast and to the Dymchurch area. These latter locations no longer harbour *Bupleurum tenuissimum*, but Philp (1982) gives three tetrad records in the Lydd Ranges area. The non-appearance of records here in Philp (2010) represents difficulties of access to the Ranges, rather than a distributional decline.



Cleve Marshes. Photo by Geoffrey Kitchener, 12 August 2010. An extensive colony of *B. tenuissimum* in the vehicle tracks below the sea wall.

Bupleurum tenuissimum is an inconspicuous annual, flowering from July to September, and appears reliant upon open areas with some bare ground for germination and establishment. It is accordingly subject to population fluctuations. Characteristically, it may be found on the landward side of sea or estuarial walls, where there is saline influence and there has been some disturbance, such as trampling or vehicle movement. In particular, it is often seen on open grassy ground between sea walls and parallel marsh dykes, where vegetation is not too coarse.

[13] According to the *New Atlas of the British and Irish Flora* (2002).

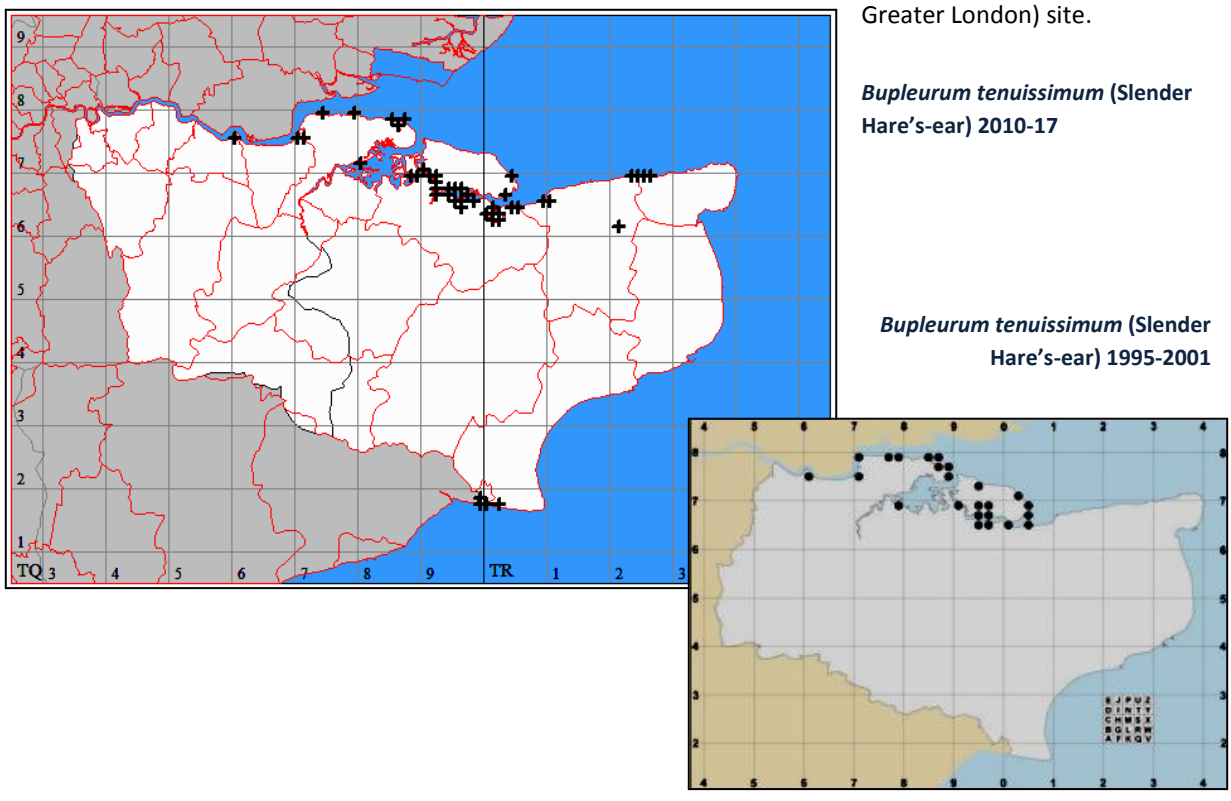


Elsewhere in Great Britain, there have been some inland populations, now largely gone; but this does not appear to have been a type of occurrence in Kent, other than the discovery in 2014 by Alfred Gay of two small groups of plants on slightly damp and disturbed areas on colliery spoil at Stodmarsh NNR, about 8 km inland from the nearest coastal population at Reculver. The species was seen in 1982 on the centre reservation of the A2 near Dartford, but otherwise has not followed the passage of saltmarsh plants along highways affected by de-icing salt, although it has been seen in 2017 by ordinary residential roads at Whitstable/Seasalter.

As this species is not uncommon in Kent, the distributional data maintained in this register will be at 1km square level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the following 1991-2005 distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club).

Cleve Marshes. Photo by Lliam Rooney, 12 August 2010

The records made for 2010 onwards have already covered most of those made in 1991-2005, if not exceeded them. Additional populations have been identified at Reculver and Dungeness, but these are not all totally new, as records were shown in the vicinity in Philp (1982). It looks as though the distribution may have been broadly stable from the 1970s; only a little more work on the Hoo peninsula and east Sheppey needs to be done in order to ascertain whether any more of the 1991-2005 records can be re-found. The 1991-2005 map (being restricted to the administrative county of Kent together with Medway unitary authority area) does not show records for metropolitan West Kent. In 2009 it was found by MG to be present in saltmarsh on the west side of the River Darent flood barrage (TQ5377), the only established metropolitan West Kent (or indeed, Greater London) site.



***Bupleurum tenuissimum* (Slender Hare's-ear) 2010-17**

***Bupleurum tenuissimum* (Slender Hare's-ear) 1995-2001**

Buxus sempervirens L. (Box)

Draft account

vc 15 and (as naturalized introduction)16

Rarity / scarcity status:

Box has been regarded as nationally **rare**, with (as at 1999[14]), only about ten native sites in Great Britain. Its ancient status on steep, unstable calcareous slopes has been described by M.J. C. Staples[15]. In spite of this rarity, its national survival does not appear to be at risk, and the prospect of threat has previously been regarded as being of 'Least Concern', although more data are required for further assessment and it is currently (in both England and Great Britain as a whole) assessed as 'Data Deficient'. Its Kentish status is obscured by naturalized plants, introduced or deriving from introductions. However, there is only one Kentish population (if it may still be described as a population) with a reasonable claim to native status, and on this account it would be appropriately treated as locally **rare.**



Boxley. Photo by Geoffrey Kitchener, 14 November 2011

Account:

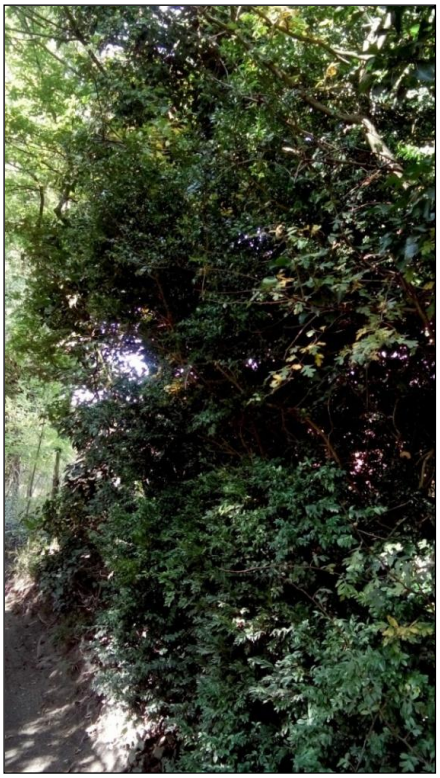
The first published record of Box trees in Kent is in the 1695 edition of Camden's *Britannia*, to which John Ray had contributed information from John Aubrey's notes that "*at Boxley in this County* [Kent] *there be woods of them*". This, however, points to a much older presence there, since the name of the village is derived from the trees, e.g. as Boxeleia (1130) – cf. box-leah, the Old English for box wood. From the reference to "*woods of them*", which suggests abundance, they diminished so that by 1954, when Francis Rose surveyed the Boxley Warren area of the Wouldham to Detling SSSI, he could only find about five trees. This remained the case at least until the great storm of October 1987, which caused considerable damage to the tree cover of the downs escarpment. Just beforehand, Rosemary Fitzgerald had resurveyed the five trees, finding the hill-slope plants heavily shaded - *Taxus baccata* (Yew) grows densely on the steep scarp – which would have affected the ability of even the one really mature individual to set seed. However, planting has since increased those numbers.

Around the time of the Millennium, the Mid Kent Downs Countryside Project, Maidstone Borough Council and Oakover Nurseries evolved a project to propagate cuttings taken from the residual wild trees. In 2003/04, around 300 grown-on cuttings were planted out into the Boxley Warren Local Nature Reserve (at locations centred on TQ 768 597, TQ 766 599 and TQ 763 600) and The Lynch, Detling (centred at TQ 792 587). By 2011, these plants had matured sufficiently to be setting viable seed. The survival rate was apparently almost 100%, once the proclivity of badgers to dig up the young trees when first planted had been surmounted. A consequence is that it may not be possible to assign any further natural regeneration to the original trees or the planted ones, unless inferred from proximity; their genetic content being identical.

[14] British Red Data Books 1 Vascular Plants, 3rd edn., 1999, ed. M.J. Wigginton.

[15] M.J.C. Staples (1970-71). A History of Box in the British Isles. *The Boxwood Bulletin* 10: 19-23, 34-37, 54-60.

The Boxley (non-planted) location is the south-facing chalk scarp of the North Downs at TQ7759 and TQ7859. The persistence of the species has presumably been related to its ability to grow on the steep and unstable terrain, where other trees (except for *Taxus baccata*) have difficulty in achieving maturity. It is slow-growing, and tolerates shade sufficiently so as to be capable of forming an understorey shrub or small tree.



Boxley, roadside tree. Photo by Sarah Kitchener, 8 October 2015.

A survey in 2011 was unable to locate more than two trees. Details are given in the table below but in summary, one roadside hedge-line tree at Pilgrim's Way appears of unclear status, being close to a drive entrance (although its wildness does not seem to have been previously contested); the other is a convincing native. The latter was on a Yew / Ash woodland slope, with *Buddleja davidii* (apparently the continued effect of the 1987 storm, from which the fallen trees and regrowth present difficulties for a comprehensive survey).

There are other records across the county, particularly on chalk, representing naturalized specimens, often in proximity to plantings. Their occurrence has been fairly constant in recent times: the number of records for Box in Philp (1982) – 20 tetrads – fairly well matches that in Philp (2010) – 19 tetrads. It has also been planted in wild situations or in community or amenity woodlands, as a native species.



Boxley Warren (planted). Photo by David Steere, 18 June 2015

For the purposes of the rare plant register, limited value is seen in tracking trends in its naturalization, so no records are given here beyond the account of its presumed native site at Boxley. Eric Philp in Philp (2010) refers to the species as "Perhaps native at Boxley...and in a few other localities on the chalk". However (pers. comm.), he was not aware of any such other localities which show significant likelihood of native status; nor is it likely that historic presence would have gone unremarked, whether by botanists or others.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Boxley	TQ7759		(1) 8 October 2015 (2) 14 Nov 2011	(1) GK (2) MP & GK	(1) Still present, grid reference taken as TQ 77850 59209. (2) TQ 77849 59217: one roadside tree in hedge by Pilgrims Way, nearly 3m high, 4m wide. Status may be affected by being near a drive entrance.

Boxley	TQ7859		14 Nov 2011	MP & GK	TQ 78004 59480: one tree on N Downs scarp above Warren Farm, Boxley , east of footpath. On steep woodland slope with yew (very near), ash and *Buddleja* – the slopes still show effects of 1987 storm. Trunk was prostrate, lying down the hill slope, with branches spreading up to 2.5m high where slope highest, 3.5m where slope lowest, horizontal spread 6m x 6m. No seedlings seen. Searched for other wild trees but none seen.