

Kent Rare Plant Register

Draft species accounts

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Compiled by Geoffrey Kitchener and the Kent Botanical Recording Group
Issue date: February 2021

Kent rare plant register

This section of the register covers:

Baldellia ranunculoides
Bistorta officinalis
Blitum bonus-henricus
Brassica oleracea var. *oleracea*
Briza media
Bromus hordeaceus subsp. *thominei*
Bromus ramosus subsp. *benekenii*
Bromus secalinus
Buglossoides arvensis
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 the boundary between vice counties 15 and 16 as a black line.

See the Kent webpage of the BSBI website at <https://bsbi.org/kent> 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
 BW Brian Woodhams
 CO Colin Osborne
 CS Cath Shellswell
 DC David Carder
 DCh Danny Chesterman
 DG Doug Grant
 EGP Eric Philp
 DM Daphne Mills
 FB Fred Booth
 FJH F.J. Hanbury
 FR Francis Rose
 GD George Dowker
 GK Geoffrey Kitchener
 JM J. Mobarak
 JP Joyce Pitt
 JRP John Palmer

n

LR Lliam Rooney
 LWD L.W. Dillwyn
 MG Margot Godfrey
 MP Mike Phillips
 OL Owen Leyshon
 PH Peter Heathcote
 RC Ray Clarke
 RG Bob Gomes
 RM Richard Moyse
 RMB Rodney Burton
 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 (and, indeed, the first localised record for the British Isles). 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 1954¹. 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 does not seem to be a 'real' decline at all, 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 2010-20 presence amounts to seven tetrads (equivalent to nine monads), i.e. more than in either the 1971-80 or 1991-2005 surveys.



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

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



exposure. However, management may also create these conditions, as has taken place at the 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. *ranunculoides* (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: <i>Alisma plantago-aquatica</i> , <i>Myriophyllum spicatum</i> , <i>Iris pseudacorus</i> , <i>Potamogeton trichoides</i> . (2) many plants at TR 08450 17995 along western edge of the pits. Associated flora: <i>Ranunculus lingua</i> and <i>R. circinatus</i> . 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: <i>Iris pseudacorus</i> , <i>Lythrum salicaria</i> , <i>Hydrocotyle vulgaris</i> , <i>Alisma plantago-aquatica</i> , <i>Mentha aquatica</i> , <i>Juncus articulatus</i> , <i>Carex pseudocyperus</i> . 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) 24 July 2020 (2) 20 June 2019	(1) AL (2) to (6) AL &	(1) Abundant (hundreds) in usual place in TR2362.

			(3) 13 August 2016 (4) 29 August 2014 (5) 17 August 2014 (6) 9 August 2014	JM	(2) TQ 2394 6238, in S19C <i>Eleocharis palustris</i> swamp, <i>Agrostis stolonifera</i> subcommunity. Compartment 57. (3) A vast population of hundreds of plants occurs at TR 2402 6260 and TR 2395 6242 in S19 <i>Eleocharis palustris</i> swamp, the former in <i>Agrostis stolonifera</i> subcommunity. (4) TR 2299 6210 and in S13 <i>Typha angustifolia</i> swamp at TR 2294 6215. (5) TR 2340 6232, one plant in lake in front of Harrison's Drove Hide. (6) 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 <i>Juncus subnodulosus</i> , <i>Equisetum palustre</i> , <i>Lythrum salicaria</i> . (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	(3) At time of record, site was subject to management agreement for benefit of this plant.	(1) 3 July 2020 (2) 5 September 2013 (3) Late 1990s - early 2000s	(1) SB (2) GK, LR & RG (3) BB	(1) (a) A few plants flowering at TR 3428 5576, the only area along the ditch with any open water and free of <i>Juncus subnodulosus</i> . (b) Around six flowering plants in ditch (usual place) at TR 3428 5576. (2) TR 34299 55742, a small patch at ditch margin in pasture amidst <i>Juncus</i> spp. Probably same as noted by SB on 24 July 2013 with <i>Juncus subnodulosus</i> . (3) 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.

***Bistorta officinalis* Delarbre (*Persicaria bistorta* (L.) Samp.) (Common Bistort)**

Draft account. Photographs needed.

vc15 and 16

Rarity / scarcity status

Common Bistort is widespread in the British Isles, but common only in north west England. Its threat status for conservation purposes is one of 'Least Concern' in both England and Great Britain as a whole. Whilst there have been scattered introductions, as a native plant it appears to be in decline in Kent and is **scarce**.

Account

The species is first mentioned for Kent in G.E. Smith's *Catalogue of rare or remarkable phaenogamous plants collected in South Kent* (1829) as 'Collected by Mr. William Fagg, in a field to the right upon Stonestreet, about eight miles from Hythe'. This looks likely to be somewhere around Sixmile between Stowting and Stelling Minnis; his informant was probably from Brabourne. Smith also mentioned the species in his manuscript notes (1830-33) as 'Nr Horton: by the river at Ashford' (these are probably two locations). Hanbury and Marshall (1899) regarded Common Bistort (which they called Snakeweed) as rather rare, in moist meadows and copses. The records which they had collated included some obviously damp areas as well as Smith's Ashford record: marshes at Minster and Monkton; between Furnace and Scarlett's millponds near Cowden; around the millponds, Tenterden; by the Royal Military Canal near Sandgate; and, less obviously, a field near Otford Castle, reported by Miss Worship. This last site is still, extant, with a stream running through the field which is the site of 16th century Otford Palace. It is not impossible that this derives from a Tudor planting, especially as this was the location of the Palace's privy garden; the early herbalists Turner, Gerard and Parkinson (writing from a southern perspective, although Parkinson was born in Yorkshire) considered it very much a garden plant.

Philp (1982) assembled 18 tetrad records for 1971-80, mostly in the west and south west of the county². It was then regarded as rather rare in damp meadows and on roadsides. However, by the 1991-2005 survey of Philp (2010) it was even rarer, with a decline of 61% to seven tetrads, and the cluster in the south west (the earlier survey had five tetrad records in TQ44) no longer appearing. The position in relation to 2010-20 recording is even more concerning: there are only six records. At least a couple are obviously planted or thrown out; and none is a continuation of a presumed native site.

Given the vigour of the clonal growth of this perennial where established, it is surprising that the species has undergone such decline in Kent. It may that damp meadow sites have been subject to 'improvement' and roadside sites, which may have represented introductions in any event, have been subject to works; but there is no clear evidence.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Goathurst Common	TQ45W		30 May 2003	EGP & PH (Philp, 2010)	
Sundridge	TQ45X		1991-98	EGP (Philp, 2010)	

² These have not been added into the data table below, but were: TQ43P, TQ44K, TQ44Q, TQ44U, TQ44X, TQ45T, TQ45X, TQ45Y, TQ55J, TQ55X, TQ56K, TQ63I, TQ63Z, TQ64D, TQ82U, TQ85L, TQ85Q, TR24Z. No details other than the tetrad reference were given.

Downe (metropolitan vc16)	TQ4261		9 June 2014	JP & Botany Group	West Kent Golf Course north
Otford	TQ5259		(1) 20 April 2011 (2) 1991-99 (3) 16 July 1994	(1) GK (2) EGP (Philp, 2010) (3) Joint WFS / BSBI meeting	(1) Palace Meadow, abundant in dampish grassland between footpath and Sevenoaks Road, centred on TQ 52739 59158. And between the same footpath and a stream to the east, centred on TQ 52758 59140. Possible association with Tudor palace grounds. Usually cut back before flowering. (2) – (3) TQ 527 591.
Kemsing	TQ5560		3 June 2018	RMB	E side of Goodbury Road for 4-5 metres TQ 55661 60778 etc. (near Goodbury House).
Kilndown	TQ73C		1991-98	EGP (Philp, 2010)	
Little Chart Forstal	TQ9545		25 May 2010	GK	One plant at roadside, edge of Coldham Wood, TQ 95821 45877, presumed originating as throw-out.
Royal Military Canal, Lympne	TR0934		August 1985	JP	TR 094 344.
Ashford	TR0045		7 June 2018	SB	Two very large patches at margin of fishing lake, presumably planted TR 0022 4510.
Nacolt	TR04M		1991-99	EGP (Philp, 2010)	
Waldershare Park	TR24Y		30 May 2002	EGP & PH (Philp, 2010)	
East Studdal	TR34E		25 July 2000	EGP (Philp, 2010)	
Worth – Lydden valley	TR3555		9 July 2018	DCh	TR 35151 55286, bank of drainage channel.

***Blitum bonus henricus* (L.) Rchb. (*Chenopodium bonus-henricus* L.) (Good-King-Henry)**

Draft account. Kent photographs of plant and habitat in the wild needed.

vc 15 and 16

Rarity / scarcity status

Good-King-Henry is an archaeophyte, or ancient introduction (at least from Roman times), formerly grown for its edible spinach-like leaves, and widespread in the British Isles. It is, however, in decline, perhaps in consequence of being more rarely introduced, and so no longer recruiting the stock of escaped or established plants; and it is accordingly regarded as a **Vulnerable** species both in England and in Great Britain as a whole. In Kent, it is **rare**.

Account

The first record of *Blitum bonus-henricus* in the wild in Kent was made by Thomas Johnson in his *Descriptio Itineris* (1632), on Thanet between Nash and Queakes (Quex). Hanbury and Marshall (1899) gave no other specific records, but regarded it as not uncommon throughout the county, on roadsides and waste ground. It is not a plant which seems to have attracted much recording attention in Kent, but Philp (1982) gave it as present in 25 scattered tetrads on roadsides and waste places, usually near farms or other buildings. By the time of the 1991-2005 survey (Philp, 2010) only three tetrad records were noted in the administrative county, so that its continuance appears more vulnerable in Kent than in most counties. There appears to have been only two non-garden records in recent years, at Maidstone and Tovil.



In cultivation at Halstead. Photo by Geoffrey Kitchener, 20 September 2012

Blitum bonus-henricus is a patch-forming perennial which is capable of long persistence and appears not easily eradicated, so that it may well have continued for some time in locations where originally a cottagers' pot-herb. But its decline in recent times, is perhaps more rapid than might be expected, even given that it is little-grown and so that the opportunities for recruitment are no longer there. Its frequent proximity to farm or other old buildings suggests that its status may often be no more than established from planting. Although broadly recorded in Great Britain, there is a gap in the extreme south east, particularly for Kent and Sussex and it has been claimed to be a cold winter archaeophyte³, so this may perhaps impact on its Kent suitability. It responds to cultivation in Kent and, indeed self-seeds in the author's garden, but in an adjacent gravel path, rather than the plant border.

It is not particularly similar to *Atriplex prostrata* (Spear-leaved Orache), but the coincidence of their triangular leaves as shown in some identification books has led to mis-identifications.

³ Stace, C.A. and Crawley, M.J. (2015). P.430, *Alien Plants*. William Collins, New Naturalist.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Brasted	TQ45S		After 1990, before 2006	Philp, 2010	Road near church; presumably the same as RC's record, 1957, at TQ468554. [Not seen when sought in June 2012, GK.]
Romney Street	TQ56K		After 1990, before 2006	Philp, 2010	Same as Rose Cottage Farm, Magpie Bottom, TQ545609, where established by barn (originally planted?).
Tovil	TQ7453		10 July 2019	BW	Building site, the former Tovil tip.
Maidstone	TQ7554, 7555		(1) 5 July 2017 (2) 30 June 2017	(1) & (2) BW	(1) TQ 751 549, disturbed ground around new railway footbridge. (2) TQ 754 550, garden weed.
Bredhurst	TQ7962		Summer 1998		c. TQ 795 622, lane by pub (the Bell). Marked on copy of FR's site notes for Flora of Kent. [Not found, GK, June 2016. Was near large house to west, but boundary now covered with <i>Symphytum orientale</i> .]
Folkestone	TR23D		19 August 2000	Philp, 2010	Location may have been along coast road.

***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 out⁴ 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)⁵, 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.

⁴ N.D. Mitchell, The Status of *Brassica oleracea* L. subsp. *oleracea* (Wild Cabbage) in the British Isles. *Watsonia* (1976) 11: 97-103.

⁵ *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 halophytes⁶

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).

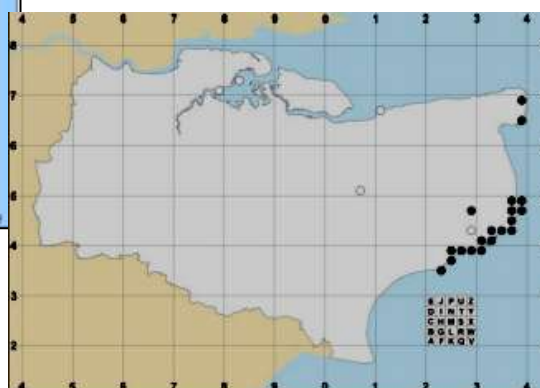


Brassica oleracea var. *oleracea* (Wild Cabbage)
2010-20



Brassica oleracea (Cabbage), including var. *capitata* (cultivated Cabbage) and var. *oleracea* (Wild Cabbage), 2010-20

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



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,

⁶ 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).

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 2010-19 distribution maps are given here, one with all *B. oleracea* records, including var. *oleracea* (and escapes of cultivated Cabbage, recorded under var. *capitata*), 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 2010-20 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., 2006⁷) 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* F₁ 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)⁸ 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

⁷ 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

⁸ 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 Liam 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

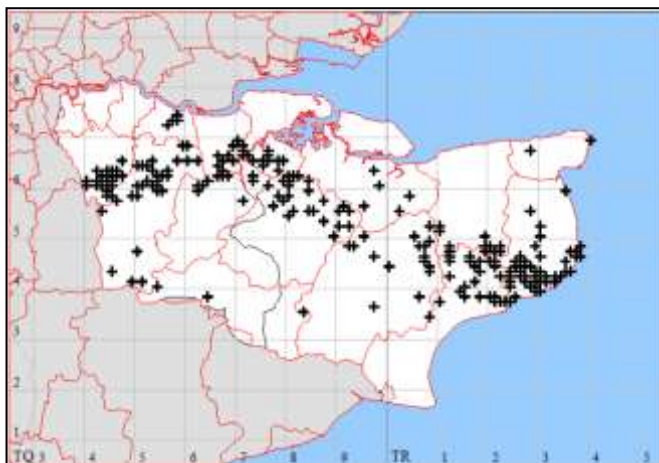


curious form with white spikelets. Near contemporaneous with this account are the Woolwich Surveys⁹, which referred to the grass as common in badly drained meadows and pastures, but of no agricultural value. Again, the Surveys locate the grass at Keston Common, but also at Hayes Common and on grassy chalk banks about Down (sic) – so there is recognition of the ability of the grass to accommodate itself to both acid and calcareous grasslands.

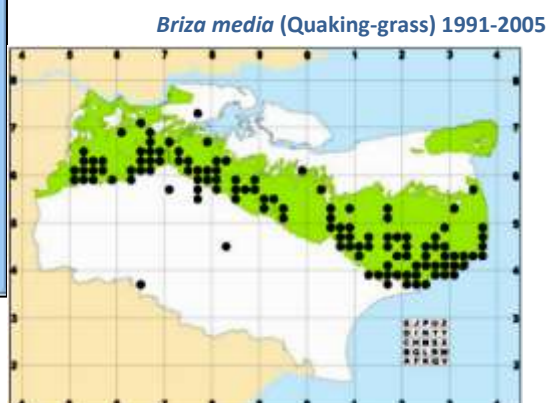
Neutral meadow habitat, Lamberhurst Quarter. Photo by Geoffrey Kitchener, 13 June 2015

⁹ 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 (2010-20), which show a continued presence on Wealden clay.



Briza media (Quaking-grass) 2010-20



Briza media (Quaking-grass) 1991-2005

Records shown in the accompanying 2010-20 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 2010-20 map contains the equivalent of 160 tetrad records, still less than for 1971-80, although an ostensible increase 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 Liam Rooney, 18 June 2010

The typical appearance of *Briza media* 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: investigation for further records needed from Hythe to Dungeness

vc 15, now apparently gone from vc 16

Rarity / scarcity status

Bromus hordeaceus subsp. *thominei* has now apparently gone from West Kent (vc16), but it might still be worth searching the south beach at Grain, from which FR took material in 1955 (**MNE**), although coastal works have changed the terrain. 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 separately 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). Francis Rose's manuscript *Flora of Kent* includes a number of inland records, especially from the 1940s and 1950s; but it seems likely that these were *Bromus* x *pseudothominei* (Lesser Soft-brome), a taxon which was not separated until 1968.

Sandwich. Photo by Lliam Rooney,
9 June 2015

Sandwich specimen. Photo by Lliam Rooney, 10 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 said¹⁰ 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,



¹⁰ C. Stace (2010). *New Flora of the British Isles*, 3rd edition.

although Cope & Gray (2009¹¹) say that this recognition probably exaggerates the importance of the taxon. It may also be found on shingle or shelly sand, and as a component of fairly open turf on shingle.

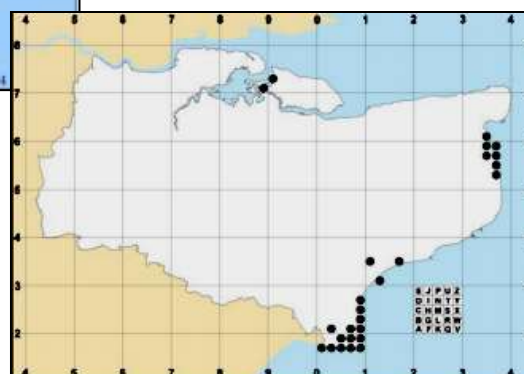
As this subspecies is not uncommon in Kent, it was originally intended that the distributional data maintained in this register would be at 1km square level, a finer scale than the tetrads given in Philp (2010), from which the following 1991-2005 map is taken (with kind permission of the late Eric Philp and the Kent Field Club).



Bromus hordeaceus subsp. *thominei* 2010-19

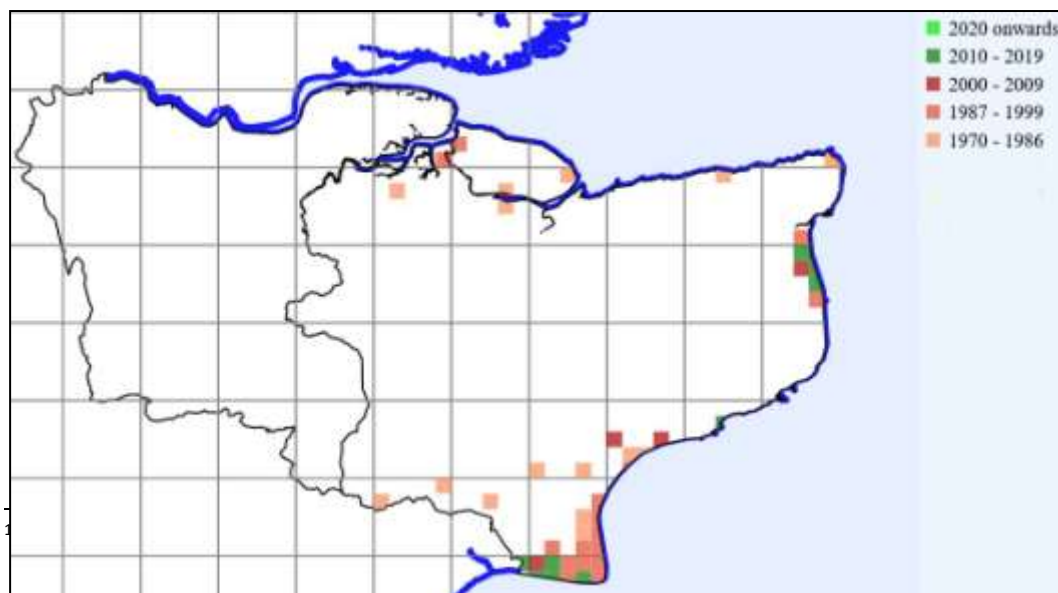
However, initial recording from 2010 onwards has not produced as many records as might be expected, and so information is currently being provided for the register in both map and tabular form, so as to encourage further recording.

Bromus hordeaceus subsp. *thominei*
1991-2005



The areas where records in Philp (2010) have not been re-found (e.g. Littlestone / Greatstone / Dymchurch / Hythe) are otherwise mostly well-recorded and do appear to have suffered any particular vicissitudes, so the grass is presumably being overlooked. A little more puzzling is a series of records in Philp (1982) from inland Romney Marsh and the Rother Levels (e.g. TR03A, TR03Q, TQ92N, TQ82Z, TQ82D) where it is not immediately apparent that suitable habitat exists (but *Bromus* x *pseudothominei* (Lesser Soft-brome) is possible and has been recorded in comparable areas). A further distribution map is provided below including the Philp (1982) records under 1970-86, and it also brings into question whether other records from that time, in north Kent, were really subsp. *thominei*.

Bromus hordeaceus subsp. *thominei* ostensible distribution (in tetrads), from BSBI database





Sandwich. Photo by Lliam Rooney, 9 June 2015



Sandwich, habitat. 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 <i>Carex arenaria</i> and <i>Phleum arenarium</i> .
Sandwich	TR3559		6 July 2019	SB	Bare sand disturbed area, TR 3550 5958.
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	TR3657		18 May 2018	SB	SBBO's Restharrow Field around rabbit burrows at TR 364 570.
Sandwich Bay Estate	TR3658		26 June 2013	SB	A few plants on bare sand in dunes at TR 36046 58377, with <i>Festuca arenaria</i> .
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 still present and is likely to be 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 Liam Rooney, 16 July 2014

The grass was presumed lost to Kent, but research by Mervyn Brown gave 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 Liam Rooney, 16 July 2014



The Lesser Hairy-brome has found

been on pathsides or roadside banks in Kent where overshadowed 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 habit, 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 have also been seen 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 Liam 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 <i>Bromus ramosus</i> s.s. and <i>Mercurialis perennis</i> ; showing smaller panicle drooping to one side with no long hairs at base of lowest branch.
Shoreham	TQ5061		24 August 2019	GK & SK	TQ 5085 6113, plant at shaded edge of woodland inside wire fence, with open aspect onto chalk valley pasture slope.
Shoreham	TQ5161		24 August 2019	GK & SK	TQ 5111 6124, plant at edge of Terrace path running through

					woodland (chalk slope).
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. <i>Bromus ramosus</i> subsp. <i>ramosus</i> 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.
Eynsford	TQ5364		(1) 2 July 2020 (2) 1 October 2019	(1) & (2) GK & SK	(1) TQ 534 646, still present, plus <i>B. ramosus</i> subsp. <i>ramosus</i> . (2) TQ 53413 64669, about 16 plants spread out on bank in partial shade under beech adjoining access way and public footpath from A225 to Lullingstone.
East of Plaxtol Spout	TQ6254		5 January 2020	GK & SK	TQ624542, roadbank of the Hurst, wood margin, remains of flowering sufficiently undecayed for determination.
South of Platt	TQ6256		29 August 2019	GK	TQ 6230 5625, west side of lane to Napp Farm, off Long Mill Lane. Shaded lane bank, several scattered plants plus one of <i>B. ramosa</i> s.s.. Hythe Beds.
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	TQ 8176 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*¹². 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*’¹³. 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. It is possible that some of this apparent change in Kent is a matter of improved recognition and wide-spread recognition, but there is a background of new records being made across England, now (2020) much more extensive than as reported in the *New Atlas of the British and Irish Flora*, 2002 for Norfolk and Worcestershire. The recent Kentish records have continued the pattern of arable occurrences, so there is as yet no evidence here 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)¹⁴ 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.



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

¹² Hanbury and Marshall (1899) wrongly assign this to Johnson’s first Kentish journey, in 1629.

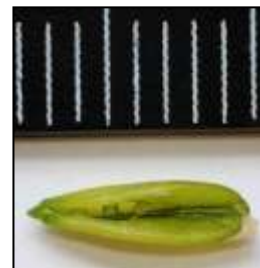
¹³ *Proceedings and Transactions of The Croydon Microscopical and Natural History Club* (1889), p.ci.

¹⁴ Stace, C.A. & Crawley, M.J. (2015). *Alien Plants*. William Collins, New Naturalists Library.

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.¹⁵

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

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 rachilla upon which they are borne is not fully obscured by them. This becomes more distinctive with maturity; in earlier stages, the difference from Meadow Brome *Bromus commutatus* (*B. racemosus* in the wide sense), which may also be found on arable margins, may not be so clear.

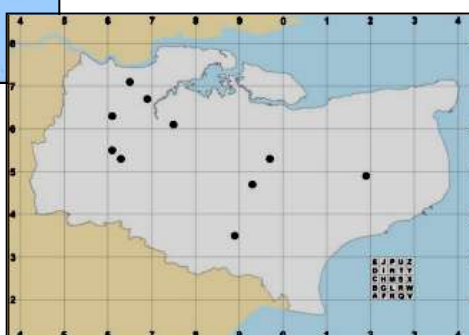
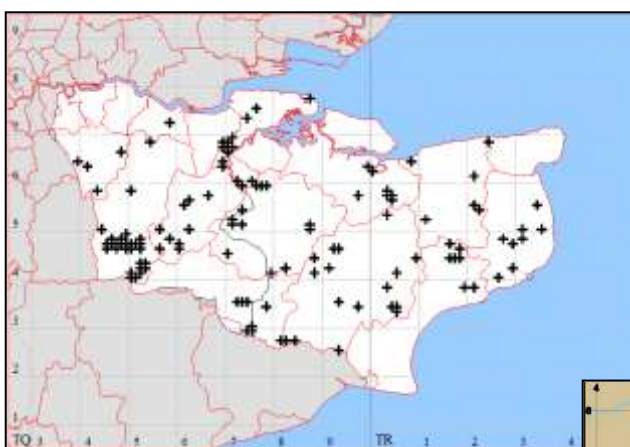


The distribution data for this species were at the inception of this register maintained in both map and tabular format. By 2015, however, it became evident that the quantity of records was too voluminous to merit continuing with a table, and so they are given in map format only. The 1991-2005 distribution 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 and 2010-20 records cover 97tetrads (123 monads).

Bromus secalinus (Rye Brome) 2010-20

Bromus secalinus (Rye Brome) 1991-2005



Selling. Photo by Lliam Rooney, 10 July 2012

¹⁵ 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.

***Buglossoides arvensis* (L.) I.M. Johnst. (*Lithospermum arvense* L.) (Field Gromwell)**

Draft account

vc 15 and 16

Rarity / scarcity status

Buglossoides arvensis is an archaeophyte or ancient introduction found often as an arable weed mainly in south east England, being scarce and generally casual elsewhere in the British Isles. It is regarded as an **Endangered** species, both in England and in Great Britain as a whole. A comparison of its area of occupancy in England over the periods 1930-1969 and 1987-1999 produced a calculated decline of 54% in the likelihood of recording the species. In Kent there is evidence of a 33% decline between the periods 1971-80 and 1991-2005, and the species is **scarce** as well as declining.

From John Gerard's *Herball*, 1597.

Account

Field Gromwell was abundant in Kent as an arable weed in both prehistoric and historic times, declining drastically from the 1950s in the face of modern agricultural practices. There is a fair amount of evidence of its early presence in various archaeological contexts. Charred cereal remains in an Early Iron Age pitfill at Cuxton¹⁶ contained a high proportion of weed seeds, including Field Gromwell. Because the neighbouring geology was chalk, it was (surprisingly) considered that this was not congenial for *Buglossoides arvensis* and that the assemblage may have



originated further away; but it was surely not necessary to make such an assumption. *Buglossoides arvensis* seeds were also found amongst charred remains apparently derived from Roman grain processing, in the course of excavating a cable trench on behalf of Seaboard in 1994 through the Roman town of Springhead.¹⁷ A little further to the east, near Downs Road, Southfleet, excavations for the HS1 rail route produced further charred cereal remains from a first century Roman context, in which Field Gromwell was the dominant weed (except for samples substantially lacking any weed seeds, which appeared to relate to a late stage of grain processing, following sieving); there were also smaller numbers of seeds in samples taken from a mediaeval kiln¹⁸. A further find of *Buglossoides arvensis* seeds was made amongst what appears to be re-deposited early to middle Iron Age crop processing waste in a grave pit at White Horse Stone.¹⁹



Borstal. Photo by Liam Rooney, 29 June 2011

¹⁶ Davies [sic], A. (2006). The charred plant remains from Cuxton, Kent. CTRL specialist report, London and Continental Railways. Accessed via Archaeology Data Service (distributor).

¹⁷ Campbell, G. The Charred Plant Remains, in Boyle, A. & Early R. (1999). *Excavations at Springhead Roman Town, Southfleet, Kent*.

¹⁸ Davis, A. (2006). *The charred plant remains from Northumberland Bottom, Southfleet, Kent (ARC WNB 98)*. CTRL Specialist Report, London and Continental Railways.

¹⁹ Giorgi, J. (2006). *The plant remains from White Horse Stone, Pilgrim's Way and Boarley Farm, Aylesford and Boxley*. CTRL specialist report. London and Continental Railways.

The first published record of Field Gromwell in Kent is to be found in John Gerard's *Herball* (1597) where it is stated to be present 'in the yle of Thanet neere Reculvers'. Rather puzzlingly, it was supposed to be 'upon the sands and bach of the sea', rather than in an arable context; although, whether or not Gerard was mistaken in identification, Thomas Johnson, who knew the plant and edited the second edition of the *Herball*, did not seek to change this reference. Field Gromwell continued to be so common that Hanbury and Marshall (1899) gave no stations for it, saying that it was frequent in all districts, especially on the chalk, and was a plant of cultivated and waste ground.

Borstal, habitat. Photo by Liam Rooney, 29 June 2011

It is likely that some initial reduction in the frequency of the species took place with more effective seed cleaning, although as Field Gromwell drops some seeds around the plant and those remaining would be capable of being gathered with the crop to become a potential seed contaminant, Field Gromwell would not necessarily be dependent on re-introduction. Probably more damaging for survival is the use of agricultural herbicides, so that by the time of the 1971-80 survey (Philp, 1982) the species was listed in only 12 tetrads. These were well spread across the county and followed the chalk soils. The 1991-2005 survey (Philp, 2010) not only showed a



decline to eight tetrads, but instead of being county-wide, the distribution was virtually confined to the Medway valley as it passes through the chalk downs. The only non-Medway sites were at St Margaret's at Cliffe in the east and Wrotham Water in the west. Two of the Medway valley tetrads were also noted in the earlier survey; the others were new. Our 2010-19 records, shown on the accompanying distribution map, with only seven tetrads so far, also have a mostly Medway distributional focus.

Buglossoides arvensis (Field Gromwell) 2010-20

Borstal. Photo by Liam Rooney, 29 June 2011

Field Gromwell is a spring annual, perhaps sometimes autumn-germinating and overwintering. Seed production is apparently up to 300 seeds per plant and the seedbank is short-term persistent. Dormancy increases with depth of seed burial and so germination is likely to be favoured by low impact tillage systems which keep the seed near the surface. As an annual, it requires open ground for continued establishment, and it prefers a calcareous soil, although there are a few Kent records with different soil



conditions, e.g. arable land on London Clay near Seasalter (Hector Wilks, 1956) and a cornfield by the Medway east of Tonbridge, presumably alluvial (Clive Stace, 1954).

The status of this species for the purposes of this register became potentially equivocal as a result of the discovery in 2018 of hundreds of thousands of plants along half a kilometre of arable field margin on the Lees Court estate (TR0356). These were found to be derivative from a crop of *Buglossoides arvensis* 'Ahiflower' which was sown here the previous year by Lees Court Farm. Ahiflower has been cultivated on the estate from about 2010, initially in a development phase, and then under commercial contracts with an American company, the seed originally deriving from a series of eastern European collections, including the Russian steppes (Sondes, 2015)²⁰. The use of Ahiflower is as a nutritional supplement containing omega-3, -6 and -9 fatty acids from oil obtained from pressing the harvested seeds; the yield from the 2016 harvest was 0.3t per hectare. Lees Court estate is fairly adventurous in its non-food crops, but it is possible for escape from



cultivation to be more widespread, given that some 5,000 acres was said to be grown by some 30 licensed farmers in the UK around 2015, and it has been grown at least in Essex, Gloucestershire, Lincolnshire and Scotland. The species was recorded in the same tetrad in the 1971-80 survey (Philp, 1982), but this must have been as a true native, given that its cultivation had not begun here then. It is ironic that what has been for centuries an arable weed in Kent should now have become a crop in its own right!

Lees Court, crop derivative. Photo by Sue Buckingham, 16 April 2018

Site	Grid reference	Site status	Last record date	Recorder	Comments
Otford/Shoreham	TQ5360		31 July 1997	JP	Over 40 plants at edge of chalky arable either side of footpath leading from Fackenden Down to Shoreham Road, known here for at least five years before. Field was subsequently converted to pasture, so headland is no longer disturbed to enable further appearance.
Eynsford	TQ5366		9 November 1986	RMB	TQ 533 662, Crockenhill Lane – railway.
Longfield	TQ56Z		After 1970, before 1981	Philp (1982)	
Dartford	TQ57L		After 1970, before 1981	EGP & JRP, in Philp (1982)	
Wrotham Water	TQ65J		1991-99	EGP (Philp, 2010)	
Luddesdown – Great Buckland	TQ66S		After 1970, before 1981	Philp (1982)	
Luddesdown - Cobham	TQ66T		After 1970, before 1981	Philp (1982)	
Lower Bush	TQ66Y		(1) 2011 (2) 28 July 2011 (3) 1991-99	(1) RM (2) SP & DC (3) EGP	(1) Probably hundreds of plants at approximately TQ 696 674 (outside the Ranscombe Farm Reserve).

²⁰ Sondes, Countess Phyllis (2015), interview in 50 Farmers Tales, The Recent History of Farms and Farming in Kent (University of Kent), <https://www.kent.ac.uk/sac/50farmers/interview-archive.html> (accessed 14 December 2018)

				(Philp, 2010)	[Checked since each year 2012-15, but not seen. RM.] (2) TQ 6953 6737. Many plants scattered along top of field over c. 50m.
Ranscombe	TQ6968		(1) 2016 (2) 23 July 2015	(1) & (2) Comm. RM	(1) Seven plants in Kitchen Field at around TQ698680. (2) Six plants in Kitchen Field centred on TQ698680, originally discovered by CS.
Gravesend	TQ67L		After 1970, before 1981	EGP & JRP, in Philp (1982)	
West of Eccles	TQ76A		2 June 1991	JP	Eccles old pit, c. TQ 719 608
Medway valley	TQ76B		(1) 28 June 2013 (2) 1991-99 (3) After 1970, before 1981	(1) CS (2) EGP (Philp, 2010) (3) Philp (1982)	(1) TQ 71980 63580, Wouldham, a population in south west corner of field ploughed in spring 2013 and sown to barley. (2) & (3) Recorded as tetrad, may have been in vc16, or records in both vc15 and 16.
Eccles	TQ76F		1991-99	EGP (Philp, 2010)	Given only as tetrad.
Burham	TQ76G	KWT managed reserve	(1) 11 June 1997 (2) 1991-99 (3) After 1970, before 1981	(1) FB, DM, DC (2) EGP (Philp, 2010) (3) Philp (1982)	(1) TQ 735 624 given, but may well be centroid for reserve.
Nashenden	TQ76H		(1) 28 July 2013 (2) 1991-99	(1) CS (2) EGP (Philp, 2010)	(1) TQ72183 64073, c. 50 plants present along the west side of field ploughed in spring 2013 and sown to barley.
Borstal	TQ76I		(1) 4 July 2017 (2) 29 June 2011 (3) 24 May 2010 (4) 1991-99	(1) DCh (2) LR (3) SP & DG (4) EGP (Philp, 2010)	(1) TQ 72586 66100, six plants on edge of field a few yards south from <i>Allium oleraceum</i> site. (2) TQ 72568 66401 – TQ 72565 66004, Burham Rd, Borstal, c. 100 plants distributed over about 36m on bank, west side of road. (3) TQ 72572 66087 to TQ 72564 66041. 10 plants noted on the edge of a Rape field along Burham Road, near to the M2. (4) -
Thurnham - Detling	TQ85E		After 1970, before 1981	Philp (1982)	
Charing Heath	TQ9348		10 June 2018	SL	Hurst Wood, Charing Heath (AS68), Newlands Road, northern road bank, TQ93524817. Sandy bank of road.
Hogben's Hill	TR05I		(1) After 1970, before 1981 (2)	(1) SB (2) Philp (1982)	(1) Hundreds of thousands of plants at the margin of corn field for more than half a kilometre from TR 0322 5603 northwards to TR 0316 5650 and then westwards along the northern margin for about a hundred yards until it reaches a shaw. The population was later found to be a relict from a crop of 'Ahiflower' which was sown as a herbal remedy in the field the previous year by Lees Court Farm. (2) TR05I.
Crundale	TR05Z		After 1970, before 1981	Philp (1982)	
Barham	TR24E		After 1970, before 1981	Philp (1982)	
Ripple	TR34P		After 1970, before 1981	Philp (1982)	
St Margaret's at Cliffe	TR34S		1991-98	EGP (Philp, 2010)	

***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 time²¹, 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* to the same degree, 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.



Allhallows Marshes. Photo by David Steere, 19 August 2018

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. Normally, members of Apiaceae have seeds with relatively short-lived viability, but seeds of *Bupleurum tenuissimum* have been germinated from herbarium specimens 144 years old²², which may suggest that populations may recover from apparent extinction if appropriate conditions are provided, although it may be that development after germination is insufficient to ensure viability.

²¹ According to the *New Atlas of the British and Irish Flora* (2002).

²² Godefroid, S. *et al.* (2011.) Viability of seeds from old herbarium specimens, *Taxon* 60 (2): 565–569.

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. It may be overlooked because the thin, wiry stems merge with the grass and the flowers are small.

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



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. A 2019 record from Newchurch, over 5km from the coast, was of plants on roadside bare ground where vehicles are likely to have parked; its origin, however, remains mysterious, as this is over 13km from the nearest coastal colonies which themselves are not conventionally accessible to vehicles, being within Lydd Ranges MOD land: it may represent spread from undetected survival at Dymchurch.

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).



Habitat, Allhallows Marshes. Photo by David Steere, 19 August 2018

The records made for 2010-20 have covered nearly all locations where made in 1991-2005, and indeed exceeded the number of tetrads recorded in that survey (24) so as to total 42 tetrads (58 monads), not far short of the 45 tetrad records made during 1971-80. Additional populations to those in Philp (2010) 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; or if there has been any decline, then it is not continuing. 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 Margot Godfrey 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) 2010-20

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



Cleve Marshes. Photo by Liam Rooney, 12 August 2010, showing how inconspicuous the plant is, against a background of grasses.

***Buxus sempervirens* L. (Box)**

Draft account

vc 15 and (as naturalised introduction)16

Rarity / scarcity status:

Box has been regarded as nationally **rare**, with (as at 1999²³), only about ten native sites in Great Britain. Its ancient status on steep, unstable calcareous slopes has been described by M.J. C. Staples²⁴. 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.

²³ British Red Data Books 1 Vascular Plants, 3rd edn., 1999, ed. M.J. Wigginton.

²⁴ 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.

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).

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

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 & SK (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 <i>Buddleja</i> – 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.
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Boxley, roadside tree.

Photo by Owen Leyshon, 2 April 2016