

Kent Rare Plant Register

Draft species accounts

C (second part: Ce-Ch)



Kent rare plant register

This section of the register covers:

In Part Ca:

Callitriche truncata
Calystegia soldanella
Campanula glomerata
Campanula rotundifolia
Cardamine bulbifera
Cardamine impatiens
Carex canescens
Carex divisa
Carex echinata
Carex elata
Carex elongata
Carex extensa
Carex lepidocarpa

Carex nigra

Carex panicea
Carex pulicaris
Carex rostrata
Carex vesicaria
Carex vulpina
Calina vulgaris
Catabrosa aquatica

In Part Ce-Ch:

Centaurea calcitrapa
Centaurea cyanus
Centunculus minimus

Cephalanthera

damasonium
Cerastium arvense
Chaenorhinum
origanifolium
Chamaemelum nobile
Chenopodium bonus-
henricus
Chenopodium
chenopodioides
Chenopodium glaucum
Chenopodium murale
Chenopodium vulvaria

In Part Ci-Cy:

Cichorium intybus
Cicuta virosa
Cirsium eriophorum
Cladium mariscus
Clinopodium acinos
Clinopodium calamintha
Comarum palustre
Crassula tillaea
Crepis foetida
Cruciata laevipes
Cuscuta epithymum
Cynoglossum officinale

It is issued in draft, pending further development. Records, photographs and information regarding the occurrences of these plants in Kent will be welcome. The register accounts give priority to data from 2010 onwards, but some historic data are also included (however, in the data tables, generally no specific sites without 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 and a list of 'probably extinct' Kent plants.

Abbreviations used in the text:

Recorders' initials:

AC Andrew Craven
 AG Alfred Gay
 AH A.C.B. Henderson
 AS Alan Showler
 Awa Ann Waite
 BB Brian Banks
 BBe Ben Benatt
 BF Brian Ferry
 BG Bob Gomes
 BH B. Hawkes
 BS Bob Scott
 BW Brian Woodhams
 CH C.Harris
 CJC & AP James Cadbury
 & A. Parker
 CO Colin Osborne
 CP Chris Pogson
 CR Chris Rose
 DC Danny Chesterman
 DG Doug Grant
 DM Daphne Mills

DN David Nicolle
 DW D. Worsfold
 EB Enid Barrie
 EGP Eric Philp
 ES E. Scott
 FB Fred Booth
 FR Francis Rose
 FRB F.R. Bryson
 GB Bill Brook
 GK Geoffrey Kitchener
 JA Jan Armishaw
 JAR Jacqueline Rose
 JC Juliet Cairns
 JEL J.E. Lousley
 JH J.Hendey
 JL J.Lockward
 JLM J. Le Mesurier
 JP Joyce Pitt
 JRP John Palmer
 JVC Judy Clark
 L&DH Lorna & Derek
 Holland
 LBB L. Breda Burt
 LM Lesley Mason
 LR Lliam Rooney

MG Margot Godfrey
 MH Margaret Holdaway
 MP Mike Porter
 MCS Mary Clare Sheahan
 MT Mario Tortelli
 MW M. Waite
 NH N. Holmes
 NR N.Riddiford
 NS Nick Stewart
 OL Owen Leyshon
 PB Peter Bassett
 PBU Paul Buckley
 PG Phil Green
 PH Peter Hodge
 PHe Peter Heathcote
 Pho P. Horton
 RB R.A. Boniface
 RC Ray Clarke
 RD Dick David
 RF Lady Rosemary
 FitzGerald
 RG Bob Gomes
 RM Richard Moyse
 RMB Rodney Burton
 RP R.D. Porley

RS R.M.Stokes
 RW R.H. Woodall
 RWD R.W. David
 SB Sue Buckingham
 SC Steve Coates
 SL Stephen Lemon
 SP Sue Poyser
 TI Tim Inskipp

Other abbreviations:

BBS British Bryological
 Society
 KBRG Kent Botanical
 Recording Group
 KFC Kent Field Club
 KWT Kent Wildlife Trust
 MNE Maidstone Museum
 Herbarium
 MOD Ministry of Defence
 RNR roadside nature
 reserve
 WFS Wild Flower Society

Centaurea calcitrapa L. (Red Star-thistle)

Draft account

vc 15; gone from vc 16

Rarity / scarcity status:

Centaurea calcitrapa is generally treated as an ancient introduction or archaeophyte in Great Britain (subject to differing views as regards possible native status, particularly in Sussex); but former sources of continued re-introduction such as with lucerne or clover seed, following improved seed-cleaning, no longer supply widespread casual occurrences. In Great Britain, the remaining populations are in Kent and Sussex, and it is regarded as nationally rare and **Critically Endangered**, although the model used for assessing conservation status in England categorises it instead as **Endangered**. It is a UK Biodiversity Action Plan priority species, and the plan calls for research into management requirements for implementation at extant and historic sites; consideration of measures to expand populations from centre of range and to connect isolated sites; and survey / monitoring.

In Kent it appears to be reduced to two sites, possibly now one, and is accordingly **rare**, as well as being significant in the national context.

Darland Banks. Photo by Daphne Mills, 2011



Account:

The first Kent records are by Thomas Johnson, on both of his botanical journeys in the county. On 15 July 1629, the species was encountered in travelling from Stoke to Cliffe via High Halstow and Cooling (*Iter Plantarum*, 1629); and on 2 August 1632 it was recorded at Thanet (*Descriptio Itineris*, 1632). These early dates are relevant to the issue of the Kent status of Red Star-thistle, whether native or introduced. If the source of introduction of the species is taken to be foreign seed of lucerne or clover (and Hanbury and Marshall mention an occurrence near Crockham Hill, perhaps introduced with foreign clover seed), then these first records appear unlikely to have such an

origin, as they precede the general use of these crops. "Clover, lucerne and sainfoin had made their first tentative appearance in the 1620s-1630s, but they had commended themselves to only a few enthusiasts, mostly gentlemen concerned with fodder for their best horses...after 1660...clover was incorporated in the arable rotation and forged ahead...Lucerne, on the other hand, suffered from the belief that preparation of the soil for this crop was laborious, and only gentleman could afford it. Seed was usually bought in France in early days" (Joan Thirsk, 1997, *Alternative Agriculture: A History*).

Hanbury and Marshall (1899) assessed its Kent status as native or denizen, presumably on the basis that different occurrences were of different standing; and Marshall in the *Victoria History of the County of Kent*

(1908) maintained that some *Centaurea* spp. had no claim to be native, “but *C. Calcitrapa*, L. is probably so on the coast”. Francis Rose (according to Rosemary FitzGerald) in his now lost manuscript Kent Flora stated “Probably native. Dry grasslands and banks on chalk...in similar habitats near the Sussex coast and in the Somme estuary, and in these areas is probably native”.

Even supposing Red Star-thistle to have been a native in Kent, whether the most recent records are of native origin is not wholly determinable. The Watlingbury record given in the following table was a clear non-native, being a wool alien (and as wool shoddy has not been spread for many years, this is no longer a source of introduction). The Darland Banks site has a limited history (albeit at least back to 1938) and natural reproduction of the colony has been supplemented with cultivated plants from the same stock. The Chatham (Great Lines) site has the best recent Kent claim to potential native status (although not recognised as such by M. J. Wiggington (1999)¹, with sightings at least back to 1839, when it was included in a list supplied to and published by M.H. Cowell as recorded “on the hill, and flds abt. C[hatham]” (*Floral Guide for East Kent*). However, part of the Great Lines site has been taken up by a nearby school and discontinuance of pony grazing latterly (possibly in the interests of tidying up the Great Lines Heritage Park) has reduced the disturbance needed by the species, and it has apparently ceased to occur here.

Centaurea calcitrapa is a biennial of dry sandy or light chalky soils, on disturbed tracksides, banks or waste ground. Its seeds have no particular dispersal mechanism and are relatively heavy, so that they will drop near the parent plant and rely upon either erosion of slopes or subsequent disturbance to provide conditions for germination and establishment. In its recent Kent sites, this disturbance has been afforded by ponies, and removal of stock has had a deleterious effect on the Red Star-thistle. It seems possible that previous population fluctuations have related to changes in the pattern of disturbance. The species appears to have good viability in the seed bank, and has a reputation for return after absence.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Great Lines, Chatham	TQ7665		(1) 1992 (2) 1991 (3) 9 August 1985	(1) RM & FB (2) RM, FB & CH (3) RF	The site (TQ 766 675) has been searched in 2011 without success; the species is believed to have disappeared recently when pony grazing ceased. There had previously been continuity of records well back into the 19 th century. A further check in 2012 (FB) revealed that the former main site (once a fenced-off pony-grazed area) had become covered with scrub, trees and dense vegetation. The adjoining rough pathway which also held a strong scattered colony had been replaced with a hard surface path. Another informal pathway has also been replaced. Edges of other informal pathways in the vicinity were checked but the Star-thistle could not be found. (1) Eighty-one in two colonies (25 and 56). Serious decline from 1991. (2) 300+ plants seen.

¹ M.J. Wiggington, *Centaurea calcitrapa* L. (Asteraceae) in (ed. M.J. Wiggington, 1999) *British Red Data Books 1 Vascular Plants*, JNCC.

					(3) A total of 73 plants, the majority in a rough field with ponies, in a trampled area along fence and scattered on chalk spoil mounds.
Darland Banks	TQ7766	KWT managed reserve	(1) 7 September 2013 (2) August 2012 (3) 26 July 2011 (4) 1992 (5) 1991 (6) 1 August 1987 (7) 28 August 1938	(1) CO (2)&(3) FB & DM (4) FB (5) FB, RM, CH. (6) RF (7) FRB	(1) 14 plants, going over with last touches of green in leaves. (2) Three small patches, in area cut and cleared by KWT. (3) TQ 77785 66592, four strong patches c. 4 ft across, where FB saw it last several years ago. Has been told by KWT volunteer that plant has had some artificial support with re-introduction from garden-grown plants from original stock. (4) TQ 778 666; 36 plants (14 flowering) and 1 sq metre of seedlings. (5) TQ778666; several hundred plants. (6) About 12 mature plants plus some first year rosettes, on a grassy bank 50m from NW corner of the Banks (mown in September). (7).Near Star Mill Lane, Darland Banks (specimen in MNE).
Darland Banks	TQ7865		1979	AH	Two plants on area grazed by tethered ponies.



Darland Banks. Photo by Daphne Mills, 2011

Centaurea cyanus L. (Cornflower)

Draft account.

vc 15 and 16

Rarity / scarcity status:

Cornflower was historically a widespread cornfield weed in the British Isles, an archaeophyte dating back to the Iron Age. It suffered a major decline in the twentieth century, probably due to the use of herbicides and improved seed cleaning, and became a British Red Data Book species, designated as endangered. Its current English and Great British conservation status is of 'Least Concern'. This is not because of any recovery of its



former populations, but because its extensive occurrences as a garden escape or from sowings of wildflower seed mixes has made it difficult to distinguish between origin from old established cornfield populations and these recent casual or introduced occurrences.

It is uncommon in Kent, but falls just short of qualifying as rare or scarce in the county. Its inclusion in the rare plant register is due to its designation as a priority species under the UK Biodiversity Action Plan, albeit that in 2007 it was thought that only 34% of the 10km squares in which it was nationally recorded held "naturally occurring" populations. The plan proposes a database of all current and historically recorded arable sites to help identify priority populations and areas for conservation; also to make available appropriate agri-environment options for farmers to deliver the plant's needs; and in arable plant priority areas to ensure survey and research are undertaken before various schemes are approved.

Sarre. Photo by Liam Rooney, 9 July 2010.

Account:

The first Kent records are by Thomas Johnson, on both of his botanical journeys in the county. On 13 July 1629, the species was encountered in travelling after dinner by the main road from Gravesend to Rochester (*Iter Plantarum*, 1629); and on 2 August 1632 it was recorded at Thanet (*Descriptio Itineris*, 1632).

Although it is often thought of as a common arable weed in the past, Hanbury and Marshall's (1899) assessment was that "it can scarcely be called a common Kentish plant", although widespread and "not unfrequent" in fields, especially on the chalk. Thereafter, it is a story of decline with agricultural changes, so that in the 1971-80 survey published as Philp (1982), all records (11 tetrads in the administrative county) appeared to relate to escapes from cultivation, on rubbish-tips, roadsides and waste places. The position in Philp (2010) is broadly similar (12 tetrads²), but with recognition of some more traditional occurrences on deeply ploughed cornfields. Whilst Cornflower seed is often cited as having viability for at least four years, this may considerably be understated. Evidence of the longevity of the seedbank is afforded by the discovery in 1999 of *Centaurea cyanus* in the course of development of Kingshill, West Malling on a soil heap likely to represent the first disturbance since the 1930s of an area not under cultivation for over 100 years.

² TQ56H, TQ65X, TQ66V, TQ67B, TQ67C, TQ75D, TQ75E, TQ76E, TQ83U, TR05U, TR26S, TR36L.

Cornflower is an annual and thought to be largely autumn-germinating, in which case it is best suited to an arable cultivation regime involving autumn-sown crops. There is no known Kent arable population which is long-persistent. Even the occurrence of arable margin plants needs to be considered with caution, as more likely to represent deliberate sowing than origin from an historic seed-bank.

One of the most convincing recent sightings was in 2014, in an autumn-sown wheatfield near Bough Beech, where ten plants were found by Stephen Lemon (plus one picked specimen found lying on the ground). Pointers to non-introduced status were the random scatter of plants in the field, not confined to the edges, and the absence of any white-flowered variants. The farmer had not sown the plants and indeed had been unaware of them; he had omitted herbicidal treatment through lack of time, which accordingly had provided an opportunity for the Cornflower to appear.



Bough Beech. Photo by Stephen Lemon, 14 July 2014

The following table does not include all recent records. Those which appear to have been obvious introductions are omitted.

Site	Grid reference	Site status	Last record date	Recorder	Comments
East of Bough Beech reservoir	TQ4948, TQ4949		14-16 July 2014	SL	On 14 July, nine plants were seen in flower, singles spread out randomly throughout a wheat crop, not confined to the edges of the field or obviously favouring the weedier areas, although they were easier to spot where the crop was less dominating: TQ 49142 48811, TQ 49198 48785, TQ 49185 48754, TQ 49061 48735, TQ 49061 48741, TQ 49048 48713, TQ 49042 48709, TQ 49043 48703 and TQ 49031 48697. The farmer confirmed he had not sown it and was not aware the species was there, the wheat was sown last Autumn. He did not spray the field with herbicide as he left it too late to do so. On 16 July, a further plant was seen by SL with PB, this one at the most northerly point of the field, TQ49131 49015, so extending the range of discovered occurrence

					and providing further evidence of seedbank origin.
Trottiscliffe	TQ6460		4 June 2011	L&DH	A large plant in flower at the edge of the cornfield (Pinesfield Lane, TQ 64871 60710).
West Malling airfield (now Kingshill).	TQ6854	Developed site	1999	FB & EGP	On bank of top-soil, and likely to be a product of the first soil disturbance here at least since the 1930s, with cultivation not having taken place for over 100 years. <i>Agrostemma githago</i> and <i>Hyoscyamus niger</i> also present.
Higham	TQ7171		26 May 2014	SP & DG	Two plants in edge of rape field, Hermitage Road.
Bluebell Hill	TQ7560		22 September 2016	SP & DG	In grass ley at bottom of Bluebell Hill, not recently sown so far as recorders aware.
Sarre	TR2665		9 July 2010	JA	TR26127 65526: extensive patches along one side of cornfield nearest road.



Bough Beech. Photo by Stephen Lemon, 14 July 2014

Centunculus minimus L. (*Anagallis minima* (L.) E.H.L. Krause) (Chaffweed)

Draft account

vc 15 and 16

Rarity / scarcity status:

Chaffweed's main distribution in the British Isles is in the south, west and north west of Britain, and western Ireland. This distribution appears to be fairly stable except in England, where losses, perhaps associated with changes in heathland management, have taken place; the possibility that these losses may be accelerating has resulted in the species being regarded as **Near Threatened** in Great Britain as a whole and **Endangered** in England. In Kent it is not a common plant, but the extent of its occurrence is such that there is no special designation of rarity or scarcity.



Account:

The first possible evidence of the presence of Chaffweed in Kent is the tentative identification of its fruit within a peat deposit dating from 1700 BC to 200 AD in a sewer trench outside Wingham³. The first published record for Kent (and for Britain), however, was given as an addendum to the 1724 edition of John Ray's *Synopsis Methodica Stirpium Britannicarum* (edited by Dillenius), as present in a dale just before Chislehurst Common. Hanbury and Marshall (1899) only gave it as mostly historic records for Chislehurst, Tunbridge Wells, Hothfield, Brabourne, Willesborough Lees and Sandling Park, remarking that it was rare, but was probably less so than it seems, being very inconspicuous. This is an understandable assessment. Chaffweed is a very small plant, difficult to see other than at ground level. It is most probable that it had been overlooked and was significantly more widespread than this,

particularly in woodland rides in the Weald. This potential for overlooking is also illustrated by the differences between the surveys in Philp (1982) and (2010). The 1971-80 survey accounted for eight tetrads in the administrative county. However, the 1991-2005 survey accounted for 21. The increase does not represent any population expansion, but reflects a targeting of this species in its favoured habitats. A particular concentration was revealed in Wealden hectads TQ73 and TQ83 (Bedgebury / Cranbrook / Hemsted Forest), with 14 tetrad records in those squares.

Hemsted Forest. Photos by Liam Rooney, 25 July 2013



Centunculus minimus is an annual of open areas such as forest rides and path sides, generally on acid soils, sand or Weald Clay. It relies on disturbance to maintain bare soil for establishment and in order to avoid

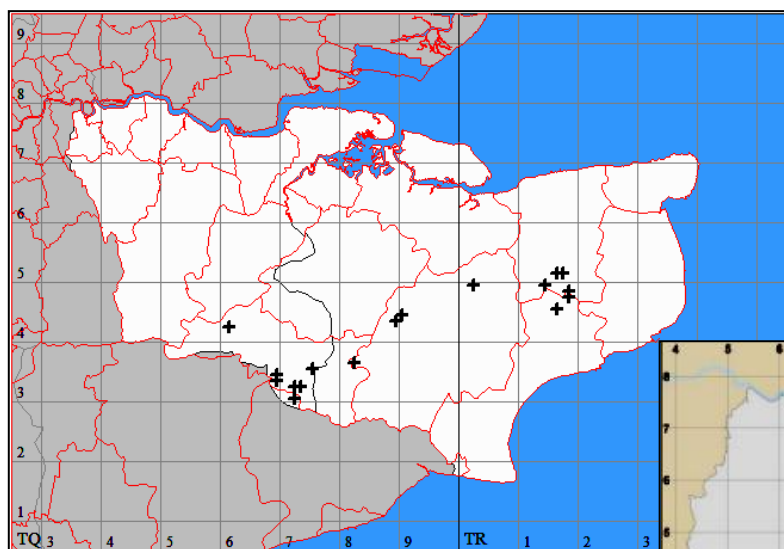
³ H. Godwin (1962). Vegetational History of the Chalk Downs as seen at Wingham and Frogholt. *Veröffentlichungen des Geobotanischen Institutes der Eidg. Tech., Hochschule, Stiftung Rübel, in Zürich* **37**: 83-99.

competition which would otherwise overwhelm so small a plant. Seeds generally germinate in the spring, but there are occasional autumn-germinated plants which are comparatively large and obviously account for much greater seed production per plant. Jim Bevan described⁴ finding this species with Eric Philp, initially using the presence of *Radiola linoides* (Allseed) as a prompt, as the two grow in association. Other associated species were *Aphanes arvensis* (Parsley-piert), *Gnaphalium uliginosum* (Marsh Cudweed), *Hypericum humifusum* (Trailing St. John's-wort) and *Juncus bufonius* (Toad Rush). The presence of *Centaurium pulchellum* (Lesser Centaury) may be indicative for Chaffweed, but in relation to nearby damper ground. Areas with *Scutellaria minor* (Lesser Skullcap) will be too damp; as also those with *Lythrum portula* (Water-purslane), which may resemble Chaffweed at a distance. Bevan also refers to its discovery in woodland on chalk, in TR04J (perhaps somewhat surprisingly, although this habitat has also been reported from Dorset, and is likely to be applicable to several of the records given in the table below; also, E.J. Salisbury secured 45.6% seed germination on John Innes compost with chalk⁵). A chalk locality was also recorded by Francis Rose in 1986, above a chalk pit near Brook, Wye.

Hemsted Forest. Photo by Liam Rooney, 25 July 2013

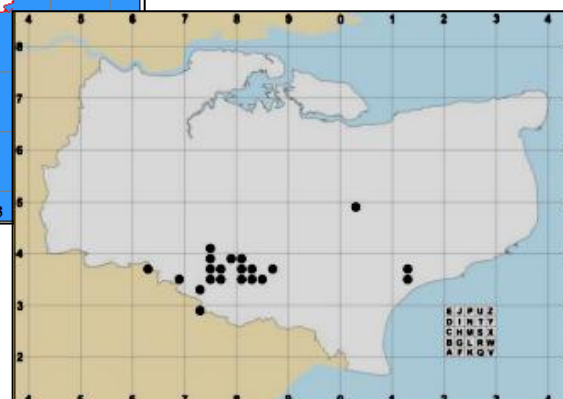


As this species is not uncommon in Kent, the distributional data maintained in this register will be at 1km square (monad) level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the accompanying 1991-2005 distribution map is taken (with kind permission of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



Centunculus minimus (Chaffweed)
2010-17

Centunculus minimus (Chaffweed)
1991-2005



Comparison with 2010-17 recording status, given here in both map and tabular format, indicates that we have more recording to be undertaken in the Bedgebury and Hemsted Forest areas before the plant distribution from 2010 onwards can be evidenced. However, we are recording outliers in areas when not seen before (especially in TR14 and TR15), so it is possible that the success of the targeted 1991-2005 survey has deflected attention from locations which were not targeted, but where this inconspicuous annual may yet be present.

⁴ J. Bevan (1999). *Anagallis minima* in Kent. *BSBI News* 81: 19-21.

⁵ E.J. Salisbury (1969). The reproductive biology and occasional seasonal diomorphism of *Anagallis minima* and *Lythrum hyssopifolia*. *Watsonia* 7: 25-39.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Knatts Valley	TQ5762		July 1985	JP	TQ 5721 6262.
Pembury Walks west	TQ6142		16 August 2014	SB	Frequent along a narrow, damp footpath at TQ 6189 4229 and for at least five metres in both directions. Associated plants: <i>Radiola linoides</i> , <i>Prunella vulgaris</i> , <i>Ranunculus flammula</i> , <i>Plantago major</i> and <i>Potentilla erecta</i> .
South west of Kilndown	TQ6933		13 August 2017	SL	Chingley Wood, T-junction of rides where ground recently re-landscaped, just south of stream, TQ 6912 3375.
South west of Kilndown	TQ6934		13 August 2017	SL	Chingley Wood, open damp sandy track bordered to west by Sweet Chestnut coppice cut this Spring, TQ 691 340. A few plants.
Eccles	TQ7160		20 March 1991	JP, AWa & PBu	Eccles Old Pit, TQ 719 608.
Bedgebury	TQ7232		17 August 2017	KBRG meeting	On a damp ride with <i>Radiola linoides</i> , scattered plants at TQ 7285 3281 to TQ 7280 3279 and elsewhere along same ride. In profusion on another ride at TQ 7270 3234 again with abundant <i>Radiola</i> .
Flimwell	TQ7243		25 July 2014	JVC & JAR	TQ 72138 30930, small patch 30 x 10 cm on damp woodland track; a few other plants seen in vicinity.
Bedgebury	TQ7332		17 August 2017	KBRG meeting	Scattered plants with <i>Radiola linoides</i> on a damp ride from TQ 7316 3278 and continuing westwards along the same ride.
Bridge Woods, west of Rochester Airport	TQ7363		23 May 1984	FR & JP	TQ 7379 6339.
Angley Wood	TQ7535		12 August 2014	AG, JP & MT	TQ 7584 3592 12/08/2014, at least a dozen plants in woodland ride with <i>Radiola linoides</i> .
Roundshill Wood, Sissinghurst	TQ8138		21 May 1998	JP	TQ 810 382, later recorded at TQ 809 380.
Hemsted Forest	TQ8236		25 July 2013	KBRG meeting	30 plants at TQ 82539 36047 on a bare, seasonally wet sandy path with <i>Lysimachia nemorum</i> , <i>Ranunculus flammula</i> , <i>Lythrum portula</i> and <i>Agrostis stolonifera</i> . Also, four plants on a sandy path at TQ 82531 36242.
Dering Wood	TQ8943, TQ9044		5 August 2014	KBRG meeting	A few scattered plants along a damp ride at TQ 89712 43740 with <i>Pteridium aquilinum</i> , <i>Calluna vulgaris</i> and <i>Polygala serpyllifolia</i> . Also a hundred or more plants scattered along the margins of a damp ride at TQ 90221 44094 and TQ 90225 44084 and continuing for several metres south westwards

					along the ride.
Boughton Aluph	TR0249		11 August 2017	SB	15 plants on damp path TR 0278 4989 with <i>Isolepis setacea</i> , <i>Juncus bufonius</i> and <i>Hypericum humifusum</i> .
Denge Woods	TR1051		25 May 1986	JP	TR 1015 5169.
Bigbury	TR1157		26 September 1989	JP	TR 111 575.
Upper Hardres Wood	TR1449		20 September 2016	SB	Upper Hardres Wood. Just 5 plants counted along a damp (fairly overgrown) ride from TR14456 49439 to TR14495 49525. Associated plants: <i>Hypericum humifusum</i> , <i>Lythrum portula</i> and <i>Gnaphalium uliginosum</i> .
Elhampark Wood	TR1645		6 September 2014	AG	TR 1624 4584, fifteen plants growing in damp, disturbed areas on edge of forest track, and TR 1643 4584, one plant in damp open ground in forest.
Bishopsbourne	TR1651		14 September 2016	SB	Gorsley Wood. Groups of plants on damp grassy paths at TR 1666 5177 and at TR 1695 5198.
Bishopsbourne	TR1751		14 September 2016	SB	Gorsley Wood. Plants scattered from TR 1719 5186 south to TR 1713 5172 on a ride in damp ruts made by chestnut coppice vehicles. More plants on side track at TR 1723 51829.
Covert Wood	TR1847		1 September 2016	SB	Covert Wood, just a few plants in a couple of damp hollows along a wide ride at TR18391 47888 and at TR1819 4789
Covert Wood	TR1848		(1) 5 August 2017 (2) 12 August 2014	(1) AG & LR (2) AG	(1) Covert Wood, edge of sparsely vegetated ride on slope, TR 184 481. A few tiny plants. (2) TR 1844 4824, eight plants, and TR 1820 4809, at least twenty plants. A complete search of the rides was not carried out and it seemed likely that more was present.

Cephalanthera damasonium (Mill.) Druce (White Helleborine)

Draft account

vc 15 and 16

Rarity / scarcity status:

In the British Isles, White Helleborine is restricted to southern England, excluding the west; and there has been a marked trend of losses, perhaps related to clearance of its woodland habitats, which gives rise to its status as **Vulnerable**, both in relation to England and to Great Britain as a whole. It is also a UK Biodiversity Action Plans priority species, for which the plan entails investigation of the causes of decline and determination of optimum management regimes; trial implementation and roll-out; improvement of connectivity between existing and extant sites and increasing opportunities for colonisation; sample monitoring and survey; and ensuring that delivery plans for national forestry strategies include management options to provide appropriate conditions (considered to be open glades, rides, woodland edges and seasonal grazing to control bramble).

In Kent, the species is not uncommon in beech woods on chalk, and does not warrant designation for rarity or scarcity.

Fridhill Wood. Photo by Liam Rooney, 2 June 2010

Account:

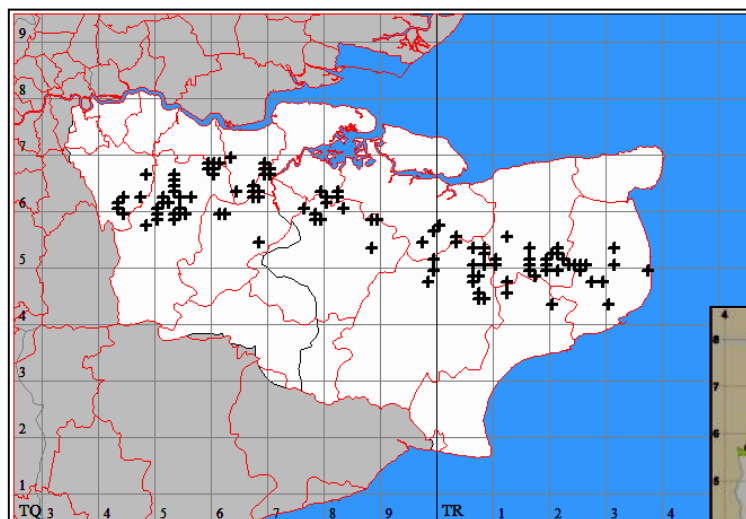
The first mention of *Cephalanthera damasonium* in Kent is in a letter of 1671 from Sir Philip Skippon to John Ray, in which he states that Thomas Willisell "hath discovered *Helleborine flo. albo* to grow a Mile on this Side *Green-Hithe*, in a Valley near a Church"⁶. Hanbury and Marshall (1899) regarded it as locally abundant in woods on or near the chalk, usually under beeches: frequent along the North Downs, but not found in metropolitan west Kent, or in northernmost Kent east of the Medway. This broadly remained the case when assessed by Francis Rose in the 1940s-60s. Whilst it was often abundant under beeches on chalk, it was also frequent, but not abundant, in coppice and scrub on chalk. Rarely, it had also been recorded on ragstone (Broadhoath Wood, Stone Street, 1950) or gault clay (Ryarsh Wood, 1942-43; Cadmans Wood, Brook, 1946). The breadth of its Kent occurrence was still shown by the 1971-80 survey of Philp (1982), when 84 tetrad records were made in the administrative county, spread across it in a band following the presence of chalk. Given that the survey of 1991-2005 (Philp, 2010) produced only 45 tetrad records, the question arises as to whether this is a product of the decline which, nationally, is reflected in the species' Vulnerable status, or whether this is an artifact of different recording methods or input.



As this species is not uncommon in Kent, the distributional data maintained in this register will be at 1km square (monad) level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the accompanying 1991-2005 distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club). The 2010-17 records replicate well the distribution pattern shown by those of 1991-2005,

⁶ ed. W.Derham (1718). *Philosophical letters between the late learned Mr. Ray and several of his ingenious correspondents, natives and foreigners* p96.

following the chalk across the county, but are considerably more extensive, including many sites not featuring in the earlier survey. They relate to 107 different monads and equate to 80 different tetrads. These data therefore do not support the decline which a comparison of the Philp (1982) and Philp (2010) surveys appears to indicate.



Cephalanthera damasonium (White Helleborine) 2010-17

Cephalanthera damasonium (White Helleborine) 1991-2005



Cephalanthera damasonium is a plant generally of shady woods and banks, especially beechwoods on chalk where there is little ground cover and the plant may be found growing on bare dry soil or in leaf litter. Spread may be by rhizomes and seed production is, in the dense shade, likely to be normally by self-pollination. It has also been seen in Kent under yew, another densely shaded habitat, and in developing scrub on chalky slopes, where shading is lighter. Most reported colonies in Kent are of small numbers, or up to 100 spikes; but there are larger ones - at Fridhill Wood near Perrywood (TR0354 to TR0355) in 2010 the quantity reported was in tens of thousands.



Fridhill Wood. Photo by Liam Rooney, 2 June 2010



Bredhurst. Photo by Stephen Lemon, 9 June 2012

Cerastium arvense L. Field Mouse-ear)

Draft account

vc 15 and 16

Rarity / scarcity status:

Field Mouse-ear is widely distributed in dry grassland across the British Isles, although much less common in the west. In Great Britain as a whole it is not treated as at risk, its conservation status being regarded as of 'Least Concern'. However, a comparison of its area of occupancy in England over the periods 1930-1969 and 1987-1999 produced a calculated decline of 20% in the likelihood of recording the species. This just reaches the threshold for designation as **Near Threatened**, and so approaches qualification status for a level of risk of extinction in the wild. In Kent, Field Mouse-ear is neither rare nor scarce, although this is a reflection of its status in East Kent, as there is very little in West Kent. The level of decline reflected in a comparison between the county surveys of 1971-1980 and 1991-2005 is 63% which, if replicated in national terms, would have resulted in a much higher risk rating.

Sheldwich. Photo by Lliam Rooney, 26 May 2012



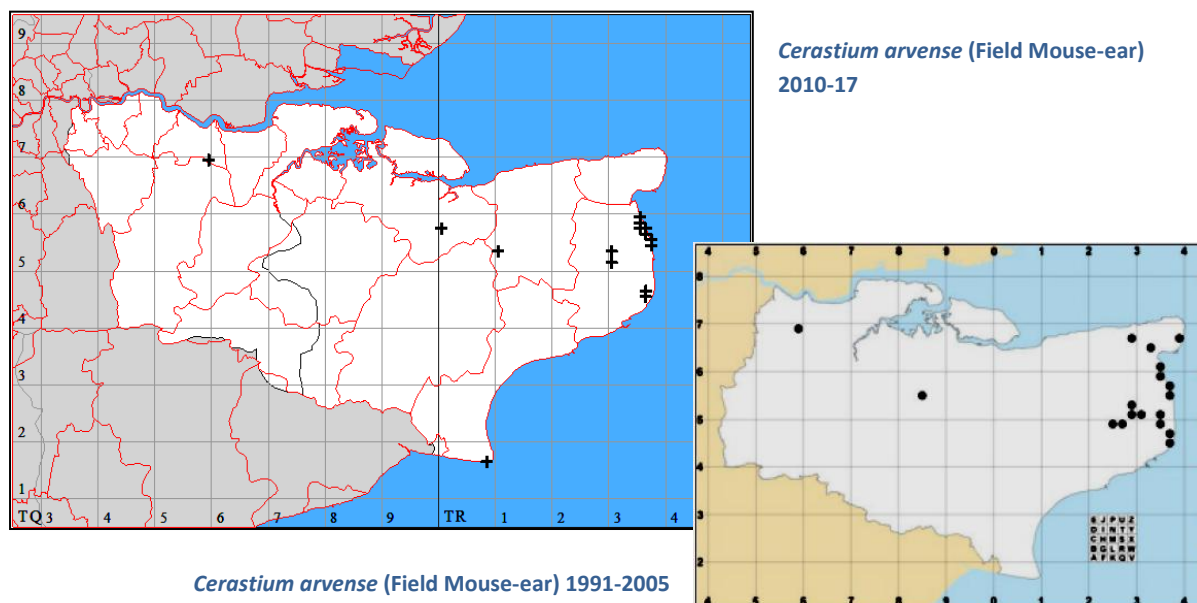
Account:

The first record of Field Mouse-ear in Kent was noted by Hanbury and Marshall (1899) as inscribed by James Newton c.1680 in the margins of a copy of a botanical publication, although there appears to be some confusion as regards the book's identity⁷. The annotation is recorded as 'Caryophyllus Holostius ... in a close wherein is much Caput Gallinaceum [*Onobrychis sativa*, per Hanbury and Marshall = *Onobrychis viciifolia*], near a little house at y^e foot of a descent ab^t a mile or two from Dartford, a little on y^e Greenstreet, y^e way to Southfleet, Kent. This is not far from where it may be found today, north west of Longfield. However, apart from a sprinkling of records in north west Kent, and a rather surprising reference to the species as being not uncommon in cornfields in Thomas Forster's *Flora Tonbrigensis* (1816), the species appears to have been primarily an East Kent plant, both historically and now. Hanbury and Marshall (1899) refer to *Cerastium arvense* as being frequent, but local, on fields and banks, chiefly on the chalk. Such chalky areas included Chartham Downs, Thanet, the Dover area and Barham Downs (being found in profusion at this last locality by William Pamplin in 1824⁸). In contrast, it was recorded on sandy hills between Boughton and Dunkirk, and presumably sandy ground by the Hothfield Green workhouse. This duality of habitat was also acknowledged in Philp (1982), in which Field Mouse-ear was said to be frequent in the east of the county, rather scarce elsewhere, on roadside banks and rough grassland on both chalk and sandy soils. It was during the period 1971-80 recorded in 48 tetrads. The reduction to 18 tetrads in Philp (2010) for the period 1991-2005 is dramatic, but without obvious explanation. It is, however, possible that the species' reliance on well-drained soil, coupled with its predominantly eastern UK distribution, reflects some sensitivity to the amount of precipitation, and so Field Mouse-ear may be affected by increases in winter rainfall.

⁷ The book in question is given in Hanbury and Marshall's list of source material as John Parkinson's *Theatrum Botanicum*. However, in the Historical Summary of the *Flora of Kent* (1899), Newton is stated to have made many notes of Kentish plants in a copy of the second edition of John Ray's *Synopsis Methodica Stirpium Britannicarum*.

⁸ Given by H.C. Watson from a manuscript source in *The New Botanist's Guide* (1835) vol. 1, with location corrected in vol. 2.

As this species is as yet not uncommon in Kent, the distributional data maintained in this register will be at 1km square (monad) level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the accompanying 1991-2005 distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club). The 2010-17 records mostly fall within the distribution pattern shown by those of 1991-2005, but have not yet replicated all of the earlier locations and cover only twelve tetrads (although the markers given are for monad records), so further survey work is required.



Cerastium arvense is a perennial with a scrambling habit, which might be taken as having some resemblance to *Stellaria holostea* (Greater Stitchwort), which occupies similar road-bank habitats, but has more divided petals than *Cerastium arvense* and is almost hairless rather than downy. Field Mouse-ear hybridizes with the garden escape *Cerastium tomentosum* (Snow-in-summer), and this cross has been recorded at Sandwich Bay (TR35T, by J.E. Lousley) and at Acol, where it has been present for several decades and was still in 2013 found (by L. Rooney) to be well established on the northern verge of the A28 Canterbury Road from TR 29002 67740 to TR 29016 67742. In addition, there are plants found in 2012 by Tim Inskipp near the old lighthouse at Dungeness, differing from nearby *Cerastium tomentosum*, and which also appear to be hybrids. Furthermore, Sue



Buckingham investigated in 2017 two sites near Shepherdsweil from which it appears that Philp (2010) gave *C. arvense*. In both cases the species could no longer be found, but had been supplanted by the hybrid. Plants had a mixture of types of indumentum from the parents: long crinkled white hairs, shorter straight hairs and a scattering of short glandular ones.

Sheldwich. Photo by Lliam Rooney, 26 May 2012

Chaenorhinum origanifolium (L.) Kostel. (Malling Toadflax)

Draft account

vc 15 and 16

Rarity / scarcity status:

Chaenorhinum origanifolium does not enjoy any national conservation status, nor was it included in initial listings of plants for the Kent Rare Plant Register. This is because it is neither a native plant nor an ancient introduction. Guidelines for preparation of county registers, however, permit the inclusion of long-established non-native plants which have particular cultural, historical or ecological interest. On this basis, *Chaenorhinum origanifolium* qualifies for inclusion as a **Kent heritage plant**, as its probable first introduction to the British Isles was at West Malling; this location has supplied the only long-standing permanent population in the country; and its usual English name of Malling Toadflax reflects this close connection with Kent. It is probably rare nationally (given that some of its recent records will have been casual) and it is **rare** in Kent.



West Malling. Photo by Lorna Holland, 2011

Account:

The Malling Toadflax is a native of south west Europe. The first record for Kent (and the British Isles) is generally given as 1880, from West Malling. Hanbury and Marshall (1899) noted it as having been collected from a wall at West Malling by F. Shrivell, whose specimen became included in the herbarium of the (then) Pharmaceutical Society of Great Britain. C.H. Fielding in 1893⁹ referred to it as found growing luxuriantly on the walls of the old Abbey at

Malling and identified by Professor Holmes of the Pharmaceutical Society. By 1943, according to Francis Rose, it was still frequent on several walls at West Malling and was reputed to have been introduced by the monks of Malling Abbey¹⁰. This last supposition can scarcely be accurate. Until the Dissolution (when the Abbey was secularised), and then from 1892, the Abbey's religious communities have been nuns rather than monks; and it is more likely that the plant was introduced at some time after the mid-eighteenth century when the property was rebuilt as a neo-gothic mansion - it was clearly present before religious use was resumed.

It is still (2012 – surveyed on different occasions by JA, LR and GK; and 2016 by Brian Woodhams) present on the top and street side of the ragstone Abbey walls in Swan Street (TQ682577) opposite Abbey Brewery House; as well as growing on brick walls at an Abbey entrance onto Lavenders Road (TQ 68349 57652); on a low brick wall outside Abbey Brewery Court; on the northern side of Swan Street on top of a ragstone wall nearly opposite the Lavenders Road junction; on the side of a ragstone wall of Went House at the junction of Swan Street and Frog Lane (TQ 68321 57732); and on two ragstone walls further down Frog Lane. On wall sides it may be susceptible to extensive re-pointing of mortar – it has apparently gone from walling on the

⁹ Memories of Malling and its valley; with a flora and fauna of Kent.

¹⁰ BEC Report for 1945 (1947), 13:32.

west side of Frog Lane in consequence. The seed is capable of spreading to inaccessibly high wall-tops and has apparently even reached the parapet roof of Went House (the furthestmost building in the habitat photograph below - not visible from ground level).



The only other Kent records appear to have been a sighting on an old wall at Littlebourne (TR25D) on 2 May 2002 (Eric Philp and Doug Grant); on the outside wall of Hall Place gardens, Bexley, near the entrance (recorded by Rodney Burton as established, 15 June 2014, TQ5074; and on garden walls at Arcadia Road, Istead Rise (noted by Rodney Burton on 18 August 2016, TQ6369).

In its native Spain it may be found on calcareous rocks and on walls. These preferences are also reflected in its growth in the mortar of ragstone walls at West Malling.

West Malling. Photo by Liam Rooney, 13 May 2012



Abbey walls, Swan Street, West Malling. Photo by Geoffrey Kitchener, 3 June 2012

Chamaemelum nobile (L.) All. (Chamomile)

Draft account.

vc 15 and 16

Rarity / scarcity status:

Chamomile is locally frequent in southern England and south west Ireland. Historically it was more widespread in central Britain and East Anglia, but many losses have occurred; and, although populations remain stable in the core areas, the potential for further loss has led to it being regarded as a **Vulnerable** species both in Great Britain and in England. It is a UK Biodiversity Action Plan priority species, in order to address the threats posed by eutrophication, drainage and cessation of grazing on village greens and lowland acid grasslands. The plan envisages monitoring of all populations in vulnerable areas and includes ensuring strategies are implemented so as to remove threats of over- and under-grazing.

In Kent, it appears (other than as a casual) to have been reduced to three sites and is **rare**.



Southborough Common. Photo by Geoffrey Kitchener, 13 September 2012.



Benenden village green. Photo by Sue Buckingham, 15 August 2012

Account:

The first mention of *Chamaemelum nobile* wild in Kent is in Edward Jacob's *Plantae Favershamienses* (1777), where he refers to the Sweet-scented Camomile as uncommon on Charing Heath. Hanbury and Marshall (1899) considered it rather rare, to be found in short turf, on village greens, heaths, etc. and Marshall (in the Victoria History of the County of Kent, 1908) referred to the species as abundant in the Tunbridge Wells neighbourhood, but scarce elsewhere.

In that neighbourhood, Chamomile has been known from Rusthall, Tunbridge Wells and Southborough Commons. Philp (1982) cited it as still present in the latter two locations, but by the time of the survey published as Philp (2010), it could only be located at Southborough Common (plus a casual East Kent

occurrence). This then appeared to be the sole surviving site from Hanbury and Marshall's time: a public open space of unimproved acid grassland where the turf is kept short by mowing.

However, it seems that Chamomile was not lost from the other commons after all, at least so far as concerns Tunbridge Wells Common. Virtually no mowing is undertaken at Rusthall, and limited mowing is carried out at Tunbridge Wells Common. Both have much more tree cover than was the case up to the nineteenth century, when they were open grazed areas with suitable terrain for Chamomile, the first major tree planting at Tunbridge Wells Common having been commenced in 1867, with natural colonisation by birch and other species following on from the decline in grazing. The most consistently mown areas at Tunbridge Wells Common are those used for sporting activities, and it is at one of these locations that Chamomile was re-found in 2012, with many patches over c. 40 x 15 metres of level *Agrostis capillaris* (Common Bent) grassland which was then laid out as a children's running track.



Tunbridge Wells Common. Photo by Geoffrey Kitchener, 4 October 2012

Chamaemelum nobile is still also present at Benenden, discovered in 2012, where the village green turf is maintained by mowing.

Chamomile is a plant which cannot tolerate shading and competition from taller plants, and so is reliant upon a regime which controls this, generally by grazing or mowing. It favours seasonally wet ground, which may be provided by impeded winter drainage through summer baking of sandy soil. It is a long-lived perennial which can spread out tightly over the ground in response to close grazing or mowing.

It is a species which may feature in wildflower mixes, which opens potential for random occurrences, e.g. the KWT has apparently been party to its use in 2015 in a seed mix intended to convert arable to a floodplain meadow at Somerden Farm, Chiddingstone.

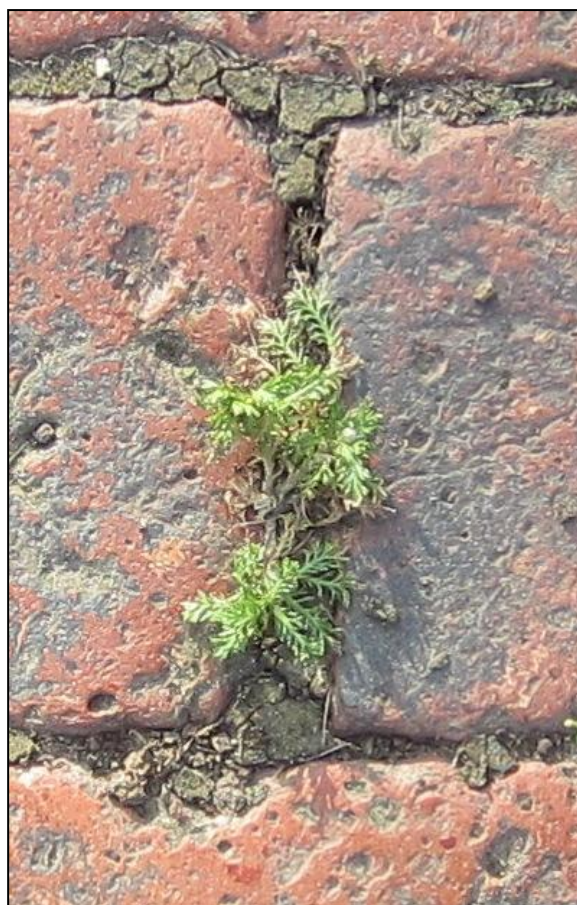
Site	Grid reference	Site status	Last record date	Recorder	Comments
Tunbridge Wells Common	TQ53U		(1) 4 October 2012 (2) After 1970, before 1981	(1) GK (2) Philp, 1982	(1) TQ 5803 3936; many patches in area of c.40 x 15metres of mown <i>Agrostis capillaris</i> grassland, of level, open aspect and used for sporting activities. (2) c. TQ581390. Not found at this grid reference in September 2012. There is an 1882 specimen (H. Lamb) from the common in MNE .
Southborough Common	TQ5742		(1) 3 June 2017 (2) 14 September 2012 (2) After 1990, before 2006	(1) SL (2) GK (2) Philp, 2010	(1) Lawn on opposite side of road to St. Peter's Church and south of cricket pitch, TQ 5758 4278. (2) TQ 57600 42803, extensive patches in area of 20 x 6 metres of mown turf on south-facing slope below brick path running across common from church. Also occasional plants on the bricks. (2) TQ54R. Recorded here in 1946 by FR.
Chatham	TQ7667		1971	Philp, 1982	Big patches scattered over an area of 20 x 30m on the village green.

Benenden	TQ8032		15 August 2012	SB	Large patches on village green at TQ8088 3281, covering some 20 x 30m, south side of cricket pitch, discovered by LR on 1 February 2012.
Barham	TR2150		1993	EGP	Casual plants on a roadside verge.
Ramsgate	TR3965		1971	Philp, 1982	



Benenden village green. Photo by Sue Buckingham, 15 August 2012

Brick path at Southborough Common. Photo by Geoffrey Kitchener, 13 September 2012



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 *Chenopodium 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. It has not been recorded subsequently in the county on a confirmed basis.



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

Chenopodium bonus-henricus is a patch-forming perennial which is capable of long persistence and appears not easily eradicated, so that its decline is perhaps more rapid than might be expected. 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 archaeophyte¹¹, 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.

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.]

¹¹ Stace, C.A. and Crawley, M.J. (2015). P.430, *Alien Plants*. William Collins, New Naturalist.

Romney Street	TQ56K		After 1990, before 2006	Philp, 2010	Same as Rose Cottage Farm, Magpie Bottom, TQ545609, where established by barn (originally planted?).
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.

Chenopodium chenopodioides (L.) Aellen (Saltmarsh Goosefoot)

Draft account.

vc 15 and 16

Rarity / scarcity status:

Saltmarsh Goosefoot is nationally **scarce**, being largely restricted to Essex, so that the Thames estuary represents its core distribution. As it has diminished in its East Anglian range and is a characteristic species of good quality coastal grazing marsh and saltmarsh, it is perhaps surprising that its conservation status in England and in Great Britain as a whole is one of 'Least Concern', but this presumably reflects a view regarding the stability of its populations. In Kent, it is not common, but is locally frequent where it does occur, and does not warrant designation for rarity or scarcity.

Account:

The first Kent find of *Chenopodium chenopodioides* appears to have been by J.T.B. Syme in 1852 at Gravesend¹². It may be conjectured that in the distant past it may have been a feature of the tidal marshes up the Thames to London, given that its pollen has been identified in the excavation of Roman material at Finsbury Circus. The pollen may not have originated in situ, of course, and could have arrived by various means, even (per Francis Rose, perhaps somewhat fancifully, *in litt.*) with oysters, gathered by the Romans off north Kent and transported! Marshall (in the Victoria History of the County of Kent, 1908) stated that it "only



grows in the Thames salt-marshes and near Sandwich"; and the assessment of Hanbury and Marshall (1899) was that it was rather rare. There are specimens from the Pegwell Bay area near Sandwich gathered from the 1850s to the 1870s, but this does not seem to have been a locality which has persisted. Thereafter, the main concentration of records appears to have been from Shorne to Grain, although Francis Rose in the 1940s to the 1960s took the distribution eastwards to the Swale. There was also an odd eastern outlier in a brackish dike north of Stuart, St Nicholas at Wade.

Uplees Marshes. Photo by Lliam Rooney, 5 October 2010

Philp (1982) for the period 1971-80 gave 21 tetrad records in the administrative county, almost all spanning the same part of the north Kent coast, and with concentrations at Grain and in south Sheppey. These records occur with greater continuity along the coast in Philp (2010), where 29 tetrad records are mapped. It is likely that the increase in records does not reflect a population increase, but rather

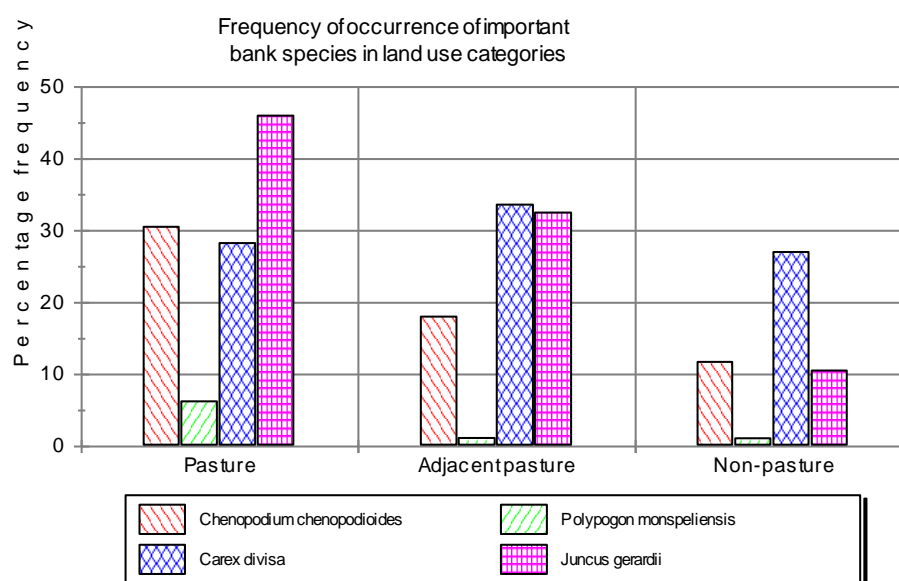
relates to targeted recording. (The same is probably due of the coastal populations of *Chenopodium glaucum* – see separate account.) Nevertheless, there were during the survey period (1991-2005) further records not mapped in Philp (2010), arising in the course of a 1995 survey by Phil Williams¹³. of the ditches of the North Kent Marshes SSSIs, the first such comprehensive survey, and including the South Thames Estuary & Marshes SSSI, the Medway Estuary & Marshes SSSI and the Swale SSSI which together carry a drainage system of over 2,000 ditches. This survey covered *Chenopodium chenopodioides* records in 47 monads, which equate to 14 tetrads additional to the 29 tetrads given in Philp (2010).

¹² Mentioned in the Botanical Exchange Club Curator's Report for 1863 (1864), reviewed in Journal of Botany (1864).

¹³ Williams, P. (1996). *A survey of the ditch flora in the North Kent Marshes SSSIs, 1995*. English Nature Research reports no. 167.

There are occasional anomalies of Kent finds away from the Thames / Swale estuaries. Francis Rose recorded the species north west of Greatstone, in saltmarsh with *Bolboschoenus maritimus*, the site of the old Rother estuary. Both Philp (1982) and (2010) give an inland Romney Marsh record at TQ96T, which represents a population at Fairfield with records from 1962 (K.D. Rowlands, near the church, TQ966265) onwards. (The Fairfield site is 8 km inland, but the ditches are saline, which may be associated with the unusual thinness at this point of the layer of silty clay over peat, and with the possibility of the peat substrate holding salt from historic marine transgressions¹⁴.) However, these are very much exceptions to the Thames / Swale focus of this species.

Saltmarsh Goosefoot is annual of brackish mud where exposed in late summer at the edge of coastal dikes or ditches, or in depressions in grazing marshes. Germination appears to require emergence of the mud from winter inundation (the water levels normally falling progressively through summer, drying out some ditches and increasing their salinity), so that the mud with its seed-bank is exposed to light and air. This may not be until July, so that the plant does not always reach full vigour until autumn. In a wet summer its numbers may be considerably reduced. Cattle or sheep stocking helps keep the mud open, trampling down the edges of ditches, and (observed by Rosemary FitzGerald at Swale NNR in 1986) creating through hoof-prints ephemeral habitats in which small plants may appear. The effect of poached ditch margins is borne out by Williams (1995) through an assessment of the frequency of the species in North Kent ditches adjoining different land uses. Saltmarsh Goosefoot was found to be most frequent in ditches adjoining pasture on both sides; less frequent in ditches adjoining pasture on one side; and least frequent in ditches adjoining non-pasture uses (see table below, reproduced with kind permission of Phil Williams and Natural England). Population fluctuations may relate to the extent of disturbance (not just by cattle, but, including the excavation of mud when ditches are cleaned), or to the timing of mud drying out and warming up.



The more brackish ditches in the grazing marshes can be well populated by *Chenopodium chenopodioides*. Williams (1995) found it occurring in over 40% of the ditches in the Neatscourt to Spitend Marshes, in nearly 25% of the ditches in the Swale NNR and Capel Fleet (and along the entire length of Capel Fleet). Associated species are given by FitzGerald (1994)¹⁵ and are mostly annuals reflecting the salinity of Saltmarsh Goosefoot's favoured habitats, including *Chenopodium rubrum*, *Parapholis strigosa*, *Salicornia* spp. and *Suaeda maritima*;

¹⁴ Soil cross-section given in R.D. Green (1968). *Soils of Romney Marsh*, Agricultural research Council, Harpenden, pp. 32-33.

¹⁵ *Chenopodium chenopodioides*, in Scarce Plants in Britain (1994), ed. A. Stewart, D.A. Pearman and C.D. Preston, JNCC, Peterborough.

perennials include *Glaux maritima*, *Juncus gerardii* and *Spergularia* spp. At Shornmead fort (which Wolley Dod in 1893 supposed could have been Syme's original 1852 find location) it was found in October 1986 (Rosemary FitzGerald and Alan Leslie) in proximity to *Rumex palustris*, which also favours trampled ditch margins. At Grain, south of the A228 inside the sea wall of Colemouth Creek, it was in the same month recorded as associated with abundant *Polypogon monspeliensis*, which has similar habitat requirements, and was so plentiful that the course of the dried-up shallow fleets could be traced by its characteristic autumn red.

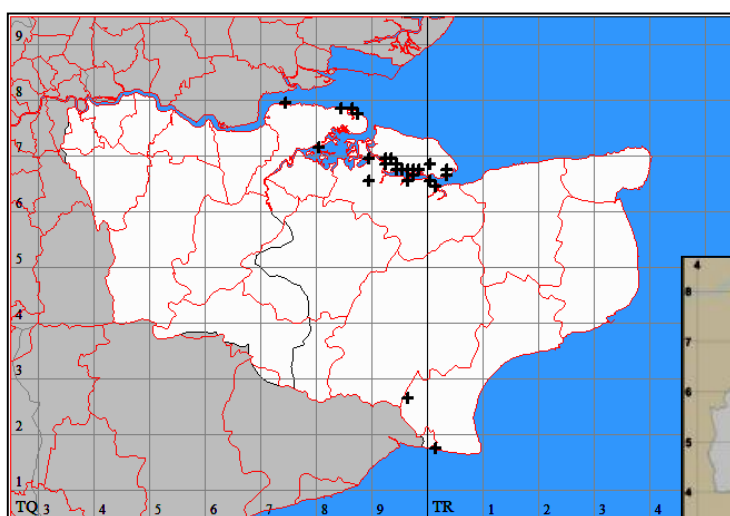
The frequent co-presence of *C. rubrum* necessitates distinguishing its dwarf semi-prostrate forms from Saltmarsh Goosefoot. Typical Saltmarsh Goosefoot is more or less prostrate, red (at least on stem and leaf undersides) and with fleshy leaves, rounded-triangular and hardly (if at all) toothed. *C. rubrum* is generally more erect, but often also red and with less fleshy leaves more toothed. The tepals of the lateral fruits in each cluster are in *C. chenopodioides* fused fully so as to hide the seed; in *C. rubrum* they are fused half-way, so that the seed is visible.



Fairfield. Photo by Owen Leyshon, September 2013

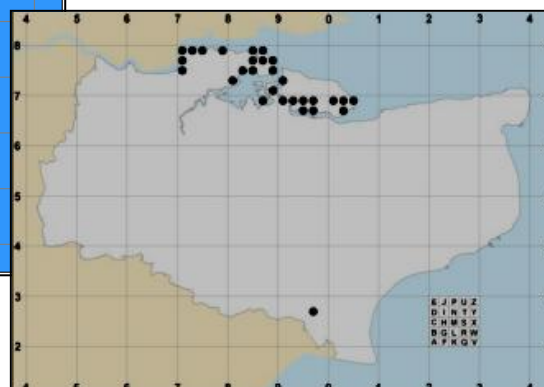
As this species is not uncommon in Kent, the distributional data maintained in this register will be at 1km square (monad) level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the accompanying 1991-2005 distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club). Records for 2010-17 have already picked up well the concentration around the Swale and have added a site at Dungeness (although Philp (1982) indicates that more

occurrences were known there in the past); but have not yet reached the same level of coverage for the Hoo peninsula. Weather conditions in 2012 were not conducive for this species, as summer and autumn rainfall kept water levels in ditches above where Saltmarsh Goosefoot would normally be growing.



Chenopodium chenopodioides
(Saltmarsh Goosefoot) 2010-17

Chenopodium chenopodioides
(Saltmarsh Goosefoot) 1991-2005



*

Chenopodium glaucum L. (Oak-leaved Goosefoot)

Draft account.

vc 15 and 16

Rarity / scarcity status:

Oak-leaved Goosefoot is an archaeophyte, or ancient introduction, with scattered records in England and very few in Scotland, Wales and Ireland. It is nationally scarce and there has been a marked decline in the last fifty years as a result of which it is classed as **Vulnerable** both in England and in Great Britain as a whole, although there are data interpretation issues because of the difficulty in distinguishing casual occurrences from permanent populations. It is comparatively well represented in Kent, and so no rarity or scarcity status is given to it.

Account:

The first reference to *Chenopodium glaucum* in Kent was by Milne and Gordon in their *Indigenous Botany* (1793), relating to their botanical investigations during 1790-93. The plant was then said to be not uncommon, especially in the neighbourhood of London, being found “plentifully about *Deptford* and *New-Cross*; in *Lee-Lane*; in the lanes leading from *Deptford* to *Brockley*”. It was thought to be extinct at these stations by the time of Hanbury and Marshall (1899), presumably as a result of development; but those authors did not know of it otherwise than near London, and considered it to be extremely rare.

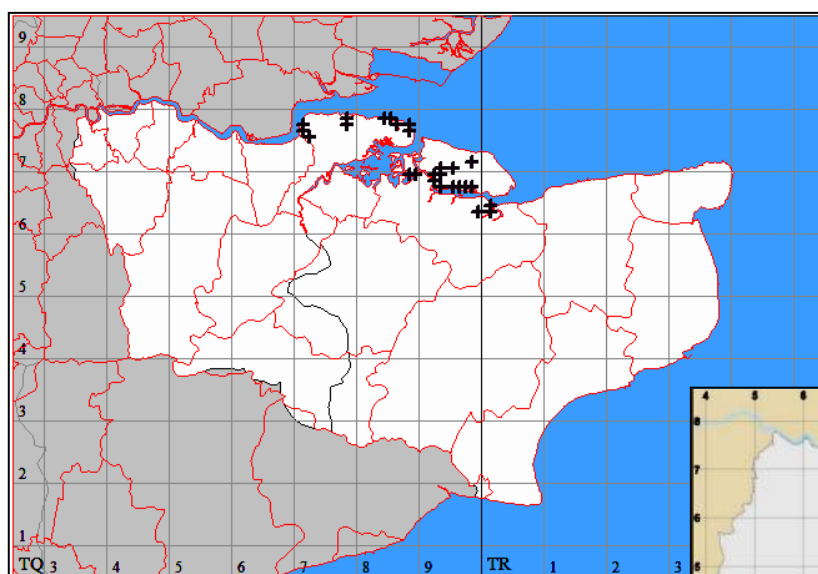
Manor Way, Halstow Marshes. Photo by Geoffrey Kitchener, 29 July 2010



It is an annual of manure heaps and nutrient-rich disturbed areas, often impermanent, and also known from damp coastal ground. It appears that the early records are of the former sort, and there was not then any awareness of it as a Kent coastal plant. Subsequent inland records included introduction with wool shoddy, when this was used as manure.

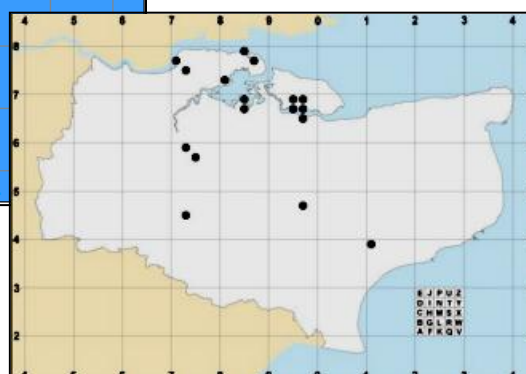
However, by the time of Philp (1982), it was only known in Kent as a plant of coastal waste ground at Yantlet, Conyer (two tetrads) and Lydd (two tetrads). In contrast, Philp (2010) identified 17 tetrad records in the administrative county, around farm buildings, along tracks and on disturbed soils. Some of these were inland and considered to be casuals from former introductions, such as with wool shoddy. Most were by the north Kent coast, and assessed as constituting stable and regular populations on and near the Thames, Medway and Swale. The major increase in records appears to contrast with its national status as a species in decline. However, the increase is not necessarily representative of growing populations, but may rather represent more effective targeting of its coastal habitats. Nevertheless, recording from 2010 onwards suggests that even Philp (2010) understates the amount of this species which can be found around the Swale. Some of its North Kent occurrences may not be regular, as requiring timely exposure of mud at the margins of brackish coastal waterbodies, where there have been enormous quantities on occasion, but not every year may be suitable.

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



Chenopodium glaucum (Oak-leaved Goosefoot) 2010-17

Chenopodium glaucum (Oak-leaved Goosefoot) 1991-2005



Luddenham Court. Photos by Liam Rooney, 26 July 2012



The 2010-17 records reported fall within the north Kent coastal distribution pattern, but point to Sheppey being more populated than was previously assumed. They include presence on cindery or gravelly rabbit-disturbed tracks, subject to some compaction; and in a manured area around a cattle feeding station on the grazing marshes; and on drying mud at the margins of brackish dykes and waterbodies. Some of the

more inland sites on Hoo and Sheppey were roadsides.



Chetney Marshes.
Photo by Geoffrey
Kitchener, 27 August
2013

Chenopodium murale L. (Nettle-leaved Goosefoot)

Draft account.

vc 15 and 16

Rarity / scarcity status:

Nettle-leaved Goosefoot has been widespread as an archaeophyte, or ancient introduction, in England, less so in Wales and very local in Scotland and Ireland. It has, however, markedly declined at least since the 1960s, and is now treated as **Vulnerable** in Great Britain as a whole, although there are data interpretation issues because of the difficulty in distinguishing casual occurrences from permanent populations and in England it is regarded as **Endangered**. In Kent it has been little seen in recent times; based on the account in Philp (2010) it would be treated as rare, but is better regarded as **scarce**.

Account:

The first published record for Kent is by Edward Jacob in his *Plantae Favershamienses* (1777), where he refers to it as “*In Gardens and on Rubbish – not uncommon*”. Hanbury and Marshall (1899) described it as to be



found on “waste or cultivated ground: local, though not uncommon on the coast”. Philp (1982) referred to it as rather scarce, in 12 tetrads scattered over the administrative county, and generally as an introduction. Habitats included waste places such as rubbish tips, and arable fields, particularly where wool shoddy had been used. The species is given for West Kent by J.E. Lousley in his *Census List of wool aliens found in Britain, 1946-1960*¹⁶, based on a list supplied by David McClintock. By the time of Philp (2010), however, wool shoddy had ceased to be used as an agricultural fertilizer and so *Chenopodium murale* was no longer being replenished as an introduction via this source. The only records of this species then noted were on a rubbish tip at Dartford and disturbed ground at Dungeness. It has been seen in several metropolitan West Kent locations, which were outside the scope of Philp, 1982 and 2010.

Lydd. Photo by Owen Leyshon, 8 September 2013

Chenopodium murale is an annual of disturbed or cultivated ground, particularly where nutrient-rich. Its occurrences are generally casual and if one wished to conserve the species, the measures for doing so are not obvious, other than annually repeated disturbance. The plant has fairly distinctive leaves (indeed, somewhat nettle-shaped), very small teeth around the tepals, and seeds which are keeled around the margin.

Sandwich. Photo by Sue Buckingham, 21 September 2013, showing keeled seed



¹⁶ *Proceedings of the Botanical Society of the British Isles* (1961) 4:221-247.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Pratts Bottom (metropolitan vc16)	TQ4762		24 August 2003	GK	TQ 471 627, at roundabout road-verge, on soil imported with road works. Did not persist.
Danson Park (metropolitan vc16)	TQ4775	Local authority managed park	6 June 2011	MG & MCS	Flower beds and grass path.
Barnehurst (metropolitan vc16)	TQ5073		12 September 2002	MG	TQ 504 763, edge of mown verge of Mereworth Road; conf. EGP.
Barnes Cray (metropolitan vc16)	TQ5275		22 September 2003	GK	TQ 523 755, planted beds in front of commercial development, by A206.
Dartford	TQ5475		20 August 2002	MG	TQ 543 758, Joyce Green Lane; conf. EGP (by whom seen, with PHe, on 1 November 2002 and recorded as at TQ57M).
Dungeness	TR01U		After 1990, before 2006	Philp, 2010	Disturbed ground near Boulderwall Farm.
Lydd	TR0419		August – September 2013	TI	c.100 plants on large manure heap in field just outside Lydd on Dengemarsh Rd. Also seen 8 Sept by OL.
Sandwich	TR3657		21 September 2013	SB	5 flowering plants and 17 seedlings in cow pasture on old dune grassland at TR 36158 57288, near Bird Observatory.



Sandwich. Photo by Sue Buckingham, 21 September 2013

Chenopodium vulvaria L. (Stinking Goosefoot)

Draft account

vc 15 and 16

Rarity / scarcity status:

The decline of the Stinking Goosefoot in Britain was marked before 1930 and has continued now to the point where, from having been fairly widespread in south and central England, it is regarded, both in England and in Great Britain as a whole, as being **Endangered**. Factors such as changes in agricultural practice and pressure on marginal habitats may be entailed. Kent is one of the few counties where it may be found, and it is **scarce**.

Account:

In Kent, *Chenopodium vulvaria* was first recorded in Edward Jacob's *Plantae Favershamienses* (1777) as the Stinking Orache, to be found flowering in August "Under Walls about the Town – uncommon". Hanbury and Marshall (1899) gave a fairly wide range of records, generally coastal, and assessed it as local on waste ground near the sea. As Philp (1982) provides only one tetrad record, in Romney Marsh, for the survey period 1971-1980, this gives an impression of catastrophic decline in the county which may well be misleading. In the subsequent survey of 1991-2005, seven tetrad records were made, all in north Kent, with a focus on the Isle of Grain and Sheppey; so the picture appears now to be one of scarcity rather than disappearance.

Neither survey has included occurrences of long standing at Princes Golf Links, Sandwich, where it has, however, been seen from 1946 (by Francis Rose on a sandy track north of the old club house) at least through



to 1986 (by Francis Rose and Rosemary FitzGerald, when it occurred on the sandy edges of the tarmac road which replaced the track), presumably a survival of Marshall's assessment (1899) of its presence as plentiful between Sandwich and Pegwell Bay, and of its being recorded near Sandwich in 1805; so there is some evidence of earlier persistence.

Cliffe Marshes. Photo by Liam Rooney, 28 August 2012, showing glands on the leaves, from which trimethylamine diffuses, giving rise to the plant's distinctive odour.

The Stinking Goosefoot is currently treated as an archaeophyte, but was formerly assessed as a native, and often appears like one in the county, particularly by the coast, sometimes inhabiting remote areas and without obvious means of introduction. It is an annual, normally germinating in spring, but sometimes later; and is

perhaps most readily recorded late in the year. Whilst fairly distinctive as a greyish prostrate plant with rhombic leaves, it is not at all conspicuous, other than as regards its smell, which resembles rotting fish.

Allhallows, at cattle feeding station. Photo by Geoffrey Kitchener, 2 October 2012

Its recent Kent occurrences are almost all in bare disturbed coastal habitats, often by the side of tracks, where there may be light trampling but not severe compaction, such as is more likely to be tolerated by *Chenopodium glaucum* (Oak-leaved Goosefoot), which may also accompany it. A sandy, gravelly or cindery substrate appears to suit the species, penetrated by a strong taproot; but it is highly tolerant of nitrogen enrichment. The plant has been found on artificial banks and thrives in the presence of rabbit grazing; it may be found in sites covered with rabbit droppings. Associated plant species in rabbit-frequented areas were generally ruderals, and in the immediate



vicinity of burrows were plants which rabbits avoid, such as nitrophilous *Urtica dioica* (Common Nettle) and toxic *Solanum nigrum* (Black Nightshade). *Chenopodium vulvaria* was seen severely nibbled back by burrows in late season; but evidently there must be some trade-off which enables the species to continue to flourish, in spite of being palatable. Another highly nitrogenous site is that on the grazing marshes at AllHallows, where Stinking Goosefoot has been recorded on trampled, somewhat gravelly ground covered with manure, where there is a cattle feeding station. A recent (2015) inland site at Darland Banks, Gillingham also reflected the same factors of disturbance and high nitrogenous soil content.

Queenborough, rabbit-nibbled plants by burrow. Photo by Geoffrey Kitchener, 16 October 2012

Site	Grid reference	Site status	Last record date	Recorder	Comments
Bexley (metropolitan vc16)	TQ47		From 1987 to after 1999	DN	A botanist's introduction to an allotment, where it persisted, at least for a while.
Dartford	TQ5475		(1) After 1990, before 2006 (2) 2002	(1) EGP (Philp, 2010) (2) MG	(1) On disturbed western side of Joyce Green Lane. [Not found, October 2012.] (2) TQ 5425 7595 (grid reference is eastern side of Joyce Green Lane).
Cliffe Marshes	TQ7176	RSPB reserve	(1) 28 August 2012 (2) 7 July 2011	(1) EGP & DG (2) GK & LR	(1) TQ 71600 76700. Half a square metre of somewhat bare ground.

					<p>Has been persistent here for many years, at least since 1993 (228 plants were recorded by the KFC in 1995).</p> <p>(2) Two small patches, both covered with rabbit droppings, on margin of cindery vehicular track. TQ 71535 76848 (east side) c.30 x 30cm and TQ71530 76851 (west side) c.50 x 75cm. Associated species included <i>Picris hieracioides</i>, <i>Polygonum aviculare</i> agg., <i>Diplotaxis tenuifolia</i>, <i>Plantago coronopus</i>. On the compacted track was <i>Chenopodium glaucum</i>.</p>
Darland Banks, Gillingham	TQ7866	KWT managed reserve	17 & 18 October 2015	SP & DG	<p>TQ 78078 66157, four plants, growing on a hill slope heavily disturbed by scrub clearance, weedy and with indications of nitrogen enrichment. Associated species included <i>Verbena officinalis</i>, <i>Solanum nigrum</i>, <i>Helminthotheca echinodes</i>, <i>Cardamine hirsuta</i>, <i>Cirsium arvense</i> and <i>Potentilla reptans</i>. Not necessarily associated was the appearance of <i>Solanum laciniatum</i> resulting from the same clearance.</p>
Allhallows	TQ8478 / 8578		(1) 2 October 2012 (2) After 1990, before 2006	(1) GK (2) EGP (Philp, 2010)	<p>(1) About 20 plants, some relatively large, scattered on heavily manured ground used as a feeding station for grazing marsh cattle, from TQ 8499 4842 to TQ 8500 4840. <i>Chenopodium glaucum</i> was also present. Both also seen on 12 August 2013, GK.</p>
Isle of Grain	TQ8677		(1) 28 July 2017 (2) 18 September 2012 (2) 22 June 1995	(1) BB (2) GK (2) EGP (Philp, 2010)	<p>(1) TQ 86920 77250, over 20 plants seen around Peat Rd farm buildings.</p> <p>(2) TQ 86921 77221, on gravelly flat ground in front of old cottages/farm buildings by Peat Way, scuffed and amidst rabbit droppings, scattered over c. 1 sq metre.</p> <p>(2) c. TQ 867 774, on the Grain side of Yantlet Creek.</p>
Isle of Grain	TQ8678		After 1990, before 2006	EGP (Philp, 2010)	By some old coastal army workings.
Isle of Grain	TQ8777		3 September 2013	GK	About 20 large plants on disturbed ground relating to services works at junction of Peat Way and West Lane, TQ 87076 77038.
Isle of Grain	TQ8778	MOD land	28 July 2017	BB	TQ 87631 78155, five or more plants, on patch of disturbed ground on demolition site with 30+ <i>Chenopodium glaucum</i> .
Queenborough	TQ9172		(1) 16 October 2012 (2) 2 August 1991 (3) (2) June 1991	(1) GK (2) EGP (3) JP & GB	(1) Numerous plants, bitten down by rabbits and difficult to count, at least 300 on bare disturbed ground

					<p>of disused banked railway formation (constructed c.1900, closed 1950) around rabbit burrows for 300m from TQ 91540 72568 to TQ 91764 72774. Terrain is made ground with soil, shelly shingle, cinders and chalk lumps. Main associate <i>Solanum nigrum</i>, also present <i>Mercurialis annua</i>, <i>Urtica urens</i>, <i>Urtica dioica</i>, <i>Carduus tenuiflorus</i>.</p> <p>(2) TQ915726; bank of disused railway, heavily rabbit-grazed. Specimen in MNE.</p> <p>(3) Discovered at TQ 916 726, 100+ plants. Written up by JP in <i>Bulletin of The Kent Field Club</i> (1992) 37:38.</p>
Elmley	TQ9267		22 September 2017	DC	TQ 92613 67859, a single plant on gravelly compacted ground, rabbit-frequented, at remains of 19 th C Elmley cement works and related dock.
Eastchurch Marshes	TQ9869		29 September 2005	EGP & DG	TQ9808 6984: trackside near gate to Great Bells Farm, rabbit-disturbed. [Not found, October 2012. Rabbit disturbance still present but may be reduced.]
Princes Golf Links, Sandwich	TR35P, 36K		4 October 1986	EGP	Specimens in MNE from edge of track. Other specimens (without OS grid reference) in MNE go back to 1946 (FR). Also recorded for August 1986 (over 150 plants) by FR & RF for TR 356 593 and TR 355 596; and RF for TR 354 600. [Not found, October 2012, September 2013.]



Cliffe Marshes. Photo by Geoffrey Kitchener, 28 August 2012