Back from the Brink – Species summary
Prostrate Perennial Knawel

BftB project: IP07 Shifting Sands – Securing a future for the Brecks

Project lead organisation: Natural England

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Partner organisation for species: Plantlife

Species name – common & scientific	Prostrate Perennial Knawel *(Scleranthus perennis subsp. prostratus)*
Photograph	 *© Alex Hyde / Back from the Brink*
Taxon group	Family: Caryophyllaceae
Conservation status	IUCN: Endangered
UK distribution	Restricted to Breckland: global endemic
Habitat associations	Guilds: Open, disturbed, non-grazed Habitat: Lowland calcareous grassheath, open mosaic
BftB work carried out:	
Survey & Monitoring	All known Brecks sites are (except one) monitored by Breckland Flora Group – this work began before the project and has continued throughout. Plantlife has monitored and will continue to monitor all known sites, except for the restricted one on the USAF air base. Method: Bespoke. Breckland Flora Group protocol; number per site compartment, area of occupation. Once annually, June-October. By Breckland Flora Group.

Sites habitat management works	Works complete at all known extant sites to maintain open ground conditions bar two (one because it is inside a restricted air base and the other because of archaeological constraints). Turf stripping done to restore suitable habitat on 6 sites: • Eriswell Low Warren – Feb 2019 • How Hill – winter 2018/9 • Barnham Cross Common – Sept 2016 (work not done by project) • Lakenheath Warren – Feb 2019 • Lord's Well Field, Eriswell – Feb 2019 • Santon Heath -Nov/Dec 2019 Additional work • Deadman's Grave – wider area ploughed winter 2018/9 • Eriswell Low Warren – plough lines reinstated autumn 2019
Conservation 'interventions' incl. reintroductions & translocations	Translocations were undertaken at 4 sites: • Barnham Cross Common – 20 plants – June 2020 • Lakenheath Warren – 20 plants – Dec 2019 • Lord's Well Field, Eriswell – 15 plants – Oct 2019 (this was intended as a re-introduction, as the plant had not been recorded since 2012, but having made the translocation, we rediscovered some plants growing elsewhere on the site) • Santon Heath – 20 plants, 10 in each of two subsites, north and south of Santon Heath – Dec 2019 So far, these translocations have survived well since works, increasing in abundance and distribution; the 75 plants introduced has increased to 201.
Technical advice provision	A species dossier has been published by the project, which is a technical report outlining everything we know about the species' ecology and conservation.
Links made with other taxa / conservation work?	Habitat management works done to benefit this species may also have positive impacts on other target species (e.g. Spring Speedwell, Basil Thyme, Spanish Catchfly, Tower Mustard)
BftB results obtained:	
Recorded Distribution (in BftB focal areas)	Located at 10 sites • Deadman's Grave, Icklingham • Eriswell Low Warren • How Hill • RAF Lakenheath • Santon Street • Thetford Heath • Barnham Cross Common: translocation • Lakenheath Warren: translocation • Lord's Well Field, Eriswell: translocation and native site – see above • Santon Heath: translocation
Recorded Abundance of species populations	Abundance recorded during surveying. All UK populations of nominate subspecies are monitored on a fixed schedule BAR ONE. The latter site is inside the Lakenheath USAF base, much of it on the airfield itself. It is probably the biggest population but, if it is regularly monitored, we do not yet have access to the figures. Translocated to 4 sites – a total of 75 plants.

Other results documented?	The most significant observation made during the project is that the taxon is unreliably perennial. It is dominantly biennial with occasional further perennation depending on weather conditions and, even then, is a short-lived perennial only. This is a very significant observation for determining management. Another is that the plant is not, contrary to the online Atlas and other accounts, a calcifuge. It is tolerant of calcicolous conditions (and may indeed require them) but is primarily a plant of mobile, unvegetated sands. The plant forms a straggly patch and seeds into that patch; counts are accordingly only estimates. New plants emerging within a patch can go undetected and proximal patches merge – the latter can, after a translocation for instance, result in a declining count when plants are growing well. Translocated plants do best in very bare conditions and there is a trade off between the processes that maintain those conditions and the survival of the plant; it is accordingly listed as intolerant of grazing when grazing is a mechanism that can maintain the open ground it requires. This reflects its fundamental adaptation as a plant of mobile sand dunes i.e. of sands that are kept open by geomorphological processes As a hemicryptophyte, it may also be tolerant of low levels of grazing. June-July was thought the best time to monitor the species. This extended to September-October as found the plants are still in flower.
Species Recovery Curve progress made	Baseline: 1 Current estimate: 6
Other measures of species recovery progress? e.g. FCS	Breckland Flora Group records show flux in all populations (bar one) over time.
Recommendations for future work:-	The potential for future work is very limited because of a shortage of suitable sites with the requisite geology and geomorphology. Such places may become available if the land cover of forestry or arable farming declines or if archaeological constraints can be overcome; if the latter occurs then a number of the Breckland grass-heaths could be suitable for introduction following remedial works.
Overview of plans for future monitoring:-	All known populations will continue to be monitored annually by Breckland Flora Group. Reintroductions/translocations done by Shifting Sands are included in this monitoring plan.