



Jersey Cudweed Population Assessment, Mitigation and Enhancement Plan

Former Grove Lawn Tennis Club, The Chine, Cascade Avenue, London, N10 3PY

ROK Enterprises One Ltd

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Ltd. was commissioned by ROK Enterprises One Ltd to produce a Jersey Cudweed Population Assessment, Mitigation and Enhancement Plan for **Former Grove Lawn Tennis Club, The Chine, Cascade Avenue, London, N10 3PY**. This was written on the 10th May 2021 and was informed by a Preliminary Ecological Appraisal (PEA) carried out by Arbtech Consultancy Ltd on the whole site in April 2021. It was updated on the 12th January 2023 following an updated PEA by Arbtech Consultancy Ltd. The plan was required to inform a development proposal in which an abandoned tennis court is to be re-developed into 8 houses of circa 222m².

1.2 Rationale

During both the original and updated PEA's (Arbtech 2021/2023) the presence of Jersey Cudweed *Helichrysum luteoalbum* was identified (ID confirmed by an FISC level 6 botanist). This species is protected under Schedule 8 of the Wildlife and Countryside Act (1981) (as amended) against intentional picking, uprooting, and destruction (unless a licence is obtained from the relevant authorities, or the damage is a result of a lawful activity and could not reasonably have been avoided). Such plants have further protection from sale.

Additionally, under Section 25 (1) of the Wildlife and Countryside Act (1981) local authorities have a duty to bring to the attention of the public the provisions of Part I of the Wildlife & Countryside Act, which includes measures to conserve protected species. There is also a Statutory Biodiversity Duty placed on public authorities by The Natural Environment and Rural Communities Act (2006) "to take such measures as they consider expedient for the purposes of conserving biodiversity", including restoring or enhancing a population or habitat. Augmenting these statutory obligations, numerous central government policy documents and best practice guides require LPAs to take full account of the impacts upon biodiversity of any proposed development, as part of which developers are required to achieve biodiversity net gain.

A Jersey Cudweed Mitigation and Enhancement Plan was required to specify mitigation, compensation and enhancement for this species. This will allow the LPA to fulfil their statutory duties. Once planning permission is obtained, a licence to take wild plants: Survey, science, education and conservation will be required from Natural England in order to legally carry out the translocation elements of the plan.

1.3 Species ecology

Jersey Cudweed is a ruderal species (pioneer of recently disturbed ground) which exhibits both an annual (one year) and biennial (two year) life cycle. The species tends to inhabit relatively bare sites with poor soils wherein competition from other plants is low.

Its optimal habitat appears to be those which are moist but free draining (e.g. damp sand in estuarine environments), In such habitats densities may number into the thousands. Perpetually damp habitats can promote root rot in most plant, and evidence that damper habitats are preferred is supported by the plants possession of anti-fungal compounds. These are known to inhibit root rot initiating organisms such as *Phytophthora nicotiana*. In addition, the plant is flexible in terms of germination times, responding to unpredictable environmental event such as flooding, after which it is likely to increase in abundance. In colonising new ground, this characteristic is likely to confer competitive advantages over species with less flexibility, allowing it to dominate newly exposed river/estuary deposits.

Perhaps as a function of its need to respond to ever changing environmental variables in dynamic systems such as those found in estuarine areas, its pH tolerance is broad and it can be found across acid, neutral and alkaline soils. In addition it tolerates both full sun and partial shade and appears to be a stress tolerator. It has as a result been documented in a wide range of habitats including meadows and woodland edges. In urban areas it is regularly found within brownfield and industrial sites in which skeletal accumulations of poor, dry soils develop over and within hard standing in conditions of low competition.

The species produces hermaphroditic flowers pollinated by flies and bees, which produce a seed with a pappus. Thus enables the species to colonise new sites via wind dispersal. An example photograph is shown below.



Figure 1 Jersey cudweed - David Francis (2014)

1.3 National Conservation Context

Jersey cudweed is distributed across Europe and is presumed to have been enabled by climate change to have spread northwards across the UK. There is some controversy as to its status as a native but the literature points to the population likely comprising a mixture of introduced and true native populations, the latter of which seem to be concentrated in the south and east (e.g. Norfolk, the Brecklands and Dungeness). where it was assigned the status of Critically Endangered in the British Red Data Book in 1999. The bulk of its distribution across the country appears to be focused within the south and east but populations are known as far north as Northumbria and new colonies are regularly being discovered, possibly in relation to an increased prevalence in warmer summers. Where the origin of a population is unknown, Natural England advises they are considered natural and are afforded legal protections.

1.3 Local Conservation Context

The species appears to be gaining a “locally common” status around London, perhaps in response to the heat island effect. Several populations of Jersey cudweed were discovered around the Docklands of London between 2009 and 2012, including at St Katherine’s Dock and Millwall Dock where the species was found inhabiting paving cracks. It was found at Poplar Dock Marina on bare ground and at Tower Hamlets.

1.3 Development Site location and context

The site is centred at National Grid Reference TQ 2906 8919 and has an area of approximately 0.2ha. The site consists of a tennis court with mature trees forming the site boundaries within a suburban part of North London. The magic.gov.uk database shows that broadleaved woodland, some of which is ancient and a traditional orchard are located within 1km of the site. However, there are no Section 41 Habitats of Principal Importance adjacent to the site or within the realistic zone of influence of the proposed works. The site hosts a widespread urban community of ruderals around the site boundaries but this does not form a notable assemblage.

1.4 Scope of the plan

The mitigation plan detail describes

1. Population status and assessment, including descriptions and photographs of the environment in which the plant was found.
2. Mitigation and enhancement plan, including how legality will be maintained through the development, mitigation options, a translocation plan, post development management plan and post mitigation monitoring.
3. Population location and site location maps are included in Appendix 2 and 3.

3.0 Jersey Cudweed Population status and assessment

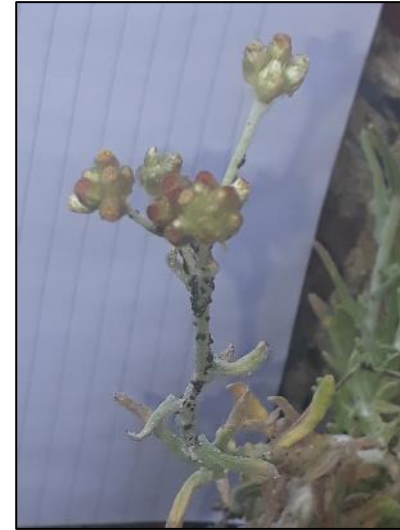
There are three small groups of Jersey cudweed growing along and just to the west of the pavilion doors. The two visible in the photograph are circled in yellow. The site being south facing offers hot, dry conditions, enhanced by the London heat island effect. The distribution noted in 2021 remained the same in 2023.



As of 2021, The largest group comprised approximately 8 flowering plants, of around 7-10 inches in height.



Aphids were present on a number of plants.



The photo shows the hermaphroditic flower heads.



In 2021, four dead plants from the previous year's recruitment were present amongst the group. Most of the seed heads were still present, and, considering the plants absence from other parts of the site, this indicates their location is relatively sheltered from the prevailing local winds and seed drop has been occurring close to the colony.



The bottom parts of the plants were in 2021 desiccated, indicating the plants, which are growing in a nutrient and moisture lacking skeletal soil have experienced drought stress.



A second colony are present around 2 feet to the west. This group comprised 7-10 seedlings and one plant of around four inches high. This plant was not in flower and is likely to be a biennial individual.



One isolated individual was in flower approximately 50cm further to the west. At this point the species was occurring with other species, in particular ivy leaved toadflax and scarlet pimpernel, which in places forms fairly dense stands. The places where Jersey cudweed was found contained that species alone, and competition with other species may be limiting the further spread of Jersey cudweed along the wall. The species is known to have a long-lasting seed bank and seeds may be present within the detritus along the wall edge.



The photo shows the main colony viewed from above. There is no visible deep crack between the step and the pavement (nor the walls and the pavement) and it appears the colony has established on a thin layer of soil that has accumulated against the wall over several decades.



The photo shows an example of the still extant population in January 2023. This occurred alongside a number of seedlings and No further populations were found in addition to those identified in 2021. The existence of immature flower spikes in mid January indicates the warm microclimate of the wall is of importance to the populations continuation in this area.



Surrounding habitat

The photo shows the pavilion (cudweed location highlighted in red) and the surrounding tennis court, wall and walk way. The surrounding landscape comprises suburban gardens. No cudweed was found anywhere else on site other than in the area adjacent to the pavilion building. To the east of the pavilion (right half of photograph) the walls have become thickly vegetated with predominantly bramble and it may be that further groups formerly existed along there and have since been shaded out. It is possible that a seed bank still exists there. The surrounding streets were examined for the presence of the species and none were found. This indicates the population may be a pioneering colony originating from windblown seed rather than reflecting part of a wider local population.



4.0 Mitigation and Enhancement Plan

Provision for the continued occupation and development of the pioneering Jersey cudweed population must be incorporated into the developed site. The most suitable option for maintaining the colony will be the installation of substrate-based biodiverse/brown roof as the population will be at significant risk of being sprayed off or pulled by householders or ground workers if it is re-established at ground level.

4.1 Substrate based biodiverse/brown roof

Biodiverse/brown roofs provide a simple, nutrient poor substrate upon which wild plants can grow. A brown roof is left to naturally colonise and a biodiverse roof is inoculated with seed and/or plug plants. These provide a good replacement for the biodiversity associated with urban brownfield sites and will bring multiple benefits not just to maintaining the Jersey cudweed population, but for preserving the urban ruderal community already present onsite, with the additional benefit of providing enhancements to invertebrates and the species dependent upon them. The picture shows a biodiverse roof established on pitched roofing.



4.2 Establishment

A biodiverse roof requires less intensive management than a traditional green roof, as it utilises shallower natural substrates to replicate the nutrient poor, thin soils on which urban wildflowers thrive. The substrate has the added benefit of being relatively light weight and easier to distribute around the roof. The photograph shows an example of the substrate.



The photo shows a brown roof established upon a flat roof.



In the case of this site, a mixture of brown roof and biodiverse roof technique is recommended. Overall, the roof will be left to its own devices but the pre-existing urban ruderal species assemblage on site can be preserved using the roof. The detritus that has accumulated along the walls (photographed) will contain seeds from other species as well as from the Jersey cudweed itself (some of which may have been suppressed from germinating by shading from other species). This can be used to inoculate the substrate, thus translocating not only the cudweed but the species present in the entire onsite community.

In replicating the conditions under which the Jersey cudweed population exists on this site, a low competition environment is required. It should be noted that some species present on site such as red valerian (pictured) can come to dominate if conditions are optimal and there is a risk of their suppressing the Jersey cudweed population. This risk can be mitigated by establishing several biodiverse roofs across the development (a minimum of 2). One will be inoculated with the detritus gathered from along the walls, which will contain a broad species range and may include some cudweed seed, previously suppressed from germinating by competition from other plants. The second will be reserved specifically for collected Jersey cudweed seeds from the plants on site to ensure a competition free space exists. The risk of red valerian spreading too aggressively across the site can be mitigated by ensuring the areas where cudweed is to be established contain a thin substrate layer, with a substrate free gap separating it from the rest of the substrate. Additionally, ensuring the substrate layer remains thin across the entire site will prevent it from forming a robust tap root system, thus producing a colony of sparsely distributed, somewhat stunted plants, as is currently present across the tennis court amongst leaf detritus.



For the roof specifically reserved for Jersey cudweed, the design must incorporate an edging, wall or other feature which replicates the south facing, sheltered conditions currently experienced by the cudweed colony to prevent translocated seeds from being blown away from the roof whilst the colony establishes itself across the site. Along this, the seeds will be translocated. The photo, which features a planted biodiverse roof demonstrates a contemporary design approach to this.



4.2 Species translocation Plan

The plants will be translocated via seed collection under licence and under the advice and guidance of Kew Gardens Millennium seed bank, who have previously provided storage facilities for seeds from this species for other consultancy companies working on developments in London. The MSB will retain a proportion of the seeds from the collection for long term conservation and potential use in research and nature recovery; the remaining seeds would be available for translocation on site. Due to the exposed nature of the site, success may better be guaranteed by establishing plug plants from seeds for translocation.

4.3 Post mitigation management and monitoring

Biodiverse roofs require little management but there may be issues with undesirable species such as buddleia and fleabane, which will require a management plan in particularly for buddleia which could cause structural damage. In the first two years after establishment the roofs should be checked in spring for any invasive or undesirable species that have germinated, and any seedlings should be pricked out. Any requirement for monitoring of the Jersey cudweed population will be outlined in the licence from Natural England.

5.0 Mitigation and Enhancement Map

Mitigation plans are in production and will be incorporated once landscaping maps are complete.

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Appendix 2: Population distribution map

Appendix 2: Site Location Map



Appendix 3: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Species

The Habitats Directive

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). The following notes are relevant for all species protected under the EC Habitats Directive:

In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of 'migration' and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests':

the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;

- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

186 non-animal species are afforded protection under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended); including flowering plants, mosses, liverworts, fungi, lichens and algae. European protection is extended to nine such species by the Conservation of Habitats and Species Regulations 2010 (as amended). Contraventions of the Wildlife and Countryside Act may be a £5000 fine and six months imprisonment for each offence.

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal. This includes 250 species of lower plants and fungi, and 152 species of higher plants.