

NOGOE

No to Greenwich Olympic Equestrian Events

Greenwich Park, Application Nos 09/2598 and 09/2599

ANNEX D

to letter dated 27th January 2010

ECOLOGY

Acid Grassland in Greenwich Park

Lowland dry acid grassland is a scarce and declining habitat in the UK. There is approximately 1300 ha of lowland acid grassland in London, accounting for 4% of the total UK resource. Greenwich Park comprises the majority of the acid grassland in the borough (estimated at 14 ha). U1 acid grassland is included within the UK Biodiversity Action Plan (BAP) priority habitats (lowland dry acid grassland) and is listed in the London (regional) BAP as a priority habitat (acid grassland). The London Borough of Greenwich has a statutory duty to protect UK Biodiversity Action Plan (BAP) priority habitats like U1 lowland dry acid grassland, as enforced by the Countryside and Rights of Way (CRoW) Act 2000, NERC Act 2006 and Planning Policy Statement 9 (PPS 9). Greenwich Park is a Metropolitan Site of Special Importance for Nature Conservation.

LOCOG claims that its Acid Grassland Restoration and Enhancement programme is “a substantial three-year programme to improve the quality and extent of the acid grassland within the Park. This is a long-term programme to improve significantly the amount and quality of the acid grasslands in the Park, thus improving the Park’s ecology and offering a real legacy benefit. This is fully supported by The Royal Parks.” This programme for “mitigating” the damage to the acid grasslands in Greenwich Park is to dig them up, viz – as described in Chapter 11 (11.7.9 - 11.7.15) of the Environmental Statement – to remove the top soil and store it for at least two years (March 2010 until after the 2012 events).

“acid grassland will be stripped and stored in March 2010 to conserve the seedbank. Following the 2012 Greenwich Park Events, the Cross Country course topsoil will then be removed and replaced with the original topsoil. Additional seeding would be undertaken using suitable species of appropriate provenance.(and agreed with the Acid Grassland Habitat Action Plan Working Group24 and Natural England), and appropriate management would be carried out”

Although LOCOG say that its proposed “mitigation” programme “will ensure that there will be no net loss in the extent, quality and connectivity of the acid grassland habitats ... would result in an overall positive effect for this habitat”, there are no details, and there is nothing to say that this intervention has been tried successfully elsewhere with acid grassland: it appears that this will be an experiment.

Having consulted some of the published literature in this area of research (see below), it is evident that LOCOG is promising something that it will be impossible to deliver.

We would ask Greenwich Council not to permit LOCOG to conduct what appears to be a naïve and reckless experiment – doomed to fail – on the most important habitat within Greenwich Park and a priority habitat within the Local Biodiversity Action Plan (Sustainability Statement 5.3.4), for the following reason: **as any soil scientist could have told LOCOG, the topsoil that LOCOG brings back to Greenwich Park in 2012 (or later) will not be the same topsoil that was removed in 2010.**

1 *Stored top soil deteriorates*

Biological, chemical and physical changes occur, mainly as a result of anaerobic conditions; there are also chemical changes, particularly in the forms of nitrogen present but also in the content of available nutrients, pH and organic matter levels; and biological changes include reductions in potential for mycorrhizal infection, soil biomass and especially earthworm population; stored soil contains high levels of carbon dioxide, methane, ethane and ethylene; and physical changes include

reduction in aggregate stability and resistance to compaction, increase in bulk density and changes in pore size distribution and micro-structure. A. W. Abdul-Kareem¹ and S. G. McRae, "The effects on topsoil of long-term storage in stockpiles", *Plant and Soil*, vol 76 nos 103, February 1984.

2 Decrease in viability of buried seeds

Micro organisms play a fundamental role on the bio geo chemical cycles and are involved in forming the structure of a soil. When soil is stockpiled "in piles that were more than a meter deep, chemical effects such as accumulation of ammonium and anaerobic conditions occurred in the topsoil at the base of the pile. Other detrimental biological effects include absence of propagules and **decrease in viability of buried seeds** ... detrimental effects of topsoil storage including heavy losses in the microbial community and decreased nutrient cycling." Harris J A & Birch P, "Soil microbial activity in opencast coal mine restoration", *Soil Use and Management*, 1989 5, pp 155-160.

3 Immediate loss (as much as 30 per cent) of organic carbon levels

Research shows that "one of the most immediate consequences of stockpiling ... was the loss of organic carbon levels. Organic carbon levels were reduced by as much as thirty percent. This reduction in carbon was an immediate rather than a slow loss over the duration of the study." Visser S, Fujikawa J, Griffiths C L, & Parkinson D 1984. "Effect of topsoil storage on microbial activity, primary production, and decomposition potential", *Plant and Soil Journal* 1984, 82, pp 41-50.

Major losses of nutrients from ecosystems "generally occur when the nutrients are not incorporated in the food chains of soil. Losses occur when the input of organic matter ceases, such as when deforestation or strip mining occurs and soil is damaged ... in order for soil to be productive, there must be a continuous flow of energy in the form of carbon compounds through the soil organisms". Jordon C F, *Working with nature: Resource management and sustainability*, 1998; Amsterdam, The Netherlands: Harwood Academic Publishers.

4 Loss of mycorrhizal hyphae (beneficial root-dwelling fungi die off)

Prolonged storage [this means for more than one month] intensifies the loss of the bacterial element of the soil. Mycorrhizal fungi are a very important part of the microbial community. These fungi are often reduced or destroyed by stockpiling. Mycorrhizae fungi grow symbiotically with the roots of higher plants. The general beneficial effect of the micorrhizal condition on plant growth is one of improved mineral nutrition, specifically, enhanced nitrogen and phosphorus uptake. Harris & Birch (1989).

The microbial community helps to create a soil structure conducive to the various biogeochemical cycles. Mycorrhizae hyphae form an extensive network in soil. These hyphae are covered with extracellular polysaccharides that form soil aggregates that are held intact by the roots so that they do not collapse in water, forming pore spaces and drainage channels. Mycorrhizal symbiosis is also documented as protection against pathogenic fungi. Tate R L, & Klem D A (Eds), 1985. *Soil Reclamation Processes: Microbiological Analyses and Applications*. New York: Marcel Dekker, Inc. Edgerton D L, Harris J A, Birch P, & Bullock P. "Linear relationship between aggregate stability and microbial biomass in three restored soils", *Soil Biology and Biochemistry* 1995, 27 (11) pp 1499-1501.

Stag beetles

Relevant legislation

EC Habitats Directive (92/43/EEC) on the Conservation of natural habitats and of wild fauna and flora. <http://www.jncc.gov.uk/page-1374>
Wildlife and Countryside Act 1981 (as amended)



(photo credit: UK Biodiversity Action Plan)

The EC Habitats Directive promotes the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, introducing robust protection for those habitats and species of European importance

The stag beetle is one of those species listed in Appendix II (Animal and plant species of the Community Interest whose conservation requires the designation of special areas of conservation) to the Directive 92/43/EEC. Its larvae spends up to six years of life in the larval stage in decaying wood (often underground) of deciduous trees

Every six years, Member States of the European Union are required (by Article 17 of the Directive) to report on implementation of the Habitats Directive. The second Habitats Directive report focuses on a first assessment of conservation status of all habitats and species of Community interest. The reporting format set by the European Commission requires a separate analysis for each species and each habitat in each biogeographic region which that country covers. The Second Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2001 to December 2006 (www.jncc.gov.uk/article17) stated that the main pressure on and threat to the stag beetle is the removal of dead and dying trees.

“This is likely to create problems for this dead wood feeding species. Stag beetle does not favour any particular species of tree; it does however have very specific micro-habitat requirements.”

LOCOG has not so far provided a detailed tree schedule to identify precisely which trees are to be pruned or otherwise “managed” with the risk that the stag beetle’s habitat may be adversely affected¹.

¹ Note that LOCOG has already acknowledged that perimeter and security lighting may result in limited mortality to stag beetles (ES para 11.6.44)

In 1992, the UK government signed the 'Rio Convention' and committed the UK to halting biodiversity loss through the UK Biodiversity Action Plan: London is one of nine regions which form part of the UK Biodiversity Action Plan which is trying to increase the numbers of stag beetle. The stag beetle is a globally threatened species, protected under the Wildlife and Countryside Act 1981 (as amended), and listed as a priority species for the UK and London Biodiversity Action Plans.

No up to date stag beetle survey has been carried out in Greenwich Park (required by Section D3 ("Design and Conservation") of Greenwich Council's UDP). Despite the fact that a desk survey (Greenspace Information for Greater London - GiGL - data search) found records for the stag beetle *Lucanus cervus* in the Park for the period 1998 – 2008, and in ES Appendix 11H) it is stated that

"many of the veteran sweet chestnut and oak trees appeared to have dead wood at the base and extending down as large dead root timbers, thus the required subterranean dead wood habitat appears to be widely distributed. It is therefore likely and should be assumed that stag beetle is widely distributed within the Park in areas with veteran trees"

The Ecology Consultancy made four visits to the "target invertebrate species" - 26 May, 22 June, 22 July and 11 August 2009, but failed to carry out any stag beetle surveys to identify those areas of the Park that are used by this species.

Nevertheless, LOCOG has acknowledged that there are stag beetle colonies in the Park, but because no survey has been carried out, it cannot be certain as to their whereabouts. The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007 (SI 2007/1843) provide that it is no longer an adequate defence to claim that damage to any European protected species or their habitat was accidental, or due to lack of knowledge of the existence of a species. LOCOG therefore has an absolute obligation (subject criminal penalties if not observed) to ensure that stag beetles, as a protected species, and their habitats are preserved. It is suggested that the Council, as the local planning authority, should not consider the grant of planning permission until it is satisfied that LOCOG's plans present no risk to stag beetles, whether from interference with their colonies or from the acknowledged mortality due to the provision of lighting in the Park

Bats

The law relating to the protection of bats and the attitude that a local planning authority should adopt to proposals affecting them is now quite prescriptive and, apart from any other consideration, bats like stag beetles enjoy the protection of the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007.

The Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System (ODPM 2005/06, DEFRA 018/2005) further provides at paragraphs 98 and 99:

- The presence of a protected species is a material consideration when considering a proposal that, if carried out, would be likely to result in harm to the species or its habitat LPAs should consider attaching planning conditions/entering into planning obligations to enable protection of species. They should also advise developers that they must comply with any statutory species protection issues affecting the site (para 98)
- The presence and extent to which protected species will be affected must be established before planning permission is granted. . . . Where this is the case, the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/or planning obligations, before the permission is granted. In appropriate circumstances the permission may also impose a condition preventing the development from proceeding without the prior acquisition of a Habitats Regulations Licence (para 99).

The Bat Conservation Trust (BCT) has recently reported on a High Court decision on judicial review in June 2009 (*R (on the application of Simon Woolley) v Cheshire East Borough Council*), which clarified the legal duty of a local planning authority (LPAs) when determining a planning application for a development which may have an impact on an European Protected Species (EPS) such as bats (see http://www.bsg-ecology.com/News/Images/Briefing%20Note_Aug09.pdf)

According to the BCT report, the case addressed how LPAs should discharge their statutory duty under Regulation 3(4) of the Conservation Regulations (1994) to have regard to the requirements of the Habitats Directive in the exercise of their functions and in particular the need to properly consider the three tests set out in the Conservation Regulations that should be considered when harm to EPS is likely. The three tests need to be satisfied to allow derogation to be granted from the protection afforded to EPS. These tests are:

- that there should be no satisfactory alternative to the plan or project as a whole or in the way it is implemented
- that the plan or project must be “in the interests of preserving public health or public safety, or for other imperative reasons of overriding public interest (IROPI), including those of a social or economic nature and beneficial consequences of importance for the environment”.
- and that the favourable conservation status of the species affected must be maintained

In his judgment, His Honour Judge Waksman QC sitting as a judge of the High Court said:

“In my view that engagement involves a consideration by the authority of those provisions and considering whether the derogation requirements might be met. This exercise is in no way a substitute for the licence application which will follow if permission is given. But it means that if it is clear or perhaps very likely that the requirements of the Directive cannot be met because there is a satisfactory alternative or because there are no conceivable “other

imperative reasons of overriding public interest” and if it seems that the requirements are likely to be met, then the authority will have discharged its duty to have regard to the requirements and there would be no impediment to planning permission on that ground. If it is unclear to the authority whether the requirements will be met it will just have to take a view whether in all circumstances it should affect the grant or not. But the point is that it is only by engaging in this kind of way that the authority can be said to have any meaningful regard for the Directive”.

As yet, LOCOG has failed even to carry out an adequate bat survey, but is proposing to do so later this year. Having regard to the legislative protection that is afforded to bats, we would suggest that, until their roosts have been identified as a result of the further surveys, LOCOG should not consider itself in a position to apply for planning permission in respect of work that may affect the bats’ habitat. When these have been carried out, LOCOG would be in a position to apply for planning permission, but the derogation tests which the council is required to apply would not appear to be met. Even if LOCOG were to obtain planning permission in a form which satisfies the relevant legislation, it would still require a European Protected Species (EPS) Licence from Natural England. This Licence cannot be applied for until the relevant planning permission has been granted, and development works cannot commence until such a Licence has been granted.