



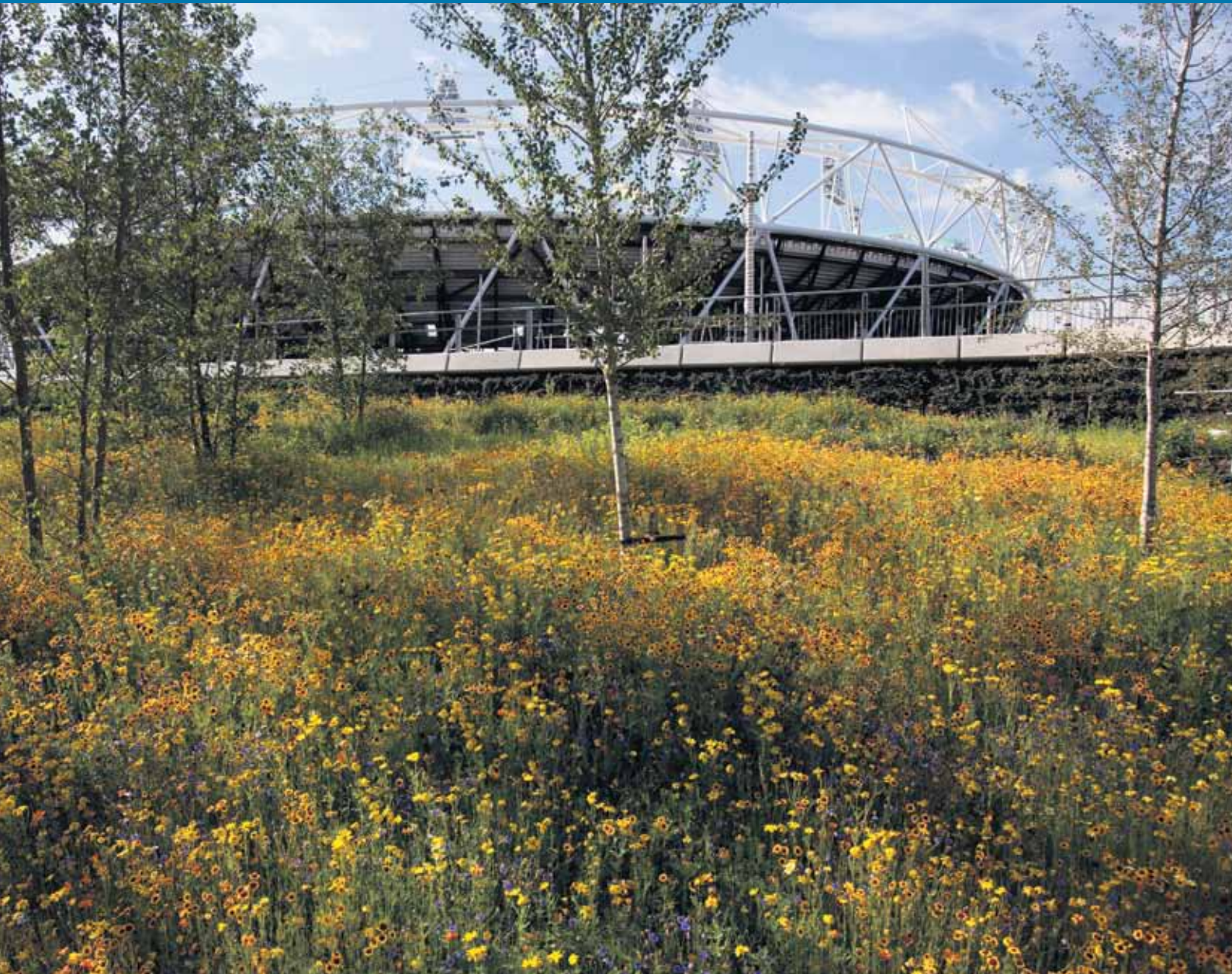
COMMISSION FOR A
SUSTAINABLE LONDON 2012

Thematic Review

Sustainable? Naturally...

A review of biodiversity across the London 2012 programme

November 2010



Executive summary

London 2012 made biodiversity one of its five themes of sustainability indicating the importance of ensuring that the natural environment would be protected and enhanced as a result of the Games.

Transforming the Olympic Park

The ODA is transforming the Olympic Park from a relatively poor environment into a high quality biodiverse park. They are committed to developing at least 45 hectares of habitat that can mature into a Site of Importance for Nature Conservation (SINC) of at least Borough Grade 1 status. This will mean that it will contain habitats that make a significant contribution to biodiversity in the boroughs surrounding the park.

The ODA have produced a Biodiversity Action Plan for the Olympic Park, setting out the commitment to 45 hectares of ecologically managed habitat and what habitats this will be made up of. They have also produced a proposed ten year management plan for the park and have begun to monitor the biodiversity of the park as it starts to develop.

The Olympic Park has the potential to be an excellent example of a new natural habitat developed in an urban setting linking out into surrounding green and blue spaces, with the waterways providing these ecological and physical linkages. The success of this is dependent on the transformation of the park from Games-time use to legacy mode and then its long term management. The ODA and then the legacy owners of the park will need to ensure that the good work done to date continues and that the ecological value of the park is protected and enhanced, with sufficient monitoring carried out to know how it is developing.

Venues in green spaces around the UK

The Games will feature venues being sited in green spaces in and around London as well as further afield, with venues such as Hadleigh Farm in Essex, Eton Dorney and Weymouth. The ODA and LOCOG have been assessing the ecological impacts of these venues and making plans to mitigate them, along with plans for restoration of habitats after the Games where necessary. The means for managing this restoration when the ODA and LOCOG have ceased to exist is still being determined. The Commission has recommended that the process of assuring and resourcing this restoration is set out. There will also be Live Sites, where the public will gather to watch the Games on big screens. The GLA will be managing several of these in London. The ecological implications of this have not yet been assessed; the Commission recommends this is done as soon as possible.

Communicating biodiversity

Holding the Games in these places gives a great opportunity to enable people to connect with the natural environment, whilst taking in a sporting event. This opportunity needs to be seized and there is a role for a range of bodies to get involved with making this happen. This can then be linked with other projects that are seeking to make biodiversity a part of the Cultural Olympiad

and with local projects such as Changing Places, which looks to connect people with their local environment and get them involved in it.

Water Management

The ODA has a target of a 40 percent reduction in the use of potable water in legacy for the Olympic Park. The target is to be met with a mixture of water efficiency, rainwater harvesting and a blackwater treatment plant supplying a non-potable water network. LOCOG have plans for water efficiency in their venues including creating and disseminating a baseline water consumption level for a summer Games. There is not currently a baseline to compare performance against so this should provide useful information for other Games and major events.

Flowers, medals and timber

LOCOG is procuring the flowers for bouquets and other displays, and the medals for the Games. The sustainability aspects of the flowers and the precious metals for the medals, including their biodiversity considerations, are likely to attract significant attention due to their symbolic significance for the Games. As with all their procurement, LOCOG will apply their sustainable sourcing code and we have recommended that they demonstrate how they will ensure that the flowers and medals can be used as symbols of sustainability at Games-time.

Both the ODA and LOCOG are committed to using 100 percent sustainably sourced timber. The ODA has a timber panel in place to supply timber to the Olympic Park. This is supported by a series of assurance processes to ensure that the policy is adhered to. This has proved a fairly resource intensive process but has led to an excellent level of performance and notable successes, such as securing sustainably sourced Siberian Pine to supply the track for the Velodrome. LOCOG will be managing their use of timber through their procurement and contract management processes, with much of their timber being in the form of products rather than construction materials. They recognise that their main challenge will be to develop an adequate system to check receipt of timber goods and we have recommended that their contract management processes include effective assurance at point of delivery.

Recommendations

1. That the ODA review existing procedures and controls to ensure they are suitable for managing the habitats during Park Operations and Transformation. This needs to ensure that the habitats and species present on the park are safeguarded, protected and enhanced and that the biodiversity of the park is monitored during these phases.
2. That the body or bodies responsible for the Olympic Park in legacy set out and implement clear plans for how the habitat will be maintained, managed and monitored to ensure that a minimum of 45 ha of SINC of at least Borough Grade 1 standard develops within the Olympic Park.
3. That the habitats that are developed in legacy are in line with the habitat commitments set out in the Olympic Park Biodiversity Action Plan, providing a mix of appropriate accessible, natural habitats.
4. That LOCOG makes clear how the process for post-Games restoration of sites will be assured and resourced following its dissolution.
5. That as part of developing plans to address the sustainability implications of all elements of City Operations, the GLA set out and implement clear plans for how they will ensure the ecology of all Live Sites under their control is appropriately managed and monitored, with mitigation plans developed and implemented where necessary.
6. That LOCOG makes better use of the Biodiversity Advisory Group, for example to promote biodiversity conservation associated with the Games.
7. That LOCOG contract management processes include effective assurance at point of delivery to ensure that all timber and timber products adhere to their sustainable sourcing requirements.
8. That LOCOG demonstrate how they will ensure that the flowers and medals can be used as symbols of sustainability at Games-time.

Introduction

1. Aim of the review

- 1.1 The Commission published its second Annual Review in April 2009. This included a list of areas for further review, including biodiversity. The London 2012 Sustainability Policy, approved by the Olympic Board in June 2006 and the subsequent London 2012 Sustainability Plan, published in November 2007 and revised in December 2009, made biodiversity one of 5 key themes of sustainability.
- 1.2 Further rationale for undertaking a review of biodiversity are that:
- Managing biodiversity will be critical to ensuring the sustainability of some venues.
 - The biodiversity of the Olympic Park will be a key component of ensuring that it will be a “blueprint for sustainable living.”
 - 2010 is the International Year of Biodiversity.
- 1.3 The review set the following aims:
- To review how biodiversity is managed, monitored, safeguarded and enhanced in the Olympic Park and at venues throughout the UK.
 - To review biodiversity monitoring and reporting by London 2012.
 - To review the key biodiversity impacts of the London 2012 supply chain, for example for timber, quarried products, plants/flowers and peat.
 - To review key biodiversity initiatives from the London 2012 Biodiversity Group, Cultural Olympiad and Inspire Mark projects.
 - To review the measures taken by London 2012 to manage water resources including: water use; management; consumption; quality, flood storage and alleviation etc.
 - To review how biodiversity is being communicated and how people are being encouraged to engage with the natural environment by London 2012.
 - To identify successes and good practice in areas where there could be a learning legacy.
 - To make recommendations where appropriate.

2. Commitment to achieving sustainable development through biodiversity

- 2.1 Biodiversity was coined as a phrase in the 1980s as a contraction of the words Biological Diversity. It is most often defined as the “totality of genes, species, and ecosystems of a region”.
- 2.2 The 1992 United Nations Earth Summit in Rio de Janeiro defined biological diversity as “the variability among living organisms from all sources, including, ‘inter alia’, terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems”. This is the definition adopted by the United Nations Convention on Biological Diversity¹.

1 <http://www.cbd.int/>

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- 2.3 Planning Policy Statement 9 (PPS 9) on Biodiversity and Geological Conservation, states that 'Local Development Frameworks should identify any areas or sites for the restoration or creation of new priority habitats which contribute to regional targets, and support this restoration or creation through appropriate policies'. This is reinforced by the Natural Environment and Rural Communities Act 2006, which places a responsibility upon every public authority to conserve biodiversity.
- 2.4 The London 2012 Sustainability Policy, approved by the Olympic Board in June 2006, made biodiversity one of the five themes of sustainability. This sets out the importance that London 2012 has placed on ensuring that biodiversity and the natural environment is protected and enhanced as a result of the Games.
- 2.5 The creation of a new park and natural habitat in East London was a key feature of London's bid to host the Olympic Games in 2012. This concept was brought out in the ODA Sustainable Development Strategy with a commitment to produce a Biodiversity Action Plan (BAP) for the park. This was also made a Planning Condition.
- 2.6 The Olympic, Paralympic & Legacy Transformation Planning Applications Design and Access Statement sets out the context from which the BAP was developed. It enshrines the concept, originating from the Candidature File, that the Games would see what was previously a relatively poor quality environment transformed into a biodiverse park that connects to surrounding green space including the Lower Lea Valley. This included the retention and enhancement of ecological corridors, both along and across the Valley and the concept of enhancing and using the waterways through the park to provide ecological connectivity from the Lea Valley to the Thames. This supports the move towards landscape level conservation, by enabling the movement of species through the ecological corridors.
- 2.7 The London 2012 Sustainability Plan² builds on the Sustainability Policy, with biodiversity as one of the five themes. The Plan sets out how London placed sustainability at the heart of its bid for the 2012 Games and confirms that this remains central to the vision for 2012.
- 2.8 The Olympic Park BAP³ was published in October 2008, setting out how the commitment to 45 hectares of new habitat would be delivered. This is covered in section 9.9.

2 <http://www.london2012.com/documents/locog-publications/london-2012-sustainability-plan.pdf>

3 <http://www.london2012.com/documents/oda-publications/olympic-park-biodiversity-action-plan.pdf>

London 2012 Commitments to biodiversity

Towards a One Planet Olympics – London 2012, BioRegional, WWF

- Remediation of land and creation of large new urban park
- Waterways rejuvenated to provide amenity and wildlife habitats
- Olympic Biodiversity Action Plan implemented
- Buildings and infrastructure designed to minimise ecological impact
- Landscaping, planting and building design to increase biodiversity
- Net gain of ecologically valuable green space
- Biodiversity an integral component of urban and park environment
- People have greater local access to nature
- Lea Valley 'green corridor' connected to River Thames

London 2012 Sustainability Policy

- We aim to enhance the ecology of the Lower Lea Valley and other London and regional 2012 venues, and to encourage the sport sector generally to contribute to nature conservation and enhancing the natural environment.

London 2012 Sustainability Plan – Biodiversity Theme

- London 2012 is committed to ensuring that the Games play their part by taking a responsible attitude to the management of natural resources, through direct enhancements to the valuable ecology of the Lower Lea Valley and London and regional 2012 venues, and by promoting the value of the natural environment and conservation throughout the UK and international sport sectors.
- The Olympic Park Masterplan has included environmental enhancement from the outset and will create 45 hectares of new habitat and 102 hectares of open space, in an area currently deprived of green space. The new habitats include wetland areas, open river banks and grassland and will provide an enhanced setting for biodiversity, as well as improving flood storage and conveyance within the Valley.
- Key areas for action on biodiversity are:
 - minimising and mitigating **the impact of construction activity** where possible on existing species and habitats in the run up to 2012;
 - developing **new and enhanced water and land habitats** within the Lower Lea Valley, from open water and wetlands to species-rich grasslands;
 - implementing the **Olympic Park Biodiversity Action Plan**;
 - protecting **sensitive habitats and species** at other competition sites, through development of venue environment management plans; and
 - promoting **awareness of the value of biodiversity** and its links to sport and healthy living.

Olympic Park Planning Conditions

■ OD.0.11

- Before 30 September 2008, the Biodiversity Action Plan, which shall be based on the Biodiversity Action Plan Framework submitted with the application, shall be submitted to the Local Planning Authority for approval. This shall clearly identify the areas of recognised wildlife habitat to be provided and the means by which these will be maintained.

■ Schedule 6. Protocol between the ODA and Local Planning Authority.

• Paragraph 1.2

At the same time as submitting the Biodiversity Action Plan to the Local Planning Authority submit details to the Local Planning Authority for approval of a mechanism for the ODA to:

- 1.2.1 Monitor the implementation of the Biodiversity Action Plan and measure the success of the measures set out therein and shall continue to do so throughout the Games Phase and the Legacy Transformation Phase.

- 1.2.2 Report the information referred to at paragraph 1.2.1 to the Local Planning Authority.

• Part B.

- 1. The LDA⁴ shall monitor the implementation of the Biodiversity Action Plan and measure the success of the measures set out therein for a period ending two years after the Legacy Transformation Phase or such longer period as agreed by the Local Planning Authority and the LDA.

- 2. Subject to securing Requisite Consents throughout the Legacy Phase, the LDA shall comply with and implement the actions set out in the approved Biodiversity Action Plan to the extent that the approved Biodiversity Action Plan contains obligations, covenants, restrictions and stipulations which are relevant to the Legacy Phase until such time that the Biodiversity Action Plan is replaced with an alternative plan approved by the Local Planning Authority relevant to the Legacy Communities Development.

Olympic Village Planning Conditions

■ Planning condition J1 states:

- “No development shall be commenced in any Zone until a programme of work and other measures (including where appropriate, the identification of receptor Sites), for the protection of any reptiles, breeding birds or any other protected species within that Zone have been submitted to and approved in writing by the Local Planning Authority. The development within the relevant Zone shall be carried out in accordance with the approved programme and so as to incorporate the approved measure”.

4 Where planning conditions refer to the LDA, these conditions will relate to the legacy client for the Olympic Park, currently the Olympic Park Legacy Company.

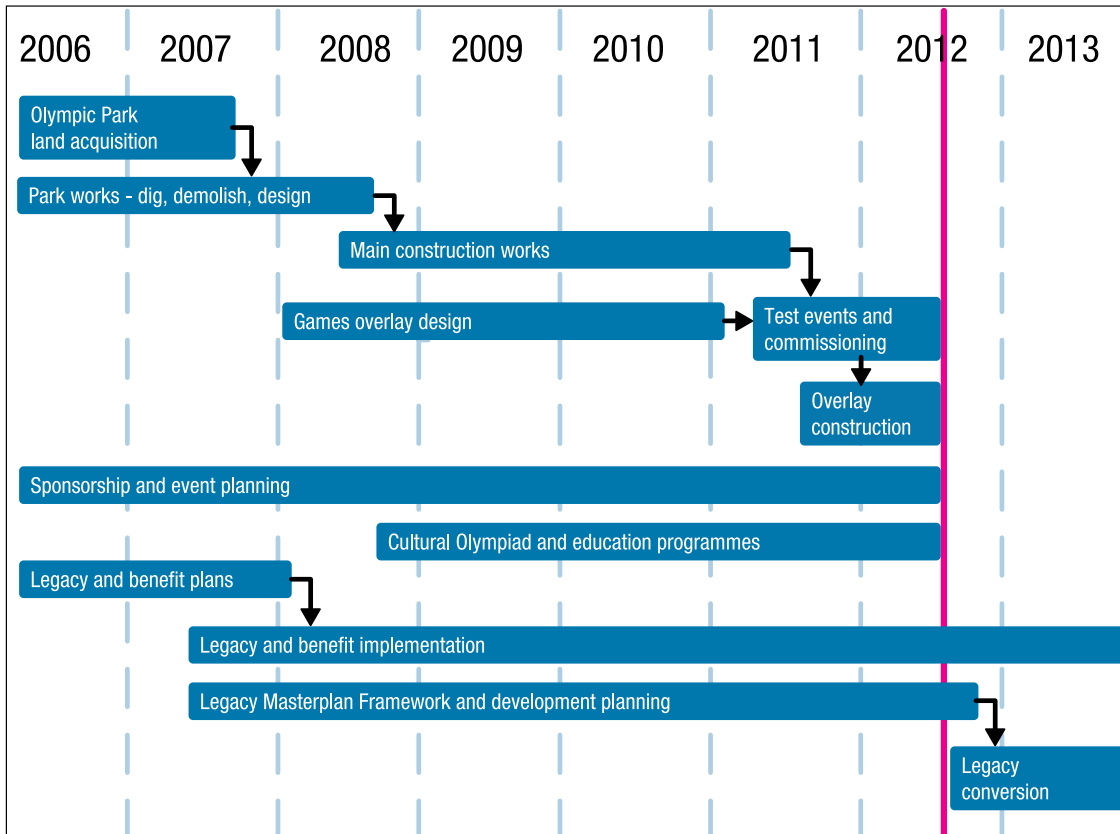
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- Schedule 2 to the Planning conditions (specification for the Environmental Sustainable Design Manual) includes:
 - “15. The Ecology and Nature Conservation Strategy, in the context of the proposed urban development, will set out objectives for habitat creation and for enhancement and conservation of the ecology at Stratford City and management methods for dealing with protected species. The Strategy will address matters requiring mitigation in the Environmental Statement and include provision for new habitat creation consistent with the Open Space Strategy, Ecological Parameter Plan (number 5) and the Specification for Ecological Areas as set out in Appendix 2 of the Revised Development Specification (January 2004).
 - 16. The Ecology and Nature Conservation Strategy will identify the information that will need to be presented as part of the Landscape Strategy within each Zonal Masterplan.
 - 17. The Ecology and Nature Conservation Strategy will set out a programme of surveys that will be required across the site as the development proceeds.
 - 18. Ecology and Nature Conservation Strategy will define the parameters for the long-term management of ecology at Stratford City for further definition in an Ecological Management Plan to be rolled out and implemented during occupation of development.
 - 19. Recognising the policy on Green Roofs within the London Plan, the Strategy will include proposals for a Green Roof Strategy for design, consistent with the overall ecological and commercial objectives of the development.”
 - As part of the Stratford City development, it is required that the feasibility and practicability of implementing extensive green roofs is determined for all buildings with flat or gently sloping roofs of at least 100m² total surface area that are accessible for maintenance purposes only (i.e. low disturbance environments). Unless assessment shows “extensive” greening of such roofs to be impracticable or unviable, then it is expected that they shall be implemented.

ODA Sustainable Development Strategy

- The design of permanent structures will have proper regard to the protection and enhancement of key species and habitats and ecology of the Lower Lea Valley, and to integrate with and support the objectives of the Olympic Park design and Olympic Park Biodiversity Action Plan.
- Site-specific ecological management plans will translate the Outline Biodiversity Action Plan into programme specific actions during the construction work.
- Enhancing the ecological value of the Park through the integration of habitat creation and landscape design.

3. Timeline

3.1.



From "Towards a One Planet 2012" the London 2012 Sustainability Plan

4. Structure of the review

- 4.1 For the purposes of this review, the Key Stakeholders are the Olympic Delivery Authority (ODA), the London Organising Committee for the Olympic Games and Paralympic Games (LOCOG), the Greater London Authority (GLA) Group, the Government Olympic Executive (GOE) and the Olympic Park Legacy Company (OPLC).
- 4.2 For previous areas in which the Commission has published reports, it was most effective to set out the report using a time based or Key Stakeholder based format. For this review and report we have based it around the different sites where there are biodiversity impacts and have covered other programme wide issues.

The Olympic Park

RAG Status: ODA **Green**
OPLC **Amber**

5. Introduction

5.1 The Olympic Park is an area of approximately 250 hectares (ha) in East London. It is being transformed from an area of relatively poor environmental quality into one of the largest new urban parks in Europe. As part of this, at least 45 ha of new ecologically managed wildlife habitat is to be created with the intention that it develop into a Site of Importance for Nature Conservation (SINC) of at least Borough Grade 1 status.

6. Key documents

■ External

- February 2010 ODA Biodiversity Action Plan Monitoring Report 2009
- December 2009 Olympic transformation – Olympic Parklands and Public Realm Design and Access Statement
- October 2008 Olympic Park Biodiversity Action Plan
- February 2007 Olympic, Paralympic & Legacy Transformation Planning Applications Design and Access Statement
- January 2007 ODA Sustainable Development Strategy
- June 2006 London 2012 Sustainability Policy

■ Internal

- September 2010 Draft Landscape maintenance, management and monitoring report
- February 2010 The Olympic Park – Towards a 10 year landscape management and maintenance plan
- October 2009 Landscape and Public Realm Ecological Management Plan
- Various ecological surveys and monitoring reports
- Implementation guidance for Project Teams – biodiversity and water
- February 2009 Olympic Park Water Management Plan (updated)
- December 2007 Olympic Park Ecological Management Plan
- Olympic Park Environmental information notes – nesting birds and retained habitat

7. Resources

7.1 The biodiversity of the Olympic Park has been managed through a combination of the ODA Environment and Sustainability Team, ODA Landscape and Public Realm Team, the ODA Delivery Partner and the contractors responsible for enabling works. Biodiversity-related measures are then delivered by multiple contractors as they include building integrated measures such as living roofs as well as the parkland habitats.

7.2 Future management of the Olympic Park, which will be critical in order that the new habitat is able to mature into a SINC of at least Borough Grade 1 status, will be managed through

the Olympic Park Legacy Company and the Lee Valley Regional Park Authority. This is intended to be managed through one or more estate and facilities management contracts.

8. Process

- 8.1 The ODA, through its Delivery Partner, has developed an integrated Environment and Sustainability Management System (ESMS), which has been externally audited and certified to the international standard for environmental management systems - ISO 14001.
- 8.2 The ODA has produced a sitewide Environmental Management Plan. Prior to contractors starting on site, the ODA reviews and approves their Environmental Management Plans to ensure they cover all the ODA's key sustainability performance indicators. These are used to ensure that, amongst other environmental issues, the biodiversity of the park is safeguarded and watercourses protected during construction. Specific projects, such as the landscape and public realm have Ecological Management Plans dealing with the ecological implications of their works. Other contractors integrate these into their Environmental Management Plans.
- 8.3 The Code of Construction Practice (CoCP) for the Olympic Park contains an objective that 'works will be carried out and working methods implemented to protect surface and groundwater from pollution and other adverse impacts including change to flow, volume, water levels and quality. This will be completed in accordance with relevant legislative requirements and appropriate industry guidance.'
- 8.4 The CoCP sets out a number of general provisions; provides overall guidance with respect to the protection of watercourses; details measures to control the risk of pollution to surface and groundwater; describes minimum requirements for dewatering and defines how flood risk will be managed. This is supported by the Olympic Park Water Management Plan.
- 8.5 It also sets out the basis for the ecological management during construction, which is built upon in the sitewide Environmental Management Plan.
- 8.6 The Water Management Plan forms part of the ODA Delivery Partner's ESMS and is one of several topical Environmental Management Plans appended to the sitewide Environmental Management Plan.
- 8.7 In accordance with the ODA Health Safety and Environment standard and ODA Delivery Partner ESMS, each Project is required to prepare a project-specific Environmental Management Plan to which a project-specific Water Management Plan should be appended. These project-specific plans should draw from and augment the sitewide plans.
- 8.8 The ODA has produced the Olympic Park Biodiversity Action Plan (BAP) to set out the ecological habitat that is to be created on the park as part of the wider Landscape and

Public Realm and the priority species that need to be taken into account. They have also developed Implementation Guidance for Project Teams to set out the main actions that each project needs to apply. These cover a range of environmental issues, including biodiversity and water. The implementation of this guidance is monitored by the ODA and Delivery Partner sustainability teams.

- 8.9 As part of the review, the Commission examined these documents and processes, along with the other documents listed in section 6. We also interviewed representatives from the ODA, their Delivery Partner and contractors responsible for enabling works and venue construction. A full list of people interviewed is available in Appendix 1. In addition, the Commission toured the Olympic Park site to see the habitats that were being created for Games-time, the safeguarding of existing habitats and examples of the pollution control measures that are in place.

9. Findings

Site preparation

- 9.1 Prior to development, the Olympic Park contained approximately 90 ha of open space, of which the Biodiversity Action Plan states that 42.47 ha was designated as Borough Sites of Importance for Nature Conservation (SINCs). However, much of the open space was fragmented, of relatively poor quality, had poor access, or was not publicly accessible. It was not necessarily linked into the open space in surrounding areas, including Hackney Marshes to the north and Victoria Park to the west. In addition, much of it did not meet the amenity and recreation requirements of local communities. Information about the SINCs in and around the site of the Olympic Park prior to development was set out in the Ecological Management Plan and associated drawings. It has not been possible to confirm the exact breakdown of the 42.47 ha by SINC (and associated habitats) and so we cannot confirm exactly how much of each SINC has been cleared and what proportion has been retained. However, the ODA has adopted an overall target to create, by 2014, at least 45 ha of new habitat that can mature into a SINC of at least Borough Grade 1 status. The habitats they will create as part of this will help replace some of the habitat lost as well as providing new habitats in keeping with the environment and supporting priority species identified in the BAP.
- 9.2 Whilst much of the open space was fragmented and of poor quality, the site did contain some elements of habitat that were of ecological value. There was extensive surveying of habitats and species on the site prior to work commencing and the Commission has seen evidence of this. They included reptile, newt, bat, fish and bird surveys following national guidelines. This built upon survey work done for the 2004 Planning Application for the site.
- 9.3 There was some translocation of species away from the Olympic Park prior to works starting, with approximately 4000 smooth newts and 330 common lizards being

translocated to appropriate habitats nearby. For example, the smooth newts were taken to new ponds created at Waterworks Nature Reserve close to the Olympic Park. It is not anticipated that species will be translocated back to the new habitat created on the park to prevent further disruption, but that the new habitat will be gradually colonised and potentially accept species translocated due to other developments in the region. Cuttings and seeds were collected from the Olympic Park prior to site preparation works and have been used to grow a proportion of the wetland plants now being planted out in the park.

- 9.4 Elements of habitat have been retained on the site and the ODA has taken a number of actions to safeguard these during site preparation and construction. This has been done through the use of a “permit to clear” process, with contractors needing to apply for these permits before any habitat on site can be cleared. Prior to submitting these forms the contractor’s ecologist surveys the site and identifies any possible mitigation. The forms are then sent to the enabling works team for approval. Whilst there have been a small number of clearances that occurred without permission having been sought prior to the clearance, this has been fewer than five cases in over 300 permits. The incidents have been relatively minor and have not significantly impacted the overall biodiversity of the site. Communication between the enabling works team and contractors has been enhanced to help prevent any further occurrences. During the construction phase various controls have been put in place to prevent accidental damage to retained habitats. These have included netting, chestnut pale fencing and solid timber fencing.
- 9.5 Control of invasive non-native plant species has been a challenge that the ODA has had to deal with on the Olympic Park throughout the site preparation and construction phases. These include Japanese knotweed, Himalayan balsam, giant hogweed and floating pennywort. The ODA have used methods approved by the Environment Agency, primarily using glyphosate. There have been some areas where these species have returned and this is likely to continue to happen where they spread along the waterways and railways as these form corridors for seed dispersal. Control is ongoing in these areas and will need to continue as any recolonisation occurs.
- 9.6 The watercourses within the Olympic Park still need to have control measures implemented to help ensure that they are cleared of the duckweed that is present. Outside of the Olympic Park area British Waterways are clearing duckweed off the surface of the water. Discussions are ongoing around how to clear the waterways of duckweed and who will undertake clearance work within the park. Dealing with this will be important not just from an ecological perspective but for aesthetic reasons at Games-time.



New habitat and problems with duckweed.

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- 9.7 When designing the new Olympic Park there was one potentially controversial decision taken to culvert a 200m long channel on the site (Channelsea River). Whilst culverting watercourses is generally contrary to current policy and damaging to biodiversity, and efforts are being taken to open up previously culverted rivers, this plan was discussed with the relevant bodies and it was agreed that in this case it was an appropriate decision to take. This was decided as it has enabled the ODA to open up a greater expanse of land in the north of the park, with an enhanced wetland environment, improved gradients and improved access to the river Lea. A sum of money was also set aside for mitigation off site. This has enabled the Environment Agency to add this to other funding sources to put together a proposed project that will open up a channel in a park on a tributary of the river Lea in Tottenham. As well as opening up a stretch of water, this scheme is also intended to improve biodiversity and the environment in a relatively deprived area. As of September 2010, the scheme was still to be confirmed.
- 9.8 The Olympic Park has also been designed to improve the flood management capacity of the area. The creation of the new wetland and wet woodland habitats will help in protecting the site from flooding, along with new culverts and river widening to increase conveyance of flood waters. In addition, more than 4,000 properties will benefit from a significantly reduced risk of flooding as a result of the park designs.



New wetland habitat being created and sustainably sourced timber cladding the Velodrome.

Biodiversity Action Plan

9.9 The ODA Sustainable Development Strategy sets out the commitments to biodiversity shown in the box below.

The plant species for the Park are planned to be largely native to England, appropriate to London and preferably of regional or local origin. Seed collections have been carried out on site to this end. Habitats may include existing native mature woodland, scrub, woodland edge habitats (including tall herbs), wetlands (including reed bed and wet woodlands) and various species-rich grasslands. One form of grassland proposed is stony meadows: low nutrient and species rich grassland established on reused demolition waste. Amenity grassland is planned to be in the form of species-rich lawns, so that even the most robust and well-used areas will contribute to the overall ecological value of the Park.

9.10 The Olympic, Paralympic & Legacy Transformation Planning Applications Design and Access Statement makes the following statements about the biodiversity of the Olympic Park. This not only sets out the intention to use predominantly native plant species but also how biodiversity is to be integrated into the wider landscape.

In order to increase the creation of new habitats and provide an environmentally sound, bio-diverse park, a palette of predominantly native plant species will be developed and drawn from.

Seamless integration of landscape design and ecological restoration will create a Park which functions both ecologically and recreationally, rather than having dedicated 'nature reserves'. It is the intention that the Park will become a 'learning landscape' and the ecology of the area will provide a major educational resource.

9.11 In October 2008 the ODA published the Olympic Park Biodiversity Action Plan (BAP)⁵, in accordance with Planning Condition OD.0.11. This follows on from the commitments above and sets out how at least 45 ha of ecologically designed and managed habitat will be provided and what these habitats will be. It provides a breakdown of habitats as follows:

5 <http://www.london2012.com/documents/oda-publications/olympic-park-biodiversity-action-plan.pdf>

Habitat	Area in hectares
Built Environment	0.40
Parks, squares and amenity spaces	1.67
Allotments	1.04
Brownfield Habitats	5.05
Species-rich grasslands	23.69
Trees and scrub	10.00
Wet woodland	0.90
Rivers	0.27
Reedbed	1.80
Ponds	0.18
TOTAL	45.00

- 9.12 These areas of habitats are indicative with a variance in area of up to 20 percent being allowed for the largest areas of habitat (species-rich grasslands, and trees and scrub) as the detailed designs for the park and its landscape and public realm evolved.
- 9.13 The BAP includes action plans for each of these habitats and for a series of key species. Each of these references the London BAP and local BAPs where they are in place.
- 9.14 The BAP was produced in consultation with statutory bodies, such as Natural England and the Environment Agency, and other appropriate groups, such as the London Wildlife Trust. During the course of this review, the Commission spoke with a number of people from these groups and beyond and found the overwhelming opinion of the BAP and the biodiversity-related work of the ODA on the Olympic Park to be positive.
- 9.15 The new habitat to be created in the park is essentially being delivered in two phases. 24.91 ha will be in place for Games-time, with the remainder of the habitat being delivered in the transformation phase. This is to allow for the greater levels of concourse and hard standing that will be required to accommodate the numbers of spectators using the park at Games-time compared to the level of use in legacy. When this extra temporary concourse is removed in transformation, new habitat areas will be developed and existing areas will be enhanced to complete the BAP commitments.
- 9.16 The December 2009 Olympic transformation - Olympic Parklands and Public Realm Design and Access Statement sets out how the BAP habitats will be delivered for the areas covered by the landscape and public realm. 37.21 ha of habitat will be delivered through the landscape and public realm, with the remainder of the habitat being delivered through further Planning Applications, particularly the area around the stadium site and the BMX track in the Velopark. It states that when all the habitat areas are included it is expected

that 49.5 ha of BAP habitats will be provided within the Olympic Park. The statement also details the habitats that are included within the boundary of the 2007 Planning Application, which amounts to 48.03 ha.

- 9.17 Provided that the remaining habitats do come forward in subsequent Planning Applications and that they are all delivered as outlined, the commitment to 45 ha of habitat that can mature into a SINC of at least Borough Grade 1 status will be delivered.
- 9.18 When just the 37.21 ha of habitat in the landscape and public realm are included, there are variances of more than 20 percent in the areas of the species-rich grasslands and trees and scrub habitats. However, once the intended additional habitat areas are incorporated any variance in individual habitats is within the 20 percent allowance, with the total area being over 45 ha as outlined in paragraph 9.16. There is an increase in species-rich grassland of 2.65 ha and of parks, squares and amenity spaces of 0.60 ha and a decrease in trees and scrub of 0.75 ha and in brownfield habitat of 0.78 ha. This is largely driven by the need to have multi-functional spaces that can provide amenity areas as well as natural habitats. The Commission would be very disappointed to see any further decreases in what might be considered the more natural habitats as it is these types of habitats that are particularly uncommon in the area surrounding the park.
- 9.19 Allotment provision has doubled from the original BAP target of 1.04 ha to 2.1 ha. We welcome the increase in provision as it now replaces the 1.8 ha of allotments on the site prior to construction. However, as we stated in our Food Review⁶, it does not make a major contribution to allotment or food growing capacity in legacy and we believe that there are opportunities for greater food growing on the Olympic Park in legacy. Allotments within the Olympic Park should be designed and managed with sustainability and biodiversity in mind.
- 9.20 The ODA has committed to placing 675 bird and bat boxes of different types on site to support the species identified in the BAP. At the time of writing this report (September 2010) locations have been approved for 650 of these, with the remainder to be identified within the landscape and public realm. The ODA are confident that this will be delivered, meeting the target in the BAP.
- 9.21 Monitoring of the implementation of the BAP has begun with the first report being submitted to the Planning Decisions Team in February 2010. The ODA are required to continue monitoring until they hand the park over to the legacy owner. The legacy owner is then required to monitor biodiversity for at least a further two years. To ensure that the habitats mature and develop effectively and that measures to support particular species are successful, monitoring will need to continue for a longer period than this and should be an ongoing part of the park management.
- 9.22 Plans for the operation of the park in the pre-Games period and at Games-time are currently being developed. At the time of writing this report (September 2010) it has been

6 http://www.cs london.org/downloads/2010_Food_Review.pdf

agreed that the ODA will manage the park but the exact nature of the role is still being determined. A draft Landscape maintenance, management and monitoring report has been produced. This sets out the work that will need to be done to manage the park during the pre-Games period, at Games-time and in the transition phase. The ODA and its Delivery Partner have been demobilising as the construction phase nears completion. Until the responsibilities and plans for these periods are finalised there remains a risk that there will not be clear responsibility for the management and supervision of biodiversity-related work, including the commissioning and management of monitoring, during these phases.

Transformation and legacy

- 9.23 The transformation of the park post-Games and then the development, management and maintenance of the park in legacy will be crucial in enabling habitats to develop and mature and eventually meet the criteria for being designated as SINC.
- 9.24 As outlined earlier, the ODA have a series of controls and procedures in place to safeguard biodiversity during the construction phase. These will need to be reviewed and potentially tightened and put in place during transformation to ensure that the habitats and species already in place are appropriately protected.

■ Recommendation 1

That the ODA review existing procedures and controls to ensure they are suitable for managing the habitats during Park Operations and Transformation. This needs to ensure that the habitats and species present on the park are safeguarded, protected and enhanced and that the biodiversity of the park is monitored during these phases.

- 9.25 It is important to note that different habitats will mature at different rates and that a range of different management techniques and skills will be required. It is possible that the achievement of SINC status may vary across the different habitats, with some reaching the required attributes sooner than others.
- 9.26 The ODA have produced a document “Towards a 10 Year Landscape Management and Maintenance Plan”. This sets out how the park could be managed in future to meet all its requirements and potential as a landscape and also for biodiversity. This can set the ODA’s plans for transformation but it is for the legacy owners of the site to determine how the site will be managed beyond this point. The plan is to be supplemented by the landscape maintenance, management and monitoring report, once agreed. This will set out further detail on how the park, including the BAP habitats, will need to be managed and maintained up until the Games and in the post-Games transformation phase until handover to the legacy owners.
- 9.27 The Olympic Park Legacy Company (OPLC) have indicated the intent to adopt the principles of the 10 year management plan and the Olympic Park BAP, subject to receiving any additional information on habitat management and maintenance, until such time as they

have produced their own plans that take these forward. They will be looking to procure an estates and facilities management contractor in late 2010. We are informed that this contract will include the management of the park, including the landscape and thus the biodiversity of the site. However, as this is still in development it is not currently possible to verify this. The level of resources available for the long term habitat management will be critical to ensuring that the BAP habitats are able to mature and achieve at least Borough Grade 1 SINC status.

- 9.28 As covered in paragraph 9.16 above, part of the BAP habitat will come from the stadium island. The OPLC are currently engaging with the market over the long term use of the stadium and any planning application that would cover the BAP habitats in the area will only come forward after this is completed.
- 9.29 The Protocol between the ODA and the Local Planning Authority requires the legacy owner to comply with and implement the actions set out in the BAP that are relevant to the legacy phase until the BAP is replaced with an alternative plan that is relevant to the legacy communities development and approved by the Local Planning Authority.
- 9.30 The majority of the natural habitats are in areas that will revert back to the ownership of the Lee Valley Regional Park Authority (large sections of the north of the park). Discussions are ongoing about whether the management of these areas will be incorporated into the overall park management, or be managed along with their other landholdings.
- 9.31 Balancing the uses of the park in legacy will be critical for ensuring that the biodiversity of the site is maintained and enhanced. The extent to which any natural environments in the park (particularly grasslands) are used for events and the associated disturbance from the number of people present will be important for their management. Events will form an important part of the activation of the park in legacy and the associated revenue generation will support the ongoing park management. It is intended that this will mainly be in the south part of the park and not the more natural north part of the park. However, some events may take place in parts of the grassland areas in the north. This would require careful management. If it is to occur, these areas will need to be planted with species that are resilient to this use and can cope with disturbance but still maintain the ecological value of the sites. This will be challenging although there is potential to learn from the Royal Parks on this as they have experience of hosting large events. The Commission understands that there has been dialogue between the ODA and several organisations, including the Royal Parks, during the development of the park and would support this dialogue continuing in legacy.

■ Recommendation 2

That the body or bodies responsible for the Olympic Park in legacy set out and implement clear plans for how the habitat will be maintained, managed and monitored to ensure that a minimum of 45 ha of SINC of at least Borough Grade 1 standard develops within the Olympic Park.

■ Recommendation 3

That the habitats that are developed in legacy are in line with the habitat commitments set out in the Olympic Park Biodiversity Action Plan, providing a mix of appropriate accessible, natural habitats.

- 9.32 The park and the ongoing development around it will present an opportunity to demonstrate how it can link into the surrounding natural environments and be managed at a landscape level. This could incorporate principles from the work of a number of bodies, including the work of Natural England on Ecosystems Services (covering Natural signature, Natural resilience, Natural health service and Natural connections), the Environment Agency's urban rivers and wetlands work and the Wildlife Trusts' work on Living Landscapes.
- 9.33 This would support the need to develop the park as a multifunctional environment that provides quality accessible natural environments that can serve a number of purposes.
- 9.34 Another area that will need to be factored into transformation and legacy management will be how the park is opened out and stitched into the surrounding environment and green spaces. The river system provides one way in which the natural environment connects with surrounding areas but it will be important to consider how the park can be linked into other surrounding green spaces.
- 9.35 If this is all delivered then the Olympic Park has the potential to be an excellent demonstration of how a new natural environment can be created alongside and as part of a new built environment in an urban area. This will provide examples of what is possible to be achieved in many other developments of all types and sizes.

ODA Off Park Venues

RAG Status: Green

10. Introduction

10.1 The ODA is also responsible for the construction of several venues that are not on the Olympic Park. These are:

- Lee Valley White Water Centre (previously referred to as Broxbourne White Water Canoe Centre)
- Weymouth and Portland Harbour (improving existing venue)
- Eton Dorney (improving existing venue)
- Royal Artillery Barracks (temporary venue)

10.2 The ODA has also taken over management of the delivery of the Athletes' Village.

11. Reference to key documents

■ External

- January 2007 ODA Sustainable Development Strategy

■ Internal

- 2008 Broxbourne White Water Centre Habitat Management Plan
- July 2008 Broxbourne White Water Canoe Centre Environmental Statement
- March 2008 Stratford City Development Condition J1 – Ecological programme of works
- March 2008 Stratford City Development Interim Ecology Report
- February 2008 Stratford City Ecology Report
- November 2007 Lee Valley Regional Park showground site protected species report
- September 2007 Stratford City Development Breeding Bird Survey
- August 2007 Temple Mills Site Stratford Ecological Method Statement
- May 2007 Frigoscandia Site, Stratford, Bat Survey
- December 2006 Stratford City sitewide ecology and nature conservation strategy

12. Resources

12.1 The biodiversity of ODA off park venues has been managed through a combination of the ODA Environment and Sustainability Team, the ODA Delivery Partner, venue owners and the contractors responsible for the relevant works.

12.2 Biodiversity at the Olympic Village is managed by Bovis Lend Lease, with the ODA Environment and Sustainability Team and the ODA Delivery Partner carrying out an oversight and assurance role.

13. Process

- 13.1 As with the Olympic Park, contractors are required to produce Environmental Management Plans that are approved by the ODA Delivery Partner before any work can commence on site. This includes the ecological impacts of the works.
- 13.2 With the Lee Valley White Water Centre, the initial site works were managed by the Lee Valley Regional Park Authority, with the ODA contractor taking control of a site that had been cleared and any protected species removed ready for construction. Ecological surveys were carried out and a habitat management plan developed as part of this.
- 13.3 The Athletes' Village was originally part of the wider Stratford City development and came under the management of the ODA part way through the development. It has developed its own construction management and pollution control processes, through an overall site management plan. From this perspective, the site benefits from being bounded by other construction sites, with only one section adjoining a river. A new wetland is to be developed in this location.
- 13.4 The initial surveying was done for the whole Stratford City site and the ecology strategy was prepared to cover all areas, including the site of the Village. Further surveying for bats and breeding birds was carried out prior to specific site works.
- 13.5 In addition to reviewing the documentation listed in section 11, the Commission met with representatives from the Olympic Village on the site. We also visited the White Water Canoe Centre to meet the main people involved and see the construction works, the safeguarding of pockets of existing habitat and examples of the control measures that are in place.
- 13.6 The Commission has previously visited the sailing venue at Weymouth and Portland, which we describe in our Annual Review⁷ as an excellent example of environmental, social, economic and sporting legacy.

14. Findings

- 14.1 The ODA have been applying the same principles of construction to their off park venues as to the Olympic Park, with contractors putting Environmental Management Plans in place and with survey work being carried out and acted upon.
- 14.2 There have been some differences due to the different ownership of the sites and where in some cases the ODA are enhancing existing venues, rather than building from scratch.

7 http://www.cslondon.org/downloads/CSL_Annual_Review_2009-full-digital.pdf

Lee Valley White Water Centre

- 14.3 With the Lee Valley White Water Centre (originally referred to as Broxbourne White Water Canoe Centre), the site was prepared for construction by the owner, the Lee Valley Regional Park Authority (LVRPA). They had the ecological surveys carried out and managed the site preparation and removal of any protected species and submitted the planning applications along with the ODA.
- 14.4 The ecological surveys were a little later in the year than would have been ideal, due to a late change of venue to the current site from one originally envisaged. However, whilst they were conducted in September and early October, the temperature was around 19 to 20 Celsius on many of the days so this, combined with historical data, should have enabled effective results to be gathered. During this surveying period, the reptile surveying only lead to one grass snake being recorded on one occasion. This was within the planning boundary but outside the development footprint.
- 14.5 The site was largely short mown amenity grassland and of minimal ecological value, with mostly trees and woodland immediately surrounding it and watercourse or roads beyond that. There is a net loss of 0.74 ha woodland, with 1.68 ha having been removed and 0.94 ha to be reinstated on the site. The net loss is to be compensated for by LVRPA extending existing woodland on an adjacent site into an area that is currently short mown amenity grassland. Potential bat roost sites identified through the surveying were protected. Whilst any loss of existing woodland is regrettable, the course was designed to seek to minimise this loss and also had to ensure that the development did not lead to increased flooding risk to any sensitive receptors. There will also be other new habitat created on the canoe centre site, with 3.1 ha of dry neutral grassland and 1.9 ha of wet grassland being created.
- 14.6 The pockets of retained habitat on site (mainly small areas of trees) are being protected from accidental damage or clearance by fencing them off. There is also a reptile fence around the site to prevent any reptiles from accessing it during construction and subsequently being harmed.
- 14.7 The LVRPA have been doing habitat enhancement works in the areas surrounding the site to improve the habitat for reptiles by the creation of hibernacula and breeding sites.
- 14.8 There are some potential issues with regard to the Games-time access to the canoe centre. These are covered in paragraphs 19.16 and 19.17.

Weymouth

- 14.9 At Weymouth the ODA were extending and enhancing an existing venue. This was carried out with respect to the marine environment. Biodiversity surveying was carried out in the area immediately around the academy and the construction carried out accordingly.
- 14.10 Issues with the Games-time use of Weymouth are covered in paragraphs 19.11 to 19.14.

General observations

14.11 As part of this review we have engaged with wider stakeholders regarding these venues, including Natural England's regional offices as they have an important role with respect to the management of sites in and around them. They have reported positively about the ODA's work on managing the ecological impacts of the construction works and how the ODA have engaged with them.

Olympic Village

14.12 The Olympic Village is being built on a site that was created from material won from the building of the Channel Tunnel Rail Link (CTRL) and the associated Stratford International Station. Its prior uses have included railway sidings and industrial land.

14.13 The surveying prior to construction indicated that the site was of low ecological value, with minimal biodiversity. The only designated SINC were in the area affected by the remainder of the Stratford City development, not the Olympic Village site. One location in the very north of the development site did contain a population of common lizards. These were translocated to Waterworks Nature Reserve, the same site where species from the Olympic Park were translocated to, as covered in paragraph 9.3.

14.14 A planning condition was placed on the site that no development should commence in a zone until a programme of work was in place to protect any reptiles, breeding birds or any other protected species. In response to this an ecological programme of works was prepared, with surveys identified and the basic methodology set out. This is being implemented.

14.15 During the CTRL works, Japanese knotweed was placed into sealed cells underground on the site. It was identified that these would be disturbed by piling works. To prevent any spreading or contamination of the site an Environment Agency approved method called Klaro was used to treat the material from the cells and return it to them in an inert state. Japanese knotweed has also been buried in sealed cells in another part of the site, following an approved method. These will not be disturbed by construction works. As with the park, there is the potential for invasive species to recolonise the site through seed dispersal. If this occurs, continued management will be needed to deal with them.

14.16 There is a commitment to build the village to level four of the Code for Sustainable Homes. As part of this they are aiming to gain all the available ecology credits. As of September 2010 the developer was confident that they would achieve this, on the basis that they had already put measures in place to achieve all but two of them. These outstanding credits related to the implementation of recommendations from Biodiversity by Design and the change in the ecological value of the site. These can only be assessed upon completion and were expected to be achieved.

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- 14.17 A new wetland environment is being created which will form part of an innovative water management system. Surface water run off and rainwater harvested from the development will flow into the wetland where it will be cleaned up by passage through a series of specially designed semi-natural habitats and used for irrigation of the other landscaping in the development. This has the potential to be an example for other developments of how the natural environment within a dense development can be utilised to support water management as well as providing a place of recreational and ecological value.
- 14.18 There is a planning condition on the village that all roof spaces in excess of 100m² surface area are assessed and if practicable are required to have extensive green roofs. In total approximately 40 percent of the roof space is expected to have a green or brown roof, which is an area of about 13,000m². These figures are subject to vary as designs are finalised. The roofs will vary in their typology and include a variety of 'analogues' (simplified approximations) of semi-natural habitats that are of conservation value in the wider Borough of Newham and/or Greater London generally.
- 14.19 In total 7.57 ha of green space will be created (excluding streetscapes), within an overall site of 32.47 ha. Over 60 tree species or varieties and approximately 150 ground flora species will be used. These are predominantly native species, particularly within the wetland habitat.
- 14.20 The habitat types within the Olympic village will include: species-rich wet grassland and marsh, wet woodland, open water, broad-leaved mixed woodland with a rich ground flora, species-rich dry grassland, biodiverse orchards, extensive flowering lawns and native species hedging.

LOCOG Venues

RAG Status: **Green**

15. Introduction

15.1 LOCOG, the London Organising Committee of the Olympic Games and Paralympic Games, is a private company responsible for the staging of the Games, for the provision of temporary venues and sites, for the temporary overlay at existing and new venues and for the live sites within venues. Overlay refers to all the additional temporary services, facilities and equipment required over and above a venue's existing services and facilities, for the staging of the Olympic and Paralympic Games.

15.2 LOCOG venues include:

- Entirely new temporary arenas in parks, such as in Greenwich Park
- Overlay at existing venues, such as Lords or Excel
- Overlay at ODA constructed venues, such as the Olympic Park and the White Water Canoe Centre
- Road based events, where there will be biodiversity implications for surrounding areas
- Supporting venues such as hotels, depots and warehouses

16. Reference to key documents

- External
 - December 2009 London 2012 Sustainability Plan
 - Various documents submitted for planning applications, including ecological surveys and sustainability statements
- Internal
 - September 2010 Venues and Infrastructure Sustainability Strategy
 - October 2009 Design and Construction Health, Safety and Sustainability Policy: Issue 3
 - October 2009 Temporary Venues and Overlay Sustainable Design Requirements V1.0
 - Ecological Surveys
 - Greenwich Park Phase 1 Ecological Mitigation Plan

17. Resources

17.1 The implications for biodiversity at Games venues are overseen by the LOCOG Sustainability Team. This includes two specialist Venues Sustainability Managers who are embedded within the Venues Team to assist with integrating sustainability into venue planning, design and operations.

17.2 Ecological surveying is contracted out to appropriately experienced ecological consultancies.

18. Process

- 18.1 Sustainability relating to venues is managed through a series of commitments and processes within LOCOG. Overarching sustainability aims are set out in the Venues and Infrastructure Sustainability Strategy:
- **Leave no trace:** Prevent permanent adverse impacts on the environment through design, and prevent environmental damage during installation and deconstruction
 - **Zero waste to landfill:** Reduce waste through design and good practice, and maximise reuse and recycling of materials
 - **Zero harm:** Operate projects free from accidents, ill health, injury and pollution incidents
 - **Leave positive legacy:** Support lasting environmental, social and economic benefit to business and communities
- 18.2 Leave no trace includes managing the biodiversity of sites, through safeguarding, reinstatement and enhancement of habitats.
- 18.3 The Venues and Infrastructure Sustainability Strategy sets out further detail on how these requirements are to be implemented and has supporting key performance indicators for each area.
- 18.4 This is supported by the 2009 Design and Construction Health, Safety and Sustainability Policy, which includes specific biodiversity requirements in an appendix on the management of construction phase environmental hazards and risks.
- 18.5 Each project will be required to have a Construction Environmental Management Plan, with LOCOG setting out a preferred format to help get consistency across projects.
- 18.6 The Temporary Venues and Overlay Sustainable Design Requirements have a series of requirements under the overall objective “Conserve the natural environment and biodiversity”. These each have supporting guidance and documents to assist design teams in implementing them.
- 18.7 LOCOG assesses the level of ecological investigation required for each venue based on the following:
- Planning requirements
 - Sensitive sites in the area
 - Stakeholder views
 - Ecological desk studies
 - Baseline surveying of sites
 - Full habitat surveys where potential ecological impacts are identified
- 18.8 The planning requirements have been used as a baseline for the level of ecological work, with additional surveying being done beyond that required if it has been deemed appropriate by LOCOG. Lords and Wimbledon are examples of this, where initial

assessments or stakeholder feedback have led to additional surveys being undertaken to ensure all potential issues have been identified.

- 18.9 The Sustainable Design Requirements also cover water conservation, pollution prevention and reduction and sustainable drainage.

19. Findings

- 19.1 LOCOG have submitted a series of planning applications during 2010, with these being accompanied by ecological surveys and/or statements where ecological implications have been identified. Where no significant ecological implications have been identified, ecology has been covered in the sustainability statement. This has mainly been the case with existing venues where LOCOG will be constructing overlay or doing primarily internal works.
- 19.2 In a number of cases LOCOG has had tight planning timescales to meet in order to seek the requisite approvals to enable their ongoing delivery timescales to be met. This has led to their planning consents often being accompanied by a series of conditions to be discharged prior to linked elements of the works commencing. For example, the planning consent for Greenwich Park includes a condition to produce an Ecological Management and Mitigation Plan. These conditions are then being discharged in phases by LOCOG as the documents are produced and any further surveying is undertaken.
- 19.3 Ideally these documents would all be prepared and submitted with the planning application in order for them to be assessed prior to decisions being taken. However, as long as the conditions are discharged and the requisite actions undertaken then the results will be achieved.
- 19.4 The earlier that ecological surveying can be started, the earlier it is possible to begin working on management and mitigation plans to ensure that all potential issues are addressed in them. However, where the surveying has been undertaken alongside the detailed venue design work, then it has allowed for both the surveying and the venues to be adapted as they are informed by the other.
- 19.5 LOCOG's method for determining the level of ecological investigation for each venue is set out in paragraph 18.7. This has so far been governed by ensuring the Venue Sustainability Managers set the appropriate level of ecological investigation rather than there being a formal process for this. This leaves a risk that should there be staff changes (as has just happened), or time pressures associated with any late changes to remaining venues (such as the non competition venues), or late changes within existing venues, there could be ecological impacts that are not fully identified or addressed. We would have preferred LOCOG to have adopted a more formal approach to give greater comfort that material biodiversity impacts have not been missed and to provide a legacy of knowledge. However, our review suggests that LOCOG have scoped out the key issues adequately.

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- 19.6 We have consulted with a number of stakeholders who are engaged with LOCOG at various levels over their biodiversity work. The feedback we have received has been broadly positive with the general feeling that where they have raised potential issues with LOCOG, these are being addressed in one way or another. Some stakeholders indicated that they would have preferred to have seen more information produced or surveying completed prior to planning applications being submitted. However, these concerns have been covered by conditions being applied to the applications, or further work that has been or is being undertaken.
- 19.7 As of September 2010, as this report was being written, work was still underway with carrying out surveying and determining the level of work needed for some venues. The Commission will continue to monitor this. This includes venues with important ecological considerations such as Hyde Park, St James's Park and Eton Dorney. There are also some road based events where the routes will pass through ecologically important areas, which are covered further in paragraph 19.18. We expect LOCOG to continue to manage this process and ensure that all relevant ecological information is collected and used to mitigate any impacts, that appropriate monitoring will be put in place and that any restoration needed will be undertaken.
- 19.8 The table in Appendix 2 provides a summary of LOCOG venues, their type, the level of investigation carried out and what the Commission has examined in conducting this review. This table represents a snapshot at the time of writing this report and will change as the programme moves forward.

Greenwich Park

- 19.9 The holding of the equestrian events in Greenwich Park is an area that has come under much public scrutiny for the ecological implications, along with other issues. The Commission has reviewed ecological surveys carried out by LOCOG's consultants, an outline method statement for habitat enhancement and the phase one Ecological Mitigation and Management plan for the park. As we note in paragraphs 19.2 and 19.3, the Mitigation and Management plan would ideally have been produced prior to the planning application being submitted. However, we are satisfied that LOCOG is carrying out an appropriate level of ecological investigation into the site. The mitigation and management plans being developed set out how they will enhance the acid grassland habitats in the park. They also set out plans for restoration of the acid grassland affected by the cross country course. It is essential that LOCOG continues to fully develop and implement these plans (including the habitat enhancement and post-Games habitat restoration) and that the restoration is sufficiently resourced to ensure that the ecological impacts on this sensitive venue are effectively managed.
- 19.10 Elements of the habitat restoration at Greenwich Park, and potentially at other venues, will take several years to be completed. The full extent of restoration needed may only become apparent sometime after the event has finished and restoration works have begun. As

LOCOG is a time-limited organisation and will not be present to oversee the completion of these works, alternative provision will need to be made. As of September 2010, as this report was being written, details of the logistics and legalities of setting up management powers and financial provisions were being developed to ensure that the restoration is carried out to meet planning conditions. It will be essential that sufficient resources are made available to ensure that this can be implemented.

■ Recommendation 4

That LOCOG makes clear how the process for post-Games restoration of sites will be assured and resourced following its dissolution.

Weymouth and Portland

19.11 The construction of new facilities at Weymouth by the ODA is covered in paragraph 14.9.

19.12 The sailing venue at Weymouth and Portland has a number of ecological implications. The marine environment where the course will be set up will need to be carefully managed, along with the coastal cliff top environment and other coastal land areas. The marine area is expected to become part of a new Marine Special Area of Conservation (Portland to Studland Reefs). LOCOG is liaising with Natural England and the Dorset Wildlife Trust on the ecological implications and is looking to work with them in designing the course



The sailing venue at Weymouth and Portland.

Jonathan Turner

to prevent any damage to sensitive reefs and eel grass habitats. The impact of all the competition, non-competition and spectator boats will also need to be managed and the Commission expects LOCOG to continue to address these issues.

- 19.13 The locations where people will gather to watch the events may have ecological impacts. LOCOG are liaising with local stakeholders to manage this and the Commission expects this to continue.
- 19.14 The potential impact of spectator litter, from either uncontrolled viewing areas on the coast or from boats is an important biodiversity issue in Weymouth as nearly all litter will eventually end up in the sea if not immediately picked up. This was covered in our Waste and Resource Management Review⁸ where we recommended that City Operations teams, both in London and other locations around the country, set objectives for waste management that are consistent with those adopted by London 2012 and that particular emphasis be made on ensuring non LOCOG-controlled external venues fully meet these standards. A 2012 Waste Management Group has recently been set up involving all relevant authorities. This is looking to resolve issues with regard to Games operations and delivery.

Hadleigh Farm

- 19.15 The mountain bike course at Hadleigh Farm is being managed and constructed by Essex County Council, who will run the site in legacy. They have obtained planning permission for the Games-time use of the venue but partly at the recommendation of Natural England there is a condition for a further full application to be submitted to cover all the detail that will be needed for a course to be in place in legacy. LOCOG have reviewed the Environmental Impact Assessment undertaken by Essex County Council and associated surveys and will need to take this and any recommended mitigation into account during overlay works and at Games-time.

Lee Valley White Water Centre

- 19.16 The Lee Valley White Water Centre will have an access route from Cheshunt station that will take spectators through part of the Lee Valley Regional Park that contains a SSSI (Turnford and Cheshunt Pits) and is also part of the Lee Valley Special Protection Area. This provides an opportunity for the spectators to enjoy a quality natural environment. It also means that there is a potential risk that there could be damage to this environment. LOCOG, the ODA Transport Team and the Lee Valley Regional Park Authority (LVRPA) will need to manage this risk and are looking at how they can ensure spectators keep to the main route through the park and not stray into more sensitive areas. This should be achievable with the use of stewards and the Commission expects appropriate measures to be put in place.

8 http://www.cs london.org/downloads/2010_Waste_Review.pdf

19.17 The LVRPA are also discussing plans with Natural England for natural play areas to be set up along this route. The initial works are scheduled for the current financial year with further phases being delivered over time.

Grey Space

19.18 The route from Cheshunt station to the Lee Valley White Water Centre and possible cliff top viewing locations at Weymouth are examples of what is termed 'grey space'. This refers to areas surrounding Games venues and race routes, such as for road based events. There are potential impacts in these areas from crowds of spectators moving to and from venues or courses and gathering to watch events. There are also likely to be impacts to be managed from the media gathering to broadcast and cover some events. Managing this will require effective liaison between LOCOG, landowners, local authorities and statutory authorities, as the responsibility for managing potential impacts and any restoration at each location is still being determined. LOCOG is aware of this issue and the Commission expects to see details of how this will be addressed.

GLA Venues

RAG Status: Amber

20. Introduction

20.1 The GLA are coordinating City Operations in London. This includes how the city will operate and function during the Games and, importantly for biodiversity, will include the provision of Live Sites where people will gather to watch the Games on big screens.

21. Key documents

■ None available

22. Resources

22.1 The GLA have established a small team to coordinate City Operations and are intending to use the expertise elsewhere in the GLA to supplement this as appropriate.

22.2 At the time of writing this report (September 2010) the biodiversity and sustainability expertise within the GLA had not been brought in to support this area.

23. Process

23.1 At the time of writing this report (September 2010) the way in which the sustainability implications of City Operations (including biodiversity) would be managed had not been determined.

24. Findings

24.1 At least two of the proposed Live Sites, Hyde Park and Victoria Park, may have implications for biodiversity. These will need to be fully investigated and appropriate surveys carried out to assess the ecological implications of the construction of event overlay and their operation as Live Sites during the Games.

24.2 To date no work has been commissioned to investigate the ecological implications of these Live Sites. Ecological survey work needs to be commissioned as soon as possible to ensure that sufficient information can be obtained to base mitigation and management plans on and to inform the venue design.

24.3 The parks do host events each summer, meaning that there is some experience and knowledge around their use as venues and the implications of this. However, their use as Live Sites throughout the Games is likely to involve greater use in terms of time and the numbers of people attending over that time.

24.4 Procurement is already underway for elements of City Operations, with a London Media Centre having been procured. The management and operation of Live Sites will be procured shortly and it is essential that all relevant ecological issues (and wider sustainability issues) are integrated into this procurement exercise to ensure that they are taken into account.

■ Recommendation 5

That as part of developing plans to address the sustainability implications of all elements of City Operations, the GLA set out and implement clear plans for how they will ensure the ecology of all Live Sites under their control is appropriately managed and monitored, with mitigation plans developed and implemented where necessary.

Water Management

RAG Status: ODA **Green**
 LOCOG **Green**

25. Introduction

25.1 This review has also included the way in which water is being managed across the Olympic Programme. This covers water management in construction and water as a resource, including water efficiency and the use of non-potable water.

26. Resources

26.1 The resources for this area are the same as those outlined in the individual venue sections.

27. Process

27.1 The processes dealing with this area are the same as those outlined in the individual venue sections.

28. Findings

28.1 The ODA and LOCOG are managing, or intend to manage, water-related issues in construction through site or project Environmental Management Plans, supplemented where appropriate with site or project water management plans.

28.2 The control of pollution to watercourses on the Olympic Park has been managed by the ODA and their Delivery Partner through the Code of Construction Practice, the Olympic Park Water Management Plan and tier one contractors' Environmental Management Plans. This has been an effective system and the Environment Agency, who regulate this area, have reported positively on the environmental management of the park.

28.3 LOCOG intend to address water management during construction through Venue Environmental Management Plans and venue management and operation plans. The Commission will continue to engage with LOCOG around this and other aspects of their venue design, construction and management processes as they develop and as construction gets underway.

28.4 The ODA committed to seek a reduction in potable water demand of 40 percent for permanent venues, landscape and public areas compared to current industry practice. They are seeking to achieve this through a combination of:

- water efficient design and fittings
- rainwater harvesting at the velodrome
- the use of pool backwash water in the aquatic centre
- a non-potable water network – including blackwater treatment

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- 28.5 At the time of writing this report (September 2010), a reduction in potable water demand of 30 percent has been secured through the first three measures and the landscape and public realm agreeing to use non potable water supplied from the blackwater treatment plant for irrigation.
- 28.6 This reduction could rise to up to 70 percent depending on whether two other significant water demands in legacy will use the water supplied from the blackwater treatment plant. This is dependent on tests on the quality of water arising once the plant is operational. The ODA are confident that the water will be suitable for these uses.
- 28.7 The Olympic Village is working to achieve a water use rate of 105 litres per person per day, the level specified at level four of the Code for Sustainable Homes.
- 28.8 As covered in paragraph 14.17, the Village is creating a new wetland environment that will also form part of a rainwater harvesting system. This will supply the water for irrigating much of the landscaping in the development. It is anticipated that during the establishment period of the new green spaces there will need to be some potable water used, supplemented by the non-potable water network as a connection is in place to this. Once the green spaces are established the water management system is expected to largely be sufficient, with some top up from boreholes and the non-potable water network when necessary, such as after an extended period of low rainfall.
- 28.9 The Lee Valley White Water Centre has recently been filled to test the course and in preparation for it being opened for use. This has been done using a combination of potable and non-potable borehole water. A total of 25,000 cubic metres of water has been used to fill the course with about 33 to 35 percent of this coming from a borehole and the remainder from potable water. It was not deemed possible to solely use the borehole as it was limited to a flow of five litres per second and required treatment for its iron levels. It was calculated that it would take about four or five months to fill it solely from the borehole. The borehole will be used for topping up the course once it is in use.
- 28.10 LOCOG have plans for water efficiency in their venues and this is covered in their Sustainable Design Requirements. They have recently produced a Venues and Infrastructure Sustainability Strategy and accompanying key performance indicators. This includes procuring water efficient commodities and creating and disseminating a baseline water consumption level for a summer Games, as there is not currently a baseline to compare performance against. The Commission will be looking for the detailed venue designs to confirm the measures that will be implemented and at the operational plans to see how performance will be managed at Games-time.

Biodiversity Projects and Communications

29. Findings

- 29.1. London 2012 will feature venues set in and around a variety of natural environments, from Royal Parks to SSSI in the Lea Valley and Essex, to the marine and coastal environment in Weymouth and the Olympic Park. This provides an excellent opportunity for showcasing these environments and engaging people with nature.
- 29.2. The planning for this showcasing needs to commence soon to ensure that opportunities are built into the venue and overlay design and the way that the people attending the events are to access the venues. There are a number of other organisations that could have a role in this, from local groups to national organisations, as well as the owners and managers of the venues or surrounding land.
- 29.3. LOCOG established a Biodiversity Group in the early stages of the programme. This contained representatives of local groups and some national organisations. The group formulated a range of potential projects to enhance the local environment around the Olympic Park and some wider projects. The London 2012 Sustainability Plan envisaged that this group would work with LOCOG to develop a biodiversity strategy for London 2012, as part of this project development. It was hoped that funding would become available for these projects from a number of sources but for the majority this did not materialise. Some of the local projects have now been pursued through the Changing Places programme covered in paragraph 29.7 and some of the organisations are still pursuing alternative funding sources for their projects.
- 29.4. In early 2010 the group changed its terms of reference to become an advisory group to LOCOG on biodiversity, including on the conservation of habitats and species at venues. This sits the group alongside LOCOG's other advisory groups on waste, materials, carbon, active travel and food. The group has not met since then and, given that LOCOG have been doing much of their work on venue based ecological issues during 2010, it has not fulfilled this role for these venues. As the venue work requires detailed knowledge of the venues and locations involved it is perhaps not surprising that the group has not been used to advise on this and LOCOG has sought specialist ecological advice from elsewhere. However, it is not apparent where the group's advice is to be used. One or two of the groups' representatives are likely to be involved in the group that is being set up for Greenwich Park as part of its planning conditions, where they have the appropriate skills and experience for that site.
- 29.5. At present LOCOG are not benefiting from the experience that this group has. The role in advising on venues does not seem to be appropriate and LOCOG has access to sufficient advice and expertise for this. It would seem that the most appropriate role for the group is to advise LOCOG on biodiversity communications and engaging spectators with the natural environment in the run up to the Games and at Games-time. If this is to be done, this role needs to be clearly communicated and mechanisms set up for the organisations involved to be effectively engaged.

■ Recommendation 6

That LOCOG makes better use of the Biodiversity Advisory Group, for example to promote biodiversity conservation associated with the Games.

- 29.6. The opportunities to communicate biodiversity messages related to London 2012 will also need to be factored into communications plans. This will need to consider how biodiversity can be built into a wider sustainability narrative, potentially using the Olympic Park as an example of how the ecology forms a part of the overall sustainability picture and links to other areas such as healthy living. Lessons from Vancouver indicate that, in order for messages about the sustainability of the Games, including biodiversity, to have a chance at being picked up by the mass media, they will need to be communicated in advance of the Games.
- 29.7. Projects to enhance the biodiversity of the local environment around the Olympic Park were envisaged to be part of the wider biodiversity aims of the Games. This started with the London 2012 Biodiversity Group as outlined in paragraph 29.3 and the principle of it has been taken forward through the London 2012 Changing Places programme. The management of this programme has been resourced with funding from Defra through Keep Britain Tidy, with project based funding coming from a range of sources.
- 29.8. Changing Places was launched in March 2009, initially around the Olympic Park but during 2010 has featured projects across London with also one in Portland, Dorset. Many projects have been based around cleaning up environments but some have also featured environmental enhancements, including enhancing biodiversity.
- 29.9. One of the ways in which Changing Places has been able to add value to existing projects is the higher profile that it has been able to give them through the link to London 2012. An example of this is a project with the Wandle Trust in South London, where an event that would normally attract 40-50 people had about 40 extra people attend, many of whom joined the Wandle Trust. This also supports the principle of getting more people engaged in volunteering. As of mid 2010 the project had already contributed over 3,000 volunteer hours.
- 29.10. The programme has brought together a number of partners to deliver the projects and has seen the creation of new partnerships. It is hoped that this will lead to more action continuing in legacy and assist the organisations involved in bidding for funding in the future. The project itself is currently funded through to March 2011, with discussions continuing about any further funding.
- 29.11. This has proved to be a successful project so far and the Commission hopes that it can continue through to Games-time and that a means can also be found for it to continue in legacy.

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- 29.12. The London 2012 Inspire programme enables non-commercial organisations across the UK to officially link their events and projects to the London 2012 Games. One strand of the Inspire programme is sustainability and this has included some biodiversity-related projects, including Trees for the Hosts (led by the London Wildlife Trust) and Running Rings - 5 new Olympic style Ring Routes – woodland trails and tracks for green exercise, where people can amble, walk or run and plant trees with communities and schools in Merseyside and North Cheshire (led by Community Forests North West)
- 29.13. Along with Changing Places, the Inspire Mark is another way in which projects have been able to link to the Games and gain a higher profile as a result and LOCOG is to be commended for making this happen.
- 29.14. The Cultural Olympiad is also an opportunity to communicate biodiversity messages as part of wider projects. There are nine major projects in the Cultural Olympiad and a couple of them have biodiversity connections.
- 29.15. One example is Discovering Places, launched in July 2010, as part of the Two Years To Go celebrations alongside the London 2012 Open Weekend. Part of this project is looking to engage people with the natural environment, particularly where they would not normally have been interested in doing so. Many of the locations featured in the London 2012 Open weekend were natural environments across the UK. It is not clear how this programme will be taken forward. Engaging people with their local natural environments can increase awareness of their value, including for biodiversity.
- 29.16. The other Cultural Olympiad major project with biodiversity connections is 'Artists Taking the Lead' where some of the initiatives have biodiversity links. Examples are a watermill on the River Tyne which will link water quality with interactive arts and 'Forest Pitch', a football pitch in a forest in Scotland where all the materials being used are coming from the forest and the pitch will return to forest after the event.
- 29.17. There are also other projects around the UK that could form part of a biodiversity communications strand. Examples of these are projects in and around Weymouth and Portland including Wild about Weymouth and Portland (a green infrastructure, communities and access project) and C-scope (the marine spatial planning pilot project). In the East Midlands the Breath of Fresh Air regional Cultural Olympiad project uses cultural activities to raise issues of environmental sustainability, health and well-being through the establishment of a series of cultural activities on the region's green spaces, nature reserves, allotments, country parks, heritage sites and woodlands. In the South West, one intention of the QUEST programme is to help people engage with their natural environment. The torch relay also provides a similar opportunity to engage people with their local natural environments and highlight the value of local biodiversity.
- 29.18. One potential project will link ecology with history by connecting the Olympic Park to the town of Much Wenlock. Baron Pierre de Coubertin visited the Much Wenlock Games and

these provided the inspiration for his proposal to establish the modern Olympic Games. In 1890, whilst in Much Wenlock he planted an oak tree. During the London 2012 bid local school children collected and successfully germinated acorns from this tree, which are now being grown into saplings by Kew Gardens. It is intended that these will be planted in schools or community sites in a line from Much Wenlock to the Olympic Park in the run up to the Games. This will give the potential to tell a story of biodiversity, sustainability, climate change adaptation and ecosystems services, linked to the Games and its history.

29.19. London 2012 are integrating biodiversity into their education-based work. Get Set, the London 2012 education programme has a sustainability and regeneration section. This includes the Pod⁹, a website developed by EDF Energy to teach children how to live more sustainably. The Pod includes an area dedicated to biodiversity, alongside other resources. This features learning resources inspired by the Olympic Park as well as resources developed in association with Natural England's Big Wildlife Garden and the Eco Schools programme.

29.20. One of the aims in the London 2012 Sustainability Policy was 'to encourage the sport sector generally to contribute to nature conservation and enhancing the natural environment'. Working out how this can be done has proved a challenging concept. The Olympic Park provides an example of how the natural environment and sporting venues can sit together with some features interlinking. This could be communicated to other areas. Examples could include how sports pitches, training grounds and informal sport areas can link into sustainable drainage systems and how they can incorporate vegetation and planting that contributes to biodiversity. This would enable the owners and sports governing bodies to consider and take measures to improve the ecological impacts of their activities.

9 <http://www.jointhepod.org/default>

Procurement

30. Introduction

- 30.1 As part of this review the Commission has examined the plans and actions so far relating to the procurement of some key products that have specific biodiversity implications.
- 30.2 We have already reviewed the procurement processes of the ODA¹⁰ and LOCOG¹¹ so this review has focussed on the specific products themselves.
- 30.3 These products are timber, flowers, quarried products (specifically the metals for the medals) and peat.

31. Reference to key documents

■ External

- December 2009 LOCOG Sustainable Sourcing Code 2nd Edition
- December 2009 London 2012 Sustainability Plan

32. Findings

- 32.1 The ODA have committed to using 100 percent sustainably sourced timber – using timber certified by either the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC). To manage this they established a timber panel of approved suppliers to control the supply of all timber for construction on the Olympic Park. All tier one contractors are using the panel to source their timber. This has even led to the Velodrome securing sustainability sourced Siberian Pine for the track.
- 32.2 The timber arriving on site is then subject to a range of controls and assurance processes to ensure that it is certified and has appropriate audit trails. This is done through a combination of assurance by the ODA Delivery Partner, independent verification funded by Defra and controls put in place by the tier one contractors.
- 32.3 Ensuring that the timber is all certified as sustainable has been a fairly resource intensive process. However, it has been successful in ensuring that a small number of deliveries of unverified timber have been identified and action taken.
- 32.4 The ODA are to be applauded for putting all these measures in place to ensure that the timber being used in construction is coming from certified sustainable sources. The mechanisms for achieving this are to be part of the learning legacy being developed by the ODA and will provide the opportunity for other developments to follow them.
- 32.5 The Olympic Village has required the use of FSC certified timber, with the only exceptions being where reclaimed timber is being used. They have had processes in place to manage

¹⁰ http://www.cs london.org/downloads/2009_ODA_Procurement_Review.pdf

¹¹ http://www.cs london.org/downloads/2010_LOCOG_Procurement_Review.pdf.



Sustainably sourced timber for use on the Olympic Park.

and assure the timber used on site and are currently seeking to obtain project certification for the vertical build phase of the project.

32.6 LOCOG's timber supply chain is more complex and much of it relates to furniture and finished products rather than timber for construction. However, as a private company LOCOG is able to specify named product standards. In their Sustainable Sourcing Code LOCOG have committed to using FSC certified timber except 'where it can be justifiably demonstrated that it is not possible to supply items from FSC certified sources then timber and timber products which are able to be verified with appropriate documentation in respect to their origin and legality are acceptable'. This is then reinforced through their Sustainable Design Requirements for Temporary Venues and Overlay. In cases where this documentation is complex, LOCOG have access to the Central Point of Expertise on Timber Procurement¹² for advice. This route is unlikely as most contractors will supply FSC and if not PEFC. Timber and timber derived products are identified during the kick off stages of procurement and monitored throughout the tendering process.

12 <http://www.cpet.org.uk/>

32.7 LOCOG has identified that its main challenge will be to develop an adequate system to check receipt of timber goods across the numerous delivery points at Games-venues and logistics depots. As the timber assurance processes put in place by the ODA demonstrate, this could potentially be resource intensive. This will be addressed as part of LOCOG's contract management processes.

■ Recommendation 7

That LOCOG contract management processes include effective assurance at point of delivery to ensure that all timber and timber products adhere to their sustainable sourcing requirements.

32.8 During the course of this review we have discussed the sourcing of flowers and the sourcing of precious metals for the medals with LOCOG. Due to current sensitive procurement processes we are unable to report extensively on this subject area at present. LOCOG applies the Sustainable Sourcing to its procurements and this will apply to these two categories.

32.9 The London 2012 Sustainability Plan states that “biodiversity measures may include home-grown and native plants and flowers to be used for landscaping and ceremonies”.

32.10 We understand that LOCOG are currently researching the most sustainable way to source flowers, including biodiversity considerations, whilst meeting branding and IOC requirements. They have had discussions with industry experts such as the Royal Horticultural Society on how this could be achieved. The Commission has been in discussion with LOCOG about the sourcing of flowers and expects them to take all relevant sustainability issues into account (including biodiversity) when sourcing them.

32.11 Another important factor that LOCOG are investigating is the sourcing of flowers with a long enough life that they will not require refrigeration at venues, as this can be a significant energy demand.

32.12 IOC specifications require gold medals to contain at least 6 grams of gold and be at least 92.5 percent silver. For the 2000 Olympics in Sydney, 10.5 kg of gold and 1050 kg silver were required¹³. For the 2008 Beijing Olympics 13.4 kg of gold and 1340 kg silver were required¹⁴. The sourcing of gold and silver can have significant environmental implications if they are not responsibly sourced.

32.13 LOCOG recognises the potential for sustainably sourced flowers and medals to be high profile symbols of sustainability at Games-time. It is therefore important for LOCOG to ensure these procurements do meet particularly high sustainability standards.

¹³ <http://www.minerals.org.au/olympics/medals/>

¹⁴ <http://en.beijing2008.cn/bocog/bocognews/headlines/n214233095.shtml>

■ Recommendation 8

That LOCOG demonstrate how they will ensure that the flowers and medals can be used as symbols of sustainability at Games-time.

32.14 We have discussed the use of peat and are assured by the ODA and LVRPA that it is not being used for planting on the Olympic Park, Olympic Village or at the Lee Valley White Water Centre, which are the main places where new planting is occurring.

32.15 This review has not covered the sustainable sourcing of fish for catering, which is an important biodiversity issue, as this was covered as part of our food review¹⁵.

15 http://www.cslondon.org/downloads/2010_Food_Review.pdf

Appendix 1 – Method

1. Methodology of review

The review was led by Jonathan Turner of the Commission for a Sustainable London 2012, with support from Emily Brennan as the lead Commissioner for biodiversity. The fieldwork was carried out during the period from June to August 2010.

Interviews

We carried out a series of interviews with staff involved in biodiversity across the London 2012 programme and with a range of relevant stakeholders.

These interviews covered:

- The programmes in place
- The systems designed to deliver them
- Outcomes to date
- Delivery challenges
- The sustainability of outcomes

We met or had telephone interviews with the following people:

Organisation	People
Atkins	Kim Olliver
	Saphina Sharif
Bam Nuttall	Leanne Laughton
Bovis Lendlease	Andrew Kinsey
	Craig Becconsall
British Waterways	Andy Nicholls
	Leela O’Dea
Environment Agency	Rob McCarthy
Forestry Commission	Ron Melville
GLA	Peter Massini
LDA Design	David Thompson
	Peter Shepherd
LOCOG	Amanda Aukett
	Amanda Kiely
	Clare LeBrecht
	David Stubbs
	Julie Duffus
	Matt Watts
London Borough of Newham	Kate Mitchell
LVRPA	Cath Patrick
	Rob Cairns
Morrison	Robin Jones

Natural England	Dee Stephens
	Dominic Coath
	Gordon Wyatt
	Jacqui Stearn
	Patricia Crosby
	Rachel Waldock
	Tom Butterworth
ODA	John Hopkins
	Richard Jackson
	Stephanie Applegate
	Stuart Wilson
ODA Delivery Partner	Claire Holder
	Tim Wright
OPLC	Chris Lee
	Michael McDonnell
Royal Parks	Nigel Reeve
	Samantha Wilkinson
WWF	Simon Lewis

2. Documents reviewed

The documents reviewed are listed in the relevant sections of the report.

3. RAG Status definitions

The following criteria were used to assign a RAG status to each area:

Red

Significant concerns about performance and little evidence of recovery plan.

Significant threats exist which may impact successful achievement of the Sustainable Development objectives and projected targets for the issue if not addressed in the short term.

Amber

Evidence not currently available in response to recommendation or some significant concerns about performance but evidence that they are being addressed is available.

Threats exist which may impact successful achievement of the Sustainable Development objectives and projected targets for the issue if not addressed in the medium term.

Green

No significant threats to achievement of the target performance for the issue were identified.

Appendix 2 – LOCOG venue summary

Venue	Venue type	Level of investigation	Commission review
Greenwich Park	New temporary	Full ecological surveying, EIA, habitat restoration plans	Viewed surveys and mitigation plans
Horseguard's Parade	New temporary	Being determined	Not viewed
Hyde Park	New temporary	Being determined	Not viewed
Lords	Overlay at existing venue	Phase 1 survey carried out (even though not required for planning)	Viewed survey
Excel Centre	Overlay at existing venue	No formal assessment as existing venue	No survey data to review
Earls Court	Overlay at existing venue	No formal assessment as existing venue	No survey data to review
North Greenwich Arena	Overlay at existing venue	No formal assessment as existing venue	No survey data to review
Wembley Arena	Overlay at existing venue	No formal assessment as existing venue	No survey data to review
Football Stadia	Overlay at existing venue	No formal assessment as existing venues	No survey data to review
Hadleigh Farm (managed by Essex County Council)	New permanent (with initial application for Games-time)	EIA, ecological surveys	Viewed Planning documentation
Lee Valley White Water Centre	Overlay at ODA constructed venue	Reviewing ODA/ LVRPA plans	Reviewed ODA/LVRPA surveys and habitat management plans
Weymouth	Overlay at ODA enhanced venue	Reviewing ODA plans and liaison with Natural England	Liaison with Natural England
Eton Dorney	Overlay at ODA enhanced venue	Surveys carried out for ODA construction. LOCOG commissioned surveys.	Not viewed yet
Wimbledon	Overlay at existing venue	Phase 1 survey to be carried out (even though not required for planning)	Not viewed yet
Non – competition Venues	Existing	Desk study and basic assessment of venue	No survey data to review

Appendix 3 – Status of recommendations from previous reviews relating to biodiversity

2007 Annual Review:

No.	Responsibility	Recommendation	Status
3.15	ODA LDA	As part of the Legacy Masterplan Framework, clarify what resources will be available and which agency will be responsible for managing the implementation of the biodiversity strategy after Games-time, when the restoration of much of the ecology of the park will occur.	<p>The ODA will complete the transformation works to the park during 2013 and then hand it over to the OPLC and LVRPA to manage. The ODA have produced a document “Towards a 10 year management plan” which sets out how the site can be managed, including the ecological elements of the park. This is also due to be supplemented by additional information relating to managing the BAP habitats. The OPLC will be looking to procure an estates and facilities management contractor in late 2010. We are informed that this contract will include the management of the park, including the landscape and thus the biodiversity of the site. However, as this is still in development it is not currently possible to verify this. The level of resources available for the long term habitat management will be critical to ensuring that the BAP habitats are able to mature and achieve the appropriate SINC status.</p> <p>Closed (recommendations from this review take precedence)</p>

No.	Responsibility	Recommendation	Status
3.16	ODA LOCOG	Develop clear plans for how habitat is to be restored after construction on all sites.	<p>The Olympic Park habitat will be restored in line with the Biodiversity Action Plan, which was given planning consent in 2009. This plan sets out the goals and targets for both habitat protection and enhancement post Games (to 2014). It also sets out what needs to happen to provide 45 ha of habitat that can mature into a SINC of at least Borough Grade 1 status. The Transformation Planning Application shows how the majority of this habitat will be provided, with the remainder dependant on a further application covering other areas such as the stadium island, which will come forward when the stadium use is clearer.</p> <p>The ODA have produced a document "Towards a 10 year management plan" which sets out how the site can be managed, including the ecological elements of the park. The OPLC will be looking to procure an estates and facilities management contractor in late 2010. We are informed that this contract will include the management of the park, including the landscape and thus the biodiversity of the site. However, as this is still in development it is not currently possible to verify this. The level of resources available for the long term habitat management will be critical to ensuring that the BAP habitats are able to mature and achieve the appropriate SINC status.</p> <p>LOCOG plans are developing in this area with a commitment to "leave no trace" at its venue</p>

			<p>locations. Ecological surveys are being done at venues with potential ecological impacts to manage these and develop mitigation plans. Mitigation and management plans being developed for Greenwich Park set out how they will enhance the acid grassland habitats in the park. They also set out plans for restoration of the acid grassland affected by the cross country course. It is essential that LOCOG continue to fully develop and implement these plans (including the habitat enhancement and post-Games habitat restoration) and the restoration sufficiently resourced to ensure that the ecological impacts on this sensitive venue are effectively managed.</p> <p>Closed (recommendations from this review take precedence)</p>
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No.	Responsibility	Recommendation	Status
3.17	ODA LOCOG	Set out how biodiversity is incorporated into the design process for venues and other development.	<p>The ODA has developed biodiversity Implementation Guidance for Project Teams (IGPT). The aim of this is to provide guidance for incorporating biodiversity, including the relevant parts of the Biodiversity Action Plan into the design process.</p> <p>LOCOG's Venues and Infrastructure Sustainability Strategy and Sustainable Design Requirements for Temporary Venues and Overlay include biodiversity requirements. We have seen evidence of ecological surveying being carried out for venues with potential ecological impacts. As LOCOG's venues are temporary there is not the opportunity for the installation of permanent biodiversity features in the same way as on the Olympic Park</p> <p>Complete.</p>
3.18	LOCOG	Produce plans for habitat and species management at other venues as part of the VEMP process.	<p>Sites are surveyed where appropriate, ranging from ecological walkovers to full detailed surveys depending on the nature of the location. This is determined in conjunction with the local Planning department, consultation with relevant bodies and by the determination of the likely impacts of the venue.</p> <p>LOCOG will produce Venue Environment Plans which will either be adopted by the venue operators or incorporated into their Venue Operating Plans, which will include environmental components, including ecological impacts where relevant.</p> <p>Progress Made</p>

Design Review:

No.	Responsibility	Recommendation	Status
17	LDA	That long term management of the Olympic Park is resolved as soon as possible so that Park and Public Realm plans will be appropriate for legacy and will require a minimum amount of transformation.	<p>The ODA have produced a document "Towards a 10 year management plan" which sets out how the site can be managed, including the ecological elements of the park. The OPLC will be looking to procure an estates and facilities management contractor in late 2010. We are informed that this contract will include the management of the park, including the landscape and thus the biodiversity of the site. However, as this is still in development it is not currently possible to verify this. The level of resources available for the long term habitat management will be critical to ensuring that the BAP habitats are able to mature and achieve the appropriate SINC status.</p> <p>Work will be required in transformation to change habitats from Games-time habitats and concourse to legacy habitats that will meet the requirements of the BAP.</p> <p>Closed (recommendations from this review take precedence)</p>



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