

# **WARWICKSHIRE, COVENTRY & SOLIHULL**

## **SUB-REGIONAL GREEN INFRASTRUCTURE STRATEGY**

### **ANNEXE A:**

#### **LOCAL BIODIVERSITY OFFSETTING STRATEGY**

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## ANNEXE A: LOCAL BIODIVERSITY OFFSETTING STRATEGY

### Introduction and Policy Context

The Business and Biodiversity Offsets Programme<sup>1</sup> defines biodiversity offsets as:

*“measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate prevention and mitigation measures have been implemented”.*

The rationale for the use of biodiversity offsetting as a means of enacting conservation is set out within recent publications such as Sir John Lawton’s review of England’s wildlife sites and ecological network, *Making Space for Nature*<sup>2</sup> and in the Natural Environment White Paper<sup>3</sup>.

In the Natural Environment White Paper, Defra announced that it would establish a new voluntary approach to offsetting and would test this in a number of pilot areas. In association with Natural England, Defra has produced accompanying introductory and technical documents to assist pilots in their delivery of Biodiversity Offsetting<sup>4</sup>.

Biodiversity Offsetting is considered as a mechanism to enact National Planning Policy Framework (2012) sustainable development principles involving *“seeking positive improvements in the quality of the built, natural and historic environment, as well as in people’s quality of life, including (but not limited to):*

- *making it easier for jobs to be created in cities, towns and villages;*
- *moving from a net loss of bio-diversity to achieving net gains for nature;*<sup>5</sup>
- *replacing poor design with better design;*
- *improving the conditions in which people live, work, travel and take leisure; and*
- *widening the choice of high quality homes.”*

This net gain approach is being promoted in all the sub-regional local development documents and this Annexe describes the sub-regional approach to achieve theses and NPPF’s principles for plan-making.

*“Local planning authorities should seek opportunities to achieve each of the economic, social and environmental dimensions of sustainable development, and net gains across all three. Significant adverse impacts on any of these dimensions should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where adverse impacts are unavoidable, measures to mitigate the impact should be considered. Where adequate mitigation measures are not possible, compensatory measures may be appropriate.”* (NPPF, 2012, paragraph 152)

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1 The Business and Biodiversity Offsets Program (BBOP) is a partnership between companies, governments and conservation experts to explore biodiversity offsets. <http://bbop.forest-trends.org/>

2 Making Space for Nature, John Lawton, 2010

3 <http://www.official-documents.gov.uk/document/cm80/8082/8082.asp>

4 <http://www.defra.gov.uk/environment/natural/biodiversity/uk/offsetting/>

5 Natural Environment White Paper, *The Natural Choice: Securing the Value of Nature*, 2011.

### **Warwickshire, Coventry and Solihull's Involvement in the Defra Pilot Scheme**

The Warwickshire, Coventry and Solihull sub-region has been selected as one of the six pilot areas nationally to trial biodiversity offsetting. The biodiversity offsetting pilots will run for two years from 1<sup>st</sup> April 2012. Developers in pilot areas required to provide compensation for biodiversity loss under planning policy can choose to do so through biodiversity offsetting, once the mitigation hierarchy has been applied and compensation is seen as the only option available:

Mitigation hierarchy:

1. Impacts are avoided.
2. If impacts are unavoidable, impacts are mitigated against.
3. If mitigation is not possible, impacts are compensated for as a last resort (e.g. through biodiversity offsetting).

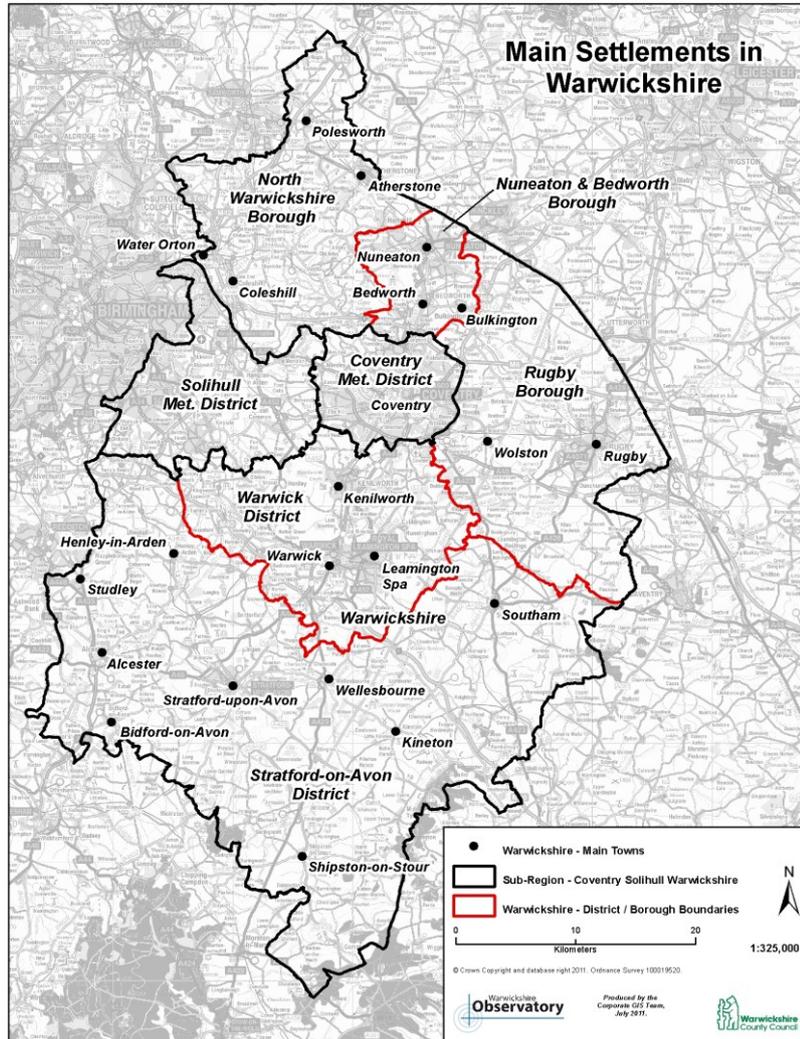
This hierarchy being supported within the NPPF (2011) through the statement that “*The planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*”.

Biodiversity offsetting will primarily be delivered through legal agreements.

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### Warwickshire, Coventry and Solihull Pilot Area

The Warwickshire, Coventry and Solihull sub-region involved in the pilot is shown within the map below:



The Local authorities participating in the pilot are listed in Table 1 below. This therefore covers all planning applications received across the sub-region.

Table 1: Local Authorities Participating in Biodiversity Offsetting Pilot

<i>Local Authorities Participating in Biodiversity Offsetting Pilot</i>
Warwickshire County Council
Warwick District Council
Stratford District Council
North Warwickshire Borough Council
Nuneaton and Bedworth Borough Council
Rugby Borough Council
Coventry City Council
Solihull Metropolitan Borough Council

### How Biodiversity Offsetting Works – a Local Strategy

Using the biodiversity offsetting approach means that a standardised formula is used to calculate the **Biodiversity Impact** of a development, based on the condition and extent of habitat affected. If the development results in a negative impact then an **offset** is required. This offset is required to deliver an equivalent number of biodiversity units on land outside of the applicant's ownership – either by creating new habitat or by restoring existing, degraded habitat.

This Biodiversity Offsetting Annexe to the Green Infrastructure Strategy sets out how biodiversity offsetting will be implemented in Warwickshire, Coventry and Solihull. It may be updated should any improvements be identified during the course of the pilot, and it should be read in conjunction with national guidance produced by Defra:

- Guidance for Developers<sup>6</sup>
- Guidance for Offset Providers<sup>7</sup>
- Guidance for Developer and Guidance for Offset Providers - Appendix 1<sup>8</sup>
- Information for Local Authorities<sup>9</sup>

### What Triggers Biodiversity Offsetting

All development that has land-take will trigger Biodiversity Offsetting, as long as the mitigation hierarchy has first been applied and the application conforms to national and local policy. However, due to the effort necessary to calculate offset, all householder applications that have biodiversity land-take will have a *de minimus* financial offset. This financial offset and how this offset is to be collected and delivered is outlined in Appendix 1.

All minor and major applications will need to calculate Biodiversity Impacts, be this positive (gain), negative (loss) or neutral. Where there is a negative (loss), Biodiversity Offsetting will be triggered.

Some forms of landuse change that may result in impacts to biodiversity may trigger the need for calculating Biodiversity Offsetting. Examples of this might include the change of woodland to recreational use or the change of a semi-improved grassland field to public open space. These situations will be evaluated on a case-by-case basis.

**ADVISORY NOTE:** By “greening” layouts, making enhancements to unused land or using green roofs the development’s impact can be significantly altered.

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<sup>6</sup> <http://www.defra.gov.uk/publications/files/pb13743-bio-guide-developers.pdf>

<sup>7</sup> <http://www.defra.gov.uk/publications/files/pb13742-bio-guide-offset-providers.pdf>

<sup>8</sup> <http://archive.defra.gov.uk/environment/biodiversity/offsetting/documents/1204-bio-offset-pilot-appendix.pdf>

<sup>9</sup> <http://www.defra.gov.uk/publications/files/pb13744-bio-local-authority-info-note.pdf>

## SUB-REGIONAL DEVELOPER GUIDANCE

First of all, a developer will need to calculate the biodiversity impact of their development.

### **Step 1 – Calculate Habitat Compensation Score**

The developer will calculate a **Biodiversity Impact Score** for the development. This is achieved by calculating how many ‘biodiversity units’ will be lost as a result of their development.

Stage 1: This involves classifying all the habitats that will be impacted upon by the development within the site ownership boundary and scoring these habitats based on their distinctiveness (low, medium or high) and their condition score (poor, moderate or good).

Stage 2: For each habitat, multiply the distinctiveness, condition and hectares together to calculate the number of biodiversity units per hectare. These values are then summed to obtain a **Habitat Compensation Score** as biodiversity units.

**ADVISORY NOTE:** The Habitat Compensation Score should include the existing values of both habitat that will be lost and habitat that will be enhanced during the development.

Stage 3 – calculate the future values of the habitat after the completion of the development by using the landscape plan. This is achieved by scoring these future habitats based on their target distinctiveness (low, medium or high) and condition score (poor, moderate or good). Additional ‘multipliers’ will need to be included to compensate for the time it will take for these habitats to be created or restored, plus their difficulty to be created or restored. For existing habitats that are to be retained but enhanced the existing value will need to be subtracted from their future value. These values are then summed to an **Onsite Habitat Compensation Score** as biodiversity units.

Stage 4 – Subtract the **Onsite Habitat Compensation Score** from the **Habitat Compensation Score** to calculate the **Biodiversity Impact Score** for the site.

If the **Biodiversity Impact Score** is neutral or positive there is no requirement to offset as there will be no biodiversity loss. The local planning authority and potentially Natural England will need to verify this calculation so it will be necessary to supply this information on submission of the planning application.

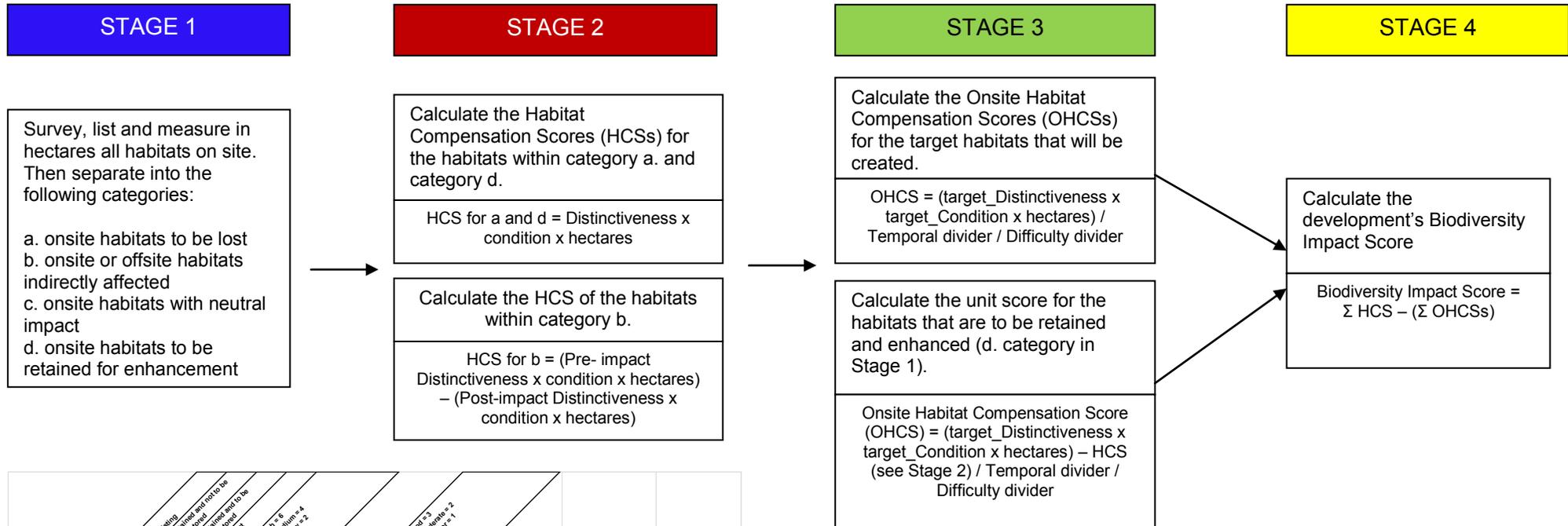
**ADVISORY NOTE:** The UK government is aiming for biodiversity gain by 2020 (NEWP, 2012). Local Planning Authorities may look unfavourably at developments that do not meet this objective. Reporting a positive Biodiversity Impact Score as part of an application could indicate that the development will result in a biodiversity net gain.

If the **Biodiversity Impact Score** is negative then biodiversity offsetting is triggered. This score equates to the number of biodiversity units that are required to be found off-site. This process is summed up in Figure 1 below.

A spreadsheet is available at [www.warwickshire.gov.uk/biodiversityoffsetting](http://www.warwickshire.gov.uk/biodiversityoffsetting) to calculate the **Biodiversity Impact Score**.

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Figure 1: Calculating the Biodiversity Impact Score



	Existing natural habitat to be retained	High = 6 Medium = 4 Low = 2	Good = 3 Moderate = 2 Poor = 1					
	A	B	C	D	A x C x D	B x C x D		
<b>Direct Impacts</b>								
Semi-natural broadleaved woodland	1.72	0.00	1.72	High	6	Moderate	2	20.64
Scrub	1.74	0.10	0.00	1.64	Medium	4	Moderate	2
Tall ruderal	0.40	0.06	0.00	0.34	Medium	4	Poor	1
Semi-improved grassland	0.70	0.06	0.00	0.62	Medium	4	Moderate	2
Bare ground	0.02	0.01	0.00	0.01	Medium	4	Moderate	2
Hard standing	0.52	0.00	0.00	n/a	n/a	0	n/a	0
<b>Indirect Impacts</b>								
Semi-natural broadleaved Woodland	1.00	0.25	1.72	3.13	High	6	Moderate	2
								HCS
								25.52

	Existing Value	High = 6 Medium = 4 Low = 2	Good = 3 Moderate = 2 Poor = 1	5 years = 1.2 10 years = 1.4 15 years = 1.7 20 years = 2.0 25 years = 2.4 30 years = 2.8 Risk of failure Very High = 4 High = 3 Medium = 2 Low = 1			
	F	G	H	I	J	K	
<b>onsite offsetting</b>							
Creation							F x G x H / I / J = K
Scrub/hedgerow	0.33	Medium	4	Good	3	1.7	1.0
Semi-improved grassland	0.41	Medium	4	Good	3	1.7	1.0
Tall ruderal	0.06	Medium	4	Moderate	2	1.4	1.0
Bare ground	0.12	Medium	4	Good	3	1.2	1.0
Standing water/ephemeral waters	0.03	Medium	4	Good	3	1.2	1.0
Gardens/Green areas	1.02	Low	2	Poor	1	1.2	1.0
Built	1.16	n/a	0	Poor	1	1.0	1.0
<b>Restoration</b>							(F x G x H) - I / J = M
Semi-natural broadleaved woodland	1.72	20.64	High	6	Good	3	1.4
							M
							4.91
							BIS
							13.63

**Step 2 – Source an Off-site Biodiversity Offsetting Provider / Select Offsetting Payment**

Once the development site's **Biodiversity Impact Score** (BIS) is calculated and the aim of offsetting is decided, the developer then needs to source an offsetting provider who can sell the requisite number of biodiversity units to match the development site's BIS. Developers can either source an offsetting provider themselves by contacting landowners direct, or they can pay a management fee to a broker company, who will match their needs to an appropriate offsetting provider. A list of known biodiversity brokers can be found at [www.warwickshire.gov.uk/biodiversityoffsetting](http://www.warwickshire.gov.uk/biodiversityoffsetting).

Offsetting providers will be landowners who have land available for habitat restoration/creation. Before biodiversity offsetting can commence, the habitats on their land will need to be classified and the value of their land, in biodiversity units, will need to be measured using the standard Defra metrics. A broker company will have already carried out these calculations on all sites that feature on their registry. If developers source offsetting providers themselves, they will need to arrange with the landowner to carry out these calculations at the outset.

**ADVISORY NOTE:** As the ultimate decision regarding whether the proposed offsetting is acceptable or not lies with the local planning authority, it is recommended that developers consult with the relevant local planning authority at this stage, before committing further to the process.

As an alternative to matching a developer with an offsetting provider, WCS Biodiversity Offsetting is offering an option to provide a financial offset as an offsetting payment. If this option is selected, the developer pays an appropriate fee directly into a sub-regional biodiversity offsetting fund. The payment will be equivalent to the fee necessary to purchase the requisite biodiversity units from a provider. All the funds within the biodiversity offsetting bank will be ring-fenced for habitat restoration/creation projects within the sub-region. The formulae used to calculate this payment is contained within Appendix 2.

**Step 3 – Producing a Biodiversity Offsetting Management Plan (BOMP)**

Biodiversity offsetting will have been secured as a way forward within the planning process through a legal agreement as part of the approval notice. It is therefore essential that the principles of the offsetting are agreed with the appropriate local planning authority prior to commencement of any offsetting works. In order to facilitate this, once a developer has found a suitable offsetting provider and all necessary calculations have been carried out, the next stage is to produce a Biodiversity Offsetting Management Plan for the habitats being restored/created. This will outline the management prescriptions that will be carried out in order to achieve the requisite habitat creation/restoration and to manage the newly restored/created habitat into perpetuity<sup>10</sup>. Specialist ecological expertise will be necessary when producing the BOMP, therefore it may be necessary to commission an ecological consultant to carry out this work.

Appendix 4 provides guidance on the structure and content that a BOMP should include.

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<sup>10</sup> Perpetuity is defined in Appendix 3 and may depend upon the habitats created or restored.

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Once completed, the BOMP should be submitted to the Local Authority for approval. If it is not considered sufficient/appropriate then it will be returned for amendments or, as a worst case scenario, the local authority will recommend that an alternative offsetting provider is found.

### ***Step 4 – Draw Up Legal Agreements/ Insurance Payment***

Once the BOMP has been approved by the local authority one or more legal agreements will be drawn up between all relevant partners, which may include:

1. Developer (obligatory)
2. Landowner(s) (obligatory)
3. Local Authority (obligatory)
4. Offset Broker (if one was used)

In essence the BOMP will cover long-term management and monitoring of the offset.

To ensure that the local planning authority remains compliant with current planning regulations, an **Insurance Payment** will be made to the local authority. This payment covers the possibility that the offsetting may fail. This payment will be reasonably measurable to the development and the habitats created and restored. The formulae used to calculate this payment is contained within Appendix 2. This money will be kept in a ring-fenced fund, which will be used for habitat creation/restoration projects within the sub-region as outlined within Appendix 2.

**ADVISORY NOTE:** The BOMP is the evidence that the Biodiversity Impact caused by the development will be mitigated for and will ultimately result in a net biodiversity gain. Therefore, assurances to this effect should be provided to the local planning authority as part of a submission. It may take some time to prepare this evidence as ecological surveys are often seasonal, so it is important not to leave producing a BOMP until the last minute.

### ***Step 5– Ongoing Monitoring / Reporting***

It will be necessary to carry out annual monitoring of the progress of the habitat creation/restoration, comparing against the annual targets set out within the BOMP. The results of monitoring will need to be reported back to the local planning authority and, if necessary, the BOMP may need to be amended, utilising appropriate ecological expertise to do so.

The model of this reporting will be described within the BOMP along with the triggers and mechanisms of how to rectify any failures to meet the habitat distinctiveness and condition targets.

**SUB-REGIONAL PROVIDER GUIDANCE**

Offsetting providers need to calculate the value of their land in biodiversity units, using standardised metrics in line with those used by developers to determine their Biodiversity Impact Score (BIS). They then need to decide on the aim of biodiversity offsetting on the site (i.e. restoration and/or creation of which habitats) and then calculate the target biodiversity value of the site in biodiversity units, once this is achieved. The number of biodiversity units that the site can provide will be the difference between the target value and the existing value. This allows a ‘match’ to be made between a developer’s need for biodiversity units and a provider’s availability of biodiversity units. This process is broken down into steps below.

**Step 1 – Calculate the Base-line Value of the Site**

The process of measuring the existing value of a provider’s site(s) is based on the same calculations that are used by developers to calculate the existing value of their development site. This process is summarised below:

1. Survey existing habitats within the site.
2. Calculate the area of each habitat in hectares.
3. Apply a score for distinctiveness and condition to each habitat; using Defra metrics (see Appendix 3).
4. For each habitat multiply hectares x distinctiveness score x condition score to reach a biodiversity value score.
5. Total the resultant biodiversity value scores to obtain an overall existing biodiversity value for the site.

The resultant biodiversity value provides a base-line from which the value of habitat restoration and/or creation can be measured, in biodiversity units.

Example:

A landowner has 6 hectares of improved pasture and 3 hectares of semi-natural broad-leaved woodland. This pasture habitat is in the low distinctiveness band (2 units per ha) and is in poor condition (a condition weighting of 1). The semi-natural broad-leaved woodland is in the high distinctiveness band (3 units per ha) and is in moderate condition (a condition weighting of 2).

Habitat Type	Area (ha)	Distinctiveness	Condition	Number of Units
Improved pasture	6	2	1	(6x2x1) = 12
Semi-natural broad-leaved woodland	3	3	2	(3x3x2) = 18
<b>Site’s existing biodiversity value:</b>				12 + 18 = 30

**Step 2 – Decide on the Aim of Biodiversity Offsetting**

Biodiversity offsetting can choose to either ‘expand’ or ‘restore’ habitat:

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1. Expansion (creation): establish priority habitats on land where it is not present and where no significant relicts of the habitat currently exist.
2. Restoration: improve the condition of the existing habitat resource.

A provider needs to decide whether restoration of existing habitats or creation of new habitats will be carried out on their land. The feasibility of creation will depend on the appropriateness of the existing habitat as a base from which to create new habitat.

If restoration is selected as the aim of biodiversity offsetting, it is essential that the existing habitat condition is assessed by Natural England prior to any improvement works being carried out, such that any biodiversity offsetting will be measurable. Defra recommends that offset providers should only offer biodiversity units from a one-step change in condition (e.g. to improve the condition of the habitat from poor to moderate). This helps to minimise the risks of the conservation action failing to deliver. As management actions are undertaken and the habitat improves then in due course the project can be re-valued and further units released for sale (e.g. a further improvement in condition from moderate to good).

If the habitat impacted is in the high distinctiveness band, the offset will usually need to be 'like for like' (i.e. the same type of habitat will need to be created or restored). In other cases, the offset does not need to be like for like. For habitat of low or medium distinctiveness, the offset should be largely made up of habitat from a higher band of distinctiveness.

### ***Step 3 – Work Out the Site's Available Biodiversity Units, Applying Multipliers to Factor in Risk***

Once the site's existing biodiversity value is calculated and the target habitat restoration/creation is determined, it is next necessary to work out what the biodiversity value of the site will be once the results of the restoration/creation have reached maturity. To do this, the same calculations are used as for determining existing biodiversity value, with new hectares, distinctiveness and condition scores used, as appropriate:

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Using the same example as before:

Example:

Site's Existing Biodiversity Value:

A landowner has 6 hectares of improved pasture and 3 hectares of semi-natural broad-leaved woodland. This existing pasture habitat is in the low distinctiveness band (2 units per ha) and is in poor condition (a condition weighting of 1). The semi-natural broad-leaved woodland is in the high distinctiveness band (3 units per ha) and is in moderate condition (a condition weighting of 2).

Habitat Type	Area (ha)	Distinctiveness	Condition	Number of Units
Improved pasture	6	2	1	(6x2x1) = 12
Semi-natural broad-leaved woodland	3	3	2	(3x3x2) = 18
<b>Site's existing biodiversity value:</b>				12 + 18 = 30

Site's Target Biodiversity Value (After Offsetting):

A landowner aims to create 6 hectares of lowland hay meadow on the existing pasture habitat. Lowland hay meadow has a high distinctiveness band (3 units per ha) and the aim is for the habitat to reach a moderate condition (a condition weighting of 2). The landowner also aims to restore the semi-natural broad-leaved woodland to a good condition (a condition weighting of 3).

Habitat Type	Area (ha)	Distinctiveness	Condition	Number of Units
Lowland hay meadow	6	3	2	(6x3x2) = 36
Semi-natural broad-leaved woodland	3	3	3	(3x3x3) = 27
<b>Site's target biodiversity value:</b>				36 + 27 = 63

Therefore, the biodiversity units that are available to be sold to a developer are the target biodiversity value – the existing biodiversity value:

$63 - 30 = 33$  biodiversity units available.

However, in order to manage the various risks inherent within biodiversity offsetting, multipliers need to be applied to the number of biodiversity units that each target habitat within a provider's land can provide:

A multiplier can work in two ways:

1. It can increase the number of hectares required to deliver a target number of biodiversity units;

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2. Or, if it is not possible to increase the area of land (for example, because only a certain amount of land is under the landowner's control), the multiplier will have the effect of reducing the number of units that can be sold from a particular area of land.

### 3.1 Spatial Risk Multiplier

Biodiversity offsetting should ideally be carried out in strategic areas within the sub-region, which are of particular benefit to biodiversity due to expanding or linking up existing high value biodiversity areas, in accordance with John Lawton's 'More, Bigger, Better and Connected' aim set out in the *Making Space for Nature* review (2010). Strategic sites have been included within the Sub-Regional Green Infrastructure Strategy. It will be expected to match habitat provision to these strategic areas where possible. Where this is not feasible, a spatial risk multiplier will be applied as follows:

Location Parameters	Multiplier
Location is within a strategic offsetting area.	1
Location is within a semi-strategic offsetting area.	2
The location is within a non-strategic offsetting area.	3

### 3.2 Difficulty of Restoration/Creation Risk Multiplier

Defra have produced a table, which assigns each habitat type with a 'difficulty of restoration/creation' level (NB link to website document will be inserted following consultation). Depending on the difficulty level, a multiplier will be applied as follows:

Difficulty of Restoration/ Creation	Multiplier
Very high/impossible	10
High	3
Medium	1.5
Low	1

### 3.3 Temporal Risk Multiplier

Unless the enhancement in habitat condition has already been delivered prior to the units being offered as compensation there will be a mismatch in the timing of the impact (i.e. the loss of the biodiversity) and completed offset (i.e. delivery of compensatory habitat of a level of quality or maturity fully equivalent to the loss). Applying a time discount rate multiplier is a mechanism which allows this time lag to be taken into account.

The first part of this step is calculating how long it will take the habitat in the offset project to reach target condition. Then the time discount rate multiplier is applied to it:

Years to Target Condition	Multiplier
5	1.2
10	1.4
15	1.7
20	2.0
25	2.4
30	2.8
32	3

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The time discount multiplier should cover the whole period concerned, assuming a quality improvement from the baseline condition to the target condition. The calculations therefore do now need to take into account incremental increases in the quality of the habitat, and do not need to be re-done annually.

Offsets need to last at least as long as the project's impacts, and preferably in perpetuity. However, for practical purposes, there needs to be a limit on the application of the discount rate used for time preference. A maximum multiplier of x3 to take account of temporal risk is proposed by Defra for the offsetting pilot.

### **Worked Example of Applying Risk Multipliers:**

The example below continues the case study used in the previous examples to illustrate applying risk multipliers. In this case, it is assumed that the landowner does not own any additional land, therefore the effect of the multiplier will be to reduce the number of biodiversity units that can be sold from his land.

Having subtracted the existing biodiversity value of the site from the target biodiversity value of the site, it is calculated that a maximum of 33 biodiversity units are available from the site. However, risk multipliers need to be applied to the biodiversity units that each target habitat can provide, which will have the likely effect of reducing this total:

#### Applying Risk Multipliers:

1. Spatial Risk: The landowner's site lies within one of the sub-region's strategic offsetting areas therefore the spatial risk multiplier to be applied to the target habitats' biodiversity units is 1.
2. Difficulty of Restoration/Creation Risk Multiplier: Lowland hay meadows are assigned a medium difficulty of creation (multiplier of 1.5) and the woodland is assigned a low difficulty of restoration (multiplier of 1):
3. Temporal Risk Multiplier: It is estimated that it will take 15 years to create a lowland hay meadow on the existing pasture (multiplier of 1.7) and 5 years to restore the woodland to a moderate condition (multiplier of 1.2).

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**Example Continued:**

Habitat Type	Target no. Units	Spatial Risk Multiplier	Difficulty Risk Multiplier	Temporal Risk Multiplier	Number of Units
Lowland hay meadow	36	1	1.5	1.7	$36/1/1.5/1.7 = 14.1$
Semi-natural broad-leaved woodland	27	1	1	1.2	$27/1/1/1.2 = 22.5$
<b>Site's risk-averse target biodiversity units:</b>					<b>14.1 + 22.5 = 36.6</b>

So the total number of biodiversity units that the landowner is actually able to offer from his site is the site's risk-averse target value (36.6 biodiversity units) minus the site's existing value (30 biodiversity units):

**36.6 – 30 = 6.6 biodiversity units are actually available from the site.**

**Step 4 – Calculate a Price per Hectare**

Once the provider has decided on the type of habitat restoration and/or creation that will be carried out on their land, and worked out the land's available biodiversity units on this basis (applying appropriate risk Multipliers), the next stage is to calculate the price per hectare that the restoration/creation will cost the developer, bearing in mind the long-term nature of the work involved.

The proposed price for the biodiversity units will therefore need to accommodate the resultant price per hectare for restoration/creation. When calculating this price per hectare, the provider must adequately factor in the uncertainties of habitat creation/restoration and long-term management. For example, the following 'hidden' costs will need to be considered:

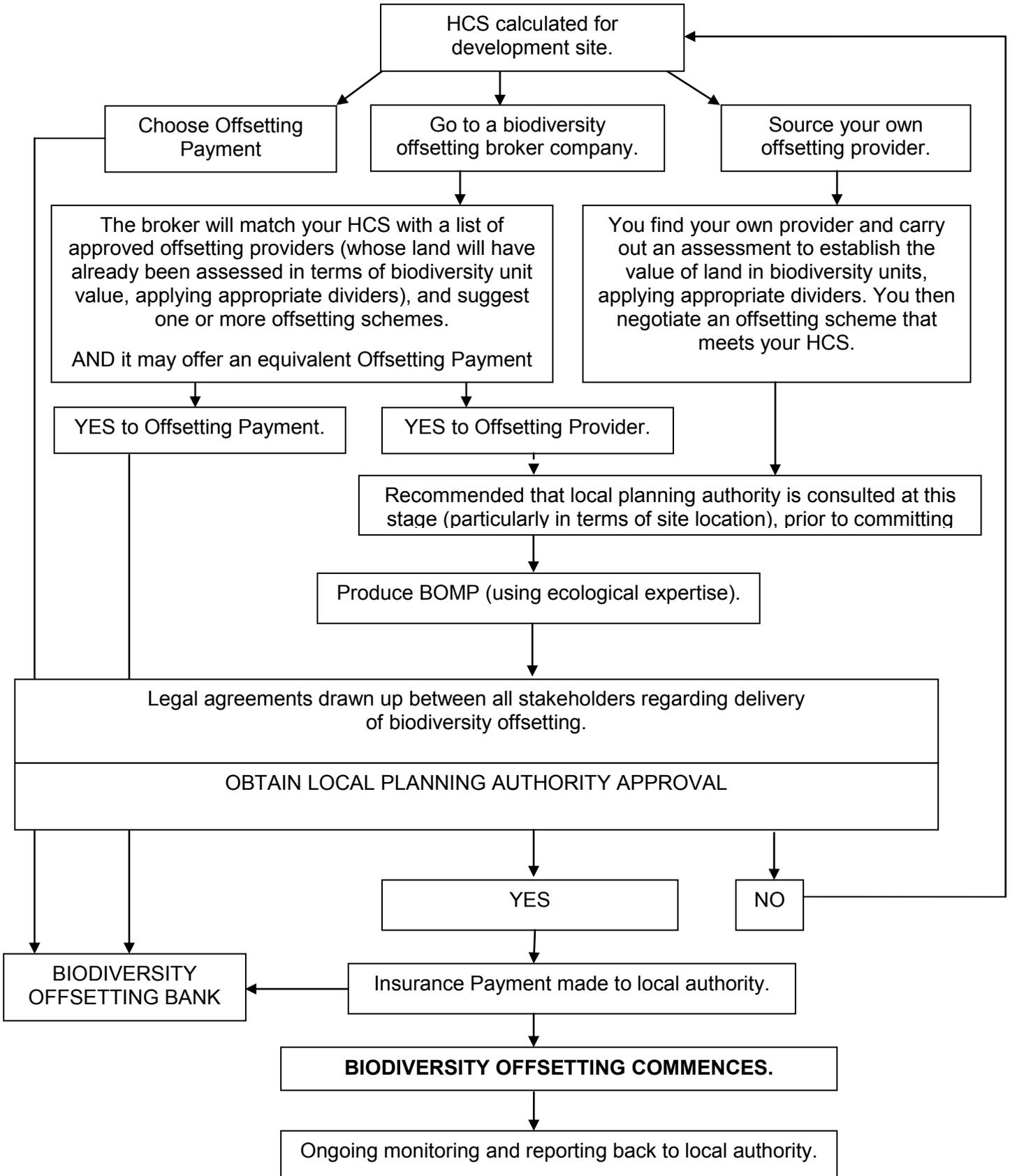
- Cost of long-term management;
- Cost of long-term monitoring;
- Purchase of ecological expertise (i.e. ecological consultancy fees);
- Insurance;
- Legal fees;
- Tax implications for the provider;
- Compatibility of offsetting with receipt of other funding/grants.

There is no guidance relating to these costs on the presumption that they will be attributable to the local context. For example pond creation and maintenance on a clayey soil may cost less than that on a sandy soil.

**ADVISORY NOTE:** Please be sure not to over or under value the cost of providing the offset. Ultimately, there will be a legal agreement between the landowner and the Local Authority who will need to report on biodiversity gain. So it is likely to be enforced rigorously.

**SUMMARY OF LOCAL BIODIVERSITY OFFSETTING STRATEGY**

Figure 2 – Summary of the Local Biodiversity Offsetting Process



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The process, as set out in Figure 2, is in line with Defra guidance on choosing how to compensate, with the addition of adoption of an “Insurance” scheme to secure that biodiversity is sustainable in accordance with the National Planning Policy Framework’s key principles, including the aim of no net biodiversity loss.

The cost of providing an offset, and therefore the price an offset provider will ask for, will depend on a range of factors, for example, what habitats they can create or enhance, what type of conservation action is involved, the costs of managing the site at the required condition in the long term, and how any risks to delivery of the biodiversity outcomes are managed. Offset providers will decide what price they offer their offset projects for.

### **Roles and Support**

In the pilots, Natural England will have the responsibility of assessing the capability of offset providers to deliver biodiversity offsetting projects, and quality assuring their Biodiversity Offset Management Plans (BOMPs), in order to advise local authorities. However, the ultimate decision about whether the offsetting will deliver compensation is made by the Local Authority. Plans will be assessed to determine whether they are sufficiently robust and likely to deliver and maintain the proposed number of biodiversity units.

### **Publicity**

All local guidance and supporting information about the offsetting pilot in Warwickshire is available on Warwickshire County Council’s [website](#)<sup>11</sup>.

### **Further information**

For further information please contact:

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<sup>11</sup> [www.warwickshire.gov.uk/biodiversity](http://www.warwickshire.gov.uk/biodiversity)

## APPENDIX 1 – HOUSEHOLDER BIODIVERSITY OFFSETTING CALCULATIONS

### Householder Biodiversity Offsetting calculation

Biodiversity Offsetting can be complex to calculate, requiring the commissioning of an ecological survey. It has been considered unreasonable that householder applications should have to commission such a study. For these reasons a fixed biodiversity offset financial contribution has been set for Householder Applications. This calculation is based on a precautionary model in accordance with the financial offset principle (Appendix 2), as the place of the offset is unknown. This calculation is based on the following:

#### Figures

Average Area of householder applications	50m <sup>2</sup> (0.005ha)
Ecological Habitats impacted	lawn/patio
Ecological Value of these habitats	Distinctiveness – Low (2) Condition – Poor (1)

Biodiversity Impact Score =  $2 \times 1 \times 0.005 = 0.01$  Biodiversity Units

#### Offset Multipliers of Semi-improved grassland creation

Target habitat value	Distinctiveness – Medium (4) Condition – Good (3)
Temporal multiplier	10 years (1.4)
Risk of Failure	Medium (1.5)
Strategic Area multiplier	Non-strategic (3)
Average Cost of creation & maintain habitat per ha	£8496
Insurance Payment	10% Biodiversity Offset cost
Management Cost	15% Biodiversity Offset cost

Biodiversity Offset Creation cost =  $(0.01 / (4 \times 3)) \times 1.4 \times 1.5 \times 3 \times £8496 = £44.60$

Insurance Payment =  $£44.60 \times .10 = £4.46$

Management Cost =  $£44.60 \times 0.15 = £6.69$

Biodiversity Offsetting Contribution =  $£44.60 + £4.46 + £6.69 = £55.75$

Therefore a recommended contribution of **£55 per householder application** will be sought throughout the sub-region. This contribution will be collected locally as part of the application process and will go towards local or sub-regional Green Infrastructure projects that deliver biodiversity gains.

The suggested mechanism for this collection is through the following condition to be placed on every householder application.

“Within 5 days of the commencement of works, including any ground works, a biodiversity offsetting fee of £50 will be paid to the Local Planning Authority.

Reason: To ensure a biodiversity gain in accordance with National Planning Policy Framework (2012) and Local Plan Policy”

Alternatively, this contribution could be collected within the Community Infrastructure Levy or other mechanism determined locally.

## **APPENDIX 2 –BIODIVERSITY OFFSETTING PAYMENT**

### Biodiversity Offsetting Payment

The sub-regional Local Authorities are offering applicants the option to make a financial payment instead of securing an offset provider through either a broker or other means. This is not the preferred mechanism of offsetting the development as the local planning authority will not have the assurances that there will be a like-for-like habitat compensation and that it will be in accordance with the sub-regional GI Strategy's principles. Therefore, a Biodiversity Offsetting Payment it will be based on the following precautionary principles.

- 1) Offsets will be based on creating habitat similar to that lost and associated to the Biodiversity Impact Score calculated.
- 2) It will be based on habitat created on land that has existing zero value.
- 3) The target value of the created habitat will be:
  - a. Distinctiveness – Medium;
  - b. Condition – Good.
- 4) A temporal multiplier of 10 years will be applied.
- 5) A medium risk of failure multiplier will be applied.
- 6) A Non-Strategic Area multiplier will be applied.
- 7) The average cost of creation/restoration of habitat will be as detailed below.
- 8) An maintenance cost for 30 years for the habitat created as detailed below
- 9) An Insurance Payment of 10% of the Biodiversity Offset cost will be added.
- 10) A Management Cost of 15% of the Biodiversity Offset cost will be added.

This cost will be collected by Warwickshire County Council (WCC) as contained within a legal agreement. On receipt of the agreed sum it will be separated into three funds:

- a) Biodiversity Offsetting Fund;
- b) Insurance Fund;
- c) Management Fund.

These funds will be spent accordingly, as outlined below.

### Biodiversity Offsetting Fund

WCC will arrange for one or more providers to mitigate for the loss associated with the development. It could be through a broker or a separate legal agreement arranged by WCC. The proposed provider agreements will be approved by the CSWAPO prior to the signing of any legal agreements. The ensuing payments may be a single transaction to the broker or through a series of payments. All these arrangements will be detailed within legal agreements.

### Insurance Fund

WCC will pool these payments to create a fund that will be open to grant requests. The details of this grant request will be detailed in separate documents associated to this fund.

### Management Fund

WCC will take from this fund the financial costs associated with collecting, managing and distributing the three funds. These will be based on full cost recovery principles. All costs will be presented to and agreed by CSWAPO annually and any surplus will be either retained or transferred in the Insurance Fund at CSWAPO's discretion.

### Monitoring

All income and expenditure of these funds will be made available through an annual statement together with the amount of offsets, where they have come from and where they have been offset. This will be reported through CSWAPO, the WCS Green Infrastructure Partnership and the Local Nature Partnership.

## APPENDIX 2 –BIODIVERSITY OFFSETTING PAYMENT

### Biodiversity Offsetting Costs

	per hectare		
	Annual Maintain	Create	Combined costs over 30 years maintenance
<b>GRASSLAND HABITAT</b>			
Coastal and Floodplain Grazing Marsh	£335	£1,504	£11,554
Lowland Calcareous Grassland	£200	£2,408	£8,408
Lowland Dry Acid Grassland	£200	£1,714	£7,714
Lowland Heathland	£200	£1,304	£7,304
Lowland Meadows	£200	£1,498	£7,498
Average	£227	£1,686	<b>£8,496</b>

	per hectare		
	Annual Maintain	Create	Combined costs over 30 years maintenance
<b>WETLAND HABITAT</b>			
Ponds (large individual pond)	£90	£1,476	£4,176.44
Reedbeds	£60	£1,486	£3,286.38
Fens	£60	£674	£2,473.78
Average	£70	£1,212	<b>£3,312.20</b>

	per hectare		
	Annual Maintain	Create	Combined costs over 30 years maintenance
<b>WOODLAND HABITAT</b>			
Native Woodland	£122	£2,126	£5,775.67
Traditional Orchards	£250	£1,123	£8,623.25
Wood-Pasture and Parkland	£180	£1,502	£6,902.19
Average	£184	£1,584	<b>£7,100.37</b>

	Annual Maintain	Create	Combined costs over 30 years maintenance
<b>HEDGEROWS</b>			
Hedgerow (per metre)	£7	£9	<b>£227.50</b>

These figures have been adapted from by an unpublished document prepared for the Local Biodiversity Action Plan and are available on request. These figures are subject to review and any changes will follow the Governance procedures described in the sub-regional Green Infrastructure Strategy.

## APPENDIX 3 – BIODIVERSITY OFFSETTING DEFINITIONS AND CRITERIA

### Biodiversity Offsetting Definitions and Criteria

#### Distinctiveness Scores

ID	HABCODE	Habitat description	Distinctiveness	Score	IHS Code
1	A111	Broad-leaved semi-natural woodland	High	3	WB3
2	A112	Broad-leaved plantation	Moderate	2	WF21
39	A121	Coniferous semi-natural woodland	Moderate	3	WF12
3	A122	Coniferous plantation	Low	1	TS23
4	A131	Mixed semi-natural woodland	Moderate	2	WF1
5	A132	Mixed plantation	Low	1	WF3
6	A21	Dense continuous scrub	Moderate	2	SC12
7	A22	Scattered scrub	Moderate	2	SC22
8	A31	Broad-leaved parkland/scattered trees	High	3	WM5
9	A32	Coniferous parkland/scattered trees	High	3	TS1
10	A4	Recently felled woodland	Low	1	WG2
11	A5	Orchard	High	3	CL31
36	B11	Unimproved acidic grassland	High	3	GA1
12	B12	Semi-improved acidic grassland	High	3	GA1
13	B21	Unimproved neutral grassland	High	3	GN0
14	B22	Semi-improved neutral grassland	High	3	GN0
15	B31	Unimproved calcareous grassland	High	3	GC0
16	B32	Semi-improved calcareous grassland	High	3	GC0
17	B4	Improved grassland	Low	1	G10
18	B5	Marsh/marshy grassland	High	3	EM0
19	B6	Semi-improved neutral grassland	Moderate	2	GU0
34	C11	Continuous bracken	Low	1	BR0
20	C31	Tall ruderal	Low	1	OT3
35	C32	Non-ruderal	Moderate	2	OT4
37	D5	Dry heath/acidic grassland mosaic	High	3	GA1
41	E11	Sphagnum Bog	High	3	EO0
40	E21	Acid/neutral flush	High	3	EO0
38	E32	Basin Mire	High	3	EM3
21	F1	Swamp	High	3	EM1
22	F22	Inundation vegetation	High	3	EM2
23	G1	Standing water	Moderate	2	AO2
24	G2	Running water	High	3	AR1
25	I21	Quarry	Low	1	RE21
42	I22	Spoil	Low	1	RE2Z
26	I24	Refuse tip	Low	1	RE24
27	J11	Arable	Low	1	CR3
28	J112	Allotments	Low	1	UA33
29	J113	Set-aside	High	3	CR61
30	J12	Amenity grassland	Low	1	GL1

## APPENDIX 3 – BIODIVERSITY OFFSETTING DEFINITIONS AND CRITERIA

ID	HABCODE	Habitat description	Distinctiveness	Score	IHS Code
31	J13	Ephemeral/short perennial	Low	1	HSO
32	J14	Introduced scrub	Low	1	IH0
33	J4	Bare ground	Low	1	BG1
53	J231	Native Species Rich Hedge with Trees	High	3	LF111
43	A21	Linear Scrub	Moderate	2	LF11
44	A3	Linear Trees	Moderate	2	KF12
45	G1	Standing Water	Moderate	2	AP1Z
46	G2	Running Water	High	3	AR1
47	I1	Inland Cliff	Low	1	RE2Z
56	J26	Dry Ditch	Low	1	LF24
48	J21	Intact Hedge	Moderate	2	LF11Z
49	J211	Native Species Rich Intact Hedge	High	3	LF111
50	J22	Defunct Hedge	Low	1	LF
52	J23	Hedge with Trees	Moderate	2	LF11
54	J24	Fence	Low	0	LF26
55	J25	Wall	Low	1	LF23
57	J27	Boundary Removed	Low	0	
58	J28	Earth Bank	Low	1	LF22

### Condition Scores

During the pilot phase of Biodiversity Offsetting these will be broadly in accordance with the Natural England Higher Level Scheme (HLS) assessments as outlined in the Defra Guidance documents. However, there are some habitats listed above that do not have condition assessments within HLS. In these situations the condition score will be based on the evidence collected during survey work and subsequent negotiations between the applicant's consultants and the Local Authority's ecological advisors.

### Perpetuity

Perpetuity is to be considered to be 30 years minimum. This is based on the Hedgerow Regulations 1997, where the regulations apply to hedges that have been in existence for over 30 years. This strategy is therefore suggesting that a habitat created as part of biodiversity offsetting will be considered 'natural' after 30 years and will look to be secured and offered protection within the Local Wildlife Sites system or other land designation process.

### Habitat Connectivity Categories

The habitat classifications area detailed in Appendix 2 of the Warwickshire, Coventry and Solihull Green Infrastructure Strategy.

## **APPENDIX 4 – BIODIVERSITY OFFSETTING MANAGEMENT PLAN**

### Biodiversity Offsetting Management Plan (BOMP)

NB This will be added following consultation, once more details on the requirements of the BOMP are known.