Biodiversity Offsetting Management Plan (BOMP)

This guidance sets out what the WCC Ecology Unit expects to see in a Biodiversity Offsetting Management Plan (BOMP).

Introduction

The preparation of a management plan is an essential component in the development of a biodiversity offset scheme. The plan should outline the management prescriptions that will be carried out in order to achieve the requisite habitat creation/restoration and for the long-term management (specified in the s106) of the newly created/restored habitat(s).

Evaluation of management plans

The Biodiversity Offset Management Plan needs to be approved by the relevant local planning authority, who will need to be assured that the scheme is capable of delivering the proposed biodiversity benefits. The assessment will be based on information provided in the BOMP, so it is important that the plan provides adequate information. The local authority (or WCC Ecology Unit) may request further information from the offset provider, if necessary. In some cases, it may be necessary for an ecologist from the local authority to carry out an on-site visit to confirm the assessment of the initial condition of the site.

We expect that best practice will be followed in managing offset schemes, and this should be reflected in the management plans. A large amount of published advice is available on habitat management for delivering conservation outcomes.

Management plan format and content

Guidance on management plan writing, recommended format and contents is available from several sources. A standard management plan format provides factual information on the site including location, tenure, physical and biological features; an evaluation of the existing site habitats, objectives of management e.g. what is proposed including target condition and timescale to reach target condition; detailed management prescriptions, and the process for monitoring and reporting on the sites progress towards meeting its targets.

The level of detail provided in the management plan will depend on the complexity of the offset site, existing habitat(s) and proposed habitats. Many offset schemes will be small e.g. a single field and the proposed enhancements and management relatively simple (at least in theory). The amount of information provided e.g. site description, should reflect this. However, it is important that all management plans provide adequate information to enable the local planning authority (with WCC Ecology advice) to assess the proposed offset schemes ability to deliver and sustain the proposed biodiversity gains in the long-term.

The Management Plan

The management plan is likely to require the following information:

Location and description of site

Essentially a collation of information about the site, including general points such as location, tenure, site designations, environmental information, biological information, archaeological & historical information, past uses of the site. The first stage in this process is a desk study of available information. Sources of information should include the Local Biological Record Centre. Not all types of information will be relevant or available for all sites. Types of information will include:

Location
A map showing the location and boundaries of the receptor site should be provided together with a grid reference. Basic site statistics such as area (ha) should be provided.

Land tenure
Provide details of land ownership and occupation.

Access and public interest
Provide details and map of access to the site including any public rights of way, access required for management e.g. machinery

Site designation and notable interest
Provide details of any statutory designation (e.g. NNR, SSSI, LNR etc) and non-statutory designations (LWS, Ecosites) within or near to the site (give distances to the site).

Environmental information

This section should provide information geology & soils, hydrology, biological information, habitats & vegetation communities and cultural information. Concentrate on factors which are of importance to the habitats being created or restored e.g. grassland soils.

Geology and Soils
Include information on geology and soils which help in understanding the ecology of the site and which might influence site management. For example, information on geology and soil type will determine whether the site is suitable for grassland creation or restoration and inform decisions on target community (e.g. low available phosphorus and appropriate pH).

Geological information can be obtained from the British Geological Survey (BGS) (http://mapapps.bgs.ac.uk/geologyofbritain/home.html). Information on soils can be obtained from the UK Soil Obseratory/Natural Environment Research Council (http://www.ukso.org/) and the National Soil Resources Institute at Cranfield University (http://www.landis.org.uk/soilscapes/). These will indicate general soil types in the area but laboratory analysis are required to determine soil properties at the site. See field assessment section below for guidance on soil analysis.

Topography
The topography of a site can influence habitats and possibly management. Briefly describe the topography of the site e.g. slope, aspect, features of importance for management etc.

Hydrology
An understanding of the hydrology of sites is essential for wetlands but can also influence other habitat types e.g. grasslands, and may also affect management. Describe the hydrology of the site e.g. the type of watercourse or water body, directions of flow, water sources, water quality, evidence of inundation etc. Again, concentrate on features that influence habitats to be created or enhanced, and management.

For wetlands including ponds, water quality is the most important factor influencing the wildlife value of a pond. This generally means clean, unpolluted, water with low levels of nutrients (like nitrates and phosphates).

Biological information

Flora and fauna
It is important to know what existing flora and fauna is present within or the near site. Particular attention should be given to protected and notable species and any other species which will influence or be affected by management e.g. invasive species.

Habitats and vegetation communities
Provide details of the habitats and, where relevant, vegetation communities (NVC) found on the site, with distribution extent of each habitat shown on a map. The level of detail will vary from site to site but in most cases the broad habitat type will be sufficient. However, if detailed information exists or there are particular habitats or habitat features of high conservation importance, either in their own right or for key species, this should be provided.

Cultural information

Land use
Information on past land use and management (if available) is valuable for understanding how the site/habitat has changed over time. The reinstatement of traditional management is often prescribed for the restoration of priority habitats. Please give details of past (especially traditional management e.g. hay meadow, coppicing etc) where known and also present/recent management, especially where this may have influenced the current condition of the site, e.g. intensive agricultural management. Also give brief details of any land use in the area immediately bordering the site if these may have an impact on the site, for example pollution, fertiliser drift or disturbance.

Archaeological, cultural or historical interest
Provide details of any features on the site which are of archaeological, cultural or historical importance. Please consult Warwickshire Archaeological Information and Advice at historicenvironmentrecord@warwickshire.gov.uk

Field Assessment

Ecological Survey
The offset site should be surveyed by a competent botanist at an appropriate time of year for the habitat(s) present at the site. Surveys should record and map Phase 1 habitat types and ideally NVC communities where possible.

Full details of the survey should be provided in the Management Plan. This will provide information for the local planning authority to assess the suitability of the offset proposal. It also establishes the baseline of the offset site before creation or restoration management has started and against which the success of the scheme in meeting its target(s) can be assessed.

Site Survey results
The survey results should include:

- A description of the site including habitat(s), dominant/characteristic species, notable species etc; topography, aspect, hydrology, soil (see section below)
- A habitat map should be provided based on the Phase 1 Habitat Survey Handbook (JNCC 2010);
- A full species list;

- Photographs of the site, for example, that highlight the condition of the site e.g. rank grassland, scrub encroachment etc;
- Any factors affecting condition and/or management e.g. is the site suitable for grazing, recreational pressure etc

Baseline condition assessment
The current condition of the different habitats covered by the offset site need to be assessed to establish the baseline unit value of the site. Some habitats have a default condition of 'poor'. Table 1 in Appendix A lists the habitats that require a condition assessment and indicates which FEP condition assessment should be used.

The FEP guidelines do not contain condition assessment for all habitats. In this case, the ecologist should use their professional judgment and experience to determine condition, using attributes such as species-richness, the presence of indicator species (positive and negative), structural and age diversity etc.

The field survey and condition assessment should be undertaken under suitable conditions e.g. appropriate time of year. Where conditions are not ideal e.g. grass is tightly grazed, the condition assessment should be carried out at a later date when conditions are suitable, otherwise a precautionary approach should be taken in assigning condition i.e. if it is difficult to determine if the habitat is in poor or moderate condition, the habitat should be assigned to the higher condition category.

When using the FEP criteria to assess condition, count the number of failed criteria to determine the condition. Habitats are in good condition when all criteria are met, moderate condition where it fails on just one criteria and poor condition when it fails on 2 or more criteria.

Details of the condition assessment should be provided. For example, a condition assessment for grasslands should be based on the FEP handbook methodology i.e. carry out a structured walk (see also monitoring section below). The results could be presented in table format such as table 2 below). Photographs showing condition of habitat e.g. rank grassland, scrub encroachment etc should also be provided.

Table 2: Grassland condition

Attribute	**Measure**
Ryegrass/clover cover	Less than 10%
Species richness	Range 6 to 12 (average 9)
Wildflower cover	Overall, less than 10%
Undesirable/pernicious species	Less than 5%
Bare ground	Negligible
Tree/shrub cover	None
Waterlogging	Localised
Indicator species	6 indicators of semi-improved grassland present, (1 occasional, 5 rare). 3 lowland meadow indicator species present (1 occasional, 2 rare).

Soil analysis
It is important that soil surveys and analysis are carried out where soil is an important factor in habitat creation and management. Advice on how to undertake a soil survey can be found in Natural England Technical Information Note TIN035. The laboratory analysis should include pH, available phosphorus, available potassium, available magnesium, total nitrogen, and hand soil texture. Natural England Technical Advice Note TIN036 gives advice on the

interpretation of soil analysis. The results of the soil analysis should be presented in the management plan.

Site evaluation
The results of the field survey and soil analysis should be used to assess site suitability for habitat creation or restoration. For example, refer to keys in the FEP handbook to assess the potential of arable land for reversion to species rich grassland (Key 1), and the botanical enhancement potential of species-poor grassland (Key 2c). Present the results of this assessment in the BOMP.

It is important that the right site is chosen for the proposed habitat. If site conditions are unsuitable e.g. nutrient levels too high, it is unlikely the scheme will succeed. The local authority has to have confidence that the scheme can deliver the proposed improvements in habitat condition. Where it is not confident that the scheme can deliver, it will request further information or may reject the scheme and request that an alternative site is found.

Calculating the offset biodiversity baseline
The baseline biodiversity unit value of the offset site should be calculated by entering the Phase 1 habitat type, current condition and area into the Biodiversity Calculator.

The Offset Proposal and Delivery

The habitat creation/restoration proposals must be described in detail. To be acceptable to the local planning authority, the following general principles should be applied to development schemes involving habitat creation and proposals must include descriptions of:

- The location, size and physical characteristics of the receptor site and presented on site plans.
- Details of the habitats/conservation features to be created/enhanced.
- Details of the offset provider (e.g. their resources, skills, experience) to deliver the offset.
- The methodology to be used to create the habitat/features
- Details of the long-term management proposed for the establishment and maintenance of the habitat/nature conservation feature.
- Future ecological monitoring of the habitat.

The appropriateness of all biodiversity offsetting schemes will be assessed by the WCC Ecology Team. Should the scheme be deemed as inappropriate (e.g. the proposed habitat, management prescriptions, target condition or timescales are considered unsuitable/unrealistic, and the scheme is considered unlikely to succeed, then the scheme will need to be amended or a biodiversity offsetting scheme on an alternative site put forward.

Calculating the biodiversity value of the proposed biodiversity offset
The biodiversity gain produced by the proposed offset scheme should be calculated using the biodiversity metric. The following data is required:

- Proposed Phase 1 habitat(s)
- Area of habitat to be created or enhanced
- Target condition
- Time to target condition
- Spatial multiplier e.g. is this offset in a strategically important area

Setting target condition and time to condition
Guidance from Defra (2012) suggested that offset providers should only offer biodiversity units generated from a one step-change in condition (e.g. to improve the condition of the habitat from poor to moderate) 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). We support this precautionary approach. However, under the right conditions (e.g. low soil fertility) and management, for certain habitats, it should be possible to achieve more than a one-step change in condition e.g. poor to good condition. However, evidence will need to be presented in the management plan to justify this.

Objectives & Management

Objectives
Objectives should identify and describe what will be done i.e. expand (i.e. create) or restore habitat to deliver a change in habitat condition.

Habitat management prescriptions
Provide details of the management activities that are proposed to be carried out during the life time of the management plan in order to achieve the management plan objectives. Details of location (e.g. management plan compartment), timing and methodology should be given for each activity. This will include details of the establishment method e.g. grassland creation and a detailed work programme for the lifetime of the offset (specified in the s106), identifying when works are programmed to take place.

Features Influencing Management of the site
Give details of any features which may influence the management of the site. This may include management constraints e.g. access for machinery or livestock, or legal constraints such as the presence the presence of protected or invasive species.

Monitoring and reporting

The BOMP should set out the monitoring that will be undertaken to measure the success of the scheme in meeting its objectives.

Ecological Monitoring
Monitoring is an essential element of the management plan. It is required to ensure the successful establishment/restoration of the habitat, evaluating the success of management activities and provide feedback for management.

Any area of the site that is managed as part of an Offset agreement will need to conform to any agreed timetable. This is likely to be the first year of commencement and years 2, 5, 10, 15, 20 and 30 thereafter to evidence that management of the Offset Site is being successfully implemented.

Field assessment
The field assessment should be carried out by a competent botanist at an appropriate time of year. Standard habitat condition assessment methodologies should be followed e.g. structured walks through the habitat stopping at regular intervals to record condition attributes. For example, for grasslands follow the methodology set out in the FEP manual i.e. take a representative walk (e.g. a W route) through the grassland, recording species and other required features at a minimum of 10 stops. Site condition should be assessed using standard criteria where available (in most cases this will be based on criteria used in the

FEP Manual). The assessment methodology and the condition assessment criteria to be used should be set out in the BOMP.

Management Plan Review
The Management Plan should be subject to a review every 10 years. The review should include an appraisal of the habitats present at the site (based on the monitoring surveys), assessment of the success of the management plan to date and any required revisions to the plan. The first Plan review will need to cover:

- Success of initial habitat establishment;
- Problems and experience;
- Establish which management techniques have been successful and those that have not;
- An assessment of whether overall management has been effective.

Offset scheme schedule of costs
The management plan should give details of the offsetting scheme cost. The total cost of the scheme will be a combination of the habitat creation costs and ongoing maintenance costs. For example, for grasslands, creation costs might include seed purchase and sowing, ground preparation, weed control, installing stock proof fencing etc. Maintenance costs will include annual management e.g. haymaking and grazing for the duration of the scheme (e.g. 30 years). The schedule of costs should also include the production of the management plan, management plan reviews and ecological monitoring of the offset scheme. All costings should allow for inflation (using an index rate of 3.61% per annum).

Appendix

Table 2: Habitat condition assessment

Phase 1 Habitat Type	Distinctiveness	Condition Assessment
Gardens (lawn and planting)	Low	Classify as poor condition
Broad-leaved semi-natural woodland	High	T08
Broad-leaved plantation	High	Use T08 even though this habitat does not meet strict FEP definition for use with T08.
Coniferous semi-natural woodland	High	Use T08 even though this habitat does not meet strict FEP definition for use with T08.
Coniferous plantation	Low	Classify as poor condition
Mixed semi- natural woodland	High	Use T08 even though this habitat does not meet strict FEP definition for use with T08.
Mixed plantation	Medium	Use T08 even though this habitat does not meet strict FEP definition for use with T08.
Dense or Scattered Scrub	Medium	Use condition assessment V05 for scrub, even if the scrub does not meet the FEP definition of high environmental value scrub.
Broad-leaved parkland Scattered Trees (All types)	High	T03
Scattered trees	Medium	Use T03 even though this habitat does not meet strict FEP definition for use with T03
Traditional orchards	High	T15 or PTES condition assessment
Unimproved acid grassland	High	G05
Semi-improved acid grassland	Medium	G05
Unimproved neutral grassland	High	G06
Semi-improved neutral grassland	Medium	G06
Unimproved calcareous grassland	High	G04
Semi-improved calcareous grassland	Medium	G04
Poor semi-improved grassland	Low	Classify as poor condition.
Improved grassland	Low	Classify as poor condition.
Marsh/Marshy Grassland	High	G07
Dry heath/acidic grassland mosaic	High	Use M03
Set-aside/arable field margins	High	Use FEP species features especially uncommon vascular plants
Amenity grassland	Low	Classify as poor condition
Standing water: ponds	High	W07
Reedbeds	High	W08
Inundation vegetation	High	
Arable	Low	Classify as poor condition

Bracken Continuous or Scattered	Low	Bracken should be classed as condition poor unless it meets the FEP definition of high environmental value bracken in which case its condition should be assessed against V05*.
Tall Ruderal	Low	Classify as poor condition
Non-ruderal	Low	Classify as poor condition
Ephemeral Short Perennial	Low.	Classify as poor condition
Introduced Shrub	Low	Classify as poor condition.

References

Alexander, M., 2010. The Countryside Management System (CSM) Guide to Management Planning.

Defra, 2012. Biodiversity Offsetting Pilots Guidance for offset providers

RSPB, 2009. Generic Site Management Planning Format and Guidance notes