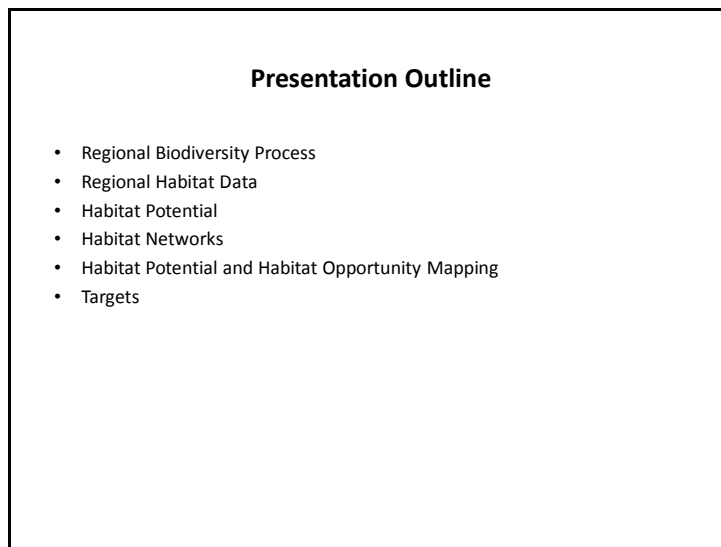
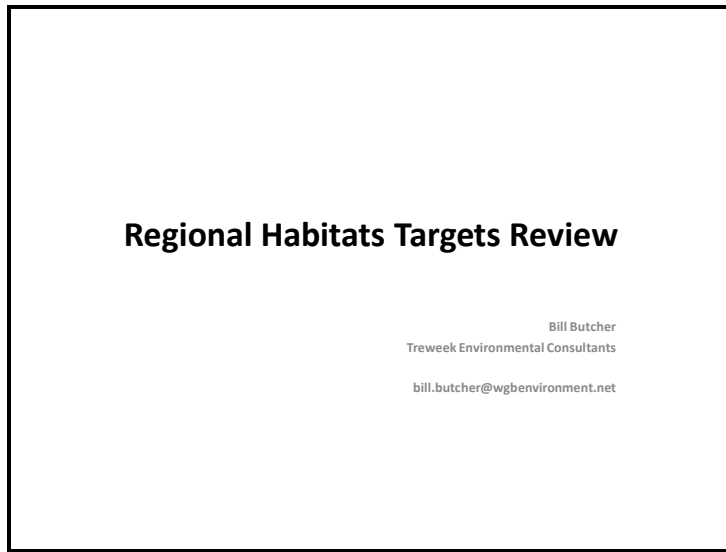
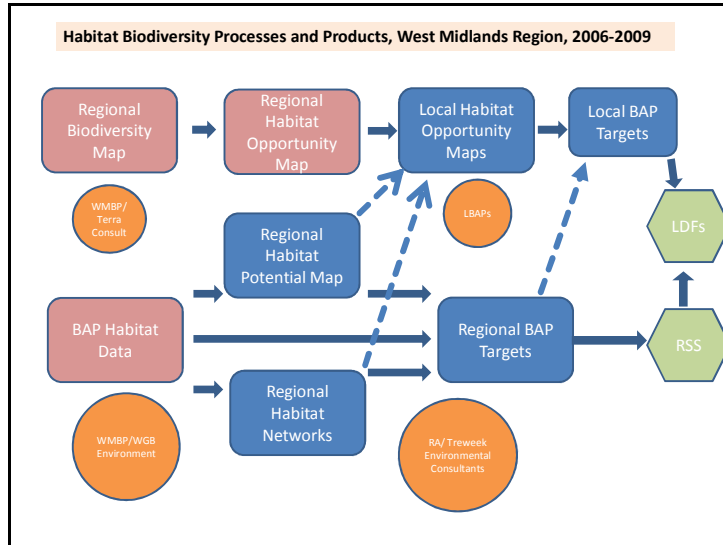


Regional Habitats Targets Review Project – Workshop, Birmingham, 22 October 2008.

Copy of presentation by Bill Butcher, Treweek Environmental Consultants, with notes



I will first show how this project fits into the regional biodiversity process; then describe the Regional Habitat Data Project that I've just completed for the West Midlands Biodiversity Partnership; then switching to the current project I'll outline our plans for developing habitat potential maps, describe the habitat network mapping process, explain our thinking on differentiating between habitat potential and habitat opportunity mapping, and finally describe how all this contributes to the revision of BAP targets.



This diagram shows how this Habitats Targets Review project fits into other processes in the region. The Regional Biodiversity Map and Regional Habitat Opportunity Map already exist through other projects led by the West Midlands Biodiversity Partnership. The process of localising the regional habitat opportunity map is already in train. Revised local BAP targets will emerge from these. The BAP Habitat Data project, just completed, informs many other elements. In the current project we are using the output to help construct Regional Habitat Networks and Regional Habitat Potential Maps, which in turn will be tools to inform the Local Opportunity Maps. The revised Regional BAP Targets, drawing on all of these data sources and tools, will feed into the Regional Spatial Strategy, which then guides Local Development Frameworks.

Regional BAP Habitat Project

Objectives

- To create the initial centralised composite GIS layer of priority BAP habitats as a regional resource
- To feed into the RSS Phase 3 Review of habitat targets

These are the objectives of the Regional BAP Habitat Project.

Contributing Organisations

WGB Environment for **West Midlands Biodiversity Partnership**

- Staffordshire Ecological Record
- Worcestershire Biological Records Centre
- Herefordshire Biological Records Centre
- Warwickshire Biological Records Centre
- Eco Record - LRC for Birmingham and Black Country

- Natural England
- Forestry Commission
- Worcestershire County Council
- Shropshire County Council

.....and many others through collated records at Local Records Centres

The project has brought together the data of many organisations. The work of Local Records Centres in the region is invaluable in working with local partners to develop county based habitat datasets, some built up over decades of dedicated but low profile work. The contribution of partners working through LRCs, such as Wildlife Trusts, National Trust and Woodland Trust should not be overlooked. Worcestershire County Council and Shropshire County Council are leading on partnership based habitat work in their respective counties, and national agencies, notably Natural England and Forestry Commission, have contributed a large number of datasets.

Some statistics.....

Source data reviewed

> 0.5 million polygons
51 datasets
20 data formats
7 habitat classifications
> 300 habitat types
> 5 million data attributes

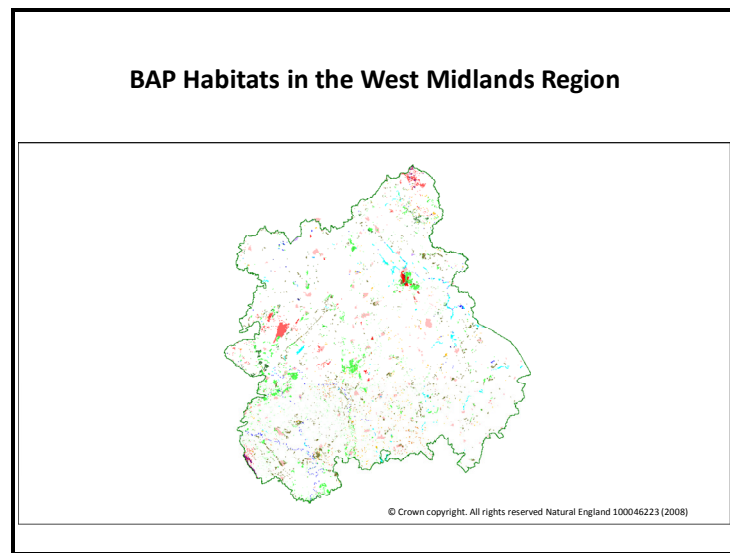
Final BAP Data Layer

37,022 polygons
1 dataset
1 data format
1 habitat classification
25 BAP habitat types
0.5 million data attributes

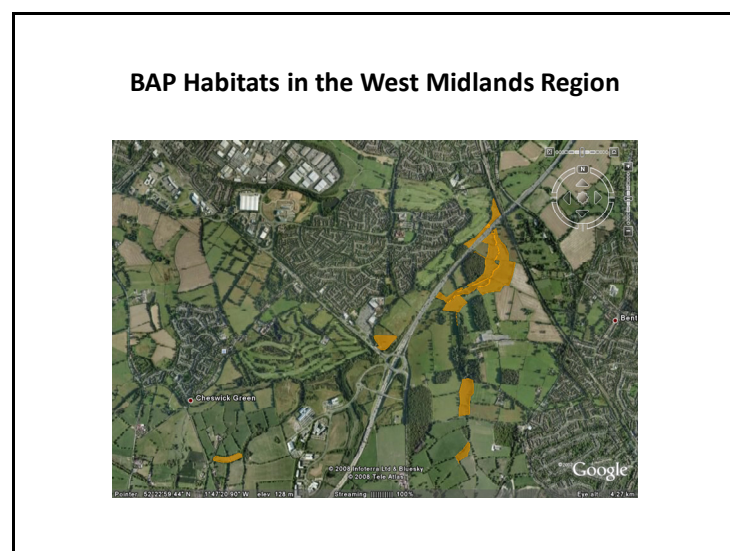
- > PLUS **Working Data Layer**: 52,000 polygons, 2.7 million data attributes
- > Less certain data & "near BAP" habitats

Some statistics illustrate the scale of this project. Over half a million polygons of habitat data have been reviewed for inclusion, drawn from over 50 datasets. The habitat data was held in 7 habitat classifications, including Phase 1, NVC and IHS, and required translation to IHS/BAP habitat. The final datasets are presented in two layers. The Final BAP Layer comprises over 37,000 polygons, with data all in one habitat classification (IHS) and a single data

format. 25 BAP habitat types are represented. The layer has a comprehensive attribute set. Additionally a Working Data Layer contains more data that includes less certain data and parcels that are assessed as being “Close to” the habitat definition. The Working Layer has a potentially important role in informing some aspects of targets, as will be seen later.



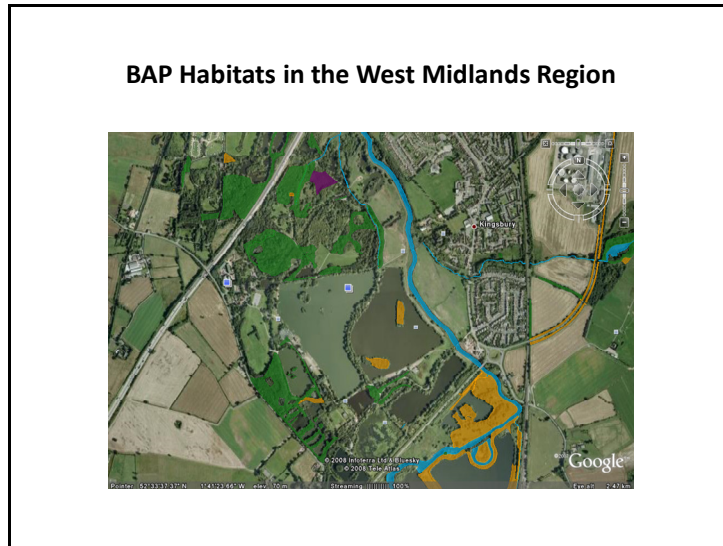
After all of this work the new map looks like this at the regional scale. This is, of course, hard to interpret, but the real value lies in the detail.



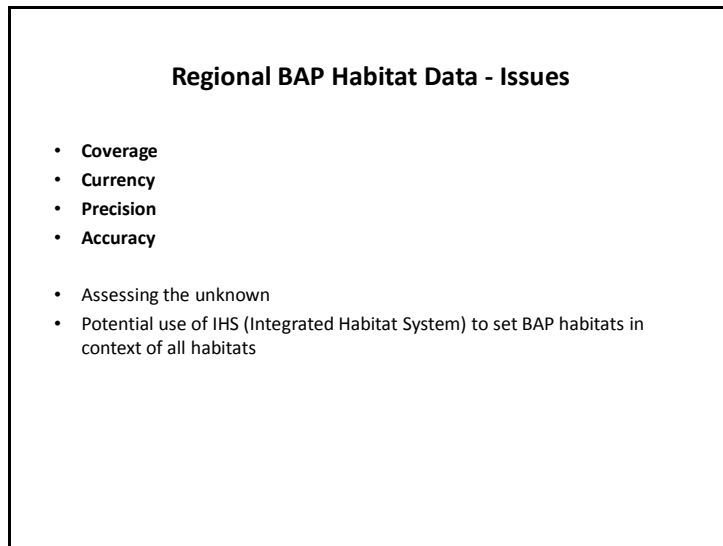
When viewed in GIS at a more local level, the power of the dataset becomes apparent. The spatial precision of most polygons is generally good, giving a good fit with underlying mapping. The attribute set can be easily queried to provide views of individual BAP habitats, groups of habitats or all habitats – in fact any combination of any of the attributes included. Users should bear in mind the Determination Quality attribute – the two Determination

Qualities of “Definitely is” and “Probably the BAP Habitat but some uncertainty of interpretation” have been included in the final BAP layer; less certain Determination Qualities are found in the Working Layer.

The real value of GIS, however, lies in the ability to link the data to other resources. This illustrates Lowland Meadows in a part of Warwickshire viewed over Google Earth aerial photographs.



This view shows all BAP habitats in another part of Warwickshire. The spatial precision against rivers and roads is demonstrated well.



In common with all biodiversity datasets there are some quality issues that need to be considered by all users. Data quality can be described by four parameters. Coverage of each BAP habitat is variable – for some, only a small proportion of the resource has been captured to date. Data currency is highly variable, ranging from up to 20 years old to extremely recent.

Spatial precision is mostly good, but poor for a small proportion of the data. Habitat precision is variable – some data is only resolved to a more generic level of classification than is ideal for BAP purposes. There will be examples in the dataset where errors are evident. Users finding errors should communicate them to the dataset managers. While the dataset has inevitable quality issues it can be said to represent the best available data currently, and is a baseline that should be continually improved from this point on. Users are challenged to assess the unknown that the dataset implies, as well as the known that it represents. The dataset includes only known BAP habitat, and land that is thought to be close to BAP definition. Ideally BAP habitats should be set in the context of all habitats; the IHS classification used provides the potential for this to be developed in the future, as it contains all habitats including BAP.

Habitat Potential - criteria

- Threshold based combined criteria to be developed for each BAP habitat

Soil
Hydrology
Topography
Land use
Agricultural land grade
+/- Previous Development

- Applied in GIS using vector data, with “training” against existing habitat distribution
- Product: 28 Habitat Potential Maps
- Will use Wetland Vision Project outputs for wetland habitats

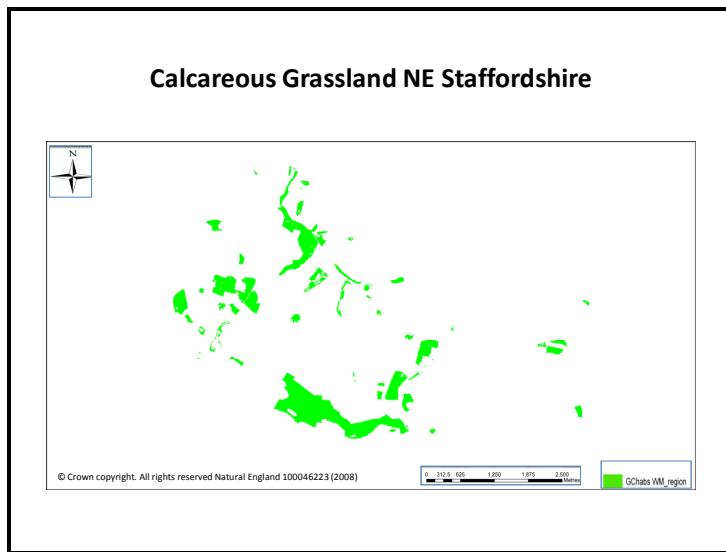
Now moving on to the Habitats Targets Review Project, this outlines our proposed methodology for developing Habitat Potential Maps. These need to be mapped at the individual habitat level, and therefore around 28 maps will be generated. The Wetland Vision project has covered a number of these with similar methodology, so we will use that work where available.

Habitat Networks

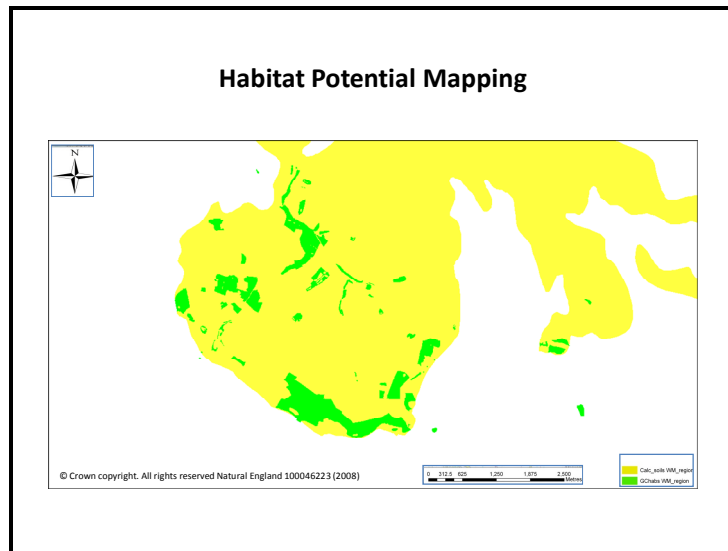
- Methodology developed by Natural England (Dr. R. Catchpole)
- Purpose is to identify places where it **may** be most effective to restore or expand habitats
- Based on existing habitat patches in statutory sites and across landscape
- Habitats grouped: Woodlands, wetlands, heathlands, grasslands
- Research and expert input used to assess **permeability** of landscape to typical BAP species using habitat patches of each type
- Land cover data used to analyse network extent around each existing patch

For the mapping of Habitat Networks we are using the standard national approach as developed by Dr. Roger Catchpole at Natural England.

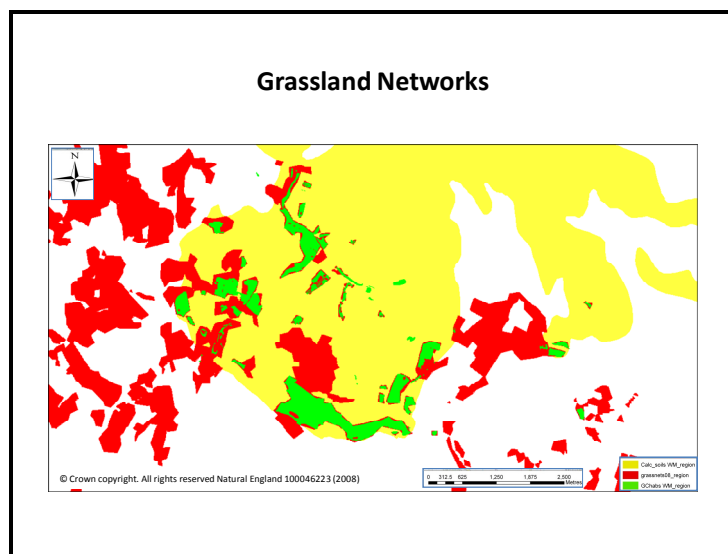
Calcareous Grassland NE Staffordshire



The next few slides illustrate how these datasets and tools relate to each other, using a part of NE Staffordshire. This shows the existing calcareous grassland BAP habitat in the area.



Here the calcareous grassland habitat potential map, based on soils data, has been added. Not surprisingly, the resource shows a very good fit to the potential map. The habitat potential map shows where it may be physically and ecologically possible to restore and expand the habitat.



Adding the habitat network maps (in red) allows stakeholders to start to assess restoration and expansion opportunity. The networks go beyond the potential calcareous because they are grouped habitats, including in this case Lowland Meadows. It can be seen that some networks show very narrow borders around the existing habitat, suggesting low permeability of the landscape there. Wider buffers suggest higher permeability. The wide buffers within the habitat potential areas may be the most suitable places to explore the opportunity for calcareous grassland restoration and expansion. Local knowledge and several other factors must be used for the next stages.

Habitat Potential & Habitat Opportunity

	Habitat Potential Mapping	Habitat Opportunity Mapping
Basis	Ecological	Socio-economic linked (constraints and co-opportunities)
Concepts	Theoretical	Pragmatic, real world
Stability	Fixed in time	Evolving over time
Products	One answer	Many spatial scenarios
Habitat specific?	Habitat specific maps	Integrated all habitats map
Extent	Maximum potential for each habitat	Target driven for each habitat
Scale	Regional	Starting regional, evolving to local
Stakeholder involvement	Not necessary	Essential
Use	Informs other processes, including Habitat Opportunity Mapping	Does not influence the Habitat Potential Map. Informs strategy and action.

This table explains our thinking on the separation of habitat potential and habitat opportunity mapping processes. The habitat potential mapping process is essentially factual and therefore stakeholder involvement is not relevant, whereas it is essential for opportunity mapping.

Habitat Potential & Habitat Opportunity

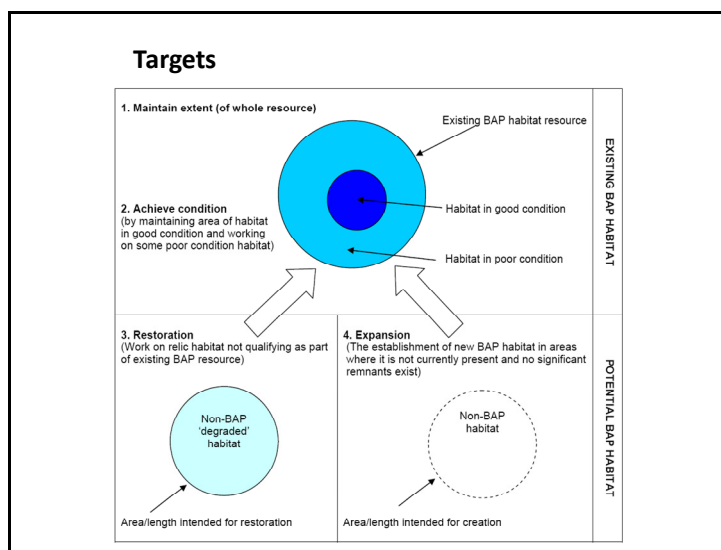
	Habitat Potential Mapping	Habitat Opportunity Mapping
Spatial constraint	Physical & ecological limits for each habitat	Must be: <ul style="list-style-type: none"> • within the habitat potential map for each habitat. • outside of existing BAP habitat.

Land identified for restoration or expansion must logically be within the habitat potential map for that habitat, and not conflict with the existing BAP habitat resource.

Analysis

- Review Networks and Habitat Potential Maps
- Regional Priority BAP Habitats within Networks
- Regional Priority BAP Habitats in Landscape Scale Projects
- Restoration and Expansion Targets within and outside networks, across counties and LBAP areas, and Landscape Scale Projects.

In our report we will present many analyses relating the dataset to Potential Maps and Network maps, the spatial distribution of targets against these maps, and also consider regional priority BAP habitats in the context of the many Landscape Scale Projects that are underway in the region. We will be asking your organisations about these shortly and would appreciate your help in bringing this information together.



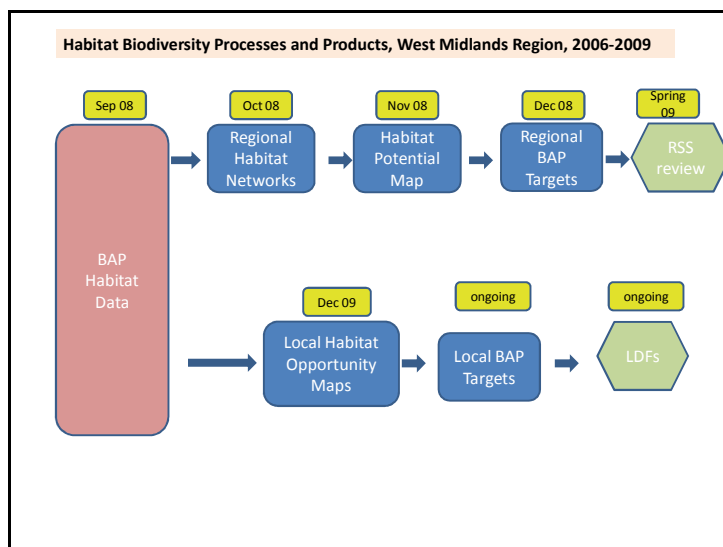
This diagram illustrates the new terminology for BAP targets, as set out in the recent national review. Existing BAP habitat, above the line, is now represented in the new Final BAP layer. However the data is silent on quality, and so cannot be used to inform the “Achieving Condition” targets. A habitat quality attribute could be developed in the future. Below the line, some non-BAP “degraded” habitat will be represented in the Working Layer; this therefore has potential for use in making decisions on restoration. The Working Layer could be developed in the future to include all land capable of restoration to BAP habitat. Land for potential expansion, however, will include much of the region – all land that is

included in one or more of the potential maps; it will therefore not be in either the final BAP layer or Working Layer. In practice there will be grey areas between achieving condition and land for restoration, and between restoration and expansion.

Targets

	Data Coverage	Maintain Extent	Achieve Condition	Restoration	Expansion
Arable Field Margins	None				
Blanket Bog	High				
Coastal and Floodplain Grazing Marsh	Medium				
Eutrophic Standing Waters	Medium				
Hedgerows	Low				
Inland Rock Outcrop and Scree Habitats	Medium				
Lowland Beech and Yew Woodland	High				
Lowland Calcareous Grassland	High				
Lowland Dry Acid Grassland	High				
Lowland Fens	High				
Lowland Heathland	High				
Lowland Meadows	Medium				

This project is primarily focused on developing revised targets for restoration and expansion at the regional level. It should be noted that the national targets do not necessarily include both a restoration and expansion target, and we are likely to follow a similar rationale.



Finally, this flow chart is a reminder of the timeline for elements of this project and related processes in the West Midlands.