

## H2 Boundary and Linear Features HABITAT ACTION PLAN

### 1. Habitats covered

- 1.1 The boundary and linear features habitat is a broad type that can be split into several sub-types. This plan covers hedgerows (ancient and/or species-rich), verges (grass or other habitats on non Trunk Road Agency land), habitat associated with green lanes, forest rides, habitat associated with railway lines (disused), field margins (arable and grass) and stone walls (dry stone walls and others providing connecting habitat). Road verges on Trunk Roads are not included in this plan as The Trunk Road Estate Biodiversity Action Plan (TREBAP) addresses issues on this land.
- 1.2 Verges have already been included in the species rich grassland habitat action plan for grassland value however; verges are included again here for the value of the habitat as a linear feature.
- 1.3 Boundary and linear features are considered to be important for Biodiversity because such habitats are often remnants of semi-natural habitats in an 'improved' and Biodiversity poor landscape. These semi-natural remnants often provide a link between fragmented habitats such as isolated grasslands and woodlands on farmland.
- 1.4 There is increasing interest in networks of semi-natural habitats as a mechanism for the migration of species as the climate changes. The linear features in this plan will be an important part of this.

### 2. Description and Current status

#### 2.1 Hedgerows

- 2.1.1 Hedgerows provide an important habitat in lowland farmed landscapes such as Monmouthshire. This plan includes: ancient pre-enclosure hedgerows and hedgerows of more recent origin that support rich flora. Unlike the UK and Wales plans 'new' hedgerows that provide important links between habitats are also considered here.
- 2.1.2 Species rich hedgerows have 5 or more native woody species in any 30m-length and/ or rich basal flora of herbaceous plants. Newly planted 'linking' hedgerows may not have this many woody species but are usually considered valuable because of their role in connecting otherwise isolated habitats.
- 2.1.3 Hedgerows are important for providing food and shelter for a number of bird species in Monmouthshire including the tree sparrow, bullfinch, song thrush, spotted flycatcher and turtle dove. The rare buttoned snout moth

uses the common hedgerow plant hop. Hedgerows are important for small mammals such as the dormouse, providing a connecting route between woodlands as well as a food source. Bats are known to use hedgerows for feeding on associated insects and to navigate to and from roosting and feeding sites. Spreading bellflower is also associated with hedgerows.

- 2.1.4 Priority habitats of Wales: a technical guide (CCW, 2003) estimates Gwent has 4000km of ancient and/ or species rich hedgerows, which is 8% of the Welsh resource. More specific data for Monmouthshire does not currently exist.
- 2.1.5 Ancient and/or species rich hedgerows are listed as a Priority habitat under the UK 'Boundary and Linear Features' Plan they are also recognised by their inclusion as a Habitat of Principle Importance for Conservation in Wales (WAG, 2003).
- 2.1.6 Agricultural Hedgerows are protected from removal under the Hedgerow Regulations 1997.

## 2.2 Road Verges

- 2.2.1 Road verges were identified by the Monmouthshire Roadside Verge Management Policy Review 2002 as:  
'Central reservations plus the carriageway surface boundary up to and including the complete highway boundary feature e.g. hedgerow.'
- 2.2.2 The road verge is an important wildlife resource consisting of one or more habitat types e.g. grassland, heathland, ditches, woodland edge. Nationally rare and important species have been known to be associated with road verges and in Monmouthshire an example of this is spreading bellflower listed as Endangered in the new Vascular Plant Red List for Great Britain (Cheffings & Farrell, 2005).
- 2.2.3 The extent of verges in Monmouthshire is unknown however; there is 1480.6km of road (not including Trunk Roads) in the County.
- 2.2.4 Current management of road verges in Monmouthshire is 2 cuts per annum for rural roads and 3 for urban. Visibility splays are regularly cut for health and safety reasons.
- 2.2.5 In 1992 and 1993 verges of special Biodiversity interest were identified in Gwent and listed in the Gwent County Council document "Roadside Verges.

Treatment of sites of Wildlife Interest, Phases 1 and 2 1992/93." A cutting regime was introduced to maintain the Biodiversity interest.

2.2.6 The Roadside Verge Wildlife Reserve Schedule 2001 (Revised 2003) lists sites identified in 1992 and 1993 that were resurveyed and found to still be of value and additional verges of interest. Some existing Wildlife Reserves were extended. New sites are added to the schedule annually. All Roadside Verge Wildlife Reserves are identified on the ground with white-topped marker posts, which are renewed/replaced each year, as required, prior to the cutting season. Management of these sites is as follows:

- A single cut delayed until August, by which time the wild flowers have set seed.
- Removal of the cut material to reduce soil fertility, and thus reduce the growth of competitive rank grasses.
- A minimum cutting height of 7cm to prevent scalping the ground.
- With wide verges the whole width is not always cut annually. However the whole verge needs to be cut on a 2-3 year cycle to prevent the establishment of brambles and shrubby species, which would suppress the wild flowers.

2.2.7 This habitat is covered by the Boundary and Linear Features Broad Habitat type in the UKBAP.

### **2.3 Habitat associated with green lanes (un-metalled roads)**

2.3.1 This section of the plan covers habitat associated with 'green lanes', which will commonly include hedgerows, walls, banks, large trees and in cases where there is little or no management, grassland or woodland. Species associated with green lanes will be dependant on the habitat types that occur. Bats commonly feed on invertebrates along green lanes and nesting birds will utilise these relatively un-disturbed situations.

2.3.2 Ownership and responsibility for management will vary depending on the exact classification of the route. Most of the habitat types will occur along the edges of the lanes.

2.3.3 The habitat types that are found along green lanes such as hedgerows and walls are covered by the Boundary and Linear Features Broad Habitat type in the UKBAP. Different types of Grassland e.g. Lowland Calcareous Grassland and woodland e.g. lowland mixed deciduous woodland are also UK Priority habitats.

## 2.4 Forest rides

- 2.4.1 For the purpose of this plan a forest ride is the non-wooded area between blocks of forest, which includes the areas that are used as roads for forestry vehicles and fire breaks.
- 2.4.2 These areas are valuable for woodland flora and in some places heathland. A range of fauna use forest rides including reptiles that use them for basking. The argent and sable moth is associated with birch scrub along the rides of conifer blocks.
- 2.4.3 This habitat is not Protected or listed under the UK BAP however many of the species that use them are Local if not UKBAP priorities and in some cases Protected Species e.g. Dormice.

## 2.5 Habitat associated with disused railway lines

- 2.5.1 This section of the plan covers habitat associated with disused (former) railway lines. This is often a mosaic of grassland, scrub and woodland and supports a range of species associated with these habitats. In Monmouthshire there is a former railway line in the Wye Valley, several in the Llanfoist / Llanelly Hill area, mainly in the National Park (and therefore not covered by this plan) with a short length outside. A dismantled railway runs from Little Mill to just east of Usk. There are also sections of sidings in the Mardy area of Abergavenny.
- 2.5.2 Many disused railway lines have in the past been incorporated into farmland to increase area for productivity and ease of operations.
- 2.5.3 Used railway lines are managed by Network Rail or the MOD. Network rail has its own Biodiversity Action Plan. Therefore, these are not included in this Action Plan.
- 2.5.4 This habitat is covered by the Boundary and Linear Features Broad Habitat type in the UKBAP.

## 2.6 Field margins (To be modified in line with the UK review)

- 2.6.1 This plan covers strips of land surrounding fields that are managed in a way that benefits farmland species dependant on low input arable or mixed farming systems. Such margins can take a variety of forms, but largely consist of either:
- Fallow ground (cultivated regularly, but not cropped)
  - Conservation headlands (crops grown using no or very limited inputs of pesticide)

- Grazed margins (infrequently cut or grazed grassy margins)  
Field margin in other farming systems or on non-agricultural land are covered by the hedgerows section of this plan where associated with such.
- 2.6.2 As with the other linear features cereal field margins provide a refuge for wildlife including invertebrates and small mammals as well as several species of nesting and over-wintering birds. More limited to this type of habitat are arable weeds. Many arable weeds have already been lost from Monmouthshire e.g. cornflower, purple rampion-fumitory and corn cleavers. Several rare bryophytes have been recorded including the UK BAP species Sausage beard moss *Didymodon tomaculosus* and beaked beardless-moss *Weissia rostellata*.
- 2.6.3 Lowland Monmouthshire has 11% (6700ha) of the Welsh Resource of arable land (the third highest in Wales) (CCW, 2003). Cereal field margins will make up considerably less area than this, on average in the UK 51% of arable farmland is under a cereal-cropping regime.
- 2.6.4 Cereal Field Margins are a UK Priority habitat. It is also recognised as a Habitat of Principle Importance for Conservation in Wales (WAG 2003). The rotational operations of arable farming that often lead to development of the valuable species composition, makes protection of the Biodiversity value of Cereal Field Margins very difficult.
- 2.6.5 Grassy field margins that are left un-managed or cut very infrequently are valuable for Biodiversity such as small mammals e.g. the short tailed field vole and nesting birds e.g. grey partridge. Voles in particular use this habitat, which provide an essential food source for birds such as owls.
- 2.6.6 Grassy margins also provide buffers for rivers, streams and ditches.
- 2.6.7 The extent of this habitat type in Monmouthshire is unknown and is likely to change as crops and other management are rotated.
- 2.7 Stone walls**
  - 2.7.1 This plan covers dry stone walls that form traditional field boundaries and old stone walls that are relics of former estates and provide connections between other important habitats such as hedgerows and woodlands. Stonewalls in the gardens of large properties or on farmyards are covered by the built environment action plan.

- 2.7.2 Stone walls are an important substrate for some plants particularly bryophytes, lichens and ferns. Mammals such as stoats and reptiles such as the common lizard can live in the walls as well as use them as shelter from predators when moving around the countryside.
- 2.7.3 An estimated 7,000km - 4,350 miles - of dry stone walls disappeared from the countryside of England and Wales between 1947 and 1985 and 96% of those left are in need of restoration.
- 2.7.4 This habitat is covered by the Boundary and Linear Features Broad Habitat type in the UKBAP. Stone walls, unlike hedgerows do not have any protection against removal.

### **3. Current factors affecting the habitat (In rank order of importance with details of entry on BARS)**

#### **3.1 Hedgerows**

- 3.1.1 Too frequent and badly timed cutting leading to poor habitat conditions, the development of gaps and probable species changes. A tendency to create box shaped hedges instead of A shaped.
- 3.1.2 Neglect (no cutting or laying) leading to hedgerows changing into lines of trees and the development of gaps.
- 3.1.3 Loss of hedgerow trees through senescence and felling, without encouraging replacements.
- 3.1.4 Use of herbicides, pesticides and fertilisers adjacent to hedgerows, leading to a decline in species diversity through direct exclusion and nutrient enrichment.
- 3.1.5 Livestock grazing close to the base of the hedgerow and browsing out of shoots of hedgerow species leading to gaps.
- 3.1.6 Removal for development purposes.
- 3.1.7 Removal for agricultural purposes.

#### **3.2 Road Verges**

- 3.2.1 Inappropriate timing of cutting e.g. too early before seed has set.
- 3.2.2 Nutrient input from grass cuttings that are left following cut. Soils become enriched leading to the dominance of species such as nettles and docks.
- 3.2.3 Nutrient and tannin input from spreading of woodchip arising from scrub or tree work Soils become enriched or are too tannin rich for some species to survive.
- 3.2.4 The spreading of salt during the winter months changes the chemical composition of soils and the resulting floral assemblage.

- 3.2.5 Competition from invasive species such as bracken, and invasive non-natives such as Japanese knotweed, Himalayan balsam and winter heliotrope.
- 3.2.6 Damage by vehicles especially on narrow roads and lanes and where verges are used for parking places.
- 3.2.7 Inappropriate storage of materials for engineering works and salt bins.
- 3.2.8 Inappropriate damage repair including the importing of topsoil and re-seeding with non-local seed.
- 3.2.9 Herbicide drift due to the spraying of highway sightlines.
- 3.2.10 Fly tipping of garden and other waste.
- 3.2.11 Appropriation into private gardens.

### **3.3 Habitat associated with green lanes (un-metalled roads)**

- 3.3.1 Neglect due to confusion over ownership and responsibility and lack of incentive to manage.
- 3.3.2 Mowing of rights of way and the timing of the 1m.
- 3.3.3 Use of off-road vehicles.

### **3.4 Forest rides**

- 3.4.1 Damage during forestry operations.
- 3.4.2 Neglect leading to natural succession including scrub encroachment.
- 3.4.3 Replanting of woodlands with no retention of a ride.

### **3.5 Habitat associated with disused railway lines**

- 3.5.1 Neglect leading to a loss in diversity of habitats.
- 3.5.2 Incorporation of dismantled railway lines into agricultural systems leading to tree / hedge removal and over grazing.
- 3.5.3 Incorporation of disused railway cuttings into gardens systems leading to tree / hedge removal and over grazing.
- 3.5.4 Incorporation of dismantled railway lines into agricultural systems leading to tree / hedge removal and over grazing.

### **3.6 Field Margins**

- 3.6.1 Intensification of agricultural systems including crop production, including the use of herbicides to ensure a weed free monoculture, and summer use of insecticides.
- 3.6.2 The shift to winter cropping and the associated loss of winter stubbles.
- 3.6.3 The reduction in rotation of cereal crops with other land covers
- 3.6.4 Invasive native and invasive non-native species reducing the biodiversity of margins through competition.

### 3.7 Stone walls

- 3.7.1 Neglect due to a lack of appreciation.
- 3.7.2 Pointing and cleaning walls leading to the removal of vegetation and making walls unsuitable for use as shelter.
- 3.7.3 Economic factors: labour costs in creating/ repairing stone walls.
- 3.7.4 Loss of traditional dry stone walling skills which leads to a decline in the quality of repair / building works.
- 3.7.5 Use of stone in building.

### 4. Current action

- 4.1 The hedgerow regulations 1997 were introduced to enable the protection of those hedges deemed 'important' under the archaeological, historic and wildlife criteria. It requires land managers to consult local authorities before a hedgerow can be removed.
- 4.2 Article 10 of the EC Habitats & Species Directive requires member states to encourage the management of hedges (and other linear features) in their land-use planning and development policies with a particular view to improving the ecological coherence of the Natura 2000 network.
- 4.3 Agri environment scheme, Tir Gofal, provides the opportunity for:
  - Restoring field boundaries
  - Establishing new streamside corridors
  - Arable management: Unsprayed crops, winter stubbles, undersown spring cereal crops, rough grass and fallow margins, wildlife cover crops and conversion of improved grassland to arable.However this scheme is only available for holdings of >3ha.
- 4.4 Monmouthshire County Council has given small grants for Biodiversity projects, which have included hedgerow management, hedgerow planting and dry stonewall repair.
- 4.5 Farmers claiming under the Single Payment Scheme are responsible for understanding and meeting Cross Compliance requirements. This can be beneficial for hedgerows, stone walls and field margins.
- 4.6 The Supplementary Planning Guidance 'Biodiversity and Development' includes a Habitat Advice Note for hedgerows, which outlines how to consider them during development.

- 4.7 The Roadside Verge Wildlife Reserve Project has been in operation since September 2001 (Revised 2003). This introduces the concept of appropriate management but there is little monitoring to support it.
- 4.8 The Monmouthshire Meadows Group and Gwent Wildlife Trust have been working in partnership on the making meadows project and in 2005 introduced local provenance wildflower seed to two roadside verges in the Wye Valley.
- 4.9 Forestry Commission Wales have carried out positive work for Biodiversity by creating and managing forest rides in several woodlands in Monmouthshire including Loysey, Trelleck Common and Chepstow Park Wood.
- 4.10 The Usk Conservation and Environment Group have undertaken work on the old railway line at Usk (approx 1km) making it part of the Usk Town Nature Trail. Surveys for flora and fauna have been undertaken.

## **5. Proposed targets**

### **5.1 Hedgerows**

- 5.1.1 Maintain the extent of hedgerows across Monmouthshire.
- 5.1.2 Maintain the overall number of individual, isolated hedgerow trees.
- 5.1.3 Ensure that between 2005 and 2010 hedgerows remain, on average, at least as rich in native woody species (4 species).
- 5.1.4 Achieve favourable condition of 35% of hedgerows by 2010 and 50% by 2015.
- 5.1.5 Halt further decline in the condition of herbaceous hedgerow flora in Monmouthshire by 2010 (14 species).
- 5.1.6 Improve the condition of the hedgerow tree population by increasing numbers of young trees (1-4 years).
- 5.1.7 Achieve a net increase in the length of hedgerows.

### **5.2 Road Verges**

- 5.2.1 Maintain the extent of road verges valuable for biodiversity in Monmouthshire.
- 5.2.2 Improve the condition of road verges in Monmouthshire where quality has declined due to inappropriate management or degradation.
- 5.2.3 Restore damaged road verges as damage occurs.
- 5.2.4 Expand the area/length of species rich road verges.

### **5.3 Habitat associated with green lanes (un-metalled roads)**

- 5.3.1 Maintain the extent of habitat associated with green lanes.

5.3.2 Improve the condition of habitat associated with green lanes in Monmouthshire where quality has declined due to inappropriate management or degradation.

5.3.3 Restore damaged habitat associated with green lanes.

#### **5.4 Forest rides**

5.4.1 Maintain the extent of forest rides valuable for biodiversity in Monmouthshire.

5.4.2 Improve the condition of forest rides in Monmouthshire where quality has declined due to inappropriate management or degradation.

5.4.3 Restore damaged forest rides.

5.4.4 Expand the area/length of species rich forest rides.

#### **5.5 Habitat associated with disused railway lines**

5.5.1 Maintain the extent of habitat associated with disused railway lines.

5.5.2 Improve the condition of habitat associated with disused railway lines in Monmouthshire where quality has declined due to inappropriate management or degradation.

5.5.3 Restore damaged habitat associated with disused railway lines.

#### **5.6 Field margins**

5.6.1 Expand the area of cultivated, low-input field margins.

5.6.2 Expand the area of margins providing wild bird seed.

5.6.3 Expand the area of flower-rich field margins which provide a pollen and nectar source.

5.6.4 Expand the area of permanent grass margins.

5.6.5 Achieve favourable condition on an increasing proportion of the resource of arable field margins by 2010.

#### **5.7 Stone walls**

5.7.1 Maintain the extent of stone walls valuable for biodiversity in Monmouthshire.

5.7.2 Improve the condition of stone walls in Monmouthshire where quality has declined due to inappropriate management or degradation.

5.7.3 Restore damaged stone walls as damage occurs.

5.7.4 Expand the length of stone walls valuable for biodiversity.

**6. Proposed Actions and key partners for Linear Features**

Action	Key Partners		Timescale
	Lead	Support	
<b>1. Policy and Legislation</b>			
1.1 Ensure that boundary and linear features are not adversely affected by development.	MCC	CCW	Ongoing
1.2 Ensure that boundary and linear features are fully considered when assessing any development, which may impact upon the habitat.	MCC	CCW, GWT	Ongoing
1.3 When there is no alternative ensure that appropriate mitigation or compensation measures for boundary and linear features are implemented during development.	MCC	WAG, CCW MCS, GWT, MDP, MDC	Ongoing
1.4 Where appropriate, ensure opportunities for enhancing boundary and linear features are used during the planning process.	MCC	GWT	Ongoing
<b>2. Funding / Resources</b>			
2.1 Grant aid and incentive schemes such as Tir Gofal and MCC Biodiversity Grants should be used to encourage owners to manage boundary and linear features.	WAG, MCC, FCW	CCW	Ongoing
<b>3. Site Protection and Designation</b>			
3.1 Seek to designate appropriate hedgerow systems, field margins, disused railway lines and green lanes as SINC's.	MCC GWT	SINC Panel Local naturalists	
3.2 Seek to designate appropriate road verges as Roadside Verge Wildlife Reserves.	MCS	MH GWT	Ongoing
3.3 Continue to enforce the Hedgerow Regulations 1997 and ensure that relevant MCC departments are aware of the regulations and the correct procedures.	MCS	MDC MH	Ongoing
<b>4. Habitat and Site Management</b>			
4.1 Develop an ecologically sensitive road verge management policy for all road verges and road side hedges managed by MCC.	MCC	MCS MH	2007

4.2 Proactive management of boundary and linear features on Monmouthshire Countryside Service sites.	MCC	CCW	
4.3 Continue to identify areas of forestry for positive management for Biodiversity.	FCW	WT	Ongoing
4.4 Develop a strategy for the eradication of non-native invasive species associated with boundary and linear features.	MCC	EA, AONB, CCW	
<b>5. Habitat Creation / Restoration</b>			
5.1 Encourage creation or improvement of linear features especially where networks of habitats will be improved. Target school grounds, new developments, council owned sites, farmland and private land.	MCC	MCS, MDC, GM, CCW	Ongoing
5.2 Use Tir Gofal prescriptions to create and restore existing boundary and linear features.	WAG	CCW	
5.3 Ensure that appropriate, low productivity seed mixes, of local provenance, are used on verges associated with new road schemes.	MCC	MH	
<b>6. Survey and monitoring</b>			
6.1 Undertake survey work to provide information on the quantity and distribution of various types of hedgerow	CCW		
6.2 Monitor a selection of Road Verge Wildlife Reserves to ensure management is appropriate.	MCC	GWT	
<b>7. Information and Databases</b>			
7.1 Digitise road verge wildlife reserves for access by relevant departments of MCC, Biodiversity Partners and the general public.	MCC	SEWBRcC	End 2006
<b>8. Communication -Advisory</b>			
8.1 Annually train grass-cutting contractors to enable correct management on sites.	MH, MCS		Start 2009
8.2 Advise on areas that may need a sympathetic approach to management / clearance e.g. near to important sites or records of protected species.	MCC	GWT	Ongoing

<b>9. Communication -Publicity</b>			
9.1 Publicise Road verge nature reserves through the Monmouthshire County Council Website.	MH, MCS	CCW	For 2009 cutting season

### **7. Links to other plans**

This plan should be considered in conjunction with the habitat action plans for grasslands and woodlands. It is likely that the implementation of this plan will also benefit the targets of the species action plans prepared for farmland birds, bats, moths, butterflies and great crested newt.

### **8. Abbreviations**

CCW	Countryside Council for Wales
GWT	Gwent Wildlife Trust
MCC	Monmouthshire County Council
MH	Monmouthshire Highways Department
MCS	Monmouthshire Countryside Section
MDC	Monmouthshire Development Control
SINC	Sites of Importance for Nature Conservation
SEWBRcC	South East Wales Biodiversity Record Centre
WT	Woodland Trust

### **9. References**

UK Biodiversity Group Tranche 2 Action Plans - Volume II: Terrestrial and freshwater habitats (December 1998, Tranche 2, Volume II, p15)  
 Priority habitats of Wales a technical guide (CCW, 2003)  
 Ceredigion Local Biodiversity Action Plan (Ceredigion County Council, 2002)