

Monmouthshire Public Rights of Way Biodiversity Action Plan

TECHNICAL SUMMARY MANUAL



Prepared by

Thomson Ecology Ltd

on behalf of

Monmouthshire County Council



Noddir gan
Lywodraeth Cynulliad Cymru
Sponsored by
Welsh Assembly Government



Foreword

This document was born out of the necessity to comply with nature conservation legislation but more than that, it was born out of a desire to do the right thing. This sounds simple, but sometimes this can take considerable time, effort and strength of character. This piece of work attempts to overcome some perceived “conflicts” between our duty to conserve and enhance nature conservation and our duty to maintain the rights of way network. Our goal has been to enable officers to do their jobs while feeling confident that they are doing it in a way that best preserves the natural resources around us that we all value. This document, although only a piece in the puzzle, will undoubtedly help us to achieve our goal. It has been compiled by Thomson Ecology and our thanks go to them for their hard work. It has been influenced by, and had input from, every member of the MCC Countryside Team and we hope that this will continue. It is intended to be a working document, to be used on a daily basis and be updated regularly to reflect what we learn from putting it into practice. This first edition of this document is not the end, it is only the beginning.

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1 Biodiversity Matters

1.1 The Public Rights of Way Network and Biodiversity

Monmouthshire's extensive public rights of way network gives the public access to explore the countryside and understandably requires on-going maintenance to ensure public safety and accessibility for all. The network passes through valuable wildlife habitats many of which fall within designated sites which are legally protected and have action plans in place to maintain them. It is essential that biodiversity is considered and structured into maintenance operations, improvement schemes and all rights of way work to ensure that it adheres to current UK wildlife legislation.

1.2 Legal and Policy Context

Aside from the natural desire to conserve biodiversity, the main drivers for considering biodiversity during works to the PRoW network fall into two categories:

- Legal obligations; and
- Government policies.

1.3 Legal Obligations

There is a large amount of legislation relating to the conservation of biodiversity in Wales and Monmouthshire, a proportion of which either does or could apply during works to the PRoW network. This includes legal requirements that apply during both the strategic planning of works, and during day-to-day implementation of tasks.

There are strict laws protecting certain species and habitats within and outside designated sites. For some species it is not only the individual animals that are protected but also the habitat which supports them. For example, dormice are strictly protected from killing and injury, also their habitat is protected from damage and destruction. Dormice tend to live in fairly dense vegetation - typically thick species rich hedgerow and woodland where there is a good understory layer (for example hazel coppice). When brambles or other thick vegetation needs to be cut back away from pathways as part of PRoW maintenance it is important to think about whether dormice or other protected species could be present.

Monmouthshire County Council and others carrying out work on their behalf, have a legal duty under the NERC Act 2006 to have regard for biodiversity whilst carrying out it is functions, this means that when planning works on the PRoW biodiversity must be considered.

Key biodiversity legislation relevant to works to the PRoW network includes:

- The Natural Environment and Rural Communities Act 2006
- The Conservation of Habitats and Species Regulations 2010
- Wildlife and Countryside Act 1981

Government Policies

Planning Policy Wales and TAN 5

The recently updated Planning Policy Wales (PPW) 2010 sets out the land use policies of the Welsh Assembly Government. This guidance is supplemented by a series of Technical Advice notes (TANs). Technical Advice Note 5 relates directly to biodiversity and sets out the manner in which planning authorities should “have regard for biodiversity” as imposed by the NERC Act.

It includes specific guidance on development affecting designated sites and habitats as well as development affecting protected and priority habitats and species.

Biodiversity Action Planning

At the national level the UK Biodiversity Action Plan (UKBAP) sets out how UK government aims to conserve and enhance wild species and habitats in the UK. To focus the conservation effort the UKBAP lists habitats and species which are of most conservation concern. These “Priority” species and habitats represent some of the rarest and most threatened in the UK.

To compliment the overall UKBAP objectives Local BAPs have also been produced. The Monmouthshire LBAP is based on a partnership approach, and is composed to reflect local biodiversity issues. Monmouthshire’s Priority habitats and species have been selected to represent the flora and fauna of the County. Some of Monmouthshire’s Priority habitats and species are also UKBAP priorities but there are also others which have been chosen which are of importance at the County scale.

The PRoW network provides important habitat for a number of UKBAP and Monmouthshire Priority species. Works to the network provide a great opportunity to contribute towards Monmouthshire BAP targets to enhance local biodiversity.

2 Sites and Species

2.1 Protected Species

Certain species are afforded legal protection, this may be under European and, or UK legislation. Generally protection is afforded to species because they are rare and declining or under threat of cruelty. Penalties for breaching protected species legislation can be financial and custodial. Protection extends to species that are fairly widespread in Monmouthshire and may be affected by works to the PRow network such as common reptiles, nesting birds and dormice.

European Protected Species

The main piece of European legislation that protects species is the Conservation of Habitats and Species Regulations 2010. This includes all species of bat, dormice, great crested newts, and otters as well as a number of other species. The Regulations make it an offence to deliberately capture, injure, kill or disturb any European protected species, their breeding and resting sites are also afforded protection. The regulations also make it an offence to pick, collect, up-root or destroy any European protected plant species (but there are no European protected species of plant of relevance in Monmouthshire).

National Protected Species

The Wildlife and Countryside Act (WCA) gives protection to all bird species making it an offence to kill, injure or take any wild bird species and to take, damage or destroy its nests or eggs.

Other animals also receive protection under the WCA. The level of protection can vary. Species fully protected under the WCA include water voles, lesser silver water beetle, marsh fritillary and southern damselfly. Some species are offered partial protection, for example, slow worms are only protected from killing, injury and selling whilst white-clawed crayfish are only protected from capture.

Badgers are protected by their own legislation, the Protection of Badgers Act 1992; this makes it an offence to wilfully kill, injure, take or ill-treat a badger and to interfere with a sett, including damage, disturbance and obstruction.

2.2 The PRow Network and Protected Species

Although some protected species are confined to sites that are designated for nature conservation others are relatively common and widespread. When carrying out PRow maintenance work there are potential issues for biodiversity but there are usually simple methods which will minimise the risk of an offence without leading to additional work.

2.3 Designated Sites

Monmouthshire supports habitats of international importance as well as a number of European, national and local designations. For example, the Severn Estuary is designated as a Ramsar site, a Special Area of Conservation (SAC) and also a Special Protection Area (SPA), for its International and European importance as a wetland and wildfowl habitat. The legislation that protects designated sites of this type means that MCC must ensure that no PRow maintenance works are undertaken which may have a significant negative impact on the site either directly or indirectly.

There are also more than 60 Sites of Special Scientific Interest (SSSIs), 3 National Nature Reserves (NNRs) and a Local Nature Reserve (LNR) present in Monmouthshire. All of the designated sites mentioned above (Ramsar, SAC, SPA, SSSI, NNR, LNR) are statutory sites.

Statutory and Non-Statutory Sites

Statutory sites have statutory designations for nature conservation which affords them legal protection; development work which may affect their conservation status is strictly controlled. When planning maintenance works it is very important to know whether they could affect a statutory designated site.

Non-statutory sites are designated by the local planning authority, they can be of significant value to local biodiversity, especially in urban areas, but they do not receive direct legal protection as given to the above statutory designations. There are currently 892 locally designated wildlife sites and Sites of Importance to Nature Conservation (SINCs) in Monmouthshire.

2.4 **The PRoW Network and Designated Sites**

The PRoW network in Monmouthshire includes and crosses land designated for biodiversity. Given the protection afforded to designated sites it is important to identify at an early stage whether planned maintenance works could affect one or more designated sites and take the necessary steps to avoid conflicts.

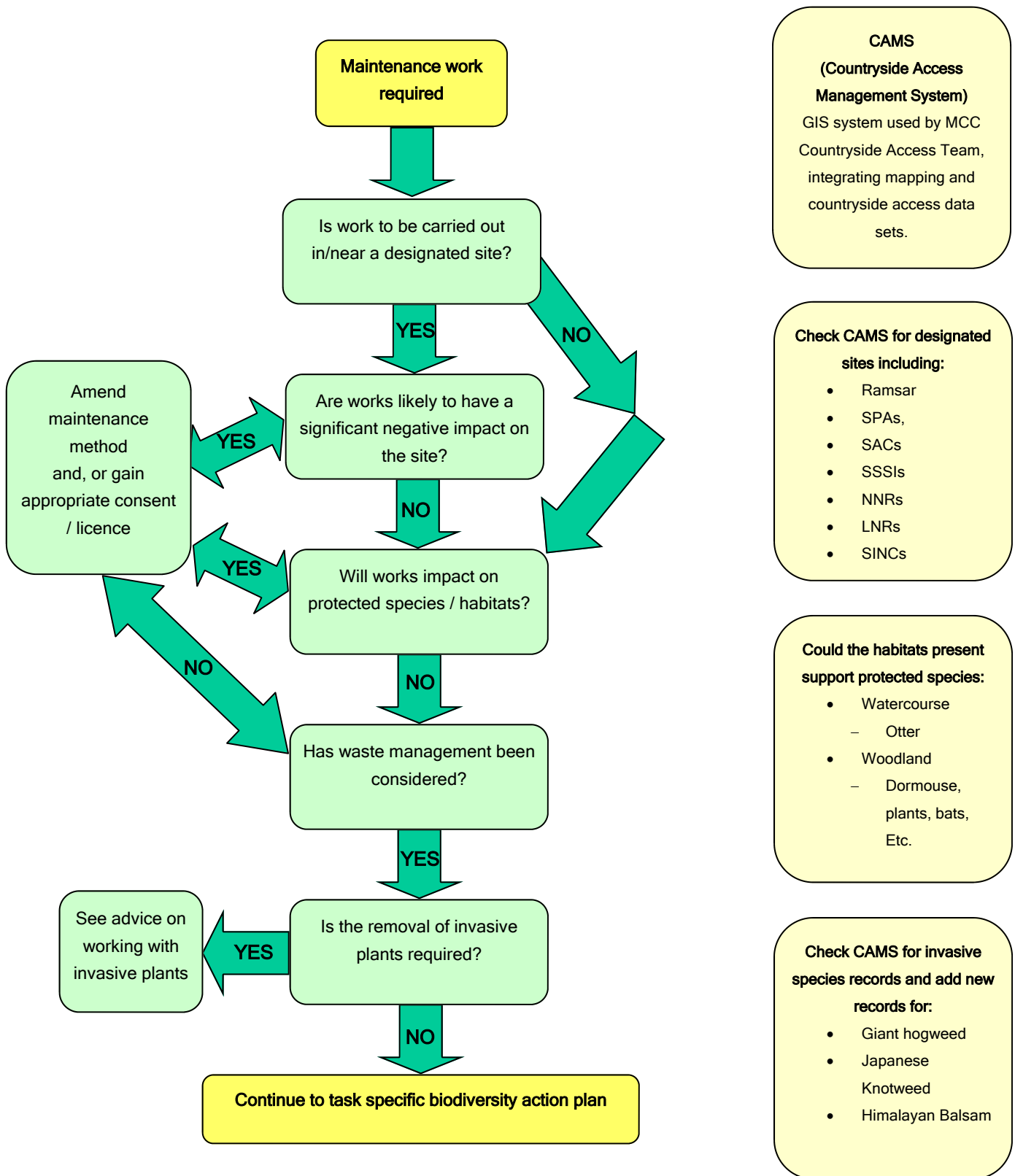
When works occur near, or on an internationally designated site (SAC/SPA/Ramsar) it may be necessary to undertake a 'likely significant effects test' in line with requirements under the Habitats Regulations. In this scenario it will be necessary to seek advice from the MCC Biodiversity Officer / CCW Officer to conduct, and document this test.

When works occur near, or on SSSI sites consent from CCW may be required for works to proceed. Each SSSI citation includes a list of operations that require consent (previously known as "operations likely to damage the special interest"), if a task is proposed that includes an operation listed consent should be sought from CCW, and obtained before starting work,

When planning works it is important to use CAMS to check whether the working area overlaps, or lies close to a designated site and if it does to take appropriate action - see text above and full BAP document Page 19. If it is unclear, seek guidance from the MCC Biodiversity Officer and/or the local CCW Officer.

3 Thinking Biodiversity

3.1 The Planning Stage: Thought Process



How to use the Biodiversity Action Plans (BAPs)

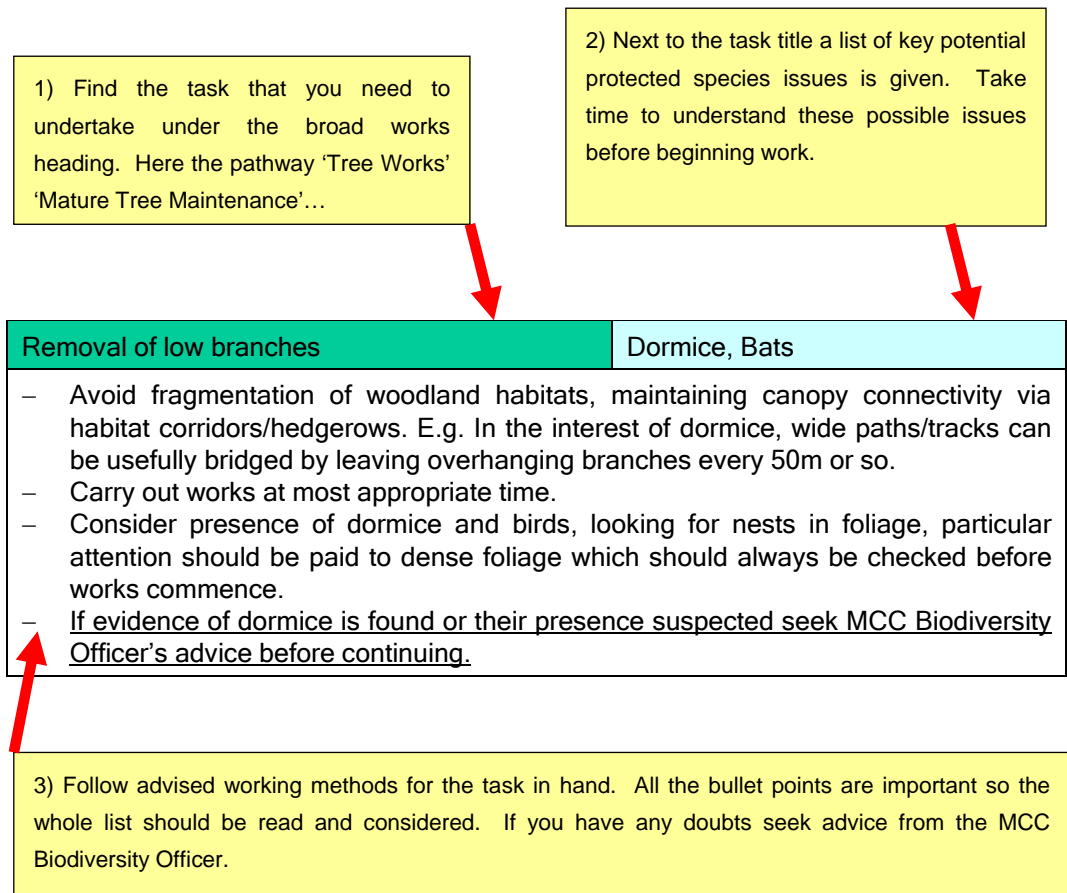
The BAPs included in this summary manual are organised by main activity, for example ‘Tree Works’ or ‘Proactive Clearance’, which are then in turn broken down into regular maintenance tasks.

When planning and undertaking works these BAPs should help:

- Undertake work during the most appropriate seasonal window;
- Avoid potential issues with protected species by identifying issues and taking appropriate precautions; and
- Incorporate enhancements for biodiversity into routine work.

Each regular maintenance task is listed with advised working methods which need to be followed. The table overleaf shows the activities and their component tasks, and the example beneath shows how to use and interpret the advised working methods boxes.

Figure 1: Example ‘Task’ Advised Working Methods Table



Seasonal Timing of Works Calendars

Each BAP contains a calendar to help plan the seasonal timing of maintenance works. The calendars using a traffic light approach to help select the best time of the year to undertake works, and show the main risks associated with undertaking works at other times.

	Green	The recommended season to undertake works, planned activities should occur during this period.
	Amber	Outside the recommended season to undertake works, if activities must go ahead during this period the calendars note the potential issues that must be understood before going ahead.
	Red	Outside the recommended season to undertake works, activities should be avoided at this time unless MCC Biodiversity Officer's advice has been sought, and special measures taken to mitigate potential negative impacts.

“Red” does not mean that works cannot occur under any circumstances, but it does mean that there are likely to be risks or issues that need very careful consideration. Likewise, “green” shows when the risks are lowest marking the best time to conduct work but it does not mean that biodiversity can be forgotten, awareness is always necessary.

Table 1: List of Activities with BAP Sections

Page	Main Activity	Tasks
15	Tree Works	Mature tree maintenance Small-medium tree cutting/clearance Removal of low branches Branches/Woody debris solutions
18	Hedgerow Works	Removal of protruding growth Creating a gap/removal of part of a hedgerow Woody debris/arising
21	Proactive and General Path Clearance	Grass cutting Scrub cutting (herbaceous growth/woody shrubs)
24	Restricted Byways Works	Removal of low branches Removal of protruding growth Branches/woody debris/arising Grass cutting Scrub cutting (herbaceous growth/woody shrubs)
28	Bridge Works	Digging foundations/earthworks Vegetation clearance
31	Furniture Maintenance Works	Removal of protruding growth Creating a gap/removing part of a hedgerow Scrub cutting (herbaceous growth/woody shrubs) Grass cutting Branches/woody debris/arising Digging footings
35	Bracken Control Works	Bracken cutting
40	Enhancement for Biodiversity	Creation of log piles/habitat piles Creation of reptile basking areas Maintenance of structurally diverse vegetation/irregular edges Installation of bat boxes/creation of roosting opportunities

The earlier biodiversity is considered in the planning and implementation process generally the easier it is to incorporate biodiversity benefits and avoid delays and frustrations through issues relating to biodiversity.

4 Seasonal Timing and Protected Species

4.1 Amphibians

Amphibians use grassy and scrub habitat (woody shrubs and herbaceous growth) for cover, and foraging habitat when they may leave their aquatic breeding habitat in late summer, autumn and winter. Where amphibians may be present, most likely within 250m of a pond or drain, works should be carried out over winter (as for reptiles listed below 4.7). Where summer cutting is necessary, it is best that, at ground level vegetation is not cut too closely (cutting above 200mm), and only occurs in select areas leaving other parts of vegetation undisturbed.

4.2 Badgers

Badgers inhabit a wide range of habitats including woodland, copses and hedgerows. Their setts are a system of complex tunnels which can be up to 20m long but are often close to the surface (about 60cm deep) and so heavy machinery or the felling of large trees could cause their collapse. Badgers can tolerate quite high levels of disturbance but are more sensitive during their breeding season (December-June inclusive) when high levels of disturbance could cause them to desert their young. During this time extra care should be taken if using heavy machinery or felling large trees, and advice should be sought from the MCC Biodiversity Officer before works to check whether a license from CCW would be required. During the summer, well worn tracks to and from a sett are a good indication that a sett is occupied, care should be taken in the winter when badgers are less active making these signs harder to see.

4.3 Roosting Bats

Bats may use trees, both mature and younger specimens, at any time of year and it can be very difficult even for experts to know if bats roost in a tree. The best time, seasonally, for works to mature trees is in the spring or autumn. Arboriculturalists should always consider the presence of bat roosts before starting work at any time of year. If a bat roost is suspected or confirmed the MCC Biodiversity Officer's advice should always be sought.

4.4 Nesting Birds

Woody shrubs, trees, and ground level vegetation can all provide habitat for nesting birds. Birds normally nest during the spring-summer period (mid-March–mid-August). Works should be avoided during this period, however if this is not possible MCC trained personnel should check for active nests before works commence.

Vegetation, particularly trees and woody shrubs, can provide an important food source for birds. Ideally works should be carried out in winter to minimise the effects on wildlife; some older growth should be retained to allow a good crop of flowers and berries to develop. Cutting in autumn should be avoided as this can restrict the berries and fruits available.

4.5 Dormice

Trees, both mature and younger low level scrub and hedgerows are potential habitat for dormice which build summer nests in foliage and tree holes. Dormice are active above ground in the summer (May - September inclusive) so works during this period should be avoided where dormice could be present. If works have to occur during this period

attention must be paid to assessing the likelihood of dormice being present, and if dormice are suspected or confirmed the MCC Biodiversity Officer's advice must be sought.

Trees and woody shrubs also provide an important food source for dormice. Ideally works should be carried out in winter to minimise the effects on wildlife; some older growth should be retained to allow a good crop of flowers and berries to develop. Cutting in autumn should be avoided as this can restrict the berries and fruits available.

Dormice hibernate over winter at ground level, or just underground - any necessary ground works in potential dormouse habitat should be avoided during this period (September - April inclusive).

4.6 **Otters**

Drainage channels and rivers provide suitable habitat for otters, scrub and vegetation cover on the bank-side and nearby provide potential holt sites for shelter. Where works involve digging into the bank-side substrate, and/or cutting of scrub vegetation near to water courses it is important that MCC trained personnel undertake checks for evidence of otters (spraints, food remains, footprints) before works commence. If the presence of otters is suspected or confirmed the MCC Biodiversity Officer's advice should be sought.

4.7 **Reptiles**

Reptiles require habitats with structurally diverse vegetation cover and more open areas in close proximity. The edges of paths, especially where there is a mixture of scrub (woody shrubs and herbaceous growth) and grassy vegetation can provide excellent reptile habitat. To avoid the risk of killing or injuring reptiles ideally clearance works should be conducted during the winter months when reptiles are hibernating. Where summer cutting is necessary, it is best that, at ground level vegetation is not cut too closely (cutting above 200mm), and only occurs in select areas leaving other parts of vegetation undisturbed.

4.8 **Water voles**

Drainage ditches can provide good quality habitat for water voles, with soft banks for burrowing and aquatic or marginal vegetation for fodder and shelter. Water voles are most active during the summer months when they breed, during the winter they do not hibernate but tend to spend more time in their burrows when food supplies are less plentiful. Maintenance works should not generally affect watercourses however, at crossing points it is essential to establish whether burrows or water vole nests are present before any bridge works commence. If the presence of water vole burrows is suspected or confirmed the MCC Biodiversity Officer's advice should be sought.

When to Seek Specialist Advice

This document is intended to set out practical and realistic activities that will contribute to the protection and enhancement of biodiversity in Monmouthshire. Given the wide range of maintenance activities that are undertaken in Monmouthshire, and biodiversity in the County it is impossible to cover every eventuality within this manual. In the following chapters, some of the advised working methods include recommendations to seek advice - this advice is given when one of more of the scenarios in Table 2 occur.

Table 2: When to Seek Specialist Advice

Description	Who to Contact
<i>Activities which need CCW consent / licensing</i>	
<ul style="list-style-type: none"> Activities which would otherwise be an offence under legislation protecting European Species and therefore may only be conducted under licence from CCW (see Page 6); and Activities which require consent from CCW because they may affect a designated site (see Pages 6-7) 	MCC Biodiversity Officer / Local CCW Officer
<i>Statutory works (Path Orders / Path Redirection)</i>	
<ul style="list-style-type: none"> Recommendations for statutory works such as "Path Orders" or "the redirection of paths" are not included within the BAP. In such cases the biodiversity impacts need to be individually assessed to provide project specific actions which minimise negative impacts and maximise the opportunities for enhancements for biodiversity. 	MCC Biodiversity Officer
<i>Works to Hedgerows which require Consent</i>	
<ul style="list-style-type: none"> Activities that would otherwise be an offence under the legislation protecting hedgerows, for example creating new gaps in "important hedgerows" (see App. 1 in full BAP) 	MCC Hedgerows Officer / MCC Biodiversity Officer
<i>Drainage / Surfacing Works</i>	
<ul style="list-style-type: none"> Drainage/Surfacing works that are medium scale, or could have a negative and/or uncertain impact upon biodiversity 	MCC Drainage Officer / MCC Biodiversity Officer
<i>Biodiversity assessments that feel you need support with</i>	
<ul style="list-style-type: none"> Any works where support is required, for example when a protected species is suspected or when you are informed that a local designated site (SINC) has a rare species or local BAP species that you need to work around. 	MCC Trained Staff / MCC Biodiversity Officer

5 Tree Works

5.1 Why it matters

Trees can be valuable habitats in their own right, and form part of woodlands and hedgerows of landscape value for wildlife. Specifically trees may provide habitat for protected species including nesting birds, dormice and bats so measures need to be taken to ensure works are undertaken inline with relevant legislation. Also, works to trees provide excellent opportunities to enhance the habitat present for these species and many more. Trees and woodland can be afforded protection under Tree Preservation Orders (TPOs) and it is important to consider them when planning tree works.

5.2 Contracting Tree Works

Monmouthshire County Council must ensure that contractors working on their behalf to complete tree works are aware of relevant factors relating to biodiversity. Specifically for tree surgeons, it is important that contractors are aware of bats when carrying out works to trees, and that a suitably qualified person can make the necessary checks for bats and bat roosts.

5.3 Advised Working Methods

Table 3: BAP Working Methods for Tree Works

Mature tree maintenance	Badgers, Bats, Dormice, Nesting Birds
<ul style="list-style-type: none"> – MCC to check for TPOs before works ordered – MCC to ensure that contractors are aware of relevant factors relating to biodiversity – Only remove mature trees if unsafe, where possible leave standing deadwood, removing unsafe limbs but keeping valuable habitat – Carry out works at most appropriate time – Consider presence of dormice, bats and birds in crevices and cracks and nests in foliage. It is advisable to have trees and bushes at the base of trees inspected by the MCC Biodiversity Officer or a suitably trained arboriculturalist before works – <u>If evidence of bats or dormice is found or their presence suspected seek the MCC Biodiversity Officer’s advice before continuing</u> – Check works area for animal burrows (fox or badger) before commencement; if found, take care not to disturb or obstruct holes with wood piles/arising, to damage burrows with falling branches or to drive over burrows with heavy machinery; if using heavy machinery or felling large trees which risk collapsing a sett, allow a minimum 20m protection zone around any occupied badger sett (or if not possible seek advice from MCC Biodiversity Officer) – Use contractors trained in arboriculture and bat ecology and advise to cut sympathetically leaving gaps and cutting crevices for future bat roosts 	
Small-medium tree cutting / clearance	Dormice, Nesting Birds
<ul style="list-style-type: none"> – Avoid fragmentation of woodland habitats, maintaining canopy connectivity via habitat corridors/hedgerows; e.g. in the interest of dormice, wide paths/tracks can be usefully bridged by leaving overhanging branches every 50m or so – Avoid cutting of large areas at the same time, where possible clear small areas at a time making sure to leave undisturbed habitat nearby – Carry out works at most appropriate time – Consider presence of dormice, bats and birds in crevices and cracks and nests in foliage 	

<ul style="list-style-type: none"> - <u>If evidence of bats or dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> - If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before works commence; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods. Any active nests should be protected from disturbance until the young have fledged - Check works area for animal burrows (fox or badger) before commencement; if found, take care not to disturb or obstruct holes with wood piles/arising or to damage burrows with falling branches 	
Removal of low branches	Dormice, Bats, Birds
<ul style="list-style-type: none"> - Avoid fragmentation of woodland habitats, maintaining canopy connectivity via habitat corridors/hedgerows; e.g. in the interest of dormice, wide paths/tracks can be usefully bridged by leaving overhanging branches every 50m or so - Carry out works at most appropriate time - Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence - <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> 	
Branches / woody debris solutions	
<ul style="list-style-type: none"> - Branches and woody debris should generally be retained on site - stacked/piled in discrete stacks (see enhancements beneath) - Branches and woody debris piles should be created along the woodland edge, hedgerow edge, in woodland or on already rich soil where coarse grasses and nettles occur, but not on herb rich ground. Only a small number of piles should be created on any given site to avoid suppressing ground vegetation - Piles should not be created in open grassland areas (meadows) or open heathland without guidance from the MCC Biodiversity Officer. If in doubt, ask! - When creating piles take care not to obstruct existing mammal burrows; e.g. fox or badger setts 	
Enhancement for biodiversity	Dormice, Bats Birds
<ul style="list-style-type: none"> - Contractors working on mature trees are advised to work sympathetically, leaving natural cracks and crevices in place where possible and cutting new slots and crevices when undertaking surgery works to provide new roosting opportunities for bats - Where possible install bat boxes to provide increased roosting opportunities for bats especially if a mature tree has been removed - Where appropriate leave standing deadwood to retain valuable habitat for bats and invertebrates - Create log piles with removed branches which will enhance habitat for invertebrates, amphibians and reptiles 	

Table 4: Seasonal Timing for Tree Works

Task		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mature tree maintenance	Above ground	Caution required to look for hibernation roosts (bat)		Caution - look for nests (bird and dormouse) and spring roosts (bats)	Works should be avoided during bird nesting & dormouse active period. Also bats in summer roosts during this time. If essential seek MCC Biodiversity Officer's advice.					Caution required to look for nests (dormouse) and autumn roosts (bats)		Caution required to look for hibernation roosts (bat)	
	Stump removal	Caution required as possible dormouse hibernation habitat.								Caution required as possible dormouse hibernation habitat.			
Small-medium tree cutting / clearance		This is the best time for clearance allowing berries and fruits to remain through autumn			Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice.					Cutting in autumn can restrict berries/fruit (birds and dormice)			
Removal of low branches				Caution required looking for nests (bird and dormouse) in dense foliage									
Branches / woody debris													
Enhancement for Biodiversity	Roost opportuni-ties	Caution required to look for hibernation roosts (bat)		Caution- look for spring roosts (bats)	Work should be avoided during the bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice.					Caution- autumn roosts (bats)	Caution required to look for hibernation roosts (bat)		
	Bat boxes	Caution required during all seasons to search for possible bat roosts (hibernation, transitional, summer/maternity) Caution required to look for nests (bird and dormouse)											

6 Hedgerow Works

6.1 Why it Matters

Hedgerows are an important habitat, providing a network of habitat for all sorts of species including protected species such as dormice and nesting birds. Hedgerows are a priority habitat in the UK BAP and are also listed in the Monmouthshire Local Biodiversity Action Plan, where they are included under boundary and linear features. Hedgerows can support a wide community of species providing cover for mammals such as hedgehog and weasel, berries and seeds for birds to feed upon and corridors for mobile species like bats to commute and forage along.

6.2 Contracting Hedgerow Works

Monmouthshire County Council must ensure that contractors working on their behalf to complete hedgerow works are aware of relevant factors relating to biodiversity. The seasonal timing of hedgerow works can be very important to avoid issues with protected species, when contracting works the methods to be used (mechanical / hand tools) and timing of works should always be agreed.

6.3 Advised Working Methods

Table 5: BAP Working Methods for Hedgerows Works

Removal of protruding growth	Dormice, Nesting Birds
<ul style="list-style-type: none"> – Ideally cut hedges on a three year rotation (see below) and where possible cutting different sides in alternate years – Carry out works at most appropriate time; avoid cutting fruiting hedgerows in autumn which may provide an important food source for dormice, small mammals and birds – Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level – Extra care is advised when cutting a hedge that has been unmaintained for a time as there is a greater likelihood of nests (birds and dormice) being present – <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> – If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before works commence; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged – Check works area for animal burrows (fox or badger) before commencement; if found, take care not to disturb or obstruct holes with wood piles/arising, to damage burrows with falling branches or to drive over burrows with heavy machinery – Cut hedges sympathetically to develop soft edges, with adjacent irregular scrub growth to provide more varied habitats 	
<ul style="list-style-type: none"> – If cutting on a 3 year rotation as recommended (or when cutting older growth), 	

growth is more likely to contain nests; wherever possible cut using hand tools avoiding the use of flails	
Creating a gap / removal of part of a hedgerow	Dormice, Nesting Birds, Amphibians, Reptiles and Bats
<ul style="list-style-type: none"> – Avoid removal of hedgerows wherever possible, they provide important habitat corridors for a number of species and maintain canopy connectivity between other habitats e.g. woodlands – Generally if it is essential for gaps to be created they should be less than 5m, ideally maintaining a section of the upper canopy over the gap as a habitat corridor – If creating a “new” gap, consent is likely to be required under the Hedgerow Regulations, refer to Table 1 and Appendix 1 of full BAP for further information and consult MCC Hedgerow Officer 	
Woody debris / arisings	Amphibians, Reptiles
<ul style="list-style-type: none"> – Gaps/thinner part of the hedgerow can be filled by loosely pushing branches and woody debris into the existing hedgerow, when doing this be aware of animal runs and leave a small low level hole if present – Branches and woody debris should generally be retained on site - stacked/piled in discrete stacks – Branches and woody debris piles should be created along the woodland edge, hedgerow edge, in woodland or on already rich soil where coarse grasses and nettles occur, but not on herb rich ground; only a small number of piles should be created on any given site to avoid suppressing ground vegetation – Piles should not be created in open grassland areas (meadows) or open heathland without guidance from MCC Biodiversity Officer. If in doubt, ask! – If woody debris is chipped on site, chipped material should be placed on areas which are already bare or where coarse grasses and nettles occur; if this option is not available chippings should be removed from site and composted. – When creating piles take care not to obstruct existing mammal burrows - e.g. fox or badger setts 	
Enhancement for biodiversity	Amphibians, Reptiles
<ul style="list-style-type: none"> – Create log piles with removed branches which will enhance habitat for invertebrates, amphibians and reptiles – Create south facing bare ground areas with the inclusion of large felled tree limbs for basking reptiles – Where possible promote irregular hedgerow edges (scalloped edges) allowing some shrubs to grow outwards, and some trees to develop into standards; this increases the range of microhabitats available for hedgerow species – Maintain a variety in hedgerow shape and height, i.e. A-shaped hedgerows suit the widest range of breeding birds, but box-shaped ones (with narrower bases) may be better for plants growing on the ground or bank; in general, the wider and taller a hedgerow the more biodiverse it is; e.g. dormice and turtle doves prefer hedges taller than 4m, however yellowhammers and linnets prefer hedges less than 2m high 	

Table 6: Seasonal Timing for Hedgerow Works

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Protruding growth	This is the best time for clearance allowing berries and fruits to remain through autumn			Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice.						Caution - Cutting in autumn can restrict berries and fruit (birds and dormice)		
Create gap / removal of part of hedgerow	Works should be carried out with consideration of the Hedgerow Regulations. If in doubt seek advice from MCC Hedgerow Officer.											
Woody debris / arisings												
Enhancement for biodiversity												

7 Proactive & General Path Clearance

7.1 Why it Matters

Around 2% of the Monmouthshire PRow network is on a proactive cutting programme and the paths maintained in this programme pass through a number of habitats. General path clearance is also carried out daily to remove overgrowth and leaf litter from the surface of paths. It is essential that biodiversity is considered when such clearance is carried out. The main habitats that will be cleared as part of this programme will be grassy edges and scrub. Grassy edges and scrub can provide important habitat for amphibians, reptiles and nesting birds. Scrub can also provide an important food source for small mammals and birds amongst other species.

7.2 Contracting Proactive Path Clearance Works

Monmouthshire County Council must ensure that contractors working on their behalf to complete proactive and general path clearance works are aware of relevant factors relating to biodiversity. Given the nature of proactive path clearance some tasks must be completed during the summer period when issues relating to biodiversity are often most prevalent, staff planning and undertaking works should have received suitable training and, or guidance from MCC to ensure appropriate methods are used.

7.3 Advised Working Methods

Table 7: BAP Working Methods for Proactive & General Path Clearance Works

Grass cutting	Nesting birds, Reptiles, Amphibians
<ul style="list-style-type: none">- Carry out works at most appropriate time- Consider the potential presence of reptiles, amphibians and ground nesting birds- If works in open areas (for example in short grassland, or fairly bare arable margins) must be carried out during the bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance and use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged- Avoid cutting large sections to a very short sward height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some longer sections as refuges- If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area	

Scrub clearance	Dormice*, Nesting birds, Reptiles, Amphibians
<p>Woody shrubs*</p> <ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level – <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> – If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance and use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged – Avoid cutting large sections to a very short height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some higher sections as refuges – If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area – Avoid cutting fruiting scrub in autumn which may provide an important food source for dormice, small mammals and birds 	
<p>Herbaceous growth</p> <ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of reptiles, amphibians and ground nesting birds; check for nests as in grass cutting above – Avoid cutting large sections to a very short height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some higher sections as refuges – If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area 	
Enhancement for biodiversity	Amphibians, Reptiles
<ul style="list-style-type: none"> – Use cutting to promote a varied vegetation structure, by cutting to a mixture of heights (grasses) and allowing some pockets of scrub to remain where not directly obstructing the path – Consider piling brush cuttings into stacks providing enhanced habitat for invertebrates, amphibians and reptiles. Stacks are most effective when they are tied up – Where possible promote irregular edges (scalloped edges) allowing some shrubs to grow outwards, and some trees to develop into standards. This increases the range of micro-habitats available for wildlife 	

Table 8: Seasonal Timing for Proactive & General Path Clearance Works

Task		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grass Cutting		This is the best time for clearance allowing berries and fruits to remain through autumn			Caution required looking for bird nests. Take necessary precautions in the interest of reptiles and amphibians.						This is the best time for clearance allowing berries and fruits to remain through autumn		
Scrub clearance	Woody shrubs				Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice. Take necessary precautions in the interest of reptiles and amphibians.								
		Herbaceous growth	Take necessary precautions in the interest of reptiles and amphibians.						This is the best time for clearance allowing berries and fruits to remain through autumn				
Enhancement for biodiversity		This is the best time for clearance allowing berries and fruits to remain through autumn											

8 Restricted Byways and Byways Works

8.1 Why it Matters

Restricted byways and byways works are an essential part of PRow maintenance and, as for bridleways maintenance requires preservation of an open passage so that walkers, horse riders, cyclists and horse and carriage drivers can safely enjoy use of the highway. Byways are open to all traffic and therefore have to accommodate all traffic. It is essential that biodiversity is considered when clearance of such routes is necessary. The habitats most likely to be affected by such works are hedgerows, grassy edges, trees and scrub, which provide food and shelter for a wide range and number of species.

8.2 Contracting Restricted Byways Works

Monmouthshire County Council must ensure that contractors working on their behalf to complete works on restricted byways are aware of relevant factors relating to biodiversity. It is also important that opportunities for enhancing restricted byways for biodiversity are realised, particularly to promote connectivity between nearby habitats.

8.3 Advised Working Methods

Table 9: BAP Working Methods for Restricted Byways Works

Removal of low branches	Dormice, Nesting birds
<ul style="list-style-type: none"> – Avoid fragmentation of woodland habitats, maintaining canopy connectivity via habitat corridors/hedgerows; e.g. in the interest of dormice, wide paths/tracks can be usefully bridged by leaving overhanging branches every 50m or so – Carry out works at most appropriate time – Consider presence of dormice, and birds in foliage, particular attention should be paid to dense foliage which should always be checked before works commence – <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> – If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before works commence; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged 	
Removal of protruding growth	Dormice, Nesting birds
<ul style="list-style-type: none"> – Ideally cut hedges on a three year rotation and where possible cutting different sides in alternate years – Carry out works at most appropriate time; avoid cutting fruiting hedgerows in autumn which may provide an important food source for dormice, small mammals and birds – Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level – Extra care is advised when cutting a hedge that has been unmaintained for a time as there is a greater likelihood of nests (birds and dormice) being present – <u>If evidence of dormice is found or their presence suspected seek the MCC</u> 	

<u>Biodiversity Officer's advice before continuing</u>	
<ul style="list-style-type: none"> - If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before works commence; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged - Check works area for animal burrows (fox or badger) before commencement; if found, take care not to disturb or obstruct holes with wood piles/arising, to damage burrows with falling branches or to drive over burrows with heavy machinery - Cut hedges sympathetically to develop soft edges, with adjacent irregular scrub growth to provide more varied habitats 	
Branches / woody debris / arising	Reptiles, Amphibians
<ul style="list-style-type: none"> - Gaps/thinner part of the hedgerow can be filled by loosely pushing branches and woody debris into the existing hedgerow, when doing this be aware of animal runs and leave a small low level hole if present - Branches and woody debris should generally be retained on site - stacked/piled in discrete stacks - Branches and woody debris piles should be created along the woodland edge, hedgerow edge, in woodland or on already rich soil where coarse grasses and nettles occur, but not on herb rich ground; only a small number of piles should be created on any given site to avoid suppressing ground vegetation - Piles should not be created in open grassland areas (meadows) or open heathland without guidance from MCC Biodiversity Officer. If in doubt, ask! - If woody debris is chipped on site, chipped material should be placed on areas which are already bare or where coarse grasses and nettles occur; if this option is not available chippings should be removed from site and composted - When creating piles take care not to obstruct existing mammal burrows - e.g. fox or badger setts 	
Grass Cutting	Nesting birds, Reptiles, Amphibians
<ul style="list-style-type: none"> - Carry out works at most appropriate time - Consider the potential presence of reptiles, amphibians and ground nesting birds - If works in open areas (for example in short grassland, or fairly bare arable margins) must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged - Avoid cutting large sections to a very short sward height; maintain a minimum height of 200mm; where possible cut an irregular edge leaving some longer sections as refuges; if a shorter sward height is required for access either cut to 200mm first, allow an escape period and then carry out a second cut at a lower height; alternatively, cut to 200mm and cut tracks at a lower height to allow access - If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area 	

Scrub Clearance	Dormice*, Nesting birds, Reptiles, Amphibians
<p>Woody shrubs*</p> <ul style="list-style-type: none"> - Carry out works at most appropriate time - Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level - <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> - If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance and use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged - If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area - Avoid cutting fruiting scrub in autumn which may provide an important food source for dormice, small mammals and birds 	
<p>Herbaceous growth</p> <ul style="list-style-type: none"> - Carry out works at most appropriate time - Consider presence of reptiles, amphibians and ground nesting birds; check for nests as in grass cutting above - Avoid cutting large sections to a very short height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some higher sections as refuges; if a shorter sward height is required for access either cut to 200mm first, allow an escape period and then carry out a second cut at a lower height; alternatively, cut to 200mm and cut tracks at a lower height to allow access - If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area 	
Enhancement for biodiversity	Amphibians, Reptiles
<ul style="list-style-type: none"> - Create habitat piles with cuttings which will enhance habitat for amphibians and reptiles - Create south facing bare ground areas with the inclusion of large felled tree limbs for basking reptiles - Where possible promote irregular hedgerow edges (scalloped edges) allowing some shrubs to grow outwards, and some trees to develop into standards; this increases the range of micro-habitats available for hedgerow species 	

Table 10: Seasonal Timing for Restricted Byways Works

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Removal of low branches	Green			Yellow: Caution required looking for nests (bird and dormouse) particularly in dense foliage						Green			
Protruding growth	Green: This is the best time for clearance allowing berries and fruits to remain through autumn			Yellow	Red: Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice.				Yellow	Yellow: Caution - Cutting in autumn can restrict berries and fruit (birds and dormice)		Green	
Woody debris/ arisings	Green												
Grass Cutting	Green			Yellow: Take necessary precautions in the interest of reptiles and amphibians.						Green			
Scrub clearance	Woody growth	Green: This is the best time for clearance allowing berries and fruits to remain through autumn			Yellow	Red: Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice. Take necessary precautions in the interest of reptiles and amphibians.				Yellow	Yellow: Caution - Cutting in autumn can restrict berries and fruit (birds and dormice)		Green
	Herbaceous growth	Green			Yellow: Take necessary precautions in the interest of reptiles and amphibians.						Green		
Enhancement for biodiversity	Green												

9 Bridge Works

9.1 Why it Matters

Where the PRoW crosses a ditch or stream a bridge or culvert tends to be used, these structures require on-going maintenance and at times replacement. Often ditches and streams provide a network of wetland habitat which is botanically diverse and forms suitable habitat for a wide range of species, including some protected species like water voles and otters. It is important that biodiversity is considered when planning and carrying out works.

This BAP is applicable to the maintenance and installation of kit bridges less than 9m wide, normally installed by PRoW wardens working with volunteer work parties. This does not include any works carried out on bridges constructed of stone which may have the potential to house roosting bats.

It is also important to note that care should be taken when accessing a site with heavy materials which may cause damage to important species or habitats on route to the site of works. Before works commence consideration should be given to the access to the site, the storage of materials on site and the type of materials used to ensure that the risk of negative impacts is minimised. Materials should be stored on site for as short a time as possible in an area of low biodiversity value.

9.2 Advised Working Methods

Table 11: BAP Working Methods for Bridge Works

Digging foundations / earthworks	Water voles, Otters, Amphibians, Reptiles
<ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of water voles, otters and white-clawed crayfish carry out checks for water vole burrows, evidence of otter activity and white-clawed crayfish; <u>if any are suspected or confirmed seek the MCC Biodiversity Officer's advice</u> – Also consider presence of reptiles and amphibians and consider whether suitable habitat for hibernation is present on the bank-side – In the interest of white-clawed crayfish, aquatic plants and invertebrates avoid allowing any substrate or pollutants to enter the river or ditch channel always digging away from the channel (to avoid creating turbidity) – Limit digging to specific areas and try to replace as much substrate as possible back around the bridge foundations 	
Vegetation clearance	Otters, Nesting birds, Dormice*, Amphibians, Reptiles
<p>Woody shrubs*</p> <ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of otters; carry out checks for evidence showing activity if dense scrub or vegetation is to be cleared; <u>if otters are suspected or confirmed seek the MCC Biodiversity Officer's advice</u> – Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level 	

- If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing
- Start the days work furthest away from the waters edge offering an early warning to any animals nearby (especially otters) giving them the option to move before the actual disturbance activity moves closer
- Avoid removal of scrub within 30m of a ditch or watercourse wherever possible; if this is not possible restrict clearance to very small patches when working within 50m of a watercourse and ensure that there is scope for natural generation of scrub aiming for no net loss of habitat
- If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before works commence; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged
- If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area
- Works should aim to achieve no net habitat loss, ideally through natural regeneration. Where this is not possible, i.e. after the relocation of a bridge, replant with similar native species e.g. with willow stem cuttings; if in doubt seek advice from MCC Biodiversity Officer regarding suitable species

Herbaceous growth

- Carry out works at most appropriate time
- Consider presence of otters; carry out checks for evidence showing activity if dense scrub or vegetation is to be cleared; if otters are suspected or confirmed seek the MCC Biodiversity Officer's advice
- Start the days work furthest away from the waters edge offering an early warning to any animals nearby (especially otters) giving them the option to move before the actual disturbance activity moves closer
- Avoid removal of scrub within 30m of a ditch or watercourse wherever possible. If this is not possible restrict clearance to very small patches when working within 50m of a watercourse and ensure that there is scope for natural generation of scrub aiming for no net loss of habitat
- If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area
- Works should aim to achieve no net habitat loss, ideally through natural regeneration. Where this is not possible, i.e. after the relocation of a bridge, replant with similar native species e.g. with willow stem cuttings; if in doubt seek advice from MCC Biodiversity Officer regarding suitable species

Enhancement for biodiversity

Amphibians, Reptiles

- Create log habitat piles which will enhance habitat for invertebrates, amphibians and reptiles
- When clearing scrub, maintain diversity in vegetation structure to provide suitable habitat for reptiles and amphibians
- Where possible promote irregular edges (scalloped edges) allowing some shrubs to grow outwards, and some trees to develop into standards; this increases the range of micro-habitats available for wildlife

Table 12: Seasonal Timing for Bridge Works*

Task		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Digging/ earthworks	Otters, water voles and crayfish	Caution required at all times to check for presence of otters, water voles and white-clawed crayfish.												
	Amphibians & Reptiles	Avoid ground works where reptiles or amphibians could be hibernating			Take necessary precautions in the interest of reptiles and amphibians.						Avoid ground works where reptiles or amphibians could be hibernating			
Vegetation clearance	Otters	Caution required at all times to check for presence of otters.												
	Woody shrubs	This is the best time for clearance allowing berries and fruits to remain through autumn			Work should be avoided during the bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice. Take necessary precautions in the interest of reptiles and amphibians.						Caution - Cutting in Autumn can restrict berries and fruit (birds and dormice)			
	Herbaceous growth				Take necessary precautions in the interest of reptiles and amphibians.									
Enhancement for biodiversity														

*Given the localised nature of bridge maintenance works the most important thing is to check the working area carefully for key species before works. Generally above ground works (including vegetation clearance) are best conducted over the winter period, with any necessary ground works completed in spring or autumn.

10 Furniture Maintenance Works

10.1 Why it Matters

Furniture on the PRow network includes stiles, gates, bridges, steps, stepping stones, way-mark posts and signposts. Such furniture improves the accessibility of the network for communities in Monmouthshire and requires on-going maintenance, repair and installation. This will require works within a number of habitats, such as hedgerows, scrub, grassland and woodland.

10.2 Advised Working Methods

Table 13: BAP Working Methods for Furniture Maintenance Works

Removal of protruding growth	Dormice, Nesting birds
<ul style="list-style-type: none"> – Ideally cut hedges on a three year rotation and where possible cutting different sides in alternate years – Carry out works at most appropriate time; avoid cutting fruiting hedgerows in autumn which may provide an important food source for dormice, small mammals and birds – Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level – Extra care is advised when cutting a hedge that has been unmaintained for a time as there is a greater likelihood of nests (birds and dormice) being present – <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer’s advice before continuing</u> – If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before works commence; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged – Check works area for animal burrows (fox or badger) before commencement; if found, take care not to disturb or obstruct holes with wood piles/arisings, to damage burrows with falling branches or to drive over burrows with heavy machinery – Cut hedges sympathetically to develop soft edges, with adjacent irregular scrub growth to provide more varied habitats 	
Creating a gap / removal of part of a hedgerow	Dormice, Nesting birds, Reptiles, Amphibians
<ul style="list-style-type: none"> – Avoid removal of hedgerows wherever possible, they provide important habitat corridors for a number of species and maintain canopy connectivity between other habitats e.g. woodlands – Generally if it is essential for gaps to be created they should be less than 5m, ideally maintaining a section of the upper canopy over the gap as a habitat corridor – If creating a “new” gap, consent is likely to be required under the Hedgerow Regulations, refer to Table 1 and Appendix 1 of full BAP for further information and consult MCC Hedgerow Officer 	

Grass Cutting	Nesting birds, Dormice, Amphibians, Reptiles
<ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider the potential presence of reptiles, amphibians and ground nesting birds – If works in open areas (for example in short grassland, or fairly bare arable margins) must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance and use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged – Avoid cutting large sections to a very short sward height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some longer sections as refuges – If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area 	
Scrub clearance	Nesting birds, Dormice*, Amphibians, Reptiles
<p>Woody shrubs*</p> <ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of dormice and birds looking for nests in foliage, particular attention should be paid to dense foliage which should always be checked before works commence; also consider possibility for reptiles and amphibians to be present at ground level – <u>If evidence of dormice is found or their presence suspected seek the MCC Biodiversity Officer's advice before continuing</u> – If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance and use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged – Avoid cutting large sections to a very short height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some higher sections as refuges – If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area – Avoid cutting fruiting scrub in autumn which may provide an important food source for dormice, small mammals and birds 	
<p>Herbaceous growth</p> <ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of reptiles, amphibians and ground nesting birds; check for nests as in grass cutting above – Avoid cutting large sections to a very short height; instead maintain a minimum height of 200mm and where possible cut an irregular edge leaving some higher sections as refuges – If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area 	

Branches/ woody debris/ arisings	Amphibians, Reptiles
<ul style="list-style-type: none"> - Gaps/thinner part of the hedgerow can be filled by loosely pushing branches and woody debris into the existing hedgerow, when doing this be aware of animal runs and leave a small low level hole if present - Branches and woody debris should generally be retained on site - stacked/piled in discrete stacks - Branches and woody debris piles should be created along the woodland edge, hedgerow edge, in woodland or on already rich soil where coarse grasses and nettles occur, but not on herb rich ground; only a small number of piles should be created on any given site to avoid suppressing ground vegetation - Piles should not be created in open grassland areas (meadows) or open heathland without guidance from an MCC Biodiversity Officer. If in doubt, ask! - If woody debris is chipped on site, chipped material should be placed on areas which are already bare or where coarse grasses and nettles occur; if this option is not available chippings should be removed from site and composted - When creating piles take care not to obstruct existing mammal burrows - e.g. fox or badger setts 	
Digging footings	Amphibians, Reptiles
<ul style="list-style-type: none"> - Check works area for animal burrows (fox or badger) before commencement. If found, take care not to disturb or obstruct holes with wood piles/arisings, to damage burrows with falling branches or to drive over burrows with heavy machinery - Carry out works at most appropriate time 	
Enhancement for biodiversity	Amphibians, Reptiles
<ul style="list-style-type: none"> - Create habitat piles with cuttings which will enhance habitat for amphibians and reptiles - Create south facing bare ground areas with the inclusion of large felled tree limbs for basking reptiles - Where possible promote irregular hedgerow edges (scalloped edges) allowing some shrubs to grow outwards, and some trees to develop into standards; this increases the range of micro-habitats available for hedgerow species 	

Table 14: Seasonal Timing for Furniture Maintenance Works

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Removal of protruding branches	This is the best time for clearance allowing berries and fruits to remain through autumn			Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice.						Caution - Cutting in autumn can restrict berries and fruit (birds and dormice)		
Create gap / removal of part of hedgerow	Works should be carried out with consideration of the Hedgerow Regulations. If in doubt seek advice from MCC Hedgerow Officer.											
Grass Cutting			Caution required looking for bird nests. Take necessary precautions in the interest of reptiles and amphibians.									
Scrub clearance	Woody shrubs	This is the best time for scrub clearance allowing berries and fruits to remain through autumn		Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice. Take necessary precautions in the interest of reptiles and amphibians.					Cutting in autumn can restrict berries and fruit (birds and dormice)			
	Herbaceous growth			Take necessary precautions in the interest of reptiles and amphibians.								
Woody debris / arisings												
Digging footings	Caution required to look for burrowing animals (foxes and badgers) at all times											
Enhancement for biodiversity												

11 Bracken Control Works

11.1 Why it Matters

Bracken is frequently an invasive plant species within habitats preferred by reptiles, and can rapidly make pathways nearly impassable unless managed. It can form extensive stands preventing light from reaching other vegetation and creating a mat of litter which further inhibits the growth of other plants. However, bracken can also provide a significant microclimate for reptiles and provides habitat for rare butterflies such as the small pearl bordered fritillary, so control works should be undertaken with care.

11.2 Advised Working Methods

Table 15: BAP Working Methods for Bracken Control Works

Bracken cutting	Nesting birds, Reptiles
<ul style="list-style-type: none"> – Carry out works at most appropriate time – Consider presence of ground nesting birds and reptiles – If works must be carried out during bird nesting season, a check for active nests should be carried out by MCC trained personnel before cutting commences; if any active nests are found, allow a minimum radius of 10m to avoid disturbance, use hand tools where possible and avoid working in the same area for prolonged periods; any active nests should be protected from disturbance until the young have fledged – If works must be carried out during the summer period it is also recommended that they should go ahead in warmer, dry weather whenever possible to facilitate reptiles and invertebrates to escape the cutting area – The cutting area should be checked for reptiles before cutting commences – Bracken should then be cut to ground level leaving some uncut sections as refuges – <u>N.B.</u> There is a possibility that bracken spores can be carcinogenic; the Health and Safety Executive recommends that a suitable mask be worn while cutting or working in spore-producing bracken (bracken tends to produce spores from late July until September) 	
Enhancement for biodiversity	Reptiles
<ul style="list-style-type: none"> – Where possible promote irregular edges (scalloped edges) allowing some bracken to grow outwards. This increases the range of micro-habitats available for reptiles 	

Table 16: Seasonal Timing for Bracken Control Works

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bracken cutting	Green			Caution required looking for bird nests (ground nesting) and reptiles. Mechanised cutting during this time not recommended			1 st cut Caution required *	As Mar-Jun	2 nd Cut Caution required *	Green		
Enhancement for biodiversity				Green								

* Caution required looking for ground nesting birds nests and reptiles and to take necessary precautions in the interest of reptiles. The amber section includes the most effective time to control bracken through cutting, cutting carried out outside these times may not be as effective, the MCC Biodiversity Officer's advice should be sought if this is necessary.

12 Drainage & Surfacing

12.1

Why it Matters

Monmouthshire County Council is responsible for the maintenance of drainage and surfacing of the PRow network. Although MCC is responsible for the path condition, drainage and surfacing matters are often complex also involving other parties such as owners and managers of adjacent land and nearby Highways structures. When MCC use contractors to complete works they must ensure that they are made aware of relevant factors relating to biodiversity.

General points for consideration with regard to drainage and surfacing matters:

- Are there any designated sites within 500m of the proposed work area, and could they be affected by changes in hydrology?;
- Is there the potential for protected species or habitats to be present within or near to the working area and how could they be affected by works?;
- Are there partner organisations, or land managers that we can work with to maximise the chance of success?;
- Has sufficient data on ecology been provided to assess the likely impacts of these works?; and
- Has consideration been given to accessing the site with heavy materials and the storage of those materials on site?

12.2

Working Approaches

Drainage

The following tasks are those most commonly used to alleviate drainage problems on the PRow network:

- Open ditches - Dug with hand tools or a mini-digger (for ditches greater than 200m);
- French drains - Open ditches filled with clean stone;
- Open cuts - Cuts made across steep paths on hard surfaces to divert water flowing straight down the path to the side at regular intervals;
- Clearing drains - Drains/ditches are cleared using hand tools and arisings are left on site; and
- Land drains - Perforated pipe laid in open ditches and surrounded by clean stone (only used as a last resort for complex projects).

Drainage channels themselves can provide a network for wildlife in the same way that hedgerows do. They can be important refuges for many terrestrial and aquatic plants and animals, also providing connectivity between other habitats.

The hydrology of an area is at a fine balance and any changes to drainage should not be considered in isolation without considering the wider system and its functioning. The

MCC Biodiversity Officer should be consulted on any drainage works which change the condition of land beyond the path surface (for example where flow is diverted), where an adverse impact upon species or habitats is suspected, and for any works requiring the use a mechanical digger. For large or complex projects, it may also be necessary to consult the MCC Drainage Officer and/or other departments e.g. Highways.

When works involve small scale clearance of existing drains, or other vegetation management it will be necessary to follow guidance in the section for Proactive and General Clearance Works (see page 21) but specialist advice is unlikely to be necessary.

Selecting drainage options

Drainage works should aim to mirror local natural drainage systems, for example where a sloping woodland path is channelling water, a drainage solution should be chosen which slows down the surface flow (as would be the case over an uneven woodland slope covering in leaf litter) maintaining some surface water as opposed to installing a pipe or culvert. This could be achieved through the creation of frequent shallow steps (or ridges) on the path directing water onto uneven, adjacent natural surface where small “soakaways” could be created.

Drainage works should be tailored to individual locations and their ecological interest, wherever possible a partnership approach should be taken to selecting drainage options. Together, the MCC Biodiversity Officer, MCC Drainage Officer and experienced PRow Officer should work to develop the most appropriate strategy with input from other parties (other land managers, or highways engineers) where available. It is very important to tackle PRow drainage issues without simply diverting the problem elsewhere.

Surfacing

The following tasks are those most commonly used to alleviate drainage problems on the PRow network:

- Filling in pot-holes
 - Either filled with materials found on site or if these are not available stone dust is used.
- Resurfacing
 - It is often only necessary to scrape off the top layer.
 - As above, materials on site will be used to resurface wherever possible or if these are not available stone dust is used.
 - Rural paths are left as natural as possible.
 - Disabled access urban fringe paths are the most likely to require resurfacing. Where tarmacing is necessary, the Highways Department is likely to be involved.

The surface of the paths of the PRow network requires on-going maintenance. For larger scale resurfacing, works are nearly always carried out by outside contractors due to the

machinery used. MCC must ensure that contractors are made aware of any factors relating to biodiversity.

It is important that biodiversity is considered during the planning of any proposed works. As is the case for drainage works, surfacing matters are often complex and site specific guidance is necessary, therefore the MCC Biodiversity Officer should be consulted on any surfacing works which change the condition of land beyond the path surface, where an adverse impact upon species or habitats is suspected, and for any works requiring the use a mechanical digger. Drainage and hydrology may also be affected by the resurfacing of a path and so the above section should also be considered.

Small scale filling of pot holes is unlikely to require specialist advice unless the path surface material is being changed.

Selecting surfacing options

Surfacing works should aim to use permeable materials only, this is to minimise consequential impacts on drainage. Paths should be surfaced with inert material sympathetic to the landscape value of the area and which will not affect the surrounding vegetation or soils. Ideally local, natural materials should be used, and installation techniques chosen to allow materials to settle and consolidate before use.

13 Enhancements for Biodiversity

13.1 Why it Matters

Monmouthshire County Council has a legal duty to have regard for biodiversity whilst carrying out its functions under the Natural Environment and Rural Communities (NERC) Act (2006). In practical terms, this means that when planning works on the PRoW network the impacts on biodiversity must be considered to lessen negative impacts and where possible incorporate positive benefits for wildlife.

There is great scope to contribute to the conservation of biodiversity when carrying out maintenance of the PRoW. The earlier biodiversity is considered in the planning and implementation process the easier it is likely to be to incorporate biodiversity benefits and avoid delays.

All enhancements should be logged on the CAMS system allowing for an annual report to be produced.

13.2 BAP Working Methods

Table 17: BAP Working Methods for Enhancement for Biodiversity Works

Creation of log / habitat piles	Invertebrates, Reptiles, Amphibians
<ul style="list-style-type: none"> – Use woody debris and arisings created through tree works or scrub clearance – Log/habitat piles should be created along the hedgerow edge, in woodland or on already rich soil where coarse grasses and nettles occur and not on herb-rich banks – Piles should not be created in open grassland areas (meadows) or open heathland without guidance from MCC Biodiversity Officer. If in doubt, ask! – In the interest of reptiles, log piles should be placed in a sunny location, set within existing vegetation and the central core should be compacted with outer layer laid more loosely on top – In the interest of amphibians, log piles should be positioned in shady places where sunlight will not dry them out too much, in areas that do not become waterlogged and within 250m of a pond (the closer the better); they can either be placed directly on the ground or within a shallow excavation with soil/turf in between and on top of the logs – Invertebrates that live in or around log piles need a range of moisture conditions from wet (eg beetles) to dry (eg bees), so in the interest of invertebrates follow guidance as for both amphibians and reptiles to create a range of dead wood types in both shaded and un-shaded areas 	
Creation of reptile basking areas	Reptiles
<ul style="list-style-type: none"> – Create south facing bare ground areas with the inclusion of large felled tree limbs for basking reptiles – Best created when clearing scrub in winter, when reptiles are hibernating; bare areas should be situated within areas of scrub or other vegetation which provides immediate shelter 	

Maintenance of structurally diverse vegetation / irregular edges	Invertebrates, Reptiles, Amphibians
<ul style="list-style-type: none"> - Where possible promote irregular edges (scalloped edges) allowing some shrubs to grow outwards, and where possible some trees to develop into standards; this increases the range of micro-habitats available for reptiles and amphibians and their insect food - Maintain a variety in hedgerow shape and height, i.e. A-shaped hedgerows suit the widest range of breeding birds, but box-shaped ones (with narrower bases) may be better for plants growing on the ground or bank; in general, the wider and taller a hedgerow the more biodiverse it is; dormice and turtle doves prefer hedges taller than 4m, however yellowhammers and linnets prefer hedges less than 2m high 	
Installation of bat and bird boxes / Creation of roosting opportunities	Bats, Nesting birds
<ul style="list-style-type: none"> - The creation of potential roosting opportunities should be carried out by trained arboriculturalists when they are carrying out work on mature trees - Bat boxes should be installed at least 4m from the ground, with the front facing SW to SE to ensure the box warms up during the day; Common Practice is to site 3 boxes, on a single tree each with a different aspect, giving the bats a choice of roost sites with different conditions - Bat boxes can be erected almost anywhere with some chance of success but results will be significantly better if some thought is given to location, consider seeking advice from the MCC Biodiversity Officer - Bat boxes essentially provide summer roosting opportunities as they lack the insulating properties to make them suitable hibernation sites - Bird boxes should be installed in the same woodland, or tree lines as bat boxes to prevent competition for nesting/roosting opportunities 	

Table 18: Seasonal Timing for Enhancements for Biodiversity Works

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Creation of log/ habitat piles	[Green background]											
Creation of reptile basking areas	[Green background]		Take necessary precautions in the interest of reptiles.						[Green background]			
Maintenance of structurally diverse vegetation/ irregular edges	[Green background]		[Yellow background]	Works should be avoided during bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice. Take necessary precautions in the interest of reptiles and amphibians.				[Yellow background]	[Green background]			
Creation of roosting opportunities	Mature tree works	Caution required to look for hibernating roosts (bats)		Caution required to look for spring roosts (bats)	Work should be avoided during the bird nesting & dormouse active period. If essential seek MCC Biodiversity Officer's advice. Caution required to look for summer/maternity roosts (bats)			Caution look for autumn roosts (bats)	Caution required to look for hibernating roosts (bats)			
	Installation of bat and bird boxes	Caution required during all seasons to search for possible bat roosts (hibernation, transitional, summer/maternity) Caution required to look for nests (bird and dormouse)										

14 Additional Matters

14.1 Invasive Species

Invasive plant species are becoming an increasing problem in Wales, and across many parts of the UK. In Monmouthshire the main problem species are giant hogweed, Himalayan balsam and Japanese knotweed, all of which are highly invasive and easily spread, particularly along rivers and damp habitats.

Identifying Invasive Species

General advisory points to limit spread of invasive plant species during routine PRow maintenance works:

- All wardens and contractors working on the PRow network in Monmouthshire should be familiar with identifying giant hogweed, Himalayan balsam and Japanese knotweed;
- When found to be present, the location and size of plant stands should be logged using CAMS and flagged up to the MCC Countryside Access team; and
- Tools should be cleaned of earth and vegetation matter between working at different sites to prevent unintentional spread of seeds or vegetation.

Further information on the identification of invasive species and methods for their control can be found on the Non-Native Species Secretariat website www.nonnativespecies.org and also in the Environment Agency leaflet "Managing invasive non-native plants".

14.2 Litter and Fly tipping

Rights-of-way sometimes are misused and become locations for littering and fly tipping. This is unsightly and a potential hazard to both humans and wildlife. Wherever possible the following guidance notes should be followed:

- Litter and other waste materials should be removed from the network as soon as possible after being recorded; and
- The location and type of littering should be logged up using CAMS and flagged up to the MCC Countryside Access team.

15 Glossary

Table 19: Glossary of acronyms used in this document

Acronym	Definition
BAP	Biodiversity Action Plans
BBNP	Brecon Beacons National Park
CAMS	Countryside Access Management System
CCW	Countryside Council for Wales
CRoW	Countryside and Rights of Way Act
DEFRA	Department for Environment, Food and Rural Affairs
GIS	Geographic Information System
IDB	Internal Drainage Board
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
MCC	Monmouthshire County Council
NERC	Natural Environment and Rural Communities Act
NNR	National Nature Reserve
PPW	Planning Policy Wales
PRoW	Public Rights of Way
SAC	Special Area of Conservation
SEWBRcC	South East Wales Biodiversity Records Centre
SINC	Site of Importance to Nature Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage System
TAN	Technical Advice Note
TPO	Tree Preservation Order
UKBAP	UK Biodiversity Action Plan
WCA	Wildlife and Countryside Act