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**PLANED**  
**Multi-Use Routes in Pembrokeshire**



**Review of Research**

**August 2004**

by

**Asken Ltd**

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# Executive Summary

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Appendix 1

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# 1. Introduction

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## 1.1 Context

In June 2004, the Pembrokeshire Local Action Network for Enterprise and Development (PLANED) commissioned FaberMaunsell (FM) to undertake an investigation into the feasibility of developing a network of existing bridleways in Pembrokeshire for multi-purpose use. The feasibility study includes a review of research. This element of the work has been sub-contracted to Asken Ltd (Asken).

The scope of the research review is set out in the Project Brief and covers environmental impacts and patterns of use.

## 1.2 Methodology

The time available for the review is limited and so a targeted approach has been used. This means that approaches have been made to organisations known by the consultants to have been involved in research in this area, as opposed to undertaking a systematic search. Primary sources on which this review is based are:

- Literature review undertaken by Longden et al (2004<sup>1</sup>) for English Nature;
- Various strategies produced by Wales Tourist Board;
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Another area that concerns feasibility is the socio-economic impacts of tourism developments. However, this area has not been considered because not only is it outside the scope of the Project Brief, the issue of socio-economic benefits was addressed in the Menter Preseli report of 1997. However, socio-economic benefits are linked to changing patterns of use, which is addressed, to some extent, by the patterns of use element of the review.

## 1.3 Considerations

There are several important contextual points to bear in mind when considering the impacts of the proposed development of the multi-purpose trails:

- The aim is to promote and manage development of use of a network of routes that are public rights of way. By definition, the public has a right to use the routes to pass and re-pass, up to the limit of the rights available. The expectation is that the ways in question will be bridleways, thus carrying a right for use on foot, on riding or leading a horse, and to ride a bicycle, subject to a cyclist having to give way to other legitimate users.

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<sup>1</sup> References are quoted in full in **Appendix 1**

- Management of the use of the routes will therefore depend on either entering into voluntary agreements with users (perhaps most easily effected with commercial interests that benefit from use of the routes – such as livery or pony trekking enterprises) or legal mechanisms (e.g. Traffic Regulation Orders).
- Environmental impacts are a function of (inter alia) level of use and standard of maintenance. There is an existing legal framework for dividing responsibilities for management and maintenance of public rights of way between the local highway authority and the landowner/occupier. Promotion of rights of way is not a duty (although National Park Authorities have a general duty to promote public enjoyment of their areas) but, if a route is promoted and use increases, extra management and maintenance costs may ensue. It is likely that some of these may fall on the landowner (or, on common land, holders of grazing rights) and so it is essential that maintenance issues are raised with landowners at the outset.
- Care is also needed, when considering environmental impacts of a decision to promote a network of routes, to consider what the baseline position might be (existing use may already be having a significant environmental impact) and what is proposed in physical terms. The term ‘multi-use route’ is often thought to mean a hard-surfaced way, such as applied to greenways. In practice, a network of routes may well contain section of applied surface and other section with no additional improvements.

Some aspects of the above points are discussed further in subsequent sections.

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## 2. Environmental Impacts

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### 2.1 Introduction

As with any other right of way, a bridleway can go through or pass alongside areas of high nature conservation and/or geological interest. This can lead to a range of concerns in terms of managing habitats and species on and adjacent to the bridleway. The key issues addressed in this section of the review are the effects on:

- species and habitats;
- landscapes
- cultural heritage interests.

The bulk of the research reviewed relates to the first of these.

### 2.2 Habitats and Species

There are a number of effects of bridleway use on habitats that are generic and can occur on the bridleway itself and its associated habitats. These are:

- loss of, change or damage to, habitat;
- fragmentation of habitat and isolation of plant communities;
- effect of erosion;
- effect of surface compaction;
- effect of pollution.

However, the degree and extent of these effects on any one habitat or mosaic of habitats are more difficult to generalise due to the following factors:

- the variety of habitats that could be crossed;
- the geology and soil types crossed;
- the topography;
- the season/ground conditions during use;
- the type of motor vehicle;
- the effect of other recreational users (e.g. horse-riding);
- the frequency of use;
- the presence of walls, hedges or fences along the track;
- the surface type;

- the maintenance level of the track.

Evidence of research into these effects is discussed below, and it should be noted that many studies look at more than one effect concurrently.

### 2.2.1 Impact on Habitats

Different habitats are more or less susceptible to the effects of recreation, including horse riding and cycling, and this often relates to the robustness of their associated soils and geology, topography and resulting vegetation types. Some general observations on the sensitivity of different habitats can be made.

Alpine and other high mountain habitats are highly vulnerable to recreation effects (Bell and Bliss 1973, Legg 2000) and other hill vegetation can also be susceptible due to slope and wetness of the ground (Bayfield 1973). This can be further accentuated on very wet ground where peat has developed, as these soils are extremely vulnerable to compaction from even light ground pressure (Holdsworth 1994, in Legg 2000). Dwarf shrub dominated habitats are relatively susceptible to damage through trampling (Weaver and Dale 1978) and mountain bike use (MacIntyre 1990, in Legg 2000) but are able to withstand some degree of pressure. Grassland habitats are some of the more robust in terms of recreational pressure (Dale and Weaver 1974) mainly due to the basal growth strategies of grasses and rosette forming herbs typical of grassland habitats (Warwick and Briggs 1978, 1979). However, within grassland types drier grasslands will typically support more recreational pressure than wet grasslands. For example, Hirst *et al.* (2003) demonstrate the relatively high resistance of upright brome (*Bromus erectus*) - dominated chalk grasslands on Salisbury Plain to the effect of four-wheel-drive vehicle use, with one to 10 passes of the vehicle over a grassland patch.

**Table 2.1: Sensitivity of Different Habitat Types Expressed as the Number of Foot Passes to Reduce Vegetation Cover by 50%**

Habitat	Location	Number of Passes to Reduce Vegetation by 50%
Wood with <i>Vaccinium</i> ground flora	Finland	48
Sand dune grassland	Scotland	119
Montane acid heath	Scotland	161
Sand dune heath with <i>Empetrum</i>	Denmark	258
Sand dune with <i>Ammophila</i>	Scotland	288
Forest floor	North America	300
Sand dune heath with <i>Calluna</i>	Scotland	344
Mountain grassland	North America	1000
Sand dune pasture	Wales	1445

Adapted from Liddle (1997) and taken from PAA (2001)

### 2.2.2 Influence of Soils

Soil compaction is one of the most widely recognised effects, and soil type will influence the degree to which compaction occurs (Davies *et al.* 2001). Koolen (1994, in Whitehead 1999) defines compaction succinctly as ‘generally referring to the negative aspects of volume decrease

and deformation of soil by anthropogenic factors'. This results in reductions in porosity and increases in bulk density of the soil.

Soils that have a higher content of clay or silt are more liable to compaction due to the nature of the clay particles, which align along a horizontal plane creating what is commonly referred to as a 'cultivation pan' or 'plough pan'. Alakukku and Elonen (1994) demonstrate that compaction by agricultural vehicles is more severe and more persistent in clay soil compared to a more organic soil. In addition, the larger soil pores that typically contain air are lost more quickly, leading to a greater proportion of smaller pores that typically contain water. Air diffusion through the soil is therefore reduced and anaerobic conditions develop (Stepniewski *et al.* 1994, in Whitehead 1999). This results in the build-up of gases such as carbon dioxide, methane and nitrous oxide, and changes in the ionic state of metals such as iron and manganese (i.e. they become reduced). Such soil changes can have negative impacts on soil fauna and plant growth (Jeffrey 1987, Unger and Kasper 1994, Ellis and Mellor 1995).

Compacted soils have reduced infiltration and this can lead to water collecting on the surface, particularly during periods of heavy or continuous rainfall. This can exacerbate the potential for soil erosion, as the build up of surface water will eventually drain away down slope through rills or gullies. This has implications for the movement and/or loss of soil particles.

Dry soils, including free-draining soils such as rendzinas, might also suffer from the effect of heavy loadings, resulting in loss of soil strength and mechanical weaknesses in the soil structure (Whitehead 1999). However, little published information on this subject was identified in this review.

### 2.2.3 Influence of Topography

Weaver and Dale (1978) compared the effects of walkers, motorcycles (travelling at less than 20km/hour) and horses in two habitat types, grassland and forest with a dwarf shrub understorey in Northern America. Within each habitat, they also assessed the effect on flat ground compared to a 15-degree slope. They found that the amount of bare ground increased as each activity increased its number of passes (i.e. with increased frequency of use). This increase in bare ground was always observed to occur more rapidly on sloping as opposed to flat ground, indicating the added vulnerability of slopes irrespective of recreation activity. Similarly there is an additional effect of habitat type with the dwarf shrub understorey suffering greater effect than the grassland ground cover. This is summarised in **Table 2.2**.

**Table 2.2: Sensitivity of Different Habitat Types and Different Gradient, Expressed as The Number of Passes Required to Reduce Vegetation Cover by 50%**

Habitat	Number of Passes to Reduce Vegetation by 50%	
	Level Ground	15-degree Slope
Grassland	1000	700
Forest with dwarf shrub understorey	300	50

Summarised from Weaver and Dale (1978)

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Sloping ground results in the development of wider tracks when compared to level ground and has been linked to the need to ‘search for footing’ (Weaver and Dale 1978). In this same study, horse riders created the widest tracks while walkers created the narrowest, and it appears horse riders are more susceptible to wandering than either motorcyclists or walkers. The wider track is likely to result in greater potential for loss and fragmentation of habitat, increased soil erosion, and might have an increased visual impact.

The direction of travel, i.e. either in an upslope or downslope direction, is also a significant influence on the effects of outdoor recreation activities (Weaver and Dale 1978). Motorcycle damage is, at least in the short term, greater when travelling upslope compared to downslope. However, the reverse is found for horses and walkers and this was linked to the ‘halting action’ used downhill, and a study of mountain bike use also found that downhill movement with braking resulted in greater damage to tracks via increased rutting and erosion (Holdsworth 1994, in Legg 2000). In terms of recreation management, this study suggests that damage can be minimised by creating tracks where Horse riders and walkers descend shallow slopes and ascend steeper slopes. In practice, however, it is seldom possible to select the best line for a right of way to follow (unless legally diverted) or to effectively manage directional access of all users in this way.

#### **2.2.4 Influence of Season/Climate**

The season in which tracks are used is also likely to affect the impact of recreation use on a habitat, but there is only very limited information on this. A study by Bates (1935) indicated that tracks used by horse and cart were susceptible to disturbance effects of hooves and wheels churning the ground in the winter creating hollows for water to pond, but that during the summer the main influence was the compaction and compression of the surface. This leads to the tracks developing a distinct flora that is able to withstand both surface compaction and standing water. Such influences will also occur when other track users create similar churning and/or compaction of soils.

The effect of season is linked to the effect of ground conditions that vary with season. Generally wetter ground conditions will tend to increase the potential for ruts to form in a surface, and periods of heavy rainfall can then initiate erosion and sediment run-off along a rutted surface, particularly on slopes. Erosion, once initiated, is often not easy to reverse even if disturbance is reduced or removed, as actively eroding surfaces are difficult to colonise with vegetation. In addition, the churning, rutting and puddling on flatter areas will make tracks and routes more difficult to pass for other users.

Drier ground conditions associated with summer can lead to increased ground compaction from usage, which over time will reduce water infiltration rates and increase surface water run-off. However, the severity of the effect is dependent on the soil type and the way in which the vehicle force is applied (i.e. the type of vehicle and the way it is driven) (Liddle and Greig-Smith 1975).

In terms of soil processes, experimental work by Quinn *et al.* (1980) indicated that under wet conditions the lateral shearing force of the trampling are more important in initiating soil disturbance, while under dry conditions the vertical compaction forces are more evident. This study also reveals that damage to the soil structure is underway before any effects on the vegetation are visible. This suggests that by the time vegetation cover is being lost there is already substantial damage to the underlying soils. Such potentially unobserved soil damage is also noted by Hirst *et al.* (2003).

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### 2.2.5 Effects of Different Types of Recreation

Many studies assessing the effects of recreation on habitats have focussed on the effect of human trampling on different vegetation types. This reflects the popularity of outdoor recreation on foot in the guises of general walking, mountaineering, orienteering and fell-running and activities such as pot-holing, rock-climbing, paragliding and scree-running that require access to areas on foot. The visitor pressure experienced by some of the more popular areas for outdoor pursuits has resulted in a need to measure the effect of human trampling in order to assess the carrying capacity of different habitats. There have been a number of reviews of the effect of trampling on vegetation, including Speight (1973), Liddle (1975), Sidaway (1994), Legg (2000) and PAA (2001). However, of more direct relevance to this review, are those studies where the effect of human trampling has been compared to the effect of other types of trampling, such as horse riders.

Generally a heavier user is likely to cause more erosion and loss of vegetation (Bellamy *et al.* 1971, Liddle 1973) than a lighter one. **Table 2.3** summarises a variety of work comparing the ground pressure ( $\text{g/cm}^2$ ) applied as a result of different trampling activities under different conditions, modified from Liddle (1997). Human trampling has a relatively low resulting ground pressure when compared to the effects of other types of trampling, although this can be slightly increased dependent on the footwear used.

Vehicles such as trail bikes, saloon cars and four-wheel-drive vehicles are found to apply eight to 12 times more ground pressure than humans, and this is dependent not only on the vehicle type, but also on the individual specification of a vehicle (e.g. is it laden or un-laden and the type of tyres it uses). Of particular interest is the high ground pressure exhibited by a shod horse and rider, which is almost double that of any vehicle assessed in these studies. An unshod horse and rider, in contrast, shows a reduction in ground pressure by over a third compared to a shod horse, resulting in a similar ground pressure to that of a cow.

Weaver and Dale (1978) found that tracks used by either walkers, horses or motorcycles result in different degrees of erosion depth and soil compaction on tracks. Horses (always with shoes in this study) create the deepest ruts and result in the greatest soil compaction, while walkers show the lowest effects. When comparing different activities on the same ground, Weaver and Dale (1978) also found that on level ground horses result in greater vegetation damage than either motorcycles or walkers, with walkers resulting in the least damage. Dwarf shrub vegetation on slopes is affected more severely than grass vegetation on slopes, with horses and motorcycles resulting in similar levels of damage. However, on grassy slopes motorcycles are found to be more damaging than horses and this is linked to the concentration of the motorcycle's impact on a relatively narrow area.

Interactions between different route user types (i.e. recreational users - walkers, cyclists, horse-riders and four-wheel-drive users - land managers and property owners) will also have an effect on ground conditions that might be in excess of any single user group. However, to date, there has been no specific assessment of these interactions and soils.

**Table 2.3: Calculated Ground Pressure Associated with Various Outdoor Recreation Activities, Vehicles and Animals**

Static Ground Pressure	Average of Total Weight (g)	Ground Contact Area (g/cm <sup>2</sup> )	Pressure (g/cm <sup>2</sup> )	Source of Data
<b>Human</b>				
Bare-footed on hard ground	73 000	262	297	Liddle (unpublished)
Shoes	73 000	406	180	Liddle and Greig-Smith (1975)
Vibram-soled boots on hard ground	70 500	166	416	Holmes and Dobson (1976)
<b>Boots with whole sole in contact with the ground</b>				
Man	80 000	388	206	Liddle (1973)
Woman	57 000	356	160	Liddle (1973)
<b>Animals</b>				
Sheep	80 000	85	941	Liddle (1973)
Cow	440 000	300	1 467	Liddle (1973)
Horse and rider (whole foot)	613 000	478	1 282	Liddle (unpublished)
Horse and rider (shoes only)	613 000	140	4 380	Liddle (unpublished)
<b>Vehicles</b>				
Trail-bike	229 000	114	2 008	Eckert <i>et al.</i> (1979) (weight) Liddle (area)
Salon car and driver on hard ground	1 282 000	855	1 500	Liddle and Greig-Smith (1975)
Four-wheel-drive Toyota, empty on hard ground	2 100 000	1 355	1 550	Liddle (unpublished)
Four wheel-drive Toyota, loaded 4 people and gear on hard ground	2 500 000	1 483	1 686	Liddle (unpublished)
Four wheel-drive Toyota, empty on 'supa digger' tyres on hard ground	2 100 000	2 106	997	Liddle (unpublished)
Jeep	1 180 000	526	2 240	Slaughter <i>et al.</i> (1990)

Modified from Liddle (1997)

## 2.2.6 Effects on Faunal Species

There has been a relatively large amount of research into the effects of recreational activities on birds; however, the majority of this relates to disturbance by walkers with or without dogs. Relatively few studies address the issue of other activities, along rights of way. Also, it needs to be remembered that disturbance by rights of way users is already likely to take effect, and so it is difficult to draw conclusions about how a marginal increase in use would further affect disturbance. In considering the research data recounted below, it should also be noted that many studies report relatively short-term observational effects on species and the significance of these effects in the longer term and at the population level is generally inconclusive.

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The impact of walkers on birds has been reviewed and assessed within PAA (2001), and the key points from this review are listed below:

- correlations between recreational activity and reduced breeding success and/or breeding pairs have been found in several studies;
- reduced parental care of chicks was observed in one study;
- correlation does not necessarily imply a cause and effect situation;
- there is little evidence that local declines in bird numbers negatively affect regional populations;
- the implications of disturbance at the population level are largely unknown.

Liley (2002) presents several studies that indicate disturbance outside the nesting season can also have implications for birds. Feeding time can be reduced, more time and energy can be spent flying and increased stress levels can result in elevated metabolic activity. These effects might be particularly critical in the colder winter months. A summary of disturbance mechanisms identified by Liley is given in **Table 2.4**.

In addition, a review of the effects of disturbance on birds is presented in Hockin *et al.* (1992). This review summarises the potential effect of disturbance in relation to its perceived level (low or high) and frequency (infrequent or continuous). Low or moderate level continuous disturbance can result in habituation to the disturbance. However, high level infrequent activity, as might be relevant to weekend use of popular off-road areas, can result in displacement of species for short periods. High level, continuous disturbance typically results in a reduction in species (both in terms of variety and numbers of individuals) using the area.

Liley and Clark (2003) found that patches of lowland heathland in Dorset adjacent to urban areas supported fewer nightjars. The authors suggest that this is due to an increase in human presence on the heaths resulting in an increase in disturbance to this species. Murison (2003) found effects of human disturbance on lowland heathland habitats also in Dorset. Her data indicate a link between increased human disturbance and increased nest predation by corvids. She also suggests that unleashed dogs might be an important contributory factor but highlights this is from anecdotal evidence only.

The change in habitat or physical condition of an area due to disturbance may create changes in dispersal corridors by directing animal movement along them. This can be particularly important for small animals such as flightless insects, arachnids and molluscs where the width of the track might be too great to cross, or small mammals and perhaps amphibians and reptiles that tend to avoid open areas. Mader *et al.* (1990) found that while grassy field tracks have no measurable effect on the movement of arthropods, paved and gravel field tracks tended to redirect arthropod movement along the track and reduce the rate of crossing. These tracks might have implication for dispersal and population isolation for flightless ground-dwelling insects. There might also be implications for fitness in terms of the creatures becoming exhausted or more vulnerable to predation before new habitat is encountered.

**Table 2.4: Mechanisms by which Human Disturbance has been shown to have a Potentially Detrimental Effect on Avian Demography**

<b>Mechanism</b>	<b>Species</b>	<b>Reference</b>
<b>Breeding Season</b>		
Areas not settled due to human activity	Kentish Plover	Schulz and Stock 1993
Lower densities in disturbed areas	Lapwing, Black-tailed Godwit	Van der Zande <i>et al.</i> 1980
Nests driven over	Hooded Plover	Tulp 1998
Predation of eggs/chicks by dogs	Killdeer, Ringed Plover	Nol and Brookes 1982; Pienkowski 1984
Accidental dislodgement of eggs caused when adults flushed from nest	Guillemot	Schauer and Murphy 1996
Eggs predated because adults not present (disturbed)	Guillemot	Schauer and Murphy 1996
Increased rates of nest predation	Adelie Penguin, California Gnatcatcher, Eider	Giese 1996, Sockman 1997
Chicks dying of hypothermia (adults kept away from nest by disturbance)	Herring Gull, Brown Pelican	Hunt 1972; Anderson and Keith 1980
Increased mortality of young due to reduced feeding time/brooding	Golden Plover, Piping Plover	Yalden and Yalden 1990; Flemming <i>et al.</i> 1998.
Abandonment of eggs/chicks	Brown Pelican, Piping Plover, Black-crowned Night Herons, Tufted Puffin	Anderson and Keith 1980; Strauss 1990;
Young separated from parents	Brown Pelican, Great Blue Heron	Anderson and Keith 1980; Burger <i>et al.</i> 1995
<b>Non-breeding season (or not specific to breeding)</b>		
Intake rate reduced	Oystercatcher, Brent Goose	Goss-Custard, <i>et al.</i> 1995; Fitzpatrick and Bouchez 1998; Stock and Hofeditz 1997
Increased time spent in flight	Common Tern	Burger 1998
Increase in stress, resulting in elevated metabolic rate	Kittiwake, Adelie Penguin	Huppopp <i>et al.</i> 1009; Regel and Putz 1997

Modified from Liley (2002)

Another area that has some limited information is the indirect effect of soil compaction on soil fauna. Both earthworms and springtail movements and distribution in soils are affected by soil compaction (Brussaard and van Faassen 1994, Whalley *et al.* 1995) with both species groups tending to avoid soils that are more compacted. There is also the potential for changes in soil micro-fauna because of reduced aeration and increased water logging leading to anaerobic

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conditions. Changes in soil fauna (both macro- and micro-fauna) and bio-geochemical cycling can have complex and potentially long-lasting repercussions on plant growth and habitats development. The properties of anaerobic soils in discussed in some detail by Gambrell and Patrick (1978).

At a population level, Gill *et al.* (2001a) reviews several studies that illustrate that a number of bird species will avoid areas where humans are present, and that some species show a greater avoidance than others. These behavioural responses are then interpreted as a means of assessing conservation priorities by identifying the relative 'disturbance tolerance' of different species. However, the authors stress that the severity of the species' behavioural response does not necessarily reflect the ecological impact of the disturbance at the population level. The implications at the population level depend on the degree to which the disturbance reduces the fecundity or survival ('fitness') of individuals that then translates into population declines.

As an example, the authors illustrate that species with many alternative habitat areas available to them are more likely to move even if the level of disturbance is low in terms of effects on fitness. However, species with few alternative habitats are much less likely to show avoidance of disturbance even if the fitness cost of the disturbance is high. As such, species that shows apparently low levels of behavioural response to disturbance might still suffer significant reductions in survival and fecundity. This type of trade-off between resource use and risk to fitness is a key factor in the behavioural response in many animal species and is discussed in detail in Krebs and Davies (1987).

A study by Yalden (1992) illustrates this concept with common sandpipers on reservoirs within the Peak District National Park. Initially this species appears very susceptible to disturbance by anglers, but further assessments indicate that although the breeding population can be reduced by disturbance, the overall breeding success is not changed as the fewer breeding pairs have larger territories in which to forage and take shelter. However, this effect is not seen on small reservoirs under severe angling pressure where there is limited habitat, and in these areas common sandpipers are usually absent. Gill *et al.* (1996) propose a method by which the effect of disturbance can be quantified based on the trade-off between resource use and disturbance risk that can be related more precisely to population level impacts.

### **2.2.7 Effects on Floral Species**

The immobility of plant species compared to the majority of fauna results in many of the main impacts of disturbance at the plant species level being the same, or very similar to, those effects discussed for habitats. Issues such as loss of vegetation cover, damage and compaction of vegetation and erosion of soils all influence the individual plant's ability to grow in a disturbed area.

For example, the inability of plant roots to penetrate compacted soils leads to shallow rooting depths (Gameda *et al.* 1994) and this could result in increased susceptibility to stresses such as drought, nutrient limitation and high winds. The damage or destruction of plant material is likely to reduce photosynthetic production and possibly redirect resources into tissue repair rather than seed development. In addition, the flowers and un-ripe seeds themselves might be damaged and become unviable. Finally, the production of additional dust along some areas can cover leaves and reduce photosynthetic ability. All these factors lead to reduced productivity and reduced fertility of plants in general.

Very few empirical studies have been undertaken on the degree and extent of these factors on vegetation on or alongside rights of way. However, some groups of species, such as fungi, lichens and some bryophytes, are considered vulnerable to trampling and are therefore likely to be significantly negatively affected by increased use.

Another possible influence is that the users themselves can effect the transportation of seeds and other plant propagules along tracks and paths, possibly leading to dispersal of problematic plant species.

## **2.3 Effects on Landscape**

Effects of the promotion of multi-use trails on landscape may materialise in several ways:

- increased erosion of footpaths, causing highly visible scarring of hillsides;
- visually intrusive nature of made-up tracks;
- any proliferation of signs, access furniture and associated infrastructure;
- landscape destruction as a result of fires caused by visitors.

The issue of erosion has been discussed in the previous sub-section. The visual intrusiveness of erosion is likely to depend on local topography and sight lines from other places where the public have access. It is axiomatic that badly worn routes across open hillsides will be inherently more visible than any on mountain tops or through woodlands.

### **2.3.1 Increased Erosion of Footpaths**

The National Trust (1994) see visitor-induced erosion and the resulting damage to the landscape as one of their major access related issues. With increased numbers, and all year round use leaving no recovery period, there are areas where erosion, particularly on footpaths, has a major impact on the landscape. They spend a substantial amount on footpath repair, but consider it well justified in view of the pleasure it brings. However, they also recognise that repaired footpaths also attract yet more people. Thus the National Trust have maintained that there will be no new paths established if they are likely to become badly eroded.

### **2.3.2 Visually Intrusive Nature of Made-up Tracks**

National Trust policy (1994) on path repairs includes consideration that repairs should prevent or ameliorate visual intrusion and environmental damage. Steps are avoided wherever possible, and indigenous materials used. Only locally occurring plant species are used in restoration. The use of waymarks, cairns or other intrusive features, other than those traditionally established are discouraged.

### **2.3.3 Impact of Access Related Infrastructure**

Whilst appraising the options for access to open countryside prior in 1999, Entec (1999) identified that there could be a medium risk of a “*wide range of environmental effects associated with travel to and from sites including verge erosion, visual impact of larger number of cars and car parks, increased pollution*”. The National Trust also recognises the potential impacts of car parks, signs, paths and visitor facilities as well as less obvious impacts such as

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pollution from traffic. (National Trust, 1994), although they believe that informal access and recreation have relatively little impact on the landscape compared to other land uses.

### **2.3.4 Fire Damage**

Fires on open country and forests can arise from a number of different causes:

- arson;
- discarded cigarettes and matches;
- out of control camp fires and barbecues;
- discarded glass (which acts as a lens that intensifies sunlight);
- fallen power lines;
- lightning;
- weapon fire;
- steam engines; and
- burning done for land management reasons that gets out of control.

Research suggests that natural fires (i.e. started by lightning) are very rare in the UK and the vast majority of fires are anthropogenic (e.g. Sinclair, 1991; Webb, 1998). As a result, fire risk of land to which the public has access is a major concern of farmers and landowners during periods of exceptional drought. The Countryside Agency, CCW and Forestry Commission commissioned research into the causes and impacts of fires that occurred in spring 2003 (Asken, 2004). The research concluded that there is an undeniable link between the presence of people and the occurrence of fires and so excluding people would reduce fire risk to virtually nil, but exclusions are ineffective or unnecessary in many situations.

## **2.4 Effects on Features of Cultural or Archaeological Significance**

Effects on features of cultural or archaeological significance can arise through damage caused to artefacts or sites either directly by members of the public or, indirectly, through erosion of surrounding soil. The issue of erosion has been discussed above.

The National Trust (1994) identified the following types of sites as being most vulnerable to damage:

- Mountain top cairns, which are often Bronze Age burial cairns;
- Iron Age hill-fort ramparts, where the best views are gained by walking round or over the ramparts;
- Iron Age and later coastal promontory forts, often crossed by coastal footpaths with fine views;
- Caves and cave deposits, susceptible to trampling, excavation and removal of artefacts;
- Industrial sites, particularly those with potential safety problems, where insensitive and over-zealous use of health and safety requirements can be damaging;
- Erosion to historic field boundaries, particularly walls, on lines of footpaths;

- 
- Countryside sites with potentially collectable artefacts or furniture (mileposts, fingerposts) lost through theft;
  - Buried archaeological deposits, particularly those subject to ploughing on tenanted farmland or damaged through illegal use of metal detectors.

Enquiries were made with both Cadw and English Heritage as a means of discovering whether any systematic and objective assessment has been made of the impacts of public access on cultural and archaeological assets. Discussion with Cadw's inspector for the Dyfed area (Roberts, 2004) revealed the following:

- a survey is currently underway of the condition of funerary and ritual burial sites within Pembrokeshire. This will include sites within the study area;
- Cadw is about to publish a report of its inspections of Scheduled Monuments throughout Wales. This survey reports on the condition of Scheduled Monuments and identifies the existence and nature of any threats. Relatively few sites are affected by public access, and these can usually be managed fairly easily;
- A Heather and Hill Forts project is underway in Denbighshire, and erosion of sites of hill forts, caused by public access has been identified.

The regional Sites and Monuments Record (SMR) for Carmarthenshire, Ceredigion and Pembrokeshire, is a key to information about the archaeological heritage of the area. The SMR covers all periods of human development from traces of the earliest known human habitation in caves to more recently built structures. As well as information on well-known sites like mediæval castles, it also holds information on lesser known or understood sites, past landscapes and information from previous archaeological work undertaken. The record is a complex system of information with a computer database and links to a Geographic Information System at its core. At present the database holds over 35,000 records.

For each artefact on the record, key information such as its name, location, type of site, and the period it belongs to, is recorded. Most records have further bibliographic references and a description. In support of the database we have a large paper-based information system, including 1st and 2nd edition Ordnance Survey maps, tithe maps, aerial photographs, ground photographs, journals, articles and reports. However, the register does not necessarily record any threat to the site from agents such as public access.

English Heritage (Tunncliffe, 2004) reported that it had advised access authorities that the implications of the new access opportunities provided by Part 1 of the Countryside and Rights of Way Act 2000 will be minimal.

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## 3. Patterns of Use

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### 3.1 Introduction

Patterns of use is taken here to mean volume of use and the characterisation of this use. Much research has been undertaken of late into the use and demands of visitors to the countryside, particularly rights of way users. Many common themes have emerged and the findings are summarised below, by main user category. However, somewhat fewer data are available about how patterns of use change as a result of promotion.

### 3.2 Visits to the Countryside

An overall guide to the volume of visits to the countryside and trends in these visits, can be obtained from the recently published GB Day Visits Survey (GBDVS) 2002/03 (TNS Travel & Tourism, 2004). This records that:

- 214m Welsh residents make leisure day visits each year;
- 55m visits are made by Welsh residents to the countryside each year;
- 33% of countryside visits in Wales were to go walking or rambling;
- 5% of such visits were to go cycling and/or mountain biking;
- 57% of visits were made by car, whilst 35% were on foot, 4% on a bike and 1% on horseback (it can, perhaps, be inferred that at least 1% of countryside visits were to go horse riding);
- 33% of visits by Welsh residents are to National Parks;
- there was a significant downturn in the number of day visits to the countryside by Welsh residents in 2002/03, compared to previous survey results (55m in 2002/03, compared to 76m in 1998, 70m in 1996 and 79m in 1994).

When considering these results, it should be noted that:

- the GBDVS only considers visits made from home, returning to home later in the day. This means that visits to remote areas like Pembrokeshire, where many visits involve a stay away from home, are not reported;
- survey respondents are left to make their own judgement about what constitutes a visit to the countryside.

A study of Visitors to National Parks was undertaken in 1994/5 (Coalter et al, 1995). Visits to Pembrokeshire National Park was dominated by repeat visitors (70%) and by visitors staying within the Park (68%) – the highest of all the national parks.

It is clear, however, that different types of visitor have different needs. In work for High Peak Borough Council, Asken identified the specific needs of a range of ‘target market segments’ –

i.e. potential users of a multi-use trail that the Council is planning to develop. The results, adapted to be more generally applicable, are presented in **Table 3.1**.

**Table 3.1 Target Market Segments and their Needs**

Market Segment	Key Attractions	Specific Needs
Educational groups (schools)	History of the area History of local industry Specific features	People with knowledge about the area's history, competent to work with children Suitable supporting materials and links to classroom activities
Educational groups (other)	History of the area History of local industry Specific features	People with knowledge about the area's history Suitable supporting materials
Impaired ability (health walkers, disabled, infirm)	Quality of route surface Quality of interpretation Proximity to centres of population Availability of short, level walks	Route needs to meet suitable standards (e.g. BT/Fieldfare Trust standards) Parking that allows unloading of wheelchairs, suitable parking for vehicles Option to go on guided trips Information that allows users to judge the routes usability against their own capabilities
Local amenity users (e.g. dog walkers)	Many points of ingress/egress from local towns/villages Proximity to users' homes	Dog bins (and institutional support for emptying) where appropriate to the character of the area Safe areas to let dogs off lead Short, circular walks
Recreational use - 'honeypotters'	Sites of specific interest/ focal points Shops or visitor centres	Focal point with picnic areas, retail outlets (e.g. café or public house), interpretation (e.g. visitor centres) Very short circular walks, supported by easy-to-use self-guided leaflets and on-the-ground interpretation
Recreational use - cyclists	Can be combined with other strategic routes to make attractive circular route.	Links to other strategic routes Route information available through variety of outlets
Recreational use - horse riders	Lengths of bridleway (subject to suitable circular routes being available)	Areas for parking for horse boxes and unloading horses Circular routes that provide for half and full day hacking
Recreational use - long distance walkers	Can be combined with other strategic routes to make attractive circular route.	Links to other routes Route information available through variety of outlets
Recreational use - short distance walkers	Many points of ingress/egress from local towns/villages Varied scenery	Car parking Short circular walks, supported by easy-to-use self-guided leaflets and on-the-ground interpretation Option to go on guided trips
Utilitarian users - schools	Proximity of routes to schools Route without significant gradients Traffic free	Parental and staff support to encourage use At the outset, leaders of 'school trains' <sup>2</sup>

<sup>2</sup> These are groups of schoolchildren cycling together with parents as leader and backmarker. It is a cycling equivalent of the school run.

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Market Segment	Key Attractions	Specific Needs
Utilitarian users - workers	Needs to be incentivised - either by promoting health benefits and savings from not using private cars. Employer may be able to add further benefits.	Support of local employers

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Adapted from Entec (2004).

The patterns of use by main type of activity are discussed below.

### 3.3 Walking

#### 3.3.1 Strategy

The Welsh Assembly Government has developed a strategy for walking and cycling (WAG, 2003), although the strategy is more concerned with these modes of transport as an alternative to motorised transport. Nevertheless, it does provide a strategic framework that supports the development of walking routes.

The Wales Tourist Board (2002), has developed a strategy for walking tourism in Wales, and identifies Wales as a premier destination for walkers. It claims that what makes Wales such a strong walking destination is:

- *“The quality, variety, and extent of its country and coastal scenery;*
- *Its widespread rights of way networks;*
- *The rich culture and heritage of Wales that can be discovered on foot;*
- *The established local, national, and regional walks and trails that can be found throughout Wales.”*

It also explains that these characteristics are supported by:

- *“A wide range of walking guidebooks and walks leaflets;*
- *The welcome provided to walkers by many accommodation operators across the country;*
- *An increasing number of walking festivals staged throughout Wales;*
- *The availability of guided walks at many destinations throughout the year;*
- *A small, but increasing number of public transport services specifically tailored and promoted to walking visitors;*
- *A range of sources of information on local walking opportunities”.*

#### 3.3.2 Volume and Type of Use

Walking in the countryside is one of the most popular pursuits in the UK; the GBDVS 2002/03 (*ibid*) records 55m day visits to the Welsh countryside for the purposes of walking. However,

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the term ‘walk’ can cover a wide range of different standards or types of walk. The GBDVS recognises several sub-categories:

- Short Walk/Stroll, including dog-walking (up to 2 miles)
- Long walk/hike/ramble (over 2 miles);
- Hill-walking (but excluding mountaineering/climbing).

Even this distinction masks yet further sub-categories. In contrast to strollers and honeypotters, walkers/hill-walkers/ramblers are defined as those undertaking walks of more than 2 miles. This can also include the more demanding types of walking, from hill-walking through to easier mountaineering, as found in areas such as the Brecon Beacons and Snowdonia.

There are a number of specialised activities that can be undertaken that have significant numbers of participants. These include:

- Rock-climbing (including sea-cliff climbing) and abseiling, including the more esoteric pursuit of bouldering (performing difficult moves on large boulders, usually without the normal paraphernalia – ropes, runners, etc - of rock climbing);
- Caving/potholing (in localised hotspots – typically in limestone areas);
- Running in various formats (orienteeing, fell-running, charity events) but interest is most significant for organised events where large numbers may be involved in a limited area;
- Visiting wildlife/nature conservation sites;
- Visiting cultural heritage/archaeological sites.

There are a number of on-foot activities that are typically undertaken regularly and from a home base, such as dog-walking and jogging. Key characteristics appear to be a need to have access to countryside that is close to home (say within 1000m) and use is more or less daily (Entec, 2001). Timing of these activities is not likely to be as seasonally dependent as others. For example, dogs need to be walked rain or shine.

Entec (2001) asked people (resident in England) what type of access resource was used during their activities. It should be noted that their responses were focused on use of public rights of way, rather than open countryside and included all uses, not just recreational use. Also, respondents were able to give more than one response (i.e. total number of answers exceeds 100). Nevertheless, the responses help corroborate others. Use of open countryside was quoted on 13% of occasions by walkers, and 12% of joggers/runners (see **Table 3.2**).

**Table 3.2: Use of Different Access Resources (% of users)**

Type of Route used	Walking or rambling	Running or jogging
Footpaths	64	46
Country parks/public gardens/National Trust properties etc.	53	25
Other open areas of land	50	32
Other paths or tracks	38	21
Bridleways	33	19
Pavements alongside main roads	30	40
Canal towpaths	30	17
Permissive paths or areas	25	11
Cycle tracks	18	14
Green lanes	16	11
Main roads	15	23
BOATs (Byways Open to All Traffic)	2	<1
RUPP (Roads Used as Public Paths)	1	-
Don't know	<1	3
None of these	<1	2
Number of households where 1 or more undertake the activity	724	151

Source: Entec (2001)

Scottish Natural Heritage commissioned a survey of attitudes to use of the countryside for recreation, and information needs of countryside users. One of the questions asked was – what type of countryside had they visited during their last visit (in the previous two months). Of the 679 responses, 15% quoted “mountains/moorland”. This compared with:

- Coastal/beach – 29%;
- Forestry/woods – 24%;
- Paths/tracks – 22%;
- River/river banks/loch/loch shore – 21%;
- Farmland – 16%;
- County (sic) park/other managed site – 12%.

Care is needed in interpreting these results. Firstly, the study is of Scottish residents who may have a different activity profile than Welsh residents. Also, there is a much greater availability of mountains/moorland in Scotland than in Wales, and most major Scottish cities are within easy reach of uplands. A second complication is that the users of ‘paths/tracks’ may be using ones that cross open countryside rather than use bridleways.

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Research was undertaken into the use of the Pembrokeshire Coast Path National Trail in 1996/97 (Countryside Council for Wales, 1997). This provided a mass of interesting information, but its relevance to the proposed network of multi-use trails is limited. However, it is possible that people coming to Pembroke to walk the coast path may decide to make use of inland routes, too (especially if these are widely promoted). Some of the data relating to visitor behaviour (such as where they find information) may be of interest but patterns may well have changed with the emergence of the internet and proliferation of private guidebooks.

## 3.4 Cycling

### 3.4.1 Strategy

The Welsh Assembly Government has developed a strategy for cycling and walking (WAG, 2003), although the strategy is more concerned with these modes of transport as an alternative to motorised transport. Nevertheless, it does provide a strategic framework that supports the development of cycling routes.

The Wales Tourist Board (2000), has developed a strategy for cycling tourism in Wales – ‘*Moving Up A Gear – A Cycle Tourism Strategy For Wales*’ - and identifies Wales as a premier destination for cyclists. The strategy also emphasises the need to develop a strong support infrastructure for cycle tourism in Wales, including:

- *“the promotion of high standards of cycle route design, maintenance and mapping;*
- *the encouragement of improved public transport access for cycle tourists;*
- *the development of an infrastructure of support facilities and services, including cycle hire; cycle repair and sales; cycle recovery services; luggage transfer; cyclist friendly accommodation, attractions and refreshment stops; and cycling information services”.*

### 3.4.2 Volume and Type of Use

The cycling tourism strategy defines a number of different sub-sets of cycling activity. This segmentation is reproduced in **Table 3.3**, below.

An estimate of numbers of participants in cycling, and their estimated value to the economy, is shown in **Table 3.4**.

The strategy also records information about the preferences of cycling tourists in Wales (see **Table 3.5**).

**Table 3.3: Cycling Tourist Market Segments – Key Interests and Product Requirements**

<b>Market Segment</b>	<b>Type Of Cycling Tourism Activity Interested In</b>	<b>Product Requirements</b>
Infrequent Leisure Cyclists	Traffic Free Cycling Packaged Cycle Touring Holidays and Short Breaks	Traffic-free cycle paths Cycle hire Packaged cycling holidays
Family Leisure Cyclists	Traffic Free Cycling	Traffic-free cycle paths Cycle hire
Occasional Leisure Cyclists	Day Cycle Rides (10-25 miles on quiet country roads and traffic-free paths) Cycling Short Breaks <ul style="list-style-type: none"> <li>- self-organised</li> <li>- centre-based</li> </ul>	Circular day cycle routes with maps and information Traffic-free cycle paths Safe places to leave the car while off cycling Bases for cycling short breaks Cyclist friendly accommodation (usually serviced) Cycle parking and storage Cycle repair/rescue
Frequent Leisure Cyclists	Day Cycle Rides (25-35 miles, primarily on quiet country roads) Cycling Short Breaks <ul style="list-style-type: none"> <li>- self-organised</li> <li>- centre-based + touring</li> </ul>	Circular day cycle routes with maps and information Safe places to leave the car while off cycling Cycle access by train (for some) Ideas for cycling short breaks Cyclist friendly accommodation (usually serviced) Cycle parking and storage

		Cycle repair/rescue
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Market Segment	Type of Cycle Tourism Activity Interested In	Product Requirements
Cycling Enthusiasts	Day Cycle Rides (up to 40-50 miles, primarily on quiet country roads) Independent Cycle Touring Holidays and Short Breaks (longer distances)	Ideas for day cycle rides – Cycling Enthusiasts will tend to plan their own rides, using cycle route leaflets for ideas and information Safe places to leave the car while off cycling Cycle access by train ( for some - generally more important for Cycling Enthusiasts than for other market segments) Ideas for cycle touring holidays and short breaks Cyclist friendly accommodation (usually serviced + youth hostels) Cycle parking and storage Cycle repair
Occasional Mountain Bikers	Mountain Bike Trail Riding Mountain Biking Breaks	Purpose built and signed mountain bike trails Mountain bike hire Car parking Cyclist friendly accommodation (particularly camp sites and self-catering)
Mountain Bike Enthusiasts	Mountain Bike Trail Riding Mountain Biking Breaks	Information on where to go mountain biking – Mountain Biking Enthusiasts will tend to plan their own routes, but will also make use of purpose-built and way marked mountain bike trails Car parking Cyclist friendly accommodation

Source: Moving up a Gear – A Cycling Tourism Strategy for Wales 2000 - 2007

**Table 3.4: Wales Cycle Tourism Volume and Value 1998**

Type of Cycling	Trips	Spend (£Millions)
Cycling Holidays		
Domestic Cycling Holidays		
Short Breaks (1-3 nights)	105,000	7.65
Long Holidays (4+ nights)	31,000	1.45
Total Domestic Cycling Holidays	136,000	9.10
Overseas Cycling Holidays	5,000	1.05
Total Cycling Day Visits	141,000	10.15
Holiday Cycling		
Domestic Holiday Cycling	356,000	3.30
Overseas Holiday Cycling	21,000	0.20
Total Holiday Cycling	377,000	3.50
Cycling Day Visits	500,000	4.60
Total Wales Cycling	1,018,000	18.25

Source: Moving up a Gear – A Cycling Tourism Strategy for Wales 2000 – 2007

**Table 3.5: Types of Cycling of Greatest Appeal to Potential Holiday Makers to Wales**

Type of Cycling	% Interested in this Type of Cycling
Safe off-road routes	70.1
Self-guided cycle tours through the countryside	66.4
Cycling around historic towns	30.3
Long-distance cycle routes	25.1
Off-road mountain biking	24.6
Guided cycle tours through the countryside	13.3
Guided 7 day cycling holidays	6.6

Source: Moving up a Gear – A Cycling Tourism Strategy for Wales 2000 – 2007

Recent research has been conducted in England as part of the Exemplar Project into Rights of Way Improvement Plans and related work. Research in Lancashire (Bowles Green Partnership, 2001) suggests that there is an unsatisfied (latent) demand for mountain biking routes within the county, particularly circular routes close to urban areas that can be accessed in summer evenings. This is evident in the frequent (illegal) use of footpaths by mountain bikers. The size of the potential 'market' for off-road cycling from Lancashire residents was estimated to be around 350,000. Mountain bikers were typically found to be young males (aged 16 to 34), operating in small groups and often from sections of society who do not normally visit the countryside. They like to seek out challenging routes (well waymarked but not heavily engineered tracks) not used by other types of rights of way user. The need to use heavily-trafficked roads to reach the off-road sections can be a major deterrent. Meeting this latent demand for off-road cycling routes is entirely consistent with national and county-wide policies for increasing the volume of cycling trips. Experience suggests that creation of mountain bike routes will, in itself, generate usage. However, care needs to be made in transposing data from a county with a large and, in places, heavily urbanised population into a remote rural area with usage likely to be dominated by visitors.

Rural Resources (2004) found in their work for Shropshire County Council and Wrekin and Telford Borough Council that cyclists need:

- improvements to the network in the form of maintenance, signage and waymarking;
- additions to the network to link up existing routes;
- more off-road routes
- urban routes with drop down kerbs, clear of glass, and enabling users to avoid busy roundabouts.

Again, there is likely to be a predominant influence of urban users in this analysis.

## 3.5 Horse Riding

### 3.5.1 Strategy

The Wales Tourist Board (L&R Consulting, 2002), has produced a strategy for riding tourism in Wales, and identifies Wales as a premier destination for horse riding – *'Saddling Up for Success – A Riding Tourism Strategy For Wales'*. Riding is reported as a specialist but important tourism activity in Wales. An estimated 800,000 riding occasions are taken by visitors in Wales each year with an estimated direct expenditure of £18.55m.

The strategy divides riders into three broad groups:

- *"holidaymakers taking a horse ride as one activity during their stay – c.55% of riding occasions*
- *between 30,000-40,000 people take a riding holiday - accounting for 15-20% of Wales' tourism riding occasions*
- *day visitors (excluding local riders regularly exercising their horse close to stabling) – c.25% of riding occasions"*.

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The report authors perceive room for growth of around 10% in the demand for horse riding. The strategy records different types of demand from within these three groups, as reported in **Table 3.6**, below.

Sheffield Hallam University (2004), in its work for Hampshire County Council's Rights of Way Improvement Plan undertook a detailed analysis of horse riding data, and surveyed equestrians. Their research led them to conclude that horse riding:

- is an ageless and classless activity;
- is undertaken predominantly by females;
- is engaged in by around 47,000 people in UK as a whole;
- has fairly uniform participation rates across the country;
- is done mainly by people who do not own a horse.

They also found that equestrians favour safe, off-road routes and for developments to be designed to "*enhance the existing network by creating links, safe road crossings, parking and access to more existing rights of way*".

The British Horse Society (BHS, undated) pulled together some existing and informative statistics of the scale of the UK industry in 2001, key excerpts being:

- 2.4 million people ride nearly 1m horses each year (4.5% of the population);
- horse owners and riders spend around £2.5 bn each year on horses and riding;
- around 500,000 ha of land is used to keep horses (estimated in 1988);
- equine industries employ around 50,000 directly, and 200,000 indirectly.

Their estimate is somewhat at odds with the Sheffield Hallam estimate. However, they offer several sets of data, another of interest being that there are an estimated 47m horse riding days per year. They also conclude that the proportion of supply (i.e. bridleways, restricted byways/RUPPs and byways) is not disproportionate to the assessed demand when considered in gross (i.e. at an overall level). It is left for the reader to infer from other comments that the difficulty encountered by equestrians is the fragmented nature of the available network that limits its ability to satisfy demand. Improvements in the network, they believe, will encourage greater usage by existing users, rather than bringing new riders into the activity.

The Shropshire study (Rural Resources, 2004) supported Sheffield's findings with respect to requirements for improvement, but with additional comments about desire to have gates of a type that can be opened without dismounting and suitable surfacing for horses.

Table 3.6: Riding Tourism Markets In Wales

Markets	Key Product Requirements	Supply In Wales	Product Opportunities For Wales	Competitive Supply
<b>A Riding Main Purpose Of Trip</b>				
<b>1 Riding Holiday</b> - Friendship groups  - Solo riders - UK families [short break, second hols] - Children groups - Overseas	<b>Package Led (Organised Self Package)</b> - Accommodation for riders  - Scope & range of riding available eg. lessons, hacking, mounts, leadership, terrain	- Good trekking packages - Some accommodation for riders/horses - Limited range of accommodation - Catering for riders - Uneven geographical supply of facilities - Low profile of routes/trails	- Creating riding resorts – accommodation/riding centres/riding support facilities - Diversify riding accommodation offer - Development/marketing of routes-raise overall image	Scotland, Ireland. Rural England eg. Devon, Cornwall, Cumbria South Europe – eg. Spain (weather) Eastern Europe (price)
<b>2 Riding Holiday – Own Horse</b> - Experienced riders - Group visits – eg, riding associations riding schools	<b>Route/Trail Led</b> - Accommodation for riders/horses - Scope & range of routes & trails - Horse transport - Parking - Luggage/horse box transfer - Information on trails/routes - Other support facilities	- Uneven geographical spread of supply - Extremely limited support services eg. luggage transfer - Poor condition of routes, including waymarking, parking	- Development of long distance & circular routes - Linking/developing existing trail provision - Collaboration between accommodation & stabling providers - Post arrival information	Scotland, Ireland, rural England (eg. Devon/Cornwall, Cumbria) To lesser extent other European destinations
<b>3 Trail Events (Day/Overnight)</b> eg. endurance, fundraising etc.	<b>Route/Trail Led</b> - Scope & range of routes & trails - Parking – access to services eg. vet	- Good endurance riding events	- Marketing to key trail event organisations on opportunities - General awareness raising	Scotland, England
<b>4 Day Visitors</b> - Coming from & returning home on the same day (within Wales, from England)	<b>Centre &amp; Route Led</b> - Scope & range of routes/ trails - Other support facilities eg. places to eat	- Range of circular routes many in poor condition	- Long distance trail – creates quality guaranteed route - Improving waymarking, Maintenance & marketing of Existing routes	Scotland, England
<b>B Riding As Holiday Support Activity</b>				
<b>5 Tourists</b> - Solo riders - UK families [shortbreaks, second hols (1 wk)] - Children Groups - Overseas	<b>Package Led (Organised/Self-Package)</b> - Accommodation for riders - Scope & range of riding available eg. lessons, hacking, mounts, leadership, terrain  - Other activities eg. sports, heritage, visitor attractions	- Good trekking packages - Range of multi-activity centres offering riding - High profile in market place	- Strengthen current offer at existing centres - Enhance quality & service - Targeted marketing - Post arrival information	Other UK activity holiday destinations eg. Northumbria, Cumbria, Devon/Cornwall

Source: L&amp;R Consulting, 2002



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## 3.6 Access for All/Disabled Access

### 3.6.1 Legal Context

People with disabilities and impaired mobility have been given special status in two respects:

- the Disability Discrimination Act 1995 places a duty on providers of public services to take reasonable steps to make provisions for that service to be available to the disabled;
- the Countryside and Rights of Way Act 2000 places a duty on local highway authorities to prepare a rights of way improvement plan which, inter alia, must make an assessment of the adequacy of the local rights of way network for meeting the needs of those with impaired visual or impaired mobility. There are also additional powers for highway authorities to enter into agreements with landowners to provide facilities (e.g. gates) that assist disabled people to access the countryside.

There is a lot of uncertainty as to what these duties actually mean, in practice. There are no rights of way related cases where the question of reasonableness has been tested in the courts. No authority has yet produced a rights of way improvement plan.

These duties are likely to be increased by a new Disability Discrimination Bill, currently passing through Parliament. This will extend the duty to the functions of authorities as well as their services.

### 3.6.2 Access For All/Easy Access - Key Issues

The terms “*Access for All*” and “*Easy Access*” have become common currency apparently to overcome uncertainty over how to describe provision of access for people with disabilities so as to not cause offence. They also have the advantage of embracing people who have impaired mobility through old age or lack of fitness, or because they are accompanied by young children.

Taken as a group, the terms can therefore apply to a large proportion of the population, although this does not mean that demand for use of access opportunities will be the same as from the unimpaired. Data are not generally available on the number of disabled or mobility impaired people within an area. However, the census records numbers of people with a “limiting long-term illness”. The Census Data for 2001 show Pembroke to have 21.6% of its population suffering from long-term illnesses (compared to 23.3% for Wales as a whole) (Preseli Pembrokeshire, 2003). This is a significant increase from 1991, when only 14.2%. A further 10.8% of the local population has general health that is “not good”. Nineteen routes have been developed and promoted as easy access routes in the National Park area (PCNPA, undated). However, it is self evident that a route that provides access for all will be useable by both the impaired and the unimpaired.

Pioneered by the Fieldfare Trust, which set standards for easy access routes (Fieldfare Trust, 1997), there is now to a range of appraisal techniques that can be used to assess suitability of routes for use by people with impaired mobility (e.g. Chapman and Wickstead, 2000; Oxfordshire County Council, 2004). However, proper application of some of these techniques requires specialist training (Hosker et al, 2003).

One of the main difficulties of providing easy access routes is cost. An indication of the scale of costs can be seen from the Tir Gofal agri-environment scheme, which offers incentives to

landowners to provide new public access. Grant rate varies depending on type of route (footpath or bridleway) and whether or not it is intended to be access for all. **Table 3.7** provides a list of rates.

**Table 3.7: Payment Rates under Tir Gofal**

Type of path	Payment
Permissive footpath	£150 per year plus £0.15 per metre per year
Permissive bridleway and cyclepath	£150 per year plus £0.30 per metre per year
Routes for people with disabilities	£150 per year plus £0.30 per metre per year
Bridle Gate (softwood and Welsh oak)	£120 and £144 each
Kissing Gate (softwood and Welsh oak)	£120 and £144 each
Gate for access for people with disabilities	£250 each

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# Appendix 1

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5 Pages

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