

# RML Newsletter round-up

March 2016

## VEGETATION 4 – MANAGEMENT, YOU MUST HAVE A PLAN

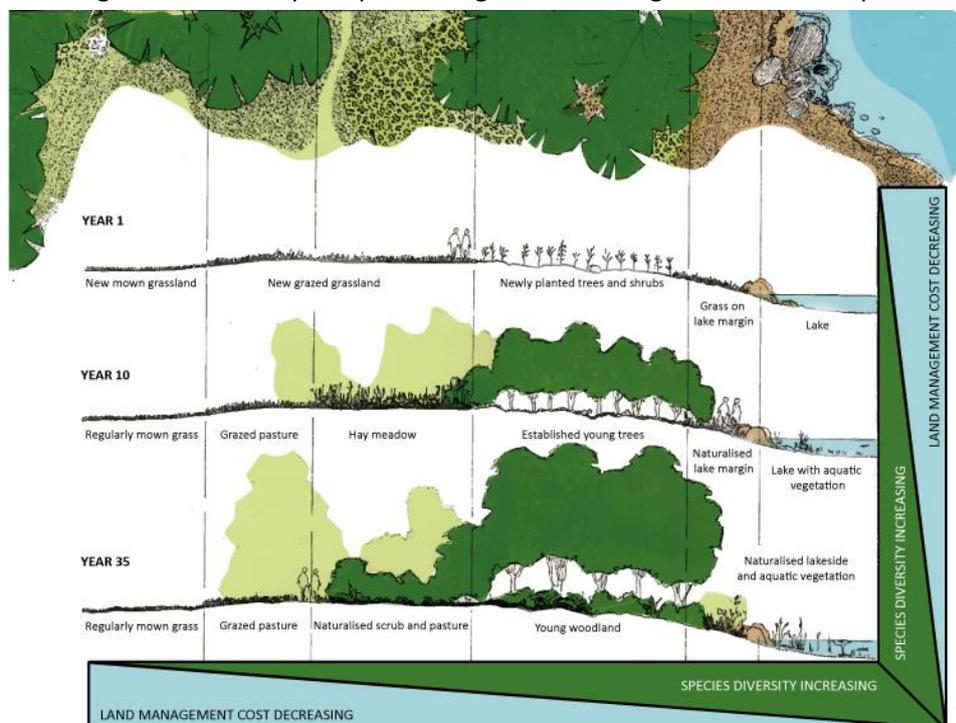
Vegetation that has been recently established on reclaimed or restored land after a civil engineering project calls for care and attention.

Experience of abject failures in some quarters has shown that emergent vegetation cannot be left to its own devices. I have said before that it is the subsequent management which really determines the well-being of vegetation.

Development of a sustainable cover of vegetation takes time since vegetation works slowly.

Development of designed vegetation is a process rather than an event and this concept is the fundamental issue that needs to be appreciated by the members of a project team and the public. A sustainable cover should involve a reduced level of maintenance in the long term and is therefore particularly attractive financially. Regular monitoring, inputs and intervention are required if the development process is to proceed towards delivering the designed landscape.

The diagram about the principles of vegetation management that was part of ‘Two thousand words’



Principles of Landscape Management

in a November newsletter last year indicates how costs can decrease and biodiversity increases over time. I have included the diagram again. It is one of my favourites because it highlights the relationship

between time, vegetation and maturity and how these govern the intensity - and cost - of management and species diversity.

It has taken a very long time for engineers in particular to appreciate that money and effort needs to be spent even after they believe that the job has been finished! See '[Acceptance of new ideas takes time](#)' in June last year. The same argument applies whether the site is being restored to agriculture after the construction of a pipeline, the creation of public open space or the construction of a highway embankment.

Specialists are required to contribute on many aspects of the management of fragile plant communities but these specialists need to be team players. They need to appreciate what civil engineering can and cannot deliver. For example over-fussiness is something to be avoided.

What kinds of problems can one be faced with? Uncontrolled grazing by animals, especially sheep, can be a major problem but if grazing can be managed so that over-grazing is avoided then this can be a most valuable management tool; it might even produce some income. Grazing removes nutrients from the grassland therefore the levels of nutrients needs to be monitored. A special problem near urban areas is that frequently one finds that sheep are kept as a part-time enterprise and the sheep are allowed to roam freely and fences cut quite deliberately so as to allow access to new areas of grass. Grazing by horses and cattle can be quite damaging because they tear at the grass rather than nibbling it and call for different grass mixtures and management from that required to accommodate sheep.

In the case of land designated for public open space maintenance strategies should include;

- Identifying a point of focus where management can be controlled;
- having a secure budget for management work;
- involving local residents;
- encouraging use of the site;
- explaining, planning, and implementing a long term strategy;
- reporting on all aspects of progress;
- maintaining in good condition points of contact with the public; gates and stiles for example;
- maintaining a 'tidy' edge to emphasize that someone cares;
- controlling public access to wilderness areas;
- inspecting and maintaining stock proof fencing.

The principal aim of management of public open spaces is likely to focus on recreation and landscape improvement for its own sake. These two are likely to be the principle benefits but nature conservation and nature study and education can also play valuable roles and should not be overlooked.

If things go wrong then what should one be looking for and what tests and checking can be relied on? Trouble shooting will be discussed in a subsequent newsletter.

Kind regards

**Ivor**

Managing Director

March 2016

## Settled lives from ancient times:

Grand designed landscapes were all very well for the patrician, but what about the poor peasant who did not have time to spare for high art? I suspect that their relationship with the landscape was far richer. I have used the term 'home-place' to describe this special feeling that surely everyone must have when returning home. But what is home-place? There is a poetic Welsh word, *cynefin*, which defines this special relationship with our habitat, or home landscape.

Ivor recently sent a newsletter (Words and their impact – Dec 2015) that included a definition of *cynefin*. *Cynefin* is the state of being influenced by multiple pasts of which we can only be partly aware: cultural, religious, geographic, tribal and linguistic for example. *It describes that relationship: the place of your birth and of your upbringing, the environment in which you live and to which you are naturally acclimatised.* *Cynefin* is also knowledge and sense-of-place that is passed down the generations and can also refer to fleeting moments in time: *a place or the time when we instinctively belong or feel most connected. In those moments what lies beneath mundane existence is unveiled and the joy of being alive can overwhelm us.*

The counterpart of *cynefin* is *hiraeth*, the longing for home when far away.

For ordinary people home-place was where they were conceived, born, lived, worked, foraged and spent their free time. They cut wood, steered the plough, shepherded stock, gathered the crops, rested beneath its trees and loved in the privacy of its wastes and avoided offending their landlords. Over their lifetime they could grow to know the rural landscape with an intense intimacy and knowledge that we cannot match and they had words, now lost, to describe its subtleties. Those men and women breathed drank and ate of the land, suffered its dearth and enjoyed its harvest and no doubt they returned to it after death. Where the gentry talked of landscape the peasant spoke of home. And while the gentry came from elsewhere, the peasants would have no reason to think that their ancestors ever lived elsewhere. But how many generations back could they be traced?

Go further into our past and we see how cultural impositions are stripped away to reveal older cultures and beliefs. Go back before our farming ancestors; here we find the hunter gatherers whose response to their environment was more practical, instinctive and in tune with nature. Not only were they part of nature, but they knew that they were. Their values of survival and dependence on their home-place was shared with every other living thing. But what separated Mesolithic folk from the rest of 'creation'? Without doubt it was their consciousness; their ability with language. Language allowed these intelligent and sensitive beings to name places, they could express relationships between each other, with nature and with their home-place.

They could pass on, over millennia, their knowledge of place through narrative that intertwined with topography, history and experience. Ultimately they arrived at a concept of 'landscape'.

Kind regards

**Andrew**

Principal Landscape Architect

March 2016

## CAN'T SEE THE WOOD FOR THE TREES?

### HS2 will destroy ancient woodlands. So what?

Yes, what a surprise; it seems this huge railway project that relies on a straight and level permanent way to allow fast travel, will damage around 400 Ancient Woodlands the headlines proclaim. Is this a price we are willing to pay? I suggest that we should consider carefully the implications and not draw instant horrific conclusions. Are we sure the journalists who write about these matters understand them? After all, inflammatory words are their skill, and few of them have any depth of technical understanding. But then could you walk through an ancient woodland and recognise it for what it is?

So, what is an ancient woodland? Ancient Woodland is a title given to an area which, in part or whole, demonstrates certain characteristics that indicate that it has been wooded since the 1600s. Some of this ancient woodland will date back much further than 400 years, most will post-date the plague years (1346 to 1353), when the population of Britain shrank by between 30 and 40%. Huge areas of less productive land was abandoned. Some woodland, probably a tiny percentage, might even be descended from the so called 'Wildwood'. We are talking about a



Ancient woodland? Yes, and a healthy one with lots of young growth, but here the trees are all less than 40 years old having been cleared during the 1940s.

Some woodland, probably a tiny percentage, might even be descended from the so called 'Wildwood'. We are talking about a

woodland that might have lasted between 7 and 350 human life spans, or perhaps 2 and 60 lifespans for an oak tree.



Trees live a long time, until they meet humans

Our parents' generation saw woodland as it was before the mass felling during the last war. We grew up playing in the rather poor scrubby regrowth and watching conifer plantations spread across the landscape. Our children have grown up thinking that mono-culture conifer plantations are natural. In our state of ignorance many assume that Ancient Woodland must contain big ancient trees, but this is not necessarily the case. In fact trees can be cut down without a

woodland being destroyed. Coppicing and pollarding are as old as woodlands themselves and has been formative in creating and sustain environmental conditions that favour the development of ancient woodland. Ancient Woodland is a habitat with very special characteristics of soil and microclimate. Simply put, ancient woodland is a vast assembly of interdependent species, many of which cannot survive elsewhere. Some of the largest living organisms in the world are individual fungi that occupy many hectares of woodland soil. Some insects only survive in particular kinds of rotting timber, while there are plants that cannot move to colonise new locations because there are none. Trees, the bits of woodland with which we are familiar, are just part of that interdependency and can fall and regrow, die or be felled without damaging ancient woodland. And while the trees are gone, the most sensitive woodland species hide away to re-emerge when favourable conditions return.

During the 1950s, 60s and 70s the Forestry Commission in their wisdom clear-felled or poisoned huge swathes of trees in ancient woodland and then planted conifers. Strangely, and despite dastardly deeds, a selection of ancient woodland species has survived to a degree under these dreadful, shrouding mono-cultures and can begin to recover if native deciduous trees are allowed to recolonise. So all is not lost, far from it, some of the less delicate components have probably survived.

However, if you are hell-bent on destroying Ancient Woodland, then it is possible. You don't need to cut down the trees or dig up the soil or build a railway. All you need do is destroy the soil with fertiliser, pesticide or deep ploughing. If you allow sheep or cattle to graze the habitat intensively you can cause great damage, but motorcycle scrambling is also a nice way to make ancient woodland species suffer.

**And if you want to create ancient woodland?** Well, planting trees in a field seems like a good idea, but it will not be ancient woodland for hundreds of years and even then the fundamental species-diversity will only develop if all those fungi, mosses, liverworts, higher plants, invertebrates, bacteria, mammals, birds, and so on, have the means to move in. Many of them will only do so by slow incremental spread through corridors of suitable habitat after long periods of stable, humid, shaded, organic-rich, tree-covered conditions. Many species will only consider colonising if other, equally fussy species have arrived first or in tandem. Once established they are keen to remain.

So, will HS2 cause lots of damage to ancient woodland? The clear answer is yes! But is that such a dreadful sin? A sin it may be, but not on quite the same scale as the mass destruction of ancient

woodland wrought by intensive agricultural production, urban expansion, overgrazing, conifer planting and our failure to manage mature woodland properly. But we are all to be found guilty because we all want plenty of cheap food, affordable housing, good transport and cheap softwood products don't we? So let's have fast, efficient rail travel and then energetically commit ourselves to protecting the wonderful and diverse array of ancient woodland so that our grandchildren will know what real woodland looks like!

New woodlands are being planted and we have been pleased to note how quickly our own plantations have developed a modest fauna and flora even in 30 or 40 years as a result of our management regimes. [We can be confident that one day they could have all of the characteristics of ancient woodland.](#)

Kind regards

**Andrew**

Principal Landscape Architect

March 2016

#### IMPARTING A SENSE OF PURPOSE - CONTINUED

### School maths, you can't live without it.

I wrote in a newsletter last month about the problems we face in the construction industry because few young people now receive a good grounding in basic mathematics. This is a problem widely recognised in 2016 because according to frequent reports in the press, teachers of mathematics are in short supply, in The Times on 14<sup>th</sup> March for example. What can one do about it?

Perhaps I can help just a little by discussing a few examples and our own situation at RML where mathematics is second nature to some of us.

RML's recent experience of working with young people is limited but I expect that this will change in the next year or so as we recruit more staff. I doubt if the people we would be interested in will have studied mathematics beyond a GCSE. If this turns out to be the case then we will need to be patient and resourceful. I know that Ivor has always encouraged a learning environment wherever he has worked.

Ivor lived in a pub with his parents and grandmother. 'Granny' was bilingual in Welsh and English and although she had received the benefit of only a very limited education in the 1870s she ran a pub, see Ivor's Xmas message for a bit of the Richards' family history. In 1906, Granny was widowed when she was just 39. Morgan, her husband, was killed in the colliery. Ivor's father, the youngest of 5 children and named after me, was 4 years old. How Granny managed the pub in the aftermath was never really explained.

Ivor remembers that in his pub-days the keys on the till were never used except for one single key to open the drawer. Change was simply arrived at by taking coins from the till to make-up the cost of the drinks to whatever amount had been proffered by the customer. This was a simple and straightforward method even in £SD days, - do you know why it's 'D' rather than 'P'? Ivor learnt this

approach as soon as he was tall enough to see into the till. When Marj arrived, see Ivor's Xmas message about Xmas 1956, it was the first thing that she learnt. These days' staff in most shops rely on the till to do the sums for them. Ivor finds this 'funny' but it is a very clear 'sign of the times' so far as basic arithmetic is concerned.

Day by day you can still be taxed by problems.

Only this week we have had to calculate the percentage increase in the area above the skyline which would be swept-out by the blades on a wind turbine which the developer wanted to lengthen by an extra 10%. To begin with we thought that this was a simple problem but it turned out to involve quite a complicated bit of trigonometry involving arcs subtended at the centre of the circle.

I remember a young landscape architect working with us who had

difficulty in calculating the number of plants required in a particular area of a construction site. The planting scheme had been changed from requiring plants at 1.5m centres to 1.25m centres. We needed to change the item in a bill of quantities. Could you manage that? Do you know people who couldn't? Would you need a computer?

At the time of writing, our youngest employees at RML are close to 40 years old but these 'younger' ones are graduates in advanced mathematics and technical design, way beyond what one needs on a daily basis. These are the kind of people who understand matrices and irrational numbers. Did you know that numbers can be both rational and irrational?

Some time ago we were criticised about the age structure of our staff by an assessor from the Welsh Assembly who was told in no uncertain manner that everyone had been young when they started here, reflecting well on our staff retention. I think that at that time we lacked anyone under 25 years of age. Incidentally the assessors were not interested in the over 60s (Marj and Ivor) but that may be a point for discussion in a later newsletter. I must add that over the years we have enjoyed accommodating numerous young students from across Europe and from our local schools on work experience.

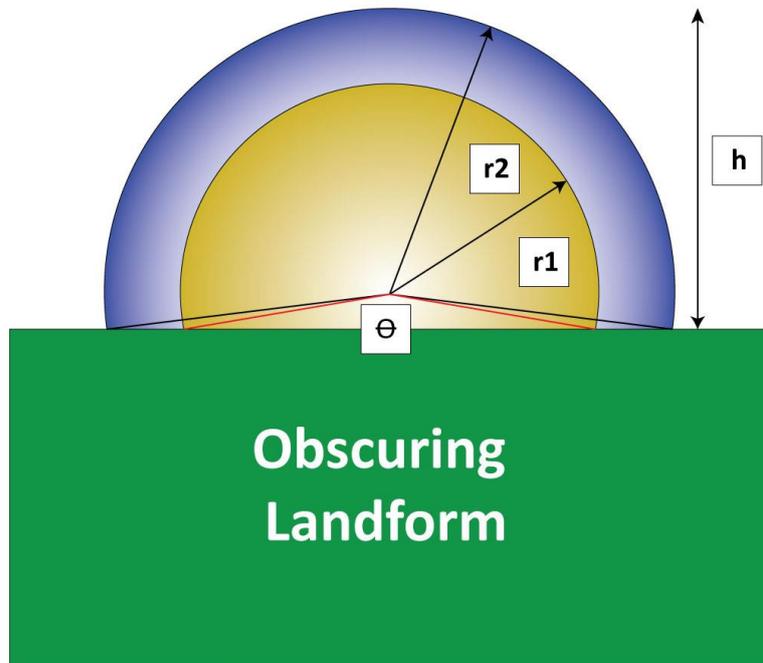
In another newsletter I will tell how Ivor was 'prepared' for the world of work.

Kind regards

**Idris**

Senior Ranter and Problem Solver

March 2016



## CHANGES TO FLOOD DEFENCE CONSENTS

From 6 April 2016 a new process of obtaining consent for flood defence and other watercourse works will apply. The old Flood Defence Consent system will come to an end, and Environmental Permits will replace the consents. Full details of the new system are not yet published, though the consultation exercise last year gives a good idea.

Those of us familiar with the Environmental Permitting regime will see the potential benefit in having a more proportionate system in which minor activities only need to 'register' an exemption online, other works can adopt a simpler 'Standard Rules' permit, and only the most complex or substantial proposals need to go for a 'Bespoke' permit. The application fees and response timescales reflect these categories.

The new system will apply in England (Environment Agency) and in Wales (Natural Resources Wales) though [there will be differences](#), at least until the devolution process and legislation catches up.

The responsibility for maintaining many smaller flood defence structures, together with the river banks, sits with the riparian landowner. RML is currently assisting a landowner who has to respond to recent erosion which led to the situation shown in the photograph. Works in the river are not permitted until fish eggs have hatched, but with the co-operation of NRW we gained permission for emergency works to replace the breach in the flood bank, buying time for a formal Consent application which will lead to a full reinstatement scheme.



For help with your Flood Defence project or to discuss other Environmental Permitting matters, [call us on 01824 704366](tel:01824704366)

Kind regards

**Steve**

Principal Landscape Manager

March 2016

Shan (our Chartered Town Planner) shares here an update on planning changes in Wales and gives brief comments on the implications for applicants:

This represents the first update session on recent changes to planning legislation, mainly relating to the service in Wales, and how the changes could affect project programme and project costs when considering the need for planning applications and related consents.

One of the key aims of the Welsh Government is to provide a suite of positive changes to the planning system. With this context in mind, yesterday marked a series of changes to planning legislation and related services in Wales. This follows the implementation of the Planning (Wales) 2015 Act. Further related changes will follow in [August](#) this year.

Other related environmental changes include the Environmental Impact Assessment Regulations.

In general, the 16<sup>th</sup> March 2016 changes focussed on the development management procedures and consultation process. Essentially, the 'bread and butter' part of the town and country planning process. In the main, these are intended to provide a consistent approach for dealing with planning applications throughout Wales. Most would agree that this represents a much needed and well over due change!

To coincide with the new changes, other technical supporting guidance notes have been published.

I will attempt to clarify the raft of changes. Here we go then! Without cross-referencing to a particular part, or sub-section, or sub-criteria, or sub-division... these are the main planning application changes:

**Standardisation of Local Planning Authority pre-application services and fees.**

This incurs a fee of £600 for major developments (10-24 dwellings/ 1,000sqm – 1,999sqm) which increases to £1,000 for large major development applications (25 plus dwellings/ 2,000sqm plus) with an obligation for the LPA to respond within 21 days.

**Design and Access Statements changes.** Changes in requirements for and, content of, which are now only required **for major developments** (except for mining operations, S73 applications and material change of use) or development within Conservation Areas and World Heritage Sites (for proposals including 1 or more dwellings and 100sqm of floorspace or more);



Please note however, that the definition of *'major'* has its own intricacies and, may well form part of another future update message!

**Appeals against the decision that an application is invalid.**

This includes a deadline that the appeal is made within two weeks of receipt of the notice with an obligation on the Welsh Government to reach a decision within 21 days.

**Consulting statutory consultees**

This now given at the discretion of the Local Planning Authority with regard to reserved matters applications and discharge of conditions.

Following on with the consultees theme, a duty is placed on **statutory consultees to respond within 21 days** unless agreed in writing to extend the period.

**For any post-submission amendments to major applications.**

A charge of **£190**.is now imposed, with a 28 day period for LPAs to consider the new information.

**"Live" decision notices.**

These must specify the approved plans.

**Development commencement (for major developments).**

The LPA's to be notified and a copy of the planning permission to be displayed on site.

August 2016 will also see the introduction of a **PRE-APPLICATION PROCEDURE**. This is a significant 'add-on' for certain developments. Developers will need to take into account and factor in a number of additional time frames for this particular requirement, including a community consultation exercise. Any application submitted on or after 1st August 2016 will therefore need to be supported by a **'Pre-Application Consultation Report (PAC)'** to demonstrate how the pre-application procedure requirements have been met. They must also summarise all issues raised, provide an account of those responses and confirm whether the issues have been addressed and, if so, how.

March 16<sup>th</sup> 2016 therefore saw the introduction of another acronym – **PAC...** and a deluge of new applications to be submitted between now and August?

For help with your planning and permit applications call us on 01824 704366 or email [s.jones@rmlconsult.com](mailto:s.jones@rmlconsult.com)

Kind regards

**Shân Wyn Jones**

Planning Consultant

March 2016

Quality is achieved through good workmanship and informed supervision. Civil engineering has long benefited from the dual approach being applied in conventional areas of construction; the same approach needs to be directed towards the use of vegetation.

Since I have stressed the value and importance of 'good looking' vegetation if the public are to accept civil engineering projects at face value, I need to emphasise that seeding and planting should also be treated as work items that call for follow-up testing and observation. In civil engineering our sampling and testing of concrete has been a long-accepted element of construction and is now implemented without question. The mis-handling of concrete has also been recognised as a source of poor workmanship and a great deal of attention has been paid to this element of the work over many years. This respect for concrete needs to be replicated in our dealings with vegetation.

Some vegetation materials have been standardised. Most grass seed is covered by a certification system which assures purity and minimum % germination, giving specifiers and site teams control over at least one of the variables, without the need for on-site testing. Even so, when ground conditions are poor then grass establishment will be patchy, at best.

Planting trees and shrubs is a more complex process than seeding and because of the multiple stages involved there is much more room for mistakes, shoddy workmanship and failure. Just as the handling and placing of concrete needs care and attention, work with shrubs and trees is generally well understood but inexperience or any lack of attention to detail can lead to disasters.

A common problem associated with 'engineered' earthworks is that planting pits are made impermeable due to soil compaction and the resulting waterlogging. Waterlogging is made even worse if the sides of planting holes become smeared, rendering them impermeable. Die-back usually indicates that root growth is restricted, and trial holes carefully excavated within the planting pit and the adjacent soil will indicate whether new roots have been formed. If found, these new roots provide hope for the future. Otherwise the soil may need amending by loosening and the creation of routes for water to drain. Several methods are available.

The first growing season will usually indicate when serious damage has been done to roots but one can find that the growth of shoots in the first year exceeds that in the second and third years. The plants need careful watching and may well need to be replaced if their growth does not show signs of recovering in year four. Nutrient deficiency is not usually a problem with pioneer plants, especially alders which can 'fix' their own nitrogen. Some nutrients are a necessity but over-provision can make for worse problems such as competition from surrounding grass.

Recognising the poor establishment and growth of trees in the street environment, the Highways Agency commissioned RML to undertake a three-year programme to consider the interaction of engineering issues and the requirements of plants. We conducted trials to learn how compaction affected root development in a variety of engineering materials, and developed simple correlation tables so that engineered compaction could be controlled on site.



Tree roots have three essential requirements: air (oxygen); water and physical anchorage. Many materials can provide this combination – crushed brick worked well in this test – but compaction can easily destroy the structure of a material and exclude air, water and roots. Full results can be obtained at <http://www.rmlconsult.com/highwaysinfrastructurestreetworks42.html>



Understandably people are attracted to the idea of planting oak trees because they have a degree of permanence and a long life. In my experience transplanted oak trees are very slow to 'put on' new growth. So patience is required. In the case of oaks, acorns may provide a better more satisfying and cheaper solution than transplants. Apparently Lord Horatio Nelson always carried a pocketful of acorns with him for planting during his journeys around the country.

I will discuss how vegetation can fill an engineering role in a future newsletter.

Kind regards

**Ivor**

Managing director

March 2016

## We've done it, as well adding long-term interest and value.

In a series of newsletters issued by RML I have discussed the varied roles that vegetation can play in construction, these range from simply providing a green-surface-finish to enhancing slope stability and adding value. Where does this take us? It takes us down the very long path that Andrew discussed recently when commenting on the news that Ancient Woodlands would be damaged by HS2.

Vegetation does not exist on its own, it comes as a package that brings opportunities for a very wide range of invaders, immigrants or even refugees to occupy a site. I am not talking about human beings but fauna and flora. Some of these will stay only a short time whilst others will be more resolute and hang around for considerably more time. Specialists arrive even later, some very late indeed. Not all of them obey the rules or appreciate our planning and the arrangements that we have made for them. But hey, that is what one must expect.

## We have found dormice very comfortably settled-in in bat boxes.



The hand belongs to one of our licensed handlers.

We have been involved in landscape projects that have extended over many years including the Conservation Management Plan for Y Faenol, an estate in North Wales which includes a significant amount of Ancient Woodland. Follow-up surveys by RML involved in habitat management along the A55 across Anglesey, the M4 north of Cardiff and at Glandyfi in Cardiganshire have provided evidence that occupation by immigrant species begins in the first growing season and that even in the early years the range of inhabitants can be diverse. Some of these early 'settlers' will be invertebrates such as moths, mammals such as bats and dormice, and pioneer plants such as grasses and clovers and trees such as birches and willows. In time, if given the time, these 'chaps', who undoubtedly become our long-term friends in these situations, will give way to more sophisticated inhabitants that will be the beginnings of what makes an ancient woodland. Our perspectives are therefore very long indeed and can extend over the lifespans of successive oak trees and many human lifespans.

From my early days in civil engineering I have always looked for new and better ways of doing things, to me this approach has always seemed to be the right thing to do. In my case "But we have always done it this way" has been like a red rag to a bull. I have not been afraid to adopt ideas from other disciplines and adjust them to suit an engineering environment. I have always agreed with John Ruskin's view that a holistic approach is the most likely one to produce the right way of doing something, it has always appealed to me. An open mind seems to be the foundation which allows this to happen.

If you go down the holistic route, as I would recommend, then you will need to have the services of a coordinator to bring and then keep different specialists working towards a common purpose.

Kind regards

**Ivor**

Managing director

March 2016

55 WELL STREET, RUTHIN, DENBIGHSHIRE LL15 1AF

Tel +44(0)1824 704366, Fax +44(0)1824 705450

email: [rml@rmlconsult.com](mailto:rml@rmlconsult.com) web: [www.rmlconsult.com](http://www.rmlconsult.com)

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