‘Learning about landscape management

Common ground in art and science

Skomer 1987: a good year for gulls and Red Campion !

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Defining landscape

The problem in using the term landscape to describe a scientific entity is that the term originated in the 17th century to classify a new kind of painting representing an expanse of scenery that can be seen in a single view. It was then applied to other vastly different situations:

- the branch of art dealing with the representation of natural scenery.
- the aspect of the land characteristic of a particular region: '*…a bleak New England winter landscape'*.
- grounds that have been landscaped: '*…liked the house especially for its landscape'*.
- an extensive mental view; an interior prospect: *"They occupy the whole landscape of my thought" (James Thurber).*
- the consideration of heterogeneous spatial units as an entity without disintegrating them into smaller constituents: '*scientific*'

Constable was a very careful writer when communicating his approach to painting landscapes and in the following passage he comes close to defining 'habitat' as the conceptual link between art and science.

> "By close observation of nature the artist discovers qualities existing in her which have never been portrayed before and therefore a style which is original. We see nothing truly until we understand it. The artist must study nature not in the same spirit, but with the seriousness and application of the scientist"

A definition that could encompass both art and science is, '*a landscape is a collection of interconnected habitats'*.

For the artist, the connections are defined mainly by the prevalence of one idea throughout, with all details being subordinate to it. Some particular style of expression must be determined upon and consistently adhered to. The artist makes the habitats which appear within his field of vision into a picture by a very personal and arbitrary process of assembly accumulation and composition in a material medium. He thereby creates a two-dimensional understanding of a 'mental picture' based on a number of desires, intentions and conditions received from all points of his mind and being.

The scientist also creates a mental picture from the visual experience of a collection of habitats. The connections between habitats are expressed in words, diagrams and photographic views as an understanding of the flows of materials and energy between them that maintain the whole as an dynamic ecosystem. The scientific boundary of a landscape as an ecosystem is as arbitrary as that of the artist. It is set to isolate the simplest scenic representation of the world that can be directly grasped and investigated. The scientific landscape then becomes a mental transposition of the visual experiences that define a sense of place as a kind of mental island, which Thurber in a broader sense described as 'the landscape of my thought'. From this point of view a topographic island

as an ecosystem with a clear physical boundary is a good model for learning about landscape as a system.

Landscape management

Landscape management is the interdisciplinary manipulation of spatial variation in ecosystems at a variety of scales. It requires an understanding of the biophysical and cultural factors which produce scenic heterogeneity. This understanding is the basis of landscape ecology.

Landscape ecology can be defined by several of its core themes:

- the spatial pattern and internal structure of landscapes, ranging from wilderness to cities,
- the relationship between pattern, structure and process in landscapes,
- the relationship of human activity to landscape pattern, structure, process and change,
- the effect of scale and disturbance on the landscape,
- the premise that most landscapes are cultural sytems where culture structures landscapes and landscapes inculcate culture.

The most important theme is that culture changes landscapes and culture is embodied by landscapes. Both aspects of this dynamic relationship are encompassed by landscape ecology, but neither side of the equation has been examined sufficiently to produce cultural theory.

The following broad principles have been proposed to guide landscape management, but none of them have been researched sufficiently to produce cultural principles (Joan Iverson Nassauer Landscape Ecology vol. **10** no. **4** pp **229-237 (1995).**

1. *Human landscape perception, cognition, and values* directly affect the landscape and are affected by the landscape.

2. *Cultural conventions* powerfully influence landscape pattern in both inhabited and apparently natural landscapes.

3. Cultural concepts and values attached to 'nature' are different from scientific concepts of ecological function.

4. The appearance of landscapes communicates cultural values.

The Skomer landscape system

Skomer Island is relatively flat and only about two miles wide. This means that inevitably most scenic views fall into the category of foreground, and people's visual responses to the island as a landscape are conditioned by the plant communities that develop in this zone. 'Foreground' is one of the divisions for classifying the quality and value of scenery for landscape management. It is defined topographically as a distance zone having a depth of '*from 0 feet to 0.5 mile, where the individual details of specific objects are important and easily distinguished. Details are most significant within the immediate foreground, 0 to 300 feet'*. This is a wordy summary of what the eye rapidly makes out as a mixture of individual plants, clumped vegetation, bare ground, water and rocks. The visual microcosms that make up this zone, all offer texture and pattern to a painter or photographer who wishes to crop an artistic impression that conveys the island's beauty. These eyecatching impressions are also the starting points for scientific work to define the island's plant communities and the factors that control them from year to year. The full classification scheme of scenic value criteria for landscape inventory and management is set out in Appendix 1.

The foreground communities of Skomer were first defined through the general botanical survey of the island carried out in 1947 and its outcome is the basis of a chapter in the book 'Island of Skomer', edited by Buxton and Lockley. The following extracts from this account still define the main scenic features of the island, the visual changes that occur during the visitor season, and the main factors that determine the local biodiversity.

"In May the high eastern slopes are purple-blue with large strong-stemmed bluebells.. In June the general colour changes to a delicate pink as acres of the beautiful thrift or sea-pink come into blossom, especially on the exposed western and southern cliffs; and on the sheltered ledges of the north-east side where there is sufficient soil the luxuriant maritime variety of the red campion triumphs over the fading flowers of the primrose, bluebell and sea-campion. Towards the end of June the bracken begins to dominate completely large areas of Skomer; its crozier-like shoots have been slow to unfold in the cool Atlantic winds (a month later perhaps than in sheltered mainland situations), and the plant does not reach a great stature; it forms a dense low cover from one to three feet high which effectively banishes or limits the growth of vegetation in areas where the bracken has long been established. In July, therefore, Skomer has assumed a viridescent colouring made up of the pale grass-green of the rabbit-grazed turf and the darker green of the maturing bracken. … The first high winds of autumn quickly turn the exposed areas of the bracken a russet colour.

… A close examination by the knowledgeable amateur will enable him to make an interesting list of the flowers, interesting not because of the great number of rare species but rather because there are few species, some of which are often individually very numerous and may form pure communities.

Skomer exhibits a very considerable diversity of plant habitats, due to several factors: the topography of its high plateau with steep cliff walls, the imperviousness and acidity of much of the volcanic rock, the varying proximity of the sea, the climate with its frequent fierce winds, the alkaline and nitrogenous droppings of the seabirds, the effects of overgrazing by rabbits.

As a guide the following eleven main ecological divisions or habitats may be cited:

inland —
sheltered well-drained land with fairly deep soil (bracken areas),
inland pasture (now rabbit grazed grassland),
dry turf (edges of island),
heath,
rock outcrops,
ponds and streams,
bog,
and human habitation (buildings, walls, garden);

maritime —
exposed cliff-tops of the south and west (favoured by thrift),
less exposed cliff-tops of the north and east (favoured by sea-campion and scurvy-grass),
and steep sea-cliffs".

To this picture of the main body of the island may be added the unique visual features of a surface geology that was defined for the first time by E.H. Thomas. This is dominated by rocky outcrops that run east to west in parallel lines, projecting southwards at an angle of about twenty degrees. These outcrops are evidence that the rocks making up the main body of the island were formed underwater by at least seven major volcanic outpourings, each consisting of a few meters of fluid larva, which flowed over part of a Silurian seabed. During post Carboniferous times these solidified horizontal beds were tilted through more than ninety degrees to bring their edges above sea level. The edges of these beds of hard igneous rocks, each defined by a particular mineral composition, dominate the island's low skylines. They are the basis of Skomer's characteristic gentle slopes and valleys that have been accentuated by major slippages between some of the layers. Faulting has been responsible for the detachment of the Garland Stone and the Mew Stone as two isolated masses of a rock called soda rhyolite. The other widespread physical features of the landscape are the stone walls and the plough lynchets of field boundaries, the bases of prehistoric round houses, and ponds that have been formed artificially by damming little streams.

Maps of the island's surface geology and plant cover are given in Appendix 2

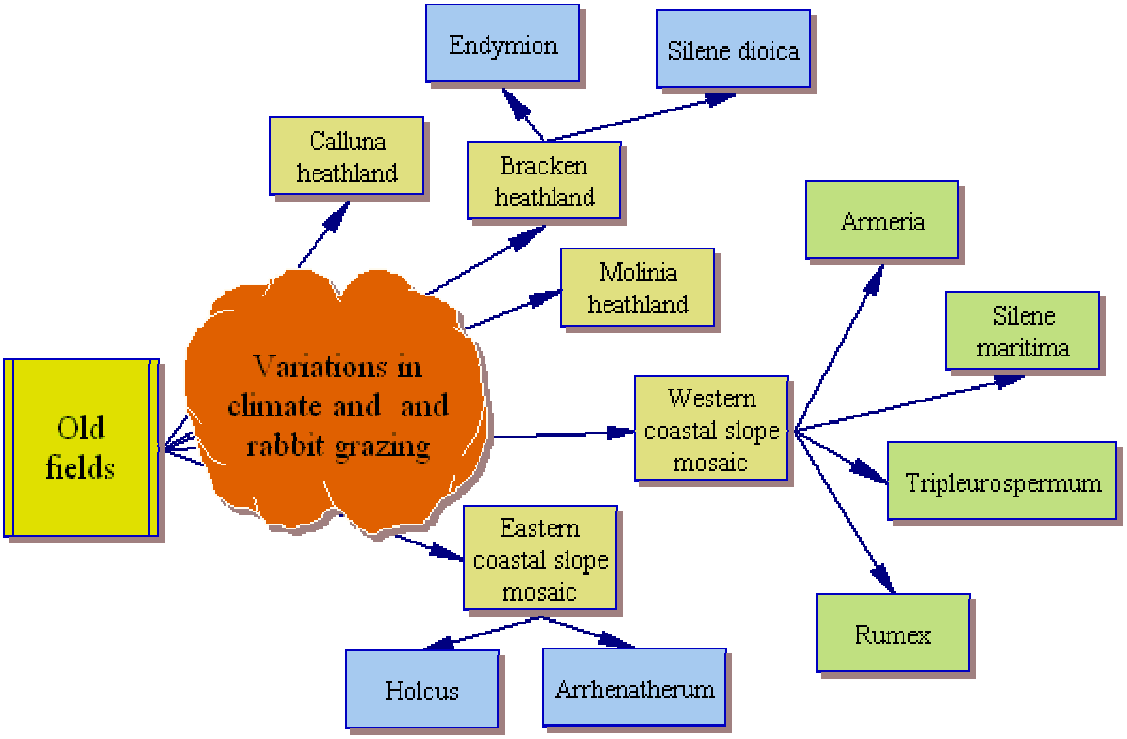
Dynamic changes in vegetation

It is well known to people who regularly visit Skomer at the same time each year that on first stepping ashore you quickly become aware that the landscape looks different from your previous visit. Five variable scenic habitats developed from acid grassland of old fields are influenced by year on year variations in climate and rabbit grazing. These are subtle differences in landscape at the foreground level, and it does not take long to establish that the changes in the pattern of vegetation involves a shift in the relative amounts of a few dominant species; the grasses Yorkshire Fog (Holcus lanatus), False Oat (Arrhenatherum elatius), and the amount of dead grass; Woodsage (Teucrium scorodonia), two species of Sorrel (Rumex acetocella and Rumex acetosa); Red Campion (Silene dioicum); and the amount of bare ground Fig 1). The longer the interval between visits, the more obvious the differences become, and over several years other common species will also be seen to change their relative abundance. In the medium term the markers of change are Scentless Mayweed (Tripleurospermum maritima) and White Campion (Silene maritima). In the longer term there are changes in the amounts of Sea Thrift (Armeria maritima) Bracken (Pteridium aquilinum) and Common Heather and Bell Heather (Calluna

vulgaris and Erica cinerea). It is notable that rabbits find all these species are unpalatable. More detailed investigation of the vegetation year on year will reveal that other common but less obvious plants associated with the above species, many of which are major sources of food for rabbits, also change in abundance.

These conclusions come from more than a decade of surveillance of vegetation spanning the 1970s and 80s, which was carried out as part of an annual field course organized by the University of Cardiff's Zoology Department. This involved students carrying out quantitative analysis of fixed quadrates and transects across the island.

Fig 1 Five variable scenic habitats developed from acid grassland of old fields under the influence of year on year variations in climate and rabbit grazing.



A summary of this work may be found at:

http://www.culturalecology.info/skomer/LinkedDocuments/Rabb98.pdf

Biological status of acid grassland (UK Biodiversity Action Plan)

Lowland acid grassland typically occurs on nutrient-poor, generally free-draining soils with pH ranging from 4 to 5.5 overlying acid rocks or superficial deposits such as sands and gravels. It includes the *Festuca ovina - Agrostis capillaris - Rumex acetosella* (U1), *Deschampsia flexuosa* (U2), *Agrostis curtisii* (U3) and *Festuca ovina - Agrostis capillaris - Galium saxatile* (U4) National Vegetation Classification grassland plant communities. Inland vegetation, but not coastal dunes, characterised by *Carex arenaria* (*Carex arenaria* dune *Festuca ovina* sub-community (SD10b) and *Carex arenaria - Cornicularia aculeata* dune, *Festuca ovina* sub-community (SD11b)) is also included but is highly localised.

Definition of lowland acid grassland is problematical but here it is defined as both enclosed and unenclosed acid grassland throughout the UK lowlands (normally below c. 300m). It covers all acid grassland managed in functional enclosures; swards in old and non-functional enclosures in the upland fringes, which are managed as free-range rough grazing in association with unenclosed tracts of upland, are excluded. It often occurs as an integral part of lowland heath landscapes, in parklands and locally on coastal cliffs and shingle. It is normally managed as pasture.

Acid grassland is characterised by a range of plant species such as heath bedstraw *Galium saxatile,* sheep`s-fescue *Festuca ovina*, common bent *Agrostis capillaris,* sheep`s sorrel *Rumex acetosella,* sand sedge *Carex arenaria,* wavy hair-grass *Deschampsia flexuosa,* bristle bent *Agrostis curtisii* and tormentil *Potentilla erecta,* withpresence and abundance depending on community type and locality. Dwarf shrubs such as heather *Calluna vulgaris* and bilberry *Vaccinium myrtillus* can also occur but at low abundance. Lowland acid grassland often forms a mosaic with dwarf shrub heath, the latter being covered in the separate lowland heathland action plan. Acid grasslands can have a high cover of bryophytes and parched acid grassland can be rich in lichens. Acid grassland is very variable in terms of species richness and stands can range from relatively species-poor (less than 5 species per $4m^2$) to species-rich (in excess of 25 species per $4m^2$).

Parched acid grassland in particular contains a significant number of rare and scarce vascular plant species many of which are annuals. These include species such asmossy stonecrop *Crassula tillaea,* smooth rupturewort *Herniaria glabra,* slender bird`s-foot-trefoil *Lotus angustissimus,* bur medick *Medicago minima* and clustered clover *Trifolium glomeratum* andspring speedwell *Veronica verna.* Perennial taxa associated with these grasslands include, sticky catchfly *Lychnis viscaria* and shaggy mouse-ear-hawkweed *Pilosella peleteriana*.

Regarding colonisation by heather, the UK Biodiversity Strategy says that it is important to ensure that acid grasslands are taken into account during implementation of the action plan for lowland heathland. The recommendation is that actions in the two plans need to be closely integrated.

Landscape, science and art

'Looking at paintings or experiencing other kinds of art, especially kinds which are not immediately transparent but which demand some attempt by the spectator to enter into the experience of the artist's creative processes, is one of the best ways for the scientist to loosen the joints of his psyche, to roll the bones of his ideas'. Conrad Waddington, zoologist

Artists and scientists share a mental platform common to all humanity. This commonality is their innate curiosity about the variety of shapes and colours of the natural world and an obsession to slot them into categories. These behaviours, collectively termed cognition, result in the formation of schemata which supply objects with distinctiveness and differentiate them from others. Objects are organised by observing similarities and differences among them and then creating a classification scheme designed to accommodate the observed objects, along with as yet unknown objects that may be observed in the future. Classification is therefore the arrangement of objects and also ideas or information into groups, the members of which have one or more characteristics in common. Schemata of classification make things easier to find, identify, and study.

Classification is a fundamental human thought process. People vary greatly in their ability to exhibit these behaviours of observation and classification but they can be taught. Artists and scientists differ with regards what they do with the schemata. Both use classification as a sense of order to guide their understanding of the world. However, scientists set themselves the objective of defining each object in a category carefully and precisely so there can be no doubt as to its meaning in terms of how it is put together or functions. Artists avoid attributing such an unambiguous understanding. Science is an activity applied to an object in order to name it. Art is an activity applied to an object to illustrate its many names. Thus a diamond is a scientific entity. Love is an artistic entity.

This commonality of thought is illustrated by the work of Roberto Mari who collected smoothed pebbles from the beaches and river beds of Tuscany and turned them into works of art by using the fracture lines as a guide to dividing his colours into zones or fields. The Italian for smoothed pebble is ciottoli (pronounced chottoly). He made a pun on the name by referring to this inorganic universe of pebbles as Giottolandia. Giotto is the name of the painter who kick-started the move towards realism in Renaissance art.

Here are some of the things Mari said about his work.

"If human beings weren't able to note the passing of time (i.e. the geological events that produced the pebbles) they wouldn't be capable of feeling the sensible world and its objects in space"

"Ciottoli are stones that trigger new experiences, sensual feelings and scenes"

"They become the object and the subject of photographs that reveal them as high quality icons like natural paintings. Their hidden secret becomes decoded by the artist through his microphotos which have a strong, aesthetic impact"

Giottolandia brings a reflection of the relationship between man and nature to the centre of our consciousness.

You can see photographs of some of the stones he chose to paint in the gallery at:

http://www.giottoli.com/giottolandia.php

These ciottoli indicate how the use of randomness as a generative principle could present an artist with a creative design environment where uncertainty or unpredictability is an intricate part of the process. The use of randomness can be dated to eighth century China where the teaching of Taoism led some Chinese artists to believe that chance images could be better explained as symbols of the artist's harmony with the cosmos. Wang Mo often got drunk before he splashed paint on a silk scroll, which he then kicked, smeared, scuffed, and sat on to achieve the desired effects. He finally used a brush at the end of the process, foreshadowing 20th century Dada's characteristic of adding conscious ``finishing touches" to random designs.

In a recent exhibition at the New Art Gallery Walsall in 2007 some works focused on randomness in nature. Works by Richard Long were created by dipping black and white card into the mud in the River Avon, while Alice Maher encouraged snails to trail across her etchings, leaving traces of the vegetable dye that she applied to their tails. Tim Knowles allowed different trees to participate in his drawings, by attaching pens to the outer branches and allowing the movement of the wind to create a drawing on paper that is placed beneath them, resulting in enigmatic, obsessive strokes. Krokatsis held fireproof stencils over burning rags and allowing the ensuing carbon deposits to collect on the paper above, creating ghostly apparitions.

Currently the most successful artist whose work begins with randomness if Wayne Riggs. He began as a photographer taking closeups of weathered mentallic surfaces such as portions of trash cans, cars, walls and the like to produce abstract images of the urban environment directly onto photographic paper. He then painted directly onto the photographs. He explained his interest in the random-start in 'Observations on a Early Photograph'
(http://www.wayneriggs.com/index.htm)'

"The first thing I'll do is start writing my thoughts on how I have done my work up until this point. I started working in photography some forty odd years ago. What first comes to mind is actually a very early black and white photograph, that was taken, developed and printed when I was around 16. I remember it was a view of an old shed on the farm, the summer kitchen. It was a close-up of a window with no glass in it. The frame of the window had little or no paint on it and the white of the walls had been washed out long ago. Through the window was a double sink resting on the bottom sill, tipping downwards out toward the ground. The sink itself was old, but modern in the sense that it wasn't thick enamel but steel, so the bottom being black and the top being white cast a certain shadow onto the window. The faucets were still on it and were turned every which direction. In the sink that was outside the window, was a potted plant that drooped down over the edge going down and out of the picture frame. At the top of the window and the top of the picture frame was a piece of ivy coming from inside the shed; like a snake it wound its way downward towards the sink. This was not, of course, my first picture ever, but one that I do remember. As I look back on it now, I guess why I remember it is because of the randomness of it. The idea of a window with no glass, the idea of a sink in the window, the idea of a pot in a sink. Those random placements of these things - my father throwing the sink on the windowsill because it was in the way, my mother putting a pot in the sink because it looked like a good place for a plant, I don't know. I took a picture of it because it was interesting, although at the time I only guessed it was interesting. It was only after I saw the picture did I know it was, and then it is only now that I write about it. I write about it because I remember it, not the image per se but the randomness of the image".

From this point of view all art starts from randomness; the randomness of history, the randomness of nature and the randomness of becoming and artist.

John Ruskin was fond of lichens.

Here he is imagining looking up at the front of an English cathedral.

"And so, taking care not to tread on the grass, we will go along the straight walk to the west front, and there stand for a time, looking up at its deep-pointed porches and the dark places between their pillars where there were statues once, and where the fragments, here and there, of a stately figure are still left, which has in it the likeness of a king, perhaps indeed a king on earth, perhaps a saintly king long ago in heaven; and so higher and higher up to the great mouldering wall of rugged sculpture and confused arcades, shattered, and gray, and grisly with heads of dragons and mocking fiends, worn by the rain and swirling winds into yet unseemlier shape, and colored on their stony scales by the deep russet-orange lichen, melancholy gold; and so, higher still, to the bleak towers, so far above that the eye loses itself among the bosses of their traceries, though they are rude and strong, and only sees like a drift of eddying black points, now closing, now scattering, and now settling suddenly into invisible places among the bosses and flowers, the crowd of restless birds that fill the whole square with that strange clangor of theirs, so harsh and yet so soothing, like the cries of birds on a solitary coast between the cliffs and sea".

All this talk about process brings up thoughts about the two elements behind the production of a work of art. 'Process' is one of them and 'intent' is the other.

Web reference

http://www.corixus.blogspot.com

What is the relevance of the above to conservation management?. Ronald Lockley provided the answer in the opening lines of his book 'Dream Island'. Published in 1930 it is a summary of the spiritual impact made by the landscape of a small Welsh island.

To dwell alone with birds and flowers in some remote place where they were plentiful and undisturbed was an ambition early cherished in schooldays…. This desire became my daily dream as I grew up. In turn I envied the Swiss Family Robinson, the Coral Islanders and Robinson Crusoe. My day-dreams led me on wondrous expeditions alone in an open boat, and landed me on isolated bird-islands, where I dwelt my hermit-life in complete happiness. I built my little hut, kept my goats and my garden, and spent my days in watching and taming birds.

http://dream-islands.wikispaces.com/

Appendix 1

Scenic Value Criteria for Scenery Inventory and Management

1 Scenic Attractiveness - 3 levels

Attractiveness is a measure of scenic quality based on human perceptions of intrinsic beauty as expressed in the forms, colors, textures, and visual composition of each landscape. The combination of rock outcrops, water bodies, landforms, vegetation patterns, and other natural features that shape landscape character also help define scenic importance. The presence or absence of these features, along with valued attributes such as variety, uniqueness, mystery, pattern, order, vividness, harmony, and balance are used to classify the scenic attractiveness of a landscape.

Category 1: *Distinctive* - Areas where the variety of land forms, rock, vegetation patterns,water, and other features have outstanding or unique visual quality. These areas have strong, positive attributes that are relatively uncommon in the chracteristic landscape. This category also includes areas in visually strategic locations that have somewhat more common attributes.

Category 2: *Common* - Areas where the land forms, rock, vegetation patterns, water, and other features have ordinary or common visual quality. These areas have generally positive but typical attributes, with a basic variety of forms, colors,
and textures that are normally seen throughout the characteristic landscape.

Category 3: *Minimal* - Areas where the natural features have little change in form, line, color or texture resulting in low visual quality. Rock forms and vegetation patterns of any consequence are often not present, and these areas generally have weak or missing attributes. All areas not classified as 1 or 2 are included in this category.

2 Scenic Integrity - 4 levels

Integrity is a measure of scenic importance based on the degree of visual unity and wholeness of the natural landscape character. Human alteration can sometimes raise integrity, such as an impounded water body that unifies the landscape while adding variety, mystery, harmony, and balance. Most often scenic integrity is lowered by human alteration and the addition of visually disruptive elements. The presence and degree of discordant alteration is used to classify the scenic integrity of a landscape.

High: Areas where the valued landscape character appears to be intact and unaltered, with very minor deviation. Any deviation present must repeat the form, line, color, texture, and pattern of the landscape so closely and at such a scale that they are not evident.

Moderate: Areas where the valued landscape character appears to be slightly altered. Noticeable deviations must be visually subordinate to the landscape being viewed, and borrow much of the natural form, line, color, texture, and pattern.

Low: Areas where the valued landscape character appears to be modestly altered. Deviations begin to dominate the landscape being viewed, but the alterations should share natural color, shape, edge pattern, and vegetation characteristics in order to remain compatible or complementary.

Very Low: Areas where the valued landscape character appears to be heavily altered. Deviations strongly dominate the landscape and may not share any of the visual attributes. The alterations may be visually disruptive and provide significant negative contrast to the natural landscape characteristics.

3 Scenic Visibility - 2 parts, 3 levels each

Landscape visibility is a measure of scenic importance based on several essential interrelated considerations, which include viewer context and sensitivity, number of viewers, frequency and duration of view, level of detail seen, and seasonal variation. A large number of highly concerned viewers who view the landscape for a long time period may raise the scenic importance significantly. The importance may be much lower when only a few viewers with low concern see the landscape for a brief period. These considerations are combined in two parts, which are used to classify the scenic visibility of a landscape. Sensitivity: The level of scenic importance based on expressed human concern for the scenic quality of land areas viewed. Sensitivity may be derived/confirmed by resident and visitor surveys.

Level 1: High - Areas seen from the reservoir, lakeshore residents, and lake view residents, where the number of viewers and concern for scenic quality are normally quite high.

Level 2: Moderate - Areas seen from principal roadways, use areas, and other public viewing areas. Concern for scenic quality is generally high while the number of viewers, view frequency, and duration are moderate.

Level 3: Low - Areas seen from secondary travel routes, use areas, and any not included in the other levels. Concern may be high in some areas, but number of viewers is generally low.

View Distance: A principal indicator of scenic importance based on the distance an area can be seen by observers and the degree of visible detail within that zone.

Foreground: From 0 feet to 0.5 mile. A distance zone where the individual details of specific objects are important and easily distinguished. Details are most significant within the immediate foreground, 0 to 300 feet.

Middleground: From 0.5 mile to 4 miles. The zone where most object characteristics are distinguishable, but their details are weak and they tend to merge into larger patterns. When landscapes are viewed in this zone, they are seen in broader context. Human alteration may contrast strongly with the larger patterns and make some middleground landscapes more sensitive than the foreground.

Background: From 4 miles to the horizon. The distant landscape, where specific features are not normally discernible unless they are especially large, standing alone, or have a substantial color contrast. Details are generally not visible, and colors are lighter.

4 Scenic Value Class - 4 levels
The value class of a landscape is determined by combining the levels of scenic attractiveness, scenic integrity, and visibility. The selection matrix below shows the various combinations and the resulting scenic class. It is a guide that is intended to complement both a thorough field analysis and careful review of the visual absorption capacity.

SCENIC VALUE CLASS SELECTION MATRIX

SCENIC VALUE CLASS SELECTION MATRIX													
Visibility: **Sensitivity Level** / **View Distance**		**1 foreground**			**1 middleground**			**2 foreground**			**2 middleground**		
Scenic Attractiveness Categories		**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Scenic Integrity Levels	**High**	E	G	F	E	E	G	E	G	F	E	E	G
	Moderate	G	G	F	E	G	F	G	G	F	E	G	F
	Low	F	F	P	F	F	P	F	F	P	F	F	P
	Very low	P	P	P	F	P	P	P	P	P	F	P	P
		Scenic Value Class: **E** = Excellent; **G** = Good; **F** = Fair; **P** = Poor											

Excellent: Areas with outstanding natural features that appear unaltered. Very minor deviations may be present but are generally unnoticeable even in the foreground. These areas are highly visible in the foreground and middleground from both land and water. Unaltered areas that may be less outstanding but are in a visually strategic location are also classified as excellent scenic value.

Good: Areas with attractive but common scenic quality and no distinctive natural features. Minor human alteration may be seen in the foreground but is barely noticeable in the middleground. These areas have relatively high visibility from both land and water.

Fair: Areas of common or minimal scenic quality with little or no interesting features. Moderate human alteration provides discordant contrast that is seen in the foreground but is less distinct in the middleground due to compatible form and color. These areas have relatively high visibility from both land and water.

Poor: Areas that have very little scenic importance and/or visually significant disturbances resulting from human activity. The alterations provide discordant contrast in the natural landscape due to incompatible size, shape, color, and material. The areas are clearly visible in the foreground and middleground and have relatively high visibility from both land and water.

The criteria for classifying the quality and value of scenery has been adapted from a scenic management system developed by the U.S. Forest Service (USFS) and integrated with current planning methods used by the Tennessee Valley Authority (TVA). The classification process is also based on fundamental methodology and descriptions adapted from *Landscape Aesthetics, A Handbook for Scenery Management,* Agriculture Handbook Number 701, USFS 1995.

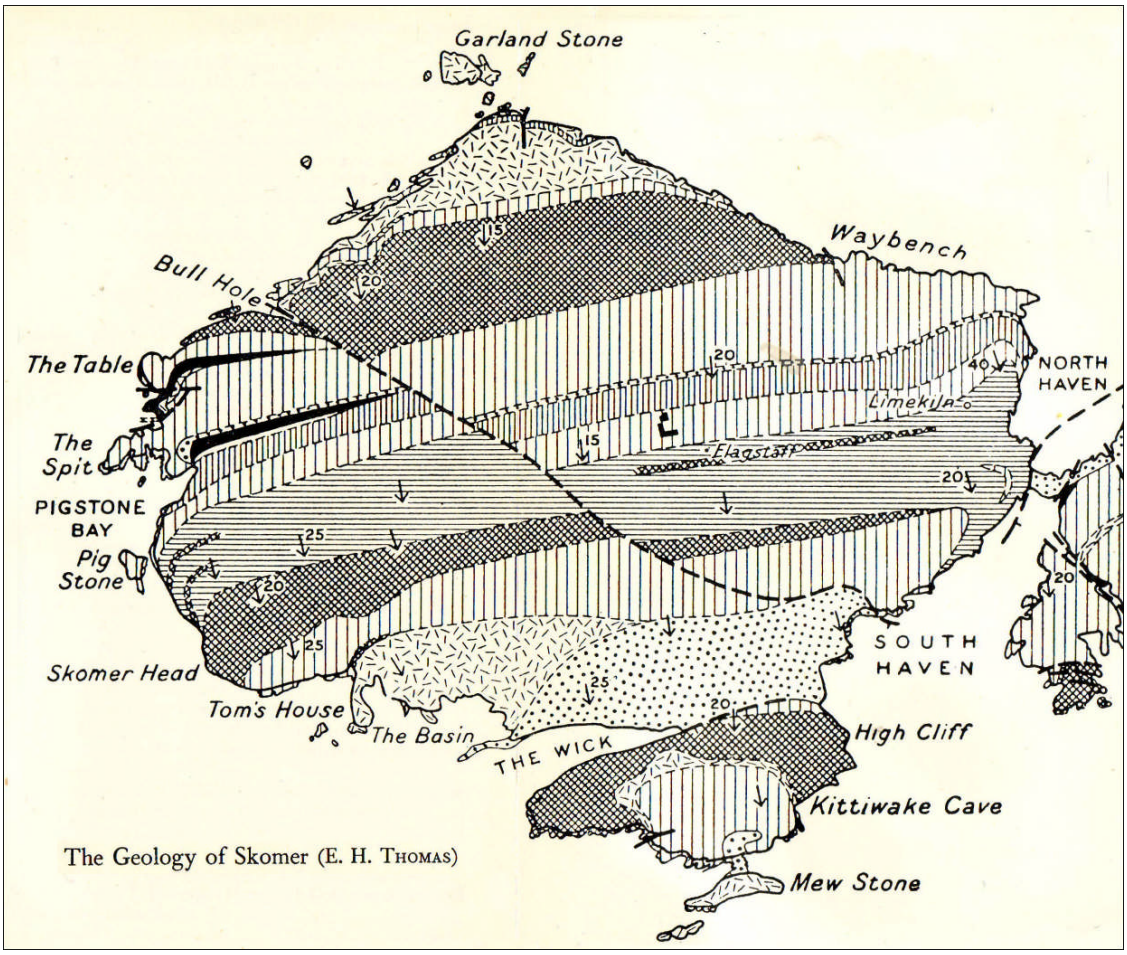
http://forargyll.com/2009/03/inspiration-for-argylls-landscape-management-in-pioneering-environmental-art-at-dumfries-and-galloway/

http://cost356.inrets.fr/pub/conferences/Ventura_landscape_Oslo%2008.pdf

Appendix 2

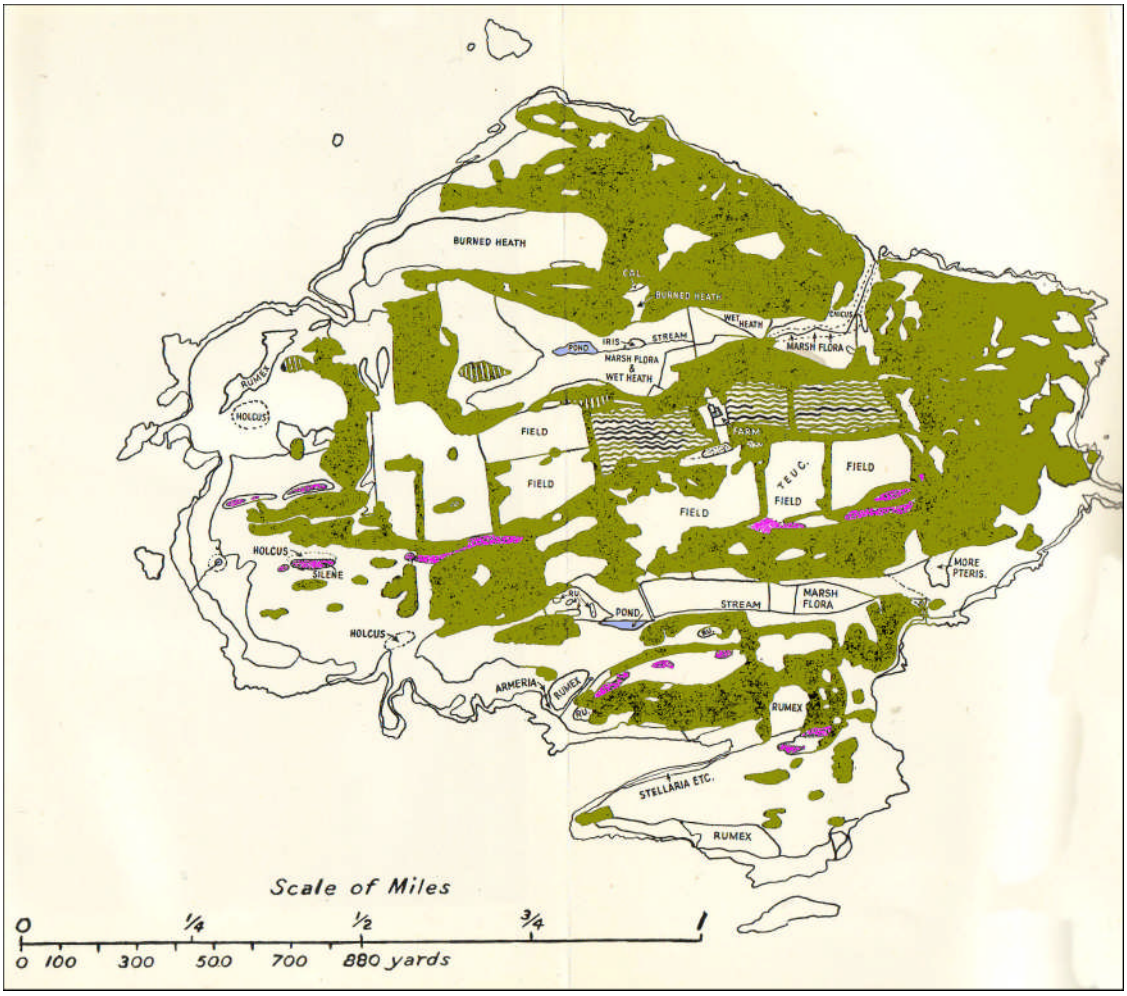
Topography and vegetation cover

Fig 1 The stratification of volcanic rocks and major fault lines



From Buxton & Lockley: Island of Skome (1950)r

Fig 2 Vegetation survey carried out by J. Sadd (1947)



Green = Bracken
Purple = Main rock outcrops
Wavy lines = arable
White = Grassland
TEUC = Woodsage in grassland
RUMEX/RU = Docks in grassland

From Buxton & Lockley 'Island of Skomer'(1950)