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# Site information boards for geological and geomorphological SSSIs

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# SITE INFORMATION BOARDS

# FOR GEOLOGICAL AND

# GEOMORPHOLOGICAL SSSIs

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**CONTENTS**

**SUMMARY**

This report provides a background to the principles behind the process of design and installation of site information signs at Earth Sciences SSSIs. Also included is an introduction to the principles of site interpretation, a process which need not necessarily involve the installation of sign boards.

Three types of site information signs are proposed and discussed, namely Standardised Site Management Sites (section 3.2), Site Specific Information Plaques (section 3.1) and Interpretive Site Information Boards (section 5). The first two types of sign are intended primarily to inform and manage visitors, the third type aims to interpret features of interest and thereby inform and educate visitors.

The report is broken down into a series of cross-referenced numbered sections to facilitate use. The procedure for implementing a site-signing scheme is given by the flow diagram of Figure 1. This diagram is explained by section 7 which contains full reference to relevant sections of proceeding text. Following this step by step process will facilitate the construction of a detailed signing proposal in a form suitable to justify implementation.

The majority of the proceeding text is designed to give synthesis of advice, observations and recommendations to support the procedure laid out in section 7. Appendix 1 is a published summary of the broader principles of interpreting geological sites. Appendix 2 details a sophisticated site interpretation scheme in France. Appendix 3 summarises a site interpretation board pilot project for the financial year 1992/93.

## 1. INTRODUCTION

Earth processes and the rocks they create underpin and sustain all natural systems. Yet, despite this, the public profile and understanding of geology and geomorphology is appallingly low. "Rocks are boring" is, as noted by Wray (1991, p. 27), an all too common cry. Few realise their dependance on the geology of the planet that they live on. Geology nourishes them, via the medium of the soil, shelters them in buildings constructed of geological materials and they use artefacts manufactured from processed minerals without ever directly acknowledging a geological source. They wonder at the beauty of mountains and seashores without appreciating the complexity of geological and geomorphological processes involved in the formation of these features. Nevertheless, vast numbers of people are drawn to earth science sites - they may never have picked up a text-book in their lives, but they unknowingly and regularly make excursions into "the field".

Some of these areas visited will be SSSIs, and once the casual visitor passes across or beside an earth-science site, English Nature has a golden opportunity to grab their attention and introduce them to earth science and earth science conservation. The medium of permanently sited site-information boards is therefore a powerful tool in this respect but should be supported by other techniques, such as publications (e.g. leaflets, guides, 'Earth Science Conservation' magazine) and by more general public relation strategies.

There are, of course, a small, but significant group of people who actually visit sites fully aware of any geological or geomorphological significance - the aims of these visitors may be educational (schools, colleges), scientific (researchers), economic (industrial geologists), recreational (amateur geologists) or commercial (specimen dealers). Members of groups such as these will have varying degrees of background knowledge and differing demands on a site. Informing them of the conservation status of the site is important and some form of interpretation, suitably targeted, will often be very well received. Nevertheless, individual activities, if unrestricted, could create problems for site conservation and some form of management instruction may be essential to aid visitor control. Signs erected primarily for management purposes need not necessarily include site-interpretation as geologically-aware visitors are likely to already know of at least some aspects of the sites' interest. Certain types of management problem are widespread in Britain, for instance unauthorised entry onto private land, and standardised signs and instructions are an appropriate tool to aid conservation.

As a national conservation organisation, English Nature's role in identifying and conserving earth-science sites is paramount - the raising of the organisation's profile through sensitively planned sign-boardings will give the general public a better awareness of English Nature as an active conservation organisation and can only benefit the entire process of earth science and wildlife conservation in England.

The aim of the present report is to bring together information of relevance to any proposed site sign-boarding scheme including material of relevance to planning and implementation. An additional section details a number of proposed site-interpretation projects for the Financial Year 1992/93. Further proposals for interpretive

schemes should also be placed within planned public relations programmes, as coordinated and developed by Publicity and Marketing Branch (PMB).

## 2. THE FUNCTION OF SIGNS AT GEOLOGICAL SSSIs

### 2.1 The function of signs

a. Signs and signboards have three basic functions at SSSIs:

i. to inform visitors of the conserved status of the site;

ii. to control or manage visitors and therefore aid site conservation;

iii. to establish English Nature as the national organisation responsible for the formal designation and protection of the nature conservation significance of the site.

A fourth basic function will apply only to interpretive signboards

iv. to interpret features at the site for visitors (primarily an educational function).

b. Interpretive signboards can, in addition, have a number of subsidiary functions by:

i. enhancing visitor enjoyment in the belief that an understanding of the countryside increases the pleasure derived from visiting it;

ii. increasing the public understanding and appreciation of the countryside leading to a respect for it and an awareness of the need for its conservation;

iii. facilitating the management of a natural resource or area by influencing the pattern of visitor movement;

iv. satisfying a visitor demand for information.

### 2.2 Prioritising sign-boarding schemes

In an ideal world, it would of course be appropriate, or even beneficial to place signs at all SSSIs. However, with around 4350 SSSIs and pSSSIs in England, of which 1318 have geological interests, the logistics and costs of such an all enveloping project are currently likely to be prohibitive. Based on this premise it is recommended that geological or geomorphological sites in the categories listed below are taken as having a priority for signing projects:

a. sites visible from or within, tourist areas, viewing points or otherwise frequented by significant numbers of visitors;

b. accessible sites in urban or densely populated areas;

c. prime teaching sites;

d. sites and/or their management damaged or threatened by over-use, bad practice, ignorance or trespass.

## 3. BASIC SIGNS FOR SITE MANAGEMENT AND INFORMATION

Management signs do not include any form of site-interpretation. They are intended to simply inform visitors of the conserved status of a site, and promote English Nature's role in site protection (Functions 2.1 a and 2.1 c above). Additional visitor management information or instructions may be appropriate (Function 2.1 a.ii). Such signs will be relatively small and simple and threfore relatively inexpensive to produce. These signs fall into two categories (described below) - firstly, Site Specific Information Plaques, with a function not unlike commemorative plaques on buildings and, secondly, Standardised Site-Management Signs which are basic management tools.

### 3.1 Site Specific Information Plaques

which should include:

a. the site name'

b. a brief statement of the reasons for conservation (e.g. geological interest) which may or may not include a very brief description of the interest;

c. an English Nature logo to establish corporate identity and a contact address (ideally a regional office);

d. visitor management information or instructions, if appropriate (see 3.3 below).

and -

### 3.2 Standardised Site Management Signs

These signs include a basic minimum of information which is not tailored to one specific SSSI. Such signs are intended as tools for site management and can include instructions appropriate for dealing with problems common to significant numbers of geological SSSIs. Standardisation considerably reduces the cost of sign-production as larger print runs are possible.

It is recommended that all management signs include the following basic information:

a. a statement of the conservation status of the site -

"This site is protected for its geological or geomorphological features as a Site of Special Scientific Interest"

b. visitor management instruction or information (see 3.3 below)

c. an English Nature logo to establish corporate identity and a contact address (a centralised address is appropriate for standardised signs) -

"For further information, contact Earth Science Branch, English Nature, Northminster House, Peterborough PE1 1UA".

### 3.3 Visitor management instructions

Short statements or instructions to address site management problems can be included within site specific information signs and standardised management plaques. A preliminary survey of common site management problems suggests the following instructions may be of most use:

a. "This area is privately owned and permission is required for access"

b. "No tipping"

c. "Please do not dig or excavate in this area"

d. "Please do not excavate or remove the rock piles"

e. "Geologists, please help to protect the site by not hammering the exposure"

f. "Please do not collect geological specimens"

Many site owners express concern over the potential dangers of quarry faces, cliffs and open excavations and some have requested the provision of warning signs. It must be noted, however, that warning signs have an implied acknowledgement of a risk and that, in the event of legal proceedings concerning an accident, the site-owner, and ultimately English Nature, could be held legally liable. It is therefore recommended that no such warning signs are erected without the full knowledge and consent of legally trained staff (e.g. Land Agents).

## 4. SITE INTERPRETATION; AN INTRODUCTION

### 4.1 Definitions of interpretation

Interpretation is ".... an educational activity which aims to reveal meanings and relationships through the use of original objects by first hand experience and by illustrative media, rather than simply to communicate factual information." Tilden (1967).

Environmental interpretation is therefore ".... the act of explaining or revealing the character of an area through inter-relationships between rocks, soil, plants and man to ....visitors in the field, with preparation and follow-up usually in thematic or story form, to increase visitor awareness of the significance of the site visited and the desire to conserve it." Aldridge (1975).

## 4.2 The principles of countryside interpretation

The following basic principles for interpretation are widely applicable and quite relevant in the context of a geological SSSI:

a. "Some sites do not need interpreting at all. They speak for themselves and to place a communicative medium between the feature and the visitor could diminish or destroy the experience."

b. "Interpretation provides more than factual information, it should explain features and provoke a response"

c. Interpretation should present a complete picture, emphasising relationships between the parts"

d. "The interpretive message is more likely to be understood if developed as a theme or story, rather than disjointed facts"

e. "To achieve maximum understanding, interpretation should relate what is being displayed or described to something within the personality [or experience] of the visitor"

f. "Visitors take part in interpretation from choice - it therefore must be enjoyable or they will switch off"

g. "Interpretive programmes should be geared to specific age and interest groups"

h. "visitors are likely to gain a greater appreciation of the story if encouraged to interact" [Models and other interactive objects may be inappropriate for site information boards, but encouragement to look at, or even pick up geological materials will promote visitor interaction]

i. "Subject specialists are not necessarily expert communicators - particularly to the general public and vice versa. Therefore the preparation of an inter-active programme is best achieved by a combined exercise between subject and communications specialists"

(Countryside Commission 1977, 1987)

## 4.3 Interpretive methods and planning

a. Site information boards are not, of course, the only way of interpreting a geological SSSI. Other (practical) methods include:

   i. Publications (leaflets and guide books)

   ii. Static displays and exhibitions (in visitor centres and museums)

   iii. Guided tours and lectures.

   iv. Publicity in local press or in magazines.

b. When planning an interpretive scheme at a site the following questions should be asked:

i. Why provide interpretive facilities? What are your objectives?

ii. What features could be interpreted? What are the themes and stories that can be developed to meet your objectives?

iii. For whom are you interpreting? What sort of audience visits the site or what sort of audience would you like to visit the site? What does the audience itself want from the interpretation?

iv. Where, when and how should the site be interpreted? Is construction of an information board really appropriate, or would some other interpretive method (as listed above) be more suitable?

v. Are resources available to support your proposed scheme? What financial staffing or managerial constraints apply? Is implementation of the scheme actually financially feasable?

vi. What subsequent management is necessary? Is staff time and finance available to monitor and maintain the interpretive facility?

vii. Does the interpretive scheme fulfil the requirements of, or form part of, English Nature's planned public relations programme? How can the effectiveness of the scheme be assessed?

Each of these questions should be carefully considered, it may be concluded that current constraints and priorities indicate that an interpretation scheme is not feasable at the site in question. It may actually be concluded that site information boards are not the most appropriate interpretive method available and that some other tool will fulfil your objectives better (see section 4.3). This is an important decision and it should be remembered that site information boards are only one of a number of interpretive techniques.

Certain of the above points are developed further in the following section (5) to which reference could be made here.

## 5. INTERPRETIVE SITE INFORMATION BOARDS

Having concluded that site information boards are the most appropriate method for interpreting a given site and that the scheme forms part of a public relations programme, more detailsed planning can begin. The following points form part of the basic process of interpretive planning and develop certain of the questions asked in section 4.3.b. By considering these points it will be possible to decide what features should be interpreted and how best to develop and install the scheme.

5.1 **What features should be interpreted?**

a. What geological or geomorphological features exist at the site? As a general hint, Geological Conservation Review (GCR) site-selection subject blocks form a useful way of characterising key aspects of the interest at an earth science SSSI. There may, of course, be other earth science features at a site not mentioned in any notification documents, so expert advice from Earth Science Branch or from someone else who knows the site is essential.

b. Are there any features of wildlife, archaeological or historical importance which should be referred to in the site imterpretation? There is often a strong link between biological and man-made features and a site's geological or geomorphological context. Expert advice from biological experts within English Nature and from archaeologists and historians in organisations such as English Heritage is appropriate here.

c. Does the site have any special potential for interpretation? e.g. appropriate buildings, viewpoints, a conservation-sensitive owner such as the National Trust, or available finance for interpretation (for instance through collaborative schemes with the site owner).

d. What information on the site is available? (e.g. published papers, unpublished descriptions, photographs, maps, etc). How can this information be gathered? Is adequate staff time and finance available for this research or can it be contracted out?

e. Has the site potential for the direct labelling or marking of features present and thereby increasing the effectiveness of the interpretation (Appendix 3 details such a scheme in France, where replicas of fossils and labelled geological units are used, in conjunction with sign boards, to graphically interpret a quarry face).

5.2 **What is the size and nature of the audience visiting the site or likely to visit the site?**

The number, characteristics, distribution and needs of visitors will influence the depth of interpretation, its exact location and subsequent management - important considerations are:

a. What scale of site use is anticipated? How many people are known to visit the site?

b. What is known of the types of visitor to the site, and their relative numbers?

Major groups are likely to be -

i. General public with little or no scientific or conservation background (including both local people and tourists)

ii. Educational groups from schools and colleges with little or low background knowledge

iii. University, academic and amateur geological groups with a basic or strong science or geological background

iv. Amateur conservationists, natural history enthusiasts, archaeologists and historians with an interest in the environment but with no specialist knowledge of earth sciences

v. Landowners, industrialists, local government officers, and other site owners, operators or developers who may have little or no scientific background but who may be strongly affected by conservation methods. These groups may potentially come into conflict with English Nature (as could members of groups i. and iv.) and therefore will require some positive "selling" of conservation in any interpretation.

c. What aspects of the site's interest will be of most interest to the group or groups to be targeted by the interpretation? (Groups as outlined in section 5.2 b. above).

d. Can facilities be made available for groups with special needs? For instance, can the sign be made accessible for people with physical disabilities.

5.3 **What constraints on the sign boarding scheme does the site itself present?**

a. What interpretive facilities elsewhere in the area might influence or be influenced by facilities provided at this site?

b. Are there any other sites where the features might be better or more appropriately explained?

c. What is the size, character and present use of the site and its relationships to other areas?

d. How accessible is it from population centres? Can it be reached by public transport, private car only or by foot?

e. Is access to the site adequate? e.g. will approach roads be able to take the extra traffic? Can the site take the extra visitors?

f. Would the interpretation affect nearby communities? Beneficially? Harmfully?

5.4 **What constraints could there be on management the interpretation scheme?**

a. What environmental or physical constraints could restrict the use of the site? i.e. are there any ecologically or geologically sensitive area? Are any areas dangerous?

b. What level of visitor use could the sites' surroundings support? How much car-parking space is available? Are there nearby refreshment or toilet facilities? Are there litter bins?

c. What legal or administrative constraints could restrict site development? e.g. is planning permission needed and would it be forthcoming? Does the landowner or occupier fully support the scheme?

d. What financial constraints could prevent or restrict development? e.g. how much finance is available to support the scheme, and from where would it be forthcoming? (Sources include English Nature regional funds or English Nature central funds, possibly with a contribution from the site owner or occupier, or a regional administrative authority). Would conditions attached to any external contribution be deleterious to the aims of the information board scheme, the site or English Nature itself?

e. Is sufficient staff time available to develop the project, from conception, through production to installation?

f. Would the interpretive scheme affect any management agreements or long-term management plans applied to the site? Would the effect be beneficial or harmful.

## 5.5 Subsequent management

Installation of the sign boarding facility is not the end of English Nature's responsibility. Subsequent management is essential to ensure adequate maintenance of both the information board and the site itself. Important points to consider are:

a. Can the site be adequately maintained? e.g. vegetation clearance and grass cutting (if appropriate), fence maintenance, path maintenance. Is adequate staff time available (including in a managerial capacity)? Is finance available?

b. Can the information board be adequately maintained? What provisions can be made to replace or repair the sign if it is damaged? Is adequate staff time available (including in a managerial capacity)? Is finance available?

c. Is the likelihood of damage or vandalism so great as to effectively prohibit installation?

d. Publicity for and promotion of the scheme is important for adequately meeting the primary objectives for installation of information boards at a geological SSSI (section 2.1).

e. Monitoring the impact of the scheme is essential for assessing whether the primary objectives have been achieved. Is adequate staff time available? (Note that Publicity and Marketing Branch (PMB) can advise on items d. and e.)

f. Based on information gleaned by monitoring the interpretive scheme, would the installation benefit from modification at some later date? (for instance when the existing board has "worn out").

## 6. PLANNING THE SIGNS

### 6.1 The appeal of signs

Signs should be

a. aesthetically pleasing

b. welcoming

c. in sympathy with their surroundings

d. robust enough to survive on-site

e. simple enough in construction to allow for easy replacement and maintenance

(Publicity Affairs Branch, English Nature, August 1991).

### 6.2 The content of signs

Every sign, however basic, should incorporate:

a. the conservational status of the site (e.g. SSSI) and general statement of why the site is protected (e.g. "for features of geological or geomorphological importance" on Standardised Management Signs in section 3.2)

b. English Nature logo (confirms the above and corporate identity)

c. a contact address for further information

d. visitor management information. N.B. the presence of the sign is likely to effect the way the visitor interacts with the site and additional instructions may be superfluous.

In addition, basic Site Information Plaques will include:

e. the site name and, when appropriate, a site specific and brief summary of the interest and reasons for conservation (see section 3.1)

and Interpretive Site Information Boards will include:

f. interpretive text and diagrams appropriately targeted for the perceived audience (sections 5.1 and 5.2).

### 6.3 Producing interpretive signs - tips

The objectives for producing a site interpretive board are not achieved if the sign cannot be understood. The following tips are based in part on those of Wray (1991):

a. Text

i. Keep the numbers of words to a minimum (otherwise the reader will lose interest).

ii. Do not assume the reader has any specialist knowledge.

iii. Do not assume the reader has any prior knowledge of the site.

iv. Ask someone who hasn't seen the site to read your text (include maps and diagrams as appropriate) to see if they understand it.

v. Keep signs simple and clear - break down complex information into simple messages and convey each separately on the sign.

vi. Develop specific themes only, or stories - this will make the interpretation easier to follow.

vii. If appropriate, refer to other interpretive facilities or displays (such as museums) in the area, where the visitor can find out more about the site or the district.

b. Maps

i. Keep maps simple - many people find them hard to understand. Put on a scale and a north point and make sure the map is large enough to be easily read

ii. Use easily recognisable features on the ground to orientate visitors when looking at the map.

c. Diagrams and illustrations

These should be:-

i. clear;

ii. relevant;

iii. professonally produced (not "amateurish" in appearance!);

iv. inviting, interesting (illustrations are usually the things people look at first!);

v. simple or even cartoon-like, as the latter are often easier to follow than "direct from nature" illustrations;

vi. performed in a suitable medium and style for the printing or reproduction processes used to produce the sign itself.

vii. unavoidably complex diagrams will benefit from the use of more than one colour. But remember, the more colours, the more expensive the sign will

become. Also, avoid using colours which cannot be distinguished by people with "normal" colour-blindness (red/green);

viii. coordinated with the text

ix. accurate.

d. Layout

i. Do not crowd the signs - space can be as important as text or diagrams in the signs' appeal;

ii. Do not use blocks of capitals, as these are not easily read.

e. Siting signs

i. Keep the number of signs to a minimum - look at the whole site and plan the signing accordingly;

ii. Do not site signs where they cannot be read. The natural angle of the eye is slightly downwards, so allow for visitors of medium height and, if possible, for children and visitors in wheelchairs;

iii. Put the signs where the visitors can see at least some of the features described.

## 6.4 **Materials for signs**

a. The overall effect and stimulation achieved by the sign will depend, to a large extent, on the materials and colours used. These should be chosen very carefully in order to:-

i. ease installation;

ii. resist weathering and "normal" wear and tear.

iii. resist (as far as possible!) vandalism;

iv. be "expendable" (i.e. to facilitate ease of maintenance or replacement);

v. conform to the budget available, without prejudicing i. to iv. above.

b. Detailed descriptions of the range of materials and production methods are provided by Allwood (1981). The following is a general description of those most suited for signing geological SSSIs - relative properties (e.g. cost or durability) are scored on a scale of 1-6 following Allwood (1981, p. 32). [1 = bad or low; 6 = good or high]

i. Cast Aluminium:

Description: Aluminium cast in a mould to produce a three dimensional (relief) sign panel with integral graphics. The sign can be enamelled or painted.

Durability: Weathering (6), vandalism (6).

Normal outdoor life: 15-20 years.

Type of original required: scaled artwork or graphic layout (no half tones, i.e. photographs).

Relative cost: 3.

ii. Reverse screen printing on polycarbonate (or acrylic).

Description: Printing on reverse side of clear plastic thus making plastic a protective layer.

Durability: Weathering (5), vandalism (5).

Normal outdoor life: 7-10 years.

Type of original required: Full-size film positive of artwork for reproduction (including half tones).

Relative cost: 3-4.

iii. Silk screen printed High Impact Plastic sheet

Description: Printing of graphic image onto face of high impact plastic sheet (including reinforced PVC), using silk screen.

Durability: Weathering (4), vandalism (4).

Normal outdoor life: 4 years.

Type of original required: Full size film positive of artwork for reproduction (may include half tones).

Relative cost: 3-4(?)

iv. Silk screen printed self adhesive plastic sheet.

Description: Silk screen printing of graphic design onto self adhesive plastic sheet (e.g. PVC), which is then applied to a background support panel of metal, plastic, painted timber etc.

Durability: Weathering (5), vandalism (4).

Normal outdoor life: 2-5 years.

Type of original required: full-size film positive of artwork for reproduction (may include half tones).

Relative cost: 4.

## 6.5 **Mounting the sign-board**

Every information board has to be mounted on something, whether it be on an existing structure (e.g. building or wall) or whether it is freestanding (e.g. on posts). The sign board itself will require some form of backing board (wood, aluminium, etc) which can then be fixed to a mounting surface or stand.

Three basic methods of supporting signs are relevant:

a. direct application of sign to existing surfaces or structures;

b. graphic panels attached to supporting board mounted on an existing structure;

c. self-supporting graphic panels with integral support system.

Direct application of signs to existing surfaces, e.g. wall or fence; is only appropriate for simple signs such as standardised management signs. Wherever possible, however, some form of backing board should be used as this will enhance the life span of the sign.

All other sign types should be mounted a supporting panel (wood or metal) which is then attached to an existing structure (b) or a free standarding support (c). The four most widely used supports are:

i. Hardwood: Usually oak. Softwoods such as cedar or larch will require preservative treatment. Wooden posts are easy to remove by sawing so some form of armouring, e.g. using chicken wire attached to the surface may be appropriate.

ii. Steel posts: Strong, durable and widely used but will need rust-proofing.

iii. Cast reinforced concrete posts: Durable but little used. The costs of mould making means that a minimum quantity of around 10 is needed before concrete posts become economically viable.

iv. Stone Cairns: Often used where a free standing sign would look incronguous. Construction should include a proper foundation and a local stone, if available, is preferable (the use of local stone could even contribute to the geological interpretation itself!). Cairns are strong and do not require as regular maintenance as other supporting structures.

Aspects of sign mounting are discussed fully by Allwood (1981) who gives the following advice (p. 20):

"Lastly, remember that the message is the important part of the sign. The panel which bears the message, the structure which holds the panel are simply means of bringing the message to the visitor. They should not compete with the message for the attention of the visitor."

Careful assessment of the nature of the sign board construction required is important and can be determined largely on a basis of cost. For instance, it is counter-productive to put an expensive "indestructable" sign at a site which few people visit - the money is better distributed amongst other cheaper and more "useful" projects. For this reason, materials iii, iv, v, vi (section 6.4) are generally used for site sign boarding in preference to more expensive methods.

The relationship of the sign board production method to the structure on which it is mounted is significant - for instance, if the sign mounting is relatively expensive, replacement difficult and vandalism is a significant possibility it is advisable to make the sign panel relatively "sacrificial", i.e. should the panel be damaged, replacement of the interpretative facility is facilitated by the continuing existence of the mounting structure.

## 7. PROCEDURES FOR IMPLEMENTING A SIGN BOARDING PROJECT

The flow-diagram of Figure 1 sets out a procedure which can be followed in order to achieve the basic objectives (of section 2.1) for signing a geological or geomorphological SSSI. The following text is intended as a detailed explanation of the flow diagram, with full reference to all relevant sections of preceeding text.

**Phase A identifying signing requirements.**

1. Identify site (prioritizing using categories 2.2 a-d. [Go to 2]

2. Identify site specific objectives (all signs will fill general objectives of section 2.1). [Go to 3]

3. Has the site potential for interpretation? (site categories 2.2 a-c only). [If yes, go to 7; if no go to 4]

4. Is a Standardised Management Sign adequate? (primarily relevant for sites in category 2.2 d, but may be appropriate for sites in categories 2.2 b and 2.2 c). [If yes go to 5; if no go to 6]

5. Select management message (section 3.3) and produce sign in accordance with section 3.2 ("Standardised Management Signs"). [Go to Phase B, 12]

6. Produce a Site Specific Information Plaque (section 3.1) incorporating, if appropriate, visitor management instructions (selected from section 3.3 or appropriately derived to deal with site-specific problems). [Go to Phase B, 13]

7. Investigate available interpretation methods (consider sections 4.2 and 4.3). Are interpretive sign boards appropriate? [If yes go to 10; if no go to 8]

8. Investigate other interpretive methods (e.g. as outlined in section 4.3.a) using advice from Earth Science Branch, Publicity and Marketing Branch, local museums, and schools, etc, etc. [Go to 9]

9. If employing other interpretive methods, on-site signs may still have great value for locality recognition, e.g. "Standardised Management Signs" or "Site Specific Information Plaques". [Go to 4]

10. Will financial and managerial constraints permit development of the proposed site interpretation? (sections 5.3, 5.4, 5.5). [If yes go to 11; if no go to 4]

11. Plan interpretive sign boards, considering what features should be interpreted (section 5.1) and the nature of the target audience (section 5.2) and whether any visitor management is necessary (eg as summarised in section 3.3). [Go to Phase B, 14]

**Phase B - Producing the sign board**

12. Order a "Standardised Management Sign" made in accordance with Publicity and Marketing Branch (PMB) advice on appropriate materials (usually selected from section 6.4 b, ii, iii and iv). If stocks do not already exist (e.g. centrally held by Region or in English Nature Headquarters) advice on production can be given by PMB. [Go to Phase C, 17]

13. Produce a "Site Specific Information Plaque". Advice on appropriate materials (usually selected from section 6.4 b), designers and suppliers can be obtained from Publicity and Marketing Branch (PMB). [Go to Phase C, 17]

14. Arrange the design of interpretive panels, considering sections 6.1, 6.2 and 6.3, with advice from Publicity and Marketing Branch (PMB) and Earth Science Branch (ESB). Contracting out of aspects of design and text compilation may be appropriate. [Go to 15]

15. Select appropriate material (usually polycarbonate; section 6.4 b ii). [Go to 16]

16. Arrange production of sign-panel (advice from PMB on suitable contractors appropriate). [Go to Phase C, 18]

**Phase C - Installation**

17. Arrange for placing of board on suitable mount (section 6.5), either by site owner/occupier or through appropriate local contractor at appropriate location, or locations on-site. [Go to Phase E]

18. Arrange for construction of suitable mount (section 6.5), either by site owner/occupier or through appropriate local contractor, at pre-arranged location on site. [Go to Phase D]

**Phase D - Publicity**

19. Arrange appropriate local publicity through the media (newspapers, radio, television), museums, schools, etc. [Go to Phase E]

**Phase E - Monitoring**

20. Monitor site to

a. ascertain if scheme objectives are being achieved (section 2.1; Phase A 2), and

b. to ensure adequate maintenance of the facility (i.e. repair or replacement of damaged signs; section 5.5).

## 8. REFERENCES


ALDRIDGE, D. 1975. Principles of Countryside interpretation and interpretive planning. Guide to Countryside Interpretation Part 1. HMSO.

ALLWOOD, J. 1981. Information Signs for the Countryside. A guide to their production. Countryside Commission, Cheltenham.

COUNTRYSIDE COMMISSION. 1977 (reprinted 1987). Interpretive planning. Countryside Commission advisory series, No. 2.

NATURE CONSERVANCY COUNCIL. 1990. Earth Science Conservation in Great Britain - A Strategy. Nature Conservancy Council.

PAGE, K.N. 1992. The French Jurassic connection - Earth Science Conservation No. 30. English Nature (see Appendix 3).

TILDEN, F. 1967. Interpreting Our Heritage. University of North Carolina Press, Chapel Hill.

WRAY, J. 1991. Interpreting geological sites. Earth Science Conservation. No. 29. Nature Conservancy Council (see Appendix 1).