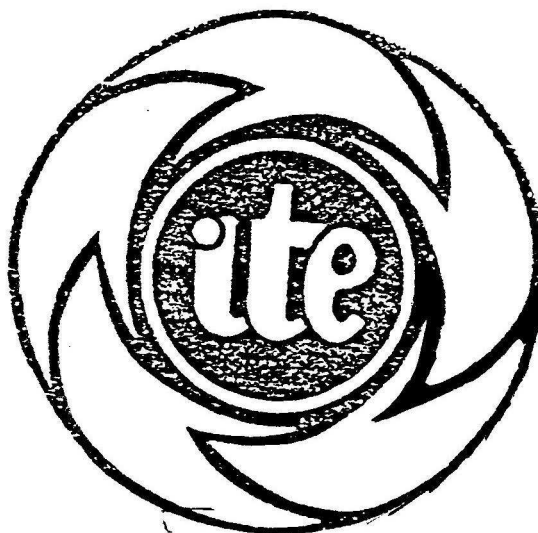Heather Whittaker.

PROJECT 424(R) – CHANGES IN THE RURAL ENVIRONMENT

ite

FIELD SURVEY HANDBOOK

May 1984

DRAFT

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INTRODUCTION

In 1976 Project 424, an Ecological Survey of Great Britain, was initiated. 32 strata known as Land Classes were produced from a multivariate classification of a sample of 1 x 1 km squares using map-derived data.

During 1977/78 a series of 256 1 x 1 squares, 8 from each land class, were surveyed by ITE staff. The emphasis was placed firmly on recording plant species but, in addition, soil, habitat and land use information was recorded. Much of the work that Bob Bunce and his team have carried out since the original survey, has made use of the land cover and habitat information and it has been decided that the time is now ripe to visit the original sites to assess what changes have taken place in the interim. This project thus forms part of a programme of work designed to assess the comparative effectiveness of assessing change by ground survey and by aerial photography (ITE 899). In addition it is intended to set up a quality baseline for future monitoring of land use and habitats and to this end, an additional four squares from each class will be surveyed. This will increase statistical confidence and also allow the option of partial replacement sampling in the future.

The 384 squares (12 from each of 32 classes) to be surveyed in 1984 are taken from a 15 km grid covering GB. (There are some exceptions where the original selected sample square was not able to be surveyed). The data to be recorded include land cover and land use categories as well as habitat and landscape features. The data items have been selected in order to meet a variety of objectives ranging from those that are practical, through data that are compatible with previous or other surveys, to those that will have relevance in the years ahead.

The purpose of this Handbook is to define a set of guidelines to be used during survey. Inevitably circumstances will arise which are not fully covered here, but it is hoped that, in general, field recording will be as consistent as possible. An accompanying set of definitions is provided but, again, not every interpretation of a data item can be covered. Where atypical or doubtful categories arise, the surveyor is asked to qualify or comment on his/her choice of recording.

PLANNING

The sample squares have been split up into seven groups (see Figure 1) which will be surveyed by teams from the six ITE research stations. Each team has about 56 squares to survey but two or three of these may be surveyed by the roving liaison team from Merlewood.

Each square is reckoned to take a day to survey, on average, with the more inaccessible sites ofter being the easiest to record once reached. The day-to-day working arrangements are in the hands of the teams themselves but it

is worth bearing a few points is mind:

1. It is disproportionately expensive to visit a site twice because the travelling time may be doubled - if a site can be completed within a day, even with a bit of overtime, then the proposed schedule can be met.

2. The costings of the project are based on a reasonable proportion of the squares being surveyed on a daily travel basis (with no overnight subsistence). Surveyors are therefore requested to use day travel wherever possible.

3. There are at least three ways of planning survey arrangements e.g.

   a. daily travel from stations for 1 square
   b. a week or fortnight away for a group of squares
   c. one night away for 2 squares (surveying one on the way out and one on the way back).

EQUIPMENT

This survey requires little in the way of equipment since it is basically a mapping and recording exercise, rather than a measuring one. Equipment may be divided into two categories:

a) <u>Equipment provided by Merlewood</u>

-Recording booklets (FAB's)
-Maps of the square
-Films
-Handouts (explaining project)
-Coloured pens

b) <u>Equipment to be provided by teams</u>

-Maps to locate sites
-Navigation equipment
-ITE Identity card
-Clipboard
-Pencils and rubber
-Personal weatherproof clothing etc.
-Reference books (if needed)
-Camera

SUGGESTED FIELD PROCEDURE

How a square is surveyed will depend on the approach preferred by the surveyors, the type of land and the degree of access. However there is a recommended procedure which includes the following points.

1. On arrival at the square, surveyors should have a quick look round (where access permits), assess likely problems and generally acquaint themselves with the area.

2. Having assessed the nature of the square, the surveyors should seek out permissions for the whole square, before commencing survey (see below).

3. A suitable route should be chosen which will allow full coverage of the whole square.

4. Having completed recording, surveyors should allow time to read through the records they have made, checking for omissions and ensuring full coverage and clear presentation.

PERMISSIONS

There are several reasons why permissions to survey should be sought. The most obvious is to gain legal access to all parts of the square. It is also important to ensure the goodwill of the farmer/landowner, not only to avoid an embarassing confrontation, but to gain useful background information (see Farmer/Landowner Information Sheet) and to assist data recording.

It is very important that all necessary permissions are gained before commencing survey since if a permission is refused when half the square has already been surveyed, then that work will be wasted. (On a comforting note, only one significant refusal was experienced in the 1977/78 survey).

Experience has shown that some form of permission can nearly always be gained on the day of survey, but surveyors may prefer to make some sort of prior contact (however this latter approach may lead to delays, letters, phone calls etc.). A handout will be available explaining the work and surveyors should carry some form of identity - preferably their ITE identity card.

A list of known names and addresses from the 1977/78 survey will be available, and surveyors should update and supplement this list on the ownership data sheet.

DATA RECORDING

The survey is basically a mapping exercise. You will be asked to annotate a series of 6" (1:10,000) maps with a variety of information. As far as possible, this information should be formatted according to the list of options available, but occassionally it may be necessary to add other categories to the list.

In order to give as much information about each area of land, or landscape feature, then combinations of data codes should be used to annotate each category on the map. To facilitate this form of coding, boxes are provided on each data recording form, which enable a series of numeric codes to be combined and represented by a single alpha character. For instance a particular length

of boundary might be coded with a letter "A". In the boxes at the foot of the recording form "A" might be recorded as being a combination of codes 310, 316, 320, 332, 335, 337 where: 310 = Hawthorn hedge; 316 = hedge trimmed 320 = laying; 332 = 2 m high; 335 = stockproof; 337 = gaps filled along 10% length. In other words, the use of an alpha code to represent a series of numeric codes is designed to save space in marking up the map but allow a more informative record to be made. The encoded information must be recorded in an order which links the information logically eg. a cover code always follows a species code etc

Boundaries on the maps should be clearly marked, whether actual boundaries such as fences, or interpreted ones, between two moorland vegetation types for instance. Boundaries shown on the OS map which no longer exist should be marked with the code for "no longer present". When annotating different boundary types then each length should be clearly defined with two short lines drawn perpendicular to the line of the boundary (except where a boundary junction serves to demarcate the end of a unit).

The minimum mapable area is considered to be 1/25th ha and the minimum mapable lenght is 20 m (1/50th km). These units are shown on the data sheets.

It must be remembered that the surveyor in the field is the best person to make decisions about data recording. It is of little use if a decision is deferred in the field, and a decision is forced on the data-processor "in the lab". Decisions must be made on the spot, even if they carry a qualifying note or comment.

Finally, it is important that the whole square is surveyed and that even the smallest field corner, at the edge of a square, is coded.

FILLING IN THE FAB's

For each square the data recording forms, together with their 6" maps, have been combined into a booklet which, for historical reasons, is known as a Field Assessment Booklet (FAB). The order of the pages is not significant.

There are several general points about filling in the FAB's.

1. The square series number should be recorded on every page.

2. Where possible, a pencil should be used – mistakes can then be erased and waterproofness is enhanced.

3. In recording semi-natural vegetation and certain other complex situations, the surveyor is asked to map recognisably different, yet mapable units.

This may mean that a mosaic is recorded in a comparatively large unit, the proportions of the components being reflected in % cover codes. For example an area of Molinia/Heather moorland might be recorded as 104/105/164/191/162/190 where: 104 = Moorland-grass; 105 = Moorland-shrub heath; 164 = Molinia caerulea; 191 = 50-75%; 162 = Calluna vulgaris; 190 = 25-50%. Similarly, in an area where scattered outcrops of say, limestone were found, an area might be marked on the Physiography sheet as 3/10 where: 3 = Rock outcrop and 10 = 10-50%. Note that the dominant cover type is always recorded first.

4. <u>Points</u> (such as the presence of a hedgerow tree) should be marked with an X, distinguishing them from <u>lines</u> (such as a row of trees) and <u>areas</u>, delimited by a boundary.

5. If an area becomes too complex to record using code numbers (especially in built-up areas) then use coloured pens, showing which codes are represented by each colour in the boxes. (See further notes on colour convention under the Buildings, etc. sheet). Remember that colours cannot easily be deleted after error.

6. If recent change is obvious then please make use of codes where possible to show this, or else make a note on the sheet concerned.

7. Dotted lines after a category are intended to invite further information e.g. what type of quarry/mine or what sort of fish farm, etc.

8. To avoid cluttering the map, arrows showing a link between a code and the feature should be avoided as far as possible. Instead, the code should be neatly written immediately adjacent to the feature.

9. Note the guidelines for recording information in woodlands (page 10) and immediately adjacent to non-agricultural curtilages (page 14).

There follows a page-by-page guide on how to complete the data sheets, including some definitions or notes on those data categories which are not self-explanatory.

1. <u>Cover</u> (see Figure 2)

All sections of the cover must be completed.

NB. Series number - this must be filled in on every page on the FAB. Location - this should refer to the nearest village/town/geographical feature <u>and</u> the County or Region (in Scotland).

2. Ownership (see Figure 3)

As explained previously, permission must be obtained to access all parts of the square. During this exercise, the ownership of all parts of the square should be established and marked on the map. All the land units (e.g. fields) belonging to owner number 1 should be marked with a "1", those belonging to number 2 with a "2" etc.

While recording ownership information, please use a "T" against the name of tenant farmers, and a "C" against the name of owners of farms which have changed ownership since 1977/78.

The code numbers to the right of "address" are to be circled according to how interested/cooperative/helpful the owner appears to be, as follows

0 = Not available or unable to judge

1 = Less than interested/cooperative/helpful

2 = Generally interested/cooperative/helpful

3 = Very interested/cooperative/helpful.

This will provide useful introductions on further possible surveys of a more detailed nature.

3. Farmer/Landowner Information (see Figure 4)

This is not intended as an official questionnaire and details recorded here will only be used as background information, hence a uniform cover of all farmers is not required. However, many farmers do like to chat about their land, given the least provocation, and if this happens, then the surveyor is requested to steer the conversation towards the questions posed on this sheet.

The clipboard should not be much in evidence – many farmers feel inhibited by surveyors scribbling down every word they utter, but odd notes should be made or a summary of the conversation taken on leaving the premises.

In each square, surveyors should attempt to engage at least one farmer in such conversation, preferably the one who holds most land within the square. The code from the ownership sheet should be noted and if a second "interview" takes place, a line drawn across the page to seperate the information.

4. **Physiography/Inland Water/Coastal** (see Figure 5)

   a. Inland Physiographic features – most of these categories are self-explanatory but the following should be noted:

1-2,	Cliff is vertical or near-vertical face of rock.
5-6,	Boulders are defined as greater than 50 cm in any direction.
5,	Surface boulders should be shown in a mapped area with a cover % code. (8-10).
6,	Isolated boulders, often erratics, should be individually mapped with an X.
11,12,	Raw peat is that which is un-vegetated.
12,	Eroding peat includes peat hags (if un-vegetated).
16,	Soil erosion includes larger areas of human recreation damage but also natural erosion e.g. on riverbanks.
17,	Ground levelling includes any area whether natural (e.g. bank) or artificial (e.g. railway embankment) that has been reduced to the level of the surrounding terrain (e.g. for development).
18,	Spare codes are available for recording additional features, often local e.g. ridge-and-furrow.

   b. Coastal features – these features should be recorded and mapped whether they are dry at the time of survey or not.

37/39,	Artificial inland water bodies are usually distinguished by the presence of a dam or embankment.
38-39,	There is no adequate size definition of a pond, but defined here as a small (usually < 1 ha) area of inland water which is associated with rural communities (hamlets and villages), agricultural land or forestry plantations and often has an amenity or other, more practical use.
41,	Canalised rivers are those that have had their course artificially determined and are recognised by their embankments or levees.
40/43	A river is defined as being more than 2.5m wide; a stream is less than 2.5 m. (2.5 m would be a very brave leap).
44-45	Ditches are linear excavations with the purpose of drainage and should be recorded even if dry at the time of survey.
46,	Springs are usually marked on the map but imply evidence of a continual supply of water at ground surface.
48,	Evidence of drainage includes signs of tile-drains or mole-drains i.e. lines of disturbance across a field.
51-58	These codes should be used in combinations to describe lake shores, riverbanks and substrates.
62,	Levees are (usually) artificial raised banks at the sides of rivers, characteristic of canalised rivers.

5. Agriculture/Natural Vegetation etc. (see Figure 6)

This sheet includes most of the ground cover types in GB except urban and woodland. The first section, cover types, includes categories which may be qualified by the other codes, such as species, use or measurements.

It is important to note that these cover types should not be used in a built-up area. Once a curtilage has been recognised, as defined in Section 8, then all land within the curtilage is to be recorded according to the Section 8 categories. Hence an orchard in a residential garden is not to be recorded on this sheet.

a. Cover types - many of these categories will need defining and the definitions given may not be those with which surveyors are familiar.

100,   Amenity grassland is defined as non-agricultural grass and is to be recorded in units of 1 ha or more e.g. golf-courses, recreation land etc.

101,   Ley is defined as short-term grassland, re-seeded less than 5 years previously. It is characterised by evidence of ploughing, bare soil between grass plants, scarcity of breadleaf plants and is usually dominated by a single grass species, often Lolium. There are usually less than 5-10 species per m^2.

102,   Permanent pasture is longer-term grassland with a higher density of grass and broadleaf species. It is usually in enclosed land.

103,   Upland grassland is natural grass (unimproved) in an upland situation but with a high proportion of palatable grasses and usually on a mineral soil.

104,   Moorland grass is poor quality grass in a moorland setting, usually dominated by species such as Nardus and Molinia. Soils usually have a peaty top.

105,   Moorland shrub heath is dominated by dwarf shrub species often growing on peat, invariable Calluna or Vaccinium.

106,   Herb-rich grassland is characterised by a high density of calciole species, often on limestone, chalk or dunes (and including machair). Typical assemblages include Bellis perennis, Lotus corniculatus, Linum catharticum, Thymus druceii, Poterium Sanguisorba, and Briza media.

107,   Maritime grassland is found on sea cliffs and is usually herb-rich.

108,   Lowland heath is shrub heath at low altitude.

109,   Aquatic macrophytes are those major species which are characteristic of standing water such as Typha, Ranunculus fluitans and Phragmites.

110,   Aquatic marginal vegetation is that growing at the fringe of open water e.g. Valeriana, Epilobium hirsutum,

Filipendula, Oenanthe croccata etc.

111, Bog is wet acid peatland usually with Sphagnum and ericaceous species, Tricophorum or Eriophorum.

112, Fen is peatland usually dominated by sedges or rushes often with alder or willow.

113, Marsh is nutrient-rich wetland on predominantly inorganic soil dominated by rushes or sedges.

114-115 Flushes are localised, <u>narrow</u> areas of moving water which tend to have species which are different from surrounding vegetation. Calcareous flushes are characterised by species such as Prunella vulgaris, Plantago lanceolata, Linum catharticum and Parnassia palustri. Non-calcareous flushes are usually dominated by rushes, often with Sphagnum.

116, Saltmarsh should only be recorded where the area is vegetated, otherwise bare mud (Physiography section) is appropriate.

117-137 These categories are self-explanatory even though young crops may be difficult to recognise. The following notes may help:
- cereal crops are nearly always drilled in rows with a high proportion of soil visible between the plants.
- wheat plants have broad, glaucus blades with auricles.
- barley has dull green leaves and auricles.
- oat plants have broad soft glaucus leaves with <u>no</u> auricles.
- if the crop is not easily recognised, then it may be necessary to ask the farmer.

138, Vacant land is that which is temporarily out of use but which is likely to be developed or used in some way e.g. a building-site or recently cleared woodland.

139, Abandoned/Neglected land is that for which there is no obvious intended change of use, but where the former use has been abandoned.

140, Burnt moorland is intended to cover land which has been burned deliberately as a management practice e.g. grouse-moor.

141, Fallow land is difficult to recognise but covers land which has been left unused as part of an agricultural rotation, for up to 5 years.

b. Species - the major agricultural grasses and semi-natural ground cover are to be recorded if they cover 25% or more of a mapped unit.

c. Uses - these codes should be used to qualify the cover types where known. Stock type can be told from recent dung as well as presence of animals.

173, Dual-purpose applies to the few remaining cattle breeds which are bred for beef and milk production e.g. Simmentals, South Devons, some Shorthorns and some Fresians.
N.B. mixed herds of beef cattle and dairy cattle should be

coded 171/172.

175-176 The numbers of horses and goats in a field should be recorded where possible, including those animals in a field, only part of which is in the square.

180/181 Silage fields can be distinguished from hay fields only after cutting (silage-cut stems are fresh, bright green: hay fields usually produce dried grass remnants) or by asking the farmer.

183, Produce for Sale direct from the farm i.e. at the roadside.

184, The type of Fish being farmed should be recorded, including oysters, lobsters and other shell-fish.

d. Measurements –

190-193 These cover % codes should be used with the species codes 151-169.

194-199 These height class codes should only be used with Bracken and Heather and should reflect the average height of the stand.

6. Forestry/Woodland/Trees (see Figure 7)

It is not practical to record any features from other pages of the FAB within a woodland unit unless that feature exceeds 1/25th ha. However, the descriptive codes from the woodland sheet should be used to describe each woodland unit.

Trees should be recorded in any situation except inside the curtilages of buildings or immediately adjacent to non-agricultural curtilages. It is important that the double use of land is recorded e.g. individual trees growing in farmland.

a. Cover types – all occurences of trees should be allocated to one or more of these codes – i) any one area of trees includes distinct variation in age or species composition, then the unit should be sub-divided into blocks and coded seperately. Tree species of more than 5 m are defined as trees while shorter specimens are coded as regeneration.

200, Scattered trees are those that do not make a wood, scrub or copse (see definitions) because their crowns are not contributing 25% cover of the mapped unit. However, if trees occur at a density of less than 5 per hectare in any one mapable unit, irrespective of species, then they should be recorded as Individual Trees.

201, Woodland/Forest is defined as an area of trees (being at least 5 m high) with at least one dimension exceeding 100 m (but see Belt) and a crown cover of more than 25%, with more

than 50% of the stems likely to produce straight bole lengths of 3 metres or more.

202, Coppice is a stand of multi-stemmed trees originating from cut stumps. The code may be combined with one of the other cover categories.

203, Scrub (this is the foresters' definition, not to be confused with Shrub – see below) – this is an area of trees which would meet the definition of woodland (201) except that less than 50% of the stems are likely to produce straight bole lengths of 3 metres.

204, Copses have a minimum of 10 trees grouped together to form a crown cover of at least 25% but do not exceed 100 m in any direction.

205, Gillside can be used with other codes and denotes that the feature is situated beside a steeply sloping (at least 15°) streamside.

206, Shrub (this is what the ecologist/botanist might otherwise term scrub) – consists mainly of shrubby species often with tree regeneration and brambles. Trees of more than 5 m within shrub should be marked as individuals or scattered.

207, Lines of trees must be single tree width and be at least 50 m long with crown contact. They should be marked with a line.

208, Belts of trees are 2 or more trees wide with a width to length ratio of at least 1:5, parallel-sided and with a maximum width of 100 m.

209, Individual trees are marked with a cross. Groups of less than 10 trees should be recorded individually (unless they meet the definition of scattered trees) as should lines of trees of less than 50 m in length. A Coppice stool is recorded as a single tree.

210, Hedgerow trees are defined as trees in a hedgerow which are twice the average height of the hedge, or where the hedge has been trimmed to favour the growth of a young tree. They should be marked with an X.

b. Species – should be recorded with one of the cover types if they constitute more than 25% of the canopy. It is not necessary to qualify "other conifer" or "other hardwood" with a species name. The mixed category codes should be used in the same way i.e. when > 25%.

c. Use – where appropriate the use of an area of trees should be coded.

246, Amenity is defined as trees obviously planted to improve the amenity of a site (usually visual amenity).

247, Recreation means where there is active encouragement for the public to use the area for recreation e.g. forest walks, arboreta etc.

249, Shelter includes signs of wintering livestock as well as windbreaks etc.

d. Proportions — these are for use with the tree species lists.

e. Description/Features — these codes may be used to qualify cover category codes or as seperate feature codes.

261, Unmanaged means that there are no obvious signs of management practice — the wood has been left in a "natural" state.

262, Cutting/Brashing applies to removal of ground vegetation and shrub species, and low branches.

264, Natural regeneration applies to trees < 5 m high which have grown from seed.

265, Underplanting is to be used where semi-natural woodland has been under-planted with exotics or native species.

266, Plantations are areas of planted trees.

267, Planted may be used with any of the cover types where it is obvious that planting has taken place — it is not necessary to use 267 with 266.

270, "Tuley" tubes are light-weight plastic tubes (about 1 m high), up which young plants grow — they provide protection as well as a favourable micro-climate.

273, Dead standing trees should be recorded either singly or as a description for an area of woodland.

274, Re-growth from cut stumps applies to regenerating trees < 5 m high.

f. Age — should be used in conjunction with any of the cover-type codes.

To help with age category recognition the following table may be of use. These figures are a guideline and individuals will vary accoring to vigour, climate and other environmental factors, particularly fast-growing species of exotic origin.

Age (yrs.)	Diam. at breast height
5	3–4 cm
20	18–20 cm
100	70–75 cm

7. Boundaries (see Figure 8)

There is no significance in Boundaries and Recreation being on the same sheet — it is purely a practical convenience. All boundaries should be

recorded unless they form part of a curtilage. It is vitally important that the boundary between urban and rural is <u>marked</u>, but it need not be coded if a curtilage is involved. Most categories are self-explanatory but it is worth pointing out that combinations of codes are possible where two or more boundary types run together, in parallel. The most effective (or stockproof) element should be recorded first.

a.   Boundary types

302,   Mortared wall includes a dry-stone wall which has been capped with mortared stone.
310-313, These species should only be used if they constitute more than half of the length of hedge under consideration.
314,   Others need not be qualified.
315,   Mixed should be used for any length of hedge where no single species dominates.
316-319, These codes represent a transistion from a well managed, trimmed hedge, to a relict line of shrubs.

b.   Descriptions - should be used to add information to the boundary type codes.

337-338, Filled gaps should be used to show that the boundary has had gaps which have been filled in an attempt to make it stockproof. The %'s refer to the gaps as a % of the boundary unit being coded.

8.   <u>Recreation</u> (see Figure 8)

a.   Formal - these are generally areas set aside for recreational purposes and examples other than those given, may be encoded.

b.   Information or signs - where land normally given to some other use, has been used for recreation.

9.   <u>Buildings/Structures/Communications</u> (see Figure 9)

This sheet covers features associated with built structures and routes of communication. Note that no features from any of the FAB pages need to be recorded if they are immediately adjacent to a non-agricultural curtilage (expect road). Similarly no information from <u>other</u> FAB pages need be recorded within a curtilage (except trees - see below).

a. Built-cover types - these categories should cover the majority of "urban" land but distinct and separate types may be encoded if necessary. Where possible they should be qualified by use and description codes. N.B. See notes on colouring at end of section.

401, Buildings are usually marked on the map - the exceptions will be new buildings which must be coded or coloured with code 431.

402-403, Gardens/Grounds apply to curtilages associated with residential or other buildings. Gardens/Grounds may be mapped and coded in groups if they are all alike.

402, Gardens/Grounds with trees includes those curtilages or mapped group of curtilages, which have a cover of 10% or more.

405, Public Open Space includes Parks, Ornamental Gardens and Accessable Common Land, especially near large conurbations.

b. Use - these categories should be used to describe the cover type.

411, Residential covers all domestic living area.

412, Commercial includes all buildings devoted to selling things, including shops, garages, hotels, pubs, commercial offices etc.

413, Industrial buildings are those used for the manufacture of goods and include workshops, warehouses and associated buildings such as stores.

414, Public Services and facilities are those buildings which are associated with services available to the public, such as Police Stations, Hospitals, Libraries and facilities associated with electricity, gas and telephone.

415, Institutional includes all buildings belonging to forms of public or private institutions, such as old peoples homes, local government and central government buildings, MOD buildings, Crown land, Remand homes, Prisons and even Research Stations.

416, Education/Cultural includes schools, establishments of further education, museums, theatres and cinemas.

417, Religious is confined to places of worship including Churches, Mosques and Synagogues.

c. Descriptions - should be used to describe certain of the built cover types.

431, New developments are those which are not shown on the OS Map and should be plotted on the map. Boundaries of associated gardens or grounds should also be drawn.

432, Vacant means building land which is temporarily out of use (see 138).

433, Derelict is used for buildings or land that have been

abandoned or neglected.

d.   Structures – these features are part of the rural and urban infrastructure and should be mapped as accurately as possible.

444,   Pipeline – above ground only.
454,   Speed restriction sign especially 30 and 40 mph signs.

e.   Communications – covering various types of transport features (except water-related).

461,   Road (tarmac) includes any road, whether private or not, which is totally tarmac across its width.
462-464   Verges do not need to be marked separately for each side of the road. If the verges differ, then two numeric codes should be used in combination for the length of road concerned.
465,   Constructed track includes any track which has been manufactured using stone or hard material.
466,   Unconstructed track are those tracks which are not defined as above i.e. no construction has been involved along its length.
467,   Footpath (exclusive) is defined as a path which uses land area for the purposes of a footpath only – often walled or fenced.
468,   Footpath (other) are those which are shared with some other land use, such as a path across a grazed field.
473,   Informal barrier is a barrier to paths or tracks which has been constructed with the intention of preventing public access.

Colour Coding – if using colours because code numbering is too complex then please use the following choice of colours wherever possible:

Grey = Residential Building
Yellow = Agricultural curtilage (+ green dots with trees
            > 10% cover)
Green-solid = other curtilage without trees
Green-dots = other curtilage with trees
Orange = Commercial Buildings
Dark Blue = Public Service Buildings
Purple = Religious Buildings
Pink = Road (tarmac)
Red = New development

Other buildings and grounds should be number-coded, most being large enough to accomodate a written code.

10. Photography

Five photographs (slide films provided) should be taken in each square. They should reflect as much as possible of the square and some should be given as the best viewpoints. As little of the surroundig countryside should be included and vast expanses of sky are of little use either. The first photograph in each square should be of the FAB front cover.

It is essential to mark on the comprehensive maps at the rear of the FAB, the exact location of each point at which a picture was taken, with an arrow to show the general direction of view.

11. Procedure subsequent to Survey

At the end of a day's surveying, it is advisable to read through the data sheets and check that no feature has been omitted.

If absolutely essential, then the data may be transposed onto fresh maps, but this is inadvisable and should only be carried out in the event of damage or spoiling of the original map.

Arrangements should be made to let Merlewood know as each batch of squares is completed and to arrange the transport of completed FAB's as soon as is practical.
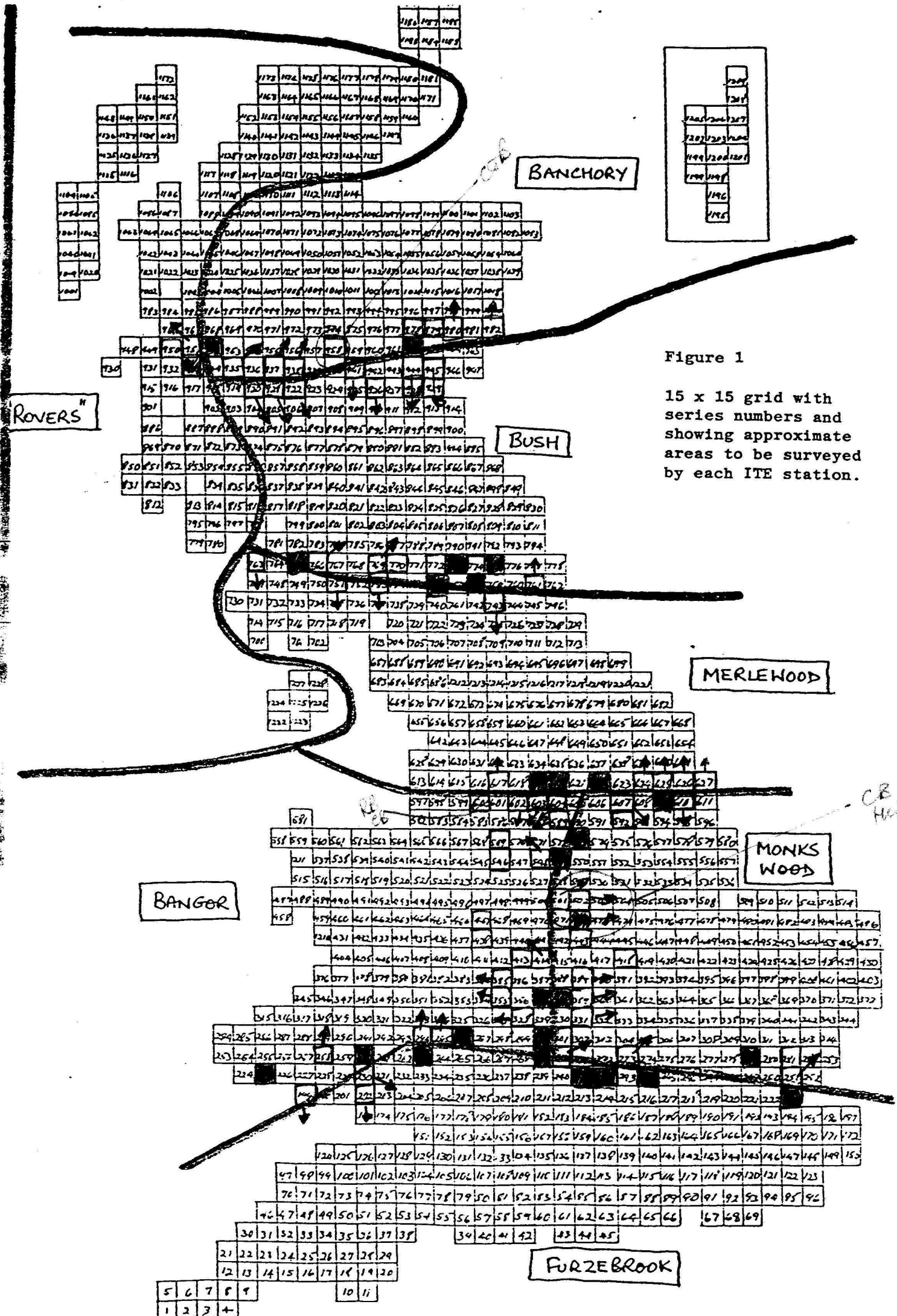
Figure 1

15 x 15 grid with series numbers and showing approximate areas to be surveyed by each ITE station.

Figure 2

PROJECT 424(R) – CHANGES IN THE RURAL ENVIRONMENT

FIELD ASSESSMENT BOOKLET

ITE Series Number ....

Grid Reference ....

Location ....

1:50,000 Sheet Number ....

Date Surveyed ....

Surveyors ....

OWNERSHIP

Figure 3

	NAME	ADDRESS	
1			0 1 2 3
2			0 1 2 3
3			0 1 2 3
4			0 1 2 3
5			0 1 2 3
6			0 1 2 3
7			0 1 2 3
8			0 1 2 3
9			0 1 2 3
10			0 1 2 3

Series no.

FARMER/LANDOWNER INFORMATION

Figure 4

Farm (or other) size ?

Enterprise type ?

Degree of mechanisation ?

Attitude to woodland ?

Changes in last seven years ?

Changes in hand now ?

Changes planned ?

Changes like to do with present income ?

Changes like to do given unlimited income ?

Owner code	

Figure 5

Series no.

PHYSIOGRAPHY/INLAND WATER/COASTAL

Inland Physiographic Features

1. Cliff >30m high
2. Cliff 5-30m high
3. Rock outcrop & cliff <5m high
4. Scree
5. Surface boulders
6. Isolated boulder
7. Limestone pavement
8. 100% rock
9. >50% rock
10. 10-50% rock
11. Stable raw peat
12. Eroding raw peat
13. Current domestic peat workings
14. Current commercial peat work's
15. Old peat workings
16. Soil erosion
17. Ground levelling
18.
19.
20.
21.
22.
23.
24.
25.

mmu

=1ha

Coastal features

26. Cliff >30m high
27. Cliff 5-30m high
28. Rocky shore
29. Pebble/Gravel shore
30. Sandy shore
31. Sand dune
32. Bare mud
33.
34.
35.

Inland water features

36. Lake natural
37. Lake artificial
38. Pond natural
39. Pond artificial
40. River
41. Canalised river
42. Canal
43. Stream
44. Roadside ditch
45. Other ditch
46. Spring
47. Well
48. Signs of Drainage
49.
50.

51. Rock
52. Sand/Gravel
53. Mud
54. Peat
55. Lake shore
56. Riverbank
57. River substrate
58. Stream substrate
59. Waterfall
60. Rapids
61. Gorge
62. Levee
63.
64.
65.

AGRICULTURE/NATURAL VEG ETC.

Cover types

100. Amenity grass >1ha
101. Ley
102. Permanent Pasture
103. Upland Grassland
104. Moorland – grass
105. Moorland – shrub heath
106. Herb-rich grassland
107. Maritime grass
108. Lowland heath
109. Aquatic macrophytes
110. Aquatic marginal veg.
111. Bog
112. Fen
113. Marsh
114. Flush – calcareous
115. Flush – non-calcareous
116. Saltmarsh
117. Wheat
118. Barley   =1ha
119. Oats
120. Mixed grain
121. Sugar beet
122. Turnips/Swedes/Roots
123. Kale
124. Potatoes
125. Field beans
126. Peas
127. Lucerne
128. Maize
129. Rye
130. Oilseed rape
131. Other crop ....

132. Flowers
133. Commercial horticulture
134. Commercial glasshouse
135. Soft fruit ....
136. Garden Centre/Nursery
137. Ploughed
138. Vacant
139. Abandoned/Neglected
140. Burnt
141. Fallow
142.
143.

mmu

Species (if >25%)

151. *Lolium multiflorum*
152. *Lolium perenne*
153. *Dactylis glomerata*
154. *Cynosurus cristatus*
155. *Holcus lanatus*
156. *Agrostis tenuis*
157. *Festuca ovina*
158. *Pteridium aquilinum*
159. *Juncus effusus*
160. *Deschampsia flexuosa*
161. *Nardus stricta*
162. *Calluna vulgaris*
163. *Vaccinium myrtillus*
164. *Molinia caerulia*
165. *Eriophorum angusti.*
166. *Eriophorum vaginatum*
167. *Tricophorum cespitosum*
168. *Sphagnum* spp.
169. *Juncus squarrosus*
170.

Uses etc.

171. Beef
172. Dairy
173. Dual purpose
174. Sheep
175. Goats (with no.)
176. Horses (with no.)
177. Pigs
178. "Farmyard" Poultry
179. Commercial Poultry
180. Silage
181. Hay
182. Bailed straw
183. Produce for sale
184. Fish farm ....
185.

Cover

190. 25-50%
191. 50-75%
192. 75-95%
193. 95-100%

Heights (Calluna/Pterid.)

194. < 10cm
195. < 30cm
196. < 50cm
197. < 1 m
198. < 1.5 m
199. > 1.5 m

FORESTRY/WOODLAND/TREES

Figure 7

Cover types

200. Scattered trees
201. Woodland/Forest
202. Coppice
203. Scrub
204. Copse
205. Gillside
206. Shrub
207. Line of trees
208. Belt
209. Individual trees
210. Hedgerow tree

Species (if >25%)

211. Corsican pine
212. Scots pine
213. Lodgepole pine
214. Norway spruce
215. Sitka spruce
216. Douglas fir
217. Larch
218. Western hemlock
219. Western red cedar
220. Other conifer

221. Elm
222. Oak
223. Beech
224. Ash
225. Sycamore
226. Birch
227. Poplar
228. Alder
229. Lime
230. Willow
231. Hawthorn
232. Gorse
233. Bramble
234. Other broadleaf

235. Mixed softwoods
236. Mixed hardwoods

Cypresses

≈1ha   mmu

other conifers

Check!
Sweet Chestnut
Horse Chestnut
Hornbeam

conifers
broadleaf

Use

241. Commercial
242. Domestic
243. Timber production
244. Fuelwood production
245. Conservation
246. Amenity
247. Recreation
248. Grazing – agricultural
249. Shelter
250. Game/Sporting
251.
252.

Proportions

255. 25-50%
256. 50-75%
257. 75-95%
258. 95-100%

Degree of neglect/threat

Descriptions/Features

261. Unmanaged
262. Cutting/Brashing
263. Felling/Stumps
264. Natural regeneration
265. Underplanting
266. Plantation
267. Planted
268. Ploughed land
269. Staked trees
270. Tuley tubes
271. Fenced single trees
272. Windblow
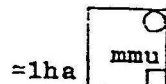273. Dead standing trees
274. Re-growth – cut stump

Age

281. 1-4 yrs.
282. 5-20 yrs.
283. >20 yrs.
284. >100 yrs.

Series no.

BOUNDARIES & RECREATION

Figure 8

Boundaries

Wall
301. Dry-stone
302. Mortared
303. Other ....

Fence
304. Wood only
305. Iron only
306. Wire
307. Other

Hedge
310. >50% Hawthorn
311. >50% Beech
312. >50% Willow
313. >50% Gorse
314. >50% Other
315. Mixed hedge
316. Hedge trimmed
317. Hedge uncut
318. Hedge derelict
319. Line of relict hedge
320. Laying
321. Flailing

Bank
322. Stone
323. Earth

≈1ha | mmu

Descriptions

331. >2 m high
332. <2 m high
333. <1 m high

335. Stockproof
336. Not stockproof
337. Filled gaps < 10%
338. Filled gaps > 10%
339. Signs of replacement
340. Signs of removal
341. No longer present
342. Derelict
343. Burnt

Recreation - formal

351. School playing-fields
352. Other playing-fields
353. Golf course
354. Race-track ....
355. Tennis courts
356. Boating area
357.
358.
359. Static informal Caravans
360. Static formal Caravans
361. Touring Caravan Park
362. Camp site

Informal or signs

371. Horse jumps
372. Other horse accessories
373. Angling notice
374. Angling platform
375. Boat-house
376. Boat - inland water
378. Nature trail
379. Information point
380.
381.
382.

Figure 9

Built cover types

401. Building
402. Garden/Grounds with trees
403. Garden/Grounds without trees

405. Public Open space
406. Allotments
407. Car park
408. Other land ....
409.   .
410.

Use

411. Residential
412. Commercial
413. Industrial
414. Public Service & facilities
415. Institutional
416. Educational/Cultural
417. Religious
418. Agricultural
419. Forestry
420. Sporting/Recreational
421. Waste domestic
422. Waste industrial
423. Quarry/Mine ....
424.
425.

≈1ha | mmu

Description

431. New
432. Vacant
433. Derelict
434.
435.

Structures

441. Bridge
442. Tunnel
443. Dam
444. Pipeline (above)
445. Pylon
446. Other pole ....
447. Silo
448. Silage pit/clamp
449. Other agri. store
450. Snow-fence
451. Speed restriction
452.
453.
454.
455.

Communications

461. Road (tarmac)
462. Verge <1 m
463. Verge <5 m
464. Verge >5 m
465. Constructed track
466. Unconstructed track
467. Footpath (exclusive)
468. Footpath (other)
469. Railway track
470. Other railway land
471. Embankment
472. Airport/Aerodrome
473. Informal barrier
474.
475.