

# CENTRES FOR FIELD STUDIES IN ENGLAND AND WALES: THE RESULTS OF A QUESTIONNAIRE SURVEY IN 1969

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The taxonomy of outdoor education and the functions of field studies are discussed. A review of the historical background gives reasons for the survey on which the present paper is based. The results of a questionnaire on various aspects of administration, work and working ground were collected and collated in 1969 from all the 195 known centres in England and Wales at which field studies are carried out. These data are analysed, discussed and compared with a similar survey in 1965 of 67 centres. Conclusions are drawn from the accelerating numerical growth of centres for field studies over the past 25 years, and 7 precautionary recommendations are made for the planning of future developments.

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## INTRODUCTION

### *Outdoor education and field studies*

THE past 25 years have seen a remarkable and accelerating growth in outdoor education in Britain. There have been several attempts to examine the reasons for

this development, its organisation and structure, the pedagogic and other functions attributed to its various branches, and the facilities provided (or not provided) for it.

It is obvious that outdoor education, if it is to be a repeated experience rather than a single episode in the pupil's life, will pass through a series of stages increasing in diversity, sophistication and discreteness of subject matter with time: although there are no sharp boundaries it is possible to recognize what a recent Scottish study has called introductory, general and specialized stages. Outdoor or field experience may also be divided into curricular, recreational and social spheres. The curricular division may be either academic or aesthetic, the recreational either aesthetic or physical, and the social includes elements of both individual and communal development.

At the introductory stage, the stage at which the young primary school child is still acquiring basic skills, there is no clear distinction between the spheres of activity listed above; curricular and recreational experience are fused together, and the social experience is a by-product (albeit a valuable one) of the others. The strength of the social experience is clearly greatest on a residential course, least (though cumulatively significant) on short outings from the classroom.

At the general stage, curricular and recreational elements begin to separate, though the former is still divided into relatively few broadly defined subject areas; particular attention is likely to be paid to applied environmental topics such as agriculture, industrial geography and social science. At this stage, too, the interplay of these with the social experience is still considerable.

The specialized stage, which is reached in the upper secondary school and thereafter, is the most complex in pattern; each student is likely to select (or to have selected for him) only a few of the narrowly defined options available to him in each sphere of experience, though the ones selected may be only remotely related to each other. The curricular sphere may include such elements as geology, marine ecology, botany, meteorology and archaeology on the academic side, and architecture, field sketching and creative writing on the aesthetic side. The aesthetic side overlaps into the recreational sphere, which now includes the wider range of outdoor physical pursuits (canoeing, sailing, trekking, rock-climbing and so on) suitable for older pupils and young adults.

The present paper is explicitly concerned with those centres at which the curricular sphere of outdoor experience plays a part, as explained in a later section. It is to describe this sphere, and especially its academic side, that the term "field studies" is used. Later parts of the paper will reveal a wide range of emphasis at different centres both in the educational stages provided for and in the material and activities provided.

At this point a few comments must be made on the subject of terminology. The original form circulated in the present survey was headed *Questionnaire on residential and day centres for outdoor studies*, in the hope that this title would give respondents as clear as possible an idea of the kind of establishment on which information was sought. In the title of this paper the term "field studies" has been preferred as a more accurate technical label. The subject, indeed, has acquired a rich and confused terminology with considerable semantic overlap, variety of interpretation and a tendency to give general terms a special meaning in particular contexts.

Among the terms most commonly used, "outdoor" specifically excludes indoor work with documents, maps and laboratory equipment, which is generally regarded

as a valid if subordinate part of field studies; "environmental" is a rather vague term susceptible to special interpretation and tends moreover to be used in educational circles for an integrated multidisciplinary subject until recently confined to primary and lower secondary school curricula; "rural" (in the label "rural studies") by definition excludes the urban environments in which more than 80 per cent of the population live and work and has tended in the past to connote a subject in which the applied aspects of agriculture and horticulture predominate. "Activities" is too vague and all-embracing a term for our present purpose, as is also "experience"; "education" is too theoretical; "science" implies the omission of those arts and humanities in which field studies may be highly relevant. Although by no means perfect and unambiguous, the label "field studies" is regarded as less open to criticism on these grounds, and it is further hallowed by longer usage than most of the others in the particular sense employed in the present paper. In this paper the term "centre" means a building or permanent camp site at which field studies are organized or based. The term is occasionally used to describe a piece of land set aside for fieldwork, for which the writers prefer the terms "educational reserve" and "field studies area".

There is no neat taxonomic compartment in which all "centres for field studies" can be placed together. They range from those which cater exclusively for the younger child to those at which only university field classes and research workers are found; from those which are exclusively devoted to academic field studies to places where such studies form a very minor part of the activities; and from purpose-built, lavishly equipped and well staffed establishments to day centres and camp schools which barely exist in the absence of their visitors.

What is the role of field studies in education? This is not the place to attempt a detailed answer to that question, though the recent almost geometric growth in the number of centres (together with increasing curricular emphasis) points to a growing empirical awareness of the value of field studies among administrators, teachers and students alike. One of us (C.A.S.), while recognizing that many teachers and students take to the field from subjective—and often largely subconscious—motives, considers that field studies may be seen to play a five-fold educational role: to serve five broad and interrelated functions, each varying in importance with the student's age and capabilities.

These functions are to promote:

1. *Experience* of the material world around us. The outdoor environment is an infinitely richer source of first-hand data and entities than the classroom or the laboratory; excursions provide the opportunity to widen horizons beyond the small world of home and school. The contents of the outdoor environment are the bricks and mortar from which the edifice of learning is constructed.
2. *Logical thought*, through the use of reasoning processes (both unconscious and formal) fed by first-hand data easily, cheaply and selectively acquired from the outdoor environment by the student himself. In this way he develops the capacity to manipulate facts in increasingly sophisticated ways, the engineering technology by which the edifice of learning is built.
3. *Enthusiasm* for learning, spontaneously generated in unfamiliar and stimulating surroundings by releasing the natural curiosity which most younger children possess and harnessing it purposefully, rather than pushing the unwilling mind up a gradient of boredom. Comparison with the contrasting approaches to

teaching labelled by Sir Alec Clegg as "fire-lighting" and "pot-filling" is relevant here (Maclure, 1968). This, in part, is the aesthetic and emotional vehicle, the architectural style of the edifice of learning.

4. *Citizenship training*, through the cumulative benefits of environmental experience, logical thought, and enthusiasm, leading to a better understanding of our environment, its component parts and its problems. By this means can be developed a critical awareness of the importance of conservation and a basis for responsible political judgement in this field.
5. *Technical training* of the important minority who will be in the land-linked professions, agriculture, extractive and constructional industries and so on; future officers of local government; and, by no means least, teachers and field scientists in the making.

While each of these functions taken singly is shared with other modes of education, their collective role is unique to field studies.

#### *Historical background*

Perhaps the earliest example in Britain of a centre dedicated to the encouragement of field studies at first hand was the Haslemere Educational Museum, founded by Sir Jonathan Hutchinson in 1888 and still flourishing. But the next major step forward was not taken till nearly sixty years later (1946) when the Council for the Promotion of Field Studies (now the Field Studies Council) opened its first field centre at Flatford Mill. The need for educational reserves was stressed in 1947 in the White Paper *Conservation of nature in England and Wales* (Cmd. 7122) by the Wild Life Conservation Special Committee (1947), which also commended "the provision of residential hostels . . ., simple laboratory equipment and expert guidance" by the C.P.F.S. (para. 102). Unfortunately the Special Committee's recommendations about educational reserves were not implemented under the National Parks and Access to the Countryside Act of 1949, when statutory provision was made for National Parks and for National and Local Nature Reserves.

The need to collect and disseminate data about field studies centres has been recognized for at least twelve years. From the start, the motivation of those who have attempted the task has been of two kinds. Some people have been almost exclusively concerned with supplying information to teachers and individual research workers seeking accommodation and facilities for field studies. But there have also been those no less interested in the wider educational and planning implications of the growth of outdoor education of all kinds. Thus, the main concern of the Study Group on Education and Field Biology (1963) was with the shortage of data about the existing situation, results and trends within the education system and the consequent difficulties in directing field studies along lines likely to achieve desirable educational objectives.

When the Nature Conservancy established the Study Group in 1960, the Field Studies Council had six centres providing one-week residential courses for over 8,000 students in the year. The next year the Youth Hostels Association (England and Wales) started a new scheme, under which a specially equipped workroom was provided at six hostels for parties wishing to use them as a base for field studies. The Study Group sent a questionnaire to all Chief Education Officers in England and Wales, and from the 125 replies received it transpired that only six local education authorities ran "centres primarily for field studies", some for "classes making

day visits, such as those in Epping Forest, . . .”, while “four authorities indicated that they administered Outdoor Pursuit Centres”; a further three authorities ran “Rural Studies Centres” (*Science out of doors*, pp. 94–95; S.G.E.F.B., 1963). *A list of centres for field work* (University of Bristol, 1963) combined data from centres listed by the Study Group with information received in reply to a letter published in various journals. It gave details of 73 centres (five of them in Scotland and Ireland), but these included training colleges, adult colleges, school camps and boarding houses, as well as the fourteen Y.H.A. hostels by then offering field studies facilities.

In March 1965 the Nature Conservancy organized a conference at the University of Keele, to discuss the contribution the use of the countryside could make to education and to provide considered and co-ordinated recommendations on environmental education for the Second Conference on “The Countryside in 1970” later in the year (Nature Conservancy, 1965).

Soon after, the Field Studies Council decided to convene a one-day conference to discuss issues relevant to those responsible for field studies at residential centres. To provide background data for this conference, the F.S.C. sent out questionnaire forms “soliciting academic and other administrative data (but not dealing with domestic or financial arrangements)” to “all organizations known to run Residential Centres at which field studies take place, and in most cases to the Heads of individual Centres themselves”. The statistical summary produced by one of us (Sinker, 1965) and presented to the conference on 6 November 1965, provided data from 67 listed centres in England and Wales at which field studies formed “a significant part of the Centre’s work”. One of the resolutions of the conference, which are set out in Appendix C of the Proceedings of “The Countryside in 1970” Second Conference (Royal Society of Arts, 1966), was “that a Committee be set up to take the work of the Conference further”. For the next three years the Field Studies Facilities Committee provided a link between a number of the organizations interested in the development of field studies in Britain and sought to promote these resolutions, for example by the publication of *Outdoor studies code* (F.S.F.C., 1968).

Although the Study Group on Education and Field Biology worked under the auspices of the Nature Conservancy, its report (S.G.E.F.B., 1963) does not suggest that it was greatly concerned about the risk of educational use damaging the countryside, no doubt because it regarded the “fringe status” of field studies at that time “a serious defect in our national education”. With the rapid and largely unplanned growth of outdoor education in the next few years, the Field Studies Facilities Committee became increasingly anxious about the danger of its harming, through careless or excessive use, the very features of the environment on which it depends. Thus it was with a view to identifying trends, including harmful ones, and to providing guidelines for administrators concerned with the establishment of centres, rather more than to assist those seeking a convenient base for their field studies, that the F.S.F.C. decided to conduct another survey similar to the Field Studies Council’s of 1965.

In 1968 the Council for Environmental Education, representing over 40 national bodies concerned with education or environmental management, was set up, and its Committee on Resources took over the work of the Field Studies Facilities Committee. The new committee immediately agreed to issue a questionnaire based on the 1965 one. The survey was planned to cover England, Wales, Northern Ireland, the Channel Islands and the Isle of Man. Scotland was deliberately omitted since the

Scottish Education Department's Committee on Education and the Countryside was conducting a parallel and closely similar questionnaire survey (Committee on Education and the Countryside, 1971; Appendix I).

Meanwhile, a number of lists of centres had been produced by various interested bodies. The Field Study Accommodation Survey (Geographical Association, 1965 and 1966) sought information from all English and Welsh Education Authorities. H.M. Inspectorate also made "a first attempt to assess Local Education Authority provision, existing or planned" and followed this up with a revised list "as accurate as available sources of information allow" (Department of Education and Science, 1966 and 1968). These lists, of some 100 and 110 centres respectively, attempted to distinguish between residential centres "designed specifically and mainly for field studies" (10 and 11 respectively) and those "designed for general activities (often with an emphasis on physical activities) but with facilities for some field-work" (68) and, where possible, indicated the approximate number of students that could be accommodated and the existence of a resident warden and regular teaching staff. Nine non-residential centres were listed in 1968, five of them as "designed . . . for field studies". (In fact, so were the other four.)

In April 1969 the Geographical Association issued a revised list of Local Authority Field Centres throughout the United Kingdom, indicating, where possible, the number of places available and including the names of 26 County Councils and 52 County and London Boroughs believed to "maintain no field study centres" (Geographical Association, 1969a). This was followed in June 1969 by a list of other centres, including many guest houses, holiday centres and similar establishments where school and college parties could stay but which did not provide any special facilities for field studies (G.A., 1969b).

H.M. Inspectors visited 32 L.E.A. residential centres in England and Wales between winter 1968 and the early part of 1970 and produced a report dealing principally with them (D.E.S., 1970). The survey was limited "to the use of Centres by school pupils only" and aimed "to obtain a general perspective of achievement and practice". It covered general administration, accessibility, users, objectives, premises and equipment, courses of work (physical activities, fieldwork, and cultural and other activities), sizes of teaching groups, length of courses, staffing, standards of work, finance, supply and demand, and conservation.

A number of books also attempted to cover the subject. Wilson (1968) gave a list of 21 field centres and marine biological stations and 15 "youth hostels suitable for field studies" (two in Scotland), stating that this was "not complete", and Hammersley, Jones and Perry (1968) provided a short section on "Field centres for study away from the home district" which concentrated on youth hostels and on guest houses of the Holiday Fellowship and Country-wide Holidays Association. Stamp (1969) resorted to reproducing a map of centres from *Science out of doors*.

## THE PRESENT SURVEY

### *Scope and limits*

The Resources Committee decided to use the information collected by its questionnaire survey of 1969 in two distinct ways, to compile a directory of centres and to provide an analysis of the facts supplied, comparable to but more detailed than Sinker's (1965) statistical summary.

For the directory (Council for Environmental Education, 1970) additional data,

chiefly supplied by Mr. A. Bebbington (who compiled the University of Bristol list of 1963), were incorporated, and draft entries were submitted during March and April 1970 to the original respondents, with a request to them to check and, if necessary, correct the entries and to supply details of current charges. The information used for most of this paper is therefore a year older than that given in the directory. Entries in the directory appear in the following form:

#### COUNTY

|                   |  |
|-------------------|--|
| Name of centre    | National Grid Reference                                  |
| Address of centre | Name of managing authority                               |
|                   | Coded information about centre and opportunities offered |
|                   | Details of charges per head (if available)               |

The directory thus provides fuller information about the centres listed than any of the other lists mentioned above.

Since the publication of the directory, the Committee on Education and the Countryside has published (1971) its report based on the results of its parallel survey in Scotland. The report analyses and discusses data relating to 70 centres but concludes (para. 66) that, in general, "the blend with other outdoor activities was so complete as to defy analysis of the field studies component". Unlike the present paper, the report contains numerous references to individual centres, but the list of 78 centres in Appendix II only gives their addresses and managing organizations, together with code letters indicating their type ("Field Studies; Physical Pursuits; Both Field Studies and Physical Pursuits; Day use permitted; Day use only.").

By contrast, centres exclusively concerned with physical pursuits such as rock-climbing and canoeing have been deliberately excluded from the Resources Committee's directory and from the present analysis. Liaison was maintained with the Central Council of Physical Recreation, which was concurrently surveying the provision for such activities at centres in England and Wales. Since there is an increasing trend for field studies to be included in the programme of outdoor pursuits centres and for dual-purpose or "integrated" centres to be established, there is inevitably some overlap with the centres covered in the C.C.P.R. list (1971) and in a more detailed survey of 36 outdoor pursuits centres in Great Britain by the B.A.O.L.P.E. Outdoor Pursuits Sub-Committee (1970).

Like the Scottish survey, our survey has not attempted to cover hostels, holiday centres, guest houses and similar establishments which do not specifically provide facilities for field studies. In addition to the Geographical Association's (1969b) list mentioned above, publications produced by the Youth Service Information Centre (1969) and the Central Bureau for Educational Visits and Exchanges (published annually) give details of such establishments.

#### *Survey methods*

The data analysed in this paper were obtained by means of the postal questionnaire mentioned above. This was entitled *Questionnaire on residential and day centres for outdoor studies*. It is not reproduced in full here, but can be summarized as follows:

- Name and location
- Responsible authority or organization
- When field studies began
- Type of centre
- Period of operation

**Staffing**

Capacity and usage (including availability to "outsiders")

Working ground accessible and types of environment available

Proportion of field studies in centre's activities

Subject matter covered by field studies

Sample literature was also requested.

Questionnaire forms were despatched during the second half of March 1969. Wherever possible, they were sent, with a covering letter, direct to the persons in charge of the centres; over 150 forms were thus addressed to Centre Wardens and other individuals believed to be directly responsible for the day-to-day running of centres. In the case of the Youth Hostels Association (England and Wales), Holiday Fellowship and Urdd Gobaith Cymru (Welsh Youth Organization) a supply of forms was sent to the organization's headquarters. One or more copies were sent to the Directors of Education or Chief Education Officers of all the 170 English, Welsh and Northern Irish Local Education Authorities and their counterparts in the Channel Islands and the Isle of Man, with a covering letter listing centres believed to be managed by them, to which forms had been sent direct, and asking them to forward copies to any other relevant centres. Several schools believed to run their own centres were also sent forms.

*Questionnaire returns*

After reminders in a few cases, returns were received from all but one of the centres initially thought to be eligible, and a total of 212 questionnaires was available for analysis. Six further questionnaire forms subsequently arrived; these were too late to be included in the analysis but they were incorporated in the directory. (A number of centres, including the Field Studies Council's Epping Forest Conservation Centre, have opened since the directory was compiled.) In order to conform with the coverage of the directory, the results presented below do not include data from three centres in Northern Ireland and one in the Channel Islands. Of the remaining 208 questionnaire forms, 13 were excluded from analysis because on examination they were found to be outside the scope of the survey, i.e. from centres where field studies do not form part of the activities.

The 195 questionnaires analysed represent different degrees of completeness for the various types of centres. Completed forms were received from all the 9 centres of the Field Studies Council and all 23 hostels of the Youth Hostels Association (England and Wales) which have field studies facilities. Centres run by Local Education Authorities provided 107 returns, and there are strong reasons for believing that there are few L.E.A. centres of which the survey was unaware.

The remaining 56 completed questionnaires came from centres run by a variety of organizations and differing widely in their aims and methods of operation. For instance, a number of schools (usually large secondary schools) have established centres for their own use, which are financed by the school rather than the Local Education Authority. The survey contains no more than an arbitrary sample of these, because of the difficulty of obtaining complete information without contacting every school.

The coverage of university centres is similarly incomplete, with the additional factor that university centres, by the nature of the work done at them, straddle the self-imposed boundary of our survey. For instance, some university centres are



entirely devoted to research work at post-graduate level and have been excluded from the survey.

#### *Processing and presentation*

The raw data on the 195 forms were collated in an intermediate process stage before presentation as class totals, percentages and other numerical and graphic results. They have not been subjected to tests of significance or other rigorous statistical analysis. For purposes of cross-reference and clarity of presentation in the results section of this paper, it has been thought worth while to re-order some of the topics covered by the questionnaire. A few questions were framed to provide information for the directory only and are not dealt with in the results section.

#### *Data storage*

The completed questionnaire forms and certain processed data not used in this paper are being stored by the Council for Environmental Education and these will make possible further analysis of particular types of information if desired. In addition, a system has been devised for the transfer of data to edge-punched cards, which would enable statistics and correlations to be produced rapidly.

Response to the request for samples of literature about centres was good, and the resulting collection has been indexed and can be made available to *bona fide* students interested in working on problems such as the role of centres in education.

#### *Comparability with earlier survey in 1965*

The present survey is in many respects comparable with the earlier survey (Sinker, 1965) carried out in preparation for the previously mentioned Conference on Field Studies at Residential Centres in November 1965. Where possible, direct comparisons between the two surveys are made, but it is important to point out that some questions asked in the 1965 survey were modified in the present survey and the replies are therefore not strictly comparable.

### RESULTS AND DISCUSSION

#### *Management*

From the figures given in an earlier part of the paper it will be seen that over half the centres covered by the survey are run by Local Education Authorities. There are over 160 Local Education Authorities in England and Wales, and of these some 41 per cent run one or more residential or day centres. An examination of the list of authorities which run centres reveals a much higher proportion of county authorities than county borough authorities—a finding of interest in relation to proposed local government reorganization. Some authorities, particularly counties, run more than one centre, and in exceptional cases, e.g. Northumberland, the figure can be as high as nine.

Until comparatively recently many L.E.A.s have established their centres at some considerable distance from the area administered by the authority. We have called these "extra-territorial centres". By contrast, particularly in recent years, a number of authorities have established centres within their own boundaries (with obvious saving on items such as travelling expenses). These we have called "intra-territorial centres", and the term has been used to include centres run by county borough

authorities in adjacent county areas, e.g. Stoke-on-Trent's centre at Stanley Head which is in the county of Staffordshire.

The majority of the centres not run by L.E.A.s are operated by organizations many of which have a charitable status, and some of these are already well known, such as the Field Studies Council and Youth Hostels Association (England and Wales). One or two residential field centres have appeared in the last few years set up and maintained by private individuals.

The majority of centres covered by this survey offer some kind of residential facilities. However, there has been a strong move in recent years to establish centres purely for non-residential day use, particularly by L.E.A.s. The survey brought to light 19 such centres, of which 14 were run by L.E.A.s and 11 of these were used predominantly for field study work as against outdoor pursuits. In addition to these centres used purely for day visits, 48 further centres combined both residential and day use. Of this number 26 were run by L.E.A.s. As might be expected, centres having some form of non-residential use tended to be intra-territorial: only 2 centres out of a total of 40 L.E.A. centres having some form of day use were extra-territorial. By contrast over 90 per cent of the L.E.A. centres with residential use only were extra-territorial.

#### *Geographical distribution*

The map (Fig. 1) and the comments which follow are based on the directory of centres mentioned above. These data do not correspond precisely with those used in the tables in later parts of the present paper, because the directory incorporates information about a number of L.E.A. centres opened after the closing date for return of the questionnaire and it omits some school centres which are not open to other customers. For these reasons strict numerical comparisons are not possible between the present section and those which follow.

To show the centres on the map, comparatively large symbols have been chosen for clarity and ease of discrimination, but this has entailed some sacrifice in the precision of their location. It is the over-all pattern rather than the detail which is important.

The categories represented by black triangles (Y.H.A. hostels) and black circles (F.S.C. centres) are self-explanatory. The open circles ("Others") represent school centres as well as the more restricted category of "Others" used elsewhere in this paper. Open squares represent intra-territorial centres run by Local Education Authorities; extra-territorial centres are shown by black squares.

A total of 203 centres appear on the map:

|                                    |    |
|------------------------------------|----|
| L.E.A. centres (intra-territorial) | 91 |
| L.E.A. centres (extra-territorial) | 29 |
| Y.H.A. centres                     | 24 |
| F.S.C. centres                     | 9  |
| Others (including school centres)  | 50 |

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203

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A glance at the map will show the uneven distribution of centres in general, with conspicuous clusters in some places and equally conspicuous gaps elsewhere. Comparison with a similar map in Sinker's (1965) statistical summary shows an

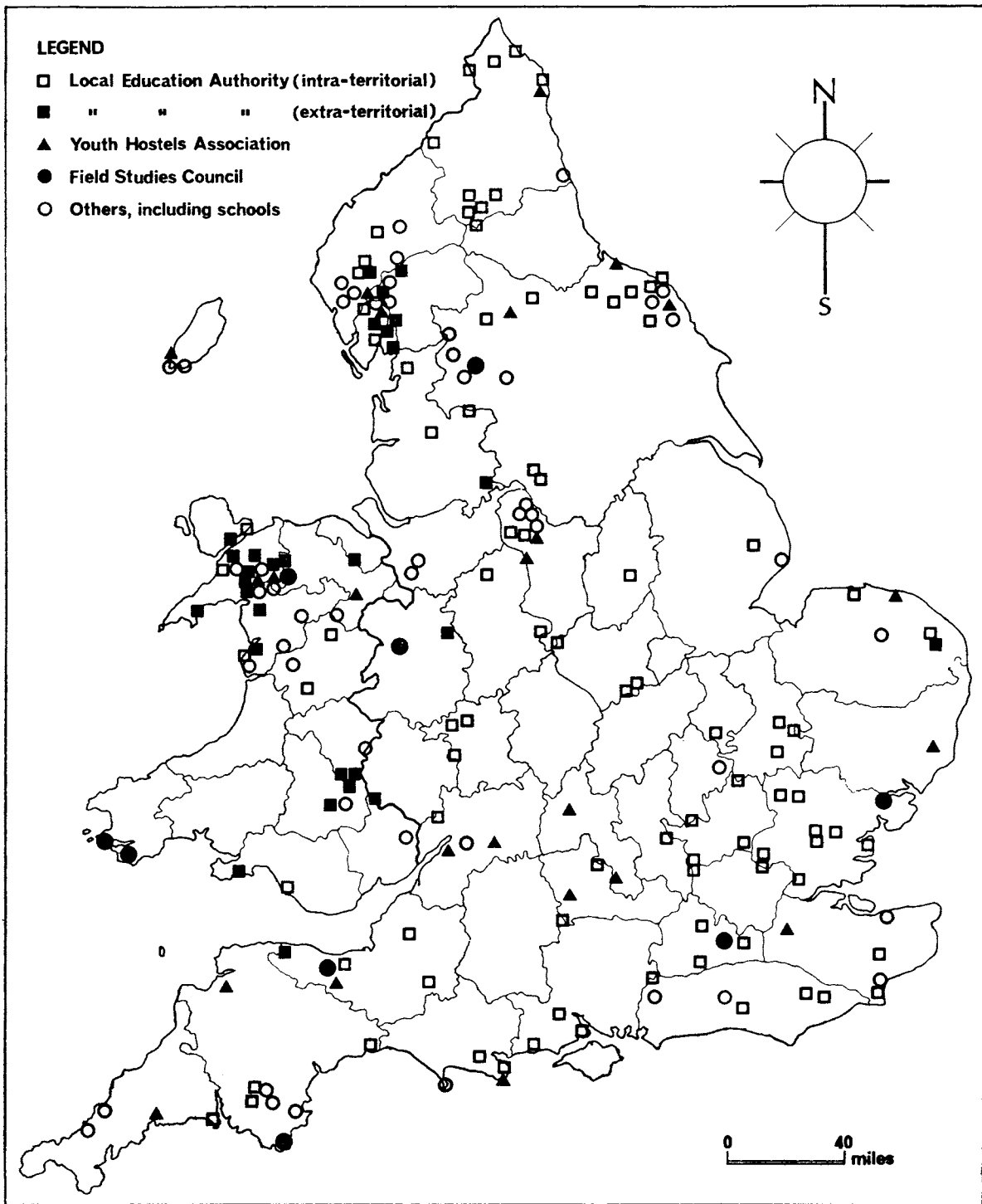


FIG. 1.  
Map of centres used for field studies in England, Wales and the Isle of Man (1970).

interesting pattern of growth, some of whose features are noted in the comments which follow.

On the present map the most striking clusters are those of 20 centres in or near the Lake District National Park (compared with 4 in 1965), 20 in the Snowdonia National Park (9 in 1965), 12 in or close to the Peak District National Park (3 in 1965) and 11 in north-east Yorkshire (4 in 1965). The individual counties with the highest numbers of centres located within their boundaries are Caernarvonshire: 15 (7 in 1965); Yorkshire, North Riding: 14 (6 in 1965); Northumberland: 12 (7 in 1965); Cumberland: 10 (2 in 1965); and Derbyshire: 10 (3 in 1965).

Although the great majority of centres are in the west and north-west of the country, there is a comparatively high density in the Home Counties and along the south coast.

The most conspicuous gaps are in the intensively farmed belts running from Wiltshire through the Midland plain to Lincolnshire and from West Suffolk to the East Riding. No centres are located in Cardiganshire, Carmarthenshire, Durham, Isle of Wight, Northamptonshire, Rutland or Warwickshire, at least on information available in the present survey.

25 per cent of the centres shown are located "on the coast" and a further 5 per cent within five miles (8 km) of the sea; it is interesting to compare these figures with the 44 per cent of centres claiming "ready access to the sea" in answer to another question.

Patterns of even greater significance emerge when certain categories of centres are examined separately. Y.H.A. and F.S.C. centres are fairly evenly scattered, though with a slight preponderance in the western half of the country; this weighting in the west is more marked in the "Others" category, as is their concentration in mountain or coastal districts. But of the 29 L.E.A. extra-territorial centres no less than 25 are crammed into the Lake District, North Wales and the lower Welsh border. By contrast only 6 of the 91 L.E.A. intra-territorial centres lie in Wales. Once again this imbalance can be illustrated by comparing individual counties: only 1 of the 15 Caernarvonshire and 3 of the 10 Cumberland centres are intra-territorial, whereas 10 of the 12 in Northumberland and all of the 9 centres in Essex are intra-territorial.

One of the most encouraging trends, in educational terms, over the five-year period between the two surveys is the increasing percentage of intra-territorial centres run by L.E.A.s: nearly half of all the centres recorded in the 1965 survey were extra-territorial.

#### *Starting dates*

The questionnaire asked for the year of opening of the centre or the year first used for field studies if different. Figure 2 shows the results, taking the year first used for field studies when this was later than the date of establishment. The growth of centres has essentially been a post-war feature. There has been a roughly logarithmic growth in the numbers of all types of centres.

#### *Activities based on the centres*

Field studies are a subsidiary activity at 58 per cent of all the centres whose returns are incorporated in the present statistics (Table 1)—an important fact to bear in mind when considering much of the other data presented. Field studies naturally predominate at all F.S.C. centres, while they are subsidiary at all but one of the

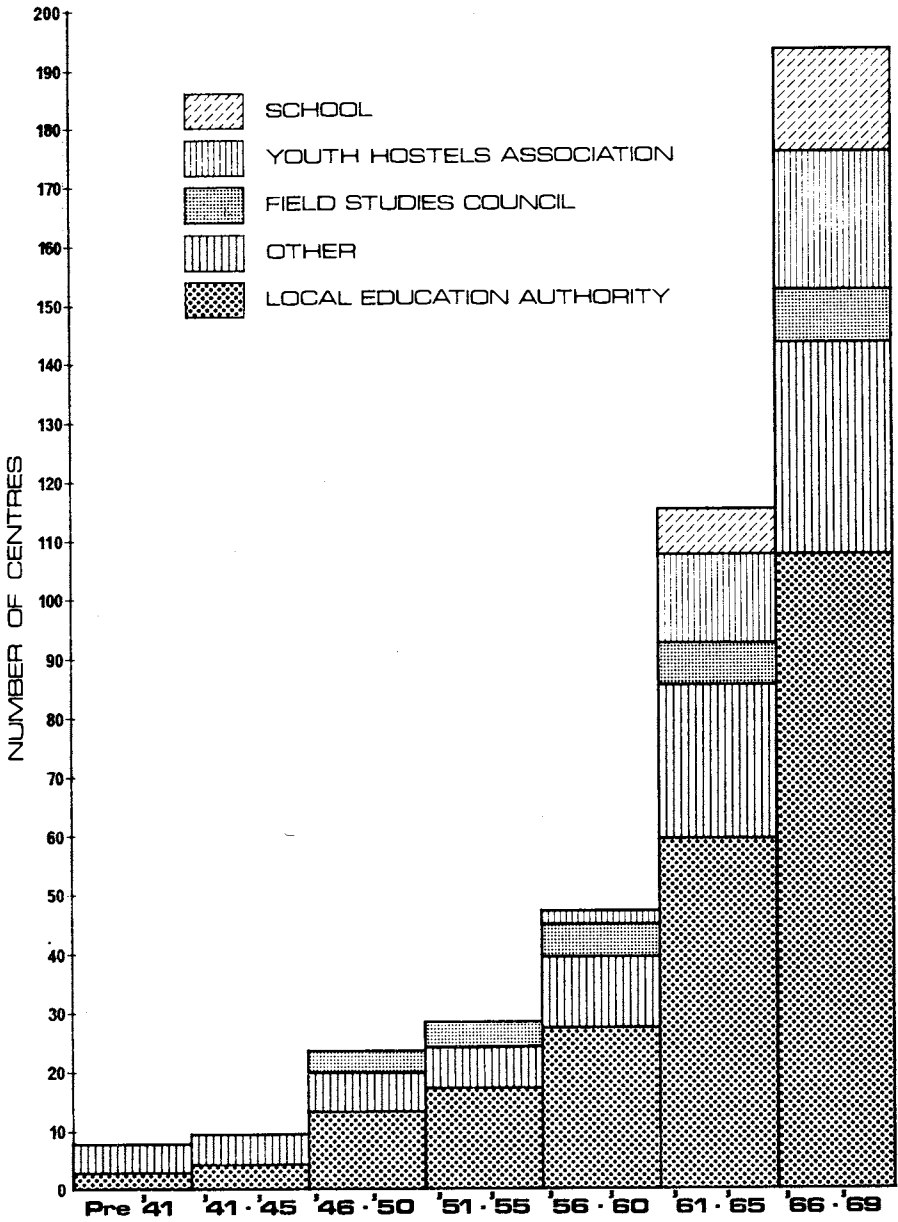


FIG. 2.

Numbers of centres of different types in use for field studies in successive periods up to 1969.

Y.H.A. hostels used for this purpose. Field studies are predominant at substantially less than half (42 per cent) of the L.E.A. centres. The differences in the columns for School centres and "Others" are probably not really meaningful.

The original question was framed in such a way that contributors could indicate if their centre was *exclusively* devoted to field studies or to some other activity, but this was so widely misinterpreted that the "exclusive" entries have been combined with those in the "predominant" category for presentation here.

Table 1. *The role of field studies at different types of centres*

|  | LEA | FSC | YHA | School | Others | Total |
|--|-----|-----|-----|--------|--------|-------|
| Field studies predominant                                  | 43  | 9   | 1   | 11     | 17     | 81    |
| Field studies subsidiary to outdoor physical pursuits etc. | 64  | 0   | 22  | 7      | 21     | 114   |
| Total  | 107 | 9   | 23  | 18     | 38     | 195   |

Data were collected and presented somewhat differently in the 1965 survey and comparisons are not considered to be useful in this case.

The present data are so significantly linked with the answers to several of the other questions that in appropriate cases the tables are separated into "Field studies predominant" and "Field studies subsidiary" columns, labelled "P" and "S" respectively, under each administrative type. Field studies are predominant at nearly half (47 per cent) of the intra-territorial but at less than a quarter (21 per cent) of the extra-territorial L.E.A. centres.

#### *Types of centres*

At the outset of the survey it was recognized that residential and day centres were known by a very wide variety of names. This meant that it was very difficult to define the real function of a centre by the designation it bore. Nevertheless, it was felt worth while to attempt to find out which names were most commonly used, and those completing the questionnaire were given 9 alternatives as well as an opportunity to record any variants. In the case of centres consisting of more than one type (e.g. a Camp School with Day Centre attached) subsidiary designations were requested to be recorded separately. Table 2 has been deliberately structured to emphasize the most fashionable names. Figures in brackets denote subsidiary types.

Table 2. *Types of centres*

|  | LEA     | FSC | YHA  | School | Others  |
|--|---------|-----|------|--------|---------|
| Recreation or Outdoor Pursuits Centres | 45 (20) |     |      | 6 (6)  | 13 (11) |
| Field Studies Centres                  | 27 (40) | 9   | (23) | 7 (6)  | 10 (10) |
| Youth Hostels                          |         |     | 23   |        | 1 (1)   |
| Residential Youth Centres              | 15 (17) |     |      | 1 (1)  | 3 (3)   |
| Observatories or Research Stations     | (1)     | (1) |      |        | 8 (1)   |
| Rural Studies Centres                  | 7 (12)  |     |      | 1 (3)  | (5)     |
| Camp Schools                           | 6 (3)   |     |      | 1      | 1 (1)   |
| School Camps                           | 3 (8)   |     |      | 1 (2)  | 1 (2)   |
| Day Centres                            | 2 (17)  |     |      | (2)    | 1 (4)   |
| Others                                 | 5 (8)   |     |      | (1)    | 2 (5)   |

It must be borne in mind that the figures represent the designations chosen by respondents, which in some cases have little bearing on activities taking place. This may occur, for instance, where the function of a centre has changed but the name has remained the same: responsibility for a Residential Youth Centre run by a local authority Youth Officer may have been transferred to the authority's education department and the activities at the centre may place it closer to a Field Study Centre although the name remains unchanged.

When one compares the results of the present survey with those obtained in 1965, it is interesting to note an apparent increase of Day Centres. In 1965 there were only 4 of these recorded, 3 being run by L.E.A.s. Since 1965 many more have been established, but the present survey figures show that the name is rarely used as a primary designation.

#### *Period of operation*

Centres were asked to indicate which months of the year they were open for 2 weeks or more. The results for the different categories of centres are expressed in Figure 3. Centres operated by Local Education Authorities show a high degree of use throughout the year. It is hardly surprising that maximum use is attempted. December, January and February are months when some centres are closed, as is the case with August, the main summer holiday month.

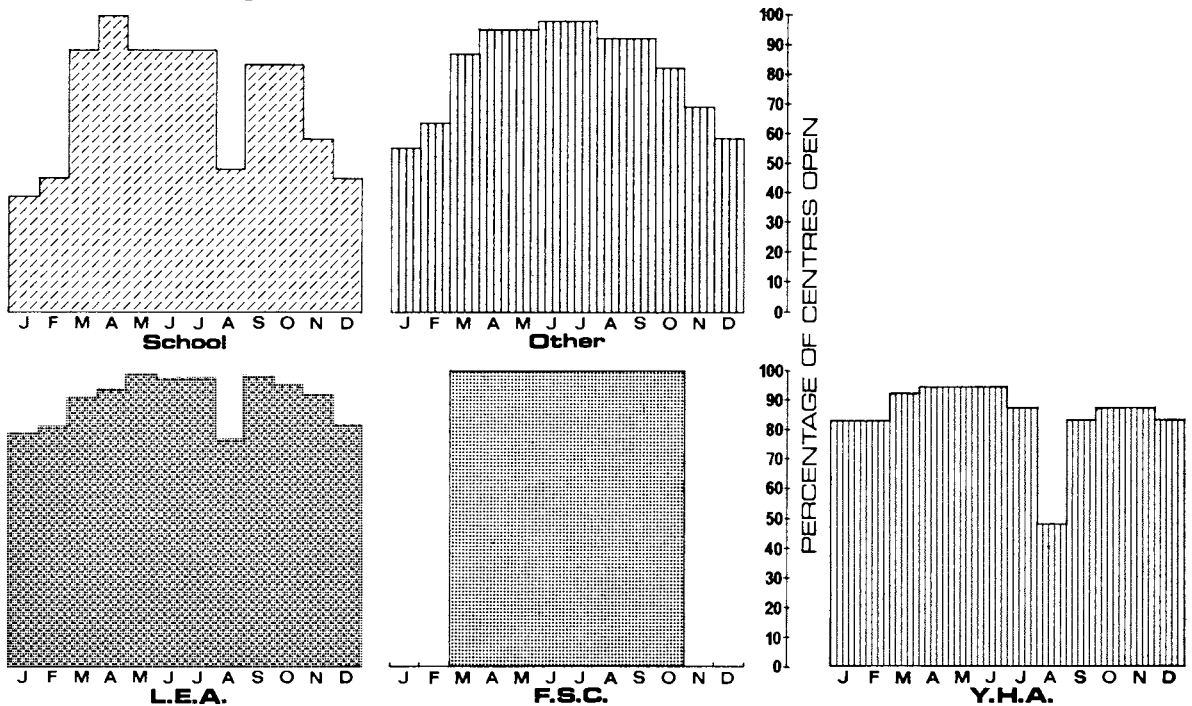


FIG. 3.  
Monthly use of different types of centres.

Figure 4 compares centres where field studies are predominant with those where field studies are subsidiary to other activities. It is interesting to note the marked seasonality of field studies centres, linked no doubt with suitable weather and biological activity. By contrast, centres which cater for other activities such as outdoor physical pursuits are able to remain open at most seasons of the year.

#### *Staffing*

Centres were asked to give information about staff other than domestic, catering and maintenance. As might be expected, the data returned were complex and sometimes inappropriate, particularly for centres whose main concern was not with

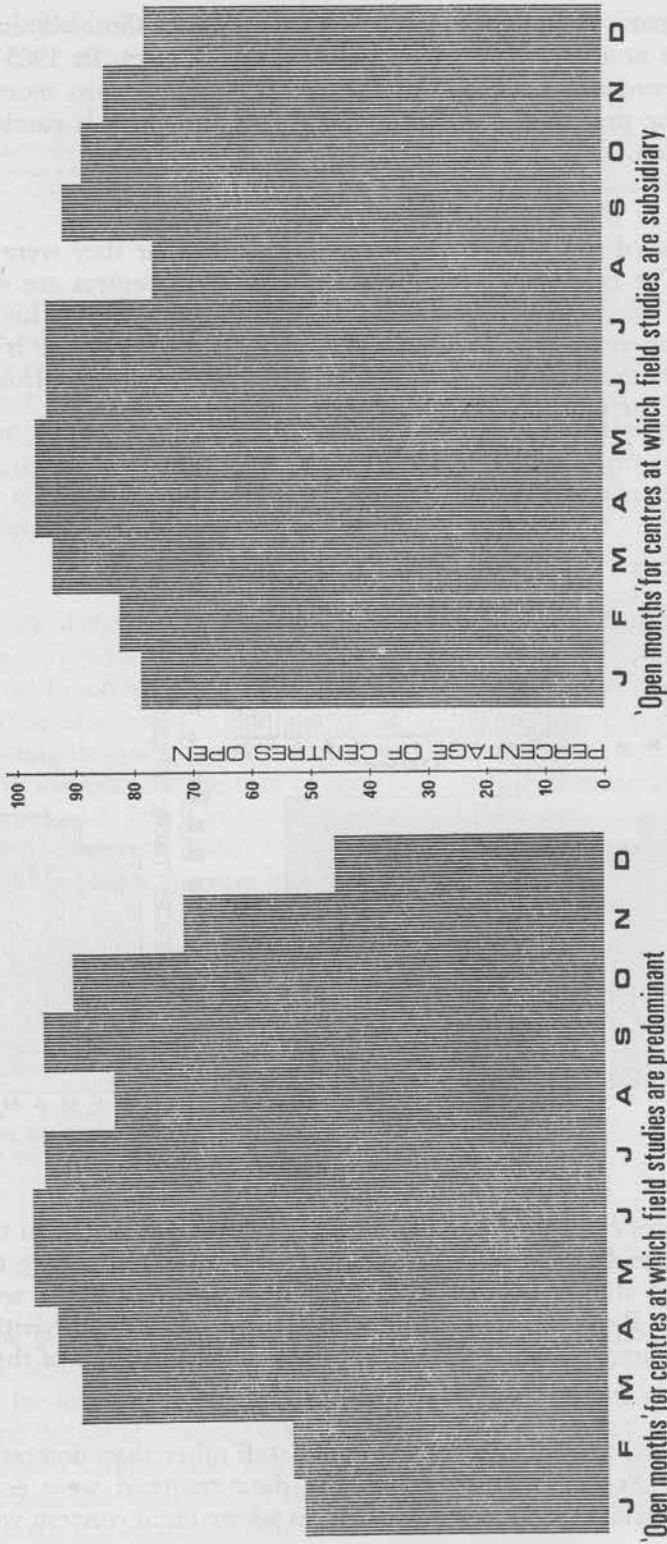


FIG. 4.  
Monthly use of centres with field studies predominant (left) and subsidiary (right).



field studies. The figures (Table 3) for centres where field studies are predominant show that numbers of staff employed at a centre can vary from nil to over 5. Nearly half the L.E.A. centres employ just one person, a contrasting situation with F.S.C. centres which employ at least 3 and up to 5 staff. Y.H.A. hostels equipped for field studies do not have special staff to cater for this activity except in the rather special case of the hostel at Slimbridge which makes use of the Wildfowl Trust's Education Officer.

Table 3. *Staff numbers in centres where field studies are predominant*

| Number of staff | LEA | FSC | YHA | School | Others |
|-----------------|-----|-----|-----|--------|--------|
| 0               | 5   |     |     | 2      | 1      |
| 1               | 20  |     |     |        | 4      |
| 2               | 5   |     | 1   | 4      | 3      |
| 3               | 4   | 1   |     | 1      |        |
| 4               | 3   | 6   |     |        | 1      |
| 5               | 1   | 2   |     |        | 2      |
| Over 5          | 1   |     |     |        | 2      |
| No data         | 4   |     |     | 4      | 4      |

Table 4 gives information about numbers of staff in all types of centres who are employed to teach field studies. The Field Studies Council is clearly the largest single employer of full-time field studies teachers, with L.E.A.s coming second. It is interesting to note that field studies are relatively well provided for at centres where they are subsidiary, staff often teaching them on a part-time basis.

Table 4. *Numbers employed to teach field studies at different types of centres*

|           | LEA |    | FSC | YHA | School |   | Others |    | Sub-total |    | Total |
|-----------|-----|----|-----|-----|--------|---|--------|----|-----------|----|-------|
|           | P   | S  |     |     | P      | S | P      | S  | P         | S  |       |
| Full-time | 27  | 6  | 35  | —   | —      | — | 8      | 2  | 70        | 8  | 78    |
| Part-time | 31  | 32 | 1   | —   | 4      | 4 | 8      | 16 | 44        | 52 | 96    |

'FSC' and 'YHA' should be aligned with 'Total'.

#### *Premises*

The survey showed (Table 5) that the majority of centres of all types are in pre-existing premises such as country houses or former schools, particularly Y.H.A. hostels and F.S.C. centres. In many cases the dominant category of premises is complemented by another. For instance, many centres which are basically converted premises have some kind of purpose-built annex. These subsidiary types of building are shown in brackets in Table 5.

Table 5. *Nature of premises occupied by different types of centres*

|               | LEA     | FSC | YHA | School | Others | Total   |
|---------------|---------|-----|-----|--------|--------|---------|
| Pre-existing  | 83 (3)  | 9   | 22  | 17     | 29 (4) | 160 (7) |
| Purpose-built | 21 (11) | (3) | 1   | 1 (2)  | 10     | 33 (16) |
| Non-permanent | 5 (10)  |     | (1) | (2)    | (3)    | 5 (16)  |

Most of the purpose-built centres are managed by Local Education Authorities, although one youth hostel (at Slimbridge) was conceived and built as a field study hostel from the start.

A number of centres make use of non-permanent accommodation as a subsidiary, usually to cater for exceptionally large numbers. Only 5 centres depend on tents for accommodating students, all of them run by L.E.A.s.

The pattern of use of different types of premises has hardly altered at all compared with the data collected in the 1965 survey.

### *Residential capacity*

Table 6. *Residential capacity of different types of centres*

| Capacity classes | LEA | FSC | YHA | School | Others |
|------------------|-----|-----|-----|--------|--------|
| 0 (no beds)      | 15  |     |     |        | 6      |
| 1 (1-9 beds)     |     |     |     |        |        |
| 2 (10-24 beds)   | 12  |     | 1   | 12     | 5      |
| 3 (25-49 beds)   | 54  |     | 3   | 4      | 13     |
| 4 (50-99 beds)   | 18  | 9   | 18  |        | 9      |
| 5 (100+ beds)    | 7   |     | 1   | 1      | 4      |
| No data          | 1   |     |     | 1      | 1      |

The most popular size for a residential centre is in the range 25-99 beds (Table 6, capacity classes 3 and 4). Over half of all L.E.A. centres have from 25 to 49 beds, whereas most Y.H.A. hostels and all F.S.C. centres offer more beds than this (50-99 beds). The optimal size of centre probably reflects a number of factors including efficiency of operation in relation to overheads such as staff and catering services and the capacity of the building.

Table 7. *Numbers of beds available at different types of centres in 1965 and 1969*

|      | LEA   | FSC | YHA   | School      | Others | Total  |
|------|-------|-----|-------|-------------|--------|--------|
| 1965 | 2,116 | 384 | 864   | Not sampled | 164    | 3,528  |
| 1969 | 4,669 | 527 | 1,451 | 499         | 2,875  | 10,021 |

Table 7 shows the threefold increase in availability of beds at residential centres since 1965. The new total figure of 10,021 gives an idea of the maximum number of students who could be accommodated at any one time, although in practice this figure is unlikely to be reached.

### *Visitors*

The questionnaire asked for a breakdown of numbers of visitors in 8 categories ranging from junior school children to youth groups. Not all centres appear to keep such elaborate records, and Figure 5 is based on the available data. Youth hostels and holiday centres were asked to include only parties undertaking field studies. The Y.H.A. statistics refer to parties, not to individuals.

L.E.A. centres reflect a broad pattern of use by school groups of all ages and also

have the highest use (compared with other types of centres) by youth groups, although this still only forms 6 per cent of the total use of L.E.A. centres.

Over 60 per cent of the visitors to F.S.C. centres are from upper secondary schools—sixth-formers attending week-long specialized courses. These centres also cater for amateur naturalists—a feature even more marked with centres in the “Others” category.

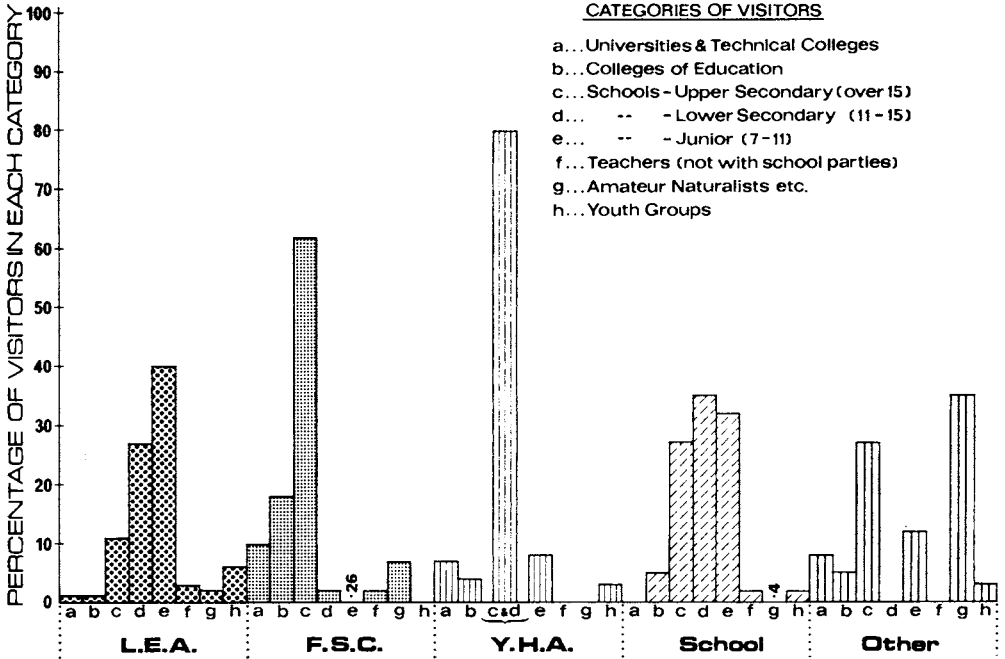


FIG. 5. Visitor categories (percentage intake) at different types of centres.

*Working ground accessible*

Table 8. Ready access from different types of centres to working ground on:

- (a) land attached to centre
- (b) private land by permission
- (c) open access or public land

|           | LEA | FSC | YHA | School | Others | Total |
|-----------|-----|-----|-----|--------|--------|-------|
| a only    | 10  | —   | —   | 1      | 2      | 13    |
| b only    | 2   | —   | 3   | —      | —      | 5     |
| c only    | 8   | —   | —   | 1      | 7      | 16    |
| a + b     | 8   | 1   | 3   | 3      | 3      | 18    |
| a + c     | 13  | —   | —   | 3      | —      | 16    |
| b + c     | 20  | 1   | 14  | 4      | 6      | 45    |
| a + b + c | 44  | 7   | 3   | 6      | 20     | 80    |
| No data   | 2   | —   | —   | —      | —      | 2     |
| Total     | 107 | 9   | 23  | 18     | 38     | 195   |

The most striking feature of Table 8 is that 41 per cent of all centres claim ready access to all three types of land. Only 26 per cent of Y.H.A. hostels have land attached to them; this is quite understandable, since their primary purpose is to provide low-cost accommodation for people wishing to range widely over the surrounding countryside.

Ninety-four per cent of L.E.A. centres with field studies predominant (not actually separated in the table) appear to have their own working ground; but, in general, centres with their own working ground are a fractionally lower percentage than those in either of the other two access categories. Correlation with an earlier question reveals that a significantly higher proportion of extra-territorial (93 per cent) than intra-territorial (62 per cent) L.E.A. centres have their own land. In the 1965 survey, "of the 41 L.E.A. Centres 31 have working ground at the Centre, 34 use private ground and 37 have access to public land".

Security of access to working ground is vital to the success and long-term survival of a centre, and it is encouraging to see how many have land attached to them which can be used for this purpose. Permission for access to private land is, of course, subject to renewal or revocation at the owner's whim, and much must depend upon the conduct of field parties using such land as well as upon the intensity with which they use it.

Interpretation may have varied over the meaning of the third category, "open access or public land". Some contributors may have treated this in a strict legal sense, while others no doubt regarded certain categories of land (e.g. the seashore and unenclosed mountain country) as free for all.

### *Types of environment available*

Table 9. *Types of environment to which there is ready access from different types of centres*

|                                   | LEA  |      | FSC | YHA  | School |     | Others |      | Sub-total |       | Total |
|-----------------------------------|------|------|-----|------|--------|-----|--------|------|-----------|-------|-------|
|                                   | P    | S    |     |      | P      | S   | P      | S    | P         | S     |       |
| Farmland                          | 39   | 58   | 9   | 15   | 9      | 4   | 12     | 19   | 69        | 96    | 165   |
| Freshwater                        | 37   | 53   | 7   | 22   | 11     | 5   | 10     | 16   | 66        | 95    | 161   |
| Woodland and forest               | 37   | 50   | 9   | 18   | 10     | 5   | 12     | 15   | 69        | 87    | 156   |
| Quarries and other rock exposures | 30   | 48   | 8   | 22   | 9      | 6   | 13     | 18   | 61        | 93    | 154   |
| Mountain and moorland             | 24   | 41   | 5   | 16   | 9      | 7   | 8      | 18   | 47        | 81    | 128   |
| Grassland and heath               | 28   | 46   | 7   | 19   | 7      | 2   | 8      | 11   | 50        | 78    | 128   |
| Marine and coastal                | 14   | 31   | 6   | 9    | 3      | 4   | 12     | 7    | 35        | 51    | 86    |
| Fens, bogs and inland marshes     | 26   | 26   | 6   | 6    | 4      | 1   | 5      | 10   | 42        | 42    | 84    |
| Urban                             | 23   | 28   | 7   | 3    | 3      | 1   | 7      | 7    | 40        | 39    | 79    |
| Others                            | 4    | 3    | —   | —    | 1      | 1   | 2      | 4    | 7         | 8     | 15    |
| (Number of centres)               | (43) | (64) | (9) | (23) | (11)   | (7) | (17)   | (21) | (81)      | (114) | (195) |

The types of environment listed were designed to be as comprehensive as possible, and the very small number of entries in the "Others" category shows that by and large they were so regarded; in fact, most of the 15 entries in this category could be fitted into one of the earlier ones. Among the most interesting exceptions were gardens, caves, lead and other mines, archaeological sites and a nuclear power station.

Table 9 has been arranged in decreasing order of total number of entries in each environment category; farmland heads the list, followed closely by freshwater, woodland, and quarries and other rock exposures.

Less centres (41 per cent) have access to urban environments than to any of the rural ones—a reflection no doubt of the recognized need for a change of scene for city children. Only 43 per cent have access to fens, bogs and inland marshes (a comparatively scarce group of habitats), which is probably just as well for conservation reasons. Less than half the total (44 per cent) have ready access to the sea. The general pattern has changed little since 1965 when urban and marine environments had the lowest entries.

When the "Sub-total" column figures are expressed as percentages there are few significant differences in each type of accessible environment between centres (all categories) at which field studies are predominant and those at which they are subsidiary. Interesting exceptions are fens, bogs and inland marshes (52 per cent predominant, 37 per cent subsidiary) and urban environments (49 per cent predominant, 34 per cent subsidiary), contrasting with mountain and moorland (71 per cent subsidiary, 58 per cent predominant).

The detailed figures in each column show little discernible pattern apart from the points mentioned above: the reader may care to scrutinize the table himself for other features of interest.

It will be appreciated that these purely geographical data give no indication of the amount of *use* which a centre makes of any particular type of environment, nor was this information asked for. In this context it is interesting to note that, while all the F.S.C. centres have ready access to woodland and to farmland, these types of habitat play a relatively minor part in most of the fieldwork at most of the F.S.C. centres. The same may well be true at centres of other types.

Table 10. *Number of different types of environment accessible from different types of centres*

| No. of types | LEA |    | FSC | YHA |    | School |   | Others |    | Sub-total |    | Total |
|--------------|-----|----|-----|-----|----|--------|---|--------|----|-----------|----|-------|
|              | P   | S  |     | P   | S  | P      | S | P      | S  | P         | S  |       |
| 1 or 2       | 3   | 5  | —   | —   | —  | 1      | 1 | 3      | 1  | 7         | 7  | 14    |
| 3 or 4       | 8   | 8  | —   | —   | 4  | 1      | 2 | 3      | 4  | 12        | 18 | 30    |
| 5 or 6       | 10  | 21 | 2   | 1   | 10 | 3      | 1 | 6      | 6  | 22        | 38 | 60    |
| 7 or 8       | 14  | 22 | 5   | —   | 8  | 4      | 2 | 4      | 10 | 27        | 42 | 69    |
| 9 or 10      | 8   | 7  | 2   | —   | —  | 2      | 1 | 1      | —  | 13        | 8  | 21    |

Table 10 presents the same basic data reorganized to show the *numbers* of different types of environment to which ready access is claimed by centres in the various categories.

The general pattern in the table demonstrates the richness in environmental types of the areas in which most of the centres are located. 77 per cent of all centres have access to five or more types; all the F.S.C. centres fall into this group, their location having been chosen largely on this criterion. 11 per cent of all centres claim access to nine or ten types, and only 7 per cent are limited to less than three types of environment.

There does not appear to be any significant difference in the number of types

available to centres at which field studies are predominant and to those at which they are subsidiary.

It would perhaps be unwise to read too much into these figures, for the rather vague phrase "ready access" can be more or less generously interpreted, especially when good transport facilities are taken into account. Several centres claiming ready access to marine and coastal environments lie more than five miles (8 km) from the sea.

*Subjects covered*

Table 11. *Subjects covered by different types of centres—1969*

|  | LEA   | FSC | YHA  | School | Others | Total |
|--|-------|-----|------|--------|--------|-------|
| General environmental studies                                    | 96    | 5   | 23   | 14     | 29     | 167   |
| Geography and geology  | 91    | 9   | 23   | 17     | 27     | 167   |
| Biology (any aspect)   | 90    | 9   | 23   | 17     | 26     | 165   |
| Local history and archaeology                                    | 74    | 7   | 23   | 8      | 19     | 131   |
| Agriculture, horticulture and forestry (including rural studies) | 68    | 5   | 23   | 13     | 14     | 123   |
| Art and creative work  | 64    | 9   | 0    | 10     | 8      | 91    |
| Environmental physical sciences (e.g. astronomy, meteorology)    | 25    | 4   | 23   | 2      | 4      | 58    |
| No data  | —     | —   | —    | —      | 2      | 2     |
| (Number of centres)  | (107) | (9) | (23) | (18)   | (38)   | (195) |

The categories listed are obviously not mutually exclusive. "General environmental studies", for instance, includes elements of most or all of the others. This label also bears different meanings to different people, depending among other things on whether environmental studies is a formal syllabus subject.

Table 11 has been arranged in decreasing order of number of centres in the "Total" column in each subject category. Environmental studies and geography/geology (both 86 per cent of all centres) are the subjects most commonly covered, closely followed by biology (85 per cent). Physical sciences have the lowest entry (30 per cent). It is interesting to note that at all the Y.H.A. hostels every subject except "Art and creative work" is covered.

The columns for L.E.A. centres and "Others" show a similar trend to the "Total" column. At the F.S.C. and School centres, on the other hand, a distinct pattern of emphasis on rather more specialized subject treatment is apparent.

One of the most interesting features throughout the table is the very even balance between biology and geography/geology.

Comparisons can be made with the 1965 data for four subject headings, shown in Table 12, reproduced below. There are no comparable data from 1965 in the remaining three subjects.

Table 12. *Subjects covered by different types of centres—1965*

|  | LEA  | FSC | YHA  | Others | Total |
|--|------|-----|------|--------|-------|
| General environmental studies          | 33   | 6   | 11   | 3      | 53    |
| Geography and geology                  | 35   | 7   | 13   | 6      | 61    |
| Biology (any aspect)                   | 33   | 7   | 13   | 6      | 59    |
| Agriculture, horticulture and forestry | 25   | 3   | 10   | 2      | 40    |
| (Number of centres)                    | (41) | (7) | (13) | (6)    | (67)  |

## CONCLUSIONS

In retrospect, it may perhaps be regretted that questions about stocks of field and laboratory equipment, about libraries, and about environments actually used for field studies were among the many not asked. They were considered too difficult to frame unambiguously and to answer consistently, but they might have revealed much about the standard and content of field studies carried out at the various centres.

Certain questions were misconstrued by a minority of respondents or were inadequately answered, notably those about the predominance or otherwise of field studies at centres, about staffing, and about categories of visitors. On the whole, however, the response was remarkably good both in quantity and (as far as can be judged) in quality.

The facts brought together by the survey are of considerable interest, but the trends and patterns revealed do not lend themselves to summary review, for they fall into two distinct classes: the palpably obvious and the obscure. Self-evident trends are the accelerating growth up to 1969 in the number of centres, managing authorities and visitors, and the increase in the geographical dispersion, as well as the local density, of centres. There is some evidence since the survey that outside factors, probably economic, have caused the growth curves to flatten. But this recession is almost certainly temporary, for it is no longer plausible to regard field studies as a passing educational fashion. Intra-territorial L.E.A. centres have increased since 1965 at a faster rate than extra-territorial ones, and non-residential use of centres has accelerated also.

The remaining significant trends and patterns in the data seem to show no consistent relationship one to another, no indication of a coherent educational plan, no discernible direction of evolutionary progress. The "field studies explosion" is still a bomb rather than a rocket.

It is virtually impossible to estimate, from the present data or any other available, what proportion of the "eligible" student population actually visits field centres or has the chance to do so. It is probably very low. What is more certain is that, if every such student regularly undertook field studies and visited a centre at least once in his school career, as many (including the present writers) would wish, the impact on parts of the rural environment could be devastating. Student pressure might then generate a biological reaction, in at least the frailer ecosystems, comparable with the more pernicious forms of physico-chemical pollution, and a social reaction hitherto reserved for geologists visiting certain classic sites.

To avoid these undesirable consequences without hampering the continued development of field studies will call for a greater degree of long-range planning and closer attention to appropriate precautions than have been apparent hitherto. The results of the survey and the experience of the writers suggest that the following recommendations are among the most important:

1. That more use should be made at all educational levels of ordinary and durable habitats, particularly those which are readily available in or near towns, and that all but the most senior and specialized students should avoid the use for field studies of sensitive environments, famous or classic localities, and areas which are already under high pressure from outdoor activities of various kinds.
2. That there should be increasing emphasis on field studies organized through day trips or shorter excursions from schools, particularly with younger pupils.

3. That the dual use of centres for outdoor physical pursuits and field studies should be critically examined, particularly in "high pressure areas", and that economic considerations should not be allowed to obscure the fact that there are many unexploited areas suitable for one but not both of these activities.
4. That those organizing and engaging in field studies should pay strict attention to the advice of *Outdoor studies code*.
5. That there should be more professional training provided in the techniques of field teaching, which is as specialized a skill as the various branches of outdoor physical pursuits, and that the institution of a Certificate of Proficiency in Field Teaching should be seriously considered.
6. That there should be a marked increase in the number of full-time qualified field teaching staff at centres, as is already the case with instructors in outdoor pursuits.
7. That there should be closer and more frequent consultation between the organizers of field studies (both administrators and teachers) and bodies such as the Nature Conservancy and the County Trusts for Nature Conservation which are in a position to provide advice and often facilities for fieldwork.

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Several of the references cited are not in the strict sense published works. *Directory of centres for outdoor studies in England and Wales* is available (cost of postage only) from Council for Environmental Education, 26 Bedford Square, London WC1B 3HU.