



FORESTRY COMMISSION

BOOKLET NO. 35

The Plan of Operations (Metric)

*A Guide to the Preparation of
the Plan of Operations for
Dedicated and Approved
Woodlands*

LONDON

HER MAJESTY'S STATIONERY OFFICE

25p NET



Forestry Commission Bulletin No. 14

FORESTRY PRACTICE

A summary of methods of establishing forest nurseries and plantations, with advice on other forestry questions for Owners, Agents and Foresters.

8th Edition, amended 1966, 27½p (by post 34p)

Published by

HER MAJESTY'S STATIONERY OFFICE

and obtainable from the Government Bookshops at the addresses listed on the back cover (post orders to P.O. Box 569, London SE1), or through booksellers.

FORESTRY COMMISSION
BOOKLET NO. 35

THE
PLAN OF OPERATIONS
(METRIC)

*A GUIDE TO THE PREPARATION OF
THE PLAN OF OPERATIONS FOR
DEDICATED AND APPROVED
WOODLANDS*

LONDON
HER MAJESTY'S STATIONERY OFFICE
1971

FOREWORD

This booklet, which takes the place of Booklet 7, has been prepared primarily for the guidance of landowners who have already brought, or who wish to bring, their woodlands into the Dedication or the Approved Woodland Schemes of the Forestry Commission.

CONTENTS

	<i>Page</i>
Introduction ..	1
General Principles	1
The Plan in Outline ..	2
Preparing the Basic Map	3
Preparing the Plan	4
Management and Record Keeping ..	8
Some Points of Detail	9
Set of Forms	11
<i>The separate forms themselves are listed on page 3</i>	
Addresses of Conservators of Forests ..	<i>inside back cover</i>

THE PLAN OF OPERATIONS

INTRODUCTION

(1) With the general introduction of metric measurements in the dedicated and approved woodlands schemes with effect from October, 1971, the opportunity has been taken to re-examine the form of the standard Plan of Operations. This study has been carried out by the Forestry Commission in close consultation with the Timber Growers Organisation and the Scottish Woodland Owners Association.

(2) The Plan has to meet the following objects:

- (i) to satisfy the statutory requirements of the Forestry Commission and enable the Commission's officers to fulfil their functions in respect of the payment of grants;
- (ii) to provide in the simplest form the minimum information a private owner may need for the efficient management of his woods;
- (iii) to provide data, ancillary to the above, comparable with those for the Forestry Commission's woods, and so facilitate the compilation of national statistics.

Any owner using a form of Plan based on non-metric measurements may continue to do so until it requires renewal. It is hoped however that owners will where appropriate adopt the metric Plan at the next five-year revision, thus helping to reduce the time that non-metric plans continue to exist.

(3) As the great majority of woodland estates are relatively small, it is the needs of these small estates which are mainly considered here. Large estates may require information additional to that supplied by the Plan of Operations. For such estates, it is worth noting that many well-tried forms, including those used by the Commission in their own working plans, are in existence. To help understand the Plan of Operations a copy set of blank forms with notes is included in this booklet (see page 11).

GENERAL PRINCIPLES

(4) The Plan of Operations consists of a map of the land and plantations involved, a description and statement indicating their present condition, proposals for planting, thinning and felling in each of the next two five-year periods, and details of how and in what order of priority this work will be done. Annual record forms are provided to indicate the progress of the work.

(5) Forestry Commission Officers will be glad to carry out a preliminary inspection of the woodlands and to advise the owner or his representative on the general lines to be followed in drafting the Plan. The actual preparation of the Plan and the proposed prescriptions of work to be done, however, rest entirely with the owner. It should be noted that Dedication or participation in the

Approved Woodlands Scheme requires prior approval of the Plan by the Forestry Commission. Consequently a measure of consultation with the local District Officer is advisable during the preparation of the Plan.

(6) In Dedication schemes, when a plan of operations has been approved and a dedication agreement/covenant has been executed, grants become payable. In Approved Woodlands schemes, grants for work done become payable when the Plan of Operations has been signed by both parties.

(7) Both for Dedication and the Approved Woodlands scheme, three copies of the approved Plan are required. The first is deposited in the Conservancy office, the second is for the owner and the third is for the Forestry Commission Officer responsible for the private woodlands work in that area. The procedure is for the owner to draw up a draft and forward a copy to the Conservator of Forests or District Officer for the area. After any necessary amendments have been agreed, the owner is required to provide three signed fair copies of the plan and map(s) (see para. 27), one of which will be returned to him for his retention having been certified that it meets with the Commissioners' approval. In some cases owners may not have adequate facilities for the production of copies of the plan and maps and the Commission is prepared to undertake this work on payment of a fee for typing and reproduction.

(8) At the discretion of the Forestry Commission an inspection will be made of the year's work some time during the forest year, in order that the necessary grants may be paid.

(9) It is essential that plans of operations should always be current. Early in the fifth year details of the following five years' work will be submitted by the owner for the approval of the Conservator and early in the tenth year the owner should make arrangements for the preparation of a full ten year renewal. The Forestry Commission will normally remind owners that a revision or renewal is shortly due, but it is the owner's responsibility entirely to take the necessary action in good time whether or not he is reminded by the Commission.

(10) The requisite forms and loose leaf binder are supplied free of charge. Extra sheets of any individual form will also be issued as required. Owners should ensure that they use metricated forms when revising or renewing their plan of operations.

THE PLAN IN OUTLINE

Maps

(11) In due course, the Ordnance Survey will produce a complete set of maps for Great Britain to a 1:10 000 scale to replace the present 6 inch to one mile (1:10 560) maps. However it is expected to be several years before conversion of maps for the whole country is complete. The metric version should be used when it becomes available for the area concerned. During the period of transition which may last for some years, units should be clearly marked "hectares" or "acres" as the case may be and the scale and O.S. number of the sheets should also be shown.

(12) Every plan must be accompanied by a 6-inch Ordnance Survey map, or 1:10 000 map when it becomes available, which indicates clearly and accurately the boundaries of the area and the boundaries of the compartments and subcompartments into which the area is divided; it will also give compartment numbers and areas and subcompartment letters.

(13) On large estates additional maps may be desirable for the estate's own use giving details of species and Planting Year boundaries, and also in support of planting, thinning and fire plans and road building programmes. These additional maps are most conveniently prepared on photo-copy maps.

Forms and Text

(14) The Plan includes fifteen forms which are as follows:

- G.D.1 Table of Contents.
- G.D.2 Details of ownership and certificate of approval of plan.
- G.D.3 Classification and description of the area.
- G.D.4 Description of the woodlands as a whole and other facts on which proposals are based.
- G.D.5 Objects of management.
- G.D.6 Proposed methods of working.
- G.D.7 Detailed Area analysis.
- G.D.7a Compartment Notes.
- G.D.7b Age Class Analysis by species (optional).
- G.D.8 Planting Proposals and control form.
- G.D.9 Thinning Proposals and control form.
- G.D.10 Felling Proposals and control form.
- G.D.11 Summary of work proposed and done.
- G.D.12 Annual record of planting.
- G.D.13 Annual record of thinning and felling.

PREPARING THE BASIC MAP

Deciding the Area to be Covered by the Plan

(15) The first step is to agree upon the total extent of ground to be brought under the Plan. Normally this will be the whole of the woodlands on the estate together with any bare land which the owner wishes to afforest. Sometimes particular woods may, for one reason or another, be excluded. At this early stage the owner is advised to consult the local District Officer of the Forestry Commission. An owner should also at this time inform the Commission's officer of any other dedicated estates he owns and their location. These must eventually be recorded on Form G.D.3.

The Boundary of the Area Covered by the Plan

(16) Once the owner has decided, and the Forestry Commission has agreed, which woods and other lands should come within the Plan, the owner should

mark clearly on the relevant Ordnance Survey sheet(s) the boundaries of the areas concerned by a continuous thick black line, drawn so that the outside edge coincides with the boundary of the area (see page 12).

Dividing the Area into Compartments

(17) The next step is to divide the area covered by the Plan into compartments, which should be of a convenient size and should be numbered serially. Small woods standing by themselves may each form a separate compartment. A preliminary field survey is usually needed in order to decide on the compartment boundaries, which should follow such recognisable permanent features as roads or streams. Compartment boundaries are shown by black chain lines.—.—.—.

Determining and Recording Compartment Areas

(18) As noted (para. 12), a 6 inch to one mile or 1: 10 000 Ordnance Survey map(s) is required, and unless the information is available for conversion to metric units from another reliable source, a planimeter should be used to determine the total area. The total should be rounded off to the nearest tenth of a hectare.

(19) Next the area of each compartment is determined in a similar manner, or by using a celluloid hectare grid scale, and again “rounded off” to the nearest tenth of a hectare. The areas of rides will be included in the areas of the adjacent compartments. Add up these compartment areas to ensure that they agree with the total area covered by the Plan. If they do not agree, adjust the area of one or more compartments up or down by a tenth of a hectare as necessary. It is essential that the area shown on any Dedication Deed equals the sum total of compartment areas.

(20) The number of each compartment, and its area as determined above, must be shown on the map by setting the number over the area. For example, 9 over 10·1 indicates compartment 9 of 10·1 hectares. This symbol should be written either within the area concerned or just outside it with a connecting arrow.

(21) Before proceeding further with the preparation of the Plan, the owner is advised to submit the map to the Conservancy or District office so that the area of compartments may be agreed. Since photo-copies of the map will subsequently be provided, it is important that the original map should be neither coloured nor folded; it should be sent rolled round a suitable cardboard or other cylinder.

PREPARING THE PLAN

(22) Once agreement has been reached on the areas of individual compartments, the preparation of the Plan proper can begin.

Taking Stock and Considering Treatment Required (G.D.7, 7a and 7b)

(23) A thorough examination of the area on the ground by compartment, or if it has been found necessary, by sub-compartment, should be made in order to

record on the map and in a field note-book, the nature and condition of the crop and site and what is required to be done.

(24) Sub-compartments should be formed only where essential, because they add to the work of mapping and record keeping. For example, where variations of crop within an area are likely to be merely transitory or such variations are not easily mapped (e.g. partially stocked areas) it will usually suffice to have an estimated area break-down between the two or more crop types (for recording on Form G.D.7) without going to the extent of forming separately defined sub-compartments. It follows that sub-compartments of less than half a hectare are normally unnecessary.

(25) The boundaries of sub-compartments should be indicated by black broken lines but their areas need not be recorded on the map. They should be distinguished serially, by small letters, within each compartment. Thus compartment 1 may hold sub-compartments 1a, 1b, 1c and 1d, and compartment 2 may have sub-compartments 2a and 2b. Sub-compartment areas, although not recorded on the map, have to be determined so that they can be recorded on the appropriate forms. It is essential that the areas of sub-compartments, which are recorded to the nearest tenth of a hectare, should add up to the area of the compartment of which they form part. This should be checked from the outset or troublesome errors may follow.

(26) The following minimum information should be recorded in the field note-book for each compartment or sub-compartment as appropriate:

- (a) area in whole and tenths of hectares;
- (b) type of crop or nature of area, i.e. high forest (broadleaved, mixed or coniferous), coppice (with or without standards), scrub and felled areas, bare land, unplanted areas;
- (c) species;
- (d) year of planting (if not known, an estimate should be made);
- (e) treatment required and its urgency.

This information from the field note-book is then transferred to the Compartment Notes (G.D.7a) or some other suitable register.

(27) On completion of the Compartment Notes or register, the map, showing sub-compartment boundaries, should be sent to the Conservancy office so that photo-copies may be made of it. Three photo-copies of the map will be made available to the owner free of charge. Additional copies are obtainable on payment.

(28) Form G.D.7, the Detailed Area Analysis, may now be completed from the information contained in the Compartment Notes or register. When entering the areas on Form G.D.7 it is necessary to check that the sub-compartment areas in each compartment add up to the compartment area as shown on the map, and that the compartment areas add up to the correct total covered by the Plan.

(29) G.D.7b, the Age Class Analysis by Species, is intended to provide an owner with data for long-term forecasts of production. Completion is optional and at the discretion of the owner. The information for completing this form is obtainable from the Compartment Notes (G.D.7A) or register.

Stating Facts on Which Proposals are Based (G.D.4)

(30) The general description on form G.D.4 is based on the field examination and estate records; it covers situation; configuration and altitude; geology and soil; climate; previous history; brief description of the woodlands; communications, access and rights of way; sporting interests; and any other factors affecting management.

Deciding the Objects of Management (G.D.5)

(31) Form G.D.5 calls for a brief statement of the Objects of Management that the owner has in view. The Objects of Management define the main goal and also subsidiary purposes to which the whole management of the woodlands is directed. Their number and scope will vary from one estate to another depending upon local conditions and the owner's personal circumstances and intentions. The Commissioners' view on what constitute acceptable objects of management is not rigid. For example, they recognise that shooting can be combined with forestry, and that an owner, who while managing his woods primarily for the production of timber, at the same time relies on their sporting value for his own pleasure or as a source of income, may state that fact as one of the ancillary objects of management taken into account in framing the detailed provisions on the Plan. Where a scheduled ancient monument is likely to be affected by forestry or associated operations, the owner is advised to include its protection among his ancillary objects of management. Only when these goals have been clearly stated can the best methods of achieving them be worked out. That is why a careful and precise formulation of the Objects of Management is so important.

Drawing Up the Programme of Work (G.D.11, 8, 9 and 10)

(32) Having assessed the facts and what should be done, the next step is to decide at what rate the work of planting, thinning and felling should proceed and in which order of priority. It is suggested that this should be done as follows:

Planting

(33) Decide on the average area to be planted annually. This will depend on such factors as the total area of unproductive land requiring planting, the crops which require to be felled and replanted and the availability of labour and funds. This average annual area multiplied by five will give the target figure for planting over the next five years. A similar procedure will give the target area it is proposed to plant over the second five-year period of the plan.

(34) The Management Grant is payable on the total area classified as High Forest and Coppice (Cols. 3–18 of Form G.D.7) and in addition on that part of the area of Scrub, Felled, and Bare land which it is proposed to plant over the ten-year period of the plan (Cols. 19 and 20 of Form G.D.7). These classifications are defined in the notes on page 24. It is necessary to distinguish in each of the five-year target figures that area which will come from land classified as High Forest and Coppice (Cols. 3–18 of G.D.7) which will be known as *Replanting* and entered accordingly on Form G.D.11, from the area which will come from land classified as Scrub, Felled and Bare land (Cols. 19 and 20 of G.D.7) which will be known as *New Planting* and so recorded on Form G.D.11.

(35) It is important to state clearly in the text of Form G.D.6 the considerations which have determined the proposed rate of planting.

(36) Having determined the average annual rate of planting and the five-yearly target, it is next necessary to draw up the detailed planting plan for the next five years, and this is done on Form G.D.8. This form details the proposals for future years, for the planting of specific sub-compartments. These proposals may be completed from the onset for the full five years ahead, or if preferred, progressively during the five-year period, looking only two to three years ahead at a time.

(37) Adequate significance should be given to the planting of areas classed as Scrub, Felled and Bare land (in view of the basis on which the Management Grant is assessed). It may prove useful, therefore, to list on Form G.D.8 in Columns 1 and 3 firstly *all* these Scrub, Felled and Bare areas scheduled for planting during the ten-year period of the plan (obtainable from Form G.D.7) followed in Columns 1 and 2 by any replanting of areas classed as High Forest or Coppice at the commencement of the plan.

Thinning

(38) Determine the total area which is at present in the thinning stage and decide the thinning cycle proposed for the crops. Dividing the latter figure into the former will give the average area which will require to be thinned annually. Five times this annual area, plus any additional areas recruited to the thinning stage during this five-year period, will consequently require to be thinned over the first five years and this figure is entered on Form G.D.11 in the appropriate column. A similar procedure will give the appropriate figure for the second five-year period which is also entered on Form G.D.11. It is important that the proposals for the thinning, both qualitatively and quantitatively, are clearly defined in the text of Form G.D.6.

(39) It is then necessary to draw up a thinning plan for the next five years and this is done on Form G.D.9. All areas in, or likely to enter into, the thinning stage during the five-year period are listed in Columns 1-4 and proposals completed to show the order of priorities in which individual sub-compartments will be thinned, bearing in mind the average area which requires to be thinned annually. It is not necessary for detailed priorities to be listed for the full five years from the onset. It may be preferable to list priorities for the first few years only and then gradually extend proposals to successive years in the light of past performances.

Felling

(40) Only crops listed as High Forest and Coppice on Form G.D.7 are concerned in this operation. It is first necessary to determine the type of crops which are to be considered for felling during the ten-year period of the Plan and these should be clearly defined in the text of Form G.D.6 (e.g. for various reasons certain crops amounting to a total of so many hectares are to be felled during the period of the Plan). This will enable a provisional ten-year felling target to be determined, which should be divided into two five-year periods for entry on Form G.D.11. There should naturally be a close link-up between the

felling and replanting programme although the felling of an area may well precede replanting by a year or more.

(41) It is next necessary to draw up a felling plan and this is done on Form G.D.10, which details, in the proposals for future years, the order of priority for dealing with specific sub-compartments. As with the thinning plan, it may be preferable to list priorities for the first few years only and then gradually extend proposals to successive years in the light of past performances.

Completing the Summary Area Statement (G.D.3)

(42) The area statement is derived from the summary totals on Form G.D.7.

(43) The map numbers required are those printed on the relevant Ordnance Survey six inch to one mile or equivalent metric 1: 10 000 sheets.

(44) As noted in paragraph (15), particulars of other Basis II dedicated estates in the same ownership are requested in part (c) of Form G.D.3.

Proposed Methods of Working and Arrangements for Carrying out the Work (G.D.6)

(45) The Form G.D.6 should now be completed, although obviously most of the provisions will have been decided during the preparation of Forms G.D.8, 9, 10 and 11. This Form deals with such subjects as general silvicultural methods; planting; thinning; felling; protective measures against fire; other protective measures; any other relevant proposals; arrangements for carrying out the work.

Completing the Plan (G.D.2 and G.D.1)

(46) Only Forms G.D.2 and G.D.1 remain to be completed and these are self-explanatory. It will be noted, however, that the date of the dedication deed or agreement to which the plan refers can only be entered when that deed or agreement has been legally completed. In the case of new dedications, therefore, the date of the deed or agreement when available should be entered separately by the owner and the Commission in their copies of the plan.

(47) Three fair copies of the Plan will be prepared based on the owner's draft. These may be prepared either by the owner or by the Forestry Commission on repayment (see para. 7). All copies will be signed by the owner and countersigned on behalf of the Forestry Commissioners. One copy will be returned to the owner.

(48) Where the woods are to be dedicated, the necessary Deeds can now be completed.

MANAGEMENT AND RECORD KEEPING

(49) The management of woodlands worked under a Plan of Operations lies entirely with the owner. The completion of each operation should be noted in the appropriate cols. of Forms G.D.8, 9 and 10.

(50) The "Forest Year" runs from 1st October to 30th September. Late in the forest year the local District Officer will send Form G.D.13 to the owner who will complete it in draft when the year's thinning and felling are completed, or by 30th September whichever is earlier, and return it to the District Officer. In the event of any queries arising, the District Officer will settle the matter with the owner and then prepare a final typed version of Form G.D.13 in duplicate, sending one copy to the Conservancy office, and another to the owner, retaining the original as an appendix to his copy of the Plan.

(51) The owner should get in touch with the District Officer after the year's planting has been completed, and arrange a mutually agreeable date of inspection. On completion of the inspection the District Officer will complete four copies of Form G.D.12 keeping one copy himself and sending three copies to his Conservancy Office. Subsequently the Conservancy Office will send one copy to the owner together with the planting grant. For estates dedicated under Basis I only three copies of the form will be prepared, the first of which will be sent to the owner, the second to the Conservancy Office and the third will be retained by the District Officer.

(52) At the end of the forest year the owner will arrange for the total figures of planting, thinning and felling as shown on Forms G.D.12 and 13 to be entered on the appropriate line of Form G.D.11. The District Officer and the Conservator will do the same in respect of their copies of the Plan. In this way all three copies of the Plan of Operations are kept up to date and in agreement. The owners' and District Officer's copies of G.D.12 and 13 should be filed at the back of their respective copies of the Plan.

Five-year Revisions and Ten-year Renewals of the Plan

(53) Early in the fifth year of the Plan the owner should start to reassess the programme of work for the second five years and review the plan as a whole. He is advised to consult the Forestry Commission District Officer at this stage. This reassessment of programme will usually require the preparation of fresh forms G.D.8, 9, 10 and 11. The preparation of G.D.7 will only be required where the area eligible for management grant has changed. Other forms will be rewritten if the information on them no longer applies. A full renewal of the Plan involving all the forms and possibly also the sub-compartmenting shown on the map will be necessary only once every ten years. This full renewal should be put in hand early in the tenth year of the current Plan.

SOME POINTS OF DETAIL

(54) This Section answers some of the queries which may arise during the preparation and working of the plan. Answers to other queries may be found by reference to the explanatory notes to the individual forms. No booklet, however, can provide for every contingency in woodland management and owners are invited to consult the appropriate Forestry Commission Officer on any point about which they are in doubt.

Partial Planting

(55) When an existing forest crop is underplanted or enriched—operations sometimes referred to as “partial planting”—the *net* area treated is shown on the relevant forms (G.D.8, 11 and 12). An acceptable method of assessing the net area is by calculating the area which the number of plants actually used would have occupied had they been planted at an ordinary spacing suitable to the species.

Partial Felling

(56) This term is used to denote fellings which leave some trees standing but are sufficiently heavy to call for partial replanting. With partial felling net areas should be recorded on Forms G.D.10, 11 and 13; the net area being that proportion occupied by the trees actually felled.

Direct Sowing and Natural Regeneration

(57) Suitable direct sowing and natural regeneration are entered on the forms (G.D.8, 11 and 12) in the same way as planting and, if successful, will qualify for the same planting grants.

Coppice

(58) Coppice (for definition see explanatory note to Form G.D.7) qualifies for management grant, but the natural coppice regrowth after cutting-over does not attract planting grant. The planting of a new coppice crop would, however, be considered for the planting grant.

Unplantable Areas

(59) These are included in the Plan only where it is more convenient to manage them along with the woodlands than in any other way. Examples are small lakes or ponds and patches of bare rock.

Recording Mixtures on Form G.D.12

(60) A mixture will be recorded as either conifer or broadleaved depending on which type forms the predominant proportion of the mixture at the time of planting; no account should be taken of the possible future outcome of the mixture.

Glossary of Terms and Abbreviations

- (61) Forest Year (F.Y.) —This extends from 1st October to 30th September and takes its serial number from the calendar year in which it ends.
- Planting Year (P. Year)—The forest year in which a crop has been planted, sown or regenerated naturally.
- Ded. —Dedicated.
- Ap. W. —Approved Woodlands.
- S.W. —Small Woodlands.

SET OF FORMS


General Note

The forms are numbered and presented in the sequence which is considered the most convenient for the management of the estate. For the preparation of the plan a different sequence is necessary. While there can be no hard and fast rule the following sequence will generally be the most convenient:

- (1) Preparation of map.
- (2) Form G.D.7(a) or equivalent, Form G.D.7.
- (3) Forms G.D.4 and 5.
- (4) Form G.D.11 together with Forms G.D.8, 9 and 10.
- (5) Forms G.D.3 and 6.
- (6) Forms G.D.2 and G.D.1.

Note that whilst the plan covers ten years, most of the forms are intended for review and possible revision at five-year intervals.

Map Legend

External boundaries: Internal thick black line 

Compartment boundaries: Black chain line 

Sub-compartment boundaries: Black broken line 

Compartment nos. and areas: 5/19 within a circle, within compartment.

Sub-compartment lettering: Small roman letters, **a**, **b**, **c**, etc. not circled, within compartment.

If compartment numbers and areas cannot conveniently be shown within a compartment, they may be "arrowed in" from the margin thereof. An appropriate size for numbers and letters is approximately 5 mm high; pen-stencilling is a satisfactory means of putting them in.

An example of the use of the map legend appears overleaf.

NOTES

This form is self-explanatory.

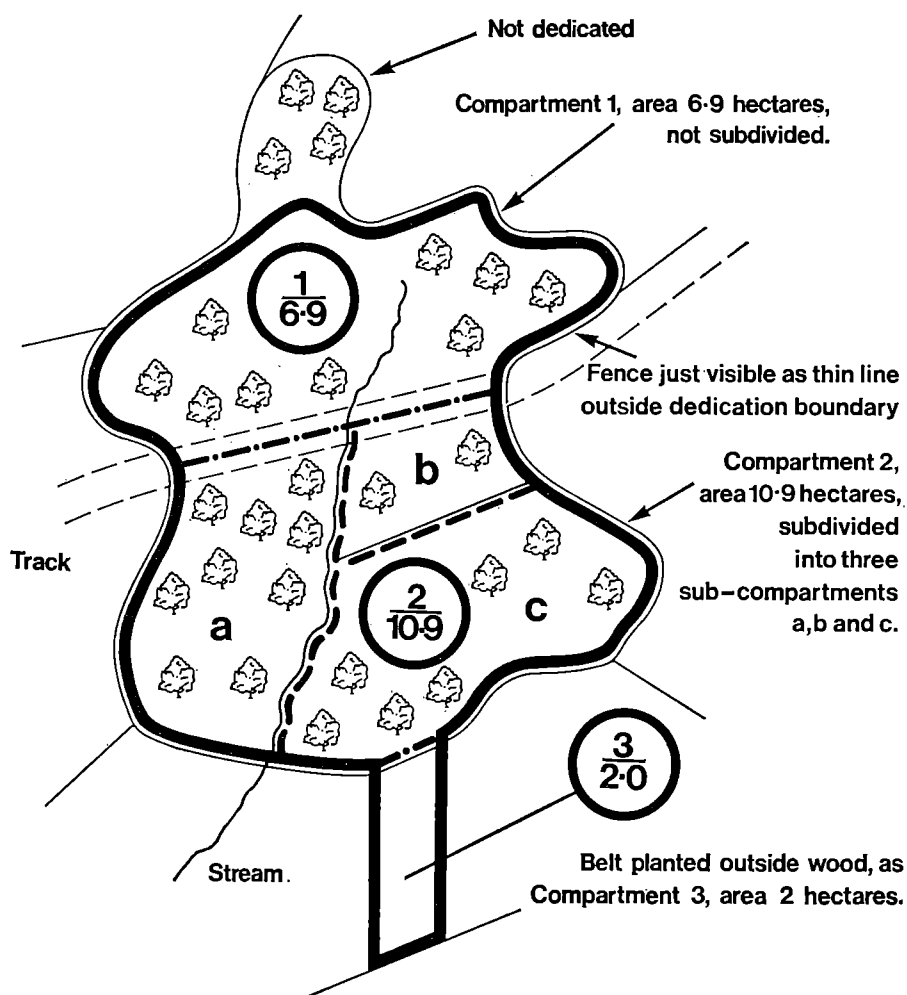


Fig. 1. Example of the Use of the Map Legend

**PLAN OF OPERATIONS
FOR
*DEDICATED/APPROVED WOODLANDS**

**Delete inappropriate item.*

Estate:..... County(ies).....

Period of Plan: 1st October, 19..... to 30th September, 19..... inclusive (ten years).

CONTENTS OF PLAN

Form Number

- G.D.2 Details of Ownership and Certificate of Approval of Plan
- G.D.3 Classification and Description of the Area
- G.D.4 Description of the woodlands as a whole and other facts on which proposals are based
- G.D.5 Objects of Management
- G.D.6 Proposed Methods of Working
- G.D.7 Detailed Area Analysis
- G.D.7a Compartment Notes
- G.D.7b Age Class Analysis by Species (optional)
- G.D.8 Planting Proposals and Control Form
- G.D.9 Thinning Proposals and Control Form
- G.D.10 Felling Proposals and Control Form
- G.D.11 Summary of Work Proposed and Done

Appendices

- G.D.12 Annual Record of Planting
- G.D.13 Annual Record of Thinning and Felling

Maps

(Not reproduced)

NOTES

This form is self-explanatory.

PLAN OF OPERATIONS FOR *DEDICATED/APPROVED WOODLANDS

**DETAILS OF OWNERSHIP AND
CERTIFICATE OF APPROVAL OF THE PLAN**

Estate:.....Period covered by the Plan: Ten Forest Years
1.10.19.... to 30.9.19....

County:Area covered by the Plan:Hectares

Parishes:

Forestry Commission Conservancy:.....

Owner's Name(s):Address(es):

Agent's Name:Address:

Solicitor's or
Law Agent's Name:Address:

Skilled Super-
visor's Name:Address:

*(*Dedication
England and
Wales*) This Plan of Operations is the Approved Plan referred to in the
Second Schedule Clause 2 of the Forestry Dedication Deed of
Covenant under Basis†.... dated.....19.....

*(*Dedication
Scotland*) This Plan of Operations is the Approved Plan referred to in the
Second Clause of the Forestry Dedication Agreement under Basis†
.... dated.....19.....

*(*Approved
Woodlands*) This Plan of Operations together with the maps of the area concerned
which are submitted herewith and signed as relative hereto, are an
Approved Plan within the meaning of Section 14 of the Forestry
Act 1967.

Signature(s) of the Owner(s) or Authorised Agent:

(Signed):19.....
(date)

(Signed):19.....
(date)

**Signature for the
Forestry Commissioners:**
Authorised by the Forestry Commissioners

Date:.....19.....

(Owners whose Form G.D.2 is signed before the relevant Dedication Deed or Agreement is completed, should insert the date of completion as appropriate later.)

*Delete each in appropriate item.

†State whether Basis I or II.

NOTES

- (1) The area statement is derived from the summary totals on form G.D.7.
- (2) All maps must bear the name of the estate and be signed by both parties as relative to the plan of operations.

PLAN OF OPERATIONS: TEN FOREST YEARS.....TO.....

ESTATE:.....

CLASSIFICATION AND DESCRIPTION OF THE AREA

As at 1st October, 19.....

(a) Summary Area Statement:

Areas Total Area:
(to nearest tenth of
a hectare)

Effectively Managed Woodlands:

- (i) High Forest
- (ii) Coppice (including Coppice with Standards) for continued working as coppice.
- (iii) Land other than areas classed under (i) and (ii) above, to be planted within the ten-year Period of Plan .

Total area of Effectively Managed Woodlands (Qualifying for Management Grant in Basis II Dedicated Estates) _____

Other Land:

- (iv) Land to be planted after ten-year Period of Plan
- (v) Unplantable Areas .

Total Area . _____

(b) **Maps of the Area:** The relevant maps of the area, or photoprinted copies thereof, are on Ordnance Survey six-inch to one mile or equivalent 1: 10 000 sheets numbered:

.....
 and form an Appendix to this Plan of Operations.

(c) *Particulars of other Dedicated Estates in the Same Ownership

<i>Name of Estate</i>	<i>Area Dedicated</i> (hectares)	<i>Conservancy</i>
-----------------------	-------------------------------------	--------------------

**To be completed for Basis II Dedicated Estates only.*

NOTES

This form is self-explanatory.

PLAN OF OPERATIONS: TEN FOREST YEARS.....TO.....

ESTATE:.....

**DESCRIPTION OF THE WOODLANDS AS A WHOLE AND OTHER FACTS
ON WHICH PROPOSALS ARE BASED**

(The following points should be covered: situation, configuration and altitude, geology and soil, climate, previous history, description of woodlands, access communications and rights of way, sporting interests, any other factors affecting management.)

NOTES

Form G.D.5 calls for a brief statement of the long-term objects of management that the owner has in view.

The Plan of Operations should state the main object of management to be the production of a marketable crop of timber, but within this overall requirement a variety of ancillary objects may be stated. Examples of such ancillary objects are:

- (a) To secure a regular income from the woodlands.
- (b) To build up a reserve of capital in the form of standing timber.
- (c) To secure the highest possible return on the capital invested in the woodlands.
- (d) To supply timber for estate building, fencing and maintenance.
- (e) To improve and maintain shelter for agricultural land.
- (f) To preserve scenic amenities.
- (g) To provide cover for game.
- (h) To meet a particular outside demand for timber.
- (i) To safeguard any scheduled ancient monument(s) located on the owner's land that might be affected by the proposed forestry or associated operations.

G.D.5

(Sheet No.....)

PLAN OF OPERATION: TEN FOREST YEARS..... TO.....

ESTATE:.....

OBJECTS OF MANAGEMENT

NOTES

The following points should be covered, stating reasons, quantities and priorities where appropriate:

- (1) General silvicultural methods.
- (2) Planting (factors governing rate of planting, choice of species, planting distances, types of fences, etc.).
- (3) Thinning (general priorities, cycle, grade, etc.).
- (4) Felling (types of crops to be felled and methods of felling).
- (5) Protective measures against fire, including arrangements with local fire brigades.
- (6) Any other protective measures (e.g. against rabbits and squirrels, fungi such as *Fomes annosus*, insect attack).
- (7) Any other relevant proposals (e.g. roading).
- (8) Arrangements for getting work done (supervision, labour, access for machinery and other equipment, plant supplies, etc. and any instructions to staff).

G.D.6

(Sheet No.....)

PLAN OF OPERATIONS: TEN FOREST YEARS..... TO.....

ESTATE:.....

PROPOSED METHODS OF WORKING

NOTES

(1) Land Classification

- (i) **High Forest** includes all stands, irrespective of age, that carry a reasonable crop of timber trees. Coppice growth, if suitable, and intended for conversion to high forest (i.e. without replanting), should also be classed as high forest, and so should crops in which a reasonable stocking of standards occurs among unworked coppice. Conditions may vary and consequently to try to give a precise definition based on percentage stocking or "productivity" is undesirable. In doubtful cases owners should consult the Forestry Commission.
- (ii) **Coppice.** This is coppice growth averaging more than two stems per stool which is suitable for, and in the process of, being worked or about to be worked on a proper coppice rotation. If the coppice not being worked *is to be converted into high forest by replanting*, it should be classified as *scrub*.
The presence of standards over *worked* coppice is recorded by entering the area in Column 17 as opposed to Column 18.
- (iii) **Scrub** is woody growth too inferior to be classed as high forest or coppice.
- (iv) **Felled** areas are those unstocked areas which have not been converted to agricultural or other land use and still bear evidence of having been woodland.
- (v) **Bare land** in this context is land which shows no signs of having been woodland.
- (vi) **Unplantable** areas are, for example, rocky outcrops.
- (2) A sub-compartment may contain land of more than one classification which is not readily definable on the ground. In this case an estimate should be made of the area occupied by each type of land classification and recorded accordingly on the form.
- (3) Age Class Distribution has been recorded by forest year of planting rather than by actual age groups to facilitate periodic revisions of the plan and the compilation of national statistics. The age class distribution gives an approximation of crops in (a) up to the thicket stage; (b) early thinning stage; (c) late thinning stage; (d) final crop stage.
- (4) Columns 19 and 20 record the areas of scrub, felled and bare land it is proposed to plant in the ten-year period of the Plan, i.e. governs the area eligible for the Management Grant.
- (5) Remarks. This column could be used to indicate the main species in the sub-compartment.

as at 1st October, 19.....

Areas to nearest tenth of hectare

ESTATE..

PLAN OF OPERATIONS: TEN FOREST YEARS.....TO.....

[illegible]

NOTES

- (1) Compartment notes are essential before any plan of operations may be prepared. This form need not be completed by estates which produce for inspection an adequate form of compartment register.
- (2) The entries in Column 3 should be the appropriate one of the following: Broad-leaved High Forest (B.H.F.), Mixed High Forest (M.H.F.), Coniferous High Forest (C.H.F.), Coppice, Scrub, Felled, Bare Land or Unplantable. This will facilitate completion of Form G.D.7.

NOTES

(1) The object of this optional form is to provide the necessary data for long-term forecasts of production.

(2) Species should be listed in the following order:

Scots pine	— S.P.	Wellingtonia (<i>Sequoiadendron</i>	
Corsican pine	— C.P.	<i>giganteum</i>)	— We.
Lodgepole pine (<i>Pinus</i>		Californian redwood (<i>Sequoia</i>	
<i>contorta</i>)	— L.P.	<i>sempervirens</i>)	— R.W.
Other pines		Other conifers (specify)	
Sitka spruce	— S.S.	Pedunculate oak	— Oak P.
Norway spruce	— N.S.	Sessile oak	— Oak S.
Other spruces		Red oak	— Oak R.
European larch	— E.L.	Beech	— Be.
Japanese larch	— J.L.	Sycamore	— Syc.
Hybrid larch	— H.L.	Ash	— Ash
Douglas fir	— D.F.	Birch	— Bi.
Western hemlock (<i>Tsuga</i>		Spanish chestnut	— S. Ch.
<i>heterophylla</i>)	— W.H.	Poplar	— Po.
Western red cedar (<i>Thuja</i>		Alder	— Al.
<i>plicata</i>)	— R.C.	Lime	— Li.
Lawson cypress	— L.C.		
Grand fir (<i>Abies grandis</i>)	— G.F.		
Noble fir (<i>Abies procera</i>)	— N.F.		

- (3) A stand will be recognised as pure when one species occupies 80 per cent or more of the area by canopy or number of stems, whichever is appropriate.
- (4) For mixtures, each individual species in a mixture will be credited with an area based on the proportion of the stand it occupies by canopy or number of stems, whichever is appropriate, e.g. a four hectare stand of 50 per cent Norway spruce and 50 per cent Oak should be recorded as two hectares pure N.S. and two hectares pure Oak.
- (5) Uneven-aged stands are those in which (a) at least 20 per cent of the stocking by canopy differs in age from the remainder of the stand; and (b) this difference in age exceeds either twenty years or 20 per cent of the age of the oldest trees.

AGE CLASS ANALYSIS BY SPECIES AS AT 1.10.19.....

ESTATE:...

COUNTY(IES):...

Areas in hectares

PLAN OF OPERATIONS: TEN FOREST YEARS.....TO.....

[illegible]

G.D.7b
Sheet
No.....

NOTES

- (1) It is important that the proposed annual rate of planting, and the priorities of the type of land to be planted during the period of the plan, should be clearly defined on Form G.D.6 (Proposed Methods of Working). This, together with Form G.D.11 which gives the five-yearly targets, will form the basis on which the Plan will be assessed by the Forestry Commission.
- (2) This form may be regarded as indicating priorities for planting within the five-year period down to specific sub-compartments. They are not, however, intended as rigid prescriptions. Consequently, while one owner may be able to detail his priorities with reasonable accuracy for the whole of the five-year period from the outset, another owner may find it adequate to look only two or three years ahead. The form is essentially a working paper and should be used by the owner to his best advantage.
- (3) Adequate significance should be given to the planting of areas classed as *scrub*, *felled* and *bare land* (in view of the basis on which the Management Grant is assessed). It may prove useful, therefore, to list firstly in Columns 1 and 3 *all* these scrub, felled and bare areas scheduled for planting during the ten-year period of the Plan (obtainable from Form G.D.7) followed in Columns 1 and 2 by any replanting of areas classed as *High Forest* or *Coppice* at the commencement of the Plan.
- (4) With partial planting it is the *net* area proposed, and then actually planted, which should be recorded; the net area being the area which would be occupied by the number of plants used in the replanting if they were planted at the ordinary spacing suitable for the species.

31

NOTES

- (1) Details of all areas in, or likely to enter into, the thinning stage during the five-year period should be listed in columns (1) to (4).
- (2) Proposals are meant to indicate order of priorities by specific sub-compartments and should not be taken as rigid prescriptions. Consequently, while one owner may wish to list his priorities in detail for five years ahead, another owner may find it adequate to plan only two or three years in advance.
- (3) Where a partial thinning is to take place in a mixture (i.e. some species to remain unthinned), then a net area should be recorded; the net area being that portion occupied by the species actually being thinned.
- (4) Completion of the "actual" volume columns should agree with the figures recorded on Form G.D.13, part I. Where exact volumes are not known an estimate should be given.

[illegible]

NOTES

- (1) This form refers only to the felling of crops listed as *High Forest* or *Coppice* on Form G.D.7. The term “felling” includes the clearance of windblow.
- (2) Marketing considerations will seldom permit an owner to plan his fellings by specific sub-compartments for much more than two to three years in advance and it is suggested that the form should be used accordingly.
- (3) It is important that areas that have been felled should be subsequently included on Form G.D.8 (Planting Proposals and Control).
- (4) Where a partial felling takes place, i.e. where not all, but only some, of the trees are felled at any one time, for example, prior to group planting, then a net area should be recorded; the net area being that proportion occupied by the trees actually felled.
- (5) Completion of the “actual” volume columns should agree with the figures recorded on Form G.D.13, part I. Where exact volumes are not known an estimate should be given.

G.D.10
Sheet
No......

NOTES

- (1) The objects of this form are to state the proposals for planting, thinning and felling for the ten-year period of the Plan and to show whether or not the progress of work is up to schedule in the current five years.
- (2) This form will be used for both the initial preparation of the Plan and also for the fifth-year review, being suitably amended as indicated in the footnotes. Lines 9 and 10 are completed only at the fifth-year review and indicate achievement against programme for the first five-year period. Consequently the entries on lines 9 and 10 are identical to those on lines 1 and 7 respectively of the G.D.11 used for the preceding five years. Provision is also made on line 8 for the recording, at the fifth-year review, of a tentative forecast for the first five years of the next plan. This is intended to assist in continuity of management.
- (3) The entries for work proposed must be agreed between the owner and the Forestry Commission at the time the plan is prepared. They are obtained by assessing five-year targets attainable by a steady annual programme having regard to the facts set out in Form G.D.7 and to the availability of labour, funds, etc.
It is suggested that these five-year targets should be determined by the sequence set out in paras. (32) to (41) of this booklet.
- (4) **Replanting**, Column 2, refers to the planting of areas classified as *High Forest* or *Coppice* on Form G.D.7.
New Planting, Column 3, refers to the planting of areas classified as *scrub*, *felled* and *bare land* on Form G.D.7. This distinction is necessary because of the basis on which the management grant is assessed. It follows that the total area of New Planting for the two five-year periods must equal the sum of Columns 19 and 20 on Form G.D.7.
- (5) The entries for work done each year are obtained as follows:
 - (i) *Planting*: from the annual record of planting (G.D.12).
 - (ii) *Thinning and Felling*: from the annual record of thinning and felling (G.D.13).

SUMMARY OF WORK PROPOSED AND DONE DURING THE FIVE FOREST YEARS.....TO.....

Areas to nearest tenth of a hectare. Volumes in cubic metres over bark

(1) Work proposed for Yrs 1-5 F.Y. to F.Y. Yrs 6-10*

ESTATE:.....

PLAN OF OPERATIONS: TEN FOREST YEARS.....TO.....

	Planting		Thinning		Felling		Remarks (8)
	Replanting Area (2)	New Planting Area (3)	Area (4)	Volume (5)	Area (6)	Volume (7)	
(1)							
(2) Work done F.Y.							
(3) Work done F.Y.							
(4) Work done F.Y.							
(5) Work done F.Y.							
(6) Work done F.Y.							
(7) Totals of work done for 5 years F.Y. to F.Y.							

Work proposed for Years 6-10 (8) F.Y. to F.Y. 1st 5 years of next Plan						
---	--	--	--	--	--	--

* At inception of Plan delete "Years 6-10" in line 1; and "1st five years of next Plan" in line 8.
At fifth-year review delete "Years 1-5" in line 1; and "Years 6-10" in line 8.

FOR USE ONLY AT THE FIFTH-YEAR REVIEW

Work which was proposed for (9) Years 1-5 F.Y. to F.Y.						
(10) Work done during Years 1-5						

NOTES

- (1) This annual record of planting is prepared by the Forestry Commission after the owner has notified the completion of his planting.
- (2) The owner will be sent a copy of this form, and in the case of estates dedicated under Basis II and Approved Woodlands estates, it will be accompanied by the planting grant payment.
- (3) The form should be filed as an appendix to the plan.

1. Estate..... File.....
County..... Scheme No. (Ap.W. & S.W. only).....

[illegible]

10. I certify that the Ded./Ap.W./S.W. planting
has been carried out satisfactorily during F.Y.....

has been satisfactorily maintained for five years
in accordance with the regulations and as detailed above.

† delete as appropriate.

(Signature of Inspecting Officer)

.....
(Date)

FORESTRY COMMISSION (For official use only)

11. Cheque payable to:.....

12. Despatch cheque to:

13. Payment of total amount shown at Col. 8 above approved

.....
(for Conservator)

(Date)

P.W. Section		Accounts Section	
14. A/c No.	15. Records Noted (intls.)	16. Passed for payment (Accountant) (date)	
		17. Payment made (intls.) (date)	18. Cheque No.

NOTES

The local Forestry Commission District Officer will send a blank copy of this form to the owner annually towards the end of the forest year. The form should be completed by the owner as soon as the forest year has ended and returned in the franked addressed envelope provided to the District Officer. A "nil" return should if appropriate be sent. A copy of the completed form will later be returned to the owner after any necessary inspection of the work and amendments, and that copy should be filed as an appendix to the plan.

Part I

The areas of thinning and felling are net, i.e. where there has been a partial thinning in a mixture, leaving some species unthinned, only the net area occupied by the species actually being thinned should be recorded. Similarly where a partial felling has taken place, for example prior to group planting, only the area actually occupied by the felled trees should be recorded.

The species shown should relate to the volumes removed, not to the stocking on the ground. For example, if in a mixture of oak, larch and Norway spruce, thinning were confined to the last two species, only these would be shown, together with the appropriate volume for each.

Firewood should *not* be included unless it is not possible to separate its volume from the volume of the main products.

Part II

Part II is an analysis of Part I by broad production categories, except that it should also include material derived from areas which are not classified as "high forest" or "coppice" on form G.D.7 and which are not recorded in Part I. Apart from this, the total volumes in Parts I and II should agree.

The material to be listed includes trees sold standing or felled; logs and pole wood, pulpwood, pitwood and fencing material. Firewood should only be listed if its volume has already been recorded in Part I. Material which has been felled but not sold should be included.

Class A includes all material for sale in the round. Examples are sawlogs, pitprops, pulpwood and round fencing stakes, whether or not pointed. Cleft fencing material should also be included in Class A.

Class B should include all material felled for estate use or for conversion in estate sawmills, including portable sawmills, before sale or use on the estate (e.g. sawn mining timber, sawn fencing material, deals, battens, and boards etc.). Please note that the volumes to be entered are the volumes of material before conversion to the end products.

There may occasionally be doubt as to whether a particular lot should be listed in Class A or Class B; material should only be listed in class B if the method of sale is such that it has not, or will not, be offered for sale as round timber or poles.

Details of Measure

The total volume in cubic metres over bark (to the nearest cubic metre) should be given. If sold by some other measure, please estimate the equivalent in cubic metres over bark. For example, by using bark percentages from Forestry Commission Booklet No. 31, *Metric Top Diameter Sawlog Tables*, H.M.S.O., p. 22). Convert tonnage wood at 1 cubic metre per tonne or a more accurate conversion factor if known. For stacked timber, use 70 solid cubic metres per 100 cubic metres stacked, etc.

The division of material in Part II into "Sawlogs" or "Other" should be decided by the end-use for which the material was sold, where this is known. In the absence of actual knowledge as to the end-use, the following definition of sawlogs should be used for purposes of this return:

Conifer Sawlogs

- (a) logs or trees which are sold to a saw-mill, *or*
- (b) logs or trees with volume of over 0.3 cubic metre, *or*
- (c) trees with a breast-height diameter of more than 24 centimetres

Hardwood Sawlogs

- (a) logs or trees which are sold to a saw-mill, *or*
- (b) logs or trees with a volume over 0.6 cubic metre, *or*
- (c) trees with a breast-height diameter of more than 32 centimetres.

If necessary, the division of a bulk lot between size-classes should be estimated but a high degree of accuracy is not necessary. If a higher proportion of the lot is in one size class, the whole of that lot should be included in that class (e.g. there is no need to estimate the proportion of "Other" in a hardwood felling which mainly consists of "Sawlogs"). If the material in any lot is close to the dividing line between the "Sawlogs" and "Other" categories, or if for any reason, there is doubt as to which category it should go into, it can be listed in either at the owner's discretion.

The classification is intended to be between sawlogs or material of a similar size and other material (such as pulp wood, pit wood, chip wood, fencing material, etc.) rather than between any precise diameter limits.

N.B. Except in Dedicated estates, where there is an approved Plan of Operations in force, the thinning and felling prescribed must be authorised by a licence issued by the Forestry Commission.

ADDRESSES OF CONSERVATORS OF FORESTS

NORTH-WEST ENGLAND. Dee Hills Park, Chester (0244 24006): Cumberland, Westmorland, Lancashire, part Yorkshire (Lune and Ribble Valleys), Cheshire, Shropshire, Staffordshire, Warwickshire, Leicestershire, Nottinghamshire and Derbyshire.

NORTH-EAST ENGLAND. Briar House, Fulford Road, York YO1 4DB (0904 24684): Northumberland, Durham, Yorkshire (except Lune and Ribble Valleys).

EAST ENGLAND. Block D, Government Buildings, Brooklands Avenue, Cambridge (0223 54495): Lincoln, Rutland, Norfolk, Cambridge, Northamptonshire, Bedfordshire, Oxfordshire, Buckinghamshire, Hertfordshire, Essex, Suffolk and Huntingdonshire.

NEW FOREST AND SOUTH-EAST ENGLAND. The Queen's House, Lyndhurst, Hants SO4 7NH (042128 2801): Berkshire, London, Middlesex, Kent, Sussex, Surrey, Hampshire, Isle of Wight and East Dorset.

SOUTH-WEST ENGLAND AND FOREST OF DEAN. Flowers Hill, Brislington, Bristol, 4 (0272 78311): Herefordshire, Gloucestershire, Wiltshire, Dorset (except east), Worcestershire, Somerset, Devon and Cornwall.

NORTH SCOTLAND. 60 Church Street, Inverness (0463 32811): Caithness, Sutherland, Ross and Cromarty, Inverness, north-west Argyll, Nairn (except north-east), Moray (south), Orkney, Shetland.

EAST SCOTLAND. 6 Queen's Gate, Aberdeen AB9 2NQ (0224 33361): Nairn (north-east), Moray (north), Banff, Aberdeen, Kincardine, Angus, Kinross, Fife (except south-west), north-east Perth.

SOUTH SCOTLAND. Greystone Park, Moffat Road, Dumfries (0387 2425): Midlothian, East Lothian, Berwick, Roxburgh, Selkirk, Peebles, Dumfries, Kirkcudbright, Wigtown, south Ayrshire, south-east Lanarkshire.

WEST SCOTLAND. 20 Renfrew Street, Glasgow, C.2 (041332 7261): Argyll (except north-west), south and west Perth, Stirling, Dunbarton, Renfrew, Clackmannan, south-west Fife, north Ayrshire, north-west Lanarkshire, West Lothian, Bute.

NORTH WALES. Victoria House, Victoria Terrace, Aberystwyth (0970 2367): Anglesey, Caernarvon, Denbigh, Flint, Merioneth, Montgomery, Radnor, Cardigan (except south).

SOUTH WALES. Churchill House, Churchill Way, Cardiff (0222 40661): Pembroke, Carmarthen, Brecknock, Glamorgan, Monmouth, south Cardigan.

© *Crown copyright 1971*

Published by
HER MAJESTY'S STATIONERY OFFICE

To be purchased from
49 High Holborn, London WC1V 6HB
13a Castle Street, Edinburgh EH2 3AR
109 St Mary Street, Cardiff CF1 1JW
Brazennose Street, Manchester M60 8AS
50 Fairfax Street, Bristol BS1 3DE
258 Broad Street, Birmingham B1 2HE
80 Chichester Street, Belfast BT1 4JY
or through booksellers

SBN 11 710014 5