



GOVERNMENT OF HARYANA

31

# TECHNICAL NOTE No. II

## FOREST MAPS

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CHIEF CONSERVATOR OF FORESTS HARYANA  
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# Technical Note No. 11

## FOREST MAPS

### Section I—Survey of India Maps.

11.1 *Introduction*:—The Survey of India normally carries out geodetic and topographical surveys within the country limits and on the basis of these surveys, topographical as well as Geographical maps on various scales are maintained and published. It also carries out special surveys that the Government of India may authorise.

11.2. *Topographical Maps*:—Topographical maps are on a sufficiently large scale to enable the individual features shown on the map to be identified on the ground by their form or shape and position. These maps are on scale  $\frac{1}{4}$  inch = 1 mile or 1 : 250,000 and larger. The layout as well as numbering of all topographical maps, 1" sheets or 1 : 50,000 and  $\frac{1}{4}$ " sheets or 1 : 250,000 (No map corresponding to  $\frac{1}{8}$ " are likely to be printed) are based on 1 : 10,00,000 (1 : M) India and adjacent countries series maps. Each 1 : M map is divided into sixteen  $\frac{1}{4}$  Inch = 1 mile or 1 : 250,000 sheets, each  $\frac{1}{4}$  Inch or 1 : 250,000 sheet is further divided into sixteen 1 inch = 1 mile or 1 : 50,000 sheets. The original series 1 : 10,00,000 (1 : M) is now obsolete and has been replaced by International Map of the World series.

On the scale of  $\frac{1}{4}$  inch to 1 mile or 1 : 250,000 each sheet covers  $1^\circ$  of longitude by  $1^\circ$  of latitude and contour interval is 250 feet or 100 metres. These sheets are some-times referred to as degree sheets. On the scale of  $\frac{1}{2}$  inch to 1 mile each sheet covers  $30'$  of longitude by  $30'$  of latitude and contour interval is 100 feet. These half inch maps will not be reprinted when existing stocks are exhausted. On the scale of 1" to 1 mile or 1 : 50,000 each sheet covers  $15'$  of longitude by  $15'$  of latitude and contour interval is 50 feet or 20 metres.

### 11.3. *Index Number of Topographical Maps covering Haryana State* :—

The details of topographical maps covering Haryana State on various scales is as under :—

S. No.	Scale	Detail of maps
1.	$\frac{1}{4}$ " = 1 Mile or 1 : 250,000	44/K, O, P, 45/M. 53/B, C, D, F, G, H. 54/A, E.
2.	$\frac{1}{2}$ " = 1 Mile	44K/NW, NE, SE. 44 O/NW, SW, NE, SE. 44 P/NW, NE, SE.

45M/NW.  
 53B/NE, SE, SW,  
 53C/NW, NE, SE, SW  
 53 D/NW, NE, SE, SW.  
 53 F/NW, SE, SW.  
 53 G/NW, SW.  
 53 H/NW, SE, SW.  
 54 A/NW, NE  
 54 E/NW, NE.

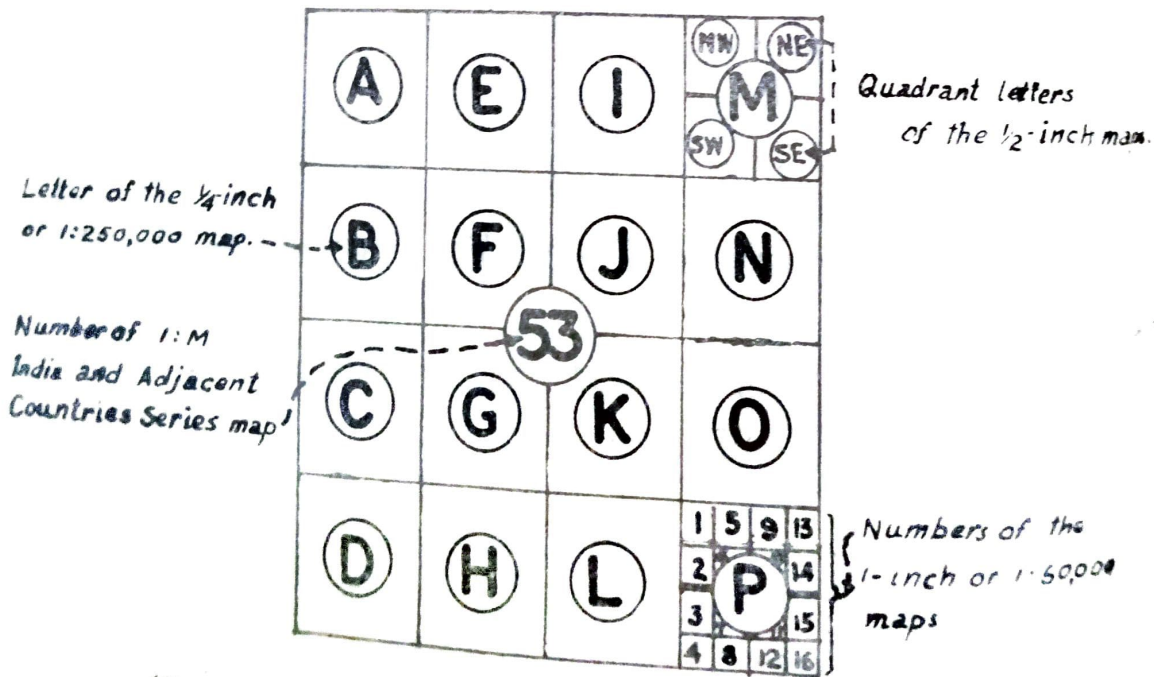
3.

1"  $\equiv$  1 Mile  
 or 1: 50,000.

44 K/5,6,9,10,11,13,14,15.  
 44 O/1 to 16  
 44P/5,9,10,11,13,14,15,16  
 45 M/13  
 53 B/4,8,11,12,13,14,15,16  
 53 C/1 to 16  
 53 D/1 to 16  
 53 F/1,2,3,4,7,8,11,12  
 53 G/1 to 5  
 53 H/1,2,3,4,7,8,11,12  
 54 A/1,9,13,14.  
 54 E/1,2,5,9

#### 11.4 Numbering of a Map.

The maps are numbered as shown in the diagram.



- (1)  $\frac{1}{4}$ " or 1: 250,000 map — 53 B  
 (2)  $\frac{1}{2}$ " map — 53 M/NE  
 (3) 1" or 1: 50,000 map — 53 P/14



**Geographical Maps :—**The geographical maps are on such a small scale that the representation of its individual features for identification on the ground is not possible. These maps depict the picture of the country as a whole. Geographical maps are on a scale smaller than  $\frac{1}{4}$  inch = 1 Mile or 1: 250,000.

**11.6 Other Maps :—**Keeping in view the needs of the Ministries/Departments of the Central/State Governments, Educational and Scientific institutions and semi-Government organisations, the Survey of India publishes maps for different purposes on various scales depending upon their specific purpose.

**11.7. Special Forest Maps :—**These maps are prepared for the management, silvicultural treatment and proper control of technical forest operations. The Survey of India maps form the basis of these maps. These have been dealt with elaborately in Section II.

**11.8. Mounting of Maps :—**Survey of India, unless otherwise requested, supplies maps unmounted and unfolded. If the maps are required to be mounted on cloth and/or folded and placed in a cover, the desired style should be stated while indenting the maps. The various styles of map mounting and folding etc. are as under :—

- (i) Flat mounted on cloth.
- (ii) Mounted on cloth and folded without dissections.
- (iii) Mounted on cloth and folded with dissections.
- (iv) Mounted on cloth without dissections and fitted on rollers as a wall map, varnished.
- (v) Mounted on cloth without dissections and fitted on rollers as a wall map, un varnished.
- (vi) Unmounted and folded as in (ii)

The folded maps are generally put in covers of the following standard types :—

- (a) Paper label cover
- (b) Thick paper cover
- (c) Limp cover (cloth covered with paper label)
- (d) Stiff cover (card board cover)
- (e) Stiff card board cover (cloth covered with paper label)



*11.9 How to obtain the Maps :—*Maps published by Survey of India are available for sale to various departments of Central and State Governments. The maps can be had from the Officer Incharge, Map Record and Issue Office, Survey of India, Post Box No. 28, Hathibarkala, Dehra Dun (U.P), against an indent on the requisite form as noted in the following paragraphs.

*11.10. Payment :—*Payment from Government departments for supply of maps etc. whose value exceeds Rs. 100 may be adjusted by book debit. When the book debit adjustment is not feasible or the value of supplies does not exceed Rs. 100 the payment may be made in cash.

The prices of maps and their mounting charges are liable to be revised from time to time.

*11.11. Restricted Maps :—*Generally the maps, pertaining to the areas falling on the International border, and showing topographical features, on scale 1 : 1000,000 and larger, published by Survey of India, are classified as "Restricted" i.e. available for official use only. These maps should receive the protection afforded in Government offices to such official documents, but where military considerations so require, a higher security classification may be adopted at the discretion of Ministry of Defence, Government of India.

Indent for such "Restricted" maps must be made on form 0.57 (a) obtainable from any of the Survey of India Offices. The issues of "Restricted" maps are made subject to the conditions mentioned in the said form and these are liable to be reviewed by the Ministry of Defence, Government of India.

The Chief Conservator of Forests is authorised to sanction the issue of "Restricted" maps to officers and offices under his control when required for execution of their official work. All the indentors in the Forest Department must, therefore, put in their demand for such maps on form 0.57 (a) to the Chief Conservator of Forests for his countersignatures and onward transmission to the quarters concerned. Each indenter should clearly indicate the purpose for which the maps are required.

*11.12. Annual Certificate of safe custody :—*The Survey of India Map issue offices are responsible for obtaining the annual certificate of safe custody and for recall and destruction of "Restricted" maps after use, for all issues authorised by the Central Government. In cases where the competent countersigning authority is an officer of the State Government or Head of State Government Department, the responsibility for obtaining the annual certificate and for recall and destruction of "Restricted" maps, has been entrusted to the Chief Secretary of State concerned. The form of Annual certificate of safe custody is as under :—

# ANNUAL CERTIFICATE OF SAFE CUSTODY OF RESTRICTED MAPS (TO BE SUBMITTED BY 31ST DECEMBER EVERY YEAR)

Map issue office	Invoice No. and date.	Detail of maps.	No. of copies	Remarks
1	2	3	4	5

Certified that the "Restricted" maps detailed above have been checked and are in safe custody. Proper precautions for their security are being ensured by me.

Place.....

(Signature of the indenting officer)

Date.....

**11.13 Un-restricted and other Maps :** Other topographical maps including un-restricted but which contain vital places, can be had from Survey of India, Dehra Dun by putting in demand in the specific indent



form 0.57(c). This form can also be had from Survey of India, Dehra Dun.

**11.14 Register of Maps :-** To keep the map record properly it is essential that a map register is maintained by an official authorised by the indenting officer. All maps when received must be entered in the said map register in red ink and all the temporary issue entries must be made in blue ink. As per terms of certificate of the indent form for supply of maps from Survey of India, a map when no longer required, is to be returned to the Survey of India, and as such no map may be transferred from one office to other office permanently without the approval of Chief Conservator of Forests. However, the maps can be borrowed from or loaned to other indenting officer in the department temporarily.

**11.15 Survey Operations :-** The Survey of India keeps on carrying out Survey Operations at different places in the country at different times during the year as part of their departmental surveys. To enable the Survey units to complete their work satisfactorily, every Forest Officer should extend the necessary help in locating on ground State/District/Tehsil/Forest boundaries etc. and other forest features including forest roads, paths and buildings and to verify the alignment of the boundary traces and names falling in their jurisdiction.

**11.16 Special Forest Survey :-** Procedure for special forest survey has been modified from time to time. At present following procedure is followed in respect of special forest survey to be executed by Survey of India: —

- (i) Except when the Survey of India are asked to make a special survey of a forest, all forest areas will be surveyed on the scale adopted for the topographical survey of the region in which they are situated. The resulting topographical sheets can be obtained by purchase on indent about a year after the completion of the survey from the Director, Map Publication, Survey of India, Hathibarkala, Dehra Dun.
- (ii) When the topographical maps, as prepared by the Survey of India, as part of their normal programme do not satisfy the requirements of Forest Department, a special forest survey can be carried out and a special forest map prepared for any forest area or any portion of it situated within the ordinary programme of a topographical survey party. The Forest Department will have to pay for the additional cost of this work.
- (iii) When the survey of a forest or of a forest boundary is considered urgent and the area to be surveyed does not fall in the programme of the topographical survey of the Survey of India the demand is to be submitted to the Government of India in the Administrative Ministry concerned and to the Survey of India, when arrangements will be made for their inclusion in the programme of project surveys as decided at the Survey Priorities Committee. The entire cost of such surveys will be met by the State Government concerned.

**11.17 Survey Programme :-** Normal forest areas are required to be surveyed on 4 inch=1 Mile scale (1 : 15000) so that interior forest



boundaries and other details required from forestry point of view can be depicted. The cost of this entire operation will have to be borne by the State Forest Department. Requisition for such work should be sent to Survey of India before March, so that it can be included in the annual Survey programme to be approved by Survey Priorities Committee. Survey of India carries out survey and mapping of the whole country on 1 Inch = 1 Mile (1 : 50 000) scale except high hills in the north. Such area can be included in the annual 'Survey' programme, for any particular survey, if required by the State Forest Department, for this survey also a requisition has to be sent by March so that it can be placed before the Survey Priorities Committee. As this work forms part of the normal survey work, no cost of survey will be required to be paid. Maps after completion of survey, can be obtained at the normal price of maps. In case the Forest Department requires any additional information to be collected during survey or to be depicted on the maps of this scale 1:50,000 only, cost incurred on the collection of this additional information or its depiction on maps will be charged to the State Forest Department.

11.18 *Maintenance of Forest Maps*:—Survey of India is maintaining a Forest Map Section at Dehra Dun, the cost of which is met out of the annual contribution made by some of the State Governments at varying rates on a yearly basis. The question of continued maintenance of the above section with particular reference to its utility to the State Governments, has however, recently come up for reconsideration of the Government of India. Prior to 1925 all the Provincial Governments were contributing towards its cost so as to make it self supporting. During the period from 1925 to 1939 some of the Provincial Governments had withdrawn their contributions with the result that nine States have since then been contributing towards its upkeep.

The work performed by the Forest Map Section in return for the contribution consists of :—

- (i) In the Records Section:—Storing in specially designed racks all original drawings of forest maps and some prints of the same on first publication. The initial cost of publication having been paid, all printed copies are issued free to forest officers as required by them.
- (ii) In the Folio Section :—The maintenance of Folio copies of all maps up-to-date. All corrections received from forest officers are accurately drawn in by skilled draftsmen so that reprinting of any map can be carried out promptly with all corrections incorporated up-to-date.
- (iii) In the Drawing Section :—The entry of folio corrections on the originals of maps when a re-issue is required, hand colouring of maps the preparation of special forest maps and working plan maps, which is done at concessional rates amounting to a reduction of about 14% on normal charges. The last mentioned category forms the bulk of the work of the Drawing Section.

Haryana Government has agreed to avail of the facilities offered by the Forest Map Office and make proportionate contribution towards its upkeep. Originally the annual contribution was at the rate of Rs. 272.70 per thousand square kilometres of the forest area surveyed on scale exceeding 1 inch to a mile. It was subject to revision if found necessary. The contribution does not cover the cost of survey of forest areas and printing of the maps of the same. It only covers the cost of :—

- (i) Maintenance of office copies of maps already printed, and
- (ii) Stocking, on behalf of the States, copies of printed maps which the State can call for as and when required without payment.

The forest maps of Haryana forest area, now are being maintained by Survey of India, Dehra Dun. The original rate of contribution was revised to Rs. 394.69 per thousand square kilometre from the year 1971-72 onwards. The present rate of contribution stands revised with effect from 1973-74 to Rs. 713.00 per thousand square kilometres.

### Section I—Special Forest Maps

*11.19 Introduction :—*To a degree varying with the intensity of forest management applicable to any particular part of the forest estate, methods of management, silvicultural treatment and control of technical forest operations are materially assisted by the maintenance of special forest maps. In this state under present circumstances, the special forest maps will ordinarily be confined to :—

- (i) Management Maps
- (ii) Stock Maps
- (iii) Control Maps

In some cases (i) and (iii) can be combined, (ii) is always a self contained map, recording the actual state of the growing stock on a given date. It is recognised that it is neither possible nor desirable to standardise orders regarding the preparation and maintenance of special forest maps for the Haryana State; but following general instructions will be followed by the Divisional Forest Officers and Working Plan Officers.

*11.20. Basis :—*The basis of all special forest maps will be the Survey of India maps whether on 1: 15,000, 1: 25,000 or 1: 50,000 scale. Special forest maps, topographical maps or Revenue maps will be reduced or enlarged, as the case may be, with such topographical details, as circumstances and these instructions require. In some case uncoloured special forest maps will be used.

The symbols used on these maps will strictly correspond to those adopted by Survey of India for their special maps.



# SYMBOLS FOR FOREST MAPS

BOUNDARY INTERNATIONAL	
STATE	
DISTRICT	
SUBDIVISION OR TEHSIL	
VILLAGE WITH NAME & TRIJUNCTION PILLAR	
FOREST CIRCLE	
" DIVISION	
" RANGE	
" RESERVED WITH PILLARS	
" PROTECTED " "	
" UNCLASSED " "	
" COMPARTMENT	
" SUB-COMPARTMENT	
AREAS CLOSED UNDER SECTION 38 OF I.F.A. 1927	
" " " SECTION 4 OF L.P.A 1900	
" " " SECTION 5 OF L.P.A 1900	
LIMITS OF CULTIVATION	
RAILWAY LINE WITH STATION	
ROAD : METALLED , UNMETALLED	
STREAM , CANAL	
CART TRACK , MULE OR BRIDLE PATH	
FOOT PATH/ INSPECTION PATH	
FIRE LINE	
FOREST REST HOUSE : EXISTING , PROPOSED	
" GUARD HUT : " "	
FORESTER QUARTER : " "	
FOREST SALE DEPOT	
TOWNS , VILLAGES	
TEMPLE , MOSQUE , CHURCH	
FORT	
HEIGHTS , TRIANGULATED; STATION; (APPROXIMATE)	
BENCH MARK : GEODETIC , CANAL	
BRIDGES : WITH PIERS; WITHOUT PIERS	
RANGE HEAD-QUARTER: EXISTING , PROPOSED	
TELEGRAPH LINE	
WELL , TANK	
SPRING , PASS	



11.21. *Management Maps* :—These are prepared by Working Plan Officers to illustrate working plans or working schemes. The desirability or otherwise of printing and publishing such maps will be decided by the Chief Conservator of Forests, while passing final orders on the draft.

The scale of such maps will vary with the amount of details shown thereon, but will ordinarily not be prepared on a scale larger than 1 : 50,000. Deviations will require orders from Chief Conservator of Forests.

In addition to main topographical features the Management maps will show important water-ways, roads, paths of forest importance, centres of forest importance and the limits of the forest area, Working Circle, Felling series, Periodic Blocks of shelter wood circles, annual coupes of clear felling or coppice circles, or areas to be worked in Selection Circle during plan period where the whole area is not to be covered; Compartments and sub-compartments; Roads and paths existing and proposed; Forest Buildings existing and proposed; Sites of permanent nurseries-sites of permanent sample and experimental plots, site of permanent sale depot etc.

It will seldom be necessary to show greater details than this, but the Chief Conservator may order more details at the time of passing the preliminary working plan report.

Each Working Circle will be coloured separately with a complete wash, areas under concentrated regeneration being outlined with an additional band of the appropriate colour. In all cases the lighter shades of the colours adopted should be used. In case of management maps of linear strip forests the different scales will be adopted for length and breadth.

Length 1 Cm. = 500 m or 1: 50,000

Breadth 1 Cm. = 10 m or 1: 1,000

11.22. *Stock Maps* :—The only stock maps which are likely to be sufficiently accurate and capable of interpretation in the circumstances prevailing in the forests of the Haryana State at present are those showing vegetation types, though in the case of the irrigated plantations the special circumstances will, when the necessity of such maps arises permit the stock mapping by age classes, density of stocking and even quality classes. Consequently, with the possible exception of the irrigated plantations, the only stock maps ordinarily prepared will be vegetation type stock maps, showing the distribution of the principal forest species, non-forest areas and blanks. Cases may occur when management is unusually intensive where density of stocking can be shown with reasonable accuracy, but for some time to come, the forests generally being still very un-evenaged, attempts to indicate age classes on stock maps are not likely to lead to any useful practical results. Where these general considerations definitely do not apply, the Chief Conservator of Forests will order such additional detail to be shown on stock maps as is considered desirable in the preliminary working plan report. In case of irrigated plantations, preparation of

stock maps by age classes, density of stocking and quality classes will be compulsory. While preparing stock maps each spp. will be indicated by specified colour wash.

Stock maps are prepared by working plan officers and submitted with the final draft of the working plan or working scheme. They will not, however, ordinarily be printed and a specific order of the Chief Conservator of Forests is required before this rule can be departed from.

Such maps will ordinarily be prepared on the scale 1: 15,000 (4"=1 Mile). Stock maps should never be on a scale smaller than 1: 15,000 as it is not possible to show vegetation types with sufficient accuracy on small scale maps. 1: 15,000, uncoloured printed Forest Survey maps will be used for this purpose. 5 sets will be prepared by the working plan unit, one for permanent record in the unit office, one each for the use in Direction office, Circle office, Divisional office and Range office. Where compartment history files are maintained, a tracing of the stock map for the compartment concerned will be placed in each file.

Owing to the great differences of zonal vegetation types which are found in Haryana it is not practicable or desirable to lay down specific instructions as to the intensity of stock mapping and the colouring to be used on stock maps for different areas. Each working plan area will be dealt with on its merits by the working plan unit and detailed instructions will be embodied in preliminary working plan reports.

Subject to modification in particular areas the following vegetation types will ordinarily be distinguished in stock maps :—

#### Hills

(i) Mixed deciduous	Blue
(ii) Chil	Red
(iii) Bamboo	Black
(iv) Sal	Violet
(v) Shisham	Green
(vi) Khair	Brown
(vii) Eucalyptus	Orange
(viii) Others	Only Name of spp. in green.

#### Plains

- (i) Mixed deciduous

Blue



(ii) Scrub	Brown
(iii) Shisham	Green
(iv) Eucalyptus	Orange
(v) Kikar	Red
(vi) Others	Only Name of spp. in green.

**Desert**

(i) Desert Thorn	Brown
(ii) Shisham	Green
(iii) Eucalyptus	Orange
(iv) Kikar	Red
(v) Others	Only Name of spp. in green.

**Common to all localities**

(i) Blank with or without grass and unfit for afforestation	Blank
(ii) Blank fit for afforestation	Blank with green dots.
(iii) Cultivation	Yellow

In all cases of mixtures, vegetation types will be shown by coloured hatching *i.e.* the area should be given a colour wash of predominant spp. and hatching on it should be given of a colour of a spp. which is less predominant. In case density of less dominant spp. is also required to be shown the hatching can be varied as under :—

Density below 25%



Density 26% to 49%



In the case of irrigated plantations which are very intensively managed and which are easily divisible into blocks of age classes and blocks of varying density of stocking, it will generally be practicable and even desirable to adopt more elaborate methods of stock-mapping than elsewhere. In this case, it is possible to indicate on stock maps the distribution of age classes and variations in density in addition to vegetation types. This will ordinarily be done by the use of different



shades of type colours to indicate age classes and by varying the amount of colouring to indicate variation in crop density from outline colouring for density below 0.25, through hatching for densities between 0.26 and 0.50 and cross hatching for densities between 0.51 and 0.75 to a full colour wash for densities above 0.75.

To a lesser extent intensive stock mapping such as that indicated for irrigated plantations may be applicable to coppice working circles and perhaps to periodic block working circle as the conversion of uneven-aged forest blocks progresses, but such work will only be undertaken at present in special cases with the approval of the Chief Conservator of Forests.

**11.23 Control Maps**—Control maps are maintained for the purpose of illustrating the progress of forest operations or the occurrence of events of importance in forest management. The use of such maps is deserving encouragement, though it is not desirable to prescribe their general use owing to variable conditions of management etc., that prevail in Haryana State. The only control maps prescribed at present for general use are fire tracings.

The quinquennial fire-tracings should be filed at the end of compartment history files (some times termed as forest journals) when such are maintained, otherwise they will be filed separately in the Divisional offices.

Control maps can often be conveniently combined with management maps and this should ordinarily be done, but in areas under comparatively intensive management it will generally be advisable to (i) maintain separate control maps and, (ii) to have control maps for each compartment in compartment history files, prepared from tracings of the Forest Survey Maps.

The purpose of the control map is to show the progress of various forest operations, e.g. operations which can be illustrated by such maps are artificial and natural regeneration, felling of all kinds, cutting of fire lines and fire traces, the depredations of fungoid and insect pests, progress in communications and buildings and so forth.

The various operations are best recorded by different colour washes and combinations of colour washes and hatches generally supplemented by entry of the year of operation or completion of the operation on the maps concerned. The unit of control is the compartment (or sub-compartment, if such exist). The mode of record must vary in different cases and no definite instructions are possible. It will ordinarily be prescribed in working plans but where this is not the case and the Divisional Forest Officer desires to start a control map, the advice and orders of the Conservator concerned should be obtained before hand.

**11.24. Upkeep of Special Forest Maps** : —The attention of all officers concerned is drawn to the importance of maintaining all prescribed special Forest Maps in good order and all control maps up to date. If control maps are not kept up to date they do not only lose their value for showing progress but also become actually misleading. In future all officers will record in their official letters forwarding annual control



forms, that all prescribed special maps are in good condition and that control maps have been posted upto date.

11.25. *Supply of Special Forest Maps* :—Normally the Forest Department does not sell/supply special forest maps to other departments. However survey sheets which can be spared easily from the stock of the office of the Chief Conservator of Forests, Haryana, are sold to Government offices other than the Forest Department of this State at a price of fixed by Chief Conservator of Forests from time to time with due regard to current price of pages and printing charges. At present the price has been fixed at Rs. 10/- and Rs. 15/- per uncoloured and coloured survey sheet on 1:15000 scale respectively. Survey sheets which fall under restricted category will not however be sold.

11.26. *Printing of Maps* :—

(a) Working Scheme maps :—Copies of Working Scheme maps, which are not printed at Dehra Dun, are printed in the office of the Chief Conservator of Forest, Haryana by Ammonia process on Azo Paper. The procedure is that negatives in black are prepared by Draftsmen and submitted to the office of Chief Conservator of Forests wrapped on rollers. Great care is to be taken to see that no colour except black appears on the negatives and the negatives of which copies are to be printed are not folded. It will be decided by the Chief Conservator of Forests at the time of passing orders on the preliminary reports what number of copies are to be printed, if the map is not to be printed at Dehradun.

(b) Working Plan Maps :—These are got printed at Dehra Dun by the following methods :—

- (i) Vandyke
- (ii) Helozincograph.
- (iii) Photo-zicograph.
- (iv) Lithozincograph.

The procedure is that working plan maps received in Chief Conservator of Forests office from Working Plan Officer through their respective Conservators of Forests, are checked with the script of the draft plan and their negatives are prepared in the office of the Chief Conservator of Forests for getting the map printed at Dehra Dun. If any map is necessarily required to be printed in colours, the negatives showing all details in black along with a colour guide are sent to the Map Office, Dehra Dun. With this procedure the cost of printing maps in colours is likely to be less. But in case the Map office, Dehra Dun is asked to prepare the negative the cost might go up 10 times than when negative is prepared in the office of Chief Conservator of Forests. While sending a requisition of printing any map, Chief Conservator of Forests will decide the number of copies to be printed.

11.27. *Portfolio set of maps* :—One complete set of maps from the latest Survey/Forest Survey/Forest Working Plan will be maintained



in Divisional office and Direction office. All changes on account of boundaries, Forest Working, Construction of new forests roads and buildings during the previous year will be shown on this set in the Divisional office and signed by Divisional Forest Officer and then sent to Direction office. The Head Office portfolio set of maps will be corrected according to the Divisional set and the Divisional set will be returned within a fortnight indicating that details have been transferred on the direction office set. These portfolio sets will be maintained only in the office. For field use other sets will be kept upto date as required.

### Section III Procurement of aerial photography

11.28. *General* :—Before ordering fresh aerial photography, information about existing photography should be obtained from the Surveyor General of India. Should this photography not serve the purpose, only then steps should be taken to order fresh photography.

11.29. *Pre-requisites* :—Due to security reasons aerial photographs of all parts of India are classified documents at present. It is, therefore, essential to have security clearance from the Ministry of Defence before aerial photography can be supplied to the Indentor. The procedure for obtaining clearance is as follows :—

11.30. *Clearance for prints or mosaics of Existing Photography* :—

(i) Clearance for prints or mosaics of existing photography from the Ministry of Defence is obtained by the Surveyor General of India on behalf of indenting departments/bodies. The indentor may also obtain the clearance directly from the Ministry of defence through proper channels if he so desires. In such a case a letter should be addressed to the Secretary, Ministry of Defence, Government of India giving the informations about his requirement as noted in subsequent paragraph. A copy of this should be endorsed to the Surveyor General of India.

(ii) The Ministry of Defence communicates its clearance to Survey of India and the indentor. It takes about two months for this clearance to be issued from the Ministry of defence.

(iii) The Survey of India writes to the indentor to submit a firm requirement. This firm indent is required to be submitted on Survey of India indent form No. 0.57 (a).

11.31 *Clearance for fresh photography* :—The indentor should communicate the requirement to the Surveyor General of India as under:—

- (i) The limit of area for aerial photography on an index map on scale 1 : 250,000.
- (ii) The purpose for which the aerial photographs are required.
- (iii) The scale of Photography.

It is pointed out that this prerequisite of getting clearance from Ministry of Defence does not create any bottle-necks or unnecessary delays, provided timely and apporiate action as out-lined above is taken.



11.32 *Funds*:—A certificate stating that funds have been provided in the budget estimates of the indenting Government department/body to cover the cost of photography, should be furnished along with the indent for photography.

11.33 *Cordinating Authority*:—The Surveyor General of India is the co-ordinating authority for the execution of all aerial photography in India. He advises the indenter and suggests the best possible course to meet the requirement either from existing photography or by fresh photography.

11.34 *Aid Memoire for ordering Aerial Photography*:—

To avoid delay and ambiguity it is necessary that while placing demands for aerial photography the following details are given.

- (i) Certificate of availability of funds.
- (ii) Necessary clearance from Ministry of Defence Government of India (only in the case of ordering prints from existing photography).
- (iit) Purpose.
- (iv) Extent and location of area to be photographed, marked on a published map on 1 inch to 4 miles or 1 : 250,000 scale and 5 traces thereof.
- (v) Scale of photography.
- (vi) Camera and focal length of lens preferred.
- (vii) Season and time of day for photography preferred.
- (viii) Requirements:—Number of sets of contact prints and their types—glossy or mat, number of sets of enlargements, mosaics, photo indexes, camera calibration report etc.
- (ix) Any other special requirement.