26th April 2002 01/

Implementation of IFOA Silviculture in the Southern Forest Agreement Region

Operational Guidelines for Harvesting

The IFOA specifies limits to silviculture in harvesting operations. State Forests must implement the IFOA in a consistent manner. This circular provides an interpretation of the IFOA requirements that:

- agrees with the letter of the IFOA
- is based on State Forests' understanding of the intent of the IFOA
- follows the principles of ecologically sustainable forest management
- facilitates wood supply in accordance with commitments
- provides a basis for appropriate silvicultural treatment and monitoring into the future

Determining the Silviculture to be Applied

Harvest planning: Consider stand composition, stand structure, forest type and the objectives of management. Using the silvicultural decision tree in the Native Forest Silviculture Manual (Chapter 8) as a guide, determine the appropriate silviculture for the different types of stands identified in the area. In South Coast Subregion, identify any areas larger than 50ha classified by GIS as 'agsheavy'

Estimate the areas of the AGS and STS tracts, either by mapping discrete areas or by estimating the proportion of the total net harvesting area in different stand types. Pre-harvest mapping is preferred where the mosaic of stands within the planning unit is relatively simple. Where pre-harvest mapping is not practical, estimate proportions.

All of the net harvest area of any harvest-planning unit **must** be allocated to either the STS or AGS tract. The final application of silviculture will be determined by SFOs during treemarking.

- The AGS tract includes all parts of a planning unit that may be destined for regeneration harvesting using AGS at any stage in the future.

- The STS tract includes all parts of a planning unit that may be destined for regeneration harvesting using STS at any stage in the future.

- Each tract may contain precommercial and noncommercial stands.

Regeneration ***harvesting in the AGS tract***

1. Planning:

   - Estimate the total area of AGS tract
   - Specify Light, Medium or (in South Coast Subregion) Heavy AGS[1] according to overall stand structure in the tract and yield scheduling arrangements

     [1]Check that no more than 1/3 of commercial trees in the tract are <60cm dbh or <30m high. (This has been used to operationalise the basal area requirement in the IFOA of having more than 75% of the sum of the basal area of the trees in the tract are mature and are more than 60cm dbh and 30m high.)

   - Calculate and specify the maximum number of groups:

     no. = area of AGS tract (ha) X 0.225 X 1/ specified group area

     This specification ensures that IFOA limitations are not exceeded.

   - Specify the maximum allowable group diameter and minimum return period according to the following table

AGS Intensity	*Light*	*Medium*	*Heavy*
South Coast	40m 5yrs	70m 7yrs	100m 20yrs
Tumut	40m 20yrs	80m 20yrs	na

2. Treemarking

Carefully consider the location of groups to be created in subsequent harvesting operations and:

- mark uniform mature stands in a cut one, leave one pattern
- in mixed forests mark mature groups or groups that will mature within the return period
- mark up to the maximum allowable number or until all mature groups are marked

  This will assist in fulfilling wood supply commitments.
- provide a visual break of trees and understorey between the disturbed areas of each group if groups are next to each other
- visual breaks, habitat trees, non commercial trees and other uncut areas make up the required AGS non-harvest 10% of NHA
- ensure that canopy openings have a maximum diameter, from crown edge to crown edge, as specified above. If groups are not circular, the dimensions may be varied. Approximate rectangular dimensions of given group size are .13ha 25X50, .39ha 45X90, .5ha 50X100, .79ha 60X120

- thin as appropriate in the remainder of the AGS tract. In predominantly single aged stands, thin any scattered, commercially mature trees amongst a younger age class destined for future AGS. In both cases other limits specified in the IFOA are not to be exceeded.
- map the location of the centre of each group, use a GPS if available (and record the approximate dimensions if it differs substantially from a circle).

3. Following harvesting:

- evaluate whether site preparation or planting is necessary to ensure adequate tree regeneration
- plan, implement and monitor regeneration treatments
- record areas treated by AGS (no. of groups x group area in ha) and thinning

Regeneration harvesting in the STS tract

1. Planning

Estimate the proportions of the STS tract where there will be:

- little or no BA removed – precommercial and non commercial stands
- low to moderate levels of BA removed – low quality stands and stands containing young trees with growth potential (Return Stands)
- high levels of BA removed – commercially mature, good quality, dry stands

If there are substantial areas where BA removal is likely to be high, use angle counts to estimate percentage removal and residual BA. Multiply estimated proportions by percentages to estimate overall BA removal. In most cases this will be less than the allowable maximum (35% Tumut, 45% South Coast). If expected BA removal across the tract is higher than the specified maximum or residual BA is likely to be less than $10m^2ha^{-1}$, modify the prescribed silviculture for the relevant stand type (see silvicultural decision tree, Chapter 8 Silviculture Manual).

The harvesting plan must indicate the expected range of stand BA removal and specifically confirm to SFOs if a planning unit includes substantial areas where **stand** BA removal is expected to exceed the specified limit for the tract. Where practical, these areas should be shown on the harvest plan. SFOs will be able to harvest the commercially mature trees from such areas knowing where sufficient BA is retained in other parts of the tract (unlogged parts of the NHA, areas of light STS and thinning areas) to ensure compliance with IFOA specifications.

2. Tree marking:

- on a tree by tree basis, focus on harvesting trees that are commercially mature whilst retaining growers (in return stands only) and habitat trees
- aim to minimise damage to retained trees

- thin regrowth stands in the tract as appropriate
- should result in an irregular pattern of tree removal
- retain trees[1] to mitigate the visual impact of harvesting if necessary (for example, where STS would otherwise create very large and conspicuous canopy openings)

[1] Normally, visual impact will be mitigated by residual trees and retained trees

3. During harvesting:

- monitor tree retention to ensure that all commercially mature trees not required by TSL prescriptions for habitat are removed
- map non harvest areas and areas of heavy STS greater than 1ha. Compare these with harvest plan specifications to ensure that IFOA specifications are not exceeded.

3. Following harvesting:

    - evaluate whether site preparation or planting is necessary to ensure adequate tree regeneration
    - plan, implement and monitor regeneration treatments
    - record harvesting pattern and map all areas with growers retained for harvest within the IFOA period