



Forest Practices Circular

Date: 27/09/2018

Number: 2018/01

Issued by:	FMS Implementation Committee
Title:	Implementation of IFOA Silviculture in the Southern Forest Agreement Region

Management Principles:

This will be the official reference on determining the application of Silviculture in the Southern Forest Agreement Region. This circular supersedes FPC 2012/03, however the implementation procedures remain the same with additional reference to retaining seed trees.

Background:

The IFOAs specify limits to silviculture in harvesting operations. Forestry Corporation of NSW must implement IFOAs in a consistent manner. This circular provides an interpretation of the IFOA requirements that:

- agrees with the letter of the IFOAs
- is based on Forests NSW understanding of the intent of the IFOAs
- 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

Implementation:

These procedures implemented on 1 February 2003 will continue to be applied.

Determining the Silviculture to be Applied

Harvest planning: Consider stand composition, stand structure, forest type, objectives of management and timber markets. 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 'AGS heavy'.

Estimate the areas of the AGS and STS tracts, either by mapping discrete areas or by estimating the proportion of the total net harvest 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 tree marking.

- 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 pre-commercial and non-commercial stands.

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Methodology:

Regeneration harvesting in the AGS tract

1. Planning:

- Estimate the total area of AGS tract.
- Specify Light, Medium or (in South Coast Subregion) Heavy AGS¹ according to overall stand structure in the tract and site quality-yield scheduling arrangements.
¹Check that no more than 1/3 of commercial trees to be removed are <60cm dbh or <30m high. (This operationalises the basal area requirement of the IFOA that more than 75% of the sum of the basal area of the trees to be removed 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 area²
This specification ensures that IFOA limitations are not exceeded.
Maximum group areas (ha) are 0.13 Light AGS, 0.39 and 0.5 for Medium AGS in South Coast and Tumut sub regions respectively, 0.79 for Heavy AGS in South Coast sub region.
- Specify the maximum allowable group diameter and minimum return period according to the following table.

	<i>AGS Intensity</i>		
<i>Subregion</i>	<i>Light</i>	<i>Medium</i>	<i>Heavy</i>
South Coast	40m 5yrs	70m 7yrs	100m 7yrs
Tumut	40m 20yrs	80m 20yrs	na

2. Tree marking

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

- in the initial cut, mark uniform mature stands in a cut and leave pattern
in mixed age forests mark mature groups or groups that would 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
- 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)thin as appropriate in the remainder of the AGS tract, removing no more than about 60% of stand basal area (thinning can include harvest of scattered, commercially mature trees amongst a younger age class destined for future AGS)

3. Following harvesting:

- evaluate whether site preparation or planting is necessary to ensure adequate tree regeneration
- plan, implement and monitor regeneration treatments

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- 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 – pre-commercial 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
- thinning rather than regeneration harvesting

If there are substantial areas where STS 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 STS BA removal. In most cases this will be less than the allowable maximum (35% Tumut, 45% South Coast). If expected STS BA removal across the **tract** is higher than the specified maximum, or the residual BA of the tract is likely to be less than 10m²ha⁻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. If this is the case, the harvesting plan must specify any special provisions for the retention of seed trees that may be required. 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 selection to achieve the following:

- to occur on a tree by tree basis, focusing on harvesting trees that are commercially mature whilst retaining growers (in return stands only), seed trees and habitat trees
- aim to minimise damage to retained trees
- should result in an irregular pattern of tree removal
- mitigate visual impact by residual trees and retained trees
- thin regrowth stands in the tract as appropriate

3. During harvesting:

- monitor tree retention to ensure that seed trees are retained as required and all other commercially mature trees are removed, except those retained to comply with IFOA conditions.
- map non harvest areas, areas of heavy STS, and thinned areas. Compare these with harvest plan specifications to ensure that IFOA specifications are not exceeded.

4. 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

All enquiries associated with this Circular should be directed to the Silviculturist.

Related Documents:

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