KARRI GERMINATION AND SURVIVAL SAMPLING PROCEDURE

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1. Preliminary

Early assessment of the results of Karri regeneration burning is essential for -

(a) Determining whether adequate germination of seedlings has occurred.

(b) Determining whether survivals up to the 1 year seedling stage are sufficient fully to restock the subject area.

(c) Delineation of problem areas which might require supplementary enrichment.

For these reasons, the following procedure will be adopted to provide full assessment information in standardised form.

2. Time of Sampling

(a) For Germination

Before June 15th following the regeneration burn.

(b) For Survival

Before February 15th next following the regeneration burn.

3. Density Classifications

Results of field counts will be summarised in the following classifications -

	Number of seedlings per cent acre		Equivalent spacing 1 year old seedlings
	Germinated	1 year old	
Satisfactory	Over 40	10 - 40	Under 5 ft.
Acceptable	20 - 40	5 - 10	7 - 9 ft.
Need Treatment	Under 20	Under 5	Over 10 ft.

(Note: 10 mil-acre samples equal 1 cent-acre)

4. Seedling Classifications

The type of seedling encountered will be indicated by the following initials:-

S - Sapling over 5 ft.
R - Established seedling under 5 ft.
G - Freshly germinated seedling.

5. Seedbed Classification

The effects of seedbed on the results of regeneration and survival are well known&the type of seedbed encountered will be described by the following symbols to assist in interpreting results of field counts.

A. - Ashbed from burnt debris.
T.B. - Topsoil well burnt.
T.S. - Topsoil not burnt but scarrified.
N.S. - No seedbed, unburnt scrub, litter, or only sub-soil.

6. Field Book

Field book entries, under the columns shown below, have been found satisfactory and will be used for all regeneration and survival assessments.

(Sample Field Book Page Karri Regeneration Assessment)

Bearing	Chains	Offset		Scorch	Seed Bed	Numbers Counted								Dominant Seedling	
						Main Species				Other Species					
						1-mil/ac		4-mil/ac		1-mil/ac		4-mil/ac			
		+	-	Height		G	R	G	R	G	R	G	R	SP	HT
183	5	-	-	30'	A.	K 15	-	-	-	M 6	-	-	-	-	-
		(Selected for Survival Count)													
"	10	-	33'	15	T.B.	K 4	-	K 20	-	-	-	MM10	-	-	-
"	15	-	-	70	A.	K 30	-	-	-	-	-	-	-	-	-
"	20	-	33'	10	N.S.	-	K 2	-	K 8	-	M 6	-	M 12	M	5'

7. Assessment Procedure

A. Germination Assessment - assessment of germination will form the major part of the work, but whilst it is in progress, sampling points will be selected and marked for survival counts at a later date (see section B).

(i) Location of Strip Lines - Strip lines will be run across the area using compass and chain. The lines should cross the major topography and should be extended into marginal type fringing the main Karri areas. Initial coverage at 20 ch. centres should be adequate, but a zig-zag pattern may be used to minimise dead walking time.

(ii) Demarcation of Strip Lines -

Start points - to be waddied and tied to the nearest ref. tree, landing or ground mark, by chain and compass.

Intersections - intersections of lines with tracks to be waddied.

5 ch. points - each 5 ch. mark along the line to be demarcated with a waddy.

(iii) Location of sample points - Samples will be taken at 5 ch. intervals in openings encountered on the strip lines, or at the centre of each smaller opening along the line.

Minor offsets ($\frac{1}{2}$ ch.) may be necessary to ensure that counts are taken in openings and that samples are located on the most favourable seed bed in the vicinity.

(iv) Circular sample plots - Circular sample plots will be located at each sampling point using a simple bush compass, consisting of a length of flexible wire pegged at one end to describe the circle.

The size of the plot will be:

(a) 1-mil acre (length of wire 44.7")

(b) 4-mil acres (length of wire 89.3")

1 mil acre plots will be used unless less than 10 seedlings are counted on the plot, in which case the size of plot will be increased to 4-mil acres.

4 mil acre plots will be used at points selected for subsequent survival counts.

(v) Recording Field Notes - The field book set out in para. 6 will be used and the following additional information must be clearly indicated in the front of the book.

(a) Tie sketches showing start of line.

(b) Tie sketches showing the position of points selected for subsequent survival counts.

(vi) Plotting Field Notes - The lines will be plotted on 20 ch. A.P.I. plans, and the frequency of seedlings at sample points along the line can be shown by a simple legend.

This will enable the D.F.O. to:

(a) Detect problem areas.

(b) Decide if further assessment of problem area is required.

(c) Prepare estimates for enrichment of problem areas.

These 20 ch. plans can then be used as the first entry in the Compartment register.

B. Survival Assessments

During the germination assessment in June after the burn, plots will be selected and demarcated for counting survivals in the following February.

(i) Selection of survival plots - Two 4-mil ac. plots will be selected to represent ash-bed and the prevalent alternative seed beds, in the main Karri type and the fringe type on each landing.

(ii) Location of survival plots - Where possible survival plots will be located close to existing tracks. The centre of the plot will be pegged with a stout waddy and the markers will be placed at 1 ch. centres along the line to enable rapid relocation of the survival plot.

(iii) Survival Counts - The same procedure as set out for germination counts will be adopted, but seedlings present at the time of the survey will be pegged with a paint topped wire marked.