

Fireweed (Bossiaea) Sampling at

Holyoake During April 1976

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Aims of the Sampling:

This assessment was commenced to continue with present studies on fireweeds in the jarrah forest - a topic receiving widespread interest at the moment. Interest in methods of generating a fireweed understorey is also being shown.

Information arising from this assessment would indicate quantitative differences in the structure and vegetation associations between legume (fireweed) and non-legume stands. Value could also be gained with the 'legumes to control dieback' field of study currently under investigation; since the results could help in the creation of an understorey microclimate or microbial regime capable of buffering, or possibly antagonistic to, *P. cinnamomi* populations.

Location:

Because of its use for dieback trials, its closeness to Dwellingup and apparent ready availability of *Bossiaea aquifolium*, the Holyoake area was chosen for sampling.

Plot Sampling Method:

Plots were set up 10m x 10m square in a subjectively chosen *Bossiaea* stand. This was the 'A' plot. To locate the pair plot (B): the centre of plot A was found and the centre of B is 40m away at 55°. Plot B sides are parallel to plot A sides. The direction from A to B was found from random number tables, the distance selected at 40m because it was felt this should ensure B is away from the *Bossiaea* surrounding A. The whole sampling concept lies around comparing the legume stand with the 'normal' bush thus if B contained *Bossiaea* then it would still be used. It was thought unnecessary to compare dense legume stands with stands chosen only because of their lack of legumes as it seemed trivial. Each plot was sampled by the Levy-point method using 7-one foot height classes (and an 8 foot + class) and 50 'drops' of the rod. Banksia DBHOB and height was also recorded.

Results:

Only 3 pairs of plots were assessed originally. This was partly due to having other pressing work commitments. The data was analysed - all methods and calculations can be checked with the fire ecology sheets (headed EXAMPLE) which accompany the plot sheets and results of this assessment.

Trends Apparent from Results:

Two-thirds of all contacts in legume stands were *Bossiaea* while two-thirds from the 'normal bush' stands were tree species. Plot pairs 1 and 2 had a much greater cover density in *Bossiaea* stands (slightly other way around in 3). Area of ground actually having ground cover varied little (no real trend). Many more contacts were made in *Bossiaea* plots. Many more *Cas. fraseriana* were found in non-*Bossiaea* plots while a similar trend (but not so clear-cut) existed for *X. preissii*.

Few *B.grandis* were observed - no trends were evident.

Recommendations:

Clearly, there is a need to continue this sampling - another 5, or so, pairs of plots would give statistically better information. Plot sheets are made up for this. Few *B.grandis* are likely to be encountered so there seems no need to show continued interest in their separate recording. Sufficient *B.aquifolium* stands probably exist to provide 5 more pairs of plots. However, plot size may suffer if any more sampling is required. Try to use *Bossiaea* stands of a uniform age (roughly similar height) so that errors caused by being at different stages of succession are avoided.

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