

Preface

On 28 September 1988 the Minister for the Environment approved a proposal by W.A. Chip and Pulp Pty Ltd (WACAP) for a renewal of their licence for woodchipping, subject to a number of conditions.

Condition No. 10 states:

The proponent shall, in consultation with the Department of Conservation and Land Management, contribute to or participate in monitoring and management with respect to the environmental impact of this proposal to the satisfaction of the Minister of Environment. The detailed objectives and priorities for research into this monitoring and management shall be determined by the Steering Committee for Research on Land Use and Water Supply, following wide consultation, including the public.

As precursor to agreeing on research requirements with WACAP and the Steering Committee, CALM (the Department of Conservation and Land Management) has prepared a review of existing knowledge written by experts in relevant fields.

The Environmental Protection Authority (EPA) Report and Recommendations¹ on the woodchip industry listed on p. 32 a number of topics that the EPA believed should be addressed. Consequently the following issues have been reviewed:

- Flora of the karri forest and other adjacent vegetation types
- Long term composition of the flora and fauna of the forest in relation to forest management
- The impact of timber harvesting on nutrition of the karri and jarrah forests
- The impact of forest management on the hydrology of the southern forests
- Ecological implications of insect pests in jarrah and karri forests
- Ecological implications of plant diseases in southern forests
- Aquatic fauna of the karri forest

A review of fire is not included here because such a review has been recently published²

¹ EPA (1988). The Western Australian Woodchip Industry. Environmental Protection Authority Bulletin No. 329.

² Christensen, P. and Abbott, I. (1989). Impact of fire in the eucalypt forest ecosystem of southern Western Australia: a critical review. *Australian Forestry* 52, 103-121.

Authors of the reviews were asked to structure their papers around three headings:

- Past research and current knowledge
- Current research
- High priority additional research requirements

As is customary with all CALM scientific publications, these reviews were each refereed by two scientists external to CALM.

Because the authors of the reviews have recommended many additional research requirements, these have been ranked by a group of CALM senior research scientists. Those recommendations considered of highest priority are:

Flora

Production of a Flora of Warren District

Taxonomic studies on poorly known plant groups

Enhanced survey effort, especially surveys of poorly known areas

Effects of timber harvesting and regeneration on flora and fauna

Study effects on selected vertebrates and invertebrates

Study hollow formation in karri, marri and jarrah

Study effects of thinning on fauna

Nutrition

Quantify fertilizer response during early growth of jarrah and karri

Extend later age fertilizer experiments in jarrah and karri to a greater range of sites

Research role of prescribed burning in nitrogen economy of karri forest

Hydrology

None

Insect Pests

Study impact of repeated chronic defoliation on nutrient levels in and physiological condition of jarrah

Clarify reasons for the initiation and continuation of insect outbreaks

Study insect pests of *Eucalyptus globulus*

Plant diseases

Develop a database of susceptibility of plants to *Phytophthora* species and determine long term effects of infection on community diversity

In addition, the Group believed that research on wood rots (not covered in the review) was a high priority

Aquatic fauna

Develop an inventory of aquatic invertebrates

Study impact of logging and regeneration on aquatic communities

I am confident that these reviews provide the essential technical background information necessary to allow agreement on the allocation of research resources.

Andrew A. Burbidge

Director of Research

January 1992