

**Advice regarding changes to Environmental
Conditions in relation to Recommendations of
the Ministerial Advisory Group on Karri and
Tingle Management.**

**(The Environmental Conditions apply to
Amendments to the 1987 Forest Management
Plans and Timber Strategy and proposals to
meet environmental conditions of the Regional
Plans and the WACAP ERMP)**

Department of Conservation and Land Management

**Section 46 Report and Recommendations
of the Environmental Protection Authority**

**Environmental Protection Authority
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Contents

Page

Summary and recommendations	i
1. Introduction and background.....	1
2. The proposal (Ministerial Advisory Group Report and Recommendations).....	1
3. Advice on environmental conditions.....	3
4. Other advice.....	3
5. Conclusion.....	5
6. Recommendations	5

Tables

1. Summary of proposed changes recommended by the Ministerial Advisory Group.....	2
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Appendices

1. List of submitters	
2. References	
3. Statement of Environmental Conditions of Approval (24 December 1992)	
4. Proponent's Consolidated Commitments	

Summary and recommendations

The Ministerial Advisory Group on Karri and Tingle Management has recommended a revised Karri silvicultural prescription and logging plans to the Minister for the Environment. The Minister has sought advice from the EPA on these proposed changes under Section 46 of the *Environmental Protection Act 1986*, particularly as they may affect the approved Forest Management Plan 1994-2003.

This report provides the EPA's advice and recommendations to the Minister for the Environment on the proposed changes.

The EPA has also provided advice on a set of commitments that should apply to the existing approval for the implementation of the Forest Management Plan 1994-2003.

Conclusion

The EPA considers that implementation of the recommendations of the Ministerial Advisory Group as identified in this report do not require any change to existing Environmental Conditions in Statement 295 (Appendix 3).

Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that this report is pursuant to Section 46(1) of the *Environmental Protection Act 1986* and thus is limited to consideration of proposed changes to the original conditions.
2. The Minister notes that the proposed change is to implement a revised approach to Karri and Tingle forest management, including revised Karri silvicultural specifications.
3. The EPA recommends that the Minister adopts the advice set out in Section 3, that implementation of the recommendations of the Ministerial Advisory Group as identified in this report does not require any change to existing Environmental Conditions in Statement 295 (Appendix 3).
4. The Minister notes that the EPA has recommended that the agreed commitments (Appendix 4) be attached to the Statement of Conditions issued in 1992.
5. The Minister notes that the EPA has also given advice in relation to:
 - logging of associated timber types in sensitive areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest;
 - logging in the balance of Blocks containing sensitive areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest;
 - the status of areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest beyond 2003; and
 - the Karri sawlog yield beyond 2003.

1. Introduction and background

The Minister for the Environment has requested the Environmental Protection Authority (EPA) to consider and provide advice under Section 46(1) of the Environmental Protection Act 1986 on proposals to change forest operations and management within the Karri and Tingle forests in the South-west of Western Australia.

In July 1999, the State Government announced an accelerated programme to restructure the timber industry, in line with a commitment to ecologically sustainable forest management practices. Part of this process included the appointment of a Ministerial Advisory Group to consider a range of aspects related to forest management and practices including economic use, environmental considerations and community values.

This Ministerial Advisory Group on Karri and Tingle Management was chaired by Professor Ian Ferguson and its report was released by the Minister for the Environment on 15 December 1999 (Ferguson *et al.* 1999)

Prior to implementing the recommendations of the Advisory Group, the Minister for the Environment requested the EPA to advise on those aspects which could affect existing Environmental Conditions.

Public comment was invited on the Ministerial Advisory Group Report by the Minister for the Environment in a press release on 15 December 1999 and by the EPA through advertising on 22 January 2000.

This report sets out the EPA advice. In addition the EPA has provided in this report, for information, a consolidated list of commitments in accordance with the Codd Report (Codd, 1999) and has recommended these be appended to the Statement of Environmental Conditions.

The proposal recommended by the Ministerial Advisory Group is presented in Section 2 of this Report. Section 3 provides advice as to the need for change to the Environmental Conditions. Section 4 provides other advice of a relevant nature as well as the commitments arising from the Codd Report. Section 5 presents the EPA's conclusion and Section 6, the EPA's Recommendations.

A list of people and organisations that made submissions is included in Appendix 1 and references are listed in Appendix 2. Environmental Condition Statement No 295, published on 24 December 1992 is presented in Appendix 3. The proponent's commitments, as agreed, are provided in Appendix 4.

2. The proposal (Ministerial Advisory Group Report and Recommendations)

The Ministerial Advisory Group on Karri and Tingle Management was established to recommend plans and silvicultural specifications to implement changes to forest management determined by the State Government, with special reference to old growth Karri and Tingle. In recommending changes to silvicultural specifications, the Group was required to have regard to "the Government's stated intention of meeting contractual commitments with regard to karri, maintaining the agreed 'step down' levels of supply of 1st and 2nd grade jarrah sawlogs, and delivering a non declining karri sawlog yield of 50 000 cubic metres per annum beyond 2003" (Ferguson *et al.*, p 1).

The Ministerial Advisory Group reported in December 1999 on revised silvicultural specifications for the Karri forest, scheduling of logging in the Karri forest, issues associated with implementation and also enhancing community involvement and trust.

Changes proposed by the Ministerial Advisory Group on Karri and Tingle Management relate primarily to forest operations. These were described in outline in the Amendments to the 1987 Forest Management Plans and Timber Strategy and proposals to meet Environmental Conditions of the regional plans and the WACAP ERMP (Department of Conservation and Land Management 1992). It is these changes that are the subject of this report by the EPA.

The Ministerial Advisory Group has recommended that there be no logging of Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest. As a consequence, the logging plan developed by the Group excludes logging from some 9 850ha of sensitive areas of Karri and Karri Tingle Old Growth Forest identified in the Ministerial Advisory Group's report (Ferguson *et al.*, p 24).

Table 1 summarises the key environmental characteristics of the Karri silvicultural guidelines in the existing approved Forest Management Plans and changes proposed by the Ministerial Advisory Group. A detailed description of the proposed modifications to management of the Karri and Tingle forest is provided in the Report of the Ministerial Advisory Group (Ferguson *et al.*, 1999)

Table 1: Summary of proposed changes recommended by the Ministerial Advisory Group (Ferguson *et al.* 1999)

Existing Karri forest management	Recommended Karri forest management
Logging in multiple use Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest permitted	No logging in Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest (Recommendation 2.6.1)
Logging permitted in multiple use Karri forest unless part of road, river and stream zone system (with the exception of thinning in Karri regrowth in road reserves) and additional 3200 ha of mature forest	No logging in the sensitive areas of Karri Old Growth Forest within the following Blocks: <ul style="list-style-type: none"> • Beavis • Deep • Keystone • Swarbrick • Burnett • Gardner • Northcliffe • Thomson • Carey • Giblett • Ordnance • Wattle • Dawson • Jane • Sharpe • Wye (Table 2)
	End logging of old growth Karri and Tingle forests after 2003 (Terms of Reference 2)
Karri coupe will not exceed 80ha	Reduce maximum Karri Old Growth and Karri Two-tier Forest coupe size to not exceed 40 hectares. (Recommendation 2.7.2)
Karri sawlog level of commitment at 168,000 cubic metres in October 1999	Negotiate to reduce the level of Karri sawlogs harvested to an average of 149,000 cubic metres per year, with an annual yield of 50,000 cubic metres from 2004. (Page 20)
Clearfelling system of harvesting	Continue clearfelling system of harvesting (Recommendation 2.7.1)
In regrowth forest regenerated prior to 1990, rotation generally of 100 years, with some to 250 years. In post 1990 regrowth forests, rotation in 50 per cent of stands will exceed 150 years and may exceed 200 years	Rotation of 100 years, with provision for reduction to 80 years in some areas, together with visual resource buffers of at least 100m in width, for Karri Even-aged Regrowth Forest (Recommendation 2.8.1)
Karri coupe will not exceed 80ha	Coupe size for clearfelling in Karri Even-aged regrowth Forest not to exceed 20ha (Recommendation 2.8.7)

Note: The information in brackets refers to the Ministerial Advisory Group Report.

The EPA notes that there are a number of additional recommendations contained within the Ministerial Advisory Group's report.

3. Advice on environmental conditions

Section 46 of the *Environmental Protection Act 1986* requires the EPA, on the request of the Minister, to report to the Minister for the Environment on whether or not the Environmental Conditions should be changed.

The Ministerial Advisory Group's Terms of Reference required it to deal with a range of issues. Not all of these issues are of an environmental nature, although they are important in future management of the Karri forest.

Table 1 identifies those aspects of the Ministerial Advisory Group's report that the EPA considers relevant to this advice. The table relates primarily to the recommended changes to the Karri and Tingle Forest management.

The proposed changes will lead to an amended Karri and Tingle Forest management regime implemented through the approved Forest Management Plan 1994-2003. The changes relate to Condition 2-2 of Ministerial Statement No. 295. This condition states that:

“Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment:

- 2-2 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.”

The EPA is of the view that, as a consequence of the changes proposed in the Ministerial Advisory Group's report, the application of the revised approach will reduce the environmental impact within the Karri forest because there would be:

- a reduction in the Karri sawlog cut;
- a reduction in the maximum size of clearfell coupes in Karri forest;
- an exclusion from logging of nominated sensitive areas of Karri Old Growth Forest;
- an exclusion of any logging in Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest; and
- enhanced buffers leading to improved amenity protection.

One of the outcomes of implementation of the revised approach is that “virtually all of the Karri Old Growth Forest available for logging outside of those sensitive areas in the Blocks listed (by the Ministerial Advisory Group) will be logged or accessed.” (Ferguson *et al.* 1999, p. 23).

The EPA considers that implementation of the recommendations of the Ministerial Advisory Group as identified above do not require any change to existing Environmental Conditions in Statement 295 (Appendix 3) because the current conditions are adequate to manage environmental protection components of forest management.

4. Other advice

Having considered the Report of the Ministerial Advisory Group on Karri and Tingle Management, the Department of Conservation and Land Management's (CALM) response and also public submissions on the Group's report, the EPA considers that there are four issues that need to be considered further by the Minister for the Environment. The EPA has also included advice in 4.5 arising from the Codd Report.

4.1 Logging of associated timber types in sensitive areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest

Sensitive areas of Karri Old Growth Forest, Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest contain other tree species (ie. Jarrah and Marri) which are subject to timber contracts.

The EPA has assumed that there would be no harvesting of associated tree species such as Jarrah and Marri or related activities within these areas. Public submissions expressed concern that this has not been clearly stated.

It seems to the EPA that to permit logging of other species within the sensitive areas of Karri Old Growth Forest, Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest would significantly diminish the values which have led to their protection. The Ministerial Advisory Group has considered that activities associated with logging, such as roads, should not occur within these sensitive areas.

The Ministerial Advisory Group discussed the implications to the Jarrah sawlog supply of such an exclusion. The Group notes that "Based on the simulations of the recommended silvicultural prescriptions and logging plan for the Karri forest types, it seems that the impact on the Jarrah will not be so large as to seriously endanger the capacity to meet Jarrah sawlog commitments." (Ferguson *et al.* 1999, p 29)

CALM has confirmed that there "are no planned coupes in areas of sensitive Old Growth Karri, nor in Karri Tingle Old Growth or Two-tiered forest" for the duration of the current Forest Management Plans (CALM 2000, p. 3)

4.2 Logging in the balance of Blocks containing sensitive areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest

As the Ministerial Advisory Group makes clear on page 21 of its report, the recommended exclusion only applies to areas of Karri old growth within the nominated blocks, not to the whole of the blocks. Logging of areas of Jarrah Forest as well as areas of Karri Two-tiered Forest and Karri Even-aged Regrowth Forest within the blocks could still be undertaken.

CALM's revised logging plans include the logging of Jarrah and Marri in the balance of the forest blocks containing sensitive areas of Karri Old Growth and those containing Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest.

It is clear from submissions that there is a view that no logging should occur within the remainder of the 16 blocks listed by the Ministerial Advisory Group. The EPA notes that both the Ministerial Advisory Group and CALM have indicated that this could only be implemented if existing log supply contracts were not fulfilled.

4.3 Status of areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest beyond 2003

The Ministerial Advisory Group made no comment on the future status of nominated sensitive areas of Karri Old Growth Forest and those areas containing Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest from which logging will be excluded. This is an issue that will need attention. There will need to be a clear mechanism for ensuring that these nominated areas of Karri Old Growth Forest and Karri Tingle Old Growth Forest and Karri Tingle Two-tiered Forest will be protected in perpetuity and managed accordingly.

The EPA expects that this will be implemented through the next Forest Management Plan beyond 2003.

4.4 Karri sawlog yield beyond 2003

The EPA notes the Terms of Reference of the Ministerial Advisory Group that it should have regard to "the Government's stated intention of meeting contractual commitments with regard to

Karri, maintaining the agreed 'step down' levels of supply of 1st and 2nd grade Jarrah sawlogs, and delivering a non declining Karri sawlog yield of 50,000 cubic metres per annum beyond 2003".

Figure 3 in the Ministerial Advisory Group's Report illustrates that there is little flexibility should Karri sawlog contracts beyond 2003 be issued at 50,000 cubic metres per annum.

The EPA considers that this matter should be examined by the Panel reviewing sustained yield within the context of ecologically sustainable forest management as a lead up to development of the Forest Management Plan beyond 2003.

4.5 Commitments

As a consequence of the Codd Report (Codd 1999), there is now an agreed consolidated set of commitments to apply to the Forest Management Plans 1994-2003. For the sake of completeness, the EPA considers that these should be appended to Statement 295. The agreed commitments are in Appendix 4.

5. Conclusion

The EPA considers that implementation of the recommendations of the Ministerial Advisory Group as identified in this report do not require any change to existing Environmental Conditions in Statement 295 (Appendix 3).

6. Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that this report is pursuant to Section 46(1) of *the Environmental Protection Act 1986* and thus is limited to consideration of proposed changes to the original conditions.
2. The Minister notes that the proposed change is to implement a revised approach to Karri and Tingle forest management, including revised Karri silvicultural specifications.
3. The EPA recommends that the Minister adopts the advice set out in Section 3, that implementation of the recommendations of the Ministerial Advisory Group as identified in this report does not require any change to existing Environmental Conditions in Statement 295 (Appendix 3).
4. The Minister notes that the EPA has recommended that the agreed commitments (Appendix 4) be attached to the Statement of Conditions issued in 1992.
5. The Minister notes that the EPA has also given advice in relation to:
 - logging of associated timber types in sensitive areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest;
 - logging in the balance of Blocks containing sensitive areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest;
 - the status of areas of Karri Old Growth, Karri Tingle Old Growth and Karri Tingle Two-tiered Forest beyond 2003; and
 - the Karri sawlog yield beyond 2003.

Appendix 1

List of submitters

List of individuals and organisations which made a submission

WA Forest Alliance
Mr B Ludlam
Ms K Simone
Mr J Austin
Ms G Marteene
Ms L Kippert
Ms D Ludlam
Balingup Friends of the Forest
Mr P Lane
T Datson
Shire of Donnybrook-Balingup
South Coast Environment Group
Conservation Council of WA (Inc)
Bridgetown Greenbushes Friends of the Forest
Blackwood Friends of the Forest
Quinninup Community Association
Denmark Conservation Society
Ms A Sargison
Mr J Jones
Blackwood Environment Society
T Needs
Mr B Knipping
Mr R Briscoe
The Wilderness Society of WA
Leeuwin Conservation Group (Inc)
Northcliffe Future Generations
Forest Industries Federation WA
Mr B Coyne
Australian Workers Union
Timber Communities Australia
Mr G Redmand
Mr M Oakley
Preston Community Group
Quinninup North Body Corporate

Appendix 2

References

- Codd M (1999). *Forest Management Plan 1994-2003 – Mid-Term EPA Report on Compliance*
- Department of Conservation and Land Management (2000), *Summary of logging plans and strategies for community involvement based on recommendations from the “Report to the Minister for the Environment by the Ministerial Advisory Group on Karri and Tingle Management”*
- Department of Conservation and Land Management (1992), *Proposals to Amend the 1987 Forest Management Plans and Timber Strategy and Proposals to meet environmental conditions of the regional plans and the WACAP ERMP*
- Environmental Protection Authority (1998). *Advice in Relation to the Development of the Regional Forest Agreement in Western Australia and Progress Report on Environmental Performance and mid-term Report on Compliance: Forest Management Plans 1994-2003*. EPA Bulletin 912
- Ferguson I, Gardner J, Hopper S & Young J (1999), *Report to the Minister for the Environment by the Ministerial Advisory Group on Karri and Tingle Management*.

Appendix 3

Statement of Environmental Conditions of Approval (24 December 1992)



WESTERN AUSTRALIA
MINISTER FOR THE ENVIRONMENT

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)

AMENDMENTS TO THE 1987 FOREST MANAGEMENT PLANS AND TIMBER
STRATEGY AND PROPOSALS TO MEET ENVIRONMENTAL CONDITIONS ON THE
REGIONAL PLANS AND THE WACAP ERMP

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT (CALM)

This proposal may be implemented subject to the following conditions:

1 Proponent commitments

The proponent has made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the proposal and in response to issues raised following public submissions.

2 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 2-1 An expert scientific and administrative committee will be established by the Minister for the Environment to review and report on the implementation of this proposal by 30 June 1993. The terms of reference of the committee will be to consider:

- reserve recommendations within multiple use forest involving those proposals related to temporary exclusion from timber production and potential reserves to act as wildlife corridors;
- the environmental, economic and social implications of such proposals for:
 - nature conservation within WA's native forests,
 - the maximum sustainable timber supply, and
 - the existing and future timber industry;
- the potential to increase the plantation estate on cleared agricultural land to contribute to the production of timber products.

- 2-2 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

Published on
24 December 1992

3 Precautionary approach and adaptive management

- 3-1 The proponent shall manage karri and karri-marri forest in accordance with a precautionary approach. This approach requires that where there is a significant risk that a particular forest management measure could lead to an irreversible consequence appropriate monitoring and subsequent adjustments to management within an acceptable timeframe be carried out.
- 3-2 The proponent shall manage the jarrah forest in accordance with the following general principles:
- (1) a precautionary approach;
 - (2) adaptive and flexible management practices based on research and monitoring of environmental monitoring of operations (see condition 17);
 - (3) implementation as a trial, with a reassessment by the Environmental Protection Authority after ten years - the period of the Management Plans and the Timber Strategy (see condition 11); and
 - (4) no commitment of all of the wood resource in the long term (see conditions 9 & 10).

4 Amendments to conservation estate

- 4-1 The proponent shall initiate the Government processes required to implement the proposed amendments to the conservation reserve estate as agreed to by the Minister for the Environment and defined in the approved Forest Management Plans.

5 Revised travel route, river and stream reserves

- 5-1 The proponent shall implement the revised system of travel route (road), river and stream reserves consistent with condition 15. It is noted that the minimum combined width (both sides of a first, second or third order stream) of the proposed zones is 60 metres.
- 5-2 The proponent shall ensure that the travel route (road), river and stream reserves remain unharvested in perpetuity, except for those portions of regrowth forest within road zones where thinning can be undertaken in a manner consistent with, and so as to enhance in the longer term, the defined visual quality objectives.
- 5-3 The proponent shall monitor the effectiveness of the travel route (road) river and stream reserves for nature conservation and protection of water quality to the requirements of the Minister for the Environment.

6 Diverse ecotype conservation areas

- 6-1 Diverse Ecotype Conservation areas shall be identified by the proponent and those greater than five hectares shall be identified on publicly available maps.
- 6-2 The proponent shall ensure that the Diverse Ecotype Conservation areas remain protected from timber harvesting and associated activities in perpetuity.

7 Old growth karri areas of high social or environmental value

7-1 The proponent shall identify and protect areas of old growth karri (up to 3200 hectares) with a high aesthetic, social or environmental value. This is to be implemented on a regional basis and with the benefit of public involvement. These areas shall:

- (1) include those trees in Beavis, Carey and Giblett forest blocks protected from clearfelling by environmental conditions related to the Manjimup-Beenup power line proposal (EPA Bulletin 603);
- (2) be identified publicly and progressively from the adoption of the Management Plans, with the proponent reporting to the Minister on progress towards implementation within three years; and
- (3) shall not be harvested, and shall be managed to retain their values (other than timber production).

7-2 The proponent shall report on the implementation and management of these special areas at the next Forest Management Review.

8 Sustainable yield estimates

8-1 The allocated timber resource for the period ending 30 June 1993, prior to the consideration by the Minister for the Environment of the report of the committee referred to in condition 1 will not exceed the 1993 level described in the 1987 Timber Strategy together with an additional amount of the timber resource that was approved in the 1987 Timber Strategy but remained uncut. This additional amount may be allocated by the proponent with the approval of the Minister for the Environment on a needs basis up to a total level not exceeding that proposed by the proponent in its 1992 proposals.

8-2 Following consideration of the report of the committee referred to in condition 2, the Minister for the Environment shall determine the annual sustainable timber resource available for allocation.

9 Commitment of wood

9-1 Subject to condition 8, in the letting of contracts for wood supply from the jarrah forest, the proponent shall:

- (1) not exceed the annual levels of timber supply defined in condition 8 above; and
- (2) recognise the possibility of the necessity to reduce wood supply beyond 2002 as a result of monitoring and adaptive management following the trial implementation of the jarrah forest silvicultural prescription.

10 Commitment of new resource to be referred

10-1 Notwithstanding Section 38 of the Environmental Protection Act, the proponent shall refer to the Environmental Protection Authority any proposal to enter into a contract for a substantial portion (as determined by the Minister for the Environment) of forest produce identified as other logs (jarrah) or forest residue (marr) in the revised Timber Strategy (Table 13 of the proposals document).

11 Jarrah silviculture trial

- 11-1 The proponent shall implement the jarrah silvicultural prescription so that monitoring of the environmental impacts on a representative range of treated sites and localities in the forest can be carried out to the requirements of the Minister for the Environment. This shall include long term monitoring which quantifies the impacts of silvicultural practices on environmental elements and values in the forest and provides bases to adjust management.
- 11-2 The proponent shall give all necessary assistance to the Monitoring and Research Committee (condition 16) to enable it to have an active and fully informed role in the planning and oversight of the scientific monitoring of this trial period.
- 11-3 The proponent shall report to the Minister for the Environment on outcomes of this implementation and monitoring and on any modifications to the prescriptions by 2002 as part of the next review of the Forest Management Plans and Timber Strategy.

12 Phased logging

- 12-1 The proponent shall ensure that, in all second order catchments in the intermediate and low rainfall zones of the multiple use jarrah forest subject to logging, at least 30 per cent of each second order catchment has a retained basal area of greater than 15 m²/ha for a period of at least 15 years after harvesting of the remainder of the catchment.
- 12-2 This retained forest shall be selected to enhance wildlife, water resource and visual objectives.
- 12-3 The proponent shall monitor, to the requirements of the Minister for the Environment, and report by 2002 on the status and effectiveness of these measures to protect nature conservation values and water quality at the time of the next review of the Forest Management Plans and Timber Strategy.

13 Habitat trees

- 13-1 The proponent shall ensure that the number, condition and age of trees retained on sites subject to gap treatment is sufficient, as determined by the Minister for the Environment, to adequately provide the habitat function throughout the cutting cycle of the forest.

14 *Banksia grandis* reduction

- 14-1 The proponent shall concentrate the proposed reduction of the population of *Banksia grandis* in specific areas where the environmental circumstances suggest that treatment will have the greatest impact on reducing the spread and intensification of *Phytophthora cinnamomi* in the jarrah forest and where required to establish jarrah and marri regeneration.
- 14-2 The proponent shall establish a programme, to the requirements of the Minister for the Environment, to identify and evaluate the environmental implications of the proposed reduction and that the results of that evaluation shall be reported on, at or before the time of the next review of the Forest Management Plans by 2002.

15 Fire management

- 15-1 The proponent shall ensure that the fire management objectives related to the jarrah forest silvicultural prescription include the minimisation of air pollution in urban areas, to the requirements of the Minister for the Environment.
- 15-2 The proponent shall inform the public about its fire management on a regional basis each year in its annual report. This shall include but not be limited to the following:
- (1) occurrences and causes of wildfires;
 - (2) purposes of burns;
 - (3) areas burnt under different regimes of season and periodicity;
 - (4) escapes; and
 - (5) the contribution of prescribed burning to reducing wildfire hazard.
- 15-3 Within 12 months of this proposal being given authority to be implemented the proponent shall initiate a public review of its prescribed burning policy and practices and the wildfire threat analysis. This should be done with the close involvement of the Research and Monitoring Committee. If possible it should be linked with a review of the provisions of the Bush Fires Act.

16 High salt risk catchments

- 16-1 Within three years, or such other period as the Minister for the Environment shall nominate, the proponent, on advice from the Water Authority of Western Australia, shall identify second order catchments with a high salt risk.
- 16-2 Within each catchment identified according to the requirements of condition 16.1, the proponent shall retain additional river and stream buffers and locate areas temporarily reserved during phased logging operations to the requirements of the Water Authority of Western Australia.

17 Forest Monitoring and Research Committee

- 17-1 The Minister for the Environment will set up a committee having objectives which include:
- (1) identification, prioritisation and approval of monitoring and research programmes and projects on environmental impacts of forestry management,
 - (2) the granting of funds towards such monitoring and research,
 - (3) receipt of progress reports,
 - (4) reporting to the Minister for the Environment and
 - (5) publication of results.
- 17-2 The Committee shall include the heads (or nominees) of the Department of Conservation and Land Management, the Environmental Protection Authority, the Western Australian Forest Industries Federation, the Conservation Council and the Water Authority of Western Australia, and the Chairpersons of the Lands and Forests Commission and the National Parks and Nature Conservation Authority.

17-3 The Committee shall appoint working groups of scientists to recommend and report to the Committee on the design and funding of research projects, the identification, prioritisation and review of monitoring and research programmes and projects relating to the environmental impacts of forest management.

17-4 The Committee shall provide brief annual progress reports to the Minister for the Environment, with major reports in 1997 and 2002, at the time of the next review of the Forest Management Plans and Timber Strategy.

18 Reporting on compliance

18-1 The proponent shall prepare "Progress and Compliance Reports", to help verify the environmental performance of this project, in consultation with the Environmental Protection Authority. These shall include brief annual progress reports to the Environmental Protection Authority, and major public reports in 1997 and 2002.

Note

Wherever the term "jarrah forest" is used in this statement it includes both the jarrah and the jarrah-marri forests.

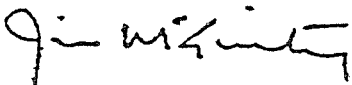
Procedure

Compliance

The Environmental Protection Authority is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.

If the Environmental Protection Authority, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.

Prior to making determinations as provided for in these conditions the Minister for the Environment may seek advice from the Forest Monitoring and Research Committee.



Jim McGinty, MLA
MINISTER FOR THE ENVIRONMENT

24 December 1992

Appendix 4

Proponent's Consolidated Commitments

Proponent's Consolidated Commitments
Forest Management Plan 1994-2003

Commitment Number	Commitment
1	Identify and publish the values to be managed for in each forest area
2	Implement long term monitoring programs to identify and study significant management issues in (all types of) forests
3	Regulate the production of forest resources to levels that can be sustained indefinitely
4	Preserve the quality of potable water supplies from forests
5	Undertake research to improve a scientific basis for the protection of biodiversity
6	Conduct prescribed burns in river and stream zones so as to be of low intensity
7	Conduct prescribed burning in diverse ecotype zones in accordance with habitat requirements of the site
8	Prevent logging in river and stream zones for other than legitimate road construction and the removal of dangerous trees
9	Identify areas of high value old growth forest
10	Further enhance the security and representation of the conservation reserve system
11	Allow identified areas of regrowth Karri to acquire old growth characteristics, including 25% of pre 1940 regrowth, all regrowth stands regenerated in the period between 1940 and 1975 less than 200 ha in area, and 50% of all stands regenerated after 1990
12	Retain an average of (at least) 3 large trees on every hectare harvested to provide habitat
13	Retain, and protect as far as possible, at least one suitable ground habitat, ie hollow log, per hectare
14	Undertake habitat regeneration burns in forests where special requirements for threatened or endangered species are identified
15	For those high salt risk second order catchments identified in fulfilment of M16, CALM will reach agreement with the Water and Rivers Commission regarding the precautionary management and protection measures to be implemented. The objective of the measures will be to prevent saline discharge into these water courses
16	Limit gap size in Karri and Karri/Marri forests to a maximum of 80 ha
17	Where possible, ensure the distances between areas of retained mature forest is a maximum of 400 m
18	Formalise Karri silvicultural changes in a CALM silvicultural prescription