

# **FINAL RECOMMENDATIONS**

**SPECIAL INVESTIGATION  
MELBOURNE AREA  
HILL END**

**LAND CONSERVATION COUNCIL,  
MELBOURNE, JANUARY, 1983**

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## INTRODUCTION

The Land Conservation Council, Victoria, established by the *Land Conservation Act* 1970, carries out investigations and makes recommendations to the Minister for Conservation on the balanced use of public land throughout the State.

In February 1982, the Council was directed to investigate an area of public land east and west of Hill End, according to the following Order in Council:

'Whereas it is provided in Section 8 of the *Land Conservation Act* 1970, that where the Governor in Council is of the opinion that an investigation and recommendation of the Land Conservation Council in relation to any particular district or area of Victoria is necessary or expedient, the said Council may be required to make such investigation and recommendation within such time as is fixed by the Governor in Council.

And whereas the Government has directed the Forests Commission to increase the planting rate of soft-woods in Gippsland by 700 hectares per annum, additional land is required by the Forests Commission for plantation establishment. Furthermore the Government has given an undertaking to Australian Paper Manufacturers Ltd. that where company forest land is required for coal extraction, power station and other purposes, suitable other land will be made available to the company.

Now therefore, His Excellency the Lieutenant-Governor as Deputy for the Governor of the State of Victoria by and with the advice of the Executive Council thereof, hereby requires the Land Conservation Council to carry out an investigation of public land within the area delineated on the plan hereunder and to make recommendations by 1 March, 1983 on the best use of the land, including the extent to which it

might be used to fulfil the Government's commitments to increased softwood establishment and to replacement of land acquired from Australian Paper Manufacturers Ltd.'

#### Procedure

A factual report describing the resources and forms of land use in the special investigation area was published on June 28, 1982. In the following 60 days the Land Conservation Council received 39 written submissions from the general public and interested bodies on the future use of public land in the area. The Council considered these submissions and published proposed recommendations for the Hill End area on 1 October, 1982. The Council received a further 26 submissions, and considered these when preparing the final recommendations.

#### A. SOFTWOOD PRODUCTION

The investigation area comprises a small portion of the La Trobe Softwood Plantation Development Zone. Plantations in the zone are required in order to provide raw materials for a pulp mill, saw and veneer mills, and preservative-treatment plants. Current saw- and veneer-log commitments exceed 40,000 m<sup>3</sup> per annum. Pulpwood commitments as ratified by the *Forests (Wood Pulp Agreement) Act 1974* are at present 30,000 m<sup>3</sup> per annum, rising to 100,000 m<sup>3</sup> by the year 2000. In 1981 the government gave an undertaking to supply a further 100,000 m<sup>3</sup> of pulpwood by the year 2000.

The land examined in this special study is part of the Land Conservation Council's Melbourne area and was first investigated in 1973. Final recommendations on the use of public land, including provision for softwood production, were published in January, 1977.

The remainder of the La Trobe Zone lies within the South Gippsland area, Districts 1 and 2, and the Gippsland Lakes hinterland area. The final recommendations for South Gippsland District 1, published in October 1973, also made provision for softwood production. Final recommendations for South Gippsland District 2 were recently published by the Council, and final recommendations for the Gippsland Lakes hinterland are currently being prepared.

Softwood plantings in this zone will supplement wood supplies from the large plantation resource of A.P.M. Forests Pty Ltd and the large State eucalypt resource in central, southern, and eastern Victoria.

#### Existing Plantations

Forests Commission, Victoria

In the La Trobe Softwood Plantation Development Zone as a whole, the Forests Commission has already established a net total of 13,590 ha of softwoods (including 1982 plantings),

of which plantings in the investigation area total 935 ha net. A further 765 ha net, recommended for softwood production in the final recommendations for the Melbourne area, still remain to be planted.

#### Australian Paper Manufacturers Ltd

A.P.M. Forests Pty Ltd, a subsidiary company of Australian Paper Manufacturers Ltd, has a softwood plantation resource in Gippsland totalling more than 40,000 ha net. This total includes 2,975 ha net established on leased Crown land. A further estimated 1,500 ha net suitable for softwoods remain to be planted on land where leases are still to be finalized.

#### Land Requirements

##### Forests Commission, Victoria

At the direction of the previous government, the Forests Commission has increased its planting rate for the La Trobe Zone from 600 to 1,300 ha net per annum. This direction to the Commission resulted from the need to supply wood in the future for expansion of pulpwood-processing facilities at Maryvale.

To meet the target for the zone, the Commission considers a further 26,410 ha net will be needed, resulting in a total net area of approximately 40,000 ha of Forests Commission plantations. Taking into account the area of public land already allocated for softwood production in the investigation area to 1983 but not yet planted (765 ha net), a further net 25,645 ha of land suitable for plantation establishment would be required in the zone as a whole.

#### Australian Paper Manufacturers Ltd

It is the company's long-term object to have a net total of 40,000 ha of established softwood plantation at any one time, with additional areas in the process of re-establishment following clear-felling. However, the company has extensive

plantation holdings on land that could be required for coal-field developments over the next 50 years.

How the Victorian brown coal resource should be used is being investigated in a study initiated by the Victorian Brown Coal Council. The findings of this study will be the subject of a public inquiry by the Parliamentary Natural Resources and Environment Committee of the State Parliament in early 1983. Should the utilization of the coal resource require premature harvesting of A.P.M. plantations, supply schedules to processing plants would be disrupted and loss of land would lead to a reduction in the A.P.M.'s future softwood plantation estate.

The government in January 1981 indicated that where A.P.M. forested land is required for coal extraction, power station, and other purposes, suitable other land will be made available to the company. Various options are now being examined.

There is, however, considerable uncertainty about the extent to which A.P.M. pine plantations could be affected by development of the coal resources, and it is not possible at this time to provide an estimate of the areas involved.

#### Land for Softwood Production

The land requirements discussed above apply not just to the Hill End special investigation area, but to the La Trobe Softwood Plantation Development Zone as a whole. At the current annual planting rate of 1,300 ha net, some 13,000 ha net would be required for planting by the Forests Commission over the 10-year period 1983-92 inclusive. This land requirement could increase, depending on the extent to which coal-associated developments affect A.P.M. plantations.

The government has expressed concern about the extent to which native forest is being cleared in order to establish pine plantations and has indicated its intention to review the State's softwood establishment program.

As an alternative to using forested public land, the government will also investigate strategies whereby softwood supply commitments might be met by plantations on freehold land by private companies, private farm forestry, and the purchase or lease of suitable private land by the State for plantation establishment.

Until these investigations have been completed, the extent to which land either private or public within this investigation area would be required for softwood plantation is uncertain.

Information obtained by the Council, however, indicates that sufficient areas of suitable private land are likely to be available for purchase in the future to provide for all of the current La Trobe Zone planting program to be met should this be necessary.

In order to meet supply commitments and until alternative strategies can be implemented, the government may, in the short term, decide that it is necessary to use some areas of public land in the zone for the establishment of softwoods.

Should the government so determine, and in the event that such land is to be provided from the Hill End special investigation area, Council has delineated three areas of public land that would be suitable for softwood production and could be used for this purpose.

#### Plantation Planting Guidelines

The Council believes that the impact large plantations of softwood have on the natural environment can be reduced by retaining selected areas of native vegetation, and by adhering to catchment prescriptions prepared by the relevant managing authorities after consultation with the Soil Conservation Authority, where applicable. The guidelines set out below apply to the establishment of plantations on public land in this study area.

No continuous plantation unit should exceed 1,400 ha without obvious break-up areas retained as native forest. Samples (100-200 ha) of all vegetation types in the area should be retained. Where possible, several should be combined in one unit. The unit may be sited to improve the appearance of the plantation, or to combine with land unsuitable for planting to form a range of habitats for wildlife. Units may also include stands of native hardwood managed for timber production. While logging and fuel-reduction burning need not be prohibited in areas where native vegetation is retained, it is important to protect their functions in relation to soil conservation, water quality, and nature conservation. Any utilization, including that carried out prior to clearing, should be carefully controlled, and slash, snig tracks, and landings cleaned up. No retained area should be fuel-reduced in its entirety in any one year.

Native vegetation should be retained for at least 80 m from each bank along major streams and 40 m from each bank along minor streams. In order to maintain soil stability and water quality, it may be necessary to retain a strip of native vegetation of at least 20 m from the centreline along some other watercourses. This is in line with other Council recommendations that all wetlands on public land should be conserved. These strips of native vegetation should be kept free of exotic vegetation, and bulldozed material and windrows should be swept back to protect them from hot burns. The importance of ground cover and surface soil conditions in reducing the amount of sediment reaching streams should be recognized.

Landscape values of areas visible from main roads and major vantage points should be maintained or enhanced, with preference given to landscapes carrying native forests. The aims should be to avoid as far as practicable views of continuous swaths of cleared country, during both the establishment phase and the final felling of the mature crop.

This may be achieved by:

- \* retaining uncleared foreground reserves

- \* breaking up areas to be cleared with strategically located strips or blocks of vegetation
- \* retaining native forests as a backdrop on higher slopes and ridges

On minor through-roads, an interesting environment should be maintained by amenity plantings (preferably of native and local species). Where plantations are to be established adjacent to private property, consideration should be given to reasonable requests by the landholders for the retention of native vegetation along boundaries.

Clearing prior to planting makes the soil more liable to erosion until a new vegetation cover forms. Special care must be taken to ensure that soil erosion does not begin or increase during this period, and that water catchment values are not impaired. Clearing is to be confined to areas with a ground slope generally less than 20 degrees. Other factors that influence the extent of erosion hazard - such as aspect, soil type and parent material, length of slope, and the amount of rainfall - should also be considered prior to clearing operations.

Roading is a major cause of concentration of water flows and a major source of sediment. In some plantations, special criteria in respect of road location, design, and maintenance will be necessary.

Prior to the commencement of clearing operations, the Forests Commission should consult with the Soil Conservation Authority in relation to matters affecting soil stability and water quality, and with the Fisheries and Wildlife Division on matters concerning wildlife conservation.

#### Recommendations

- A1 That the present plantations (935 ha net), and the areas previously recommended for softwoods but not yet planted (765 ha net), continue to be used for the production of

softwoods and for the provision of other goods and services compatible with the primary use, as well as providing opportunities for recreation and other uses and that they remain reserved forest under the provisions of the *Forests Act* 1958 and be managed by the Forests Commission.

Note:

Of the land recommended for softwoods in the Melbourne final recommendations, 765 ha have yet to be planted. No planting has commenced in the Mount Carmel area, which contained a net 500 ha recommended for planting to softwoods.

The eastern and southern faces of Mount Carmel are prominent landscape features, clearly visible from the Moe--Walhalla Road. Council understands that a net 500 ha of suitable land can be found here without this area being planted. A buffer of at least 50 m is to be left between the plantation and the Moondarra State Park.

A2 That State purchase of private land for plantation establishment continue, in order that the zone planting target as determined by the government might be achieved. (As well as meeting Forests Commission needs, some of the purchased land could be used to replace land acquired by the government from A.P.M. Forests Pty Ltd.)

A3-A5 That, should the government decide that forested public land is to be used for softwood establishment, this could be allocated from the areas indicated on the map and described below

and that

until and unless such land is required for softwood establishment it remain uncommitted land.

A3 Harold Creek  
1,880 ha, within which an area of 1,410 ha net may be

planted to softwoods. This area includes 400 ha of low heathy woodland, in which planting trials would be required to determine operational techniques for successful establishment.

A4 Good Hope Creek

2,130 ha, within which an area of 1,480 ha net may be planted to softwoods. This recommendation includes a buffer of at least 50 m where it borders the Moondarra State Park.

A5 Serpentine Creek

1,180 ha, within which an area of 780 ha net may be planted to softwoods. This recommendation includes a buffer of at least 200 m along Serpentine Creek, which is the boundary with the Moondarra State Park.

Should the government decide that forested public land in the Hill End investigation area is to be used for softwood establishment, the following conditions should apply:

1. Land included in recommendations A4 and A5 lies within the Tanjil River water supply catchment. If this land is converted to softwoods, prescriptions for conversion and management should be drawn up by the Forests Commission in conjunction with the Soil Conservation Authority and the State Rivers and Water Supply Commission.

2. The road from Moe to Noojee passes through attractive agricultural and forested land. It is popularly used for pleasure driving. From several sections of this road in the vicinity of Hill End, clearing for plantations on the area A3 would be particularly evident. Council believes that the development of plantations in this area should be planned so that their visual impact is minimized.

## B. FOREST AREA

When making recommendations on land for softwood plantations, the Council has recognized that their establishment constitutes a major change from any natural ecosystems they replace. Further, it realizes that softwood production is a long-term endeavour and that restoring the plantations areas to a near-natural condition is difficult. Adjacent areas of public land that have high nature conservation and/or landscape values thus play an important role in maintaining a local balance in land use. Because of their locations, these areas are also important for protecting the softwood resource from fire, and therefore must also be managed for this purpose. Such land has been designated forest area.

### Recommendations

B1 That, should the government decide that forested public land in the investigation area is to be used for softwood establishment, the areas indicated on the map and described below be used for:

- (a) protection of the adjacent area recommended for softwood production
- (b) conservation of fauna and flora, and preservation of scenic values
- (c) low-intensity hardwood production, recreation, education, forest grazing, honey production, and mining, where these activities do not conflict with (b) above
- (d) catchment protection and water supply, where these lie within a water supply catchment

and that

until and unless adjacent land is required for softwood establishment it remain uncommitted land.

### C. HARDWOOD PRODUCTION

Some parts of the investigation area that were previously recommended as uncommitted land have a moderate to high capability for hardwood production. They mainly carry regrowth stands at present, with messmate stringybark, mountain grey gum, and silvertop being the most important commercial species.

#### Recommendations

C1-C2 That the areas listed below and shown on the map be used:

- (a) primarily to produce hardwood timber in a manner having due regard for landscape values as seen from the main roads outside the forest

that

(b) major secondary uses be to:

- (i) provide opportunities for open-space recreation and education
- (ii) conserve native plants and animals, and provide opportunities for the development of wildlife conservation techniques
- (iii) produce honey, forage, gravel, sand, and other forest produce as defined in the *Forests Act* 1958

(c) water production values be recognized and protected

and that the areas remain or become reserved forest under the provisions of the *Forests Act* 1958 and be managed by the Forests Commission.

C1 Neerim East (640 ha)

Note:

Approximately 160 ha of land recommended as part of the Neerim East forest in the Melbourne final recommendations has now been recommended to become part of the Sweetwater Creek Flora and Fauna Reserve.

C2 Tanjil--Tyers (3,630 ha)

Notes:

1. This includes parts of the Tanjil River and Tyers River water supply catchments. Management should conform to the policies outlined in the Water Production chapter.
2. The area contains 190 ha originally recommended as part of the Tanjil education area in the Melbourne final recommendations in 1977. However, construction of the Blue Rock reservoir will result in its division into two parts, and will also cut off road access from Willow Grove. The two changes effectively negate its viability as an education area. Part of this 190 ha may be delineated for water production once a land use determination (including delineation of buffer strips) has been made for the Tanjil River water supply catchment.
3. Blue Rock reservoir will inundate 35 ha of land recommended as part of the Tanjil--Tyers forest in the Melbourne final recommendations. Further parts of this hardwood production area could also be affected by a land use determination for the Tanjil River water supply catchment.

An additional 175 ha of the Tanjil--Tyers forest is recommended to become part of the Bull Beef Creek Flora and Fauna Reserve, while a further 120 ha would become forest area.

### Natural Features Zone

One of the most scenic drives in the area follows the Tyers River West Branch from the Tanjil Bren road to Western Tyers. The river provides opportunities for fishing, and a number of attractive picnic sites along its banks have potential for development. The riverine environment supports a diverse bird population, including the rare sooty owl, and a number of amphibians, including the leaf-green tree frog and Lesueur's tree frog. Council considers that the valley of the Tyers River West Branch, as indicated on the map by a dot pattern, should be managed as a natural features zone under appropriate management prescriptions.

### Recommendation

C3 That, for those areas indicated on the map by a dot pattern, management be primarily aimed at:

- (a) protection of natural and scenic values
- (b) provision of recreational and interpretative facilities where this does not conflict with (a) above

that

- (c) timber harvesting and gravel extraction not be permitted
- (d) any new roading be constructed only where essential for the purposes of management, protection, and transport of timber and be designed to minimize effects on scenic and nature conservation values.

### Note:

The hatching on the map should not be taken as delineating exact boundaries to the natural features zone. It is

intended that this zone should include both the visual corridor, comprising those parts of the valley that can be seen from the stream, and the environmental sequence from relatively dry foothill country, through the species-rich intermediate area, to the riverine section. In many areas the visual corridor will include this sequence and as such will define the extent of the zone. In other places, however, not all of the environmental sequence will be visible from the stream and in these cases the natural features zone will extend beyond the visual corridor. While the extent of the zone will vary according to local circumstances, it is expected that it will seldom be less than 100m or greater than 300m from the bank on either side of the stream. This zone should be delineated on management plans where appropriate.

#### D. WATER PRODUCTION

Catchments situated in the Hill End investigation area currently supply water for urban and industrial use in the La Trobe Valley. Since publication of the descriptive report, a pumping station has been constructed on the Tanjil River to provide a supplementary supply of water to the Moe Waterworks Trust.

The amount of water harvested from the investigation area will be significantly increased by the construction of the Blue Rock dam on the Tanjil River. The dam is programmed for completion in 1984.

##### Current management and use

No catchment in the investigation area is used solely for water production. Most of the catchment area is forested public land, subject to a variety of land uses including timber production and recreational activities. Agricultural activities take place on the smaller area of freehold land in catchments.

##### Land use planning

The Council notes that the degree of land use planning varies between the three major catchments. A land use determination exists for the catchment of the Tyers River. The Tanjil River water supply catchment was proclaimed in 1979, and is currently being investigated by the Soil Conservation Authority with a view to making a land use determination. No catchment has yet been proclaimed for any part of the La Trobe River.

##### A. Catchment land

Recognizing that the prime water-producing areas of the State coincide with the principal mountain and forested areas, and that these areas together with inland water bodies form major

attractions for recreation, Council believes that, in many areas, catchments can be managed for a range of uses consistent with the provision of adequate protection of the water resources. Recreational use of storages, where it is permitted, must be carefully controlled to ensure adequate protection of water quality, and responsibility for this must remain with the water supply authority.

The Council realizes that the optimum combination of land uses for catchments will vary from one land type to another; a particular use that may not impair the quantity, distribution, or quality of water yield in one instance may have a profound effect in another. Changes in land use, which could detrimentally affect the quality, quantity, or distribution of water supplied from a catchment, should only be made following full consideration of the benefits and disadvantages associated with the various land use options. These considerations should take account of the interests of the groups likely to be affected by any changes as well as broader regional and State-wide issues.

Where there is a multiplicity of uses in a catchment supplying water used for power generation or for domestic, industrial, or irrigation purposes, the catchment should be proclaimed under section 5 (1) of the *Land Conservation Act 1970* and section 22 (1) of the *Soil Conservation and Land Utilization Act 1958*.

After proclamation, and following consultation with the Land Conservation Council, the Soil Conservation Authority may make a land use determination for a catchment. This specifies the most suitable uses of all land in the catchment, and includes delineation of protective strips around storages and along major watercourses.

Council believes that in most situations it is not necessary for a water supply authority to control and manage all the public land in its water catchment. Public authorities managing land within a proclaimed catchment should be conscious of

the implications of management decisions on water production and should consult, co-operate, and reach agreement with the water supply authority and the Soil Conservation Authority regarding the type, location, and timing of management activities.

#### B. Buffer zone

The water supply authority should control and manage a buffer zone (defined in the land use determination) around storages and diversion works. This buffer zone is separate from the protective strips along watercourses, which, although important for water supply protection, would not by themselves form a manageable unit.

In addition, the water supply authority should control and manage the storages and the areas on which capital works are situated, together with any other areas that may be needed for efficient management.

Each catchment and water supply system has individual characteristics and the determination of the buffer zone will need to take account of these differences. In determining the extent of the buffer zone, consideration should be given to factors such as ground slope, soil type, vegetative cover, adjoining land use, type of facilities available for treating the water, end-use of water, detention time in the storage, and the need to control public use of the storage and its immediate surroundings. The buffer zone should be large enough to reduce entry of most pollutants into the storage by way of filtration of overland flow, absorption through the soil, and assimilation in watercourses. The desirability of the buffer zone being a practical management unit should also be taken into account.

In some instances it may not be practical for the water supply authority to manage all, or part, of the buffer zone. In such cases agreement should be reached between the adjacent land management authority and the water supply authority at the time of a land use determination. The agreement may include leaving the management of the buffer zone with the

adjacent land management authority on the basis that it would be managed with the prime object of protecting the water quality.

In those proclaimed catchments where land use determinations have been made prior to the publishing of recommendations, it may be necessary to review the buffer zones in accordance with the principles for defining buffer zones outlined above.

Water quality, yield, and regulation

It is possible to improve the quality of water by partial or complete treatment - at a cost. It must, however, be recognized that the higher the original quality of the water, the cheaper and more efficient is the treatment and, in most cases, the more acceptable the end product. In many catchments it is already difficult to maintain existing water quality. This problem is likely to become even greater as pressure to allow various forms of land development and use of natural resources increases. Even with properly planned and controlled land use in catchments, it is probable that many water supply authorities will consider it necessary to at least disinfect water supplied from their storages. Indeed, many authorities already employ such treatment. Council recognizes that a number of water supply systems need some form of treatment now and that others will need to consider some form of treatment in the future. In order to provide for this requirement Council believes it is important for the government to establish long-term policies to maintain water supply of a satisfactory quality.

It is also vital to safeguard the quantity and timing of yield. Catchments must be protected from loss of infiltration capacity, damage to other hydrologic properties, soil erosion, and contamination from chemical or biological sources.

Proper management of land uses within catchments is extremely important and recognition must be given to the need for high levels of protection, particularly in the ecologically sensit-

ive areas. Values such as water yield, quality, and flow regime must be of major concern when implementing recommendations for public land within catchments. The Council recognizes the need for research to provide additional information that can be used in formulating management guidelines.

#### Additional water needs

Future water needs for domestic, stock, and irrigation purposes, and for the production of electricity, may require the construction of additional water storages. In the planning for these, the possible effects of the storages and their water releases on the ecosystems in the vicinity (in particular the effects on fish and wildlife habitat downstream) should be determined and taken into account.

The Council appreciates that it will probably be necessary to develop additional facilities associated with such schemes, but cannot make specific provision for those developments until definite proposals are made. Their environmental effects should be assessed before proceeding. In most cases, an environmental effects statement is now required as part of the planning of any new major storage.

Investigations by the State Rivers and Water Supply Commission have identified three possible sites for storage construction along the upper La Trobe River - one near Willow Grove and two in forested public land further upstream. If future development in the La Trobe Valley proceeds as expected, one of these sites may be required by the year 2000.

#### Recommendations

D1-D2 That in the case of the locations listed below and shown on the map the present tenure and management of public land continue for the time being

that, once a land use determination has been made for

the Tanjil River water supply catchment, the following areas:

- (i) the storage areas
- (ii) diversion works
- (iii) associated facilities
- (iv) the buffer zones around diversion works and storages, as defined in the land use determination
- (v) any other allotments considered necessary for management

be used for

- (a) water supply purposes
- (b) other activities permitted by the water supply authority after consultation with the Soil Conservation Authority and the Environment Protection Authority

and that these areas be permanently reserved under section 4 of the *Crown Lands (Reserves) Act 1978* for water supply purposes, and be managed by the water supply authority named.

Notes:

1. The primary object of management of the buffer zone must be to protect water quality. Subject to this principle, the water supply authority may permit other secondary uses in the buffer zone. In such cases the principles of management must be agreed upon by that authority and any other authorities concerned.

2. In some instances it may not be practical for the water authority to manage all or part of the buffer zone. In such cases agreement should be reached between the adjacent land management authority and the water supply authority at the time of a land use determination. The agreement may include

leaving the management of the buffer zone with the adjacent land management authority on the basis that it would be managed with the prime object of protecting the water quality.

3. The Council considers that fossicking and prospecting under a Miner's Right should not be permitted on land under the control of water supply authorities, or around storages and facilities, etc.

4. When preparing or reviewing management plans for areas under their control, management authorities should consult with the appropriate water supply authorities and the Soil Conservation Authority to ensure that due consideration is given to the protection of the water resources of the region.

D1 Blue Rock Reservoir (expected completion in 1984); State Rivers and Water Supply Commission.

Note:

Construction of the Blue Rock dam will result in the inundation of parts of the proposed Tanjil education area (Recommendation M14) and the Tanjil--Tyers Forest (Recommendation E15), both of which the Council defined in its final recommendations for the Melbourne area.

D2 Pumping station on Tanjil River; Moe Waterworks Trust.

Note:

A number of small diversions on public land are used to supply water to limited areas such as farms. Although not covered by specific recommendations, the current licences or other arrangements for these facilities may continue.

#### E. FLORA AND FAUNA RESERVES

Within the Hill End special investigation area, two areas contain examples of native vegetation with considerable floristic importance and significant wildlife populations and habitat. Council has recognized their special conservation significance and has accordingly recommended their reservation as flora and fauna reserves.

These reserves are significant because they provide valuable habitat for populations of native fauna and contain examples of native vegetation with considerable floristic value in a natural or relatively natural state.

In all such reserves, suppression of fires remains the responsibility of the Forests Commission. Appropriate fire-prevention measures such as maintenance of fire access tracks and protective burning will be carried out where necessary.

Vermin and noxious weeds within flora and fauna reserves will be controlled by and will remain the responsibility of the Department of Crown Lands and Survey.

#### Recommendations

E1-E2 That the areas indicated on the map and described below be used to:

(a) conserve native plants and animals

that

(b) passive recreation such as nature study and picnicking be permitted

(c) grazing be phased out within three years following the adoption of these recommendations

and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed as indicated below. Management plans for these reserves

should be prepared by the management authority in consultation with the Fisheries and Wildlife Division.

E1 Sweetwater Creek

This area of approximately 1,240 ha contains a grassy heathy woodland community of yertchuk (*Eucalyptus consid- eniana*), small grass-tree (*Xanthorrhoea minor*), and wiry spear-grass (*Stipa muelleri*). The last species occurs mainly in south-western Victoria, and its occurrence here represents an eastern outlier of its distribution. A field layer dominated by coral-fern (*Gleichenia* spp.) in the wetter and more sheltered aspects of the woodland is an unusual botanical feature.

Vertebrate fauna represented include the white-footed dunnart, grey kangaroo, chestnut-rumped hylacola, the rare mourning skink, and Spencer's skink, a species normally associated with wet open forest. The area is also significant for butterflies.

To be managed by the Forests Commission.

E2 Bull Beef Creek

This reserve of approximately 1,490 ha contains part of the 760 ha originally recommended as the Tanjil education area in the Melbourne final recommendations in 1977. However, construction of the Blue Rock reservoir will result in that area being divided into two parts, and will also cut off road access from Willow Grove; the two changes effectively negate its viability as an education area. This reserve includes the part of the former education area lying to the east of the Tanjil River.

Along Bull Beef Creek there is a sizeable area of yertchuk woodland with a dense wet heath understorey, dominated by prickly tea-tree (*Leptospermum juniperinum*), scrambling coral-fern (*Gleichenia microphylla*), hairpin banksia (*Banksia spinulosa*), and spreading rope-rush (*Calorophus lateriflorus*).

The rare broad-toothed rat has been recorded in this area. Within Victoria, the species has a restricted and patchy distribution. Until recent work expanded the known range, its survival was considered threatened. It is restricted to areas with a dense ground cover of grasses, sedges, and herbs, as it feeds mainly on the stems and leaves of grasses and sedges.

Other small mammals of the wet heath include the bush rat, swamp rat, brown antechinus, dusky antechinus, and long-nosed bandicoot. Swamp wallabies and wombats are also common.

The wet, heathy swamps along Bull Beef Creek support a sizeable population of the mourning skink, a rare species with specialized habitat requirements and a markedly disjunct distribution.

An area of land within this reserve and adjacent to the full-supply level of the Blue Rock reservoir could become water production area once a land use determination (including delineation of buffer strips) has been made for the Tanjil River water supply catchment.

To be managed by the Forests Commission.

## F. BUSHLAND RESERVE

Throughout the predominantly agricultural regions of the State, a number of blocks of public land carry remnants of native vegetation. The vegetation, particularly the ground flora, has often been modified from the original by grazing and invasion of weeds. The native tree species still remain, however, and these areas provide landscape diversity, particularly where more intensive agriculture is resulting in a gradual reduction in the numbers of trees on freehold land.

The Council has recommended that many of these small remnants of the native vegetation should become Bushland Reserves. Their major uses are to maintain the character of the countryside and to provide diversity in the landscape. They may also provide some opportunities for passive recreation in relatively natural surroundings, but it is not intended that they be developed for recreation. In many instances the only access is via an unused road covered by an unused-road licence, which should continue subject to the approval of the Department of Crown Lands and Survey. These Bushland Reserves are generally too small to be of major significance for fauna conservation, although some may be important for migratory birds.

Management should aim at the maintenance of the native flora, particularly the tree species. Low-intensity grazing, limited gravel extraction, and the cutting of small amounts of firewood and an occasional post or pole are not necessarily incompatible with this primary aim, provided they are carefully planned and controlled and do not spoil the appearance of the reserves, particularly as viewed from roads, railway lines, and lookout points. These uses may not be appropriate to all reserves. In some instances, the management authority may have to exclude them, at least temporarily, in order to permit regeneration of tree species.

In all Bushland Reserves the suppression of fires remains the responsibility of the Forests Commission. Appropriate

fire-prevention measures will be carried out where necessary.

Vermin and noxious weeds within Bushland Reserves will be controlled by and will remain the responsibility of the Department of Crown Lands and Survey.

#### Recommendation

F1 That the area indicated on the map and described below be used to:

(a) maintain the character and quality of the local landscape

that

(b) passive recreation such as picnicking and walking be permitted

(c) horse-riding be permitted

(d) grazing be permitted subject to the approval of the managing authority

and that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Crown Lands and Survey

F1 Approximately 31 ha, south of allotment 7D of Section C, Parish of Tanjil East.

## G. UTILITIES

### Effects of La Trobe Valley coal extraction

Future land use in the eastern part of the Hill End investigation area may be affected by the need to find sites for the disposal of 3,000 million cubic metres of overburden and interseam materials, which would result from coal extraction in the western coal-field of the La Trobe Valley. Although a large internal overburden site currently exists in the worked-out area of the Yallourn Open Cut, a large external overburden area able to hold some 1,000 million cubic metres will be required after the turn of the century.

Investigation of sites for overburden disposal is part of a study, initiated by the Victorian Brown Coal Council, to recommend a strategy that will achieve the best use of the Victorian brown coal resource. This will be followed by a Parliamentary Natural Resources and Environmental Committee inquiry to consider the proposed Morwell River diversion, the location of an overburden disposal area, and any other significant issues in the context of the broad strategic planning for the La Trobe Valley. This inquiry is scheduled to commence early in 1983.

The State Electricity Commission is currently evaluating two alternative sites for overburden disposal. One proposal would affect land suitable for softwood production in the investigation area, and both would include portions of the Moondarra State Park, which adjoins the investigation area. Up to 1,600 ha of the Moondarra State Park and 1,800 ha of public land suitable for softwood production would be affected by one proposal, while up to 200 ha of the Moondarra State Park and 140 ha of the Moondarra Softwood Plantation would be affected by the other proposed site.

Recommendation

That any sites required for the disposal of overburden be selected so that they do not impinge on areas included in the Moondarra or other parks, flora and fauna reserves, or areas already planted to softwoods.

#### H. UNCOMMITTED LAND

In planning for balanced land use, known resources are allocated to meet known or predicted demands. The Council is aware that many changes in demand cannot be foreseen, and that the value of resources to the community will inevitably change. Similarly, knowledge of resources will change as exploration, research, and technology progress. For these reasons, it is desirable that planning be reviewed periodically, and it must be expected that resources will be reallocated or adapted to meet changed demands.

In addition, to satisfy such future requirements, it is desirable that land not be committed unnecessarily to relatively inflexible forms of land use. The Council therefore considers it necessary to recommend that areas of public land remain uncommitted to any primary use at this stage.

Land classed as uncommitted includes:

- \* areas that, although not needed to satisfy any known demand, are retained to meet future demands as yet undefined
- \* land known to have a high capability to satisfy one or more particular demands, but not at present committed to any one use, as foreseeable requirements can readily be met from other areas
- \* areas on which further study is required to determine the capability of the land to satisfy particular present or future demands.

Uncommitted land is to be securely retained as public land, although changes in its status may be required if these are recommended following a review by this Council. It may be used to satisfy present needs, provided this does not cause changes that would be difficult to reverse.

Recommendation

- H1 That the land indicated on the map be used to:
- (a) maintain the capability of the land to meet future demands
  - (b) produce those goods and services required by the community (such as forest produce, grazing, honey, and military training) that can be supplied without seriously reducing the long-term ability of the land to meet future demands

and that the land be Crown land withheld from sale and be protected forest under the provisions of the *Forests Act* 1958.

Note:

The land described in recommendations A3-A5 as land from which areas for softwood production might be allocated is to remain uncommitted land until and unless such land is required for softwood establishment. The land designated in recommendation B1 as forest area is also to remain uncommitted land until and unless adjacent land is allocated for softwood establishment.

I. OTHER PUBLIC LAND

- I1-I10 For that public land not referred to elsewhere in these recommendations, Council does not propose any alterations to the current land use as approved by the government following the publication of the recommendations for the Melbourne area in 1977.
- I1 Regional park
- I2 Reference area
- I3 Hardwood production
- I4 Bushland reserve
- I5 Public land water frontage reserves
- I6 Education areas
- I7 Recreation
- I8 Agriculture
- I9 Minerals and stone
- I10 Utilities and survey

# FINAL RECOMMENDATIONS

## Hill End Special Investigation

1:100 000

0 2 4 6 8  
Kilometres  
Land Conservation Council  
Victoria

LEGEND	
SOFTWOOD PRODUCTION	A1 Existing plantations and land previously allocated for softwood production
	H1/A3 Harold Creek
	H1/A4 Good Hope Creek
	H1/A5 Serpentine Creek
FOREST AREA	H1/B1 Various
HARDWOOD PRODUCTION	C1 Neerim East
	C2 Tanjil-Tyers
	C3 Tyers River West Branch
Natural Features Zone	
WATER PRODUCTION	D1 Blue Rock Reservoir (see note)
	D2 Tanjil River
FLORA AND FAUNA RESERVES	E1 Sweetwater Creek
	E2 Bull Beef Creek
BUSHLAND RESERVE	F1 Gooding
UNCOMMITTED LAND	H1 Various
OTHER PUBLIC LAND	I1-I10 Various - land to be used as determined by the Government and shown in the Land Conservation Council's final recommendations for the Melbourne area published in 1977.

Note:  
The State Rivers and Water Supply Commission is still in the process of purchasing further freehold land that will be affected by the Blue Rock Reservoir.

--- Study Area Boundary  
□ Public Land

