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RE: PINES FOR THE DONNYBROOK SANKLAND.

Two approaches for criticism of this proposal and this report present themselves: A. Philosophical

B. Environmental.

A. I tend to agree with the A.C.F. policy statement with respect to present forestry practices of planting softwoods in areas of existing natural forests. I believe that intensive softwood planting is not compatible with a multiple use aim for crown land and state forest areas. High level production softwood plantations should be developed by private enterprise on marginal agricultural land at that enterprise's expense, not at public expense.

In this case, insufficient data are presented to substantiate any claims the economics of this project being in the public interest.

In view of the forthcoming report on the environmental effects and the economics of various timber practices in Australia, I would recommend that no final decision be made until the timber industry report is available.

B. It should be stressed that this document in no way fulfils the requirements of an Environmental Impact Statement. A separate E.I.S. should be commissioned by the Forests Department to be carried out by an independant body AND any later monitoring of environmental effects should also be carried out independantly (e.g. by the E.P.A.).

This proposal cannot be justified on any Environmental or Conservation grounds (The letterhead of the Forests Department suggests that 2/4 of its function are protection and conservation!). The only justification for this project may be economic.

ENVIRONMENT

Clearfelling of the natural forests prior to pine planting will cause degredation of soils and nutrient losses with consequent increases on entrophication and turbedity in streams in the system. In addition, the drainage + evapotranspiration changes are very likely to cause increased runoff salinity, though the Forestry Department suggests this in unlikely.

In Bormann *et al* (1968) Nutrient loss accelerated by clearcutting of a Forest ecosystem
Science 159 : 882-884.

and

Bormann *et al* (1969) Biotic regulation of particulate and

soluble losses from a forest ecosystem.
Bioscience 19 : 600-610.

These studies showed:

Increased waterflow after felling (by 40%)

Increased soil loss " " especially the Clays and organic material (X50 times increase).

Loss of NO_x^- increase, over 10 fold after felling in some cases providing No_3^- levels in streams of 82 ppm (U.S. Health Standard is 45 ppm NO_3^-). which gave rise to algae blooms.

Associated loss of cations

Ca^{**}	increase loss	900%
Mg^{**}	" "	800%
Na^{*}	" "	300%
K^{*}	" "	2000%

The application of fertilizer during the planting of the pines (especially soluble P) will also cause some further euthophication of streams (though Forestry suggests not - there is no reason for the P to stay put!).

The application of herbicides for weed control and pesticides (this is a monoculture after all) will cause attendant environmental hazards.

The activities of the forestry officers during the programme is almost certain to increase the rate of spread of *Phytophthora* - not only through the movement of vehicle through the area, but also through the changes in drainage/ runoff and the increased turbidity and soil loss.

CONSERVATION

The flora of any planting area will be destroyed prior to the planting of the pines. Some regeneration may occur but this is likely to be controlled by the Forests Department to prevent any native plants outcompeting the pines. In the later stages of the pine development, native regrowth will be precluded by shading and the litter on the soil. The only exception to this will be if this Forests Dept. departs from the normal Australian practice of planting with about a 2 m separation. If the separation is increased to about 5 m, an understorey of native species may develop. (See Odum E.P. (1971) Fundamentals of Ecology Ed 3. W.B. Saunders Philadelphia pp 414-5).

This destruction of animal habitat will virtually ensure the death of most of the fauna for although some species will be able to migrate it is likely that adjacent areas would be heavily stocked already. As for recolonization I suggest that monocultural *Pinus* is a poor habitat for native fauna and certainly does not provide a food source. However, if the *Pinus* separation distance is increased as mentioned above and a native understorey is permitted to develop, it is more likely that recolonization will take place.

This increased planting separation may not be acceptable to the Forests Dept. for although it enhances the multiple use values of the resulting forest, timber productivity is reduced.

I would agree with Dr. Burbidge that a certain proportion of the area should be excused from the possible planting area - preferably a whole drainage system covering a range of topographic and habitat types - and put under the control of a different management authority from the Forests Dept. Not only will this secure the area for the future but different management practices would be required for it to be of full value to conservation. This is an ecosystem type which is not well represented in the present system of reserves.

The area should be isolated to prevent further *Phytophthora* spread.

This report generally tends to be superficial and vague, especially with respect to the environmental effects of the proposal and uses a language type which is premeditated towards the proposal, i.e. "the area is unattractive aesthetically, monotonous and has low productivity - planting of pines should improve appeal".

ANGAS HOPKINS
April 24, 1975.