MANAGEMENT PLANNING FOR SMALL BUSH AREAS IN THE PERTH METROPOLITAN AREA

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MANAGEMENT PLANNING FOR SMALL BUSH AREAS† IN THE PERTH METROPOLITAN AREA

The System 6 Study Report (published in April 1981) included many small bush areas in the Perth Metropolitan Area, and for over thirty of them recommended that 'the growth and regeneration of local indigenous flora be encouraged', or words to that effect, in consultation with the Department of Conservation and Environment. In response to that report this Department strongly supported the idea of encouraging local flora, but argued that the body to be consulted should not be the Department of Conservation and Environment but the Department of Fisheries and Wildlife. Here are excerpts from the Department's response:

'In the more built-up areas, such as the Metropolitan area, where there are fewer nature reserves and more reserves under the control of local authorities, it is also important to have places devoted to only local naturally occurring plants. Built-up areas contain a confusing mixture of cultivated plants. If people are to become familiar with local species of plant and the structures that their associations take, and to understand how plant communities relate to their natural environment, it is especially important that they be able to see local species growing in natural communities without the distraction of other species, whether Western Australian or introduced, growing with them. Although in most urban reserves, which are usually subject to much pressure, it is not possible to maintain the entire range of plant species native to that site, the reserves could still be valuable in containing natural associations of local species.

Nature conservation depends to a large degree on people's awareness of nature, of which natural associations of plant species are an important part. It is therefore of great value to have areas of local plant communities where people will see them.'

'As regards the implementation of the recommendations, however, we believe that the body concerned should not be the Department of Conservation and Environment but the Department of Fisheries and Wildlife. Through the 1976 amendment to the Wildlife Conservation Act, the Government has given this Department the role of protecting the State's flora. Moreover, it is this Department that has the staff with expertise in the State's flora and its ecology, and the management of reserves; whereas the Department of Conservation and Environment would have to seek the advice of other bodies in providing the necessary assistance. This Department has for some years been giving advice on how to manage Metropolitan wetlands to conserve their flora and fauna. The provision of advice on conserving local vegetation in general would be a logical extension of the role, and is likely to occupy only part of one person's job. Although the "consultation" role could in many cases involve chiefly the bringing together

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† not nature reserves

of suitable groups to discuss the recommendations and the best ways to implement them (e.g. a group of local authorities sharing a biological consultant) it is still important that the Department be consulted for specific knowledge and expertise.'

Since that time a number of enquiries about the management of small bush areas have been made to this Department or to me, privately, including areas in Wanneroo (2 areas), Joondalup, Cottesloe, Peppermint Grove, Fremantle, Bicton, Bull Creek and Thornlie.

This Department believes that management planning should be based on a sound management plan that is widely circulated to interested bodies and persons and that is drawn up in consultation with those bodies and persons; this is surely even truer for an area under the control of a local authority, with less clearly defined responsibilities. I have therefore drafted two examples of model management plans for use as guidelines for local authorities and residents' committees (see below).

In the 0930-1000 workshop on Wednesday, May 11, I should like the group to discuss:-

(a) The two model management plans, below:

  (i) whether this Department should use them in providing advice to local authorities or residents' committees on managing bush; and, if so,

  (ii) what changes should be made to improve them.

(b) The extent to which this Department can provide such advice. Should it be limited to telephone discussions and sending out copies of the model management plans, or could this Department undertake

  (i) inspection of the areas concerned,

  (ii) on-site discussions, or

  (iii) close liaison with the body concerned during preparation of a management plan?

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MODEL MANAGEMENT PLAN FOR AN AREA OF GOOD BUSH IN AN OUTER SUBURB OF PERTH

PART ONE : GENERAL

The purpose of this management plan is to retain the area of bush located at (see attached plan) for the wildlife it contains and for people's enjoyment. Bush areas support not only many species of local plants but also a great diversity of associated animals, especially invertebrates (insects, spiders, etc.). By retaining areas of bush we can become familiar with local flora and fauna. Such areas are most appropriate and convenient sites on which schools (both primary and secondary) could conduct field studies as part of their biology courses. Even for those persons uninterested in learning about local flora and fauna, bush areas can provide a restful change from the many developed parks, and a historical insight into the past state of their local environment.

It should be remembered that there will not always be bush around the suburb of . Only fifty years ago there were extensive areas of bush in and around such suburbs as Nedlands, Attadale and Mosman Park, but very little remains today: it has been replaced by roads and houses and largely artificial parks and gardens. In some of these older suburbs, residents are taking an increased interest in small remnants of bush, both in planning for their retention and management and in carrying out weeding and other management practices.

The System 6 Study Report recognised the value of retaining areas of bush, and for over thirty areas in the Metropolitan Region recommended that 'the growth and regeneration of local indigenous flora should be encouraged' or words to that effect.

This particular area contains a large number of plant species: {number} (see attached list). Most of these species are typical of the soil-type of this site: {soil-type}. Some of them, for example {species}, are virtually confined to these soils, while others, for example, {species}, are of more widespread occurrence and are also found growing on {soil-types}. An especially interesting feature is that the species here are by no means uniformly distributed. {species}, for example, grow mostly at {part of area}, whereas {species} are largely confined to {part of area}. This is probably because .

Since this plan involves the retention of the area as bush (i.e., a *natural association* of species), no planting will be undertaken. The planting of species that do not grow here would only detract from the total effect, and serve as a perpetual reminder of human interference. Even the planting of species that do grow here could easily interfere with the natural patterns of the distribution of the various species (see above). In the management of *degraded* areas of bush it is sometimes necessary

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to plant where there are bare patches to speed the process of recovery (taking great care to plant only local species propagated from seed or cuttings taken from naturally occurring plants on or near the site), but that is quite unnecessary in this area, with its good cover of vegetation.

Term of Plan

The term of this management plan is 10 years. After 10 years the Management Measures (below) will be reviewed to determine their effectiveness, and a new management plan will be produced, either with the same or with modified Management Measures. The Management Aims of the new plan will remain unaltered.

PART TWO : PLAN FOR MANAGEMENT

Management Aims

1. To protect the local vegetation and maintain it in a state as close as possible to its natural one.

2. To encourage the use of the area by school-children and others in such a way as to help them develop a familiarity with local vegetation and an understanding of its ecology.

Management Measures

1. Public Use

   (i) The careful design of pathways around or through the area to encourage people to keep to them and thus not trample the vegetation.

   (ii) The use of signs, labels, etc., to help people to learn about local vegetation.

2. Weeding when and where necessary - for the purpose of reducing competition from introduced plants, and thus encouraging the growth and regeneration of naturally occurring plants. It will be adequately supervised to ensure that disturbance to naturally occurring plants is minimal, and will take into account Bradley's principles*.

3. Any rubbish that has been dumped will be promptly removed. Rubbish has several harmful effects. It looks unsightly and encourages further dumping. By acting as a fertilizer it harms local plants and at the same time encourages weeds. It may create a fire hazard and may harbour vermin.

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* *Bush Regeneration* by Joan Bradley (Mosman N.S.W.). The Mosman Parklands and Ashton Parks Association 1971

4. Measures to Control Fire

(i) Weeding (No. 2), which will help reduce the incidence and impact of fire.

(ii) The ploughing or mowing of minor firebreaks around the borders of the area if necessary. Internal paths will act as further firebreaks, and will help confine any fires that occur, preventing them from burning the entire area.

(iii) The asking of residents near the area to volunteer as fire informers, to notify the {body} of outbreaks of fire.

Frequent fires do a lot of harm, by injuring and thinning the natural vegetation and reducing the leaf litter on the ground, and at the same time encouraging weeds. Vegetation that has been recently burnt is more accessible to people, and is thus vulnerable to trampling and soil disturbance. The aim will be to maintain an interval of *at least* 15 years between fires. Vegetation that remains unburnt for much longer still is of scientific interest because it provides information on such things as how long various plants live and how they reproduce in the absence of fire.

5. The erection of barriers where necessary to encourage people to keep off fragile areas {e.g. steep slopes}; and the erection of temporary fences if necessary to protect from trampling areas that have been accidentally burnt.

6. The taking of photographs from fixed points every two years, and their careful examination. If they indicate any deterioration in the plant cover, the causes of the deterioration and appropriate remedial action will be carefully considered. If necessary, advice will be sought from the Department of Fisheries and Wildlife.

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MODEL MANAGEMENT PLAN FOR A SMALL AREA OF SEMI-NATURAL BUSH IN AN INNER METROPOLITAN SUBURB

PART ONE : GENERAL

The purpose of this management plan is to retain the area of bush located at (see attached plan) for the wildlife it contains and for people's enjoyment. Even small areas of bush support not only many species of local plants but also a great diversity of associated animals, especially invertebrates (insects, spiders, etc.). By retaining areas of bush we can become familiar with some of the local flora and fauna. Such areas are most appropriate and convenient sites on which schools (both primary and secondary) could conduct field studies as part of their biology courses. Even for those persons uninterested in learning about local flora and fauna, bush areas can provide a restful change from the many developed parks, and a historical insight into the past state of their local environment.

Areas of bush in the Metropolitan Region are fast disappearing as the city continues to expand. Moreover, remnants that do survive rarely stay in a natural or near-natural state, for two reasons. Firstly, they are subjected to heavy pressures, such as rubbish-dumping, trampling and frequent burning. Secondly, non-local plants are often planted within them, which detracts from their natural character. However, if well managed, bush areas can not only retain but also improve their present condition. Management techniques employed in recent years have increased the cover and even the diversity of the local vegetation of a reserve in Hollywood. In Fremantle, the vegetation cover in a small bush area has increased simply as a result of less-frequent burning.

The System 6 Study Report recognised the value of retaining areas of bush, and for over thirty areas in the Metropolitan Region recommended that 'the growth and regeneration of local indigenous flora should be encouraged' or words to that effect.

This particular area has in the past been subjected to many of the pressures mentioned above, which have caused changes in its appearance. Trees have been damaged and the understorey has become sparser and fragmented. Introduced plants, especially {species}, have become abundant. Nevertheless, {number} of the original species survive on the reserve (see attached list). Most of these species are typical of the soil-type of this site: {soil-type}. Some of them, for example {species}, are virtually confined to these soils, while others, for example, {species}, are of more widespread occurrence and are also found growing on {soil-types}. An especially interesting feature is that the species here are by no means uniformly distributed. {species}, for example, grow mostly at {part of area}, whereas {species} are largely confined to {part of area}. This is probably because

Since this plan involves the retention of the area as bush (i.e. a *natural association* of species), any planting that is undertaken will be strictly of *local species* (i.e. those species that

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are natural to this particular site) and will be done in such a way as to preserve the natural character of the area (see *Planting*: Management Measure No. 4 below). Increasing the cover of natural vegetation will be achieved as far as possible by natural regeneration rather than planting.

Term of Plan

The term of this management plan is 10 years. After 10 years the Management Measures (below) will be reviewed to determine their effectiveness, and a new management plan will be produced, either with the same or with modified Management Measures. The Management Aims of the new plan will remain unaltered.

PART TWO : PLAN FOR MANAGEMENT

Management Aims

1. To protect the local vegetation and maintain it in a state as close as possible to its natural one.

2. To encourage the use of the area by school-children and others in such a way as to help them develop a familiarity with local vegetation and an understanding of its ecology.

Management Measures

1. Public Use

   (i) The careful design of pathways around or through the area to encourage people to keep to them and thus not trample the vegetation.

   (ii) The use of signs, labels, etc., to help people to learn about local vegetation.

2. The removal of the non-local trees and shrubs that have been planted in the area. This will be done

   (i) in winter, so as not to subject the local plants to the sudden removal of shade during the summer

   (ii) with as little disturbance as possible to the soil and the local vegetation.

   Although it is always sad to remove plants, the removal of non-local plants is necessary here to allow the area to become a meaningful, natural plant association, suitable for biological field studies and as a harmonious reminder of the past state of this part of {suburb}.

3. Weeding - for the purpose of reducing competition from introduced plants, and thus encouraging the growth and regeneration of local plants. It will be adequately supervised to ensure that disturbance to naturally occurring plants is minimal, and will take into account Bradley's principles*.

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* *Bush Regeneration* by Joan Bradley (Mosman N.S.W.). The Mosman Parklands and Ashton Parks Association 1971 ..

4. The planting, principally in bare areas, of the species occurring naturally on the site (i.e. the species in the attache list), and only those species.† They will be propagated only from seeds or cuttings collected from the site itself or nearby sites with a similar soil-type. Seeds and cuttings so collected may be given to a nursery for propagation on the understanding that no substitutes will be accepted. No ordinary nursery plants will be used.

   Wherever natural regeneration can be utilized to fill in bare spaces, this will be preferred to planting, and planting will be regarded as a preliminary measure, to be discontinued once plant cover has increased.

5. The watering of plants experiencing their first summer after planting. Such watering will be no more than once a week, and to be done individually by hand. No general watering will be undertaken, because it is liable to harm some species and upset the natural balance.

6. Any rubbish that has been dumped will be promptly removed. Rubbish has several harmful effects. It looks unsightly and encourages further dumping. By acting as a fertilizer it harms local plants and at the same time encourages weeds. It may create a fire hazard and may harbour vermin.

7. Measures to Control Fire

   (i) Weeding (No. 3), which will help reduce the incidence and impact of fire.

   (ii) The mowing or ploughing of minor firebreaks around the borders of the area if necessary. Internal paths will act as further firebreaks, and will help confine any fires that occur, preventing them from burning the entire area.

   (iii) The asking of residents near the area to volunteer as fire informers, to notify the {body} of outbreaks of fire.

   Frequent fires do a lot of harm, by injuring and thinning the natural vegetation and reducing the leaf litter on the ground, and at the same time encouraging weeds. Vegetation that has been recently burnt is more accessible to people, and is thus vulnerable to trampling and soil disturbance. The aim will be to maintain an interval of *at least* 15 years between fires. Vegetation that remains unburnt for much longer still is of scientific interest because it provides information on such things as how long various plants live and how they reproduce in the absence of fire.

8. The erection of barriers where necessary to encourage people to keep off fragile areas {e.g. steep slopes}; and the erection of temporary fencing if necessary to protect from trampling areas that have been accidentally burnt.

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† Note: If the number of remaining local species is very small indeed it may be desirable to write into the management plan the planting also of other species that are almost certain to have originally grown on the site. Advice should be sought from the Department of Fisheries and Wildlife.

9. The taking of photographs from fixed points every two years, and their careful examination. If they indicate any deterioration in the plant cover, the causes of the deterioration and appropriate remedial action will be carefully considered. If necessary, advice will be sought from the Department of Fisheries and Wildlife.