MONITORING VEGETATION DAMAGE DUE TO ORIENTEERING

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FOR: The Department of Conservation and Land Management of W.A.

11 August 1986

Introduction

In response to a request from the Department of Conservation and Land Management, the Orienteering Association of Western Australia carried out a survey of damage to vegetation during an orienteering event held in Julimar Forest on 8th June 1986.

Methods

The procedure to be followed was communicated verbally by Ian Hurford (Dept of C.A.L.M.) to Roy Hiller (O.A.W.A.). In accordance with these instructions, monitoring was focused on controls (selected points in the competition area which must be visited by competitors) as this is where the most serious damage is likely to occur. Vegetation (woody shrubs up to 2m only) around three controls was monitored for physical damage by inspection before and after the competition.

Using inconspicuous markers, an annular strip 1m in width and of inside diameter 20m was marked out around each control before the event. These strips, each approximately 66m^2 in area, were then searched thoroughly for broken branches and any other vegetation damage which might be confused with the effects to be monitored. Photographs of the area around each control were taken. After the event, these strips were again searched, and the position and nature of any new damage to vegetation recorded. Further photographs were taken for comparison.

Results

The controls monitored were all within 1km of the event centre which was located beside Julimar Brook, 200m south of Cook Road (see attached map). They were situated in varying terrain, as follows:

Control 1 This was at the head of a very short dry watercourse on a hillside in open woodland dominated by *Eucalyptus accedens* and *E. calophylla* with occasional *Xanthorrhoea preissii*. The sparse, low (<0.75m) shrub layer consisted mainly of *Bossaeja ericoides* with some *Hakea lissocarpa, Acacia pulchella* and *Hibbertia hypericoides*. This control was visited by 43 competitors during the event on 8th June.

Control 2 This was situated in the intersection of two dry watercourses near the head of a small valley defined by lateritic breakaways. The vegetation was dominated by *E. accedens*; on the south side the shrub layer was very sparse, consisting of scattered low and prostrate shrubs, including *Hakea, Lomandra, Gastrolobium* and epacrids. The shrub layer was thicker on the north side of the watercourse, and included *Bossaeja, Gastrolobium* and *Xanthorrhoea*. This control was also visited by 43 competitors.

Control 3 This control was placed at the foot of a scree slope on the north side of a ridge which rose abruptly from the valley floor. There were only scattered shrubs on the loose scree, including *Bossaeja ericoides*, but elsewhere near the control, thickets of *Hakea erinacea* and a stand of *Xanthorrhoea preissii* dominated the vegetation, with some *Hakea prostrata, Hypocalymma angustifolia* and *Phyllanthos calycinus* also

present. This control was visited by 49 competitors.

Damage to the vegetation which was recorded during this survey is listed in Table 1. The length and diameter of broken woody stems are also shown.

Table 1. Description of damage to woody vegetation below 2m in height, recorded in three 66m^2 survey strips around controls monitored during the orienteering event held in Julimar Forest on 8 June 1986.

Control no.	Damaged shrub	Diameter of broken branch	Length of broken branch	Direction from control
1	*Bossaeja*	2mm	200mm	280^0
2	*Hakea*	2mm	150mm	9^0
2	*Bossaeja*	3mm	350mm	57^0
2	*Hakea*	3mm	100mm	80^0
3	*Bossaeja*	3mm	450mm	178^0
3	*Hakea*	3mm	570mm	345^0

Unfortunately, the photographs taken during this exercise were mislaid after being sent in for development, and were not available at the time of submission of this report.

Discussion

Only relatively minor damage to woody shrubs was recorded during this survey, despite the large number of people which had moved into and away from the controls. The total damage comprised 6 broken twigs in an area of about 200m^2. Even these were discovered only by careful searching; no gross damage was visible to the casual observer. By way of explanation, it

should be pointed out that an orienteer, or indeed anyone trying to move quickly through the bush, soon discovers that the most efficient route is the one which gives the least physical resistance. The result is that one will subconsciously avoid running through a bush if there is a short way around it. In Western Australia, this option is made even more attractive by the prickly nature of most of the common shrubs.

Recovery of selected native plant species after wildflower harvesting has recently been monitored in parts of the south-west (Napier, 1985). This work has shown that resprouting during the growing season following harvesting allows the rapid recovery of the woody plants studied, after far worse damage than that recorded in this survey. It is most unlikely that any effects of the 8 June 1986 event will be detectable by early 1987.

Reference

Napier, A.C. (1985). The Western Australian Wildflower Industry. 3. Further investigations on the regeneration capacity and vulnerability of some heavily exploited native plant species in Western Australia. Department of Conservation and Land Management of Western Australia, Unpublished Report.