FIRE AND MULGA COMMUNITIES IN HAMERSLEY RANGE NATIONAL PARK A PRELIMINARY SURVEY.

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Hamersley Range National Park, in the Pilbara region of W.A. straddles the boundary between tree or shrub steppe dominated by hummock grasses (Triodia and Plectrachne spp.) and Mulga (Acacia aneura) woodlands. At their northern limit the woodlands occur as patches occupying specific sites. Southwards they become more extensive until they are more or less continuous towards the southern and south-eastern boundary of the Region.

Even at the margin of their occurrence the woodlands occupy a variety of very different sites supporting different understories. To the east of Mt. Bruce in Hamersley Range National Park, there is a large internally draining "flat" separated from surrounding ridges and mountains by alluvial slopes, typically at 1^{o} to 3^{o}.

On the "flat" itself there is considerable variation from low lying sites with cracking soils that support dense Themeda australis under a fairly uniform Mulga canopy to the margins where the woodland is very open or sparsely groved. Here, after rain, Aristida contorta may form swards and other annuals flourish but perennial shrubs are few and the ground is often bare. Throughout the "flat" occasional charred stumps are evidence of old fires but the woodland persists essentially intact.

The alluvial slopes consist of deep stony loams. They now support a Plectrachne grassland with hummocks frequently up to 0.75m high and contiguous. Charred Mulga stumps and young Mulga shoots occur throughout but there are only two very small (and doubtfully typical) remnants patches of live, mature Mulga trees. The likelihood of fires in the Plectrachne is high and fires before the regenerating Mulga matures may eliminate it from the slopes. A rapid survey of the northern half of the National Park showed that the Mt. Bruce pattern is typical and intact "slope mulga" communities are all but gone from that area.

Preliminary results suggest "slope mulga" had a relatively diverse understory rich in shrubs which are absent from the "flat". However we do not yet have a detailed knowledge of the faunal or floral components of intact "slope mulga" communities or their capacity to survive in Plectrachne hummock grasslands. However our preliminary observations suggest that some mulga dominated communities are significantly more vulnerable to fire than others and may be replaced by hummock grasslands.