FLORA CONSERVATION IN WESTERN AUSTRALIA

Angas J.M.Hopkins and Stephen D.Hopper
W.A. Wildlife Research Centre,
P.O. Box 51, Wanneroo,
Western Australia. 6065

Poster Abstract

The flora of Western Australia is well known for its species richness, its high degree of endemism, and for its many spectacular taxa with horticultural potential. Effective conservation of the flora has involved, and will increasingly depend on the integration of results of studies on numerous aspects of biology at the species and community level.

Western Australia has ca 6000 described vascular plant species and an estimated 600-1800 undescribed species. Of the known species, several hundred are regarded as rare or restricted in distribution, and at least a further 1000 are too poorly collected to permit a reliable assessment of conservation status. The species are not evenly distributed across the landscape: about 40% are restricted to the South West Botanical Province. Recent biogeographical studies have delineated more precisely areas of exceptional richness which deserve priority for conservation.

Although pressures on the flora of this State have perhaps been less than those elsewhere in Australia, and substantial remnants of bush have persisted to this time, a number of threats can be tentatively identified. These include agricultural land clearance, mining, intensive production forestry, invasion by exotic organisms, alteration of water and nutrient status, salination, recurrent fire, and commercial harvesting for the wildflower trade.

A primary objective of conservation organizations in Western Australia has been the establishment of a representative system of viable reserves. The State now has some 1070 national parks and nature reserves occupying 126,000 km^2, or 5.3% of its total area. However the distribution of the reserves does not conform precisely with biogeographic patterns. For example the semi-arid zone which includes the wheatbelt and the northern and southern sandheath areas, and which has been a zone of prolific speciation, is relatively deficient in reserves. Further, island biogeographic theory suggests that, at best, 40% of the biota would be expected to persist within the present reserve network. While the aquisition of reserves for the conservation of representative samples of ecosystems is a continuing need, extra measures are required for rare and endangered species. These measures include detailed field surveys, creation of special reserves, cultivation, maintenance of seed banks and specific legislation for the protection of endangered species.

Reservation alone is not sufficient to ensure conservation in perpetuity. Reserves must be managed for the maintenance of the evolutionary environment of the assemblage of plants and animals. Studies on the germination, phenology, pollination, demography, and general fire ecology of native plant species will provide valuable guidelines for management. Fire is the prime management tool both for the purpose of fire control and for maintaining natural processes.

Efforts to conserve the State's floral heritage ultimately rest on strong public support. It is encumbent on professional botanists to stimulate and maintain public interest.