

## WEED SURVEYS IN THE KIMBERLEY

Kimberley weeds, the topic for the talk on 1 September 1999, has been an area of specialisation for the speaker, Greg Keighery, a Senior Research Scientist with the Department of Conservation and Land Management (CALM). Greg has previously spent 15 years working in Kings Park and in 1994 he produced the Weed, Vascular Plant Check List. The definition of a weed is a plant that is able to reproduce without assistance by humans, however a more commonly used definition is a plant that is growing in an unwanted site. The occurrence of weeds continues to increase despite the efforts of the Quarantine Service to curb their introduction into Western Australia.

Using a map giving the number of weeds occurring in the different botanical areas of WA it was demonstrated that the Kimberley is relatively weed-free, having a total of 167 known weeds, compared with the Perth metropolitan region which has 795 weeds. The Kimberley is relatively undisturbed and this accounts for the lower weed count. There are 1155 naturalised species in WA, including two ferns. There are three main methods of weed introduction, 60% being intentionally introduced mostly as garden ornamental plants, 15% as fodder crops and 12% as culinary herbs. Approximately 10% of garden species spread and 1% of them become weeds.

The Quarantine Service (a Commonwealth organisation) has a prohibited weeds list and has instituted a screening program which includes a compilation of a statewide checklist of weeds, surveying bushland adjacent to Kings Park (which has 2400 exotic species), surveying CALM and local arboreta (400 species of trees), and surveying garden plants of Perth (over 4000 species).

Three sites have been thoroughly surveyed by Greg and his colleagues, these being Koolan Island after the cessation of mining, Kununurra, and Christmas and Cocos (Keeling) Islands. Lantana, which is a weed world-wide, is a major weed in the Northern Territory and the Kimberley. Cleome diandra occurs on Koolan Island and may have been accidentally introduced. Tecoma, with its large yellow flowers and from Central America, is on Koolan and Christmas Islands and in Exmouth and Geraldton. Poinciana is becoming a weed in the Northern Territory and on Koolan and Christmas Islands, and it also grows well in the Kimberley. Of the garden plants, Hippeastrum regina is a weed on Christmas and Cocos Islands, and being tropical there is the possibility that it could seed in the Kimberley. Zephranthes crocea, from Argentina and Bolivia, is a dominant ground cover weed, known as the Freesia of the north. Other weeds include Euphorbia, Aloe vera, Bryophyllum and Leonotis pelifolia. The latter is found in the Northern Territory and Kalumburu and is spread by fire. The pea weed, Macroptilium atropurpureum is in Kununurra and spreading into Parry Lagoons and around the Ord River. At the edge of Lake

Kununurra is the Candlenut, which is actually naturalised in that area. *Merremia aegyptica*, a smothering vine, chokes the native flora in some areas, and *Passiflora foetida* (native passion fruit) is another smothering vine that is very common in the Kimberley. The lawn weed, *Desmodium trifoliatum*, found outside the CALM office in Kununurra, has escaped into the nearby wetlands. *Clitoria ternatea*, a pea with a dark blue flower and often planted as a hedge over fences, is another nuisance weed. The Ngoroo Burr was first noted in 1978 and is still present despite efforts to eradicate it by sealing off the affected areas under strict quarantine regulations. Buffel grass, often spread by stock transport, is a major weed choking out native grasses and needs a management plan to control it. *Lencena*, a dominant tree along the rivers in Kununurra, is continuing to spread and *Tagasaste* may also be a problem in the future. CALM has been disposing of the local date and fan palms because in years to come they could become weeds.

What can be done to eradicate weeds? In agricultural areas \$3-5 billion is spent per year to combat weeds. We need to reduce the numbers of weeds and be vigilant and prevent their escape into unaffected areas, and assistance by local residents is needed to eradicate weeds in their areas.

*Daphne Choules Edinger*

Editor's Note: The accuracy of the above summary has not been confirmed by the speaker. If it contains any inaccuracies, these are the responsibility of Kimberley Society.