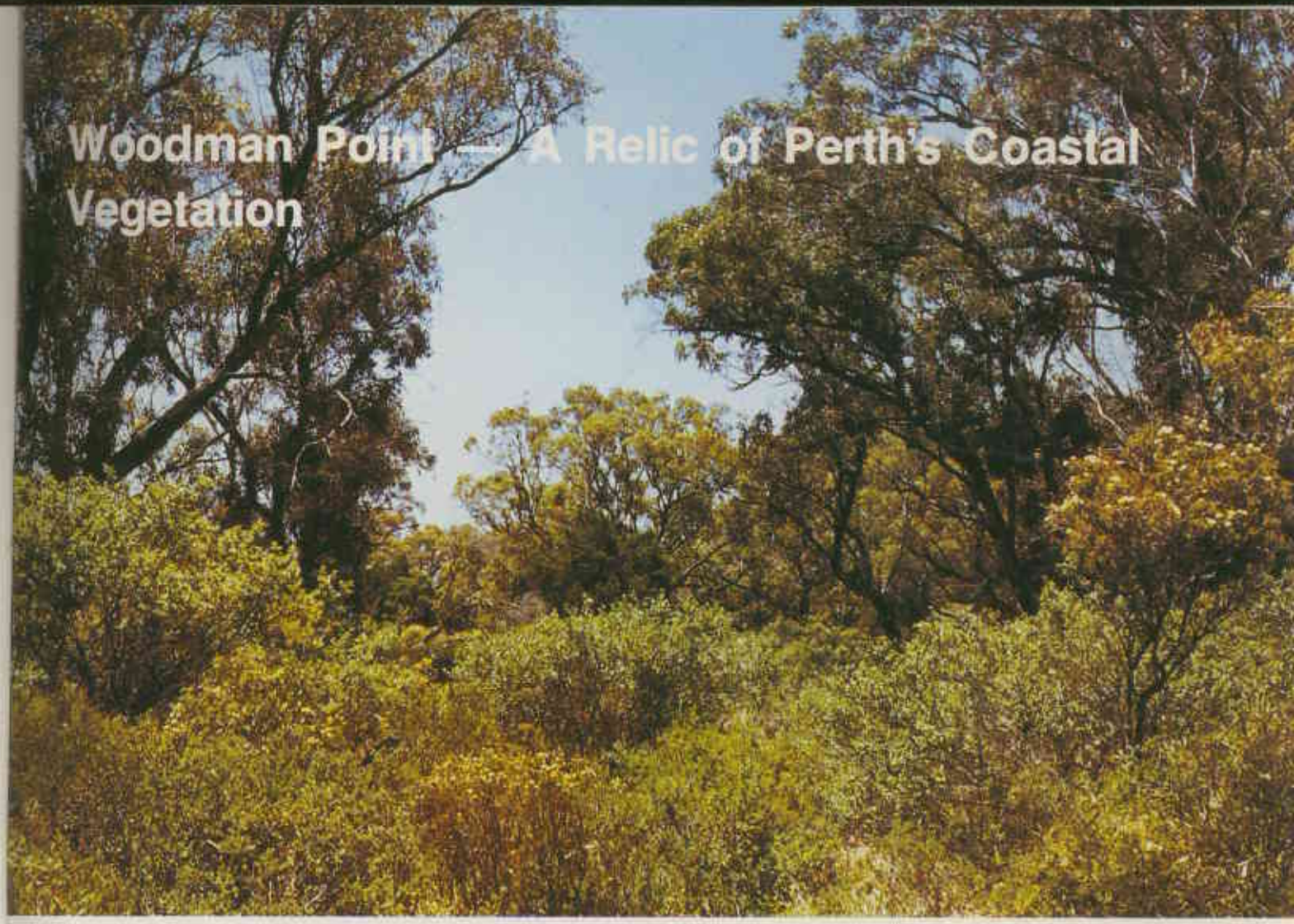
Woodman Point — A Relic of Perth's Coastal Vegetation



▲ Tuart woodland, with typically spreading trees and a dense woody understorey. In flower at the right is the honey-myrtle *Melaleuca acerosa*. (Photo R. Powell)

Although many people visit the southern shore of Woodman Point, the rest of this small peninsula (9 km south of Fremantle Harbour) is not well known, because it has been fenced since the beginning of this century in two enclosures — a Quarantine Station and a Reserve for Explosives.

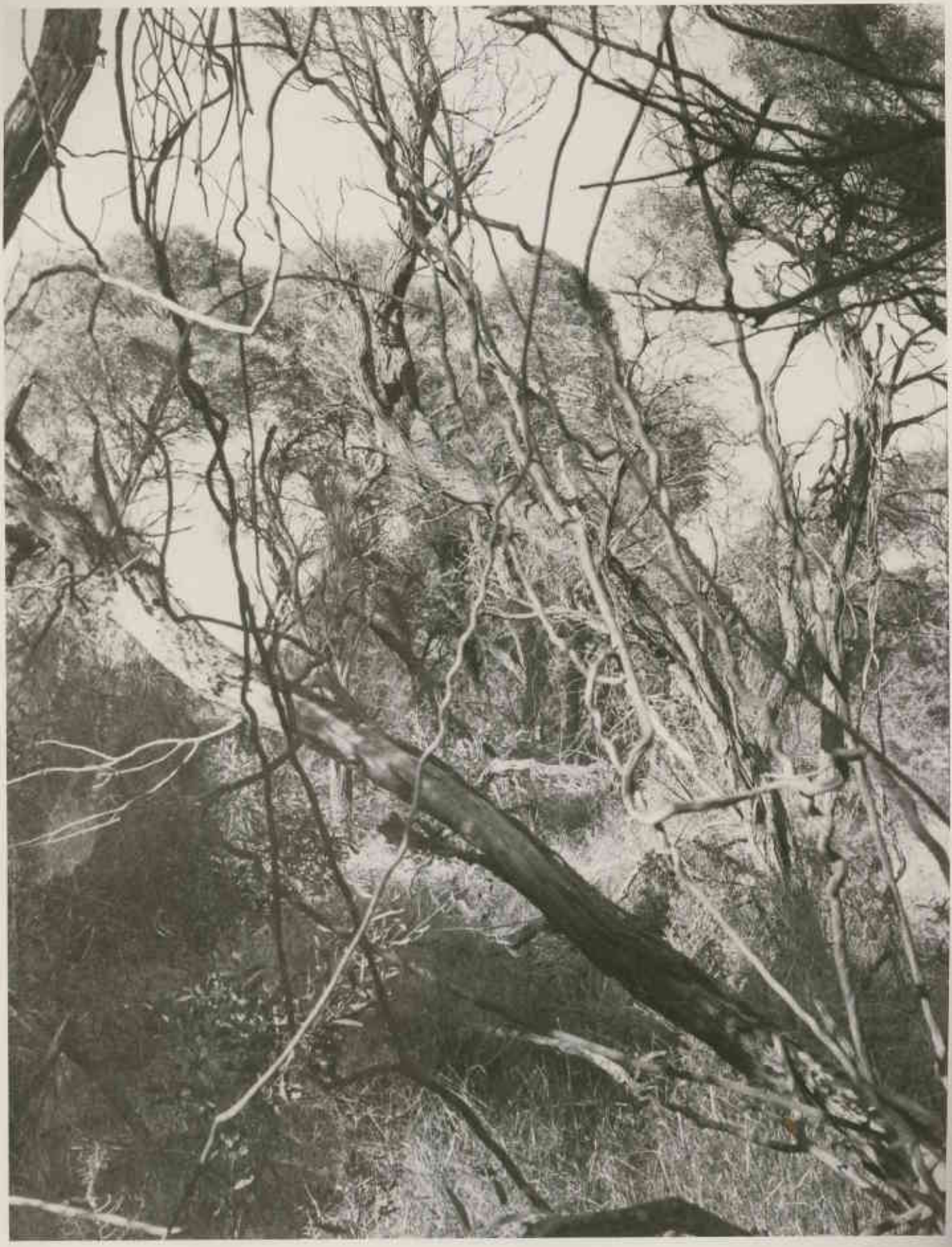
The Point is thought to have formed during the last few thousand years, by the accummulation of beach sand on an underwater limestone shelf. The soil is entirely of the type known as Quindalup — the white sand bordering the sea in a belt of varying breadth from Geographe Bay to Dongara.

Considerable portions of the enclosures were left uncleared, and four plant communities may be easily distinguished: a seaside community; a cypress belt; tuart woodland and forest; and heath and scrub. The seaside community, along the shores of the peninsula, consists mostly of ground-covers and low shrubs that can tolerate the poorness of the soil and the heavy salt content of the air close to the sea. The lessening of such maritime influences is reflected in a sharp zonation of the more and less tolerant species.

Inland of the seaside community lies a belt consisting typically of low closed forest of Rottnest cypress (*Callitris preissii*) with a few chenille honey-myrtles (*Melaleuca huegelii*), the canopy being so dense that little understorey can grow. The stands are interrupted, however, by occasional patches of *Acacia rostellifera* over a thicker, richer understorey.

Tuart (*Eucalyptus gomphocephala*) forms a woodland over much of the inner part of the peninsula; where the land is especially low-lying the trees stand closer together, in a small forest. The tuart is absent, on the other hand, from some of the ridges, sites with slightly drier soil and greater exposure to salt-bearing winds; here the vegetation is heath and scrub. The tuart and heath/scrub communities are floristically the

▼ Pink fairy orchid (*Caladenia latifolia*), abundant in the tuart community. (Photo R. Powell)



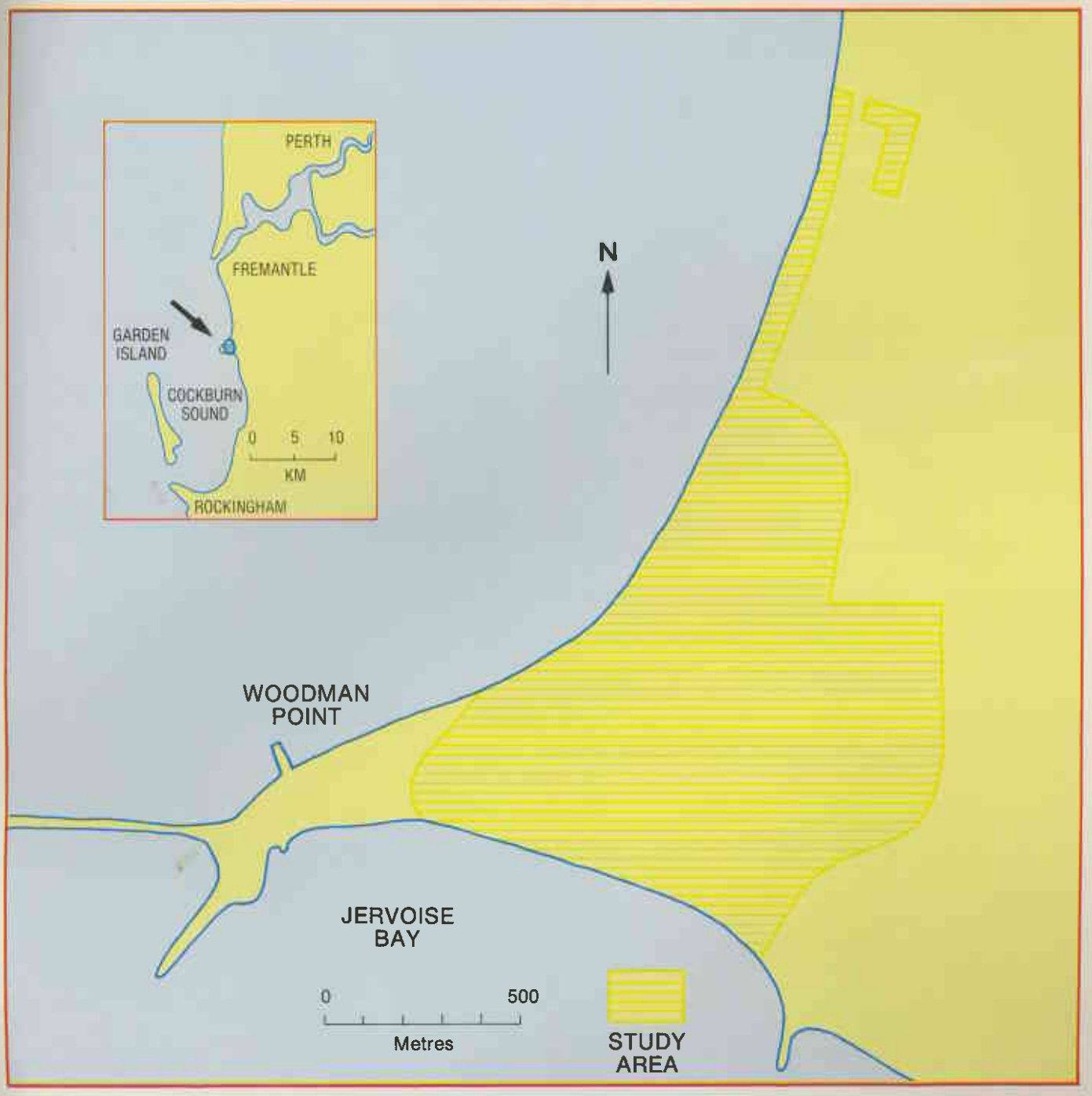
▲ Tangles of the creeper *Cosmesperma integerrimum on Acacia rostellifera* trees. These wattles grew up after this section of the enclosure was last burnt, about 1949, and are now fully developed. The oldest of the creeper stems probably also date from that time. The understorey here is dominated by the native spear-grasses *Stipa elegantissima* and *S. varuabilis*. (Photo R. Powell)

richest, and have many species in common, but in different proportions. For example *Diplolaena dampieri* and the honey-myrtle *Melaleuca acerosa* dominate the heath but are among the less common components of the understorey in the tuart community.

The exclusion of the general public has largely protected the enclosed vegetation from trampling and dumped rubbish. A further, and probably the most important, consequence has been the rarity of fires. The effects of two fires (in 1949 and 1973) are still evident in two sections of the enclosures, but other parts have probably not been burnt this century and perhaps for much longer.

As a result the vegetation differs in many respects from other coastal vegetation in the Metropolitan Region, even though the species represented are largely the same. The tuart trees, for instance, are generally in much better health than tuarts elsewhere in the Metropolitan Region, especially those near the ocean, many of which have been deteriorating for years under the combination of stresses brought to bear by an altered environment. Many shrubs and creepers develop to much greater sizes (and ages) at Woodman Point than elsewhere; examples are the wattles *Acacia cochlearis* and *A. rostellifera* (which indeed grows into a tree), the honey-myrtles *Melaleuca acerosa* and *M. huegelii*, the heath *Leucopogon parviflorus*, quandong *(Santalum acuminatum)* and cockies' tongues *(Templetonia retusa)*, and the creepers *Comesperma integerrimum*, *Hardenbergia comptoniana* and old man's beard *(Clematis microphylla)*.

The proportions of various species



▲ *Diplolaena dampieri* — abundant at Woodman Point but uncommon elsewhere in the Metropolitan Region. (Photo R. Powell)

▲ Belt of Rottnest cypress *(Callitris preissii)*. (Photo R. Powell)

Coast goundsel *(Sencio lautus)* — a species of the seaside community. (Photo R. Powell) ▶

▼ Leaves and fruits of quandong *(Santalum acuminatum)*. (Photo R. Powell)

▲ Multi-stemmed tuart. Whilst tuart trees normally grow with a single trunk, multi-stemmed specimens are not uncommon on coastal sites such as Woodman Point; this habit allows them to develop a lower, broader canopy, which is less vulnerable to salt winds. (Photo R. Powell)

◀ Yellow tail-flower *(Anthocercis littorea)*, a short-lived colonizer of disturbed sites, uncommon at Woodman Point. (Photo R. Powell)

▼ View across heath, with tuart woodland behind. In flower is dune moses *(Acacia lasiocarpa)*. (Photo R. Powell)

in the vegetation also differs, those that die when burnt (such as the shrubs *Spyridium globulosum*, *Diplolaena dampieri* and *Leucopogon oxycedrus)* being much more abundant at Woodman Point than elsewhere. Particularly striking are the dense stands of Rottnest cypress *(Callitris preissii);* a similar belt may once have extended right along the coastal strip, but these trees are readily killed by fire, and elsewhere only scattered specimens survive. On the other hand, native species that colonize ground that has been disturbed (by fire or other means), such as *Olearia axillaris*, *Acacia saligna* and *Anthocercis littorea*, are much less common at Woodman Point than elsewhere. The same is even truer in the case of introduced species, particularly grasses, which are profiting enormously from disturbance along much of Perth's coastal strip, and are themselves helping to increase the incidence of fires.

Natural coastal vegetation reflects a sharp environmental gradient — the rapid lessening of the influence of the sea with increasing distance from it. Woodman Point is a good example, with its succession of distinctive plant communities, and it probably represents fairly closely the natural state of Perth's coastal vegetation. Elsewhere other influences (such as fire and trampling) have intervened; one community (the cypress belt) has been virtually eliminated, and the others much altered in composition and appearance.

Perth people make great use of their coast. There are therefore both aesthetic reasons and practical reasons (the prevention of erosion for instance) for trying to maintain its natural vegetation. Woodman Point is not only the best coastal study site for local students of biology and plant ecology: it could also provide a model for restoration programs along other sections of the Metropolitan coastal strip.

The future of Woodman Point has been much debated in recent years. The Quarantine Station and other Commonwealth land has now been bought by the State and is being managed by the Department for Youth, Sport and Recreation. The Explosives Reserve will be vacated as soon as money is available for the transfer of its functions to another site. The peninsula is then likely to be developed for recreation and conservation. Present plans include a "botanical reserve" in part of the area; this could be of great value if it is large enough and representative of the full range of natural vegetation currently found on the peninsula. In addition it would have to be very carefully managed so that the intrusion of the public should not bring in those destructive influences from which the vegetation of Woodman Point has been protected for so long.

▲ This thick stem of old man's beard *(Clematis microphylla)* — shown at half life-size — has taken many years to develop. (Photo R. Powell)

Summarised by Robert Powell and Jane Emberson from their recent book *Woodman Point: A Relic of Perth's Coastal Vegetation* (published by Artlook, Perth, W.A.)