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10 Collecting a precious resource

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No where is the decline of *Eucalyptus gomphocephala* (tuart) more obvious than in the Yalgorup region (Bulletin 1). The research into the decline of tuart is continuing. Meanwhile, it is imperative that seeds are collected from seed bearing adult trees in the region to preserve this precious genetic resource.



Declining tuarts

A collaborative project has been established to collect seed from the Yalgorup region and to store this seed for restoration activities and other research purposes. The project partners are Murdoch University, the Department of Environment and Conservation, the City of Mandurah, the Friends of Island Point, and the Forest Products Commission.



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Tuart fruit

- The project is managed by Murdoch University (Tuart Health Research Group) staff, who have designed the project in such a way that many individuals can assist in the collection process.



Friends of Island Point collecting fruit from tuart trees in Yalgorup National Park (Photo: courtesy of Lisa Wray, City of Mandurah).

- The Department of Environment and Conservation are assisting with site selection within Yalgorup National Park, and have provided an enthusiastic seed collection team via the Fairbridge Trainees.
- Staff from the City of Mandurah, and the passionate and capable team from the Friends of Island Point are collecting fruit from tuart trees across the Yalgorup region. The Friends of Island Point are very suitable for this task, as they have recently completed a three day seed collection course.
- The Forest Products Commission clean, sort, weigh and store seed until required.



Method

Tuart trees, similar to other temperate eucalypts, store their seed in their canopy for a number of years (Ruthrof et al. 2002). Therefore, fruit containing seed may be found in some trees throughout the year.

Within a selected section of tuart woodland, trees with particular ripe fruit are chosen. Large old trees are chosen to make sure they are from the local population and not from planted stock. Information regarding each chosen tree is recorded, including a number, GPS coordinates, and a photograph is taken of its crown. An appropriate amount of fruit is then removed by hand or with a tree pruner and placed into a labeled calico bag. Calico bags are used in seed collection activities so that fruit does not become too hot and moist, which can lead to the formation of mould and the destruction of the precious seeds.

The calico bags containing fruit are then delivered to the Forest Products Commission's Seed

Technology Centre in Manjimup where the fruit is dried, seed and chaff extracted, and the seed is sorted, weighed and stored at the appropriate temperature to maximise their 'shelf life'. Seeds are then available for restoration and research activities (Bulletin 11).

Another significant outcome of this project is that the information collected at the time of planting may be able to assist in the research to determine the cause(s) of the decline. Having GPS coordinates and photographs of each tree allows researchers to overlay other maps (such as soil types, groundwater characteristics) to investigate whether there is a site factor influencing the decline.

It is hoped that hundreds of tuart trees will be mapped this way over the next few years and that seed from this declining population will be collected and stored for safe keeping and for the restoration of tuart woodland in the region.



Friends of Island Point and staff from the City of Mandurah collecting fruit from tuart trees in Yalgorup National Park (Photo: courtesy of Lisa Wray, City of Mandurah).

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