



PROJECT TREES

Newsletter

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Many people and projects associated with Project Trees have received help from the Brisbane City Council through the provision of trees. It is pleasing that interest in tree planting (its benefits and problems) is expressed by a range of persons in the Council, and below is an article contributed by Ken Morris, Neville Gibson and Charles Oliver of the Special Projects Section of the Works Department. Although the article expresses the personal opinions of its authors and should not be interpreted in any way as representing Council policy, it is a valuable contribution to the Newsletter and of importance to all involved in tree planting projects along creeks.

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TO TREE OR NOT TO TREE : THE ENGINEER'S DILEMMA

An engineer charged with the responsibility of designing a flood mitigation scheme on a creek through suburbia is, from the inception of the scheme, caught between the devil and the deep blue sea in regard to trees and other vegetation along the banks and flood plain of the creek.

The need for flood mitigation has arisen from over-development of the lower reach flood plains. As part of the development process, trees and ground cover were removed, frequently right to the water's edge. Consequently, the stability of the stream banks was decreased, and the banks and flood plain became more scour-prone. This in turn led to increased siltation and reduction in the flow capacity of the main stream channel, increased flood levels and general environmental degradation.

Against this background of crisis and degradation the flood mitigation design engineer has in the past endeavoured to maintain the developmental status-quo by providing a nearly sterile smooth-banked vegetation-free open channel through the sterile flood plain. Minimal financial inconvenience to the land-holder was the main external criterion for the design, so that about the only works for which there has been sufficient space was a lined or partly-lined open channel running within a narrow corridor with an absolute minimum of undeveloped land beside it.

Improved hydraulics and lower flood levels resulted, but the ugliness and sterility often remained (or even, in some instances, increased, e.g. Cook's River in Sydney and Gardiner's Creek in Melbourne).

The ugliness and sterility of some of the older schemes has now become so unacceptable that the engineer can no longer submit designs which take no account of the environment.

Recognising that any tree-planting will cause some increase in upstream flood levels, the engineer nevertheless increasingly accepts the planting of trees along the banks and flood plains of older channels. However, care has to be taken to ensure that the enthusiasm of the tree planter does not result in unacceptably increased flood levels.

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Some Notes on Projects to Date

At the Ithaca Creek project, some of the more successful species have been:

- Brown Kurrajong - Commersonia fraseri
- Paper bark ti-tree - Melaleuca quinquenervia
- Koda - Ehretia acuminata
- Macaranga tanarius
- Swamp Mahogany - Eucalyptus robusta
- A Sheoak - Casuarina cunninghamiana
- Blue Quandong - Elaeocarpus grandis
- Flame Tree - Brachychiton acerifolium

All of these species are doing well and should soon provide shade and competition sufficient to reduce the vigour and density of the grass.

On one side of the creek, the Brisbane City Council has cleared all the grass from part of the bank. While this completely removes competition from the surrounding plants, it means that the newly planted trees are exposed to very hot, dry and windy conditions. On the condition that pioneering species are selected for such sites, growth is likely to be satisfactory.

Species such as some Eucalyptus, Acacia oshanesii, A. saligna, A. melanoxylon, A. maidenii, A. fimbriata, A. leiocalyx, A. concurrens and A. falcata are proving successful. Some other species planted in this bare exposed site would possibly grow more vigorously if there was more shade and greater humidity, less wind, lower temperatures near ground level and less reflected heat from the bare soil surface, e.g. Neolitsea dealbata, some Eugenias and Randia fitzalanii.

The advantages in retaining a cover of grass until the planted trees have grown sufficiently are many. By removing all of the pioneering, colonising species - such as weeds and grasses - the stage is set for these same species to recolonise the area more densely than before. Considerable time and expense are involved in completely clearing an area such as this, of all vegetation and the advantages seldom outweigh the disadvantages when partial revegetation of the creek bank is the ultimate aim. It may be of greater benefit to clear a small area of about 2 sq. m., plant our tree and allow it to benefit from the advantages to be gained from the surrounding vegetation. While competition for nutrients, light and water are very important, the advantages of surrounding vegetation are also of considerable significance.

D. Hanger.

Moggill Creek

The Moggill Creek revegetation project continues with widespread community support. The latest neighbourhood barbecue was preceded by plantings of homegrown Black Beans (Castanospermum australe) and Hoop Pines (Araucaria cunninghamii) supplied through The Men of the Trees.

The youngsters of the local playgroup, whose ages range from two to four years, were thrilled to help plant various trees donated by Lakkari Nursery. Each tree carries a tag inscribed with child's name, species, and date of planting.

The scouting and guiding movements are really behind our efforts. One of the Kenmore Brownie packs, given a brief talk (on a creek bank) about the conservation aspects of the program, now plays a practical part in the project. They have planted eucalypts, which were surplus to C.S.I.R.O. requirements, and are interested to compare their growth with similar trees planted in the C.S.I.R.O. experiments.

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